Critical Release Notice

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The content of this customer NTP supports the SN09 (DMS) software release.

Bookmarks used in this NTP highlight the changes between the NA015 baseline and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the NA015 baseline remains unchanged and is valid for the current release.

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Note: Refer to the NA015 baseline document for Publication History prior to the NA017 release.

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Volume 2 - 4

No changes

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Volume 1 - 4

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DMS-100 Family North American DMS-100

Alarm Clearing and Performance Monitoring Procedures Volume 3 of 4

LET0015 and up Standard 14.02 May 2001



DMS-100 Family North American DMS-100

Alarm Clearing and Performance Monitoring Procedures Volume 3 of 4

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1 Peripheral module alarm clearing procedures

Introduction

This chapter provides alarm clearing procedures for the peripheral module (PM). Peripheral module alarms appear under the PM header of the alarm banner in the MAP display. All procedures contain the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

Alarm display

This section indicates how the alarm appears at the MAP terminal.

Indication

This section indicates the location of the alarm indication, the design of the alarm, the affected subsystem, and the alarm severity.

Meaning

This section indicates the cause of the alarm.

Result

This section describes the results of the alarm condition.

Common procedures

This section lists common procedures that you follow during the alarm clearing procedure. A common procedure is a series of steps that repeats in maintenance procedures. The removal and replacement of a card are examples of a common procedure. The common procedures are in the common procedures chapter in this NTP. Do not use common procedures unless the stepaction procedure directs you.

Action

This section provides a summary flowchart of the alarm clearing procedure. A detailed step-action procedure follows the flowchart.

PM 1SPM CLKOOS SPM major

Alarm banner

Í	CHI MR CO HA PHI COS THE Her LUT	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
		•	•	•	•	1SPM	•	•	•	•	•
						М				-	
Į											

Indication

At the MTC level of the MAP screen, SPM preceded by a number appears under the PM header of the MAP screen and a major (M) alarm indicator appears beneath it.

Meaning

The clock out-of-synchronization (CLKOOS) alarm generates when the synchronization circuitry cannot meet the standard performance specifications for its application.

This usually happens under three different circumstances: when the message switch (MS) clock is not synchronized, when a SONET synchronization reference (OC3) of acceptable quality is not available, or when the DMS-SPM loses frequency traceability between the MS clock and the OC3.

The SPM334 log relates to the CLKOOS alarm.

Table MNCKTPAK contains the datafill related to the CLKOOS alarm.

Impact

Service degradations may occur at downstream equipment using DS1 carriers dropped out of the OC3 payload orginating in the SPM raising the CLKOOS alarm. Prompt actions should be taken to resolve the CLKOOS condition.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM CLKOOS SPM

major (continued)

Summary of clearing a CLKOOS alarm



Summary of clearing a CLKOOS alarm (continued)

PM 1SPM CLKOOS SPM major (continued)



PM 1SPM CLKOOS SPM

major (continued)

Clearing a CLKOOS alarm

At the MAP terminal

Access the PM level of the map screen by typing >MAPCI;MTC;PM and pressing the Enter key. Example of a MAP screen:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	1	1	3	2	12

- 2 Display all the inservice-trouble (ISTb) SPMs by typing
 >DISP STATE ISTB SPM
 and pressing the enter key.
 3 Post each ISTb SPM by typing
 - >POST SPM spm no

and pressing the Enter key.

where

spm_no is the number of the SPM (0 to 63)

Example of a MAP screen:

			SysB	Ma	anB		OffL	C	Bsy		IS	Tb	InSv			
PM			7		2		2		2			9	16			
SPM			0		2		1		0			1	0			
SPM	11	3	ISTb	Loc:	Sit	e H	OST I	Floor	1	Row	7 A	FrF	os 13			
ShlfO	SL	A	Stat	Shl	E0 S	SL A	Sta	t Sh	lf1	SL	A	Stat	Shlf1	SL	A	Stat
	1	-		CEM	1	8 I	Sys	в ——		1	-			8	-	
	2	-		OC3	0	9 A				2	-			9	-	
DSP 3	3	Ι	OffL	OC3	1 1	.0 I				3	-			10	-	
	4	-			1	.1 -				4	-			11	-	
	5	-		DSP	12 1	.2 A				5	-			12	-	
	6	-		DSP	13 1	.3 A				6	-			13	-	
CEM 0	7	А	ISTb		1	.4 A				7	-			14	-	

4 Select the ISTb common equipment module (CEM) by typing

>SELECT CEM cem_no

where

cem_no is the number of the ISTb CEM (0 or 1) *Example of a MAP screen:*

PM 1SPM CLKOOS SPM major (continued)

SPM 11 CEM 0 Act ISTb Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: List the alarms on the CEM by typing >LISTALM and pressing the Enter key. Example of a MAP screen: SPM 11 CEM 0 Act ISTb Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: ListAlm ListAlm: SPM 11 CEM 0 SEVERITY ALARM ACTION _____ Critical None Major CLKOOS RPT Minor None No_Alarm None Record the number of each SPM exhibiting the CLKOOS condition. Access the MTC level of the MAP screen by typing >MAPCI:MTC and pressing the Enter key. Check the alarm banner and determine whether there is an MS clock alarm.

5

6 7

8

If there is	Do
an MS clock alarm	step 9
not an MS clock alarm	step 10

9 Clear the MS clock alarm using the appropriate alarm clearing procedures. When you have completed the procedures, go to step 13.

PM 1SPM CLKOOS SPM

major (continued)

10 Access the CARRIER level of the MAP screen by typing >MAPCI;MTC;TRKS;CARRIER and pressing the Enter key.

11 Post the SPM number for the SPM that is raising the CLKOOS alarm by typing >POST SPM spm_no

where

spm_no

is the number of the SPM

This takes you directly to the OC3S level for the alarmed SPM.

12 Determine whether OC3 carriers are in-service.

If OC3 carriers are	Do
in-service	step 15
not in-service	step 13

13 Restore OC3 carrier signals.

Note 1: Contact your next level of support if you are not familiar with the network procedures required to restore OC3 clock signals.

Note 2: The CEM sync circuitry uses the STS3L carrier for synchronization, not the OC3. For proper clearing of the CLKOOS condition, OC3 and STS3L carriers must be in-service.

14 List the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 33
CLKOOS	step 15

15 Access the STS3L carriers by typing

>NEXT

and pressing the Enter key.

16 Determine whether STS3L carriers are in-service

If STS3L carriers are	Do			
in-service	step 19			

PM 1SPM CLKOOS SPM major (continued)

If STS3L carriers are	Do				
not in-service	step 17				

17 Restore the STS3L carrier signals.

Note 1: Contact your next level of support if you are not familiar with the network procedures required to restore OC3 clock signals.

Note 2: The CEM sync circuitry uses the STS3L carrier for synchronization, not the OC3. For proper clearing of the CLKOOS condition, OC3 and STS3L carriers must be in-service.

18 List the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 33
CLKOOS	step 19

19 Determine if sync fault condition is present on the downstream equipment driving the OC3 into the SPM.

If sync fault condition is	Do
present	step 20
not present	step 22

20 Clear sync fault condition on downstream equipment driving the OC3 into the SPM.

Note: Once a sync fault condition is corrected, the SPM clears the CLKOOS condition, but there will be a delay of between 20 and 40 minutes while the SPM evaluates the stability of the OC3 carrier frequency.

21 List the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 33
CLKOOS	step 22

22 Force the CEMs to switch activity by typing

>PROT;FORCE;QUIT

and pressing the enter key.

PM 1SPM CLKOOS SPM

major (continued)

23	Select the active (A) CEM by typing									
	>SELECT CEM cem_no									
	and pressing the Enter key.									
	where									
	cem_no is the number of the active CEM	И (0 or 1)								
24	List the alarms on the CEM by typing									
	>LISTALM									
	and pressing the enter key.									
	If the alarm list shows	Do								
	None	step 25								
	CLKOOS step 28									
25	Force the CEMs to switch activity by t	yping								
	>PROT;FORCE;QUIT									
	and pressing the Enter key.									
26	Select the active (A) CEM by typing									
	>SELECT CEM cem_no									
	and pressing the Enter key.									
	where									
	cem_no is the number of the active CEM	И (0 or 1)								
27	List the alarms on the CEM by typing									
	>LISTALM									
	and pressing the Enter key.									
	Example of a MAP screen:									

PM 1SPM CLKOOS SPM major (continued)

 SPM
 11 CEM
 0 Act
 ISTb

 Loc:
 Row F
 FrPos 64 ShPos
 6 ShId 0 Slot
 7

 Default Load:
 SPMLOAD
 Clock:
 Input Ref:
 Source:
 Current Mode:

 ListAlm
 ListAlm
 ListAlm:
 SPM 11 CEM 0
 Severity
 ALARM
 ACTION

 SEVERITY
 ALARM
 ACTION
 Critical
 None

 Major
 CLKOOS
 RPT

 Minor
 None

 No_Alarm
 None

If the alarm list shows	Do
None	step 33
CLKOOS	step 28

28 Select the active OC3 module by typing

>SELECT OC3 oc3_no

and pressing the Enter key.

where

oc3 no

is the number of the active OC3

Example of a MAP screen:

SysB ManB OffL CBsy ISTb InSv 6 РM 2 1 0 1 1 SPM OC3 0 0 2 0 0 0 OC3 0 Act SPM 5 Loc : Row D FrPos 6 ShPos 6 ShId 0 Slot 9 Prot Grp : 1 Default Load: SPMLOAD Prot Role : Working POST: OC3:

29 List the protection status of the OC3 modules by typing
 >PROT
 and pressing the Enter key.

PM 1SPM CLKOOS SPM major (end)

Example of a MAP screen

SP	М		5	ISTb)												
Pro	t	Gr	p:	OC3_G	RP 1	-	М	ode:	Nor	n-reve	erti	ve	Schema	: 01	ne_p	lus	_one
SH0	τ	JF	ŁΑ	Stat	Sh	10	UR.	A Sta	at	Sh1 1	JR	A Sta	it S	hl T	JR	A S	tat
1 -	-	-	-		8		· – –		-	1			- 8				
2 -	-	-	_		9				_	2			. 9				
3 -	-	-	_		10				_	3			· 10				
4 -	_	-	-		11				-	4			- 11				
5 -	_	-	-		12				-	5			- 12				
б –	_	-	-		13				-	б			- 13				
7 -	-	-	-		14				-	7			- 14				

30 Determine the active OC3. Force the OC3s to switch activity by typing >FORCE act_oc3_no inact_oc3_no

and pressing the Enter key.

where

act_oc3_no is the number of an active (A) OC3 (0 or 1)

inact_oc3_no is the number of an (I) inactive OC3

31 Return to the SPM level and list the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 33
CLKOOS	step 32

32 For further assistance, contact the personnel responsible for the next level of support.

33 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM 1SPM COTLOW SPM minor

Alarm display

Chi Mili CO Hot Pill COS The life	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1SPM	•	•	•	•	•
	•	•	•	•		•	•	•	•	•

Indication

At the PM level of the MAP display, SPM preceded by a number appears under the PM header of the alarm banner and a minor () alarm indicator appears beneath it.

Meaning

The low water mark threshold was exceeded for CCS7-continuity-test (COT) transceiver resources. The demand for COT resources exceeded the threshold setting.

The DMS-Spectrum Peripheral Module (SPM) log SPM350 relates to the COTLOW alarm. Table MNNODE contains the datafill related to the COTLOW alarm.

Impact

If the threshold setting is low enough to ensure that there are adequate resources in the COT pool to meet the current call rate, there is no immediate effect on service. However, if the call rate increases and the available COT resources cannot meet the demand, call processing or grades of service, or both, are degraded.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM COTLOW SPM minor (continued)



Summary of clearing a COTLOW alarm

Clearing a COTLOW alarm

At the MAP terminal

1 Access the log utility level of the MAP screen by typing
PM 1SPM COTLOW SPM minor (continued)

>LOGUTIL

and pressing the Enter key.

2 Display all the SPM350 logs by typing

>DUMPLOGS SPM 350 and pressing the Enter key. *Example of a MAP screen:*

SPM350 Nov19 20:01:33 1400 Pool Percent Free Resources Low ALARM_STATE = ON POOL = COT SPM_NUM = 20 NUM_FREE = 39 NUM-INUSE = 61

Note: OPEN SPM 350 can be used instead of the DUMPLOGS command. Logs can then be browsed using the LAST, FIRST, BACK, and FORWARD commands.

- **3** Locate an SPM350 log with ALARM_STATE = ON and POOL = COT. Record the number of the SPM.
- 4 Post the SPM by typing

>MAPCI;MTC;PM;POST SPM spm_no

and pressing the Enter key.

where

spm_no
 is the number of the SPM (0 to 63) shown in the log report

Example of a MAP screen:

PM 1SPM COTLOW SPM

minor (continued)

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	7	2	2	2	9	16
SPM	0	1	1	0	0	1
SPM	20 InSv	Loc: Site	HOST Fl	oor 1	Row A FrP	os 13
Shlf0	SL A Stat	Shlf0 SL	A Stat	Shlf1	SL A Stat	Shlf1 SL A Stat
	1	CEM 1 8	I InSv		1	8
	2	OC3 0 9	A InSv		2	9
DSP 3	3 I OffL	OC3 1 10	I InSv		3	10
	4	11			4	11
	5	DSP12 12	A InSv		5	12
	6	DSP13 13	A InSv		6	13
CEM 0	7 A InSv	14	A InSv		7	14

5 List the alarms on the SPM by typing

>LISTALM and pressing the Enter key. Example of a MAP screen:

ListAlm		
ListAlm:	SPM 11	
SEVERITY	ALARM	ACTION
Critical	None	
Major	None	
Minor	COTLOW	RPT
No_Alarm	None	

- 6 Do the following substeps to determine if sparing activities are underway.
 - **a** Check the alarm list for a NOSPARE alarm.

If the alarm list indicates	Do
Major NOSPARE	step 6b
Major None	step 6c

b Verify that sparing activities are underway by other personnel. Otherwise, clear the NOSPARE alarm by following the SPM NOSPARE PM alarm clearing procedure.

PM 1SPM COTLOW SPM minor (end)

- c Check the list of posted modules for DSPs that are system busy (SysB) or manual busy (ManB). If other personnel are involved in sparing activities, check with them to make sure the DSPs will be returned to service. Otherwise, clear any alarms and return the units to service.
- d Wait until the state of the DSPs indicates InSv.
- 7 When the DSPs are returned to service, determine if the alarm has cleared.

If the alarm list indicates	Do
Minor COTLOW	step 8
Minor None	step 11

8 Provision additional digital signal processor (DSP) resource modules (RM). Provision additional DSP RMs. For detailed instructions and provisioning information, see "SPM NTLX65AA DSP RM card" in the appropriate *Card Replacement Procedures*. When you have completed the procedures, return to this point.

Note: Contact your next level of support if you are not familiar with the policies and procedures for provisioning DSP RMs.

9 List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

If the alarm list indicates	Do
Minor COTLOW	step 10
Minor None	step 11

- **10** For further assistance, contact the personnel responsible for the next level of support.
- 11 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

PM 1SPM DTMFLOW SPM minor

Alarm display

ĺ	CM MB CD Not PM CCB The list	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
			•	•	•	1SPM	•	•	•	•	•	
		•	•	•	•		•	•	•	-	•	

Indication

At the PM level of the MAP display, SPM preceded by a number appears under the PM header of the alarm banner and a minor () alarm indicator appears beneath it.

Meaning

The low water mark threshold was exceeded for dual-tone multifrequency (DTMF) resources. The demand for DTMF resources exceeded the threshold setting.

The DMS-Spectrum Peripheral Module (SPM) log SPM350 relates to the DTMFLOW alarm. Table MNNODE contains the datafill related to the DTMFLOW alarm.

Impact

If the threshold setting is low enough to ensure that there are adequate resources in the DTMF pool to meet the current call rate, there is no immediate effect on service. However, if the call rate increases and the available DTMF resources cannot meet the demand, call processing or grades of service, or both, are degraded.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM DTMFLOW SPM minor (continued)





PM 1SPM DTMFLOW SPM

minor (continued)

Clearing a DTMFLOW alarm

At the MAP terminal

- 1 Access the log utility level of the MAP screen by typing
 - >LOGUTIL

and pressing the Enter key.

2 Display all the SPM350 logs by typing

>DUMPLOGS SPM 350 and pressing the Enter key. *Example of a MAP screen:*

SPM350 Nov19 20:01:33 1400 Pool Percent Free Resources Low ALARM_STATE = ON POOL = DTMF SPM_NUM = 20 NUM_FREE = 39 NUM-INUSE = 61

Note: OPEN SPM 350 can be used instead of the DUMPLOGS command. Logs can then be browsed using the LAST, FIRST, BACK, and FORWARD commands.

- **3** Locate an SPM350 log with ALARM_STATE = ON and POOL = DTMF. Record the number of the SPM.
- 4 Post the SPM by typing

>MAPCI;MTC;PM;POST SPM spm_no

and pressing the Enter key.

where

spm_no

is the number of the SPM (0 to 63) shown in the log report *Example of a MAP screen:*

PM 1SPM DTMFLOW SPM minor (continued)

		SysB	ManB	OffL	CBsy	ISTb	InSv	
PM		7	2	2	2	9	16	
SPM		0	1	1	0	0	1	
SPM	20	InSv	Loc: Sit	e HOST B	Floor 1	Row A Fri	Pos 13	
Shlf0	SL	A Stat	Shlf0 S	L A Stat	Shlf1	SL A Stat	Shlf1	SL A Stat
	1		CEM 1	8 I InSv	,	1		8
	2		OC3 0	9 A InSv	<i>r</i>	2		9
DSP 3	3	I OffL	OC3 1 1	0 I InSv	,	3		10
	4		1:	1		4		11
	5		DSP12 1	2 A InSv	r	5		12
	6		DSP13 1	3 A InSv	r	6		13
CEM 0	7	A InSv	1	4 A InSv	r	7		14

5 List the alarms on the SPM by typing

>LISTALM and pressing the Enter key. Example of a MAP screen:

ListAlm ListAlm: S	SPM 11	
SEVERITY	ALARM	ACTION
Critical	None	
Major	None	
Minor	ECANLOW	RPT
No Alarm	None	

- **6** Do the following substeps to Determine whether sparing activities are underway.
 - **a** Check the alarm list for a NOSPARE alarm.

If the alarm list indicates	Do
Major NOSPARE	step 6 b
Major None	step 6 c

b Verify that sparing activities are underway by other personnel. Otherwise, clear the NOSPARE alarm by following the SPM NOSPARE PM alarm clearing procedure.

PM 1SPM DTMFLOW SPM minor (end)

- **c** Check the list of posted modules for DSPs that are system busy (SysB) or manual busy (ManB). If other personnel are involved in sparing activities, check with them to make sure the DSPs will be returned to service. Otherwise, clear any alarms and return the units to service.
- d Wait until the state of the DSPs indicates InSv.
- 7 When the DSPs are returned to service, Determine whether the alarm has cleared.

If the alarm list indicates	Do
Minor DTMFLOW	step 8
Minor None	step 11

8 Provision additional DSP RMs. For detailed instructions and provisioning information, see "SPM NTLX65AA DSP RM card" in the appropriate *Card Replacement Procedures*. When you have completed the procedures, return to this point.

Note: Contact your next level of support if you are not familiar with the policies and procedures for provisioning DSP RMs.

9 List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

If the alarm list indicates	Do
Minor DTMFLOW	step 10
Minor None	step 11

- **10** For further assistance, contact the personnel responsible for the next level of support.
- 11 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

PM 1SPM ECANLOW SPM minor

Alarm display

ĺ	CM MB OD Not PM CC6 This Bit LUTY	CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL	
		•		•	•	1SPM	•	•	•	•	•	
		•	•	•	•		•	•	•	•	•	

Indication

At the PM level of the MAP display, SPM preceded by a number appears under the PM header of the alarm banner and a minor () alarm indicator appears beneath it.

Meaning

The low water mark threshold was exceeded for echo canceller (ECAN) resources. The demand for ECAN resources exceeded the threshold setting.

The DMS-Spectrum Peripheral Module (SPM) log SPM350 relates to the ECANLOW alarm. Table MNNODE contains the datafill related to the ECANLOW alarm.

Impact

If the threshold setting is low enough to ensure that there are adequate resources in the ECAN pool to meet the current call rate, there is no immediate effect on service. However, if the call rate increases and the available ECAN resources cannot meet the demand, call processing or grades of service, or both, are degraded.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM ECANLOW SPM minor (continued)



Summary of clearing an ECANLOW alarm

PM 1SPM ECANLOW SPM minor (continued)

Clearing a ECANLOW alarm

At the MAP terminal

1 Access the log utility level of the MAP screen by typing >LOGUTIL

and pressing the Enter key.

2 Display all the SPM350 logs by typing

>DUMPLOGS SPM 350

and pressing the Enter key.

Example of a MAP screen:

SPM350 Nov19 20:01:33 1400 Pool Percent Free Resources Low ALARM_STATE = ON POOL = ECAN SPM_NUM = 20 NUM_FREE = 39 NUM-INUSE = 61

Note: OPEN SPM 350 can be used instead of the DUMPLOGS command. Logs can then be browsed using the LAST, FIRST, BACK, and FORWARD commands.

- **3** Locate an SPM350 log with ALARM_STATE = ON and POOL = ECAN. Record the number of the SPM.
- 4 Post the SPM by typing

>MAPCI;MTC;TRK;POST SPM spm_no

and pressing the Enter key.

where

spm no

is the number of the SPM (0 to 63) shown in the log report

Example of a MAP screen:

PM 1SPM ECANLOW SPM

minor (continued)

	SysB	ManB	OffL	CBsy	ISTb	InSv	
PM	7	2	2	2	9	16	
SPM	0	1	1	0	0	1	
SPM	20 InSv	Loc: Site	HOST Fl	oor 1	Row A FrF	os 13	
Shlf0 :	SL A Stat	Shlf0 SL	A Stat	Shlf1	SL A Stat	Shlf1 SL A Stat	
	1	CEM 1 8	T InGu		1	8	
	-		1 1100		<u>,</u>	ŝ	
	2	003 0 9	A Insv		2	9	
DSP 3	3 I OffL	OC3 1 10	I InSv		3	10	
	4	11			4	11	
	5	DSP12 12	A InSv		5	12	
	б – ––––	DSP13 13	A InSv		6	13	
CEM 0	7 A InSv	14	A InSv		7	14	

5 List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

Example of a MAP screen:

ListAlm ListAlm: SPM 11 SEVERITY ALARM ACTION _____ Critical None Major None Minor ECANLOW RPT No_Alarm None

- 6 Do the following substeps to determine whether sparing activities are underway.
 - а Check the alarm list for a NOSPARE alarm.

If the alarm list indicates	Do
Major NOSPARE	step 6 b
Major None	step 6 c

- b Verify that sparing activities are underway by other personnel. Otherwise, clear the NOSPARE alarm by following the SPM NOSPARE alarm clearing procedure.
- Check the list of posted modules for DSPs that are system busy (SysB) С or manual busy (ManB). If other personnel are involved in sparing

PM 1SPM ECANLOW SPM minor (end)

activities, check with them to make sure the DSPs will be returned to service. Otherwise, clear any alarms and return the units to service.

- d Wait until the state of the DSPs indicates InSv.
- 7 When the DSPs are returned to service, Determine whether the alarm has cleared.

If the alarm list indicates	Do
Minor ECANLOW	step 8
Minor None	step 11

8 Provision additional DSP RMs. For detailed instructions and provisioning information, see "SPM NTLX65AA DSP RM card" in the appropriate *Card Replacement Procedures*. When you have completed the procedures, return to this point.

Note: Contact your next level of support if you are not familiar with the policies and procedures for provisioning DSP RMs.

9 List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

If the alarm list indicates	Do
Minor ECANLOW	step 10
Minor None	step 11

- **10** For further assistance, contact the personnel responsible for the next level of support.
- 11 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

PM 1SPM HLDOVR SPM major

Alarm banner

CM MB CD HC PM COS The He LUT	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	•	•	•	-	1SPM	•	•	•	-	•
			•	•	М	•	•	•	•	•

Indication

At the MTC level of the MAP screen, SPM preceded by a number appears under the PM header of the MAP screen and a major (M) alarm indicator appears beneath it.

Meaning

The common equipment module (CEM) clocks have lost network synchronization. The clocks are running in holdover (HLDOVR) mode.

The DMS-Spectrum Peripheral Module (SPM) log SPM501 relates to the HLDOVR alarm. Table MNCKTPAK contains the datafill related to the HLDOVR alarm.

Impact

SPM is not synchronized with the network. Carrier traffic is not supported. Other clock-related alarms may also occur.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM HLDOVR SPM major (continued)





PM 1SPM HLDOVR SPM

major (continued)

Clearing a HLDOVR alarm

At the MAP terminal

Access the PM level of the MAP screen by typing >MAPCI;MTC;PM and pressing the Enter key. Example of a MAP screen:

	SysB	ManB	OffL	CBsy	ISTb	InSv
РM	1	1	1	3	2	12

- Display all the system-busy SPMs by typing
 >DISP STATE SYSB SPM and pressing the Enter key.
- **3** Record the number of the SPMs.
- 4 Post each system-busy SPM by typing
 - >POST SPM spm_no

and pressing the Enter key.

where

spm_no

is the number of the SPM (0 to 63)

Example of a MAP screen:

OffL CBsy SysB ManB ISTD InSv 2 9 2 7 2 16 РМ SPM 0 2 1 0 0 0 SPM 11 SysB Loc: Site HOST Floor 1 Row A FrPos 13 ----- 1 - ---- CEM 1 8 I SysB ----- 1 - ---- 8 - --------- 2 - ---- OC3 0 9 A ---- 2 - ---- 9 - ----DSP 3 3 I OffL OC3 1 10 I ---- 3 - ---- 10 - --------- 4 - ---- 11 - ---- 4 - ---- 11 - --------- 5 - ---- DSP12 12 A ---- 5 - ---- 12 - --------- 6 - ---- DSP13 13 A ---- 6 - ---- 13 - ----CEM 0 7 A SysB ----- 14 A ---- 7 - ---- 14 - ----

5 Select the system-busy CEM by typing >SELECT CEM cem_no and pressing the Enter key. where

PM 1SPM HLDOVR SPM major (continued)

cem no is the number of the CEM (0 or 1) Example of a MAP screen: SPM 11 CEM 0 Act SysB Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: List the alarms on the CEM by typing >LISTALM and pressing the Enter key. Example of a MAP screen: SPM 11 CEM 0 Act SysB Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: ListAlm ListAlm: SPM 11 CEM 0 SEVERITY ALARM ACTION _____ Critical None Major HOLDOVR RPT Minor None No_Alarm None

7 Determine whether there are any other CEM alarms.

If there are	Do
no other CEM alarms	step 9
other CEM alarms	step 8

- 8 Clear the other CEM alarms using the appropriate SPM alarm clearing procedures. When you have completed the procedures, return to this step.
- 9 List the status of the C-side links by typing

>TRNSL

6

PM 1SPM HLDOVR SPM

major (continued)

and pressing the Enter key. Example of a MAP screen: SPM 11 CEM 0 Act SysB Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Current Mode: Source: Trnsl Link 1: ENET 0 0 30 0; Status: OK Link 2: ENET 1 0 30 1; Status: NA Link 3: ENET 0 0 30 2; Status: OK Link 4: ENET 1 0 30 3; Status: OK

10 Determine whether the C-side links are in service.

If the C-side links appear as	Do
ОК	step 13
NA or UR	step 11

11 Return the C-side links to sercvice. When you have completed the procedure, return to this point.

Note: Contact your next level of support if you are not familiar with the procedures required to restore C-side links to service.

12 List the airms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 16
HOLDOVR	step 13

13 Replace the CEM module. For detailed instructions, see "SPM NTLX63AA CEM card" in the appropriate *Card Replacement Procedures*. When you complete the card replacement procedure, return to this point.

14 List the alarms on the CEM by typing

>LISTALM

PM 1SPM HLDOVR SPM major (end)

and pressing the Enter key.

If the alarm list shows	Do
None	step 16
HOLDOVR	step 15

- **15** For further assistance, contact the personnel responsible for the next level of support.
- 16 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

PM 1SPM HLDOVR24 SPM major

Alarm banner

Í	Cal MB CO His PA COB The Re LUT	CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
		•	•	•	•	1SPM	•	•	•	•	•
		•	•	•	•	Μ	•	•	•	•	•

Indication

At the MTC level of the MAP screen, SPM preceded by a number appears under the PM header of the MAP screen and a major (M) alarm indicator appears beneath it.

Meaning

The common equipment module (CEM) clocks have not been synchronized with the network for 24 hours or more. The clocks are running in holdover (HLDOVR) mode.

The DMS-Spectrum Peripheral Module (SPM) log SPM501 relates to the HLDOVR24 alarm, Table MNCKTPAK contains the datafill related to the HLDOVR24 alarm.

Impact

SPM has not been synchronized with the network for 24 hours or more, carrier traffic has not been supported, other clock-related alarms may have been generated.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM HLDOVR24 SPM major (continued)



Summary of clearing an HLDOVR24 alarm

Clearing an HLDOVR24 alarm

At the MAP terminal

1 Access the PM level of the MAP screen by typing >MAPCI;MTC;PM and pressing the Enter key. Example of a MAP screen:

PM 1SPM HLDOVR24 SPM

2

3 4

major (continued)

PM	Sys 1	BI	ManB 1	OffL 1	CBsy 3	ISTb 2	InS 12	v
Disp	lay al	I the sy	stem-bu	sy SPMs ł	by typing			
>DIS	SP	STATE	SYSB	SPM				
and i	oress	ina the	Enter ke	ev.				
Reco	ord th	e numb	er of the	SPMs				
Post	each	system	n-busy S	PM by typ	oing			
>PO5	ST	SPM s	spm_no					
and j	press	ing the	Enter ke	ey.				
whei	re	Ū						
	snm	no						
•	is t	he num	ber of th	e SPM (0	to 63)			
Exar	nple	of a MA	P screel	า:				
		SvsB	ManB	OffI.	CDarr	TOTA		
п		0,02			CBSY	ISID	InSv	
P	M	7	2	2	CBSy 2	151D 9	InSv 16	
SP	M M	7 0	2 2	2	2 0	9 0	InSv 16 0	
SP SPM	РМ РМ 11	5755 7 0 SysB	2 2 Loc: Si	2 1 te HOST F	2 0 'loor 1	9 0 Row A FrP	InSv 16 0 os 13	
SPM Shlf	M M 11 0 SL	7 0 SysB A Stat	2 2 Loc: Si Shlf0	2 1 te HOST F SL A Stat	2 0 'loor 1 . Shlf1	9 0 Row A FrP SL A Stat	InSv 16 0 os 13 Shlf1 Si	L A Stat
SPM Shlf	м 11 0 SL - 1	7 0 SysB A Stat	2 2 Loc: Si Shlf0 CEM 1	2 1 te HOST F SL A Stat 8 I SysB	loor 1 Shlf1	9 0 Row A FrP SL A Stat 1	InSv 16 0 os 13 Shlf1 Si	L A Stat 8
SPM SPM	M 11 0 SL - 1 - 2	7 0 SysB A Stat	2 2 Loc: Si Shlf0 CEM 1 OC3 0	2 1 te HOST F SL A Stat 8 I SysB 9 A	2 0 'loor 1 : Shlf1	9 0 Row A FrP SL A Stat 1 2	InSv 16 0 os 13 Shlf1 S: 1	L A Stat 8 9
SPM SPM Shlf Shlf	M M 11 0 SL - 1 - 2 3 3 - 4	7 0 SysB A Stat I OffL	2 2 Loc: Si Shlf0 CEM 1 OC3 0 OC3 1	2 1 te HOST F SL A Stat 8 I SysB 9 A 10 I	2 0 'loor 1 : Shlf1 :	151b 9 0 Row A FrP SL A Stat 1 2 3 4	InSv 16 0 os 13 Shlf1 Si 1 1 1	L A Stat 8 9 0
SPM SPM Shlf DSP 	M 11 0 SL - 1 - 2 3 3 - 4 - 5	7 0 SysB A Stat I OffL 	2 2 Loc: Si Shlf0 CEM 1 OC3 0 OC3 1 DSP12	2 1 te HOST F SL A Stat 8 I SysB 9 A 10 I 11 12 A	2 0 'loor 1 . Shlf1	151b 9 0 Row A FrP SL A Stat 1 2 3 4 5	InSv 16 0 os 13 Shlf1 Si 1 1 1	L A Stat 8 9 0 1 2
SPM SPM Shlf DSP 	M M 11 0 SL - 1 - 2 3 3 - 4 - 5 - 6	7 0 SysB A Stat I OffL 	2 2 Loc: Si Shlf0 CEM 1 OC3 0 OC3 1 DSP12 DSP13	2 1 te HOST F SL A Stat 8 I SysB 9 A 10 I 11 12 A 13 A	2 0 'loor 1 : Shlf1 	151b 9 0 Row A FrP SL A Stat 1 2 3 4 5 6	InSv 16 0 os 13 Shlf1 S: 1 1 1 1	L A Stat 8 9 0 1 2 3

5 Select the system-busy CEM by typing

>SELECT CEM cem_no

and pressing the Enter key.

where

cem_no

is the number of the CEM (0 or 1) Example of a MAP screen:

PM 1SPM HLDOVR24 SPM major (continued)

SPM 11 CE	EM 0 Act	SysB				
Loc : Row F Default Loa Clock:	F FrPos 64 ad: SPMLOAD	ShPos 6	ShId 0	Slot	7	
Input Ref:		Source:		Cu	rrent	Mode:
List the alarms	s on the CEM b	ov typing				
>LISTALM		,				
and pressing tl	he Enter key.					
Example of a l	MAP screen:					
SPM 11 CE	M 0 Act	SysB				
Loc : Row F Default Load Clock:	FrPos 64 d: SPMLOAD	ShPos 6	ShId O	Slot	7	
Input Ref:		Source:		Cur	rent	Mode:
ListAlm	м 11 ОЕМ (,				
LISTAIM: SP	MII CEMU)				
SEVERITY	ALARM	ACTION				
Critical	None					
Major	HOLDOVR24	RPT				
Minor No Alarm	None None					
—						

7 Determine whether there are any other CEM alarms.

If there are	Do
no other CEM alarms	step 9
other CEM alarms	step 8

- 8 Clear the other CEM alarms using the appropriate SPM alarm clearing procedures, When you have completed the procedures, return to this step
- 9 List the status of the C-side links by typing

>TRNSL

6

PM 1SPM HLDOVR24 SPM major (continued)

Example of a MAP screen:

SPM 11 CEM 0 Act SysB Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: Trnsl Link 1: ENET 0 0 30 0; Status: OK Link 2: ENET 1 0 30 1; Status: NA Link 3: ENET 0 0 30 2; Status: OK Link 4: ENET 1 0 30 3; Status: OK

10 Determine whether the C-side links are in service.

If the C-side links appear as	Do
ОК	step 13
NA or UR	step 11

11 Return the C-side links to sercvice. When you have completed the procedure, return to this point.

> Note: Contact your next level of support if you are not familiar with the procedures required to restore C-side links to service.

12 List the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 16
HOLDOVR24	step 13

- Replace the CEM module. For detailed instructions, see "SPM NTLX63AA 13 CEM card" in the appropriate Card Replacement Procedures. When you complete the card replacement procedure, return to this point.
- 14 List the alarms on the CEM by typing

>LISTALM

If the alarm list shows	Do
None	step 16

PM 1SPM HLDOVR24 SPM major (end)

If the alarm list shows	Do
HOLDOVR24	step 15

- **15** For further assistance, contact the personnel responsible for the next level of support.
- 16 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

PM 1SPM ISTB SPM minor

Alarm display

1	Chi MB CD Not Fill COS The Bat	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
		•	·	•	•	1SPM	•	•	•	•	•
		·	·	•	-		•	•	•	•	•

Indication

At the PM level of the MAP display, SPM appears under the PM header of the alarm banner, preceded by a number. A minor () alarm indicator appears beneath it.

Meaning

The DMS-Spectrum Peripheral Module (SPM) is in an in-service trouble (ISTB) state. The SPM is in service, but it is experiencing non-service-affecting faults.

The following logs relate to the ISTB alarm:

- SPM300
- SPM331
- SPM500
- SPM630
- ENET308

Tables MNCKTPAK and MNNODE contain datafill related to the ISTB alarm.

Impact

The following devices generate an ISTB alarm:

- Node
- CEM
- OC3
- DSP
- VSP
- ATM
- DLC

Note: This alarm does not affect service.

ATTENTION

The asynchronous transfer mode (ATM) feature does not apply to all markets.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.



Summary of clearing an ISTb alarm

Clearing an ISTB alarm

At the MAP terminal

Access the PM level of the MAP screen by typing >MAPCI;MTC;PM and pressing the Enter key. Example of a MAP screen:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	1	1	3	2	12

2	Show the state of all PMs by typing
	>STATUS
	and pressing the Enter key.
3	Display the SPMs that are in-service trouble by typing
	>DISP STATE ISTB SPM
	and pressing the Enter key.
4	Record the number of the SPMs.
5	Post each in-service trouble SPM by typing
	>POST SPM spm_no
	and pressing the Enter key.
	where
	<pre>spm_no is the number of the SPM (0 to 63)</pre>
	Example of a MAP screen:

DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

PM 1SPM ISTB SPM

minor (continued)

6

PM SPM	SysB 7 0	ManB 2 2	OffL 2 1	CBsy 2 0	ISTb 9 1	InSv 16 0	
SPM 11	ISTb	Loc: Site	HOST Fl	oor 1 R	ow A FrP	os 13	
Shlf0 SL 1 DSP 3 3 4 5 6 CEM 0 7	A Stat I OffL A ISTb	Shlf0 SL CEM 1 8 OC3 0 9 OC3 1 10 11 DSP12 12 DSP13 13 VSP14 14	A Stat I SysB A I A A A A	Shlfl S 	L A Stat 1 2 3 4 5 6 7	Shlfl SL 7 8 9 10 11 12 13 14	A Stat
Determin in-servic >SELEC and pres	ne whic e troub T moo ssing th	h of the CE le (ISTb) ar lule_type e Enter key	M, OC3 nd select modu	, DSP, VS t the mod 11e_no	SP, ATM, c lules by ty	or DLC moc ping	lules is
where	5						
moc is	lule_ty the typ	pe e of modul	e (CEM,	OC3, DS	SP, VSP, A	TM, or DLC	2)
moc is	the nu) mber of the	module	(0 to 27))		
Example	e of a M	IAP screen:		. ,			
SPM 3	OC3	1 Act	ISTb				
Loc : Defau	Row E lt Load	FrPos 8 : SPMLOAD	ShPos 24	4 ShId O	Slot 10	Prot Grp Prot Role	: 1 : Working
Show the	e actua мор	l software l	oad by t	yping			

>QUERYMOD and pressing the Enter key. *Example of a MAP screen:*

7

SPM 3 OC3 1 Act ISTb Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Working QueryMod SPM 12 OC3 0 Query: Request has been submitted. OC3 0 ISTB Act Loc: Row D FrPos 64 ShPos 6 ShId 0 Slot 9 Default Load: SPMLOAD Actual Load: SPMLOAD Check that the software loads match by typing >TABLE MNCKTPAK and pressing the Enter key. Locate the appropriate tuple in table MNCKTPAK by typing >LOCATE SPM node_id shelf_id slotnum and pressing the Enter key. where node id is the node number of the SPM (0 to 63) shelf id is the number of the module shelf (0 or 1) slotnum is the number of the module slot (0 to 14) Display the tuple and compare the actual software load to the datafilled software load by typing >DISPLAY and pressing the Enter key. Example of a MAP screen: SPM 3 OC3 1 Act ISTb Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Working dis SPM 11 0 9 OC3 0 1 WORKING (SYSB CR RPT) (MANB MJ RPT) (ISTB MN RPT) (PROTFAIL CR RPT) \$ NTLX71AA 01 SPMLOAD Download matching software by typing >LOADMOD

8

9

10

and pressing the Enter key. Example of a MAP screen:

SPM 3 OC3 1 Act ISTb Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Spare SPM 3 OC3 1 Load: Request has been submitted. 11 List the alarms on the module by typing >LISTALM and pressing the Enter key. 12 Determine whether the alarm has cleared. 13 Perform an in-service test on the module by typing >TST and pressing the Enter key. Example of a MAP screen: SPM 3 OC3 1 Act ISTb Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Spare Clock:Input Ref: Internal Source: C Side 0 Current Mode: Acquire Tst SPM 3 CEM 0 Test : Request has been submitted. SPM 3 CEM 0 Test : Test passed. 14 Determine the test condition of the module. 15 Manual busy the module by typing >BSY and pressing the Enter key. 16 Perform an out-of-service test on the module by typing >TST and pressing the Enter key. 17 Determine the test condition of the module.

PM 1SPM ISTB SPM minor (end)

18 Return the module to service by typing

>RTS

and pressing the Enter key.

- **19** Determine the state of the module.
- **20** Replace the CEM, OC3, DSP, VSP, ATM, or DLC module, as appropriate. For detailed instructions, see one of the following the *Card Replacement Procedures*. When you have completed the procedure, return to this point.
 - "SPM NTLX63AA CEM card"
 - "SPM NTLX71AA OC3 card"
 - "SPM NTLX65AA DSP card"
 - "SPM NTLX66AA VSP card"
 - "SPM NTLX73AA ATM card"
- 21 List the alarms on the module by typing

>LISTALM

and pressing the Enter key.

- 22 Determine whether the alarm has cleared.
- **23** For further assistance, contact the personnel responsible for the next level of support.
- 24 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

PM 1SPM MANB SPM major

Alarm banner

Chi Mili OD Max Pili COB This Bat LAVY	CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	·		•		1SPM	•	•	•	-	•
	·	•	•	•	IVI	•	•	•	•	•

Indication

At the PM level of the MAP display, SPM appears under the PM header of the alarm banner, preceded by a number. A major (M) alarm indicator appears beneath it.

Meaning

The DMS-Spectrum Peripheral Module (SPM) is in manual busy (MANB) state. A severe disruption of service exists. Immediate attention is required.

The following logs relate to the MANB alarm:

- CARR500
- CARR501
- CARR510
- CARR512
- SPM300
- SPM331
- SPM500
- SPM630

Tables MNCKTPAK and MNNODE contain datafill related to the MANB alarm.

Impact

The following devices generate MANB alarms:

- NODE
- CEM
- OC3
- DSP
- VSP

PM 1SPM MANB SPM major (continued)

- ATM
- DLC

The active module generating the alarm is not in service, and you must return it to service.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM MANB SPM major (continued)

Summary of clearing a MANB alarm


PM 1SPM MANB SPM major (continued)

Clearing a MANB alarm

At the MAP terminal

1 Access the PM level of the MAP screen by typing

>MAPCI;MTC;PM

and pressing the Enter key. Example of a MAP screen:

	SysB	ManB	OffL	CBsy	ISTb	InSv
ΡM	1	1	1	3	2	12

2 Show the state of all PMs by typing

>STATUS

and pressing the Enter key.

3 Display the SPM that are manual busy by typing

>DISP STATE MANB SPM

and pressing the Enter key.

- 4 Record the number of teh SPMs
- 5 Post each manual busy SPM by typing

>POST SPM spm_no
and pressing the Enter key.
where
spm_no
is the number of the SPM (0 to 63)

Example of a MAP screen:

PM 1SPM MANB SPM

6

major (continued)

PM	SysB 7	ManB 2	OffL 2	CBsy 2	ISTb 9	InSv 16	
SPM	0	2	1	0	0	0	
SPM 11	SysB	Loc: Site	HOST Flo	oor 1 R	ow A Fri	Pos 13	
Shlf0 SL 1 2 DSP 3 3	A Stat I OffL	Shlf0 SL CEM 1 8 OC3 0 9 OC3 1 10	A Stat I SysB A I	Shlf1 S	L A Stat 1 2 3	Shlf1 	SL A Stat 8 9 10
4 5		11 DSP12 12	 A		4		11
6		DSP13 13	A		6		13
CEM 0 7	A ManB	VSP14 14	A		7 – ––––		14
>SELECT	modul	e type m	odule r	10			
and pressi	na the l	e_eype Enter kev					
whoro	ing the i	_mor key.					
is th	ne type	of module (CEM, O	C3, DSF	, VSP, AT	M, or D	LC).
modu is th	le_no ne numb	per of the m	nodule (0	to 27).			
Example o	of a MAI	P screen:					
SPM 3	OC3 1 A	ct mANb					
Loc : Row Default L	E FrP oad: SP	os 8 ShPc MLOAD	s 24 ShI	d O Slo	t 10 Pi Pi	rot Grp rot Role	: 1 : Spare
If the statu busied. Co	s of the	module is with step 8	ManB, d as soon	etermine as poss	e why the ible.	module	was manu
Return the	module	e to service	by typin	g			
>RTS							
and pressi	ng the I	Enter key.					
Determine	the sta	te of the m	odule.				
If the mo	dule is			Do			
InSv				step 1	6		

7

8

9

PM 1SPM MANB SPM major (end)

If the module is	Do
SysB or IstB	step 10
any other state	step 12

- **10** Perform the alarm clearing procedures for SysB or IstB, as appropriate.
- **11** Determine the state of the module.

If the module is	Do
InSv	step 16
any other state	step 12

12 Replace the CEM, OC3, DSP, VSP, or ATM module as appropriate. For detailed instructions, see one of the following *Card Replacement Procedures*. When you have completed the card replacement procedure, return to this point.

- "SPM NTLX63AA CEM card"
- "SPM NTLX71AA OC3 card"
- "SPM NTLX65AA DSP card
- "SPM NTLX66AA VSP card"
- "SPM NTLX73AA ATM card"
- "SPM NTLX72AA DLC card"
- **13** List the alarms on the module by typing

>LISTALM

and pressing the Enter key.

14 Determine whether the alarm has cleared.

If the alarm list indicates	Do
MANB	step 15
None	step 16

- **15** For further assistance, contact the personnel responsible for the next level of support.
- 16 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM 1SPM MANBNA SPM major

Alarm banner

1	Chi MB OD Not FBI COS This But LIVY	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
		•	·	•	•	1SPM	•	•	•	•	•
		•	•	•	•	м	•	•	•	•	•

Indication

At the Node level of the MAP screen, SPM preceded by a number appears under the PM header of the alarm banner and a major (M) alarm indicator appears beneath it.

Meaning

A DMS-Spectrum Peripheral Module (SPM) has been busied manually (MANB) and it is not accessible (NA). The SPM is in ManB state and a network error caused it to be isolated from the enhanced network (ENET) links or the message switch (MS) ports.

Log SPM600 relates to the MANBNA alarm. Tables MNCKTPAK and MNNODE contain datafill related to the MANBNA alarm.

Impact

The MANBNA alarm is generated by the common equipment module (CEM) and the node.

A serious disruption of service exists. Immediate attention is required.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM MANBNA SPM major (continued)





DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

PM 1SPM MANBNA SPM

major (continued)

Clearing a MANBNA alarm

At the MAP terminal

Access the PM level of the MAP screen by typing >MAPCI;MTC;PM and pressing the Enter key. Example of a MAP screen:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	1	1	3	2	12

- Display all the system-busy SPMs by typing
 >DISP STATE MANB SPM
 and pressing the Enter key.
- **3** Record the number of the SPMs.
- 4 Post each manual-busy-not-available SPM by typing
 - >POST SPM spm_no

and pressing the Enter key.

where

spm_no is the number of the SPM (0 to 63)

Example of a MAP screen:

SysB ManB OffL CBsy ISTb InSv 2 ∠ 9 0 0 7 2 2 16 РМ SPM 1 2 1 0 0 SPM 11 ManB Loc: Site HOST Floor 1 Row A FrPos 13 Shlf
0 ${\rm SL}$ A Stat ${\rm Shlf0}$ SL A Stat ${\rm Shlf1}$ SL A Stat ${\rm Shlf1}$ SL A Stat ----- 1 - ---- CEM 1 8 I SysB ----- 1 - ---- 8 - --------- 2 - ---- OC3 0 9 A ---- 2 - ---- 9 - ----DSP 3 3 I OffL OC3 1 10 I ---- 3 - ---- 10 - --------- 4 - ---- 11 - ---- 4 - ---- 11 - --------- 5 - ---- DSP12 12 A ---- 5 - ---- 12 - --------- 6 - ---- DSP13 13 A ---- 6 - ---- 13 - ----CEM 0 7 A ManB ----- 14 A ---- 7 - ---- 14 - ----

List the status of the ENET links by typing
 TRNSL
 and pressing the Enter key.

PM 1SPM MANBNA SPM major (continued)

Example of a MAP screen:

SPM 11 CEM 0 Act SysB (NA) Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: Trnsl Link 1: ENET 0 0 30 0; Status: OK Link 2: ENET 1 0 30 1; Status: NA Link 3: ENET 0 0 30 2; Status: OK Link 4: ENET 1 0 30 3; Status: OK

6 Determine whether the ENET links are in service.

If the status of the ENET links is	Do
ОК	step 9b
NA or UR	step 7

7 If the status of the ENET links is NA (not available), Determine whether they were manual busied and why. Return the ENET links to service as soon as possible. When you have completed the procedure, return to this point.

Note: Contact your next level of support if you are not familiar with the procedures required to restore ENET links to service.

8 List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 10
MANBNA	step 9

9

- Perform the following substeps to record ENET information:
 - a List the status of the ENET links by typing
 - >TRNSL

and pressing the Enter key.

Example of a MAP screen:

PM 1SPM MANBNA SPM

major (continued)

Def	: Ro ault	ow F Load	Fri	Pos PMT.(64 תמנ	ShP	os 6 Sh	Id 0 S	lot 7	
Clo	ck:	поаа	• 0.							
Inp	ut Re	ef:				Sou	rce:		Current	: Mode:
Trn	sl									
Lin	k 1:	ENET	0	0	30	0;	Status:	OK		
Lin	k 2:	ENET	1	0	30	1;	Status:	NA		
Lin	k 3: k 4:	ENET	0 1	0	30 30	2; 3;	Status: Status:	OK OK		
h	Deee			• T ak			ar (20 in th			
D	Reco	ora the	ENE	: I Sr	neit n	amu	er (30 in th	ie examp	ble above)	
Do	the to	llowing	sub	step	os to	dete	mine the M	S card n	iumbers:	
а	At the	e CI levected t	/el o o by	f MA typi	NP so ng	reen	, locate the	e MS car	d that the E	NET is
	>TAE	BLE E	ININ	īV						
	and p	oressin	g th	e En	ter k	ey.				
b	Crea	te a he	adir	g foi	r the	tuple	e by typing			
	>HEA	DING								
	and p	oressin	a th	e En	ter k	ev.				
С	Posit	ion on	the t	uple	for t	he E	NET shelf	by typing	1	
-	>POS	ene	<u>ن</u> + د	shel	fn	0			,	
	andr		a th	- En	tor k					
	whor	2	gun			cy.				
	wiiei		- 16							
	e	is the	neit_ e nui	_ no nbei	of th	ne El	NET shelf			
						_				

PM 1SPM MANBNA SPM major (continued)

<pre>>table eninv MACHINES NOT IN SYNC - DMOS NOT ALLOWED JOURNAL FILE UNAVAILABLE - DMOS NOT ALLOWED TABLE: ENINV >heading ENKEY ENCLASS FRTYPE FRNO FRPEC SHPEC MSCARDO MSLINKO MSPORTO FLOORO ROWO FRPOSO SHELF0 LOADO MSCARD1 MSLINK1 MSPORT1 FLOOR1 ROW1 FRPOS1 SHELF1 LOAD1 </pre>	C1.									
MACHINES NOT IN SYNC - DMOS NOT ALLOWED JOURNAL FILE UNAVAILABLE - DMOS NOT ALLOWED TABLE: ENINV >heading ENKEY ENCLASS FRTYPE FRNO FRPEC SHPEC MSCARDO MSLINKO MSPORTO FLOORO ROWO FRPOSO SHELF0 LOADO MSCARDI MSLINKI MSPORTI FLOORI ROWI FRPOSI SHELF1 LOADI 	>table er	ninv								
JOURNAL FILE UNAVAILABLE - DMOS NOT ALLOWED TABLE: ENINV >heading ENKEY ENCLASS FRTYPE FRNO FRPEC SHPEC MSCARDO MSLINKO MSPORTO FLOORO ROWO FRPOSO SHELFO LOADO MSCARDI MSLINKI MSPORTI FLOORI ROWI FRPOSI SHELFI LOADI 	MACHINES	NOT IN	N SYNC -	- DMC	OS NOT AL	LOWED				
TABLE: ENINV >heading ENKEY ENCLASS FRTYPE FRNO FRPEC SHPEC MSCARDO MSLINKO MSPORTO FLOORO ROWO FRPOSO SHELFO LOADO MSCARDI MSLINKI MSPORTI FLOORI ROWI FRPOSI SHELFI LOADI	JOURNAL H	FILE UN	JAVAILAE	BLE -	- DMOS NO	T ALLOWED				
<pre>>heading ENKEY ENCLASS FRTYPE FRNO FRPEC SHPEC MSCARD0 MSLINK0 MSPORT0 FLOOR0 ROW0 FRPOS0 SHELF0 LOAD0 MSCARD1 MSLINK1 MSPORT1 FLOOR1 ROW1 FRPOS1 SHELF1 LOAD1 </pre>	TABLE: EN	VIIV								
ENKEY ENCLASS FRTYPE FRNO FRPEC SHPEC MSCARDO MSLINKO MSPORTO FLOORO ROWO FRPOSO SHELFO LOADO MSCARDI MSLINKI MSPORTI FLOORI ROWI FRPOSI SHELFI LOADI 	>heading									
ROW0 FRPOS0 SHELF0 LOAD0 MSCARD1 MSLINK1 MSPORT1 FLOOR1 ROW1 FRPOS1 SHELF1 LOAD1	ENKEY ENG	CLASS H	FRTYPE F	FRNO	FRPEC	SHPEC	MSCARD0	MSLINK0	MSPORT0	FLOOR0
FLOOR1 ROW1 FRPOS1 SHELF1 LOAD1 >pos 0 0 PRI ENC 0 NT9X05AB NT9X0801 6 0 0 1 F 2 39 ENX08AX 10 0 0 1 F 1 39	ROWO FRPC	OSO SHE	ELFO				LOAD0	MSCARD1	MSLINK1	MSPORT1
>pos 0 0 PRI ENC 0 NT9X05AB NT9X0801 6 0 0 1 F 2 39 ENX08AX 10 0 0 1 F 1 39 ENX08AX	FLOOR1 RO	OW1 FRI	POS1 SHE	ELF1				LOAD1		
>pos 0 0 PRI ENC 0 NT9X05AB NT9X0801 6 0 0 1 F 2 39 ENX08AX 10 0 0 1 F 1 39 ENX08AX										
0 PRI ENC 0 NT9X05AB NT9X0801 6 0 1 F 2 39 ENX08AX 10 0 0 1 F 1 39 ENX08AX 10 0	>pos 0									
F 2 39 ENX08AX 10 0 0 1 F 1 39 ENX08AX	0	PRI	ENC	0	NT9X05AB	NT9X0801	6	0	0	1
1 F 1 39 ENX08AX	F	2	39				ENX08AX	10	0	C
	1	F	1	39			1	ENX08AX		

d Record the MS card numbers under MSCARD0 and MSCARD1 (6 and 10 in the example above).

11 Locate the MS cards by typing

>MAPCI;MTC;MS;SHELF 0;CARD ms_card_no

and pressing the Enter key.

where

ms_card_no is the number of the MS card

Example of a MAP screen:

Message	Switch	Clock	Shelf	0	Inter-MS Lin	k 0 1
MS O	•	Maste	er	F		RR
MS 1	S	Slav	re	C		CC
Shelf $\boldsymbol{0}$		1	1111	1 1 1 1	1 1 2 2 2 2 2	222
Card 1	2 3 4 5	67890	0 1 2 3	4 5 6 7	8 9 0 1 2 3	456
Chain		< > < > <	< > < >			
MS 0 .		F	7			. F .
MS 1 C	сссс	ссссс	сссс	сссс	C - C C C C C	ссс
Card 06	Protoco	L Port 0_	3	47	811 12_	15
MS 0 .	DS512	64			. P P	•
MS 1 C	DS512	64 C	РРР	РРРР	PPPP PF	PP

12 Do the following substeps to check the status of both ports (0 and 1) on both MS cards (MSCARD0 and MSCARD1).

PM 1SPM MANBNA SPM

major (continued)

a Determine the state of each MS card port that connects to the SPM with the SYSBNA alarm, by typing

>TRNSL ms_card_port

and pressing the Enter key.

where

ms_card_port is the number of the MS card port (0 or 1)

Example of a MAP screen:

PORT20=SPM10 (OK,P:NA SYST ACC NP MSRR ^PSRR)PORT21=SPM10 (OK,P:NA SYST ACC NP MSRR ^PSRR)PORT22=SPM11 (OK:UR SYST ACC NP MSRR PSRR)PORT23=SPM11 (OK:UR SYST ACC NP MSRR PSRR)PORT24=SPM12 (OK:AV SYST ACC NCP MSRR PSRR)

- **b** Repeat Step 12a. for the second MS port.
- c Repeat Step 11 for the other MS card and repeat Steps 12a. and 12b. to check the MS ports on that card. INSERT TABLE

If the status of the MS ports shows	Do
OK for all four ports	step 15
NA or UR for any port	step 13

13 Return the MS ports to service. When you have completed the procedure, return to this point.

Note: Contact your next level of support if you are not familiar with the procedures required to restore MS ports to service.

14 List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 16
SYSBNA	step 15

15 For further assistance, contact the personnel responsible for the next level of support.

PM 1SPM MANBNA SPM major (end)

16 You have completed this procedure. Return to the CI level of the MAP screen by typing >QUIT ALL

and pressing the Enter key.

PM 1SPM MFLOW SPM minor

Alarm display

MB OD HAR PHI COS This like LUUT	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1SPM	•	•	•	•	•
	•	•	•	-		•	•	•	•	•

Indication

At the PM level of the MAP display, SPM preceded by a number appears under the PM header of the alarm banner and a minor () alarm indicator appears beneath it.

Meaning

The low water mark threshold was exceeded for multifrequency (MF) resources. The demand for MF resources exceeded the threshold setting.

The DMS-Spectrum Peripheral Module (SPM) log SPM350 relates to the MFLOW alarm. Tables MNCKTPAK and MNNODE contain datafill related to the MFLOW alarm.

Impact

If the threshold setting is low enough to ensure that there are adequate resources in the MF pool to meet the current call rate, there is no immediate effect on service. However, if the call rate increases and the available MF resources cannot meet the demand, call processing or grades of service, or both, are degraded.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM MFLOW SPM minor (continued)





PM 1SPM MFLOW SPM

minor (continued)

Clearing an MFLOW alarm

At the MAP terminal

1 Access the log utility level of the MAP screen by typing >LOGUTIL

and pressing the Enter key.

2 Display all the SPM350 logs by typing

>DUMPLOGS SPM 350

and pressing the Enter key.

Example of a MAP screen:

SPM350 Nov19 20:01:33 1400 Pool Percent Free Resources Low ALARM_STATE = ON POOL = MF SPM_NUM = 20 NUM_FREE = 39 NUM-INUSE = 61

Note: OPEN SPM 350 can be used instead of the DUMPLOGS command. Logs can then be browsed using the LAST, FIRST, BACK, and FORWARD commands.

- **3** Locate an SPM350 log with ALARM_STATE = ON and POOL = MF. Record the number of the SPM.
- 4 Post the SPM by typing

>MAPCI;MTC;PM;POST SPM spm_no

and pressing the Enter key.

where

spm_no

is the number of the SPM (0 to 63) shown in the log report *Example of a MAP screen:*

PM 1SPM MFLOW SPM minor (continued)

ManB OffL CBsy ISTb SysB InSv РM 7 2 2 2 9 16 SPM 0 1 1 0 0 1 SPM 20 InSv Loc: Site HOST Floor 1 Row A FrPos 13 Shlf0 SL A Stat Shlf0 SL A Stat Shlf1 SL A Stat Shlf1 SL A Stat ----- 1 - ---- CEM 1 8 I InSv ----- 1 - ---- 8 - --------- 2 - ---- OC3 0 9 A InSv ----- 2 - ---- 9 - ----DSP 3 3 I OffL OC3 1 10 I InSv ----- 3 - ---- 10 - ----4 - ---- 11 - ---- 4 - ---- 11 - ----____ ----- 5 - ---- DSP12 12 A InSv ----- 5 - ---- 12 - --------- 6 - ---- DSP13 13 A InSv ----- 6 - ---- 13 - ----CEM 0 7 A InSv ----- 14 A InSv ----- 7 - ---- 14 - ----

5

List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

Example of a MAP screen:

ListAlm ListAlm: SPM 11 SEVERITY ALARM ACTION Critical None Major None Minor MFLOW RPT No_Alarm None

- **6** Do the following substeps to Determine whether sparing activities are underway.
 - a Check the alarm list for a NOSPARE alarm.

If the alarm list indicates	Do
Major NOSPARE	step 6 b
Major None	step 6 c

b Verify that sparing activities are underway by other personnel. Otherwise, clear the NOSPARE alarm by following the SPM NOSPARE alarm clearing procedure.

c Check the list of posted modules for DSPs that are system busy (SysB) or manual busy (ManB). If other personnel are involved in sparing activities, check with them to make sure the DSPs will be returned to service. Otherwise, clear any alarms and return the units to service.

PM 1SPM MFLOW SPM minor (end)

- d Wait until the state of the DSPs indicates InSv.
- 7 When the DSPs are returned to service, Determine whether the alarm has cleared.

If the alarm list indicates	Do				
Minor MFLOW	step 8				
Minor None	step 11				

8 Provision additional DSP RMs. For detailed instructions and provisioning information, see "SPM NTLX65AA DSP RM card" in the appropriate *Card Replacement Procedures*. When you have completed the procedures, return to this point.

Note: Contact your next level of support if you are not familiar with the policies and procedures for provisioning DSP RMs.

9 List the alarms on the SPM by typing

>LISTALM

and pressing the Enter key.

If the alarm list indicates	Do
Minor MFLOW	step 10
Minor None	step 11

10 For further assistance, contact the personnel responsible for the next level of support.

11 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM 1SPM NOSPARE SPM major

Alarm banner

M MB CD Hot PM CCB The list	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
			•	•	1SPM	•	•	•	•	•
	•		•	-	M	•	-	•	•	•

Indication

At the OC3, VSP, DSP, or ATM level of the MAP display, SPM preceded by a number appears under the PM header of the alarm banner and a major (M) alarm indicator appears beneath it.

Meaning

The last spare module in a protection group is not available for service.

The DMS-Spectrum Peripheral Module (SPM) logs SPM330 and SPM331 relate to the NOSPARE alarm. Table MNPRTGRP contains datafill related to the NOSPARE alarm.

Impact

No sparing capability alarms are generated for the following modules:

- OC3
- DSP
- VSP
- ATM

This alarm indicates that redundant capability for one of these modules is not available. A serious disruption of service can occur and immediate attention is required.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM NOSPARE SPM major (continued)

Summary of clearing a NOSPARE alarm



PM 1SPM NOSPARE SPM major (continued)

Clearing a NOSPARE alarm

At the MAP terminal

1 Access the PM level of the MAP screen by typing

>MAPCI;MTC;PM

and pressing the Enter key. Example of a MAP screen:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	1	1	3	2	12

2 Show the state of all PMs by typing

>**STATUS** and pressing the Enter key.

3 Post the SPMs by typing

>POST SPM all
and pressing the Enter key.
where
all
refers to all of the SPMs (0 to 63)

4 List the alarms on each SPM by typing

>LISTALM and pressing the Enter key. Example of a MAP screen:

PM 1SPM NOSPARE SPM

major (continued)

PM SPM			SysB 7 0	Ма	anE 2 2	3	(DffL 2 1	CBsy 2 0		IS	5Tb 9 0	InSv 16 0			
SPM	11	S	SysB	Loc:	Si	lte	HC	OST Flo	oor 1	Rov	v P	FrP	os 13			
Shlf0	SL	A	Stat	Shli	EO	SL	A	Stat	Shlf1	SL	A	Stat	Shlf1	SL	A	Stat
	1	-		CEM	1	8	Ι	SysB		1	-			8	-	
	2	-		OC3	0	9	А			2	-			9	-	
DSP 3	3	Ι	OffL	OC3	1	10	Ι			3	-			10	-	
	4	-				11	-			4	-			11	-	
	5	-		DSP1	L2	12	А			5	-			12	-	
	6	-		DSP1	L3	13	А			6	-			13	-	
CEM 0	7	А	SysB	VSP1	L4	14	А			7	-			14	-	
ListAl	Lm															
ListAl	Lm:	SI	PM 11	CEM	0											
SEVER	TY		ALAI	RM		A	CTI	ION								
Critic	al		None	3												
Major			NOSI	PARE			F	RPT								
Minor			None	3												
No_Ala	arm		None	Э												

5 Record the number of each SPM with a NOSPARE alarm.

6 Determine which of the OC3, DSP, VSP, or ATM modules are not in service (InSv, CBsy, or IsTb) and select the modules by typing

>SELECT module_type module_number

and pressing the Enter key.

where

module_type is the type of module (OC3, DSP, VSP, or ATM).

module no

is the number of the module (0 to 27)

7 Locate the NOSPARE alarms on each module by typing

>PROT;LISTALM

and pressing the Enter key.

8 Determine the state of the module from the LISTALM display. *Example of a MAP screen:*

PM 1SPM NOSPARE SPM major (continued)

If the module is	Do
OffL	step 9
ManB	step 10
in any other state	step 13

9 Return to the module level and set the module to manual busy by typing

>QUIT;BSY;RTS

and pressing the Enter key. Go to Step 11.

10 Return to the module level and return the module to service by typing

>QUIT;RTS

and pressing the Enter key.

11 List the alarms on the module at the proctection level by typing

>PROT;LISTALM

and pressing the Enter key. *Example of a MAP screen:*

PM 1SPM NOSPARE SPM

major (continued)

ListAlm

ListAlm: VSP_GRP 1

SEVERITY	ALARM	ACTION
Critical	None	
Major	None	
-		
Minor	None	
No_Alarm	None	

12 Determine whether the NOSPARE alarm has cleared.

If the alarm list indicates	Do
NOSPARE	step 13
None	step 21

13 Determine the state of the module.

If the module is	Do
SysB	step 14
in any other state	step 20

14 Perform an in-service test on the module by typing

>TST

and pressing the Enter key.

Example of a MAP screen:

SPM 3 OC3 1 Act ISTb

Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Spare Clock:Input Ref: Internal Source: C Side 0 Current Mode: Acquire Tst SPM 3 CEM 0 Test : Request has been submitted. SPM 3 CEM 0 Test : Test passed.

15 Determine the test condition of the module. I

If the test results show	Do
Test passed.	step 16

PM 1SPM NOSPARE SPM major (end)

step 19 g
g
ıg
ng
ŋġ
rm has cleared.
Do
step 20
step 21

When you have completed the procedure, return to this point.

- "SPM NTLX71AA OC3 card"
- "SPM NTLX65AA DSP card" .
- "SPM NTLX66AA VSP card"
- "SPM NTLX73AA ATM card"
- 20 For further assistance, contact the personnel responsible for the next level of support.
- 21 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM 1SPM PROTFAIL SPM critical

Alarm banner

Í	Chi Mili CD Hot Pill COS This list	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
		•	•	•	•	1SPM	•	•	•	•	•
		·	•	•	·	~C^	·	•	•	•	•

Indication

At the PM level of the MAP display, SPM appears under the PM header of the alarm banner, preceded by a number. A critical (*C*) alarm indicator appears beneath it.

Meaning

Protection (PROT) switching failed to occur on protected modules.

The following DMS-Spectrum Peripheral Module (SPM) logs relate to the PROTFAIL alarm .

- SPM300
- SPM331
- SPM500
- SPM630

Table MNCKTPAK contains datafill related to the PROTFAIL alarm

Impact

The following devices issue protection failure alarms:

- OC3
- DSP
- VSP
- ATM
- DLC

Attention

The voice signal processor (VSP), asynchronous transfer mode (ATM), and data link controller (DLC) do not apply to all markets.

This alarm indicates that one or more active modules failed and protection switching to back-up modules did not occur. A severe service-affecting condition exists, and the alarm requires immediate corrective action.

Common procedures

For basic information about SPM alarms, see "Accessing SPM alarms".

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.



Clearing a PROTFAIL alarm

At the MAP terminal

1 Access the PM level of the MAP screen by typing

>MAPCI;MTC;PM

and pressing the Enter key. *Example of a MAP screen:*

	SysB	ManB	OffL	CBsy	ISTb	InSv
РM	1	1	1	3	2	12

2 Show the state of all PMs by typing

>STATUS and pressing the Enter key.

3 Post the SPMs by typing

>POST SPM all and pressing the Enter key. where all refers to all of the SPM (0 to 63) Example of a MAP screen:

4 5

	SysB	ManB	OffL	CBsy	ISTb	InSv				
PM	7	2	2	2	9	16				
SPM	0	2	1	0	0	0				
SPM	11 SysB	Loc: Site	HOST Fl	oor 1 F	Row A FrP	os 13				
Shlf0	SL A Stat	Shlf0 SL	A Stat	Shlf1 S	SL A Stat	Shlf1	SL A Stat			
	1	CEM 1 8	I SysB		1		8			
	2	OC3 0 9	A		2		9			
DSP 3	3 I OffL	OC3 1 10	I		3		10			
	4	11			4		11			
	5	DSP12 12	A		5		12			
	6	DSP13 13	A		б — ———		13			
CEM 0	7 A SysB	VSP14 14	A		7 – ––––		14			
Detern service >SELE and pr where mo	Determine which of the OC3, DSP, VSP, ATM, or DLC modules are not in service (InSv, CBsy, or ISTb) and select the modules by typing >SELECT module_type module_no and pressing the Enter key. where module_type is the type of module (OC3, DSP, VSP, ATM, or DLC)									
mo	module_no is the number of the module (0 to 27)									
Examp	Example of a MAP screen:									
SPM 3	SPM 3 OC3 1 InAct OffL									
Loc : Defaul	Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Spare									
Locate	Locate the PROTFAIL alarms on each module by typing									
>LIST	'ALM									

and pressing the Enter key. *Example of a MAP screen:*

6

ListAlm ListAlm:	SPM 11 OC3	
SEVERITY	ALARM	ACTION
Critical	None	
Major	PROTFAIL	RPT
Minor	None	
No_Alarm	None	

7 Determine the state of the module from the SELECT display.

If the module is	Do
SysB	step 8
in any other state	step 11

8 Perform an in-service test on the module by typing

>TST

and pressing the Enter key. *Example of a MAP screen:*

SPM 11 OC3 1 Act ISTb

Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Spare Clock:Input Ref: Internal Source: C Side 0 Current Mode: Acquire Tst SPM 3 CEM 0 Test : Request has been submitted. SPM 3 CEM 0 Test : Test passed.

9

Determine the test condition of the module.

If the test results show	Do
Test passed.	step 10
Test failed.	step 12

10 Return the module to service by typing

>RTS

PM 1SPM PROTFAIL SPM

critical (continued)

and pressing the Enter key.

11 Determine the state of the module.

If the module is	Do
InSv	step 13
in any other state	step 17

- **12** Replace the module identified in step 5. For detailed instructions, see the SPM section of the *Card Replacement Procedures*. When you complete the card replacement procedure, go to step 13 of this procedure.
- **13** Access the protection level of the MAP screen by typing

>PROT

and pressing the Enter key.

14 Do a manual protection switch with a module in the same protection group by typing

>MANUAL from_unit_no to_unit_no

and pressing the Enter key.

where

from_unit_no

is the number (0 to 27) of the module with the alarm.

to_unit_no

is the number (0 to 27) of the inactive module in the same protection group

Example of a MAP screen:

SPM 0 DSP 1 Manual: Request has been submitted. SPM 0 DSP 0 Manual: Command completed.

15 List the alarms on the module by typing

>LISTALM

and pressing the Enter key.

16 Determine whether the alarm has cleared.

If the alarm list indicates	Do
PROTFAIL	step 17
None	step 18

PM 1SPM PROTFAIL SPM critical (end)

- 17 For further assistance, contact the personnel responsible for the next level of support.
- **18** You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL and pressing the Enter key.

PM 1SPM SYSB SPM critical

Alarm banner

Chi MB OD Not Phi CCS This list	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	•		•	•	1SPM	•	•	•	•	•
	•	·	·	·	~C^	·	·	•	·	·

Indication

At the PM level of the MAP display, SPM appears under the PM header of the alarm banner, preceded by a number. A critical (*C*) alarm indicator appears beneath it.

Meaning

A module in a DMS-Spectrum Peripheral Module (SPM) is in system-busy (SYSB) state. A severe disruption of service exits. This alarm requires immediate attention.

The following logs relate to the SYSB alarm:

- NODE500
- SPM300
- SPM331
- SPM500
- SPM630
- CARR500
- CARR501
- CARR510
- CARR511
- CARR512

Tables MNCKTPAK and MNNODE contain datafill related to the SYSB alarm.

Impact

The following devices generate SYSB alarms:

- Node
- CEM

- OC3
- DSP
- VSP
- ATM
- DLC

Attention

The voice signal processor (VSP), asynchronous transfer mode (ATM), and data link controller (DLC) do not apply to all markets.

The active module generating the alarm is not in service. You must return it to service or replace it.

Common procedures

For basic information about SPM alarms, see "Accessing SPM alarms" in this document.

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.



Clearing a SYSB alarm

At the MAP terminal

- Access the PM level of the MAP screen by typing >MAPCI;MTC;PM and pressing the Enter key.
 - Example of a MAP screen:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	1	1	3	2	12

- 2 Show the state of all PMs by typing >STATUS and pressing the Enter key.
- Display the SPMs that are system busy by typing
 DISP STATE SYSB SPM
 and pressing the Enter key.
- 4 Record the number of the SPMs.
- 5 Post each system busy SPM by typing
 - >POST SPM spm_no

and pressing the Enter key.

- where
 - spm_no
 - is the number of the SPM (0 to 63)

Example of a MAP screen:

6

	SysB	ManB	OffL	CBsy	ISTb	InSv	
PM	7	2	2	2	9	16	
SPM	0	2	1	0	0	0	
SPM 11	SysB	Loc: Site	HOST Fl	oor 1 R	ow A FrP	os 13	
Shlf0 SL A	A Stat	Shlf0 SL	A Stat	Shlf1 S	L A Stat	Shlf1 S	L A Stat
1 -		CEM 1 8	I SysB		1		8
2 -		OC3 0 9	A		2		9 – ––––
DSP 3 3 1	OffL	OC3 1 10	I		3	1	.0
4 -		11 Dap12 12			4 F	1	.1
5 -		DSPIZ IZ	A		5 6	1	2
CEM 0 7 7	SveB	VSP14 14	A		7	1	4
	I DYBD	VDFI4 I4	A		,	1	
Determine which of the CEM, OC3, DSP, VSP, or ATM modules is system-busy and select the modules by typing >SELECT module_type module_no and pressing the Enter key. where							
<pre>module_type is the type of module (CEM, OC3, DSP, VSP, or ATM).</pre>							
module_no is the number of the module (0 to 27)							
Example of a MAP screen:							
SPM 3 O	C3 1	InAct C	ffL				
Loc : Row E FrPos 8 ShPos 24 ShId 0 Slot 10 Prot Grp : 1 Default Load: SPMLOAD Prot Role: Spare							
Test the module by typing >TST							
and pressing the Enter key.							
Determine	Determine the test condition of the module						

If the module test is	Do		
ОК	step 9		
not OK	step 11		

7

8
PM 1SPM SYSB SPM critical (end)

9 Return the module to service by typing

>RTS

and pressing the Enter key.

10 Determine the state of the module.

If the module is	Do
InSv	step 15
any other state	step 14

- **11** Replace the module identified in step 6. For detailed instructions, see the SPM section of the *Card Replacement Procedures*. When you complete the card replacement procedure, go to step 12 of this procedure.
- 12 List the alarms on the module by typing

>LISTALM

and pressing the Enter key.

13 Determine whether the alarm has cleared.

If the alarm list indicates	Do
SYSB	step 14
None	step 15

- 14 For further assistance, contact the personnel responsible for the next level of support.
- **15** You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM 1SPM SYSBNA SPM critical

Alarm banner

1	Chi Mili CD Hot Phil CON The list	CM	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
			•	•	•	1SPM	•	•	•	•	•
		•	•	-	•	*C*	•	•	•	•	•

Indication

At the MTC level of the MAP screen, SPM preceded by a number appears under the PM header of the alarm banner and a critical (*C*) alarm indicator appears beneath it.

Meaning

The SPM node is system busy (SYSB) and it is not accessible (NA). The DMS-Spectrum Peripheral Module (SPM) is in SysB state and a network error has caused it to be isolated from the enhanced network (ENET) links or the message switch (MS) ports.

Log ENET311 relates to the SYSBNA alarm. Tables MNCKTPAK and MNNODE contain datafill related to the SYSBNA alarm.

Impact

A severe service-affecting condition exists. Immediate corrective action is required.

Common procedures

For basic information about SPM alarms, see "Accessing SPM alarms" in this document.

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.





PM 1SPM SYSBNA SPM

critical (continued)

Clearing a SYSBNA alarm

At the MAP terminal

Access the PM level of the MAP screen by typing

>MAPCI;MTC;PM

and pressing the Enter key. *Example of a MAP screen:*

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	1	1	3	2	12

2 Display all the system-busy SPMs by typing

>DISP STATE SYSB SPM

and pressing the Enter key.

- **3** Record the number of the SPMs.
- 4 Post each system-busy-not-available SPM by typing

>POST SPM spm_no

and pressing the Enter key.

where

spm_no

is the number of the SPM (0 to 63)

Example of a MAP screen:

SysB ManB OffL CBsy ISTb InSv 16 РМ 7 2 2 2 9 SPM 1 2 1 0 0 0 SPM 11 SysB Loc: Site HOST Floor 1 Row A FrPos 13 Shlf0 SL A Stat Shlf0 SL A Stat Shlf1 SL A Stat Shlf1 SL A Stat ----- 1 - ---- CEM 1 8 I SysB ----- 1 - ---- 8 - --------- 2 - ---- OC3 0 9 A ---- 2 - ---- 9 - ----DSP 3 3 I OffL OC3 1 10 I ---- 3 - ---- 10 - --------- 4 - ---- 11 - ---- 4 - ---- 11 - --------- 5 - ---- DSP12 12 A ---- 5 - ---- 12 - --------- 6 - ---- DSP13 13 A ---- 6 - ---- 13 - ----CEM 0 7 A SysB ----- 14 A ---- 7 - ---- 14 - ----

5 List the status of the ENET links by typing

>TRNSL

and pressing the Enter key. *Example of a MAP screen:*

SPM 11 CEM 0 Act SysB (NA)

Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: Trnsl Link 1: ENET 0 0 30 0; Status: OK Link 2: ENET 1 0 30 1; Status: NA Link 3: ENET 0 0 30 2; Status: OK Link 4: ENET 1 0 30 3; Status: OK

6 Determine whether the ENET links are in service.

If the status of the ENET links is	Do
ОК	step 9b
NA or UR	step 7

7 Return the ENET links to service. Refer to the *Alarm Clearing and Performance Monitoring Procedures Reference Manual.* When you have completed the procedure, return to this point.

Note: Contact your next level of support if you are not familiar with the procedures required to restore ENET links to service.

8 List the alarms on the SPM unit by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 10
SYSBNA	step 9

9 Perform the following substeps to record ENET information:

a List the status of the ENET links by typing

>TRNSL

and pressing the Enter key. *Example of a MAP screen:*

SPM 11 CEM 0 Act SysB (NA)
Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7
Default Load: SPMLOAD
Clock:
Input Ref: Source: Current Mode:
Trnsl
Link 1: ENET 0 0 30 0; Status: OK
Link 2: ENET 1 0 30 1; Status: NA
Link 3: ENET 0 0 30 2; Status: OK
Link 4: ENET 1 0 30 3; Status: OK

b Record the ENET shelf number (30 in the example above).

10 Do the following substeps to detemine the MS card numbers:

a At the CI level of MAP screen, locate the MS card that the ENET is connected to by typing

>TABLE ENINV

and pressing the Enter key.

b Create a heading for the tuple by typing

>HEADING

and pressing the Enter key.

c Position on the tuple for the ENET shelf by typing

>POS enet_shelf_no

and pressing the Enter key.

where

enet_shelf_no is the number of the ENET shelf Example of a MAP screen:

	CI:
	>table eninv
	MACHINES NOT IN SYNC - DMOS NOT ALLOWED
	JOURNAL FILE UNAVAILABLE - DMOS NOT ALLOWED
	TABLE: ENINV
	>heading
	ENKEY ENCLASS FRTYPE FRNO FRPEC SHPEC MSCARDO MSLINKO MSPORTO FLOORO
	ROWO FRPOSO SHELFO LOADO MSCARD1 MSLINK1 MSPORT1
	FLOOR1 ROW1 FRPOS1 SHELF1 LOAD1
	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
	אַר דער 1 גער
	E 2 30 ENIYOSAB NIYAOOO 0 0 1
	I F I 55 ENAUGRA
	d Record the MS card numbers under MSCARD0 and MSCARD1 (6 and 10 in the previous example).
11	Locate the MS cards by typing
	and proceing the Enter low
	and pressing the Enter key.
	where
	ms_card_no is the number of the MS card
	Example of a MAP screen:
	Message Switch Clock Shelf 0 Inter-MS Link 0 1
	MS 0 . Master F R R
	MS 1 S Slave C CC
	Shelf 0 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
	Card 12345678901234567890123456
	Chain < > < > < >
	MS 0
	MS 1 CCCCCCCCCCCCCCC-CCCCCC
	Card 06 Protocol Port 03 47 811 1215
	MS 0 . DS512 64 P P
	MS 1 C DS512 64 CPPP PPPP PPPP
12	Do the following substeps to check the status of both ports (0 and 1) on both
	MS cards (MSCARD0 and MSCARD1).

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PM 1SPM SYSBNA SPM

critical (continued)

a Determine the state of each MS card port that connects to the SPM with the SYSBNA alarm, by typing

>TRNSL ms_card_port

and pressing the Enter key.

where

ms_card_port is the number of the MS card port (0 or 1)

Example of a MAP screen:

PORT20=SPM10 (OK,P:NA SYST ACC NP MSRR ^PSRR)PORT21=SPM10 (OK,P:NA SYST ACC NP MSRR ^PSRR)PORT22=SPM11 (OK:UR SYST ACC NP MSRR PSRR)PORT23=SPM11 (OK:UR SYST ACC NP MSRR PSRR)PORT24=SPM12 (OK:AV SYST ACC NCP MSRR PSRR)

- **b** Repeat step 12a for the second MS port.
- c Repeat step 11 for the other MS card and repeat steps 12a and 12b to check the MS ports on that card.

If the status of the MS ports shows	Do
OK for all four ports	step 15
NA or UR for any port	step 13

13 Return the MS ports to service. Refer to the *Alarm Clearing and Performance Monitoring Procedures Reference Manual.* When you have completed the procedure, return to this point.

Note: Contact your next level of support if you are not familiar with the procedures required to restore MS ports to service.

14 List the alarms on the SPM unit by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 16
SYSBNA	step 15

15 For further assistance, contact the personnel responsible for the next level of support.

PM 1SPM SYSBNA SPM critical (end)

16 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL and pressing the Enter key.

PM1SPM TONESLOW SPM minor

Alarm display

CM MB OD Not PM COB The But	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1SPM	•	•	•	•	•
	•	•	•	•		•	-	-	•	•

Indication

At the PM level of the MAP display, SPM preceded by a number appears under the PM header of the alarm banner and a minor () alarm indicator appears beneath it.

Meaning

The low water mark threshold was exceeded for tone synthesizer (TONESYN) resources. The demand for TONESYN resources exceeded the threshold setting.

The DMS-Spectrum Peripheral Module (SPM) log SPM350 relates to the TONESLOW alarm. Tables MNCKTPAK and MNNODE contain datafill related to the TONESLOW alarm.

Impact

If the threshold setting is low enough to ensure that there are adequate resources in the TONESYN pool to meet the current call rate, there is no immediate effect on service. However, if the call rate increases and the available TONESYN resources cannot meet the demand, call processing or grades of service, or both, are degraded.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM1SPM TONESLOW SPM minor (continued)





PM1SPM TONESLOW SPM

minor (continued)

Clearing a TONESLOW alarm

At the MAP terminal

1 Access the log utility level of the MAP screen by typing >LOGUTIL

and pressing the Enter key.

2 Display all the SPM350 logs by typing

>DUMPLOGS SPM 350

and pressing the Enter key.

Example of a MAP screen:

SPM350 Nov19 20:01:33 1400 Pool Percent Free Resources Low ALARM_STATE = ON POOL = TONESYN SPM_NUM = 20 NUM_FREE = 39 NUM-INUSE = 61

Note 1: OPEN SPM 350 can be used instead of the DUMPLOGS command. Logs can then be browsed using the LAST, FIRST, BACK, and FORWARD commands.

Note 2:

- **3** Locate an SPM350 log with ALARM_STATE = ON and POOL = TONESYN. Record the number of the SPM.
- 4 Post the SPM by typing

>MAPCI;MTC;PM;POST SPM spm_no

and pressing the Enter key.

where

spm_no

is the number of the SPM (0 to 63) shown in the log report

Example of a MAP screen:

PM1SPM TONESLOW SPM minor (continued)

SysB ManB OffL CBsy ISTb InSv 7 2 9 2 2 16 РМ SPM 0 1 1 0 0 1 SPM 20 InSv Loc: Site HOST Floor 1 Row A FrPos 13 Shlf0 SL A Stat Shlf0 SL A Stat Shlf1 SL A Stat Shlf1 SL A Stat ----- 1 - ---- CEM 1 8 I InSv ----- 1 - ---- 8 - --------- 2 - ---- OC3 0 9 A Insv ----- 2 - ---- 9 - ----DSP 3 3 I OffL OC3 1 10 I InSv ----- 3 - ---- 10 - --------- 4 - ---- 11 - ---- 4 - ---- 11 - --------- 5 - ---- DSP12 12 A InSv ----- 5 - ---- 12 - --------- 6 - ---- DSP13 13 A InSv ----- 6 - ---- 13 - ----CEM 0 7 A InSv ----- 14 A InSv ----- 7 - ---- 14 - ----List the alarms on the SPM by typing >LISTALM and pressing the Enter key. Example of a MAP screen: ListAlm ListAlm: SPM 11 OC3 0 SEVERITY ALARM ACTION _____ Critical None Major None Minor TONESLOW RPT

No_Alarm None

5

- 6 Do the following substeps to determine if sparing activities are underway.
 - a Check the alarm list for a NOSPARE alarm.
 - **b** Verify that sparing activities are underway by other personnel. Otherwise, clear the NOSPARE alarm by following the SPM NOSPARE alarm clearing procedure.

If the alarm list indicates	Do
Major NOSPARE	step 6 b
Major None	step 6 c

- **c** Check the list of posted modules for DSPs that are system busy (SysB) or manual busy (ManB). If other personnel are involved in sparing activities, check with them to make sure the DSPs will be returned to service. Otherwise, clear any alarms and return the units to service.
- **d** Wait until the state of the DSPs indicates InSv.

PM1SPM TONESLOW SPM minor (end)

9

7 When the DSPs are returned to service, determine if the alarm has cleared.

If the alarm list indicates	Do
Minor TONESLOW	step 8
Minor None	step 11

8 Provision additional DSP RMs. For detailed instructions and provisioning information, see "SPM NTLX65AA DSP RM card" in the appropriate *Card Replacement Procedures*. When you have completed the procedures, return to this point.

Note: Contact your next level of support if you are not familiar with the policies and procedures for provisioning DSP RMs.

List the alarms on the SPM unit by typing

>LISTALM

and pressing the Enter key.

If the alarm list indicates	Do
Minor TONESLOW	step 10
Minor None	step 11

- **10** For further assistance, contact the personnel responsible for the next level of support.
- 11 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM 1SPM VCXO70 SPM minor

Alarm banner

(Chi Mili CD Hor Pili COS The Her LUT	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
		•	•	•	•	1SPM	•	•	•	•	•
		•	•	•	•		•	•	•	•	•
U	、 //										

Indication

At the MTC level of the MAP screen, SPM preceded by a number appears under the PM header of the MAP screen and a minor () alarm indicator appears beneath it.

Meaning

The voltage controlled oscillator (VCXO) has exceeded the 70% threshold of its dynamically adjustable range in order to keep the common equipment module (CEM) synchronized to a timing reference.

The DMS-Spectrum Peripheral Module (SPM) log SPM301 relates to the VCXO70 alarm. Table MNCKTPAK contains datafill related to the VCXO70 alarm.

Impact

Service is not affected.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM VCXO70 SPM

minor (continued)



Summary of clearing a VCX070 alarm

Clearing an VCXO70 alarm

At the MAP terminal

1 Access the PM level of the MAP screen by typing >MAPCI;MTC;PM and pressing the Enter key. Example of a MAP screen:

PM 1SPM VCXO70 SPM minor (continued)

		Sys	в№	lanB	Offi	L C	Bsy	IS	Tb	InSv	7		
	РМ	T		T	T		3	T		12			
2		Displa	ay all the	e inservi	ce-trou	uble (IS	Tb) SP	Ms by	/ typin	g			
		>DIS	P STA	TE IS	STb a	SPM							
		and p	ressing	the Ente	er key.								
3		Recor	rd the n	umber o	f the S	PMs.							
4		Post e	each IS	Tb SPM	by typ	ing							
		>POS	T SPM	I spm_	no								
		and p	ressing	the Ente	er key.								
		where)										
		S	pm_no										
		-	is the I	number	of the	SPM (0	to 63)						
		Exam	ple of a	MAP so	creen:								
			Sys	sB Ma	ınB	OffL	CBsy	IS	Tb	InSv			
		PM SPM		7)	2 2	2 1	2 0		9 1	16 0			
			1		<u>.</u>					10			
	2	SPM 1		D Loc:	Site F	IOST FI	oor 1	Row A	A FrP	os 13			
	5	Shlf0 S	SL A Sta	at Shlf	OSLA	A Stat	Shlf1	SL A	Stat	Shlf1	SL .	A	Stat
	-		2	OC3	0 9 7	L Sysв A		1 – 2 –			8 9		
	I	OSP 3	3 I Of:	EL OC3	1 10 1	[3 -			10	-	
	-		4 5	 DSP1	11 - .2 12 7	 A		4 – 5 –			11 12	_	
	-		6	DSP1	.3 13 <i>P</i>	A		6 –			13	-	
	C	CEM 0	7 A IS	ſb	- 14 7	A		7 –			14		
5		Selec	t the IS	Tb CEM	by typ	oing							
		>SEL	ECT CE	M cem_	no								
		and p	ressing	the Ente	er key.								
		where	9		-								
		C	em_no is the i	number	of the	CEM (0	or 1)						
		Exam	ple of a	MAP so	creen:	(•	/						

PM 1SPM VCXO70 SPM

6

minor (continued)

SPM	11 CI	ΞM	0	Act	IST	C							
Loc : Defau Clock	Row I lt Loa :	F F ad:	rPo SPM	s 64 LOAD	ShPos	6	ShId	0	Slo	t	7		
Input	Ref:				Source	:			(Cui	rrent	: Mo	de:
List the	alarm	s on t	he C	CEM b	y typing								
>LIST/	АГМ												
and pre	essing t	he Ei	nter	key.									
Examp	le of a	MAP	scre	en:									
SPM 2	11 CEI	4	0.	Act	ISTb								
Loc : H Default Clock:	Row F t Load	Fri d: Si	Pos PML	64 S OAD	ShPos (5 5	ShId	0 5	Slot		7		
Input H	Ref:			2	Source:				C	urı	rent	Mod	le:
_ ListAlr	n												
ListAlr	n: SPI	4 11	С	ЕМ О									
SEVERI	ГҮ	ALA	RM		ACTIO	N							
Critica	al	Non	е										
Major		Non	е										
Minor		VCX	070		RP	Г							
No_Ala	rm	Non	е										

7 Determine whether there are any other CEM alarms.

If there are	Do
no other CEM alarms	step 10
other CEM alarms	step 8

8 Clear the other CEM alarms using the appropriate SPM alarm clearing procedures. When you have completed the procedures, return to this step.

PM 1SPM VCXO70 SPM minor (end)

At the MAP terminal

9 List the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 13
VCX070	step 10

10 Replace the CEM module. For detailed instructions, see "SPM NTLX63AA CEM card" in the appropriate *Card Replacement Procedures*. When you complete the card replacement procedure, return to this point.

11 List the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 13
VCX070	step 12

- 12 For further assistance, contact the personnel responsible for the next level of support.
- 13 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM 1SPM VCXO90 SPM major

Alarm banner

CHI MR CO HIZ PHI COS The His LUTY	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1SPM	•	•	•	•	•
	•		•	•	М	•	•	•	•	•

Indication

At the MTC level of the MAP screen, SPM preceded by a number appears under the PM header of the MAP screen and a major (M) alarm indicator appears beneath it.

Meaning

The voltage controlled oscillator (VCXO) has exceeded the 90% threshold of its dynamically adjustable range in order to keep the common equipment module (CEM) synchronized to a timing reference.

The DMS-Spectrum Peripheral Module (SPM) log SPM301 relates to the VCXO90 alarm. Table MNCKTPAK contains datafill related to the VCXO90 alarm.

Impact

Synchronization failure can occur. The affected CEM should be replaced.

Common procedures

See "Accessing SPM alarms."

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM 1SPM VCXO90 SPM major (continued)



Summary of clearing a VCXO90 alarm

Clearing a VCXO90 alarm

At the MAP terminal

1 Access the PM level of the MAP screen by typing >MAPCI;MTC;PM and pressing the Enter key. Example of a MAP screen:

PM 1SPM VCXO90 SPM

major (continued)

	-	SysB	Mani	3 Of	EfL	CBsy	ISTb	InSv
	РМ	1	1	-	L	3	2	12
2	Disp	lay all	the inserv	ie-troubl	e (ISTb) SPMs by	typing	
	>DI	SP S	TATE IS	STb S	PM			
	and	pressir	ng the Ent	er key.				
3	Rec	ord the	number c	of the SF	PMs.			
4	Post	each l	STb SPM	by typir	ng			
	>PO	ST S	PM spm_	no				
	and	pressir	ng the Ent	er key.				
	whe	re						
	:	spm_n	0					
		is th	e number	of the S	PM (0 t	o 63)		
	Exa	mple of	f a MAP s	creen:				
		SysB	ManB	OffL	CBsy	ISTb	InSv	
PM SPM		0	2	2	2	9 2	16	
SDW	11	TSTb I	Loc: Site	ਸ੦੧ਾ ਸੀ	oor 1	ROW A Fr	Pog 13	
BIM	±± .	1010 1	LOC: DICC	11001 11	1 100.	NOW A TI	105 15	
Shlf0	SL A 1 -	Stat 	Shlf0 SL CEM 1 8	A Stat I SysB	Shlf1	SL A Stat 1	Shlf1 S	L A Stat 8
	2 -		0C3 0 9	A		2		9
DSP 3	3 I 4 _	OffL	OC3 1 10	I		3	1	0 1
	5 -		DSP12 12	A		5	1	2
	6 -		DSP13 13	A		6	1	3
CEM U	/ A	ISTD	14	A		/	1	4
5	Sele	ect the l	ISTb CEM	by typir	ng			
	>SE	LECT	CEM cem	no				
	and	pressir	ng the Ent	er key.				
	whe	re						
		cem_n	e number	of the C	EM (0 (or 1)		
	Fxa	mole o	faMAPs	creen:	(0 (,		
	<u>L</u> AU							

PM 1SPM VCXO90 SPM major (continued)

SPM 11 CEM 0 Act ISTb Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: List the alarms on the CEM by typing >LISTALM and pressing the Enter key. Example of a MAP screen: 11 CEM 0 Act ISTb SPM Loc : Row F FrPos 64 ShPos 6 ShId 0 Slot 7 Default Load: SPMLOAD Clock: Input Ref: Source: Current Mode: ListAlm ListAlm: SPM 11 CEM 0 SEVERITY ALARM ACTION _____ Critical None Major None Minor VCX090 RPT No_Alarm None

7 Determine whether there are any other CEM alarms.

If there are	Do
no other CEM alarms	step 10
other CEM alarms	step 8

- 8 Clear the other CEM alarms using the appropriate SPM alarm clearing procedures. When you have completed the procedures, return to this step
- 9 List the alarms on the CEM by typing

>LISTALM

6

PM 1SPM VCXO90 SPM major (end)

and pressing the Enter key.

If the alarm list shows	Do
None	step 13
VCX090	step 10

10 Replace the CEM module. For detailed instructions, see "SPM NTLX63AA CEM card" in the appropriate *Card Replacement Procedures*. When you complete the card replacement procedure, return to this point.

11 List the alarms on the CEM by typing

>LISTALM

and pressing the Enter key.

If the alarm list shows	Do
None	step 13
VCX090	step 12

12 For further assistance, contact the personnel responsible for the next level of support.

13 You have completed this procedure. Return to the CI level of the MAP screen by typing

>QUIT ALL

and pressing the Enter key.

PM APU critical

Alarm display

ĺ	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1APU *C*	•	•	•	•	•

Indication

At the MTC level of the MAP display, APU (preceded by a number) appears under the PM header of the alarm banner. The APU indicates a critical alarm for an application processor unit (APU).

Meaning

One or more APUs are system busy, system busy not available, or in-service trouble not available.

Result

System busy APUs reduce the service provided by an application. An example of a service is Automated Directory Assistance Service (ADAS) or DMS-100 Mail.

The number under the PM header in the alarm banner indicates the number of affected APUs.

Common procedures

There are no common procedures.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of How to clear a PM APU critical alarm



At th	he MAP terminal	
1	To access the PM level of the	MAP display, type
	>MAPCI;MTC;PM	
	and press the Enter key.	
	Example of a MAP display:	
	SysB ManB Of	ffL CBsy ISTb InSv
	PM 1 1	1 3 2 12
2	To display all system busy AP	PUs, type
	>DISP STATE SYSB AP	υ
	and press the Enter key.	
3	Determine if any system busy	APUs are present.
	If system busy APUs	Do
	are present	step 4
	are not present	step 26
4	Record the number of the AP	Us.
5	To post the system busy APU	, type
	>POST APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the Al	PU (0 to 511)
	Example of a MAP display:	
	APU 1 SysB	
6	Determine the state of the po	sted APU.
	If the nosted APII	Do
	ii the posted Al O	20
	is SysB (NA)	step 31
	is SysB (NA)	step 31 step 7

If the state of the APU	Do
changes from SysB to InSv	step 111
does not change	step 8
To force the APU to busy, type	
>BSY FORCE	
and press the Enter key.	
To test the APU, type	
>TST	
and press the Enter key.	
If the TST command	Do
passed	step 16
failed, and the system did not generate an card list	step 10
failed, and the system generated a card list	step 11
To reset the APU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 16
failed, and the system did not generate a card list	step 15
failed, and the system generated a card list	step 11
Record the location, description, slot r	number, product engineering o

At th	e MAP display	
13	To manually busy the APU, type	
	>BSY APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU (0 to	511)
	If the BSY command	Do
	passed	step 14
	failed	step 110
14	To reset the APU, type	
	>PMRESET	
	and press the Enter key.	
	If the PMRESET command	Do
	passed	step 16
	failed	step 15
15	To load the APU, type	
	>LOADPM	
	and press the Enter key.	
	and press the Enter key. If the LOADPM command	Do
	and press the Enter key. If the LOADPM command passed	Do step 16
	and press the Enter key. If the LOADPM command passed failed, and the system did not generate a card list	Do step 16 step 17
	and press the Enter key. If the LOADPM command passed failed, and the system did not generate a card list failed, and the system generated a card list	Do step 16 step 17 step 91
16	and press the Enter key.If the LOADPM commandpassedfailed, and the system did notgenerate a card listfailed, and the system generateda card listTo return the APU to service, type	Do step 16 step 17 step 91
16	and press the Enter key. If the LOADPM command passed failed, and the system did not generate a card list failed, and the system generated a card list To return the APU to service, type >RTS	Do step 16 step 17 step 91
16	and press the Enter key. If the LOADPM command passed failed, and the system did not generate a card list failed, and the system generated a card list To return the APU to service, type >RTS and press the Enter key.	Do step 16 step 17 step 91
16	and press the Enter key. If the LOADPM command passed failed, and the system did not generate a card list failed, and the system generated a card list To return the APU to service, type >RTS and press the Enter key. If the RTS command	Do step 16 step 17 step 91

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If the RTS command	Do					
failed	step 91					
Record the location, descr and PEC suffix of the card	iption, slot number, product engineer s on the list.	code (PE				
To replace the first card or Replacement Procedures.	the list, perform the correct procedu Complete the procedure and return	ure in <i>Caro</i> to this po				
MAP display						
To manually busy the APU	l, type					
>BSY APU apu_no						
and press the Enter key.						
where						
apu_no is the number of the	e APU (0 to 511)					
To reset the APU, type						
>PMRESET						
and press the Enter key.						
If the PMRESET comma	and Do					
passed	step 25					
failed	step 21					
To load the APU, type						
>LOADPM						
and press the Enter key.						
If the LOADPM comman	nd D	0				
passed	S	tep 25				
failed, and you did not that you recorded in ste	t replace all cards on the list step 17	tep 22				
failed, and you replace	d all cards on the list that you s	tep 91				

)	MAP display						
	To manually busy the APU, type						
	>BSY APU apu_no						
	and press the Enter key.						
	where						
apu_no is the number of the APU (0 to 511)							
	Go to step 20.						
	To return the APU to service, type						
>RTS							
	and press the Enter key.						
	If the RTS command	Do					
	passed	step 111					
	failed	step 91					
	An in-service trouble not available AP in-service trouble APUs, type	U can generate the alarm. To post the					
	>POST APU ISTB						
	and press the Enter key.						
	Example of a MAP display:						
	APU 1 ISTb (NA)						
	If the posted APU	Do					
	is ISTb (NA)	step 30					
	is ISTb	step 27					
	To scroll to the next in-service trouble >NEXT	APU in the posted set, type					
	and press the Enter key.						
	Determine if the posted APU is in-service	vice trouble not available.					
	If the posted APU	Do					
	is ISTb (NA)	step 30					

lf you		Do
did not reach the ed set	end of the post-	step 27
reached the end	of the posted set	t step 110
To determine the L	IM for the in-servi	ce trouble not available APU, typ
>QUERYPM		
and press the Ente	r key.	
Example of a MAP	response:	
PM type: APU H	PM No.: 1 Sta	tus: ISTb (NA)
LIM: 0 Shelf:	1 Slot: 10 A	PU FTA: 4250 1000
Default load:	ULX36BX	
Running load:	ULX36CD	
Msg Char	nel #0 NA	
Msg Char	nel #1 NA	
TAP #0	OOS/NA	
TAP #1	OOS/NA	
LMS States	: InSv	InSv
Auditing	· NO	NO
MS9 CHAIMEIS	· NA : S(NA)	MA M(NA)
TAP 2		
TAP 2	C (1111)	
TAP 2 Go to step 32.		
TAP 2 Go to step 32. To determine the L	IM for the system	busy not available APU, type
TAP 2 Go to step 32. To determine the L >QUERYPM	IM for the system	busy not available APU, type
TAP 2 Go to step 32. To determine the L >QUERYPM and press the Ente	IM for the system	busy not available APU, type

PM type: APU PM No.: 0 Status: Sysb (NA) LIM: 0 Shelf: 1 Slot: 10 APU FTA: 4250 1000 Default load: ULX36CD Running load: ULX36CD Potential service affecting conditions: MSG Channel #0 NA MSG Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA LMS States: InSv InSv No Auditing: No Msg Channels: NA NA TAP1: S(NA) M(NA) 32 Record the number of the APU and the number of the LIM for the APU. Record the number of the F-bus tap. *Note:* The APU number appears on the right of the APU header. The LIM number appears on the right of the LIM header. 33 To post the LIM for the APU, type >POST LIM lim_no and press the Enter key. where lim_no is the number of the LIM (0 to 16) Example of a MAP: LIM 1 InSv Taps_00S Links_00S Unit0: InSv • 1 Unitl: InSv 1 • 34 To access the F-bus level of the MAP display, type >FBUS and press the Enter key. Example of a MAP: 12 16 Tap: 0 4 8 20 FBus0: InSv .-S- .-.- .-.-.-.- I.-. .--.

.-S- .-.-

. - . -

.-.- I.-.

. - - .

FBusl: InSv

Determine the state of the LIM units a <i>Note:</i> Make sure that each LIM un Make sure that each F-bus is in ser	nd both F-buses (0 and 1). it is in service or in-service trouble. rvice or in-service trouble.
If the state of the LIM and both F-buses	Do
is InSv	step 38
is other than listed here	step 36
An LIM or LIMF alarm is present. Per procedures in this document. Comple point.	form the correct alarm clearing te the procedure and return to this
Determine if the APU critical alarm cle	eared.
If the APU critical alarm	Do
cleared	step 111
did not clear	step 1
Determine the state of the F-bus taps	for the APU.
<i>Note:</i> The tap number that you rec F-buses.	corded in step 32 applies to both
lf	Do
both F-bus taps are M	step 41
both F-bus taps are S	step 40
one F-bus tap is M and the other F-bus tap is S	step 39
Work on the manually-busy F-bus tap	first.
Go to step 42.	
To force the F-bus tap for the APU to I	ousy, type
>BSY FBUS fbus_no_tap_no FOR	CE
and press the Enter key.	
where	
fbus_no is the number of the F bus (0 o	r 1)
tap_no is the number of the tap (0 to 3	5)
Go to step 43.	
Select one of the manually-busy taps	on the F-bus 0 or 1 on which to wor

42	Determine from office records or op is manually-busy.	erating company persor	nnel why the tap
	When you have permission, continu	e this procedure.	
43	To return the F-bus tap for the APU	to service, type	
	>RTS FBUS fbus_no tap_no		
	and press the Enter key.		
	where		
	fbus_no is the number of the F bus (0	or 1)	
	tap_no is the number of the tap (0 to	35)	
	If the RTS command		Do
	passed		step 79
	failed, and the system generated APU taps are out of service	l a card list, and both	step 44
	failed, and the system did not g	enerate a card list	step 79
	failed, with the response Retu failed -local maintena sible	arn to service ance not acces-	step 79
14	Record the location, description, slo (PEC), and PEC suffix of each card	t number, product engir on the list.	eering code
15	Determine the state of the F-bus tap	os for the APU.	
	lf	Do	
	both APU taps are M	step 46	
	a minimum of one tap is S	step 67	
46	To replace the first card on the list, p Replacement Procedures. Complet	perform the correct proc the procedure and ret	edure in <i>Card</i> urn to this poir
At the	e MAP display		
47	To manually busy the offline APU, ty	vpe	
	>BSY APU apu_no		
	and press the Enter key.		
	where		
	apu_no is the number of the APU (01	o 511)	

Card nis point.
Card nis point.
<i>Card</i> nis point.
<i>Card</i> nis point.
Card nis point.
<i>Card</i> nis point.
Card his point.
<i>Card</i> nis point.
Card nis point.
where

lim_no is the number of the LIM ()
To access the F-bus level of the
>FBUS
and press the Enter key.
Go to step 50.
To return the second F-bus tap for
<pre>>RTS FBUS fbus_no tap_no</pre>
and press the Enter key.
where
fbus_no is the number of the F bus
tap_no is the number of the F bus
If the RTS command
passed
failed
To quit from the F-bus level of the
>QUIT
and press the Enter key.
To post the APU, type
>POST APU apu_no
and press the Enter key.
where
apu_no is the number of the APU
To reset the APU, type
>PMRESET
and press the Enter key.
If the PMRESET command
passed
failed

60	To load the APU, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 64
	failed, and the system generated a card list	step 61
	failed, and you did not replace all cards on the list	step 65
	failed, and you replaced all cards on the list	step 91
61	Record the location, description, slot n (PEC), and PEC suffix of each card or	umber, product engineering code the list.
62	To replace the first card on the list, per <i>Replacement Procedures</i> . Complete t	form the correct procedure in <i>Card</i> he procedure and return to this point.
At the	MAP display	
63	To manually busy the offline APU, type	9
	>BSY APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU (0 to s	511)
	Go to step 59.	
64	To return the APU to service, type	
	>RTS	
	and press the Enter key.	
	If the RTS command	Do
	passed	step 111
	failed	step 110
65	To replace the next card on the list, pe <i>Replacement Procedures</i> . Complete t	rform the correct procedure in <i>Card</i> he procedure and return to this point.
66	To manually busy the offline APU, type >BSY APU apu_no	

	and press the Enter key.							
	where							
	apu_no is the number of the APU (0 to 511)							
	Go to step 59.							
67	To quit from the F-bus level of the	he MAP display, type						
	>QUIT							
	and press the Enter key.							
68	To post the APU, type							
	>POST APU apu_no							
	and press the Enter key.							
	where							
	apu_no is the number of the API	J (0 to 511)						
69	To manually busy the APU, type	e						
	>BSY							
	and press the Enter key.							
	If the BSY command	Do						
	passed	step 71						
	failed	step 70						
70	To force the APU to busy, type							
	>BSYFORCE							
	and press the Enter key.							
71	To replace the first card on the correct procedure in <i>Card Repl</i> procedure and return to this po	list that you recorded in step 44, perform the <i>acement Procedures</i> . Complete the int.						
At the	MAP display							
72	To manually busy the APU, type	9						
	>BSY APU apu_no							
	and press the Enter key.							
	where							
	apu_no is the number of the API	J (0 to 511)						
	If the BSY command	Do						
	passed	step 73						

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	If the BSY command	Do	
	failed	step 110	
	To reset the APU, type		
	>PMRESET		
	and press the Enter key.		
	If the PMRESET command	Do	
	passed	step 78	
	failed	step 74	
	To load the APU, type		
	>LOADPM		
	and press the Enter key.		
	If the LOADPM command		Do
	passed		step 78
	failed, and you did not replace a that you recorded in step 44	ll cards on the list	step 75
	failed, and you replaced all cards recorded at step 44	s on the list that you	step 91
	To replace the next card on the list, por <i>Replacement Procedures</i> . Complete	erform the correct proc the procedure and ret	edure in <i>Car</i> urn to this po
	MAP display		
	To manually busy the offline APU, typ	e	
	>BSY APU apu_no		
	and press the Enter key.		
	where		
	apu_no is the number of the APU (0 to	511)	
	Go to step 73.		
	To return the APU to service, type		
	>RTS		

	and press the Enter key.					
	If the RTS command	Do				
	passed	step 111				
	failed	step 91				
79	Determine if you worked on the other	APU tap.				
	lf you	Do				
	worked on the other APU tap	step 88				
	did not work on the other APU tap	step 80				
80	Determine the state of the second AP	U tap.				
	If the state of the second APU tap	Do				
	is M	step 82				
	is S	step 81				
81	To force one of the system busy taps	for the APU to busy, type				
	>BSY FBUS fbus_no tap_no FORCE					
	and press the Enter key.					
	where					
	fbus_no is the number of the F bus (0 o	r 1)				
	tap_no is the number of the F bus tap	(0 to 35)				
	Go to step 82.					
82	To return the F-bus tap for the APU to	service, type				
	>RTS FBUS fbus_no tap_no					
	and press the Enter key.					
	where					
	fbus_no is the number of the F bus (0 o	r 1)				

If the RTS command	Do
passed	step 83
failed, and the system generated a card list	step 44
failed, and the system did not generate a car	rd list step 91
failed, with the response Return to s failed -local maintenance not sible	ervice step 91 acces-
Determine if one APU critical alarm cleared.	
If one APU critical alarm	Do
cleared	step 11
did not clear and you are working on ar (NA) APU	n ISTb step 88
cleared and you are working on a SysB (N	A) APU step 84
To quit from the F-bus level of the MAP display, ty	уре
>QUIT	
and press the Enter key.	
To post the system busy not available APU, type	
>POST APU apu_no	
and press the Enter key.	
where	
apu_no is the number of the APU (0 to 511)	
Determine the state of the APU.	
If the state of the APU Do	
changed from SysB (NA) to step 87	
SysB	

88	To quit from the F-bus level of the MAP display, type	
	and pross the Enter key	
80	To post the APLL type	
09		
	>POST APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU (0 to 511)	
90	To force the APU to manually busy, type	
	>BSY FORCE	
	and press the Enter key.	
91	Determine if you already unseated and reseated the NTEX2 APU cards during this procedure.	2 and NT9X14
	lf you	Do
	unseated and reseated the two APU cards in this pro- cedure	step 110
	did not unseat and reseat the two APU cards in this procedure	step 92
92	To offline the APU, type	
	>OFFL	
	and press the Enter key.	
93	To determine the location of the offline APU, type	
	>QUERYPM	
	and press the Enter key.	
	Note: The QUERYPM command provides the LIM numbe and slot number of the far left card of the APU card pair.	r, shelf number,
	Example of a MAP response:	
	PM type: APU PM No.: 0 Status: OffL LIM: 0 Shelf: 1 Slot: 10 APU FTA: 4250 1000	

At the LPP

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WARNING Static electricity damage

Wear a wrist strap that connects to the wrist-strap grounding point of the frame supervisory panel (FSP) to handle cards. The wrist strap protects the cards against static electricity damage.

Locate the NT9X14 card for the APU.

95 Open the locking levers on the card. Carefully pull the NT9X14 card toward you until you remove the card from the connector.



- 96 Leave the NT9X14 card in the slot on the link interface shelf (LIS).
- 97 Locate the NTEX22 card for the APU.
- **98** Open the locking levers on the card. Carefully pull the NTEX22 card toward you until you remove the card from the connector.



99 Carefully slide the NTEX22 card back into the LIS.



- **100** Seat and lock the NTEX22 card as follows:
 - Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Push on the edges of the faceplate to make sure that the card sits completely in the shelf.
 - Close the locking levers.
- **101** Carefully slide the NT9X14 card back into the LIS.



PM APU critical (end)

	and press the Enter key.				
	If the LOADPM command	Do			
	passed	step 106			
	failed	step 110			
106	To return the APU to service, type				
	and press the Enter key.				
	If the RTS command		Do		
	passed		step 111		
	failed, and the system did not	generate a card list	step 110		
	failed, and the system generate	ed a card list	step 107		
	failed, the system generated a placed cards in the APU	a card list, and you re-	step 110		
107	Record the location, description, slot number, product engineering code (PEC), and PEC suffix of each card on the list.				
108	To post the LIM for the APU, type				
	>POST LIM lim_no				
	and press the Enter key.				
	where				
	lim_no is the number of the LIM (0	to 16)			
109	To access the F-bus level of the M	AP display, type			
	>FBUS				
	and press the Enter key.				
	Go to step 44.				
110	For additional help, contact the ne	xt level of support.			
111	The procedure is complete.				

PM APU major

Alarm display

ĺ	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1APU *C*		•	•	·	•

Indication

At the MTC level of the MAP display, APU (preceded by a number) appears under the PM header of the alarm banner. The APU indicates a major alarm for the application processor unit (APU).

Meaning

One or more APUs are manually-busy or manually-busy not available.

Result

Manually-busy APUs reduce the service provided by an application. An example of a service is Automated Directory Assistance Service (ADAS) or DMS-100 Mail.

Common procedures

There are no common procedures.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM APU major alarm



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Clearing a PM APU major alarm

At the MAP terminal

- 1 To access the PM level of the MAP display, type >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP display:

		SysB	ManB	OffL	CBsy	ISTb	InSv
	PM	1	1	1	3	2	12
2	To di	splay all ma	anually-bus	sy APUs, ty	be		
	>DIS	SP STATE	MANB	APU			
	and p	press the E	nter key.				
3	Reco	ord the man	ually-busy	APUs.			
4	То ро	ost a manua	ally-busy A	PU, type			
	>POS	ST APU	apu_no				
	and p	oress the E	nter key.				
	wher	e					
	а	i pu_no is the nur	nber of the	e APU that y	vou recorde	ed in step 3	
	Exan	nple of a M	AP display	:			
	APU	1 Mani	3				
5	Dete	rmine the s	tate of the	posted API	J.		
	lf th	ne posted	APU		Do		
	is M	lanB (N	A)		step 19		
	is I	ManB			step 6		

6 Determine from office records or from operating company personnel why the APU is manually-busy.

When you have permission, continue this procedure.

7 To test the posted APU, type

>TST

and press the Enter key.	
If the TST command	Do
passed	step 10
failed, and the system generated a card list	step 11
failed, and the system did not generate a card list	step 8
To reset the APU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 10
failed, and the system generated a card list	step 11
failed, and the system did not generate a card list	step 9
To load the APU, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 10
failed, and the system generated a card list	step 11
failed, and the system did not generate a card list	step 71
To return the APU to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 86

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	If the RTS command	Do	
	failed, and the system generated a card list	step 11	
	failed, and the system did not generate a card list	step 71	
11	Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engin the list.	eering code
12	To replace the first card on the list, per <i>Replacement Procedures</i> . Complete	rform the correct proce the procedure and ret	edure in <i>Card</i> urn to this point.
At the	MAP display		
13	To manually busy the offline APU, type	e	
	>BSY		
	and press the Enter key.		
	If the BSY command	Do	
	passed	step 14	
	failed, and the system generated a card list	step 85	
14	To reset the APU, type		
	>PMRESET		
	and press the Enter key.		
	If the PMRESET command	Do	
	passed	step 18	
	failed, and the system generated a card list	step 15	
15	To load the APU, type		
	>LOADPM		
	and press the Enter key.		
	If the LOADPM command		Do
	passed		step 18
	failed, and you did not replace al that you recorded at step 11	ll cards on the list	step 16

If the LOADPM command	Do
failed, and you replaced all cards on the list that you recorded at step 11	step 71
failed, and the system did not generate a card list	step 71
To replace the next card on the list, perform the correct proc <i>Replacement Procedures</i> . Complete the procedure and ret	edure in <i>Card</i> urn to this poir
Go to step 13.	
To return the APU to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 86
failed, and you did not replace all cards on the list that you recorded in step 11	step 16
failed, and you replaced all cards on the list that you recorded in step 11	step 71
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type	step 71 y-busy APU th
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM	step 71 y-busy APU tł
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key.	step 71 y-busy APU th
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response:	step 71 y-busy APU tl
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:APU PM No.:1 Status: ManB(NA)	step 71 y-busy APU tl
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1	step 71 y-busy APU t
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1 Default Load: LCC36BX Punning Load: LCC36BX	step 71 y-busy APU t
<pre>failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1 Default Load: LCC36BX Running Load: LCC36BX Potential service affecting conditions:</pre>	step 71 y-busy APU t
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. <i>Example of a MAP response:</i> PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1 Default Load: LCC36BX Running Load: LCC36BX Potential service affecting conditions: Msg Channel #0 NA	step 71 y-busy APU t
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1 Default Load: LCC36BX Running Load: LCC36BX Potential service affecting conditions: Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS(NA	step 71 y-busy APU t
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. <i>Example of a MAP response:</i> PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1 Default Load: LCC36BX Running Load: LCC36BX Potential service affecting conditions: Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA	step 71 y-busy APU ti
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1 Default Load: LCC36BX Running Load: LCC36BX Potential service affecting conditions: Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA LMS States: InSv InSv	step 71 y-busy APU tł
failed, and you replaced all cards on the list that you recorded in step 11 To determine the link interface module (LIM) for the manually is not available, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:APU PM No.:1 Status: ManB(NA) LIM: 1 Shelf:3 Slot: 8 APU FTA:424E 1 Default Load: LCC36BX Running Load: LCC36BX Potential service affecting conditions: Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA LMS States: InSv InSv Auditing : No No Msg Channels: NA NA	step 71 y-busy APU tl

20 Record the number of the APU, the number of the LIM, and the number of the tap. *Note:* The APU number appears on the right of the APU header. The LIM number appears on the right of the word LIM in the MAP response. The tap number appears on the right of the TAP header. 21 To post the LIM for the APU that you recorded in step 20, type >POST LIM lim_no and press the Enter key. where lim no is the number of the LIM (0 to 17) Example of a MAP response: LIM 1 InSv Links_00S Taps_00S Unit0: InSv 1 . 1 Unit1: InSv Tap: 0 4 8 12 16 20 FBus0: InSv .-M-.I.I .I.I .I.I . . – . . - - . FBus1: InSv .-M-.I.I .I.I .I.I . . -. - - . 22 To access the F-bus level of the MAP display, type >FBUS and press the Enter key. 23 Determine the state of the LIM units and both F-buses (0 and 1). *Note:* Make sure that each LIM unit is in service or in-service trouble. Make sure that each F-bus is in service or in-service trouble. If the state of the LIM and both Do **F-buses** is InSv step 26 is not InSv step 24 24 An LIM or LIMF alarm is present. Perform the correct alarm clearing procedures in this document. Complete the procedure and return to this point. 25 Determine if the APU major alarm cleared.

If the APU major alarm	Do
cleared	step 86
did not clear	step 1

26	Determine the state of the F-bus taps	for with the APU.
	<i>Note:</i> The tap number that you rec 0 and F-bus 1.	orded in step 20 applies to both F-bus
	lf	Do
	both F-bus taps are M	step 31
	both F-bus taps are S	step 27
	one F-bus tap is M and the other F-bus tap is S	step 30
27	To quit from the F-bus level of the MA	P display, type
	>QUIT	
	and press the Enter key.	
28	To post the APU, type	
	>POST APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU (0 to	511)
29	To return the APU to service, type	
	>RTS	
	and press the Enter key.	
	If the RTS command	Do
	passed	step 86
	failed, and the system generated a card list	step 34
	failed, and the system did not generate a card list	step 70
30	Work on the manually-busy F-bus tap	first.
	Go to step 32.	
31	Select one of the manually-busy taps	on either F-bus on which to work.
32	Determine from office records or form tap is manually-busy.	operating company personnel why the
	Continue this procedure as permitted.	

33	To return the F-bus tap for the APU to >RTS FBUS fbus_no tap_no	service, type	
	and press the Enter key.		
	where		
	fbus_no is the number of the F-bus (0 o	r 1)	
	tap_no is the number of the F-bus tap	(0 to 35)	
	If the RTS command		Do
	passed		step 62
	failed, and the system generated a APU taps are out of service	a card list, and both	step 34
	failed, and the system did not gen	erate a card list	step 62
	failed, with the response Retur failed - local mainter cessible	n to Service ance not ac-	step 62
34	Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engin the list.	eering code
35	Determine the state of the F-bus taps	for the APU.	
	lf	Do	
	both taps are M	step 36	
	a minimum of one tap is in ser- vice (.)	step 53	
	a minimum of one tap is S	step 53	
36	To replace the first card on the list, pe <i>Replacement Procedures</i> . Complete	rform the correct proc the procedure and ret	edure in <i>Card</i> urn to this point.
37	To manually busy the offline APU, type	Э	
	>BSY APU apu_no		
	and press the Enter key.		
	where		
	apu_no is the number of the APU (0 to	511)	
38	To post the LIM for the APU, type		
	>POST LIM lim_no		

and press the Enter key.		
where		
lim_no is the number of the LIM (0 to 1	7)	
To access the F-bus level of the MAP	display. type	
>FBUS		
and press the Enter key.		
To return the F-bus tap for the APU to	service, type	
>RTS FBUS fbus_no tap_no		
and press the Enter key.		
where		
fbus_no is the number of the F-bus (0 o	r 1)	
tap_no is the number of the F-bus tap	(0 to 35)	
If the RTS command	Do	
passed	step 45	
failed, and the system generated a card list	step 41	
failed, and the system did not generate a card list	step 70	
To replace the next card on the list, per Replacement Procedures. Complete	rform the correct procedure in <i>Card</i> the procedure and return to this point	
To manually busy the offline APU, type	9	
>BSY APU apu_no		
and press the Enter key.		
where		
apu_no is the number of the APU (0 to	511)	
If the BSY command	Do	
passed	step 43	
failed	step 85	
To post the LIM for the APU, type		
>POST LIM lim_no		

	and press the Enter key.	
	where	
	lim_no is the number of the LIM (0 to 1	7)
44	To access the F-bus level of the MAP	display, type
	>FBUS	
	and press the Enter key.	
	Go to step 40.	
45	To return the other F-bus tap for the A	PU, type
	>RTS FBUS fbus_no tap_no	
	and press the Enter key.	
	where	
	fbus_no is the number of the F-bus (0 o	r 1)
	tap_no is the number of the F-bus tap	(0 to 35)
	If the RTS command	Do
	passed	step 46
	failed	step 70
46	To quit from the F-bus level, type	
	>QUIT	
	and press the Enter key.	
47	To post the APU, type	
	>POST APU apu_no	
	and press the Enter key.	
	where	
	<pre>apu_no is the number of the APU (0 to</pre>	511)
48	To reset the APU, type	
	>PMRESET	
	and press the Enter key.	
	If the PMRESET command	Do
	passed	step 52
	failed	step 49

49	To load the APU, type			
	>LOADPM			
	and press the Enter key.			
	If the LOADPM command	Do		
	passed	step 52		
	failed, and you did not replace all cards on the list	step 50		
	failed, and you replaced all cards on the list	step 70		
50	To replace the next card on the list, per Replacement Procedures. Complete	erform the correct procedure in <i>Card</i> the procedure and return to this point.		
51	To manually busy the offline APU, type	e		
	>BSY APU apu_no			
	and press the Enter key.			
	where			
	apu_no is the number of the APU (0 to	511)		
	If the BSY command	Do		
	If the BSY command passed	Do step 48		
	If the BSY command passed failed	Do step 48 step 85		
52	If the BSY command passed failed To return the APU to service, type	Do step 48 step 85		
52	If the BSY command passed failed To return the APU to service, type >RTS	Do step 48 step 85		
52	If the BSY command passed failed To return the APU to service, type >RTS and press the Enter key.	Do step 48 step 85		
52	If the BSY command passed failed To return the APU to service, type >RTS and press the Enter key. If the RTS command	Do step 48 step 85 Do		
52	If the BSY commandpassedfailedTo return the APU to service, type>RTSand press the Enter key.If the RTS commandpassed	Do step 48 step 85 Do step 86		
52	If the BSY command passed failed To return the APU to service, type >RTS and press the Enter key. If the RTS command passed failed	Do step 48 step 85 Do step 86 step 70		
52	If the BSY commandpassedfailedTo return the APU to service, type>RTSand press the Enter key.If the RTS commandpassedfailedTo quit the F-bus level, type	Do step 48 step 85		
52	If the BSY command passed failed To return the APU to service, type >RTS and press the Enter key. If the RTS command passed failed To quit the F-bus level, type >QUIT	Do step 48 step 85		
52	If the BSY commandpassedfailedTo return the APU to service, type>RTSand press the Enter key.If the RTS commandpassedfailedTo quit the F-bus level, type>QUITand press the Enter key.	Do step 48 step 85		
52 53 54	If the BSY commandpassedfailedTo return the APU to service, type>RTSand press the Enter key.If the RTS commandpassedfailedTo quit the F-bus level, type>QUITand press the Enter key.To post the APU, type	Do step 48 step 85		
52 53 54	If the BSY commandpassedfailedTo return the APU to service, type>RTSand press the Enter key.If the RTS commandpassedfailedTo quit the F-bus level, type>QUITand press the Enter key.To post the APU, type>POST APU apu_no	Do step 48 step 85		

	where	
	apu_no is the number of the APU (0 to	511)
55	To replace the first card on the list, per <i>Replacement Procedures</i> . Complete	form the correct procedure in <i>Card</i> the procedure and return to this point.
56	To manually busy the offline APU, type	9
	>BSY APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU (0 to	511)
	If the BSY command	Do
	passed	step 57
	failed	step 85
57	To reset the APU, type	
	>PMRESET	
	and press the Enter key.	
	If the PMRESET command	Do
	passed	step 61
	failed	step 58
58	To load the APU, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 61
	failed, and you did not replace all cards on the list	step 59
	failed, and you replaced all cards on the list	step 70
59	To replace the next card on the list, pe Replacement Procedures. Complete	rform the correct procedure in <i>Card</i> the procedure and return to this point.
60	To manually busy the offline APU, type	e
	>BSY APU apu_no	

is the number of the APU (0 to	511)	
If the BSY command	Do	
passed	step 57	
failed	step 85	
To return the APU to service, type		
If the RTS command	Do	
passed	step 85	
failed	step 70	
Determine the state of the second AP	PU tap.	
If the state of the second APU tap	Do	
is M	step 64	
is S	step 63	
To manually busy the F-bus tap for the >RTS FBUS fbus_no tap_no and press the Enter key. where fbus_no is the number of the F-bus (0 o tap_no is the number of the F-bus tap	e APU, type or 1) (0 to 35)	
If the RTS command		Do
passed, and the other tap is out of	fservice	step 6
passed, and the other tap is in ser	vice	step 6
failed, both taps are out of servi	ice, and the system	step 6 step 3

	S command		Do
failed, the failed and	he other tap is in service, a card list	and the system gen-	step 64
failed, a	and the system did not gen	erated a card list	step 70
failed v local	vith the response Servi maintenance not a	ce failed - accessible.	step 70
To quit the	e F-bus level, type		
and press	the Enter key.		
To post th	e APU, type		
>POST A	PU apu_no		
and press	the Enter key.		
where			
apu_i is t	no he number of the APU (0 to	511)	
To return the APU to service, type			
>RTS			
and press	the Enter key.		
If the RT	S command	Do	
passed		step 85	
failed. a	and the system generated	step 67	
a card li	st	1	
a card li failed, a generate	st and the system did not e a card list	step 70	
a card li failed, a generate Record th (PEC), PE	and the system did not e a card list e location, description, slot r C suffix of the cards on the	step 70 number, product engin list.	eering coc
a card li failed, a generate Record th (PEC), PE To post th	and the system did not e a card list e location, description, slot r C suffix of the cards on the e LIM for the APU, type	step 70 number, product engin list.	eering coc
a card li failed, a generate Record th (PEC), PE To post th >POST L	and the system did not e a card list e location, description, slot r C suffix of the cards on the e LIM for the APU, type IM lim_no	step 70 number, product engin list.	eering coc
a card li failed, a generate Record th (PEC), PE To post th >POST Li and press	and the system did not e a card list e location, description, slot r C suffix of the cards on the e LIM for the APU, type IM lim_no the Enter key.	step 70 number, product engin list.	eering coc
a card li failed, generate Record th (PEC), PE To post th >POST Li and press where	and the system did not e a card list e location, description, slot r EC suffix of the cards on the e LIM for the APU, type IM lim_no the Enter key.	step 70 number, product engin list.	eering coc
a card li failed, generate Record th (PEC), PE To post th >POST Li and press where lim_n is t	and the system did not e a card list e location, description, slot r C suffix of the cards on the e LIM for the APU, type IM lim_no the Enter key. o he number of the LIM (0 to 1	step 70 number, product engin list.	eering coc
a card li failed, generate Record th (PEC), PE To post th >POST Li and press where lim_n is t	and the system did not e a card list e location, description, slot r C suffix of the cards on the e LIM for the APU, type IM lim_no the Enter key. o he number of the LIM (0 to 1 the F-bus level of the MAP	step 70 number, product engin list. 7) display, type	eering coc

and press the Enter key.

Go to step 35.

70 Determine if you already unseated and reseated the NTEX22 and NT9X14 APU cards during this procedure.

lf you	Do
unseated and reseated the two APU cards	step 85
have not unseated and reseated the two APU cards	step 71
To offline the APU, type	
>OFFL	
and press the Enter key.	
To determine the location of the APU,	type
>QUERYPM	
and press the Enter key.	
Note: The QUERYPM command plant and slot number of the far left card	rovides the LIM number, shelf number, of the APU.

At the LPP

73

71

72



WARNING

Static electricity damage

Wear a wrist strap that connects to the wrist-strap grounding point of the frame supervisory panel (FSP) to handle cards. The wrist strap protects the cards against static electricity damage.

Locate the NT9X14 card for the APU.

74 Open the locking levers on the card. Carefully pull the NT9X14 card toward you; unseat the card from the connector.



- 75 Leave the NT9X14 card in the slot on the link interface shelf (LIS).
- 76 Locate the NTEX22 card for the APU.
- 77 Open the locking levers on the card. Carefully pull the NTEX22 card toward you; unseat the card from the connector.



78 Carefully slide the NTEX22 card back into the LIS.



- **79** Seat and lock the NTEX22 card as follows:
 - Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Push on the edges of the faceplate to make sure that the card sits completely in the shelf.
 - Close the locking levers.
- 80 Carefully slide the NT9X14 card back into the LIS.



- 81
- Seat and lock the NT9X14 card as follows:
 - Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Push on the edges of the faceplate to make sure that the card sits completely in the shelf.
 - Close the locking levers.

PM APU major (end)

2	To manually busy the offline APU, type				
	>BSY APU apu_no				
	and press the Enter key.				
	where				
	apu_no is the number of the AP	U (0 to 511)			
	If the BSY command	Do			
	passed	step 83			
	failed	step 85			
3	To load the APU, type				
	>LOADPM				
	and press the Enter key.				
	If the LOADPM command		Do		
	passed		step 84		
	failed, and the system did n	not generate a card list	step 85		
	failed, and the system gene	erated a card list	step 34		
	failed, the system generate placed cards in the APU	ed a card list, and you re-	step 85		
1	To return the APU to service, t	уре			
	>RTS				
	and press the Enter key.				
	If the RTS command		Do		
	passed		step 86		
	failed, and the system did n	not generate a card list	step 85		
	failed, and the system gene	erated a card list	step 34		
	failed, and the system generation replaced cards in the APU	erated a card list, and you	step 85		
;	For additional help, contact the	e next level of support.			

PM APU minor

Alarm display

	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	-	•	•	•	1APU	•	•	•	•	·

Indication

At the MTC level of the MAP display, APU (preceded by a number) appears under the PM header of the alarm banner. The APU indicates a minor alarm for the application processor unit (APU).

Meaning

One or more APUs are in-service trouble. One of the F-bus taps for the APU can be manually busy or system busy. The APU also can have a loadname mismatch.

The number under the PM header of the alarm banner indicated the number of the affected APUs.

Result

APUs that are in-service trouble continue to function. The in-service trouble APUs function at a reduced capacity.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM APU minor alarm



Clea	ring a PM APU minor alarm								
At th	ne MAP terminal								
1	To access the PM level of the MAP display, type								
	>MAPCI;MTC;PM								
	and press the Enter key.								
	Example of a MAP display:								
	SysB ManB OffL CBsy ISTb InSv								
	PM 0 0 0 0 2 49								
2	To display all system busy APUs, type								
	>DISP STATE ISTB APU								
	and press the Enter key.								
3	Record the numbers of the in-service trouble APUs.								
4	To post an in-service trouble APU, type								
	>POST APU apu_no								
	and press the Enter key.								
	where								
	apu_no								
	is the number of the APU (0 to 511)								
	Example of a MAP display:								
	APU 1 ISTb								
5	To display the faults that cause the in-service trouble condition, type								
	>QUERYPM								
	and press the Enter key.								
	Example of a MAP response:								
	PM type:APU PM No.:1 Status: ISTb								
	LIM: 1 Shelf:2 Slot: 12 APU FTA:4250 1000								
	Running Load: ULX36BX								
	ISTB conditions:								
	APU Snix application out-of-service								
	LMS States : ISTB ISTB								
	Msq Channels: Acc Acc								
	TAP 2 :								

6 Record the APU number, the tap number, and the state of the tap. Record the link interface module (LIM) number of the posted APU.

Note: In the example in step 5, the APU number is 1, the LIM number is 1, and the tap number is 2.

7 To determine the faults, look under the ISTB conditions header on the MAP response.

If the header indicates	Do
one of the F-bus taps is out of service (shown as Tap # nOOS or Tap # n OOS/NA)	step 10
Loadname Mismatch	step 67
APU Snix application out-of-service	step 8
APU Snix component out-of-service	step 9
other than listed here	step 117

8 The APU Snix application is out of service. Wait 15 min while the system attempts to clear the fault.

If the state of the APU	Do
changes from ISTb to InSv	step 118
does not change	step 79

9 The APU Snix component is out of service. Wait 5 min while the system attempts to clear the fault.

If the state of the APU	Do
changes from ISTb to InSv	step 118
does not change	step 79

10 Record the number of the F-bus that contains the APU tap that is out of service.

Note: The F-bus number appears on the right of the TAP # header.

11 To post the LIM for the APU, type

>POST LIM lim_no

and press the Enter key.

where

lim_no

is the number of the LIM (0 to 17) that you recorded in step 6 *Example of a MAP display:*

	LIM 1 InSv	
	Linl	cs_00S Taps_00S
	Unit0: InSv	. 1
	Unitl: InSv	· ·
12	To access the F-bus level of the MAP	display, type
	>FBUS	
	and press the Enter key.	
	Example of a MAP display:	
	FBus0: ManB FBus1: InSvM .I	B BB .S
	<i>Note:</i> In the previous example, B i The letter B also can indicate the c manually busy. A dot (.) indicates a manually busy tap. An I indicates a a system busy tap. A dash (-) indic	ndicates the F-bus is manually busy. ontrolling LIM unit is system busy or an in-service tap. An M indicates a n in-service trouble tap. An S indicates cates an unequipped tap.
13	Determine the state of the LIM units a	nd both F-buses (0 and 1).
	If the state of the LIM units and both F-buses	Do
	is InSv	step 16
	is other than listed here	step 14
14	An LIM or LIMF alarm is present. Per procedure in this document. Complete	form the correct alarm clearing e the procedure and return to this point.
15	Determine if one APU minor alarm cle	eared.
	If one APU minor alarm	Do
	cleared	step 118
	did not clear	step 1
16	Determine the state of the F-bus tap f	or the APU recorded in step 6.
	<i>Note:</i> The tap number applies to b	ooth F-buses.
	If the state of the F-bus tap has faults	Do
	is M	step 17
	is S	step 18

lf you	Do				
can return the F-bus tap to service	step 19				
cannot return the F-bus tap to service	step 11				
To force the system busy F-bus tap for the APU to busy, type					
>BSY FBUS fbus_no tap_no FORCE					
and press the Enter key.					
where					
fbus_no is the number of the F-bus (0 or 1)					
tap_no is the number of the F-bus tap (0 to 35)					
Example of a MAP response:					
LIM 1 FBUS 0 Tap 0 Busy initiated. LIM 1 FBUS 0 Tap 0 Busy passed					
To test the F-bus tap for the APU, type					
>TST FBUS fbus_no tap_no					
and press the Enter key.					
where					
fbus_no is the number of the F-bus (0 or 1)					
tap_no					
is the number of the F-bus tap (0 to 35)	Do				
is the number of the F-bus tap (0 to 35) If the TST command					
is the number of the F-bus tap (0 to 35) If the TST command passed	step 45				
is the number of the F-bus tap (0 to 35) If the TST command passed failed, and the system generated a card list	step 45 step 46				
If the TST commandpassedfailed, and the system generated a card listfailed, and the system did not generate a card list	step 45 step 46 step 91				
is the number of the F-bus tap (0 to 35) If the TST command passed failed, and the system generated a card list failed, and the system did not generate a card list failed, with the response <i>Return to Service failed -li</i> <i>cal maintenance not accessible</i>	step 45 step 46 step 91 o- step 20				
and press the Enter key.

where

unit_no

is the number of the LIM unit (0 or 1)

Note: In step 10, you recorded the F-bus number that contains the out-of-service APU tap. The LIM unit 0 associates with F-bus 0. The LIM unit 1 associates with F bus 1.

If the TST command	Do
passed	step 45
failed, and the system generated a card list	step 21
failed, and the system did not generate a card list	step 117
is other than listed here	step 117

21 Record the location, description, slot number, PEC, and PEC suffix of the cards on the list.

22



WARNING

Potential loss of service

Make sure that the mate LIM unit is in service before you manually busy the LIM unit. This LIM unit contains the card that you want to replace. If you do not make sure that the unit is in service, you can isolate nodes. The nodes are on link interface shelves (LIS) 1, 2, and 3.

Determine the state of the mate LIM unit.

Note: If the APU tap that is out of service is on F-bus 0, LIM unit 1 is the mate unit. If the APU tap that is out of service is on F-bus 1, LIM unit 0 is the mate unit.

If the state of the mate LIM unit	Do
is InSv or ISTb	step 25
is other than listed here	step 23

23 Perform the correct alarm clearing procedure in this document to return the LIM unit to service. Complete the procedure and return to this point.

24 Go to step 15.

25

To access the F-bus level of the MAP display, type

>FBUS

and press the Enter key.

Example of a MAP display:

	Tap:	0	4	8	12	16	20	24	28	32
FBus0:	InSv	• • • •								••
FBusl:	InSv	M	.I	.s						

Note: In the example, B indicates that the F-bus is manually busy. The letter B also can indicate the controlling LIM unit is system busy or manually busy. A dot (.) indicates an in-service tap, An M indicates a manually busy tap. An I indicates an in-service trouble tap. An S indicates a system-busy tap. A dash (-) indicates an unequipped tap.

26



WARNING

Potential loss of service

Make sure the mate F-bus is in service. Make sure the taps for equipped and online nodes are in service. Make sure that the mate F-bus and taps are in service before you manually busy the LIM unit. The LIM unit contains the card you want to replace. If you do not make sure the mate F-bus and taps are in service, you can isolate nodes. The nodes are on LIS 1, 2, and 3.

Determine the state of the mate F-bus.

Note: If the out-of-service APU tap is on F-bus 0, F-bus 1 is the mate unit. If the out-of-service APU tap is on F-bus 1, F-bus 0 is the mate unit. The F-bus state appears on the right of the words FBus0 or FBus1 in the example MAP display in step 25.

If the state of the mate F-bus	Do
is InSv or ISTb	step 29
is other than listed here	step 27

- 27 Perform the correct alarm clearing procedure in this document to return the mate F-bus to service. Complete the procedure and return to this point.
- **28** Go to step 15.
- **29** Determine the state of the taps on the mate F-bus.

Note: The tap states appear in the two rows of characters under the numbers 0 to 35 (or 0 to 23). The location of the tap states appear in the example MAP display in step 25. If the out-of-service APU tap is on F-bus

0, examine the taps on F-bus 1. If the out-of-service APU tap is on F-bus 1, examine the taps on F-bus 0.

If the taps on the mate F-bus Do

are in service (.) or in-service step 32 trouble (*I*) are manual busy (*M*) or system step 30

busy (S)

- **30** Perform the correct alarm clearing procedure in this document to return the taps to service. Complete the procedure and return to this point.
- **31** Go to step 15.

32



CAUTION Loss of service

Manually busy the F-bus for the LIM unit that contains the card that you replace. If you do not manually busy the F-bus, a loss of CCS7 messaging for all application specific units (ASU) occurs. The ASUs are in the link peripheral processor (LPP) that carry traffic.

Manually busy the F-bus for the LIM unit that contains the card that you replace. To manually busy the F-bus, type

>BSY FBUS fbus_no

and press the Enter key.

where

fbus_no is the number of the F-bus (0 or 1)

Note: F-bus 0 associates with LIM unit 0. F-bus 1 associates with LIM unit 1.

If the response	Do
is LIM x FBus y Busy initiated. LIM x FBus y Busy passed.	step 34
is LIM x FBus y Busy requires confirmation because the fol- lowing PMs may be active on this busPM xx unit 0PM xx unit 1 Please confirm ("YES", "Y", "NO", or "N"):	step 33

33	To confirm the command, type >YES and press the Enter key. <i>Example of a MAP display:</i>		
	Tap: 0 4 FBus0: ManB BBBB BF FBus1: InSv	8 12 16 20 24 BBB BBBB BBBB	28 32 B BB
	LIM 1 FBus 0 Busy initi LIM 1 FBus 0 Busy passe	ated. d.	
	<i>Note:</i> The previous example	shows a manually busy F-b	ous 0.
34	To manually busy the LIM unit th	at contains the card that ha	as faults, type
	>BSY UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the LIM u	ınit (0 or 1)	
35	To reset the LIM unit, type		
	>PMRESET unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the LIM u	init (0 or 1)	
	If the PMRESET command	Do	
	passed	step 42	
	failed	step 36	
36	To load the LIM unit, type		
	>LOADPM UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the LIM ເ	ınit (0 or 1)	
	If the LOADPM command		Do
	passed		step 42

	If the LOADPM command	Do
	failed, and the system generated a card list	step 37
	failed, and the system did not generate a card list	step 117
37	Change the first card on the list. Perform the correct proced <i>Replacement Procedures</i> . Complete the procedure and return	ure in <i>Card</i> urn to this point.
At the	e MAP display	
38	To manually busy the offline APU, type	
	>BSY APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU unit (0 to 511)	
39	To load the LIM unit, type	
	>LOADPM UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the LIM unit (0 or 1)	
	If the LOADPM command	Do
	passed	step 42
	failed, and you did not replace all cards on the list that you recorded in step 37	step 40
	failed, and you replaced all cards on the list that you recorded in step 37	step 117
40	Replace the next card on the list. Perform the correct proce <i>Replacement Procedures</i> . Complete the procedure and return	dure in <i>Card</i> urn to this point.
41	Go to step 38.	
42	To return the LIM unit for the APU to service, type	
	>RTS UNIT unit_no	
	and press the Enter key.	

unit_no is the number of the LIM unit (0) or 1)
If the RTS command	Do
passed	step 43
failed	step 117
To access the F-bus level of the MAP	display, type
>FBUS	
and press the Enter key.	
To return the F-bus to service, type	
>RTS FBUS fbus_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 o	r 1)
<i>Note:</i> F-bus 0 associates with LIM unit 1.	unit 0. F-bus 1 associates with LI
If the RTS command	Do
passed	step 45
failed	step 117
To return the F-bus tap for the APU to	service, type
>RTS FBUS fbus_no tap_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 o	r 1)
tap_no is the number of the F-bus tap	(0 to 35)
If the RTS command	Do
passed	step 116
failed, and the system generated a card list	step 46
failed, and the system did not generate a card list	step 91

46	Record the location, description, slo (PEC), and PEC suffix of the cards	ot number, the product engineering code on the list.
47	To quit from the F-bus level of the N	/AP display, type
	>QUIT	
	and press the Enter key.	
48	To post the APU that you recorded	in step 3, type
	>POST APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU un	it (0 to 511)
49	To manually busy the APU, type	
	>BSY	
	and press the Enter key.	
	If the BSY command	Do
	passed	step 52
	failed	step 51
	prompts for a confirmation	step 50
50	To confirm the command, type	
	>YES	
	and press the Enter key.	
	Go to step 52.	
51	To force the APU to busy, type	
	>BSYFORCE	
	and press the Enter key.	
52	Change the first card on the list tha correct procedure in <i>Card Replace</i> procedure and return to this point.	t you recorded in step 46. Perform the <i>ment Procedures</i> . Complete the
At the	e MAP display	
53	To manually busy the offline APU, t	уре
	>BSY APU apu_no	
	and press the Enter key.	
	where	
	apu_no	

is the number of the APU unit (0 to 511)

54	To reset the APU, type		
	>PMRESET		
	and press the Enter key.		
	If the PMRESET command	Do	
	passed	step 56	
	failed	step 55	
55	To load the APU, type		
	>LOADPM		
	and press the Enter key.		
	If the LOADPM command		Do
	passed		step 56
	failed, and you did not replace a that you recorded	ll cards on the list	step 61
	failed, and you replaced all cards recorded	on the list that you	step 97
56	To post the LIM for the APU, type		
	>POST LIM lim_no		
	and press the Enter key.		
	where		
	lim_no is the number of the LIM (0 to 1	7)	
57	To access the F-bus level of the MAP	display, type	
	>FBUS		
	and press the Enter key.		
58	To return the F-bus tap for the APU to	service, type	
	>RTS FBUS fbus_no tap_no		
	and press the Enter key.		
	where		
	fbus_no is the number of the F-bus (0 o	r 1)	

	tap_no is the number of the F-bus tap (0 to 35)	
	If the RTS command	Do
	passed	step 64
	failed, and you did not replace all cards on the list that you recorded	step 59
	failed, and you replaced all cards on the list that you recorded	step 91
59	To quit from the F-bus level of the MAP display, type	
	>QUIT	
	and press the Enter key.	
60	To post the APU, type	
	>POST APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU unit (0 to 511)	
61	Replace the next card on the list. Perform the correct proce <i>Replacement Procedures</i> . Complete the procedure and return	dure in <i>Card</i> urn to this point.
62	To manually busy the offline APU, type	
	>BSY APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU unit (0 to 511)	
63	Go to step 53.	
64	To quit the F-bus level of the MAP display, type	
	>QUIT	
	and press the Enter key.	
65	To post the APU, type	
	>POST APU apu_no	
	and press the Enter key.	
	where	
	apu_no is the number of the APU unit (0 to 511)	

To return the APU to service, type	
>RTS	
and press the Enter key.	
If the PTS command	De
II THE KIS COMMAND	DO
passed	step 118

67

66



CAUTION Possible action that affects service Contact the next level of support before you continue. Contact the next level of support to make sure that you can change the default load or the running load.

Record the names of the default load and the running load.

Example of a MAP response:

PM type:APU PM No.:1 Status: ISTb LIM: 1 Shelf:2 Slot: 12 APU FTA:4250 1000 Default Load: ULX36BX Running Load: ULX36BX ISTB conditions: Loadname Mismatch LMS States: ISTb ISTb Auditing : Yes Yes Msg Channels: Acc Acc TAP 2 : . .

68 The default load and the running load do not match. To correct this fault, you must change the default load or the running load.

If instructions direct you to	Do
change the default load	step 69
change the running load	step 78
not take action	step 118
To access table PMLOADS, type	
>TABLE PMLOADS	

and press the Enter key.

69

To position the default load in	table PMLOADS, type				
>POSITION load_name					
and press the Enter key.					
where					
load_name is the number of the de	fault load				
Determine if the default load is	s in table PMLOADS.				
If the default load	Do				
is in the table	step 72				
is not in the table	step 117				
To quit from the table, type					
>QUIT					
and press the Enter key.					
To access table LIUINV, type					
>TABLE LIUINV					
and press the Enter key.					
Example of a MAP response:					
TABLE:LIUINV					
To change the position on the	key value of the tuple, type				
>POSITION APU apu_no					
and press the Enter key.					
where					
apu_no is the number of the AF	2U unit (0 to 511)				
To indicate the field in the tuple	e that you want to change, type				
>CHANGELOAD					
To enter the new value of the f	field that you want to change, type				
new_load_name					
and press the Enter key.					
where					
new_load_name is the number of the rur	nning load that you recorded in				
step 67					

PM APU

minor (continued)

77	Make sure that the indicated changes of the changed field, type	are correct. To confirm the new value
	>Y	
	and press the Enter key.	
	MAP response:	
	TUPLE CHANGED	
78	To quit from the table, type	
	>QUIT	
	and press the Enter key.	
	Go to step 116.	
79	To manually busy the APU, type	
	>BSY	
	and press the Enter key.	
	If the BSY command	Do
	passed	step 82
	failed	step 81
	prompts for a confirmation	step 80
80	To confirm the command, type	
	>YES	
	and press the Enter key.	
	Go to step 82.	
81	To force the APU to busy, type	
	>BSYFORCE	
	and press the Enter key.	
82	To load the APU, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 90
	failed, and the system generated a card list	step 83

	It the LOADPM command	Do	
	failed, and the system did no generate a card list	ot step 97	
83	Record the location, description, slocode (PEC), and the PEC suffix of	ot number, the production the cards on the list.	n engineering
84	Change the first card on the list. Per Replacement Procedures. Comple	erform the correct proced te the procedure and ret	dure in <i>Card</i> urn to this po
At th	e MAP display		
85	To manually busy the offline APU, t	уре	
	>BSY APU apu_no		
	and press the Enter key.		
	where		
	apu_no is the number of the APU un	it (0 to 511)	
36	To set the APU, type		
	>PMRESET		
	and press the Enter key.		
	If the PMRESET command	Do	
	passed	step 90	
	failed	step 87	
87	To load the APU, type		
	>LOADPM		
	and press the Enter key.		
	If the LOADPM command		Do
	passed		step 90
	failed, and you did not replace that you recorded in step 83	e all cards on the list	step 88

90	To return the APU to service, type						
	>RTS and press the Enter key.						
	If the RTS command	Do					
	passed	step 116					
	failed	step 97					
91	To quit the F-bus level of the MAP	display, type					
	>QUIT						
	and press the Enter key.						
92	To post the APU, type						
	>POST APU apu_no						
	and press the Enter key.						
	where						
	apu_no is the number of the APU unit (0 to 511)						
93	Determine the state of the APU.						
	If the state of the APU	Do					
	is ManB	step 97					
	is ManB is not ManB	step 97 step 94					
94	is ManB is not ManB To manually busy the APU, type	step 97 step 94					
94	is ManB is not ManB To manually busy the APU, type >BSY	step 97 step 94					
94	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key.	step 97 step 94					
94	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key. If the BSY command	step 97 step 94 Do					
94	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key. If the BSY command passed	step 97 step 94 Do step 97					
94	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key. If the BSY command passed failed	step 97 step 94 Do step 97 step 96					
94	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key. If the BSY command passed failed prompts for a confirmation	step 97 step 94 Do step 97 step 96 step 95					
94	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key. If the BSY command passed failed prompts for a confirmation To confirm the command, type	step 97 step 94 Do step 97 step 96 step 95					
94	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key. If the BSY command passed failed prompts for a confirmation To confirm the command, type >YES	step 97 step 94 Do step 97 step 96 step 95					
94 95	is ManB is not ManB To manually busy the APU, type >BSY and press the Enter key. If the BSY command passed failed prompts for a confirmation To confirm the command, type >YES and press the Enter key.	step 97 step 94 Do step 97 step 96 step 95					

96 To force the APU to busy, type >BSYFORCE and press the Enter key. 97 To offline the APU, type >OFFL and press the Enter key. 98 To determine the location of the APU, type >QUERYPM and press the Enter key. Note: The QUERYPM command provides the LIM number, shelf number, and slot number of the front far-left card of the APU. Example of a MAP response: PM type:APU PM No.:110 Status: OffL LIM: 1 Shelf:2 Slot: 12 APU FTA:4250 1000 Default Load: ULX36BX Running Load: ULX36BX Msg Channel #0 NA TAP #0 OOS/NA LMS States: InSv InSv Auditing : No Yes Msg Channels: NA Acc TAP 2 : М

At the LPP

99



WARNING Static electricity damage

Wear a wrist strap that connects to the wrist-strap grounding point of the frame supervisory panel (FSP) to handle cards. The wrist strap protects the cards against static electricity damage.

Locate the NT9X14 card for the APU.

100 Open the locking levers on the card. Carefully pull the NT9X14 card toward you until you remove the card from the connector.



- **101** Leave the NT9X14 card in the slot on the link interface shelf (LIS).
- **102** Locate the NTEX22 card for the APU.
- **103** Open the locking levers on the card. Carefully pull the NTEX22 card toward you until you remove the card from the connector.



- **104** Carefully slide the NTEX22 card back into the LIS.
- **105** Seat and lock the NTEX22 card as follows:
 - Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Push on the edges of the faceplate to make sure that the card sits completely in the shelf.
 - Close the locking levers.



106 Carefully slide the NT9X14 card back into the LIS.

If the LOADPM command		Do
failed, the system generated placed cards in the APU	a card list and you re-	step 117
failed, and the system did not	generate a card list	step 117
Record the location, description, s cards on the list.	slot number, the PEC, and I	PEC suffix of
Go to step 37.		
To return the APU to service, type	e	
>RTS		
and press the Enter key.		
If the RTS command		Do
passed		step 112
failed, the system generated placed any cards in the APU	a card list and you re-	step 110
failed, the system generated placed cards in the APU	a card list and you re-	step 117
failed, and the system did not	generate a card list	step 117
To post the LIM for the APU, type		
>POST LIM lim_no		
and press the Enter key.		
where		
lim_no is the number of the LIM (() to 17)	
To access the F-bus level of the N	/AP display, type	
>FBUS	······································	
and press the Enter key.		
Determine if one of the APU taps	is manually busy.	
If an APU tap	Do	
is manually busy	step 115	
is not manually busy	step 116	
To return the F-bus tap for the AP	U to service, type	
· ·		

PM APU minor (end)

and press the Enter key.					
where					
fbus_no is the number of the F-b	us (0 or 1)				
tap_no is the number of the F-bus tap (0 to 35)					
If the RTS command	Do				
passed	step 116				
failed	step 117				
Determine if one APU minor alarm cleared.					
If an APU minor alarm	Do				
cleared	step 118				
	stop 117				

118 The procedure is complete.

PM CBSY major

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext
-	•	•	•	1CBSY M	•			•

Indication

At the MTC level of the MAP display, CBSY (preceded by a number and followed by an M) appears under the PM header of the alarm banner. A CBSY indicates a C-side busy (CBsy) major alarm. The number that precedes the CBsy indicates the number of peripheral modules (PM) affected by the alarm. The previous figure illustrates an alarm banner with a CBsy major alarm.

This alarm applies only to the following PMs:

- maintenance trunk module (MTM)
- service trunk module (STM)
- trunk module 8 (TM8)

Meaning

The indicated PMs are CBsy.

Result

The PM cannot communicate with the device on the C-side of the PM.

Common procedures

This procedure refers to the following common procedures:

- Monitoring system maintenance
- Clearing PM C-side faults

Do not go to the common procedure unless the step-action procedure directs you to go.

Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM CBSY major (continued)

Summary of clearing a PM CBSY major alarm



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PM CBSY major (continued)

Clearing a PM CBSY major alarm

At the MAP terminal

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC:PM
 - and press the Enter key.

Example of a MAP display:

DM	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12
	1			,)o		12
IT			L	0		
an audi	ible alarm	rings	S	tep 2		
the M i ner flas	ndicator a shes	t the alar	m ban- s	tep 2		
other th	han listed	here	S	tep 3		
To silenc	e the alarm	n, type				
>SIL						
and pres	s the Enter	⁻ key.				
To displa	y all CBsy	PMs, type	;			
>DISP S	STATE CB	3Y				
and pres	s the Enter	⁻ key.				
<i>Example</i> CBsy TN	<i>of a MAP</i> 18 : 0	display:				
<i>Note:</i> PMs a	If multiple are CBsy, s	types of I elect one	PMs are CE on which to	sy, work o work.	n MTMs firs	st. If multipl
Record th	he number	of the PN	1.			
Go to the procedur	e common	procedure n to this p	<i>Clearing F</i> point.	PM C-side f	<i>aults</i> . Com	plete the
If the P	Μ		C	00		
change	es to SysB		S	tep 5		
remain	s CBsv		-	ten 6		
	5 CD 5y		S	icp 0		

2

3

4

PM CBSY major (end)

- 5 The CBsy major alarm changed to a SysB major alarm. Refer to the correct procedure in this document. Go to step 7.
- **6** Treat the CBsy PM as a SysB PM. Refer to the correct procedure in this document. Go to step 7.
- 7 The procedure is complete.

PM DCH major

Alarm display

ĺ	 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	·	•	•	1DCH M	•	•	•	•	•

Indication

DCH (preceded by a number) appears under the PM header of the alarm banner. An M follows the DCH. The DCH indicates a major alarm for a D-channel handler (DCH). The number that precedes the DCH indicates the number of DCHs affected by the alarm. The alarm banner appears at the MTC level of the MAP display. The previous figure illustrates an alarm banner with a DCH major alarm.

Meaning

A DCH is system busy. A system-busy DCH causes the peripheral module (PM) that contains the DCH to have in-service trouble. A DCH is system busy for any of the following reasons:

- the ISDN signaling preprocessor (ISP) or the central control (CC) cannot communicate with the DCH
- a DCH returns to service from a C-side busy state
- a DCH goes through system-initiated diagnostics
- a DCH begins after the PM started again
- a DCH takeover failed
- a DCH appears to babble
- traps cause a DCH reset

Result

The affected DCH cannot support ISDN service. The system automatically assigns ISDN service groups (ISG) to the spare DCH because all offices have DCH sparing.

Common procedures

This procedure refers to Monitoring system maintenance.

Do not go to the common procedure unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM DCH major alarm



Clearing a PM DCH major alarm

At the MAP terminal

2

3

4

5

1 To access the PM level of the MAP display, type

>MAPCI:MTC;PM

and press the Enter key.

Example of a MAP response

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	8	0	19	19	3	13
lf			Do			
an audibl	e alarm ring	gs	step 2	2		
the M ind ner flashe	licator at the	e alarm ba	n- step 2	2		
is other th	nan listed h	ere	step 3	3		
To silence t	he alarm, ty	ре				
>SIL						
and press th	he Enter key	Ι.				
To displav a	ll in-service	trouble PM	s. type			
>DISP ST	TATE IST	в	<i>,</i> ,			
and press th	he Enter kev	- /.				
Example of	a MAP resp	oonse				
ISTb LTC	2 : 0,10,9	90				
Record the have DCHs	PM type and	d the PM n	umbers for	all in-servi	ce trouble	PMs that
Note: The response right of the response right of the response right of the right o	ne PM type : e. The PM n ne PM type.	appears on umber for e Commas s	the right c ach in-ser separate m	of the ISTb vice trouble nultiple in-se	header in t PM appea ervice trout	he MAP trs on the ple PMs.
To post a Pl	M from the I	ist that you	recorded i	n step 4, ty	pe	
>POST pr	n_type p	m_no				
and press tl	he Enter key	Ι.				
where						
pm typ	be					

is the PM type that you recorded in step 4

pm_no

is the PM number that you recorded in step 4 Example input >POST LTC 0 Example of a MAP resonse

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	8	0	19	19	3	13
LTC	0	0	0	0	3	4
LTC	0 ISTb	Links_00S:	CSide	0 , PSide	e 1	
Unit0:	Act I	nSv				
Unit1:	Inact I	nSv				

If an MTCE flag	Do
appears next to either unit	step 6
does not appear	step 7

6 Go to the common procedure *Monitoring system maintenance*. Complete the procedure and return to this step.

If the major alarm	Do
remains	step 7
changes	step 22
clears	step 23

7 To determine the DCH that is SysB, type

>TRNSL P

and press the Enter key.

Example of a MAP response

```
0 ISTb Links_OOS: CSide 16, PSide 0
 LGCI
 Unit0:
          Act
                 InSv
 Unit1:
          Inact InSv
 TRNSL P
 Link 0: Multiple nodes 0;Cap MS;Status:OK
 ;MsgCond:OPN
 Link 1:
           Carrier of Class - Trunk ;Status:Offl
 Link 13: DCH 3;Status:OK
Link 15: DCH 2;Status:OK
Link 17: DCH 0;Status:SysB
Link 19: DCH 1;Status:OK
To access the DCH level of the MAP terminal and determine the state of the
DCHs, type
>DCH
and press the Enter key.
Example of a MAP response
                              OffL
                                               ISTb
                                                        InSv
            SysB
                    ManB
                                      CBsy
 ΡМ
                8
                        0
                               19
                                       19
                                                   3
                                                         13
 LTC
                0
                         0
                                 0
                                          0
                                                   3
                                                            4
 LTC
          0 ISTb Links_OOS: CSide 0 , PSide 1
 Unit0:
          Act
                 InSv
 Unit1:
           Inact InSv
                2
                         1
                                 0
                                          0
                                                   2
                                                            1
 DCH
  Note: The states for all DCHs that associate with the posted PM appear
  on the bottom line of the MAP display. You obtained the bottom line of the
  MAP display in step 8.
 lf
                                Do
 a minimum of one DCHs that as-
                                step 9
 sociates with the posted PM is
 SysB
 all DCHs associated with the
                               step 17
 posted PM are InSv or ISTb
```

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PM DCH

major (continued)

9 To post the SysB DCH identified in step 7 and determine the SysB DCH fault, type

>POST dch_no

and press the Enter key.

where

dch_no

is the number of the DCH

РМ		SysB M 8	lanB 0	OffL 19	CBsy 19	ISTb 3	InSv 13
LTC		0	0	0	0	3	4
LTC Unit0: Unit1:	0 ISTb Act Inact	Links_00S: InSv InSv	CSide	Ο,	PSide 1		
DCH	TCC 200	2 Swap I TC	1	0	0	2	1

Example of a MAP response

Note 1: When the posted set includes a minimum of two DCHs, the DCHs appear one at a time. The appearance of the DCHs begins with the first unit of the posted set.

Note 2: The fault reason appears at the end of the line for the current DCH of the posted set. In the previous example, the fault reason is Access error.

If within 1 min the state of the DCH	Do				
is SysB	step 10				
is InSv or ISTb	step 16				

Note: The DCH autoloader loads and returns to service one DCH at a time. Log DCH604 documents which DCHs the loader has an effect on.

10 To manually busy the DCH, type

>BSY

and press the Enter key.

Note: The autoloader services one DCH at a time. The operating company might decide to abort the autoloader process and manually load multiple DCHs in parallel. Manually loading DCH cards in parallel is faster than the autoloader process.

Example of a MAP response

DCH 82 Bsy Passed

11 To return the DCH to service, type

>RTS

Example of a MAP respon	se
DCH 82 Out-of-serv Fail message receive Site Flr RPos Bay HOST 01 B02 LTE DCH 82 Tst Failed Te	vice test initiated ed from PM _id Shf Description Slot EqPEC L 00 32 LTC : 000 05 BX02 estid : DCHIFdiag
If the RTS	Do
fails and the DCH is Ma	anB step 12
passes and the DCH is ISTb	InSv or step 16
Example of a MAP respon Request submitted or DCH 82 load Passed	se DCH 82 : DCH36A
	Do
fails	Do step 13
fails passes	Do step 13 step 14
fails passes fails and you replaced to card	Do step 13 step 14 the BX02 step 21
fails passes fails and you replaced to card To change the NTBX02 ca <i>Replacement Procedures</i> .	Do step 13 step 14 the BX02 step 21 rd, perform the correct procedure in <i>Card</i> Complete the procedure and return to step 12.
fails passes fails and you replaced to card To change the NTBX02 ca <i>Replacement Procedures</i> . To return the DCH to servi	Do step 13 step 14 the BX02 step 21 rd, perform the correct procedure in <i>Card</i> Complete the procedure and return to step 12. ce, type
fails passes fails and you replaced to card To change the NTBX02 ca <i>Replacement Procedures</i> . To return the DCH to servi > RTS	Do step 13 step 14 the BX02 step 21 rd, perform the correct procedure in <i>Card</i> Complete the procedure and return to step 12. ce, type
fails passes fails and you replaced to card To change the NTBX02 ca <i>Replacement Procedures</i> . To return the DCH to servi >RTS and press the Enter key.	Do step 13 step 14 the BX02 step 21 rd, perform the correct procedure in <i>Card</i> Complete the procedure and return to step 12. ce, type

15

16

17

PM DCH major (continued)

	Do	
fails and the DCH remain ManB	ns step 15	
passes and the DCH is either InSv or ISTb	er step 16	
Record the following information at	pout the DCH in use.	
 the PM type and number 		
the DCH number		
 the original and the current fau 	It reason, and the state o	f the DCH
You will require additional maintena step 16 and work on another DCH. Give the information recorded in st	ance action to recover this Return all system-busy D ep 15 to the next level of	s DCH. Go to CHs to servio support.
To display the next DCH in the pos	ted set, type	
>NEXT		
and press the Enter key.		
lf	Do	
another SysB DCH appears	step 10	
End of post set appears	step 17	
Review the list of ISTb PMs that yo	ou recorded in step 4.	
lf you		Do
did not work on all PMs on the list		step 18
	step 21	
worked on all the PMs on the li turn all DCHs to service		

18

PM DCH major (end)

19 To post the next PM on the list that you recorded in step 4, type

>POST pm_type pm_no

and press the Enter key.

where

pm_type

is the PM type that you recorded in step 4

pm_no

is the PM number that you recorded in step 4

If an MTCE flag	Do
appears next to either unit	step 20
does not appear	step 7

20

Go to the common procedure *Monitoring system maintenance*. Complete the procedure and return to this step.

If the major alarm	Do
remains	step 7
changes	step 22
clears	step 23

- 21 You will require additional maintenance action to clear this alarm. Contact the next level of support. Describe in detail the steps you performed to clear this alarm. Go to step 23.
- 22 The DCH major alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm.
- **23** The procedure is complete.

PM DCH minor

Alarm display

ĺ	 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1DCH	•	-	•		•

Indication

DCH (preceded by a number) appears under the PM header of the alarm banner. The DCH indicates a minor alarm for a D-channel handler (DCH). The number that precedes indicates the number of DCHs affected by the alarm. The alarm banner appears at the MTC level of the MAP display. The previous figure illustrates an alarm banner with a DCH minor alarm.

Meaning

A DCH is in-service trouble. The DCH is in-service trouble for any of the following reasons:

- a congested or overloaded DCH
- a command protocol violation
- ISDN service group (ISG) channels associated to a DCH are manual busy or system busy
- DCH product engineering code (PEC), load, or sparing problems
- DCH is manual busy

A C-side busy DCH causes a DCH minor alarm. All DCHs for the PM that are not manual busy or off-line will be C-side busy. The C-side busy DCHs occur when the PM is system busy. The PM-related alarm indicator masks the DCH minor alarm indicator when the PM is system busy.

Result

In-service trouble DCHs do not affect service.

Common procedures

This procedure refers to Monitoring system maintenance.

Do not go to the common procedure unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM DCH minor alarm


Clearing a PM DCH minor alarm

At the MAP terminal

2

3

4

5

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

PM	SysB 8	ManB 0	OffL 19	CBsy 19	ISTb 3	InSv 13
If a	n audible a	larm		Do		
ring	gs			step 2		
doe	s not ring			step 3		
To sil	ence the al	arm, type				
>SIL						
and p	press the Ei	nter key.				
To dis	splay all in-	service per	ipheral mo	dules (PM)	, type	
>DIS	P STATE	INSV				
and p	press the Ei	nter key.				
Exan	nple of a M	AP respons	se:			
InSv	MTM: 1	,2	0			
InSv		,∠,4,8,⊥	0			
InSv	DTCI: 2					
InSv	LCME: H	OST 55 0	,HOST 86	0,HOST	67 0,HOS	т 65 0
Reco DCH	ord the PM t s. If necess	type and th sary, consu	e PM numl It office rec	bers for all i cords or ope	n-service F erating com	PMs that have pany personnel.
No the in- pre	ote: The sy e MAP resp service PM esent, com	rstem displationse. The l on the right mas separa	ays the PM system dia nt of the co ate the nun	type on the splays the F lon. If mult nbers.	e right of the PM number iple in-serv	e InSv header in for each ice PMs are
То ро	ost the first	PM in the li	st that you	recorded a	t step 4, ty	ре
>POS	T pm_ty	pe pm_n	.0			
and p	press the Ei	nter key.				
wher	е					

pm_type

is the PM type that you recorded at step 4

pm_no

is the PM number that you recorded at step 4

Example input:

>POST LTC 3

Example of a MAP response:

		SysB	ManB	OffL	CBsy	ISTb	InSv
PM		8	0	19	19	3	13
LTC		0	0	0	0	3	4
LTC	3 InSv	Links_00	S: CSide	0 , PS	ide O		
Unit0:	Inact	InSv					
Unit1:	Act	InSv					

To access the DCH level of the MAP terminal, type

>DCH

6

and press the Enter key.

Example of a MAP response:

		SysB	ManB	OffL	CBsy	ISTb	InSv
PM		8	0	19	19	3	13
LTC		0	0	0	0	3	4
LTC Unit0: Unit1:	3 InSv Inact Act	Links_00S InSv InSv	: CSide	0 , PSi	de O		
DCH		0	1	0	0	1	3

Note: The states for all DCHs that associate with the posted PM appear on the bottom line of the MAP display.

If DCHs	Do
are present	step 7
are not present	step 8

- 7 The fault is present in the PM or the C-side of the PM that contains the DCH. To clear other PM-related alarms, perform the correct procedures to clear the alarm. Complete the procedure and return to this point.
- 8 Determine from the MAP display if manual busy or in-service trouble DCHs are present.

lf	Do
ManB DCHs and ISTb DCHs are not present	step10

lf			Do				
ManB DC are preser	CHs and IST at	rb DCI	Hs step	9			
ManB DC ISTb DC	CHs are not p CHs are prese	resent b nt	ut ster	o 18			
To post all n	nanual busy D	CHs, typ	е				
>POST MAN	B						
and press tr	ie Enter key.						
Example of	a MAP respor	ise:					
	SysB	ManB	OffL	CBsy	ISTb	InSv	
PM LTC	8	0	19 0	19 0	3	13	
DCH DCH 82 ISC	G 200 ManB LT	1 C 0 p	0 ort 3	0	1	3	
<i>Note:</i> That a time. posted se	ne posted set i The appeara et.	ncludes nce of th	a minimu ne DCHs	Im of two begins w	DCHs t vith the fi	hat appear rst unit of t	r on the
Determine fi DCH is man	rom office reco ual busy. Det	ords or fr ermine if	om opera you can	ating com return th	pany pe le DCH t	rsonnel wh o service.	ny th
lf you			Do				
can return	the DCH to	service	ster) 11			
cannot ret	urn the DCH	to servi	ce step	0 16			
To return the	e DCH to serv	ice, type					
>RTS							
and press th	ne Enter key.						
Example of	a MAP respor	nse:					

9

10

11

12

PM DCH minor (continued)

Fail message received from PM Site Flr RPos Bay_id Shf Des HOST 01 B02 LTEI 00 32 LTC DCH 82 Tst Failed Testid : DCHIF	iated cription Slot EqPEC : 000 05 BX02 diag
If the RTS command	Do
passes	step 16
passes or fails, and Cbsy DCHs for the posted PM are present	step 7
fails, and Cbsy DCHs for the posted PM are not present	step 12
To load the DCH, type	
>LOADPM	
Example of a MAP response:	
Request submitted on DCH 82 DCH 82 load Failed : S00DTE Failed To Open File	MP
If the LOADPM command	Do
If the LOADPM command	Do step 14
If the LOADPM command passes fails, and you replaced the BX02 card	Do step 14 step 15
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card	Do step 14 step 15 step 13
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card To replace the NTBX02 card, perform <i>Replacement Procedures</i> . Complete	Do step 14 step 15 step 13 the correct procedure in the <i>Card</i> the procedure and go to step 12.
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card To replace the NTBX02 card, perform <i>Replacement Procedures</i> . Complete To return the DCH to service, type	Do step 14 step 15 step 13 the correct procedure in the <i>Card</i> the procedure and go to step 12.
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card To replace the NTBX02 card, perform <i>Replacement Procedures</i> . Complete To return the DCH to service, type >RTS	Do step 14 step 15 step 13 the correct procedure in the <i>Card</i> the procedure and go to step 12.
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card To replace the NTBX02 card, perform <i>Replacement Procedures</i> . Complete To return the DCH to service, type >RTS and press the Enter key.	Do step 14 step 15 step 13 the correct procedure in the <i>Card</i> the procedure and go to step 12.
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card To replace the NTBX02 card, perform <i>Replacement Procedures</i> . Complete To return the DCH to service, type >RTS and press the Enter key. If the RTS command	Do step 14 step 15 step 13 the correct procedure in the <i>Card</i> the procedure and go to step 12. Do
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card To replace the NTBX02 card, perform <i>Replacement Procedures</i> . Complete To return the DCH to service, type >RTS and press the Enter key. If the RTS command passes, and the DCH is InSv	Do step 14 step 15 step 13 the correct procedure in the Card the procedure and go to step 12. Do step 16
If the LOADPM command passes fails, and you replaced the BX02 card fails, and you have not replaced the BX02 card To replace the NTBX02 card, perform <i>Replacement Procedures</i> . Complete To return the DCH to service, type >RTS and press the Enter key. If the RTS command passes, and the DCH is InSv passes, and the DCH is ISTb	Do step 14 step 15 step 13 the correct procedure in the Card the procedure and go to step 12. Do step 16 step 18

13

14

If the RTS command Do						
fails, and you did not replace the step 13 BX02 card						
fails, and you replaced the BX02 step 15 card						
Record the following information about the DCH:						
the PM type and number						
the DCH number						
 the original fault reason (manual busy) 						
Return the the maximum number of manual busy DCHs to service. Give the information to your next level of support.						
To display the next manual busy DCH in the posted set, type						
>NEXT						
and press the Enter key.						
lf Do						
another ManB DCH displays step 10						
End of Post Set displays step 17						
Determine from the MAP display if in-service trouble DCHs are present.						
If DCHs Do						
are present step 18						
are not present step 65						
To post all DCHs that are in-service trouble, type						
>POST ISTB						
and press the Enter key.						
Example of a MAP response:						
SysB ManB OffL CBsy ISTb InSv						
PM 8 0 19 19 3 13 LTC 0 0 0 0 3 4						
LTC 3 InSv Links_OOS: CSide 0 , PSide 0 Unit0: Inact InSv Unit1: Act InSv						
DCH 0 1 0 0 1 3 DCH 50 ISG 200 ISTb LTC 3 port 3 Overloaded						

Note: When the posted set includes a minimum of two DCHs, the DCHs appear one at a time. The DCHs begin with the first unit of the posted set.

19 Determine the fault reason for the current DCH displayed in the posted set.

Note: The fault reason appears at the end of the line for the posted DCH. In the example at step18, the fault reason is Overloaded.

If the fault reason	Do
is Congested	step 20
is CPV	step 22
is DCH Chnls BSY	step 27
is Off	step 37
is Incorrect PEC	step 40
is Loadname	step 55
is Overloaded	step 20

20 A DCH equipment problem is present. Record the following information about the DCH:

- the PM type and number
- the DCH number
- the fault reason that you obtained at step19

After you return to service all possible DCHs, give this information to the next level of support.

21 To display the next DCH in the posted set, type

>NEXT

and press the Enter key.

lf	Do
another ISTb DCH displays	step 19
End of post set displays	step 65
To cancel any maintenance action in	progress for this DCH, type
>ABTK	
and press the Enter key.	
To manually busy the DCH, type	
>BSY	
and press the Enter key.	

22

23

Example of a MAP response:

DCH 50 Bsy Passed

24 To return the DCH to service, type >RTS Example of a MAP response:

> DCH 50 Out-of-service test initiated Fail message received from PM Site Flr RPos Bay_id Shf Description Slot EqPEC HOST 01 B02 LTEI 00 32 LTC: 003 05 BX02 DCH 50 Tst Failed Testid : DCHIFdiag

If the RTS command	Do
passes	step 26
fails	step 25

25 Record the following information about the DCH:

- the PM type and number
- the DCH number
- the original fault reason (and the current fault reason if different from the original)

Clear all the in-service trouble fault reasons for the DCHs. Give this information to the next level of support.

26 To display the next DCH in the posted set, type

>NEXT

and press the Enter key.

lf	Do
another ISTb DCH displays	step 19
End of post set displays	step 65

27 Record the DCH number and the ISG number for the posted set.

Note: The DCH number appears on the right of the DCH header on the bottom line of the MAP display. The ISG number appears on the right of the ISG header on the bottom line of the MAP display.

Example of a MAP response:

PM		SysB 8	ManB 0	OffL 19	CBsy 19	ISTb 3	InSv 13
LTC		0	0	0	0	3	4
LTC Unit0: Unit1:	3 InSv Inact I Act I	Links_00S nSv nSv	: CSide	0 , PS	ide O		
DCH DCH 50	ISG 200	0 ISTb LTC	0 3 port	0 t 3 DCH	0 CHNLS B	1 SY	4
To acce	ss the IS	G level of t	the MAP	termina	l, type		
>ISG							
and pres	ss the En	ter key.					
Example	e of a MA	P respons	se:				
		·					
DM		SysB	ManB	OffL 10	CBsy	ISTb	InSv
LTC		° 0	0	19	19	3	13 4
To post	1234567 the ISG fo	789 012345	6789 01:	23456789 0uble DC	01 CH, type		
>POST	isa no))			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
and pres	ss the En	ter kev					
whore		tor noy.					
isg_	_ no	har of the	ISC (0 t	0 255) th	at you r	oordod (ot ctop
Example	e of a MA	P respons	136 (0 t se:	0 200) li	iat you it		at step
			-				
DM		SysB	ManB	OffL	CBsy	ISTb	InSv
LTC		8 0	0	19 0	0 T 9	3 3	⊥3 4
LTC Unit0: Unit1: ISG	3 InSv Inact I Act I 1234567	Links_00S nSv nSv 111111 789 012345	: CSide 1111 22: 6789 01:	0 , PS 22222222 23456789	ide 0 33 01		
			000 000		MM	DOV	

28

29

30	Determine the state of the ISG channel that associate with the DCH.									
	If a minimum of one channel	Do								
	is M (manual busy) and is not in any other out-of-service state	step 31								
	is any other out-of-service state	step 35								
31	To return the ISG channels to service, type									
	>RTS ALL									
	and press the Enter key.									
	If all manual busy ISG channels	Do								
	returned to service	step 33								
	did not return to service	step 4								
2	Record the state of the ISG channels.									
	<i>Note:</i> The state of the ISG channe number in the MAPdisplay.	els appears on the right of the DCH								
•	To access the DCH level of the MAP display and post the DCH that you recorded in step 27, type									
	>DCH; POST dch_no									
	and press the Enter key.									
	where									
	dch_no is the number of the DCH (0 to 255)									
1	Determine the state of the DCH.	Determine the state of the DCH.								
	<i>Note:</i> The state of the DCH appear bottom line of the MAP display.	s on the right of the ISG number on the								
	If the state of the DCH	Do								
	Text CharFormat="Mono"> InSvText>	step 36								
	is other than listed here	step 35								
5	Record the following information about	t the DCH:								
	the PM type and number									
	• the DCH									
	 the original fault reason (and the original) 	current fault reason if different from the								

After you clear fault reasons for in-service trouble for all possible DCHs, give this information to the next level of support.

36 To display the next DCH in the posted set, type

>NEXT

and press the Enter key.

and press the Enter key.							
lf	Do						
another ISTb DCH displays	step 19						
End of post set displays	step 65						
To turn on the sparing bit, type							
>SPARING ON							
and press the Enter key.							
<i>Example of a MAP response:</i> DCH 50 Enable Takeover Passed							
If the SPARING command	Do						
passes	step 39						
fails	step 38						
Record the following information about the DCH:							
 the PM type and number 							
 the DCH number 							
 the original fault reason (Sparing 	off)						
After you clear fault reasons for in-service trouble for all possible DCHs, given his information to the next level of support.							
To display the next DCH in the posted set, type							
>NEXT							
and press the Enter key.							
lf	Do						
another ISTb DCH displays	step 19						
End of post set displays	step 65						
From office records or from operating PEC and PEC suffix that the DCH mu	company personnel, determine the ust contain.						
To determine the PEC that you enter	for the DCH, type						
>QUERYPM							

and press the Enter key.

Example of a MAP response:

Site Flr RPos Bay_id Shf Description Slot EqPEC HOST 01 B02 LTEI 00 32 LTC: 000 05 BX02 Loadnames: DCHINV - DCH01IN, DCH - DCH01IN; INTL INDEX:18

Note: The PEC appears under the EqPEC header on the MAP display. In this example, the PEC entered for the DCH is NTBX02.

42 Determine the location of the DCH.

Note: The location of the DCH appears under the Site, Flr, RPos, Bay_id, and Shf headers on the MAP display. In step 41, the location of the DCH is HOST 01 B02 LTEI 00 32.

At the XPM

45

46

43 Locate the DCH card (NTBX02) in the frame. Record the PEC and PEC suffix of the DCH in the slot.

Note: The PEC and PEC suffix appear on the faceplate of the card.

At the MAP display

44 Determine the level of the PEC mismatch.

If the PEC that you obtained from operating company personnel or from office records	Do	
matches the PEC entered in a software table that you obtained at step 41, but not the PEC on the faceplate of the card that you obtained at step 43	step 45	
matches the PEC on the faceplate of the card that you obtained at step 43, but not the PEC entered in a software table that you obtained at step 41	step51	
does not match the PEC entered in a software table that you obtained at step 41, or the PEC on the face- plate of the card that you obtained at step 43	step 51	
To manually busy the DCH, type		
>BSY		
and press the Enter key.		
Example of a MAP response:		
Services may be affected Please confirm ("YES", "Y", "NO", or "N"):		
To confirm the command, type		
>YES		

	press the Enter key.	
Exa	mple of a MAP response:	
DCH	1 50 Bsy Passed	
To re suffi <i>Care</i> poin	eplace the NTBX02 card with the c x, perform the correct procedure. <i>d Replacement Procedures</i> . Com t.	ard that has the correct PEC and PEC Locate the correct procedure in the plete the procedure and return to this
To lo	bad the DCH, type	
>LO.	ADPM	
and	press the Enter key.	
Exa	mple of a MAP response:	
Req DCH Fai	uest submitted on DCH 50 50 load Failed : SOODTE led To Open File	MP
lf t	he LOADPM command	Do
pas	sses	step 49
fai	ls	step 68
To re	eturn the DCH to service type	
>RT		
	S	
and	s press the Enter key.	
and <i>Exa</i> l	s press the Enter key. mple of a MAP response:	
and Exa	s press the Enter key. <i>mple of a MAP response:</i>	initiated
and Exai DCH DCH	s press the Enter key. <i>mple of a MAP response:</i> I 50 Out-of-service test I 50 Tst Passed	: initiated
and Exal DCH DCH DCH	s press the Enter key. <i>mple of a MAP response:</i> I 50 Out-of-service test I 50 Tst Passed I 50 Rts Passed	initiated
and Exal DCH DCH DCH DCH	s press the Enter key. <i>mple of a MAP response:</i> 1 50 Out-of-service test 1 50 Tst Passed 1 50 Rts Passed ermine from the MAP display the s	tate of the DCH.
and Exal DCH DCH DCH DCH DCH	s press the Enter key. mple of a MAP response: 50 Out-of-service test 50 Tst Passed 50 Rts Passed ermine from the MAP display the s lote: The state of the DCH appea ocate the ISG number on the botto	tate of the DCH. rs on the right of the ISG number. om line of the MAP display.
and Exal DCH DCH DCH DCH DCH DCH	s press the Enter key. mple of a MAP response: 50 Out-of-service test 50 Tst Passed 50 Rts Passed ermine from the MAP display the s lote: The state of the DCH appea ocate the ISG number on the botto within three minutes the state the DCH	tate of the DCH. rs on the right of the ISG number. om line of the MAP display.
and Exal DCH DCH DCH DCH DCH DCH DCH DCH DCH	s press the Enter key. mple of a MAP response: 1 50 Out-of-service test 1 50 Tst Passed 1 50 Rts Passed ermine from the MAP display the s lote: The state of the DCH appea ocate the ISG number on the botto within three minutes the state the DCH	tate of the DCH. rs on the right of the ISG number. om line of the MAP display. Do step 52
and Exal DCH DCH DCH DCH DCH Ec If v of	s press the Enter key. mple of a MAP response: 50 Out-of-service test 50 Tst Passed 50 Rts Passed ermine from the MAP display the s lote: The state of the DCH appea ocate the ISG number on the botto vithin three minutes the state the DCH InSv other than listed here	tate of the DCH. rs on the right of the ISG number. om line of the MAP display. Do step 52 step 51

• the DCH number

- the original fault reason (and the current fault reason if different from the original)
- cards replaced
- the PEC that you obtained from office records or from operating company personnel

After you clear fault reasons for in-service trouble for all possible DCHs, give this information to the next level of support.

52 To post all DCHs that are in-service trouble, type

>POST ISTB

53

54

55

56

and press the Enter key.

If the posted set	Do
includes DCHs	step 53
does not include DCHs	step 65
Determine your next step.	
lf you	Do
worked on the displayed DCH	step 54
have not worked on the dis- played DCH	step 19
and press the Enter key.	Do
another ISTb DCH displays	step 53
End of post set displays	step 65
Determine from office records or from correct load for the DCH.	operating company personnel the
To determine the entered load for the D type	OCH and the load that runs on the DCH
-71	
>QUERYPM	
>QUERYPM and press the Enter key.	

Site HO Load	Flr RPos Bay_id Shf Description Slot E ST 01 B02 LTEI 00 32 LTC : 000 05 names DCHINV - DCH01CV , DCH - DCH35CV ; INTL	qPEC BX02 INDEX 18
57	<i>Note:</i> The loadname entered for the DCH appears on the DCHINV header. The system displays the loadname that r on the right of the DCH header. In this example, the load DCH01CV and DCH35CV.	e right of the uns on the DCH names are
51	If the loadname that you obtained from operating company personnel or from office records	Do
	matches the loadname entered in a software table that you obtained at step 56 but not the name of the load that ran on the DCH	step 58
	matches the name of the load that runs on the DCH but not the loadname entered in a software table that you obtained at step 56	step 63
	does not match the loadname entered in a software table that you obtained at step 56 or the name of the load that runs on the DCH	step 63
58	To manually busy the DCH, type	
	>BSY	
	and press the Enter key.	
	Example of a MAP response:	
	Services may be affected Please confirm ("YES", "Y", "NO", or "N"):	
59	To confirm the command, type	
	>YES	
	and press the Enter key.	
	<i>Example of a MAP response:</i> DCH 50 Bsy Passed	
60	To load the DCH, type	
	>LOADPM	
	and press the Enter key.	
	Example of a MAP response:	

If the LOADPM command	Do
passed	step 61
failed	step 68
To return the DCH to service, type	
>RTS	
and press the Enter key.	
Example of a MAP response:	
DCH 50 Out-of-service DCH 50 Tst Passed DCH 50 Rts Passed	test initiated
Determine the state of the DCH.	
Determine the state of the DCH. Note: The state of the DCH ap Locate the ISG number on the b	pears on the right of the ISG number. pottom line of the MAP display.
Determine the state of the DCH. <i>Note:</i> The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH	pears on the right of the ISG number. bottom line of the MAP display. e Do
Determine the state of the DCH. <i>Note:</i> The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv	pears on the right of the ISG number. pottom line of the MAP display. e Do step 64
Determine the state of the DCH. <i>Note:</i> The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv is other than listed here	pears on the right of the ISG number. pottom line of the MAP display. e Do step 64 step 63
Determine the state of the DCH. <i>Note:</i> The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv is other than listed here Record the following information a	pears on the right of the ISG number. bottom line of the MAP display. P Do step 64 step 63 bout the DCH:
Determine the state of the DCH. <i>Note:</i> The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv is other than listed here Record the following information a • the PM type and number	pears on the right of the ISG number. pottom line of the MAP display. e Do step 64 step 63 bout the DCH:
Determine the state of the DCH. <i>Note:</i> The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv is other than listed here Record the following information a • the PM type and number • the DCH number	pears on the right of the ISG number. pottom line of the MAP display. e Do step 64 step 63 bout the DCH:
Determine the state of the DCH. <i>Note:</i> The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv is other than listed here Record the following information a • the PM type and number • the DCH number • the original fault reason (Loads	pears on the right of the ISG number. bottom line of the MAP display. e Do step 64 step 63 bout the DCH: name)
Determine the state of the DCH. Note: The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv is other than listed here Record the following information a • the PM type and number • the DCH number • the original fault reason (Loade • the loadname that you obtaine company personnel	pears on the right of the ISG number. pottom line of the MAP display. e Do step 64 step 63 bout the DCH: name) ed from office records or from operating
Determine the state of the DCH. Note: The state of the DCH ap Locate the ISG number on the b If within three minutes the state of the DCH is InSv is other than listed here Record the following information a • the PM type and number • the DCH number • the original fault reason (Loade • the loadname that you obtained company personnel After you clear fault reasons for in- this information to the next level of	pears on the right of the ISG number. bottom line of the MAP display. e Do step 64 step 63 bout the DCH: name) ed from office records or from operating service trouble for all possible DCHs, gives

>NEXT

61

62

63

64

PM DCH minor (end)

and pre	ess the Enter key.							
lf			Do					
anoth	er ISTb DCH displa	ays	step 19					
End	of post set dis	plays	step 65					
Determ	nine your next step.							
lf you	I			Do				
poste vice t in-set	d all in-service PMs rouble or manual bus rvice	and wo sy DCHs	rked on all in-ser- and all DCHs are	step 69				
poste vice t coulc	d all in-service PMs rouble or manual bus be returned to servio	and wo sy DCHs ce	rked on all in-ser- s and not all DCHs	step 68				
did n	ot post all in-service	PMs		step 66				
To quit	the DCH level of the N	IAP displa	ay, type					
>QUIT								
and pre	ess the Enter key.							
To post	the next PM on the lis	t that you	recorded at step 4,	type				
>POST	pm_type pm_no							
and press the Enter key.								
where								
pm	∎_ type is the PM type that you	recordeo	d at step 4					
pm	no is the PM number that	you recoi	rded at step 4					
Go to s	step 5.							
You wil next lev attemp	l require additional mair /el of support. Describ t to clear this alarm.	ntenance be in deta	action to clear this al il the steps you perfo	arm. Contact the prmed in your				
This pr	ocedure is complete.							

PM DCH (in a TMS) major

Alarm display

CHI MS OD Not PHI COS The Edd	CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL	
107		-			n DCH	-		-		
					Μ					

Indication

An n D-channel handler (DCH) indication indicates a DCH alarm. An n DCH indication appears under the peripheral module (PM) subsystem header. This header is at the maintenance level of the maintenance and administration position (MAP).

This procedure applies to a DCH in a TOPS message switch (TMS) for all TOPS office configurations of the TMS, which follow:

- The TMS connects to an integrated TPC, which supports up to four integrated MP positions.
- The TMS connects to a virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The indicated number (n) of DCHs or enhanced D-channel handlers (EDCHs) are in the system busy (SysB) state.

Result

The DCH problem affects call handling equipment that subtends the TOPS message switch (TMS). The DCH problem does not affect the equipment if subtending lines are SysB. If the primary DCH or EDCH has defects, the secondary or redundant DCH or EDCH activates. Call handling abilities remain.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of Clearing a PM DCH major alarm



Clearing a PM DCH major alarm

At the MAP:

1

ATTENTION

Enter this procedure from a PM system level clearing alarm procedure step. This step identifies the fault that associates with a DCH.

To silence the alarm, type:

>MAPCI;MTC;SIL

and press the ENTER key.

2 To access the TMS level through the PM level at the MAP, and post the in-service trouble (ISTb) TMS, type:

>PM; POST TMS ISTb

and press the ENTER key.

Normal response on the MAP display:

(СМ	MS	IOD	Ne	t 1	PM DCH	CCS	LNS	Tr	ks	Ext	1	APPL .
						М							
	TMS			Sys	B M	lanB	OffL	C	Bsy	IST	'b I	nSv	
0	Quit		PM	C)	1	2		0	2		18	
2	Post_	-	TMS	C)	0	0		0	1		0	
3	Lists	set											
4			TMS	0	ISTb	Lin	ks_00S	: 0	Side	0, P	Side	1	
5	Trnsl	_	Unit	0:	Act		InS	v					
6	Tst_		Unit	1:	InA	ct	InS	v					
7	Bsy_												
8	RTS_												
9	OffL												
10	LoadF	M_											
11	Disp_	_											
12	Next												
13	SwAct												
14	Query	'PM											
15	DCH												
16													
17	PERFC	RM											
18	ISG												

To identify the system busy (SysB) port and associated DCH, type:
 >TRNSL P

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and press the ENTER key.

Normal response on the MAP display:

$\left(\right)$	CM	MS	IOD	Ne	et PM	CCS	LNS	Trks	Ext	APPL
	•	•	•	•	. 1 DCH M					•
	TMS		S	ysB	ManB	OffL	CBsy	IST	o InSv	
0	Quit		PM	0	1	2	0	2	18	
2	Post_		TMS	0	0	0	0	1	0	
3	Listset									
4			TMS 0	IS	STb Link	s_00S:	CSide	0, PS	Side 1	
5	Trnsl_		Unit0:		Act	InSv				
б	Tst_		Unit1:		InAct	InSv				
7	Bsy_									
8	RTS_		Trnasl		P					
9	OffL		Link O	:	Multiple	Nodes	0;Cap	MS ;S	Status:OK	MssCond:OPN
10	LoadPM_		Link 1	:	Carrier	of Cla	ss - Tr	unk ; s	Status:OK	
11	Disp_		Link 1	3:	DCH	5;Sta	atus:OK			
12	Next		Link 1	5:	DCH	4;Sta	atus:OK			
13	SwAct		Link 1	7:	DCH	2;Sta	atus:OK			
14	QueryPM		Link 1	9:	DCH	3;Sta	atus:SB	sy		
15	DCH									
16										
17	PERFORM									
18	ISG									
1										

4

To access the DCH level through the PM level at the MAP, type:

>DCH

and press the ENTER key.

(
	СМ	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	APPL	
	•	•	•	•	1 DCH	•	•	•	•	•	
					М						
	DCH			SysB	ManB	OffL	CBs	y ISTk	o In	Sv	
0	Quit		PM	0	0	10	0	1	13	0	
2	Post_		TMS	0	0	0	0	1		4	
3											
4			TMS	0 IST	Tb Li	nks_00	s:	CSide	e 0	PSide	1
5	Trnsl		Unit	0:	Act I	nSv					
6	Tst		Unit	1:	Inact I	nSv					
7	Bsy										
8	RTS		DCH	1	0	0	0	0	3		
9	OffL										
10	LoadP	М									
11											
12	Next										
13											
14	Ouery	PM									
15	Disp										
16	·· 1.										
17											
18											
(10											

To post the DCH that is SysB and that requires clearing, type:

>POST n

5

where

n

= DCH number

and press the ENTER key.

	CM	MC	TOD	Not	тэм	aae	TNC	Tralsa	Pret	זממא
	CM	MS	TOD	Net		CCS	LINS	Irks	EXL	APPL
	•	•	•	•	I DCI M	1.	•	•	•	•
	Dau			0D	ManD	0557	(Der	- TOMP	Tre Core	
~	DCH			Sysb	Malib	10	CBS	y isib	1150	
0	Quit		PM	0	0	10	0	T	130	
2	Post	_	TMS	0	0	0	0	1	4	
3										
4			TMS	0 In	Sv	Link	s_00S:	CSide 0	PSide 1	_
5	Trns	1	Unit	0:	Act	InSv				
б	Tst		Unit	1:	Inact	InSv				
7	Bsy									
8	RTS		DCH	1	0	0	0	0	3	
9	OffL	ı								
10	Load	IPM	DCH	3 ISG	3 SysB	TMS	0 port	19 Acces	s Error	
11										
12	Next									
13										
14	Quer	уРМ								
15	Disp)								
16	-									
17										
10										
τo										

To busy the DCH that requires clearing, type:

>BSY

6

and press the ENTER key.

Type:

>YES

and press the ENTER key.

Explanation:

If you issue the BSY command when the DCH is in service, the system requires confirmation, YES. The system requires confirmation before removal of the DCH from service.

You must give a YES response when you respond to the prompt.

The DCH remains in the current state if you issue the BSY command when the DCH is in service. The DCH remains in the current state when the system receives negative confirmation in response to the prompt.

	СМ	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	APPL
	•		•	•	1 DCH	•		•	•	
					М					
	DCH			SysB	ManB	OffL	CBs	y ISTb	InSv	
0	Quit		PM	0	0	0	0	1	130	
2	Post_	_	TMS	0	0	0	0	1	4	
3										
4			TMS	0 Ins	Sv	Link	s_00S:	CSide	0 P	Side 1
5	Trns	1	Unit	0:	Act	InS	v			
6	Tst		Unit	1:	Inact	InS	v			
7	Bsy									
8	RTS		DCH	1	0	0	0	0	3	
9	OffL									
10	Load	PM	BSY							
11			Oper	ator S	Services	may b	e affe	cted.		
12	Next		Piea	se cor	illrm ("	YES" O	r "NO"):		
14	0	-DM	ILS	0	- Deeeed					
15	Dian	у₽№	DCH	U BSY	Passeu	L				
16	DISP									
17										
18										
10										

7 To reload the DCH that has defects, type:

>LOADPM

and press the ENTER key.

	CM	MS	IOD	Net	PM	CCS	LNS	Tr}	٢S	Ext	APPL
		•		•	1 DCH M	•	•	•		•	•
	DCH			SysB	ManB	OffL	CE	sy	ISTb	InS	Sv
0	Quit		PM	0	0	18		1	2	44	ł
2	Post_	-	TMS	0	0	0		0	1	C)
4			TMS	0 IST	o Li	nks 00	s:	CSid	e 0	PSid	le 1
5	Trns	1	Unit	0: I1	ıSv	_					
6	Tst		Unit	1: II	ıSv						
7	Bsy										
8	RTS		DCH	0	1	0		0	0	3	1
9	OffL										
10	LoadI	PM	DCH	3 ISG 3	3 ManB	TMS	0 por	t 19			
11											
12	Next		Load	PM							
13			Requ	est sul	omitted	on DC	Н 3				
14	Query	γPM	DCH	3 load	d Passe	d :XC	H36CR	2			
15	Disp										
16											
17											
18											

See the following table to determine the next action.

If reload	Do
is successful	step 9
is not successful and the system produces a card list	Go to <i>Card Replacement</i> <i>Procedures</i> and replace the first card on the list. Go to step 7.
is not successful	step 8

8 To test the DCH that has defects, type:

>TST

PM DCH (in a TMS) major (end)

and press the ENTER key.

If test	Do
passes	step 9
is not successful and the system produces a card list	Go to <i>Card Replacement</i> <i>Procedures</i> and replace the first card on the list. Go to step 7.
is not successful and the system does not generate a card list	step 10

To return the tested DCH to service, type:

>RTS

9

and press the ENTER key.

If RTS	Do
is successful	step 11
is not successful and the system produced a card list	Go to <i>Card Replacement</i> <i>Procedures</i> and replace the first card on the list. Go to step 7.
is not successful	step 10

10 For additional help, contact the next level of maintenance.

11 The procedure is complete. If other alarms appear, reference the correct clearing alarm procedures for the indicated alarms.

PM DCH (in a TMS) minor

Alarm display

СМ	MS	IOD	Net	РМ	Lns	Trks	Ext	APPL
•	•	·	•	n DCH	•	·	•	·

Indication

An n DCH indication indicates a DCH alarm. An n DCH (D-channel handler) indication appears under the peripheral module (PM) subsystem header. This header is at the maintenance level of the maintenance and administration position (MAP).

This procedure applies to a DCH in a TOPS message switch (TMS) for all TOPS office configurations of the TMS, which follow:

- The TMS connects to an integrated TPC, which supports up to four integrated MP positions.
- The TMS connects to a virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The indicated number (n) of DCHs or enhanced D-channel handler (EDCH) are in the in-service trouble state (ISTb).

Result

The DCH trouble affects call handling equipment that subtends the TOPS message switch (TMS). If subtending lines are system busy (SysB), the DCH trouble does not affect the equipment. If the primary DCH or EDCH has defects, the secondary or redundant DCH or EDCH activates. The system does not lose call handling capabilities.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM DCH (in a TMS) minor alarm



Clearing a PM DCH (in a TMS) minor alarm

At the MAP terminal

1

ATTENTION

Enter this procedure from a step in the procedure to clear a PM system level alarm. This step identifies a fault associated with a DCH.

To silence the alarm, type

>MAPCI;MTC;SIL

and press the ENTER key.

2 Determine the number of the TMS that contains the DCH that has defects. To determine the number of the TMS, retrieve one of the DCH logs, DCH 100 to DCH 106. The system generates these logs at the printer.

DCH 100 Report format:

DCH100 mmdd hh ISG vvv CHNL wy rempmid FROM: chnlstate Example: DCH100 MAR 19 1	: mm: ss ssdd SYSB Chnl w chnltyp pmid PORT yy CHNL e REASON: reasontext 14: 22: 00 1988 SYSB Chnl		Note: pmid = the peripheral module identifier for TMS. This identifi- er includes the PMS type of the TMS and the external PM num-	
TPC 20 FROM: InSv REA	ASON: Sync Loss			
-	lf	Do		
-	the system does not generate a DCH log	step	10	
	TMS number is known	step 3		
3	To access the TMS level through the type >PM; POST TMS n and press the ENTER key. where	e PM le	vel at the MAP and post the TMS,	

n is the TMS number.

Example of a MAP display

CM MS IOD	Net	PM CO 1 DCH	CS LNS	Trks	Ext	APPL
TMS O Quit PM 2 Post_ TM 3 Listset	SysB O S O	ManB 0 0	OffL 2 0	CBsy 0 0	ISTb 1 0	InSv 18 1
<pre>4 5 Trnsl_ 6 Tst_ 7 Bsy_ 8 RTS_ 9 OffL 10 LoadPM_ 11 Disp_ 12 Next 13 SwAct 14 QueryPM 15 DCH 16 17 PERFORM</pre>	TMS 0 Unit0: Unit1:	InSv Act InAct	Links_O InSv InSv	OS: CSi	de 0, I	PSide 0

4

To access the DCH level through the PM level at the MAP, type

>DCH

PM DCH (in a TMS)

minor (continued)

Example of a MAP display

CM	MS	IOD	Net	PM (1 DCH	CCS LNS	Trks	Ext	APPL
•	•	•	•	1 2011	• •	•	•	•
DCI	Н		SysE	8 Mani	3 OffL	CBsy	ISTb	InSv
0	Quit	PM	0	0	10	0	1	130
2	Post_	TMS	0	0	0	0	0	5
3								
4		TI	MS 0	InSv	Links_0	OS: CSi	de 0, P	Side O
5	Trnsl_	_ U1	nit O:	Act	InSv			
6	Tst_	U	nit 1:	InAct	InSv			
7	Bsy_							
8	RTS_	DCH	0	0	0	0	1	3
9	OffL							
10	LoadPN	<u>۱_</u>						
11								
12	Next							
13								
14	QueryI	PM						
15	Disp							
16								
17								
18								
$\langle \rangle$								

5 To post the DCH that is in-service trouble (ISTb) and requires clearing, type >POST ISTB

Example of a MAP display

	_										
CM	MS	IOD	Net	PM	CCS	LNS	Tr	rks	Ext	. API	ЪГ
•	•	•	•	1 DCI	н.		•	•	•		
										-	
DC	H		SysB	ManB	Of	±L	CBsy	r I	STb	InSv	
0	Quit	PM	0	0	1	.0	0		1	130	
2	Post	_TMS	0	0		0	0		0	5	
3											
4		TN	1S 0	InSv	v I	inks_	_00S:	CSi	de O	, PSide	e 0
5	Trns	l_ Ur	nit O:	Act	I	nSv					
6	Tst_	Ur	nit 1:	InAd	ct I	nSv					
7	Bsy										
8	RTS		DCH	0		0	C)	0	1	3
9	OffL										
10	Load	РМ	DCH 5	TSG 3	TSTP	TMS	0 r	ort	17	Loadna	me
11							- I				
12	Nevt										
13	nene										
14	Ouer	DM									
1 -	Quer.	УРМ									
15	DISP										
16											
17											
18											

6

To check that the loadnames in table DCHINV and the DCH card are the same, type

>querypm flt

PM DCH (in a TMS)

minor (continued)

Example of a MAP display

СМ MS IOD Net PM CCS LNS Trks Ext APPL . . 1 DCH • • . SysB ManB OffL CBsy ISTb DCH InSv 0 Quit PM 0 0 0 10 0 0 0 1 130 2 Post_ TMS 0 0 5 3 TMS 0 InSv Links_OOS: CSide 0, PSide 0 4 5 Trnsl_ Unit 0: Act InSv 6 Tst_ Unit 1: InAct InSv 7 Bsy_ DCH 0 0 8 RTS_ 0 0 1 3 9 OffL 10 LoadPM_ DCH 5 ISG 3 ISTb TMS 0 port 17 Loadname 11 querypm flt Site Flr RPos Bay_id Shf Description Slot EqPEC 12 Next 01 HOST 01 B04 LTEI 00 51 TMS : 000 BX02 13 14 QueryPM Loadnames : DCHINV -EXC03BX , DCH -EXC03BX ; INTL INDEX 2 15 Disp DCH is ISTb 16 The following in-service trouble conditions exist: 17 Loadname loadname 18

Note: The EXC03BX loadname appears in the previous MAP example. This loadname is the load that the system uses in the EDCH.

lf	Do
mismatch is present	step 10
a mismatch is not present	step 7

7 To busy the DCH that requires clearing, type

>BSY

and press the ENTER key.

If you issue a BSY command when the ISDN service group (ISG) channel is in service, the system requires a confirmation. The system requires this request before removal of the ISG channel from service. If requested, confirm the request for busy. To confirm this request, type:

>yes

and press the ENTER key.

If you receive a negative confirmation (NO) in response to the prompt, the ISG channel remains in the current state.

Example of a MAP display

CM	MS ·	IOD	Net	1 I	PM DCH	CCS	LNS	Trks	Ex	t	APPL
DC	Ή		S	∕sB	Ma	anB	OffL	CBs	у	ISTb	InSv
0	Quit	PM		0		0	0		0	1	24
2	Post_	TMS	0		0		0		0	1	0
3											
4	4 TMS 0 InSv Links_OOS: CSide 0, PSide 0										
5	5 Trnsl_ Unit 0: InSv										
6	Tst_ Unit 1: InSv										
7	Bsy_										
8	RTS_	DCH	Ŧ	0		0	0		0	1	3
9	OffL										
10	LoadPM	I_ DCH	5	ISG	3	ISTb	TMS	0 po	rt 17	Load	lname
11											
12	Next		BSY								
13	13 Operator Services may be affected.										
14	QueryPM Please confirm ("YES" or "NO"):										
15	Disp YES										
16	DCH 5 Bsy Passed										
17											
18											

8

To reload the affected DCH, type

>loadpm

PM DCH (in a TMS) minor (end)

Example of a MAP display

СМ	MS	IOD	Net	PM 1 DCH	ccs	LNS	Trks	Ext	APPL		
DC	H		Sys	B N	lanB	OffL	CBsy	ISTb	InSv		
0	Quit	PM	0		0	0	0	1	24		
2	Post_	TMS	0		0	0	0	1	0		
3											
4	4 TMS 0 InSv Links_OOS: CSide 0, PSide 0										
5	Trnsl_ Unit 0: InSv										
б	Tst_ Unit 1: InSv										
7	Bsy_										
8	RTS_	DCH	0 1		0	0	0	1	3		
9	OffL										
10	LoadPN	1_ DCH	5 I	SG 3	ISTb	TMS	0 port	17 Load	dname		
11											
12	Next LoadPM										
13	Request submitted on DCH 5										
14	QueryPM DCH 5 load Passed : EXC03BX										
15	Disp										
16											
17											
18	ioaaname										

Note: The EXC03BX loadname appears in the previous MAP display. This loadname is the load that the system uses in the EDCH.

9 To return the tested DCH to service, type

>RTS

and press the ENTER key.

If RTS	Do
is complete	step 11
is not complete	step 10

10 For additional help, contact the next level of maintenance.

11 The procedure is complete. If other alarms appear, reference the correct procedure to clear the specified alarms.

PM DTC critical

Alarm display

 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
			•	1DTC *C*					•

Indication

DTC (preceded by a number and followed by a *C*) appears under the PM header of the alarm banner. The DTC indicates a critical alarm for a digital trunk controller (DTC). The number that precedes the DTC indicates the number of DTCs affected by the alarm. The alarm banner appears at the MTC level of the MAP display. The previous figure illustrates an alarm banner with a DTC critical alarm.

Meaning

The DTC is system busy (SysB) or C-side busy (CBsy). A DTC is SysB if both units are SysB. A DTC is SysB if one unit is SysB and the other unit is manual busy (ManB). A DTC is CBsy if both units are CBsy.

Result

Service discontinues when a DTC is SysB or CBsy.

Common procedures

The procedures refer to the following common procedures:

- Clearing PM C-side links
- Monitoring system maintenance

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM DTC critical (continued)

Summary of clearing a PM DTC critical alarm


Layout of DTC shelf

I	Paddle b	ooards		Cards	٦
5R			NT2X70	Power converter card	
4R			NT0X50	Filler faceplate	
3R			NT6X40	DS30 C-side interface card	
2R			NT6X40	DS30 C-side interface card	
IR			NT6X41	Speech bus formatter card	
)R	NTMX71	XPM+ terminator PB	NT6X42	Channel supervision message card	
9R			NT0X50	Filler Faceplate*	•
3R			NT6X69	Message protocol and Tone card*	·
7R			NT7X05	Peripheral/Remote Loader-16 Card	•
ŝR			NT6X92	Universal tone receiver card*	
5R			NT6X92	Universal tone receiver card*	
1R			NT6X44	Time switch card	
3R			NT6X70	Continuity tone detector card*	·
			NTSX05	SX05 processor card (Note 4) or	
2R			NTMX77	Unified processor card or	·
			NTAX74	Cellular access processor (Note 2 & 3)	
R			NT0X50	Filler faceplate	
R			NT0X50	Filler faceplate	
R			NT0X50	Filler faceplate	
R			NT0X50	Filler faceplate	
'R			NT0X50	Filler faceplate	
ŝR			NT0X50	Filler faceplate	1
R			NT6X50	DS1 interface card	1
R			NT6X50	DS1 interface card	1
R			NT6X50	DS1 interface card	1
2R			NT6X50	DS1 interface card	1
R			NT6X50	DS1 interface card	1
	Rear			Front	

Note 1: The NT6X40AA is provisioned in slots 22F and 23F for the "AA" version only. Subsequent versions are provisioned in slot 22F. Fiberized versions are provisioned as a paddle board in slot 22R in addition to the front plane card.

Note 2: Beginning with MIP08/XPM08, the NTAX74 processor is supported in the MCI-ACD DTCI application with an XLI load.

Note 3: Beginning with MTX06/XPM08, the NTAX74 processor is supported in the 2-processor PDTC for MTX application with a WDT load.

Note 4: Beginning with NA011/XPM11, MMP/XPM12 (for Japan), the NTSX05AA processor is supported in the DTC with a QLI load.

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Clearing a PM DTC critical alarm

At the MAP terminal

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

РМ	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12	
lf		-	-	Do	-		_
		•					
an audible alarm rings			step 2				
no au	dible alar	m rings	2	step 3			
To siler	nce the ala	rm, type					

>SIL

2

and press the Enter key.

3 To determine if SysB or CBsy DTCs caused the critical alarm, type >sTATUS

and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy	ISTb	InSv	
PM	2	0	0	2	0	25	
TM8	0	0	0	0	0	2	
MTM	0	0	0	0	0	3	
LGC	1	0	0	0	0	3	
LCM	0	0	0	2	0	0	
DTC	1	0	0	0	0	1	
LIM	0	0	0	0	0	1	
LIU7	0	0	0	0	0	1	
FRIU	0	0	0	0	0	1	
DTCI	0	0	0	0	0	1	
LCME	0	0	0	0	0	1	
						MORE .	

Note: If DTCs are SysB and CBsy, work on the SysB DTCs first.

4 To display all the CBsy or SysB DTCs, type

>DISP STATE state DTC

and press the Enter key.

where

state

is CBsy or SysB, that you determined in step 3

Example of a MAP response:

SysB DTC : 0

Note: If multiple DTCs are CBsy or SysB, select a DTC to work on. Record the DTCs number.

lf you	Do
recover a CBsy DTC	step 5
recover a SysB DTC	step 6

5

7

Go to the common procedure Clear PM C-side faults in this document. Complete the procedure and return to this step.

lf	Do		
the DTC remains CBsy	Treat the CBsy DTC as a SysB DTC and go to step 25.		
the DTC changes to SysB	step 6		
one DTC unit returns to service	step 46		
both DTC units return to service	step 48		
Check the EXT header of the alarm hanner for an ESP alarm			

6 Check the EXT header of the alarm banner for an FSP alarm.

If an FSP alarm	Do			
is present	step 7			
is not present	step 25			
To locate the FSP alarm, type				
>EXT; LIST FSP				

and press the Enter key.

Example of a MAP response:

FSPAISD

In this example, the alarm is an FSP alarm on Aisle D.

At the equipment aisle

8 Go to the aisle identified in step 7. The end aisle alarm will illuminate.

At the equipment frame

9 Identify the frame with the FSP alarm. Check the frame fail lamp on the frame supervisory panel (FSP) on each frame. The frame with the FSP alarm has an illuminated frame fail lamp. The following figure illustrates an FSP with an illuminated fail lamp.



10 For a DTC critical alarm, the frame that has the DTC is a CPCE type. The frame can be a digital trunk equipment (DTE) frame or a line group equipment (LGE) frame. Identify the PMs contained in the frame. Refer to the following figure for help.



11 Check the Converter Fail LED on each NT2X70 power converter card in the frame. Refer to the figure "Layout of DTC shelf" for help to locate this card. Refer to the following figure of a NT2X70AE card for help to check the Converter Fail LED.



If any CONVERTER FAIL LEDs	Do
are lit	step 12
are not lit	step 16

12 Note the DTC with the LED lights on.

At the MAP display

13 To post the SysB DTC, type

>PM; POST DTC dtc_no

and press the Enter key.

where

dtc_no

is the number (0 to 255) of the DTC that you recorded in step 4

ATTENTION

Record the active unit (0 or 1) to use later in this procedure. When you manual busy the DTC, unit activity will not display.

Example of a MAP response:

РМ Тур	e: DTC	PM No	: 0	PM	Int.	No:	0	Node_No.:	21
PMs Eq	uipped:	38 L	badna	me:	ECL0	7BI			
Unit O	is pate	ched							
Unit 1	is pato	ched							

If a Mtce indicator	Do
displays next to either unit	step 14
does not display	step 15

14 Go the common procedure "Monitoring system maintenance" in this document. Complete the procedure and return to this step.

If the critical alarm	Do
remains	step 15
changes	step 46
clears	step 48

15 Determine if the DTC is the same as the DTC that you identified in step 12.

If the DTC is	Do
different	step 16
the same	step 17

16 Clear the FSP alarm. Perform the correct procedure in this document. Complete the procedure and return to step 6.

17 To busy the DTC, type

>BSY PM

and press the Enter key.

18 Choose the active unit on which to work, as recorded in step 13.

At the equipment frame

19 Change the NT2X70 card. Refer to the correct procedure in the *Card Replacement Procedures.* Complete the procedure and return to this step.

At the MAP terminal

20 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or NTAX74, or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an DTC with an NTMX77 or NTAX74 processor with an NT7X05 PRL card:

```
Unit 0:

NT7X05 load File: ECL07BI (NT7X05 load file name)

NT7X05 Image File:ECL07BI

NT7X05 Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

NT7X05 load File: ECL07BI

NT7X05 Image File:ECL07BI

NT7X05 Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an DTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: <u>QLI10BI</u> (Processor load file name)

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 21
is not present	step 24

21 Determine if the DTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card.

If the DTC is equipped with an	Do
NT7X05 PRL card	step 22
NTSX06 PRL packlet	step 23
To load the DTC from the local imag >LOADPM PM LOCAL IMAGE and press the Enter key.	e, type
If the load	Do
passed	step 37
failed	step 23

23

22



DANGER Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the DTC from the local loadfile, type

>LOADPM PM LOCAL LOADFILE

and press the Enter key.

If the load	Do
passed	step 37
failed	step 24

24 To load the DTC from the CM, type

>LOADPM PM

If the load	Do
failed, and the system generated a card list	step 38
failed, and the system did not generate a card list	step 47
passed	step 37
To post the DTC, type	
>POST DTC dtc_no	
and press the Enter key.	
where	
dtc_no is the number (0 to 255) of the	DTC you recorded in step 4
Example of a MAP response:	
DTC 0 SysB Links_OOS: UnitO: Act SysB Unit1: Inact SysB	CSide 32, PSide 0
If a Mtce indicator	Do
appears next to either unit	step 26
does not display	step 27
Go to the common procedure <i>Monitor</i> document. Complete the procedure a	<i>ing system maintenance</i> in this and return to this step.
If the critical alarm	Do
remains	step 27
	step 46
changes	
changes clears	step 48
changes clears To query the DTC for fault indications	step 48 type
changes clears To query the DTC for fault indications, >QUERYPM FLT	step 48 type
changes clears To query the DTC for fault indications, >QUERYPM FLT and press the Enter key.	step 48 type

28	Record the MAP response.
20	

If the MAP response	Do
is SWACT In Progress	step 29
is Load Corruption	step 30
is Load Failed	step 30
is Distributed Data Loading Failed	step 30
is Activity dropped	step 30
is Not loaded since power up	step 30
is other than listed here	step 36

29 The system attempts to recover the DTC with a switch of activity between the two DTC units. Wait until system maintenance is complete.

lf	Do
neither DTC unit returns to ser- vice	step 36
one DTC unit returns to service	step 46
both DTC units return to service	step 48

30 To busy the DTC, type

>BSY PM

and press the Enter key.

31 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or NTAX74, or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an DTC with an NTMX77 or NTAX74 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI (Processor load file name)

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an DTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 32
is not present	step 35

32 Determine if the DTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the DTC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

QueryPM contig	
UNIT 0 Slot 12: SX05AA	
PCMCIA Slotlet 0: SX06CA	
PCMCIA Slotlet 1: No packlet	
UNIT 1 Slot 12: SX05AA	
PCMCIA Slotlet 0: SX06CA	
PCMCIA Slotlet 1: No packlet	
If the DTC is equipped with an	Do
NT7X05 PRL card	step 33
NTSX06 PRL packlet	step 34
NTSX06 PRL packlet	step 34 e, type
NTSX06 PRL packlet To load the DTC from the local image >LOADPM PM LOCAL IMAGE	step 34 e, type
NTSX06 PRL packlet To load the DTC from the local image >LOADPM PM LOCAL IMAGE and press the Enter key.	step 34 e, type
NTSX06 PRL packlet To load the DTC from the local image >LOADPM PM LOCAL IMAGE and press the Enter key. If the load	step 34 e, type Do

34

35

33



failed

DANGER Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

step 34

To load the DTC from the local loadfile, type

>LOADPM PM LOCAL LOADFILE

and press the Enter key.

If the load	Do	
passed	step 37	
failed	step 35	
To load the DTC, type		
>LOADPM PM		

36

37

PM DTC critical (continued)

If the load	Do
failed, and the system generated a card list	step 38
failed, and the system did not generate a card list	step 47
passed	step 37
To busy the DTC, type	
>BSY PM	
and proce the Enter key	
and press the Enter key.	
To return the DTC to service, type	
To return the DTC to service, type <pre>>RTS PM</pre>	
To return the DTC to service, type >RTS PM and press the Enter key.	
To return the DTC to service, type >RTS PM and press the Enter key. If	Do
To return the DTC to service, type RTS PM and press the Enter key. If the DTC failed to return to ser- vice and the system generated a card list	Do step 38
To return the DTC to service, type To return the DTC to service, type TO RTS PM and press the Enter key. If the DTC failed to return to ser- vice and the system generated a card list one DTC unit returned to service	Do step 38 step 46

At the equipment frame

38 Replace the first card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "Layout of DTC shelf" in this procedure for help to locate this card.

The MAP response in step 13 (when you complete this step) or step 28 can help you isolate the card that has faults. Refer to the following table for help.

(Sheet 1 of 2)

MAP response	Suspect cards
PM Audit	NT6X69, NTMX77, NTAX74, NTSX05
Activity Dropped	NTMX77, NTAX74, NTSX05

MAP response	Suspect cards
No WAI Received	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTMX77, NTAX74, NTSX05
LINK Audit	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTMX77, NTAX74, NTSX05
Load Corruption	NT6X42, NTMX77, NTAX74, NTSX05
Load Failed	NTMX77, NTAX74, NTSX05
Distributed Data Loading Failed	NT6X69, NTMX77, NTAX74, NTSX05
lf you	Do
replace an NT6X42, NTMX77 or NTAX74 card	step 39
an NTSX05 card	step 40
replace a card other than listed here	step 44

(Sheet 2 of 2)

At the MAP display

39 Use the information that you recorded in step 13 to load the active DTC unit. To load the active DTC unit from the local image on the NT7X05 or NTSX05 PRL card, type

>LOADPM ACTIVE LOCAL IMAGE

and press the Enter key.

If the load	Do
passed	step 42
failed	step 40

40

41



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the active DTC unit from the local loadfile on the PRL card, type

>LOADPM ACTIVE LOCAL LOADFILE

and press the Enter key.

If the load	Do	
passed	step 42	
failed	step 41	
To load the active DTC unit from the CM, type		

>LOADPM ACTIVE

and press the Enter key.

If the load	Do
passed	step 42
failed	step 47

42 To query the DTC counters for the firmware load on the NTMX77, NTAX74, or NTSX05 type

>QUERYPM CNTRS

and press the Enter key.

Example of a MAP display for an DTC equipped with an NTMX77:

Unsolicitited MSG limit = 250, Unit 0 = 0, Unit 1 = 0
Unit 0:
Ram Load: ECL07BI
EPRom Version: AB02
EEPRom Load: Loadable: MX77NG03, Executable: MX77NG03
UP:MX77AA
Unit 1: NTMX77 Firmware
Ram Load: ECL07BI loadname
EPRom Version: AB02
EEPRom Load: Loadable: MX77NG03 , Executable: MX77NG03
UP · MATTAA

Example of a MAP display for an DTC equipped with an NTAX74:

Unsolicitited MSG limit = 250, Unit 0 = 0, Unit 1 = 0 Unit 0:
Ram Load: XLI07BI1
EPRom Version: AB02
EEPRom Load: Loadable: AX74XEOI, Executable: AX74XEOI
UP:AX74AA
Unit 1: NTAX74 Firmware
Ram Load: XLI07BI1
EPRom Version: AB02
EEPRom Load: Loadable: AX74XEOI , Executable: AX74XEOI
UP:AX74AA L

Example of a MAP display for an DTC equipped with an NTSX05:

QueryPM cntrs
Unsolicitited MSG limit = 250 , Unit $0 = 0$, Unit $1 = 0$
Unit 0:
QueryPM CNTRS command may take up to 2 minutes
Unit at ROM level
EEPRom Load: Loadable: SA01, Executable: SA01
UP:SX05AA IP: BX01
Unit 1: NTAX74 Firmware
Ram Load: QLI10BG
EPRom Version: AC01
EEPRom Load: Loadable: SA01 , Executable: SA01
UP:SX05AA
IP:BX01

If firmware	Do
is correct	step 44
is not correct	step 43

43 To load the NTMX77, NTAX74, NTSX05 firmware, type

>LOADFW ACTIVE

and press the Enter key.

If load	Do
passed	step 44
failed	step 47

44 To return the active DTC unit to service, type >RTS ACTIVE

PM DTC critical (end)

and press the Enter key.

If the unit	Do
does not return to service and you did not replace all the cards on the list of cards that have faults	step 45
does not return to service and you replaced all the cards on the list of cards that have faults	step 47
fails and the system does not generate a card list	step 47
returns to service	step 46

At the equipment frame

45 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "Design of DTC shelf" for help to locate this card.

If you replace	Do
an NTMX77, NTAX74, or NT6X42 card	step 39
an NTSX05 card	step 40
cards other than listed here	step 44

46 The DTC critical alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm. Go to step 48.

47 You will require additional maintenance action to clear this alarm. Contact the next level of support. Describe in detail the steps you performed to attempt to clear this alarm.

48 The procedure is complete.

PM DTC major

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
-				1DTC M					

Indication

DTC (preceded by a number) appears under the PM header of the alarm banner. The DTC indicates a major alarm for a digital trunk controller (DTC). The number that precedes the DTC indicates the number of DTCs affected by the alarm. The alarm banner appears at the MTC level of the MAP display. The previous figure illustrates an alarm banner with a DTC major alarm.

Meaning

The DTC is in-service trouble (ISTb) for of one of the following conditions:

- one unit is system busy and one unit is ISTb
- one unit is system busy and one unit is in-service
- one unit is C-side busy and one unit is ISTb
- one unit is C-side busy and one unit is in-service

Result

The alarm does not affect service. A backup unit is not available in the DTC.

Common procedures

This procedure refers to the following common procedures:

- Clearing PM C-side links
- Monitoring system maintenance

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM DTC major alarm



Layout of DTC shelf

	Paddle b	oards		Cards	1
25R			NT2X70	Power converter card	2
24R			NT0X50	Filler faceplate	2
23R			NT6X40	DS30 C-side interface card	2
22R			NT6X40	DS30 C-side interface card	2
21R			NT6X41	Speech bus formatter card	2
20R	NTMX71	XPM+ terminator PB	NT6X42	Channel supervision message card	2
19R			NT0X50	Filler Faceplate*	1
18R			NT6X69	Message protocol and Tone card*	1
17R			NT7X05	Peripheral/Remote Loader-16 Card	1
16R			NT6X92	Universal tone receiver card*	1
15R			NT6X92	Universal tone receiver card*	1
I4R			NT6X44	Time switch card	1
I3R			NT6X70	Continuity tone detector card*	1
			NTSX05	SX05 processor card (Note 4) or	
I2R			NTMX77	Unified processor card or	1
			NTAX74	Cellular access processor (Note 2 & 3)	
1R			NT0X50	Filler faceplate	1
0R			NT0X50	Filler faceplate	1
9R			NT0X50	Filler faceplate	0
8R			NT0X50	Filler faceplate	0
7R			NT0X50	Filler faceplate	
6R			NT0X50	Filler faceplate	
5R			NT6X50	DS1 interface card	
4R			NT6X50	DS1 interface card	
3R			NT6X50	DS1 interface card	l õ
2R			NT6X50	DS1 interface card	0
1R			NT6X50	DS1 interface card	0
◄_'	Rear			Front —	

Note 1: The NT6X40AA is provisioned in slots 22F and 23F for the "AA" version only. Subsequent versions are provisioned in slot 22F. Fiberized versions are provisioned as a paddle board in slot 22R in addition to the front plane card.

Note 2: Beginning with MIP08/XPM08, the NTAX74 processor is supported in the MCI-ACD DTCI application with an XLI load.

Note 3: Beginning with MTX06/XPM08, the NTAX74 processor is supported in the 2-processor PDTC for MTX application with a WDT load.

Note 4: Beginning with NA011/XPM11, MMP/XPM12 (for Japan), the NTSX05AA processor is supported in the DTC with a QLI load.

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Clearing a PM DTC major alarm

At the MAP terminal

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	3	5	7	б	12
lf				Do		
an a	udible ala	rm rings		step 2		
no a	udible ala	rm rings		step 3		
To sile	ence the al	arm, type				
>SIL						
and p	ress the Er	nter key.				
To dis	play all the	ISTb DTCs,	type			
>DIS	P STATE	ISTB DTC				
and p	ress the Er	nter key.				
Exam	ple of a M	AP response	:			
ISTE	3 DTC : ()				
No nur	te: If multi	ple DTCs are DTC.	e ISTb, se	lect a DTC	to work on.	Record the
Check	k the EXT I	neader of the	alarm ba	nner for an	FSP alarm.	
lf an	FSP aları	n		Do		
is pı	resent			step 5		
is no	ot present			step 22		
To loc	ate the FS	P alarm, type	Э			
>EXT; LIST FSP						
and press the Enter key.						
Exam	ple of a M	AP response	:			

2

3

4

5

FSPAISD

In this example, the alarm is an FSP alarm on Aisle D.

At the equipment aisle

6 Go to the aisle that you identified in step 5. A light identifies the end aisle alarm.

At the equipment frame

8

7 Identify the frame with the FSP alarm. Check the frame fail lamp on the frame supervisory panel (FSP) of the frame. The frame with the FSP alarm has an illuminated frame fail lamp. The following figure illustrates an FSP with an illuminated fail lamp.



Note: The CB3 does not fit in a frame for a common peripheral controller equipment (CPCE).

The EXT FSP alarm can appear in a digital trunk equipment (DTE) frame. The following diagram is a DTE frame. The frame houses a DTC. The FSP alarm can appear in LTE or LGE frames. Identify the PMs that the frame contains. Refer to the following diagram for help.



9 Check the Converter Fail LED on each NT2X70 power converter card in the frame. Refer to the figure *Design of DTC shelf* for help to locate this card. Refer to the following figure of a NT2X70AE card for help to check the Converter Fail LED.



If any LEDs	Do
are lit	step 10
are not lit	step 14

10 Note the DTC with the LED light on.

At the MAP display

11 To post the DTC, type

>PM; POST DTC dtc_no

and press the Enter key.

where

dtc_no is the number (0 to 255) of the DTC that you recorded in step 3 *Example of a MAP response:*

PM DTC major (continued)

	DTC Unit0: Unit1:	0 Act Inact	ISTb InSv CBsy	Links_00S:	CSide 17	, PSide O
	If a Mtce in	ndicator		Do		
	displays n	ext to eith	ner unit	step 12		
	does not d	lisplay		step 13		
	Go to the co document.	mmon pro Complete t	cedure "Mo he procedu	nitoring system r re and return to	naintenance this step.	" in this
	If the majo	or alarm		Do		
	remains			step 13		
	changes			step 47		
	clears			step 49		
	Determine if	the DTC i	s the same	as the DTC that	you identifie	d in step 10.
	If the DTC			Do		
	is differen	t		step 14		
	is the sam	e		step 15		
	Clear the FS Complete th	SP alarm. e procedu	Perform the re and retur	correct procedu n to step 4.	re in this doo	ument.
	To busy the	SysB DTC	unit, type			
	>BSY UNIT	unit_no	b			
	and press th	e Enter ke	y.			
	where					
	unit_no is the	number (0) to 1) of the	e DTC unit		
<i>?</i>	equipment fi	rame				
	Change the Replacemer	NT2X70 c nt Procedu	ard. Refer t <i>res</i> . Compl	o the correct pro ete the procedur	cedure in <i>Ca</i> e and return	a <i>rd</i> to this step.
e I	MAP termina	al				

The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or NTAX74, or the NTSX06 PRL card in the NTSX05 processor, allows a local 17

load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

18

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for a DTC with an NTMX77 or NTAX74 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI (Processor load file name)

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for a DTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 1:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 18
is not present	step 21
Determine if the DTC is equipped with PRL card.	an NTSX06 PRL packlet or an NT7X05
If the DTC is equipped with an	Do
	. 10

NT7X05 PRL card	step 19
NTSX06 PRL packlet	step 20

19 To load the DTC from the local image, type >LOADPM UNIT unit_no LOCAL IMAGE

>LOADPM UNIT unit_no LOCAL IMAGE
and press the Enter key.
where
unit_no
is the number (0 to 1) of the DTC unit
If the load Do

	20
passed	step 36
failed	step 20

20



DANGER

Possible service interruption The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need the NOPATCH option of the loadfile.

To load the DTC from the local loadfile, type

>LOADPM UNIT unit_no LOCAL LOADFILE

and press the Enter key.

where

unit_no

is the number (0 to 1) of the DTC unit

If the load	Do	
passed	step 36	
failed	step 21	

21 To load the DTC unit, type >LOADPM UNIT unit_no and press the Enter key. where

	If the load	Do			
	failed, and the system generated a card list	step 37			
failed, and the system did generate a card list		not step 48			
	passed	step 36			
	To post the DTC, type				
	>POST DTC dtc_no				
	and press the Enter key.				
	where				
	dtc_no is the number (0 to 255) of the DTC that you recorded in step 3				
	Example of a MAP response:				
		agide 20 pgide 0			
	Unit0: Act InSv	CSIde 20, PSIde 0			
	Unitl: Inact SysB				
	Unitl: Inact SysB	Do			
	Unit1:InactSysBIf an Mtce indicatordisplays next to either unit	Do step 23			
	Unit1:InactSysBIf an Mtce indicatordisplays next to either unitdoes not display	Do step 23 step 24			
	Unit1: Inact SysB If an Mtce indicator displays next to either unit does not display Go to the common procedure Monitor document.	Do step 23 step 24 <i>ting system maintenance</i> in this and return to this step.			
	Unit1: Inact SysB If an Mtce indicator displays next to either unit does not display Go to the common procedure Monitor document. Complete the procedure a If the major alarm	Do step 23 step 24 <i>ting system maintenance</i> in this and return to this step. Do			
	Unit1:InactSysBIf an Mtce indicatordisplays next to either unitdoes not displayGo to the common procedure Monitordocument.Complete the procedure aIf the major alarmremains	Do step 23 step 24 <i>ting system maintenance</i> in this ind return to this step. Do step 24			
	Unit1: Inact SysB If an Mtce indicator If an Mtce indicator displays next to either unit If an Mtce indicator does not display If an Mtce indicator Go to the common procedure Monitor If the major alarm If the major alarm remains changes If the major alarm	Do step 23 step 24 <i>ting system maintenance</i> in this ind return to this step. Do step 24 step 24			
	Unit1: Inact SysB If an Mtce indicator displays next to either unit does not display Go to the common procedure Monitor document. Complete the procedure a If the major alarm remains changes clears	Dostep 23step 24 <i>ting system maintenance</i> in thisind return to this step.Dostep 24step 47step 49			
	Unit1: Inact SysB If an Mtce indicator displays next to either unit does not display Go to the common procedure Monitor document. If the major alarm remains changes clears Determine the maintenance state of e	Do step 23 step 24 <i>ting system maintenance</i> in this ind return to this step. Do step 24 step 24 step 47 step 49 ach DTC unit.			
	Unit1: Inact SysB If an Mtce indicator displays next to either unit does not display Go to the common procedure Monitor document. Complete the procedure a If the major alarm remains changes clears Determine the maintenance state of e If one unit	Do step 23 step 24 <i>ting system maintenance</i> in this ind return to this step. Do step 24 step 24 step 47 step 49 ach DTC unit. Do			

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25

26

27

PM DTC major (continued)

If one unit	Do
is SysB and the other unit is InSv or ISTb	Work on the SysB unit. Go t step 26.
Go to the common procedure <i>Clearin</i> Complete the procedure and return to	<i>g PM C-side faults</i> in this document. this step.
If the DTC	Do
remains ISTb because one unit is SysB and the other is InSv or ISTb	Work on the SysB unit. Go t step 26.
returns to service	step 49
and press the Enter key. Example of a MAP response:	
and press the Enter key. Example of a MAP response: Activity dropped Record the MAP response.	
and press the Enter key. Example of a MAP response: Activity dropped Record the MAP response. If the MAP response	Do
and press the Enter key. Example of a MAP response: Activity dropped Record the MAP response. If the MAP response is SWACT In Progress	Do step 28
and press the Enter key. Example of a MAP response: Activity dropped Record the MAP response. If the MAP response is SWACT In Progress is Load Corruption	Do step 28 step 29
and press the Enter key. Example of a MAP response: Activity dropped Record the MAP response. If the MAP response is SWACT In Progress is Load Corruption is Load Failed	Do step 28 step 29 step 29
and press the Enter key. Example of a MAP response: Activity dropped Record the MAP response. If the MAP response is SWACT In Progress is Load Corruption is Load Failed is Distributed Data Loading Failed	Do step 28 step 29 step 29 step 29
and press the Enter key. Example of a MAP response: Activity dropped Record the MAP response. If the MAP response is SWACT In Progress is Load Corruption is Load Failed is Distributed Data Loading Failed is Activity dropped	Do step 28 step 29 step 29 step 29 step 29 step 29

28

The system atte	empts to recover the DTC with a switch of activity between t	the
two DTC units.	Wait until system maintenance is complete.	
	,	

If the DTC	Do
does not return to service	step 35
returns to service	step 49

29 To busy the DTC unit, type

>BSY UNIT unit_no

and press the Enter key.

30 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or NTAX74, or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for a DTC with an NTMX77 or NTAX74 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for a DTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: <u>QLI10BI</u> (Processor load file name)

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do		
is provisioned	step 31		
is not provisioned	step 34		

31 Determine if the DTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the DTC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

QueryPM config UNIT 0 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet UNIT 1 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet

If the DTC is equipped with an	Do	
NT7X05 PRL card	step 32	
NTSX06 PRL packlet	step 33	
To load the DTC from the local imag	e, type	
>LOADPM UNIT unit no LOCAL	IMAGE	

32

and press the Enter key.

where

unit_no

is the number (0 to 1) of the DTC unit

If the load	Do
passed	step 36
failed	step 33

33



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need the NOPATCH option of the loadfile.

To load the DTC from the local loadfile	, type
>LOADPM UNIT unit_no LOCAL L	OADFILE
and press the Enter key.	
where	
unit_no is the number (0 to 1) of the DT	C unit
If the load	Do
passed	step 36
failed	step 34
To load the DTC unit, type	
>LOADPM UNIT unit_no	
and press the Enter key.	
If the load	Do
failed, and the system generated a card list	step 37
failed, and the system did not generate a card list	step 48
passed	step 36
To busy the DTC unit that has faults, ty	/ре
>BSY UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number (0 to 1) of the DT	C unit
To return the DTC unit to service, type	!
>RTS UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number (0 to 1) of the DT	C unit
If the DTC unit	Do

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If the DTC unit	Do
failed, and the system did not generate a card list	step 48
passed	step 49

At the equipment frame

37 Replace the first or next card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "Design of DTC shelf" in this procedure for help to locate this card.

The MAP response in step 11 (if you complete this step) or step 27 can help you isolate the card that has faults. Refer to the following table for help.

MAP response	Suspect cards
PM Audit	NT6X69, NTMX77, NTAX74, NTSX05
Activity Dropped	NTMX77, NTAX74, NTSX05
No WAI Received	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTMX77, NTAX74, NTSX05
LINK Audit	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTMX77, NTAX74, NTSX05
Load Corruption	NT6X42, NTMX77, NTAX74, NTSX05
Load Failed	NTMX77, NTAX74, NTSX05
Distributed Data Loading Failed	NT6X69, NTMX77, NTAX74, NTSX05
If the card you	Do
replace is an NT6X42, NTMX77, NTAX74, or NTSX05 card	step 38
is other than listed here	step 45

At the MAP terminal

38 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or NTAX74, or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for a DTC with an NTMX77 or NTAX74 processor with an NT7X05 PRL card:

Unit 0: Flash load File: ECL07BI Flash Image File:ECL07BI Flash Image Timestamp: 1996/01/17 16:01:52.944 WED. Unit 1: Flash load File: ECL07BI Flash Image File:ECL07BI Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.

Example of a MAP display for a DTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 1:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 39
is not present	step 42
Determine if the DTC is equipped.	

39 Determine if the DTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the DTC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

QueryPM config UNIT 0 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet UNIT 1 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet

If the DTC is equipped with an	Do
NT7X05 PRL card	step 40
NTSX06 PRL packlet	step 41

40 Use the information recorded in step 11 to load the inactive DTC unit . To load the inactive DTC unit from the local image on the NT7X05 PRL card, type

>LOADPM UNIT unit_no LOCAL IMAGE

and press the Enter key.

where

unit no

is the number of the inactive DTC unit recorded in step 11

If the load	Do
passed	step 43
failed	step 41

41



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. When you use this parameter, the loadfile named in the parameter has not been patched. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.
PM DTC major (continued)

To load the inactive DTC unit from the local loadfile on the PRL card, type >LOADPM UNIT unit_no LOCAL LOADFILE and press the Enter key. where unit no is the number of the inactive DTC unit that you recorded in step 11 If the load Do passed step 43 failed step 42 To load the inactive DTC unit from the CM, type >LOADPM UNIT unit_no and press the Enter key. where unit no is the number of the inactive DTC unit recorded in step 11 If the load Do passed step 43 failed step 48 To query the DTC counters for the firmware load on the NTMX77, NTAX74, or NTSX05 type >QUERYPM CNTRS and press the Enter key. Example of a MAP display for an NTMX77: Unsolicitited MSG limit = 250, Unit 0 = 0, Unit 1 = 0Unit 0: Ram Load: ECL07BI EPRom Version: AB02 EEPRom Load: Loadable: MX77NG03, Executable: MX77NG03 UP:MX77AA Unit 1: NTMX77 Firmware Ram Load: ECL07BI loadname EPRom Version: AB02 , Executable: MX77NG03 EEPRom Load: Loadable: MX77NG03 UP:MX77AA Example of a MAP display for an NTAX74:

42

43



Example of a MAP display for a DTC equipped with an NTSX05:

Unsolicited MSG limit = 250, Unit 0 = 0, Unit 1 = 0 Unit 0: QueryPM CNTRS command may take up to 2 minutes Unit at ROM level EEPRom Load: Loadable: SA01, Executable: SA01 UP:SX05AA IP:BX01 Unit 1: Ram Load: QLI10BG EPRom Version: AC01 EEPRom Load: Loadable: SA01 UP:SX05AA IP:BX01 UP:SX05AA IP:BX01

If firmware	Do
is correct	step 45
is not correct	step 44

44 To load the NTMX77, NTAX74, or NTSX05 firmware, type

>LOADFW UNIT unit_no

and press the Enter key.

where

unit_no

is the number of the inactive DTC unit that you recorded in step 11

If the load	Do	
passed	step 45	
failed	step 48	
To return the DTC unit to service, type		

>RTS UNIT unit_no

and press the Enter key.

45

PM DTC major (end)

where

unit_no

is the number of the inactive DTC unit that you recorded in step 11

If the unit	Do
does not return to service and you did not replace all the cards on the list of cards that have faults	step 46
does not return to service and you replaced all the cards on the list of cards that have faults	step 48
fails, and the system does not generate a card list	step 48
returns to service	step 49

At the equipment frame

47

48

46 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure *Design of DTC shelf* for help to locate this card.

lf you					Do	
replace a NT6X42 c	n NTAX74, ard	NTMX77,	NTSX05	or	step 38	
replace car	ds other than l	isted here			step 45	
The DTC major alarm changed to another type of alarm. Refer to the correct alarm clearing procedure in this document. Go to step 49.						
For additiona	l help, contact th	ne next level o	f support.			

49 The procedure is complete.

PM DTC minor

Alarm display

 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•	·	•	•	1DTC	•	•	•		•

Indication

DTC (preceded by a number) appears under the PM header of the alarm banner. The DTC indicates a minor alarm for a digital trunk controller (DTC). The number that precedes the DTC indicates the number of DTCs affected by the alarm. The alarm banner appears at the MTC level of the MAP display. The previous figure illustrates an alarm banner with a DTC minor alarm.

Meaning

The DTC is in-service trouble (ISTb) for one of the following conditions:

- both units are ISTb
- one unit is ISTb and one unit is in-service
- one unit is ISTb and one unit is manual busy
- one unit is in-service and one unit is manual busy
- both units are in-service with P-side links or C-side links out-of-service

Result

The alarm does not affect service.

Common procedures

The procedure refers to the following common procedures:

- "Monitoring system maintenance"
- "Clearing PM C-side faults"

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM DTC minor alarm



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Layout of a DTC shelf

I	Paddle b	oards		Cards
5R			NT2X70	Power converter card
4R			NT0X50	Filler faceplate
3R			NT6X40	DS30 C-side interface card
R R			NT6X40	DS30 C-side interface card
R			NT6X41	Speech bus formatter card
R	NTMX71	XPM+ terminator PB	NT6X42	Channel supervision message card
R			NT0X50	Filler Faceplate*
BR			NT6X69	Message protocol and Tone card*
7R			NT7X05	Peripheral/Remote Loader-16 Card
SR			NT6X92	Universal tone receiver card*
5R			NT6X92	Universal tone receiver card*
1R			NT6X44	Time switch card
3R			NT6X70	Continuity tone detector card*
2R			NTSX05 NTMX77	SX05 processor card (Note 4) or
			NTAX74	Cellular access processor (Note 2 & 3)
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
R R			NT0X50	Filler faceplate
5R			NT6X50	DS1 interface card
IR			NT6X50	DS1 interface card
R			NT6X50	DS1 interface card
2R			NT6X50	DS1 interface card
R			NT6X50	DS1 interface card

Note 1: The NT6X40AA is provisioned in slots 22F and 23F for the "AA" version only. Subsequent versions are provisioned in slot 22F. Fiberized versions are provisioned as a paddle board in slot 22R in addition to the front plane card.

Note 2: Beginning with MIP08/XPM08, the NTAX74 processor is supported in the MCI-ACD DTCI application with an XLI load.

Note 3: Beginning with MTX06/XPM08, the NTAX74 processor is supported in the 2-processor PDTC for MTX application with a WDT load.

Note 4: Beginning with NA011/XPM11, MMP/XPM12 (for Japan), the NTSX05AA processor is supported in the DTC with a QLI load.

Clearing a PM DTC minor alarm

At the MAP terminal

2

3

4

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI;MTC:PM
 - and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy		ISTb	InSv
PM	1	3	5		7	б	12
lf				Do			
an a	udible alar	m rings		step 2			
no a	udible alar	m rings		step 3			
To sile	ence the ala	rm, type					
>SIL							
and p	ress the Ent	ter key.					
To dis	play all the	ISTb DTCs,	type				
>DIS	P STATE I	STB DTC					
and p	ress the Ent	ter key.					
Exam	ple of a MA	P response:					
ISTb	DTC : 0						
No pro	te: If multip	le DTCs are each DTC th	ISTb sel at is ISTI	ect one	DTC	to work on	. Repeat th
Recor	d the DTC r	number.					
То ро	st the DTC,	type					
>POS!	T DTC dtc	_no					
and p	ress the Ent	ter key.					
where)						
dt	t c_no is the numl	ber (0 to 255	5) of the D	TC you	reco	rded in ste	р 3.
Exam	ple of a MA	P response:					

DTC Unit0:	0 Act	ISTb InSv	Links_00S:	CSide 0,	PSide 0
Unit1:	Inact	ISTb	Mtce		
If a Mtce	flag		Do		
appears next to either unit		step 5			
does not appear		step 6			

5 Perform the correct procedure in "Monitoring system maintenance" in this document. Complete the procedure and return to this step.

If the DTC minor alarm	Do
remains	step 6
changes	step 35
clears	step 36
Select a DTC unit to recover.	
lf	Do
one unit is ISTb and one unit is InSv	step 7
both units are ISTb	Work on the inactive unit and go to step 11.
one unit is ManB and one unit is ISTb or InSv	Work on the manual busy unit and go to step 11.
Determine if the ISTb unit is active or	inactive.
If the ISTb unit	Do
is active	step 8

Work on the in-service trouble

unit and go to step 11.

6

7

is inactive

8



WARNING

Possible loss of service Confirm a cold SWACT during a period of low traffic. If you confirm a cold SWACT during a period of high traffic, the calls that the LCME handles will drop.

To switch the activity of the units, type

>SWACT

and press the Enter key.

The switch determines the requirement of a cold SWACT or a warm SWACT. The switch displays a confirmation prompt for the selected SWACT.

If the switch of activity	Do
cannot continue	step 9
can continue	step 10

9 To reject the prompt, type

>NO

and press the Enter key.

The system stops the switch of activity. Go to step 34.

10 To confirm the switch of activity, type

>YES

and press the Enter key.

The switch changes activity between the active unit and the inactive unit. An MTCE flag appears during the change of activity. Continue after the flag disappears.

If the MAP response	Do
is SWACT Passed	Work on the inactive unit and go to step 11.
isSWACT failed Reason: XPM SWACTback	step 34
is SWACT refused by SWACT controller	step 34

11 To determine the cause of the in-service trouble condition, type

>QUERYPM FLT

and press the Enter key.

Note: Multiple causes can be present for the in-service condition of a DTC. The DTC and the DTC units remain ISTb until all the in-service trouble conditions clear.

If the MAP response	Do		
is Dynamic data sync in progress	step 12		
is Superframe sync in progress	step 12		
isCLASS Modem Resource Card 6X78 out of ser- vice	step 13		
is CMR Load not present	step 16		
is Static data mismatch with CC	step 19		
is P-side links out of service	step 21		
is C-side links out of service	step 31		
is other than listed here	step 34		
Wait 5 minutes for the system to return the DTC to service.			

12 y

If the DTC minor alarm	Do
clears	step 36
does not clear	step 34

13



CAUTION

Possible loss of service

The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during periods of low traffic to minimize the risk of traffic interruption.

To manually busy the CMR unit, type

>BSY UNIT unit_no CMR

and press the Enter key.

where

unit no

is the number of the DTC unit (0 or 1) that contains the CMR card.

14 To test the CMR card, type

>TST UNIT unit_no CMR

and press the Enter key.

where

unit_no

is the number of the DTC unit (0 or 1) that contains the CMR card.

If the TST command	Do
fails	step 15
passes	step 18

At the equipment frame

15 Perform the correct procedure in *Card Replacement Procedures* to replace the CMR card (NT6X78). Complete the procedure and go to step 17.

At the MAP display

16 To manually busy the CMR card, type

>BSY UNIT unit_no CMR

and press the Enter key.

where

unit_no

is the number of the DTC unit (0 or 1) that contains the CMR card.

17

18

PM DTC minor (continued)

To load the CMR card, type >LOADPM UNIT unit_no CMR and press the Enter key. where unit no is the number of the DTC unit (0 or 1) that contains the CMR card. If the LOADPM command Do passes step 18 fails, and you replaced the CMR step 34 card fails, and you did not replace the step 15 CMR card To return the CMR card to service, type >RTS UNIT unit_no CMR and press the Enter key. where unit no is the number of the DTC unit (0 or 1) that contains the CMR card. If the RTS command Do passes, and the DTC returns to step 36 service passes, and the DTC does not restep 33 turn to service fails step 34

19



CAUTION

Possible loss of service The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during periods of low traffic to minimize the risk of traffic interruption.

To manually busy the inactive in-service	e trouble DTC unit, type
>BSY UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the DTC unit (() or 1)
To return the DTC unit to service, type	
>RTS UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the DTC unit (() or 1)
If the RTS command	Do
passes, and the DTC returns to service	step 36
passes, and the DTC does not re- turn to service	step 33
fails	step 34
fails To identify the out-of-service P-side lin	step 34 ks, type
fails To identify the out-of-service P-side lin	step 34 ks, type
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key.	step 34 ks, type
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. Example of a MAP response:	step 34 ks, type
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. Example of a MAP response: Link 0: Carrier of Class - Link 1: Carrier of Class -	<pre>step 34 ks, type Timing;Status:Offl Trunk ;Status:OK</pre>
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. <i>Example of a MAP response:</i> Link 0: Carrier of Class - Link 18: Carrier of Class - Link 18: Carrier of Class - Link 19: Carrier of Class -	<pre>step 34 ks, type Timing;Status:Offl Trunk ;Status:OK Trunk ;Status:OK Trunk ;Status:OK</pre>
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. <i>Example of a MAP response:</i> Link 0: Carrier of Class - Link 1: Carrier of Class - Link 18: Carrier of Class - Link 19: Carrier of Class - Link 2 to 17 do not appear i	<pre>step 34 ks, type Timing;Status:Offl Trunk ;Status:OK Trunk ;Status:OK Trunk ;Status:OK n this example.</pre>
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. Example of a MAP response: Link 0: Carrier of Class - Link 18: Carrier of Class - Link 18: Carrier of Class - Link 19: Carrier of Class - Mote: Links 2 to 17 do not appear i Record the number and state of each	<pre>step 34 ks, type Timing;Status:Offl Trunk;Status:OK Trunk;Status:OK Trunk;Status:OK n this example. P-side link that is out-of-service.</pre>
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. Example of a MAP response: Link 0: Carrier of Class - Link 1: Carrier of Class - Link 18: Carrier of Class - Link 19: Carrier of Class - Mote: Links 2 to 17 do not appear i Record the number and state of each 1 Note: P-side links with the OK statu indicates a P-side link that is out-of- P-side links in the MAP display as a	<pre>step 34 ks, type Timing;Status:Offl Trunk;Status:OK Trunk;Status:OK Trunk;Status:OK n this example. P-side link that is out-of-service. us are in-service. Any other status service. The system can identify CARRIER.</pre>
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. <i>Example of a MAP response:</i> Link 0: Carrier of Class - Link 1: Carrier of Class - Link 18: Carrier of Class - Link 19: Carrier of Class - Mote: Links 2 to 17 do not appear i Record the number and state of each 1 <i>Note:</i> P-side links with the OK statu indicates a P-side link that is out-of- P-side links in the MAP display as a If the out-of-service links are	<pre>step 34 ks, type Timing;Status:Off1 Trunk;Status:OK Trunk;Status:OK Trunk;Status:OK n this example. P-side link that is out-of-service. us are in-service. Any other status service. The system can identify CARRIER. Do</pre>
fails To identify the out-of-service P-side lin >TRNSL P and press the Enter key. Example of a MAP response: Link 0: Carrier of Class - Link 1: Carrier of Class - Link 18: Carrier of Class - Link 19: Carrier of Class - Link 19: Carrier of Class - Note: Links 2 to 17 do not appear i Record the number and state of each 1 Note: P-side links with the OK statu indicates a P-side link that is out-of- P-side links in the MAP display as a If the out-of-service links are carriers	step 34 ks, type Timing; Status: Offl Trunk ; Status: OK Trunk ; Status: OK Trunk ; Status: OK n this example. P-side link that is out-of-service. us are in-service. Any other status service. The system can identify CARRIER. Do step 23

20

21

22

If the out-of-service links are	Do	
links	step 24	
Clear the TRKS alarm. Perform the Complete the procedure and return t	correct procedure in t o this step.	his document
If the DTC minor alarm	Do	
clears	step 36	
does not clear	step 34	
Choose a link to work on.		
If the link	Do	
is SysB	step 25	
is ManB	step 26	
<pre>>BSY LINK link_no and press the Enter key. where link_no is the number of the link (0 to To test the link, type >TST LINK link_no and press the Enter key. where link_no is the number of the link (0 to</pre>	19) 19)	
If the TST command		Do
passes		step 27
fails, and the system generates a	card list	step 28
fails, and the system does not ge	nerate a card list	step 34
To return the link to service, type >RTS LINK link_no and press the Enter key. where		

	link_no is the number of the link (0 to 63)	
	If the RTS command	Do
	fails, and the system generates a card list	step 28
	fails, and the system does not generate a card list	step 34
	passes, and other out-of-service links are present	step 24
	passes, and the DTC remains ISTb	step 34
	passes, and the DTC minor alarm clears	step 36
At the	equipment frame	
28	To replace the first card on the list, perform the correct proce <i>Replacement Procedures</i> . Complete the procedure and go	edure in <i>Card</i> to step 29.
At the	MAP	
29	To return the link to service, type	
	>RTS LINK link_no	
	and press the Enter key.	
	where	
	link_no is the number of the link (0 to 63)	
	If the RTS command	Do
	fails, and you did not replace all the cards on the list	step 30
	fails, and you replaced all the cards on the list	step 34
	passes, and other out-of-service links are present	step 24
	passes, and the DTC remains ISTb	step 34
	passes, and the DTC minor alarm clears	step 36
30	To replace the next card on the list, perform the correct proc Replacement Procedures. Complete the procedure and go	edure in <i>Card</i> to step 29.
31	Go to the common procedure "Clearing PM C-side faults" in Complete the procedure and go to step 32.	this document.
32	To post the DTC, type	
	>PM;POST DTC dtc_no	
	and press the Enter key.	

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where

PM DTC minor (end)

dtc_no is the number of the DTC (0 to	255)	
If the DTC	Do	
is InSv	step 36	
is ISTb, and one unit is ISTb or CBsy	step 33	
is other than listed here	step 34	
To determine the cause of the in-servi	ce trouble condition, ty	/pe
>QUERYPM FLT		
and press the Enter key.		
<i>Note:</i> Multiple causes can be pres of a DTC. The DTC and the DTC u trouble conditions clear.	ent for the in-service to nits remain ISTb until	rouble condition all in-service
If the MAP response		Do
is Dynamic data sync in	progress	step 12
is Superframe sync in pr	ogress	step 12
is CLASS Modem Resource of service	Card 6X78 out	step 13
is CMR Load not present		step 16
is Static data mismatch	with CC	step 19
is P-side links out of s	ervice	step 21
is C-side links out of s	ervice	step 31
indicates a fault that you cleared dure	during this proce-	step 34
is other than listed here		step 34
You need additional maintenance action level of support. Describe in detail the alarm. Go to step 36.	on to clear this alarm. (steps you performed	Contact the next to clear this
The DTC minor alarm changed to a di correct procedure in this document to	fferent type of alarm. clear the alarm.	Refer to the
The procedure is complete.		

PM EIU critical

Alarm display

ſ	 СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL	
	•	•	•	•	1EIU *C*	•	•	•	•	•	

Indication

At the MTC level of the MAP display, EIU (preceded by a number) appears under the PM header of the alarm banner. The EIU indicates a critical alarm for the Ethernet interface unit (EIU).

Meaning

A minimum of one EIU is system busy, system busy not accessible, or in-service trouble not accessible.

The number under the PM header of the alarm banner indicates the number of EIUs affected.

Result

Communication does not occur between the switch and the local area network (LAN) or wide area network (WAN) if each application has only one EIU. The EIU applications include the CCS7 message detail recording (MDR7) and the service management system (SMS). The presence of more than one EIU for each application does not affect service.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM EIU critical alarms



Clearing a PM EIU critical alarm

At the MAP terminal

1 To access the PM level of the MAP display, type >MAPCI;MTC;PM

and press the Enter key.

Example of a MAP display:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	0	0	0	0	39

2 To post the EIUs that are system busy, type

>POST EIU SYSB

and press the Enter key.

Example of a MAP display:

EIU 131 SysB Rsvd

Note: In the example of the EIU MAP display, the EIU state is SysB. The EIU state appears on the right of the number 131.

If the posted set	Do
contains SysB EIUs	step 3
is empty	step 24

3 Record the number of the EIU.

Note: In the example in step 2, the EIU number is 131.

4 Determine the state of the posted EIU.

ep 29
ep 5
e

Io force the EIU to busy, type >BSY FORCE

5

6

7

and press the Enter key.

```
If the response
                                Do
 is Bsy EIU eiu_no re-
                                step 6
 quires
              confirmation
 because the action may
 isolate the SuperNode
 from the nodes on the
 LAN
 is EIU
             eiu_no
                          BSY step 7
 Passed
To confirm the command, type
>YES
and press the Enter key.
To test the EIU, type
>TST UNIT unit_no
and press the Enter key.
where
   unit no
      is the number of the EIU unit (0 or 1)
Example of a MAP response:
EIU
        110 ManB
                      Rsvd
        Tst
        EIU 110 TST Failed
   Site FLr RPos Bay_id Shf Description Slot EqPEC
   HOST 01 A02 LIM 1 02
                               IPF
                                            13 EX22BB FRNT
 If the TST command
                                Do
 passed
                                step 11
 failed, and the system generated
                                step 8
 a card list
 failed, and the system did not step 18
 generate a card list
Record the location, description, slot number, product engineering code
```

8

9	To reset the EIU, type	
	>PMRESET	
	and press the Enter key.	
	If the PMRESET command	Do
	passed	step 11
	failed, and the system generated a card list	step 10
	failed, and the system did not generate a card list	step 10
10	To load the EIU, type >LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 11
	failed, and the system generated a card list	step 12
	failed, and the system did not generate a card list	step 97
11	To return the EIU to service, type	
	>RTS	
	and press the Enter key.	
	If the RTS command	Do
	passed	step 114
	failed, and the system generated a card list	step 12
	failed, and the system did not generate a card list	step 97
12	Replace the first card in the list. Perfor Replacement Procedures. Complete	orm the correct procedure in <i>Card</i> the procedure and return to this point.
13	To reset the EIU, type	
	>PMRESET	

and press the Enter key.	
If the PMRESET command	Do
passed	step 17
failed	step 14
To load the EIU, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 17
failed, and you did not replace	step 15
all cards that you recorded on	-
the list	
failed, and you replaced all cards you recorded on the list	step 97
Replace the first card in the list. Perfo Replacement Procedures. Complete	orm the correct procedure in <i>Care</i> the procedure and return to this
Go to step 13.	
To return the EIU to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 114
failed	step 97
To reset the EIU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 20
failed, and the system generated a card list	step 19

	If the PMRESET command	Do
	failed, and the system did not generate a card list	step 22
	Record the location, description, slot r (PEC), and PEC suffix of each card or	number, product engineering code n the list.
	Go to step 10.	
	To return the EIU to service, type	
	>RTS	
	and press the Enter key.	
	If the RTS command	Do
	passed	step 114
	failed, and the system generated a card list	step 21
	failed, and the system did not generate a card list	step 97
Record the location, description, slot number, product engineering code (PEC), and PEC suffix of each card on the list.		
	To load the EIU, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 11
	failed, and the system generated a card list	step 23
	failed, and the system did not generate a card list	step 97
	Record the location, description, slot r (PEC), and PEC suffix of each card or	number, product engineering code n the list.
	Go to step 12.	
	To post the in-service trouble EIUs, type the transmission of transmis	pe
	>POST EIU ISTB	
	and press the Enter key.	

Do
step 28
step 25
IU in the posted set, type ce trouble not accessible (NA)
Do
step 28
step 27
e posted set.
Do
step 113
step 25
I. (I. IM) associates with in-se
ale (LIM) associates with m-se

PM type:EIU PM No.:110 Status: ISTb(NA) LIM: 1 Shelf:2 Slot: 12 EIU FTA:4249 1000 Default Load: LCC35BX Running Load: LCC35BX ISTB conditions: Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA LMS States: InSv InSv Auditing : No No Msg Channels: NA NA TAP 2 : S(NA) M(NA) Go to step 30. To determine which LIM associates with the system-busy not accessible EIU, type >QUERYPM and press the Enter key. Example of a MAP response: PM type:EIU PM No.:110 Status: SysB(NA) LIM: 1 Shelf:2 Slot: 12 EIU FTA:4249 1000 Default Load: LCC35BX Running Load: LCC35BX Potential service affecting conditions: Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA LMS States: InSv InSv Auditing : No No Msg Channels: NA NA TAP 2 : S(NA) M(NA) 30 Record the number of the LIM that associates with the system-busy not accessible EIU. *Note:* In the example in step 28 and step 29, the LIM number is 1. The LIM number appears on the second line of the response. The LIM number appears on the right of the LIM header. To post the LIM for the EIU, type >POST LIM lim_no and press the Enter key. where

29

31

	lim_no is the n	umber of the	e LIM	(0 to 1	16)						
32	To access the	F-bus level	of the	MAP	displa	ay, typ	be				
	>FBUS										
	and press the	Enter key.									
	Example of a	MAP display	/:								
	LIM 1 ISTb			Link	.s_00	DS	Tap	s_00	S		
	Unit0: IS:	Гb					19	_			
	Unit1: Ins	Sv	0	•	0	1.0	2	~ ~	~ 1		2.0
	FBug0: Mar	'l'ap: B	U	4 DDDD	8	12 BBBB	16	20	24	28	32
	FBusl: In	Sv	M	.I	.s	••••					
	F-bus is ma controlling L in-service ta in-service tr indicates a	nually busy. IM unit is sy ap. An M in ouble tap. 7 tap that is n	The livstem lidicates	etter E busy c s a ma ndicat ipped	anual es a s	er a ta nually ly-bus systei	ap als busy busy m-bus	o can 2. A de 5. An 3. An 3. Sy tap	indic ot (.) i I indic . A d	ate th ndicat cates ash (-	at the es an an)
33	Determine the	state of bot	h LIM	units	and b	ooth F	-buse	es (0 a	and 1).	
	<i>Note:</i> Make Make sure t	e sure that b hat both F-b	ooth Ll ouses	M uni are in	ts are serv	e in se ice or	ervice in-se	or in rvice	-servi troub	ice tro le.	uble.
	If the state o both F-buse	f both LIM s	units	and	Do						
	is InSv or	ISTb			step	p 36					
	is other thar	listed here	e		step	o 34					
34	An LIM or LIM procedures in point.	F alarm is p this docume	eresent ent. C	t. Per omple	form ete the	the co e proc	orrect cedur	alarn es an	n clea d retu	aring urn to	this
35	Go to step 1.										
36	To determine t	he F-bus ta	ps tha	t assc	ociate	with	the E	IU, ty	pe		
	>TRNSL fbu	is_no									
	and press the	Enter key.									
	where										
	fbus_no is the n	umber of the	e F-bu	s (0 o	r 1)						
	Example of a	MAP respor	nse:		,						
		-									

	LIM 1 FBus 0 Tap 0 is on LIU7 101						
	LIM 1 FBus 0 Tap 1 is unequipped LIM 1 FBus 0 Tap 2 is on EIU 110						
	LIM 1 FBus 0 Tap 3 is on LIU7 104						
37	Record the EIU tap number for the EIU.						
38	Determine the state of the F-bus for the EIU.						
	<i>Note:</i> The tap number that you recorded in step 37 applies to both F-bu 0 and F-bus 1						
	lf Do						
	both F-bus taps are M step 43						
	both F-bus taps are S step 39						
	one F-bus tap is M and the other step 41						
	F-bus tap is S						
39	To quit from the F-bus level, type						
	>QUIT						
	and press the Enter key.						
40	To post the EIU, type						
	>POST EIU eiu_no						
	and press the Enter key.						
	where						
	eiu_no is the number of the EIU (0 to 215)						
	Go to step 5.						
41	Work on the manually-busy EIU tap first.						
	Go to step 44.						
42	To force the F-bus tap for the EIU to busy, type						
	>BSY FBUS fbus_no tap_no FORCE						
	and press the Enter key.						
	where						
	fbus_no is the number of the F-bus (0 or 1)						
	tap_no is the number of the F-bus tap (0 to 35)						
	Go to step 45.						
43	Choose one of the manually-busy taps on F-bus 0 or 1 to work on.						

lf you	Do			
can return the F-bus tap to ser- vice	step 45			
cannot return the F-bus tap to service	step 114			
To return the first F-bus tap for the EIL	J to service, type			
>RTS FBUS fbus_no tap_no				
and press the Enter key.				
where				
fbus_no is the number of the F-bus (0 or	r 1)			
tap no				
is the number of the F-bus tap (0 to 35)				
If the RTS command	Do			
passed	step 85			
failed. The system generated a card list. Both EIU taps are out of service	step 54			
failed and the system did not generate a card list.	step 86			
failed. The system did not gen- erate a card list. The response is Return to Service	step 86			
nance not accessible.				
Determine if you unseated and seated again the NTEX22 and NT9X84 E cards during this procedure.				
lf you	Do			

lf you	Do
did not seat and unseat the tw EIU cards	vo step 93
Record the location, description, s (PEC), and PEC suffix of each car	lot number, product engineering code d on the list.
To quit from the F-bus level of the	MAP display, type
>QUIT	
and press the Enter key.	
To post the EIU, type	
>POST EIU eiu_no	
and press the Enter key.	
where	
eiu_no is the number of the EIU (0	to 511)
To force the EIU to busy, type	
>BSY FORCE	
and press the Enter key.	
Example of a MAP response:	
Bsy EIU eiu_no requires co may isolate the SuperNode Please confirm ("YES", "Y"	onfirmation because the acti from the nodes on the LAN. ', "NO", or "N"):
To confirm the command, type	
>YES	
and press the Enter key.	
To reset the EIU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 84
failed	step 53
To load the EIU, type	
>LOADPM	

If the LOADPM command	Do		
passed	step 84		
failed	step 76		
Record the location, description, sl (PEC), and PEC suffix of each card	ot number, product engineering coo d on the list.		
Determine the state of the F-bus ta	aps for the EIU.		
lf	Do		
both EIU taps are M	step 56		
at least one EIU tap is S	step 72		
Replace the first card in the list. Pe procedure in <i>Card Replacement Pi</i> return to this point.	erform the correct card replacement rocedures. Complete the procedure		
To post the LIM associated for the EIU, type			
>POST LIM lim_no			
and press the Enter key.			
where			
lim_no is the number of the LIM (0 t	to 16)		
To access the F-bus level of the MA	AP display, type		
>FBUS			
and press the Enter key.			
To return the first F-bus tap for the	EIU to service, type		
>RTS FBUS fbus_no tap_r	10		
and press the Enter key.			
where			
fbus_no is the number of the F-bus (0 or 1)		
tap_no is the number of the F-bus ta	ap (0 to 35)		
If the RTS command	Do		
passed	step 64		

	If the RTS command	Do				
	failed, and you did not replace all cards that you recorded of the list	ce step 60 on				
	failed, and you replaced all card that you recorded on the list	ls step 83				
0	Replace the first card in the list. Pe Replacement Procedures. Comple	erform the correct procedure in <i>Card</i> et the procedure and return to this poin				
1	To post the LIM for the EIU, type					
	>POST LIM lim_no					
	and press the Enter key.					
	where					
	lim_no is the number of the LIM (0 t	to 16)				
2	To access the F-bus level of the MAP display, type					
	>FBUS					
	and press the Enter key.					
	Go to step 59.					
	To return the second F-bus tap for the EIU to service, type					
	>RTS FBUS fbus_no tap_no					
	and press the Enter key.					
	where					
	fbus_no is the number of the F-bus (0 or 1)					
	tap_no is the number of the F-bus ta	ap (0 to 35)				
	If the RTS command	Do				
	passed	step 65				
	failed	step 65				
	To quit from the F-bus level, type					
	>QUIT					
	and press the Enter key.					
	To post the EIU, type					
	>POST EIU eiu_no					
	and press the Enter key					

	where	
	eiu_no is the number of the EIU (0 to s	511)
67	To reset the EIU, type	
	>PMRESET	
	and press the Enter key.	
	If the PMRESET command	Do
	passed	step 69
	failed	step 68
68	To load the EIU, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 69
	failed, and you did not replace all cards that you recorded on the list	step 70
	failed, and you replaced all cards that you recorded on the list	step 82
69	To return the EIU to service, type	
	>RTS	
	and press the Enter key.	
	If the RTS command	Do
	passed	step 114
	failed, and you did not replace all cards that you recorded on the list	step 70
	failed, and you replaced all cards that you recorded on the list	step 97
70	Replace the first card in the list. Perform procedure in <i>Card Replacement Proc</i>	orm the correct card replacement edures. Complete the procedure and

return to this point.

- **71** Go to step 67.
- 72 To quit from the F-bus level of the MAP display, typeQUIT

and press the Enter key.

73 To post the EIU, type

>POST EIU eiu_no

and press the Enter key.

where

eiu_no

is the number of the EIU (0 to 511)

74 To force the EIU to busy, type

>BSY FORCE

and press the Enter key.

Example of a MAP response:

Bsy EIU eiu_no requires confirmation because the action may isolate the SuperNode from the nodes on the LAN. Please confirm ("YES", "Y", "NO", or "N"):

75 To confirm the command, type

>YES

and press the Enter key.

- **76** Replace the first card in the list. Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.
- 77 To reset the EIU, type

>PMRESET

78

and press the Enter key.

If the PMRESET	Do	
passed	step 84	
failed	step 78	
To load the EIU, type		
>LOADPM		
and press the Enter key.		
If the LOADM command	Do	
passed	step 84	

79

80 81

PM EIU critical (continued)

If the LOADM command	Do
failed, and you did not replace	step 79
all cards that you recorded on	
the list	
failed, and you replaced all cards	step 83
that you recorded on the list	
Replace the first card in the list. Perforprocedure in <i>Card Replacement Proce</i> return to this point.	orm the correct card replacement edures. Complete the procedure and
Go to step 77.	
To return the second F-bus tap for the	EIU to service, type
>RTS FBUS fbus_no tap_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 o	r 1)
tap_no is the number of the F-bus tap	(0 to 35)
If the RTS command	Do
passed. The other tap for EIU is out of service	step 82
passed. The other tap for the EIU is in service	step 88
failed. The system generated a card list. Both EIU taps are out of service	step 54
failed, the system generated a card list, and one EIU tap is in service	step 47

If the RTS command	Do				
failed. The system did not gen- erate a card. The response is Return to Service failed - local mainte- nance not accessible.	step 46				
Determine if one EIU critical alarm cleared.					
If one EIU critical alarm	Do				
cleared	step 114				
did not clear. You are working on an ISTb (NA) EIU	step 93				
did not clear, and you are work- ing on a SysB (NA) EIU is in progress	step 5				
Determine if you unseated and reseated the NTEX22 and NT9X84 EIU cards during this procedure.					
lf you	Do				
unseated and reseated the two EIU cards	step 113				
did not unseat and reseat the two EIU cards	step 97				
To return the EIU to service, type					
>RTS					
If the RTS command	Do				
passed	step 114				
failed	step 83				
Determine if you worked on the other	EIU tap.				
lf you	Do				
worked on the other EIU ten he	stap 07				
fore	step 97				

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lf you	Do
did not work on the other EIU tap before	step 86
Determine the state of the second EIU	tap.
If the state of the second EIU tap	Do
is M	step 81
is S	step 87
To force the F-bus tap for the EIU to bu	usy, type
>BSY FBUS fbus_no tap_no and press the Enter key. <i>where</i>	FORCE
fbus_no is the number of the F-bus (0 or	- 1)
tap_no is the number of the F-bus tap (0 to 35)
Go to step 81.	·····
Determine if one EIU critical alarm cle	ared.
If the EIU critical alarm	Do
cleared	step 114
did not clear, and you are work- ing on an ISTb (NA) EIU	step 93
did not clear, and you are work- ing on a SysB (NA) EIU	step 89
To quit from the F-bus level, type	
and press the Enter key.	
To post the system busy not accessible	e EIU, type
>POST EIU eiu_no	
and press the Enter key.	
where	
eiu_no	
is the number of the EIU that yo	ou posted at step 2
PM EIU critical (continued)

91	Determine the state of the EIU.							
	If the state of the EIU Do							
	changed from SysB (NA) to step 92 SysB							
	did not change step 95							
92	You are working on a system busy EIU. Note this information for future reference.							
	Go to step 5.							
93	To quit from the F-bus level, type							
	>QUIT							
	and press the Enter key.							
94	To post the EIU, type							
	>POST EIU eiu_no							
	and press the Enter key.							
	where							
	eiu_no is the number of the EIU (0 to 215)							
95	To force the EIU to busy, type							
	>BSY FORCE							
	and press the Enter key.							
	Example of a MAP response:							
	Bsy EIU eiu_no requires confirmation because the acti- may isolate the SuperNode from the nodes on the LAN. Please confirm ("YES", "Y", "NO", or "N"):							
96	To confirm the command, type							
	>YES							
	and press the Enter key.							
97	To determine the location of the EIU, type							
	>QUERYPM							
	and press the Enter key.							
	<i>Note:</i> The QUERYPM command provides the LIM number, shelf num and slot number of the far left card of the EIU.							

PM EIU critical (continued)

```
PM type:EIU PM No.:110 Status: ManB(NA)
LIM: 1 Shelf:2 Slot: 12 EIU FTA:4249 1000
Default Load: LCC35BX
Running Load: LCC35BX
Potential service affecting conditions:
    Msg Channel #0 NA
    Msg Channel #1 NA
    TAP #0 OOS/NA
    TAP #1 OOS/NA
LMS States: InSv InSv
Auditing : No No
Msg Channels: NA NA
TAP 2 : S(NA) M(NA)
```

At the LPP

98



DANGER

Static electricity damage

Wear a wrist strap that connects to the wrist-strap grounding point of the frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.



WARNING

Wear a wrist strap that connects to the wrist-strap grounding point of the frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the NT9X84 card associated with the EIU.

Open the locking levers on the card. Carefully pull the NT9X84 card toward you until you remove the card from the connector.

99

PM EIU critical (continued)



- **100** Leave the NT9X84 card in the slot on the link interface shelf (LIS).
- **101** Locate the NTEX22 card for the EIU.
- **102** Open the locking levers on the card. Carefully pull the NTEX22 card toward you until you remove the card from the connector.



103 Carefully slide the NTEX22 card in the LIS.

PM EIU critical (continued)



PM EIU critical (continued)



- **106** Seat and lock the NT9X84 card as follows:
 - **a** Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Make sure that the card sits completely in the shelf.
 - **b** Close the locking levers.



At the MAP display

107 To load the EIU, type

>LOADPM

and press the Enter key.

If the LOADPM command	Do
passed	step 108

PM EIU critical (continued)

If the LOADPM command	Do
failed. A card list is present. You did not replace any cards in the EIU.	step 109
failed. A card list is present. You replaced cards in the EIU.	step 113
failed. A card list is not present.	step 113
To return the EIU to service, type	
and press the Enter key.	
If the RTS command	Do
passed	step 114
failed. A card list is present. Y did not replace cards in the EIU.	ou step 109
failed. A card list is present. Y replaced cards in the EIU.	ou step 113
failed. A card list is not present.	step 113
Record the location, description, slot r (PEC), and PEC suffix of each card or	number, product engineering coc n the list.
To post the LIM for the EIU, type	
>POST LIM lim_no	
and press the Enter key.	
where	
lim_no is the number of the LIM that vo	ou recorded in step 30
To access the F-bus level of the MAP	display, type
>FBUS	
and press the Enter key.	
Determine the state of the F-bus for th	e EIU.
lf	Do
a minimum of one of the EIU tap	s is step 48

PM EIU critical (end)

	lf	Do
	both EIU taps are M	step 56
	both EIU taps are out of service and a minimum of one EIU tap is S	step 72
113	For additional help, contact the next level of	of support.
114	The procedure is complete.	

PM EIU major

Alarm display

1	 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1EIU M	•	•	•	•	•

Indication

At the MTC level of the MAP display, EIU (preceded by a number) appears under the PM header of the alarm banner. The EIU indicates a major alarm for the Ethernet interface unit (EIU).

Meaning

A minimum of one EIU is manual busy or manual busy not accessible.

The number under the PM header of the alarm banner indicates the number of affected EIUs.

Result

Communication does not occur between the switch and the local area network (LAN) or wide area network (WAN). Communication does not occur if only one EIU is present for each application. The service management system (SMS) is an example of a EIU application. The presence of more than one EIU for each application does not affect service.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM EIU major alarm



Clearing a PM EIU alarm

At the MAP terminal

1 To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key.

Example of a MAPdisplay:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	0	1	0	0	0	39

2 To post the EIUs that are manually busy, type >POST EIU MANB and press the Enter key.

Example of a MAP display.

EIU 131 ManB Rsvd

Note: In the example of the EIU MAP display, the EIU state is ManB. The EIU state appears on the right side of the number 131.

3 Determine the state of the posted EIU.

If the posted EIU	Do			
is ManB (NA)	step 19			
is ManB	step 4			

4 Record the number of the EIU.

Note: In the example in step 2, the EIU number is 131.

5 To test the EIU, type

>TST

and press the Enter key.

If the TST command	Do
passed	step 9
failed, and the system generated a card list	step 6

If the TST command	Do
failed, and the system did not generate a card list	step 16
Record the location, description, slot n (PEC), and PEC suffix of each card or	umber, product engineering code
To reset the EIU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 9
failed, and the system generated a card list	step 8
failed, and the system did not generate a card list	step 8
To load the EIU, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 9
failed, and the system generated a card list	step 10
failed, and the system did not generate a card list	step 10
To return the EIU to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
	step 98
passed	1

If the RTS command	Do
failed, and the system did not generate a card list	step 81
Replace the first card in the list that you the correct card replacement procedur Complete the procedure and return to	a recorded in step 6, 18 or 32. Perform re in <i>Card Replacement Procedures</i> . this point.
To reset the EIU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 15
failed	step 12
To load the EIU, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 15
failed, and you did not replace all cards that you recorded on the list	step 13
failed, and you replaced all cards that you recorded on the list	step 81
Replace the first card in the list that you the correct card replacement procedur Complete the procedure and return to	u recorded in step 6, 18 or 32. Perforn re in <i>Card Replacement Procedures.</i> this point.
Go to step 11.	
To return the EIU to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 98

16	To reset the EIU, type	
	>PMRESET	
	and press the Enter key.	
	If the PMRESET command	Do
	passed	step 9
	failed, and the system generated a card list	step 17
	failed, and the system did not generate a card list	step 17
17	To load the EIU, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 9
	failed, and the system generated a card list	step 18
	failed, and the system did not generate a card list	step 81
18	Record the location, description, slot r card on the list.	number, PEC, and PEC suffix of each
	Go to step 10.	
19	To determine the link interface module in-service trouble EIU, type	e (LIM) that associates with the
	>QUERYPM	
	and press the Enter key.	
	Note: The QUERYPM command p and slot number for the left card of	rovides the LIM number, shelf number, the EIU.
	Example of a MAP response:	

```
PM type:EIU PM No.:110 Status:
ManB(NA)
LIM: 1 Shelf:2 Slot: 12
                            EIU
FTA:4249 1000
Default Load: LCC35BX
Running Load: LCC35BX
Potential service affecting
conditions:
   Msg Channel #0 NA
   Msg Channel #1 NA
   TAP #0 OOS/NA
   TAP #1 OOS/NA
LMS States: InSv
                        InSv
Auditing :
               No
                        No
Msg Channels: NA
                        NA
TAP 2 : S(NA) M(NA)
Record the number of the LIM that associates with the EIU.
```

Note: In the example in step 19, the LIM number is 1. The LIM number

appears on the second line of the response. The LIM number appears on the right side of the LIM header.

21 To post the LIM that associates with the EIU, type

>POST LIM lim_no

and press the Enter key.

where

20

lim no

is the number of the LIM (0 to 16)

Example of a MAP display:

LIM 1 InSv Links_00S Taps_00S Unit0: InSv . . Unit1: InSv • PM type:EIU PM No.:110 Status:ManB (NA) LIM: 1 Shelf:2 Slot: 12 EIU FTA:4249 1000 Default Load: LCC35BX Running Load: LCC35BX Potential service affecting conditions: Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA LMS States: InSv InSv No Auditing : No Msg Channels: NA NA TAP 2 : S(NA) M(NA) To access the F-bus level of the MAP display, type >FBUS and press the Enter key. Example of a MAP display: LIM 1 ISTb Links_00S Taps_00S . Unit0: ISTb 19 Unit1: InSv 2 . Tap: 0 4 8 12 16 20 24 28 32 FBus0: ManB BBBB BBBB BBBB BBBB ---- ---B BB--FBusl: InSvM .I....S... ---- ---- ---- ----*Note:* In the previous example, B under a tap number indicates that the F-bus is manually busy. The letter B under a tap number indicates that the

22

F-bus is manually busy. The letter B under a tap number indicates that the controlling LIM unit is system busy or manually busy. A dot (.) indicates an in-service tap. An M indicates a manually busy tap. An I means an in-service trouble tap. An S indicates a system busy tap. A dash (-) indicates a tap that is not equipped.

lf the sta both F-b	te of both Ll uses	M	units and	d- Do	D		
is InSv	is InSv or ISTb						
is other	than listed h	ere	e	ste	step 24		
An LIM or LIMF alarm is present. Perform the correct ala procedures in this document. Complete the procedure a point							ct alarm clearin ure and return to
Go to step	1.						
To determi	ne the F-bus	ta	ps that as	ssociat	e with t	he	EIU, type
>TRNSL	fbus_no						
and press	the Enter key	/.					
where							
f bus_ i is th	n o ne number of	the	e F-bus () or 1)			
Example c	of a MAP resp	on	ise:				
LIM 1 LIM 1 LIM 1 LIM 1	FBus FBus FBus FBus	0 0 0 0	Тар Тар Тар Тар	0 1 2 3		is is is is	on LIU7 101 unequipped on EIU 110 on LIU7 104
Record the	e EIU tap nur	nbe	er that as	sociate	es with	the	EIU.
Determine	the state of	the	F-bus ta	ps that	t associ	ate	with the EIU.
<i>Note:</i> ∃ 0 and F	The tap numb -bus 1.	er	that you	record	ed in st	ep 2	27 applies to bo
lf				Do)		
both F-b	ous taps are I	M		ste	ep 34		
both F-b	us taps are a	5		ste	ep 29		
one F-bı F-bus ta	ıs tap is M a p is S	nd	the othe	er sto	ep 33		

30	To post the EIU, type						
	>POST EIU eiu_no						
	and press the Enter key.						
	where						
	eiu_no is the number of the EIU (0 to 2	215)					
31	To return the EIU to service, type						
	>RTS						
	and press the Enter key.						
	If the RTS command	Do					
	passed	step 98					
	failed, and the system generated a card list	step 32					
	failed, and the system did not generate a card list	step 75					
32	Record the location, description, slot r card on the list.	number, PEC, and PEC suffix of each					
	Go to step 10.						
33	Work on the manually busy EIU tap fir	st.					
	Go to step 35.						
34	Choose one of the manual busy taps	on F-bus 0 or 1 on which to work.					
35	Consult office records or operating con tap is manually busy.	mpany personnel. Determine why the					
	lf you	Do					
	can return the F-bus tap to ser- vice	step 36					
	cannot return the F-bus tap to service	step 98					
36	To return the first F-bus tap that associates with the EIU to service, type						
	>RTS FBUS fbus_no tap_no						
	and press the Enter key.						
	where						
	fbus_no is the number of the F-bus (0 o	r 1)					

If the RTS command	Do
passed	step 77
failed. The system generated a card list. Both EIU taps are out of service	step 43
failed. The system did not generate a card list	step 77
failed. The system did not generate a card list. The response is Return to Service failed - local maintenance not accessible.	step 77
Determine if you removed and replaced the NTEX22 and NT9 during this procedure.	X84 EIU cards
lf you Do	
did not remove and replace the step 79 two EIU cards Record the location, description, slot number, PEC, and PEC card on the list.	suffix of each
To quit from the F-bus level of the MAP display, type	
and press the Enter key.	
and press the Enter key. To post the EIU, type >POST EIU eiu_no and press the Enter key. where eiu_no is the number of the EIU (0 to 215)	
and press the Enter key. To post the EIU, type >POST EIU eiu_no and press the Enter key. where eiu_no is the number of the EIU (0 to 215) To reset the EIU, type >PMRESET and press the Enter key.	
and press the Enter key. To post the EIU, type >POST EIU eiu_no and press the Enter key. where eiu_no is the number of the EIU (0 to 215) To reset the EIU, type >PMRESET and press the Enter key. If the PMRESET command Do	

If the PMRESET command	Do						
failed	step 42						
To load the EIU, type							
>LOADPM							
and press the Enter key.							
If the LOADPM command	Do						
passed	step 76						
failed	step 63						
Record the location, description, slot r card on the list.	number, PEC, and PEC suffix of each						
Determine the state of the F-bus taps that associates with the EIU.							
lf	Do						
both EIU taps are M	step 45						
a minimum of one EIU tap is in service (.)	step 61						
a minimum of one EIU tap is S	step 61						
Replace the first card in the list that yo the correct card replacement procedu Complete the procedure and return to	u recorded in step 6,18 or 32. Perform re in <i>Card Replacement Procedures</i> .						
To post the LIM that associates with the	ne EIU, type						
>POST LIM lim_no							
and press the Enter key.							
where							
lim_no is the number of the LIM (0 to 1	16)						
To access the F-bus level of the MAP	display, type						
>FBUS							
and press the Enter key.							
Example of a MAP display:							

LIM 1 ISTb	
Links_OOS Taps_OOS	
Unitl: InSv . 2	
Tap: 0 4 8 12 16 20 24	28 32
FBus1: InSvM .IS	
Note: In the previous example, B under a tap number in F-bus is manually busy. The letter B under a tap number controlling LIM unit is system busy or manually busy. A c in-service tap. An M indicates a manual-busy tap. An I in-service trouble tap. An S indicates a system-busy tap indicates a tap that is not equipped.	ndicates that the indicates that the lot (.) indicates an indicates an o. A dash (-)
To return the first F-bus tap that associates with the EIU to	service, type
>RTS FBUS fbus_no tap_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 or 1)	
tap_no is the number of the F-bus tap (0 to 35)	
If the RTS command	Do
passed	step 53
failed, and you did not replace all cards that you re-	sten /19
corded on the list	step +>
corded on the list failed, and you replaced all cards that you recorded on the list	step 75
corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in <i>Card Replacem</i> Complete the procedure and return to this point.	18 or 32. Perform nent Procedures.
 corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in <i>Card Replacement</i> Complete the procedure and return to this point. To post the LIM that associates with the EIU, type 	18 or 32. Perform
corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in <i>Card Replacem</i> Complete the procedure and return to this point. To post the LIM that associates with the EIU, type >POST LIM lim_no	1 step 75 18 or 32. Perform <i>bent Procedures</i> .
<pre>corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in Card Replacement Complete the procedure and return to this point. To post the LIM that associates with the EIU, type >POST LIM lim_no and press the Enter key.</pre>	1 step 75 18 or 32. Perform <i>hent Procedures</i> .
<pre>corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in Card Replacement Complete the procedure and return to this point. To post the LIM that associates with the EIU, type >POST LIM lim_no and press the Enter key. where</pre>	1 step 75 18 or 32. Perform <i>Dent Procedures</i> .
<pre>corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in Card Replacement Complete the procedure and return to this point. To post the LIM that associates with the EIU, type >POST LIM lim_no and press the Enter key. where lim_no is the number of the LIM (0 to 16)</pre>	l step 75 18 or 32. Perform <i>hent Procedures</i> .
<pre>corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in Card Replacement Complete the procedure and return to this point. To post the LIM that associates with the EIU, type >POST LIM lim_no and press the Enter key. where lim_no is the number of the LIM (0 to 16) To access the F-bus level of the MAP display, type</pre>	1 step 75 18 or 32. Perform <i>bent Procedures</i> .
<pre>corded on the list failed, and you replaced all cards that you recorded on the list Replace the first card that you recorded in the list in step 6, the correct card replacement procedure in Card Replacem Complete the procedure and return to this point. To post the LIM that associates with the EIU, type >POST LIM lim_no and press the Enter key. where lim_no is the number of the LIM (0 to 16) To access the F-bus level of the MAP display, type >FBUS</pre>	step 75 18 or 32. Perform <i>hent Procedures</i> .

52	Go to step 48.							
53	To return the second F-bus tap that associates with the EIU to service, type							
	>RTS FBUS fbus_no tap_n	no						
	and press the Enter key.							
	where							
	f bus_no is the number of the F-bus (0 or 1)						
	tap_no is the number of the F-bus t	ap (0 to 35)						
	If the RTS command	Do						
	passed	step 54						
	failed	step 54						
54	To quit from the F-bus level, type							
	>QUIT							
	and press the Enter key.							
55	To post the EIU, type							
	>POST EIU eiu_no							
	and press the Enter key.							
	where							
	eiu_no is the number of the EIU (0	to 215)						
56	To reset the EIU, type							
	>PMRESET							
	and press the Enter key.							
	If the PMRESET command	Do						
	passed	step 58						
	failed	step 57						
57	To load the EIU, type							
	>LOADPM							
	and press the Enter key.							
	If the LOADPM command		Do					
	passed		step 58					

If the LOADPM command	Do
failed, and you did not replace all cards that you re- corded on the list	step 59
failed, and you replaced all cards that you recorded on the list	step 75
To return the EIU to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 98
failed, and you did not replace all the cards that you recorded on the list	step 59
failed, and you replaced all cards that you recorded on the list	step 75
Replace the first card that you recorded on the list in step 6, 1 the correct card replacement procedure in <i>Card Replaceme</i> Complete the procedure and return to this point.	8 or 32. Perfe
Go to step 56.	
To quit from the F-bus level of the MAP display, type	
>QUIT	
and press the Enter key.	
To post the EIU, type	
>POST EIU eiu_no	
and press the Enter key.	
where	
eiu_no is the number of the EIU (0 to 215)	
Replace the first card that you recorded on the list in step 6, 1 the correct card replacement procedure in <i>Card Replaceme</i> Complete the procedure and return to this point.	8 or 32. Perfe ent Procedure
To reset the EIU, type	
>PMRESET	

	and press the Enter key.		
	If the PMRESET command	Do	
	passed	step 76	
	failed	step 65	
65	To load the EIU, type		
	>LOADPM		
	and press the Enter key.		
	If the LOADPM command		Do
	passed		step 76
	failed, and you did not replace a corded on the list	all cards that you re-	step 66
	failed, and you replaced all care on the list	ds that you recorded	step 75
66	Replace the first card that you record the correct procedure in <i>Card Repla</i> procedure and return to this point.	ed on the list in step 6, 1 <i>cement Procedures</i> . C	8 or 32. Perform omplete the
67	Go to step 64.		
68	To return the second F-bus tap that	associates with the EIU	to service, type
	>RTS FBUS fbus_no tap_no)	
	and press the Enter key.		
	where		
	fbus_no is the number of the F-bus (0	or 1)	
	tap_no is the number of the F-bus tap	o (0 to 35)	
	If the RTS command		Do
	passed. The other tap that assoc out of service	iates with the EIU is	step 69
	passed. The other tap that assoc in service	iates with the EIU is	step 69
	failed. The system generated a taps are out of service	card list. Both EIU	step 43

69

70

71

72

73

	Do
failed. The system generated a card list. One EIU tap is in service	step 38
failed. The system did not generate a card list	step 37
failed. The system did not generate a card list. The response is Return to Service failed - local maintenance not accessible.	step 37
To quit from the F-bus level of the MAP display, type	
>QUIT	
and press the Enter key.	
To post the EIU, type	
>POST EIU eiu_no	
and press the Enter key.	
where	
eiu_no is the number of the EIU (0 to 215)	
To return the EIU to service, type	
>RTS	
and press the Enter key.	
If the RTS command Do	
If the RTS commandDopassedstep 98	
If the RTS commandDopassedstep 98failed, and the system generated a card liststep 72	
If the RTS commandDopassedstep 98failed, and the system generated a card liststep 72failed, and the system did not generate a card liststep 75	
If the RTS commandDopassedstep 98failed, and the system generatedstep 72a card lista card listfailed, and the system did notstep 75generate a card listRecord the location, description, slot number, PEC, and PEcard on the list.Card on the list.	C suffix of each
If the RTS commandDopassedstep 98failed, and the system generatedstep 72a card lista card listfailed, and the system did notstep 75generate a card listRecord the location, description, slot number, PEC, and PECRecord the list.To post the LIM that associates with the EIU, type	C suffix of each
If the RTS commandDopassedstep 98failed, and the system generatedstep 72a card liststep 72failed, and the system did notstep 75generate a card liststep 75Record the location, description, slot number, PEC, and PECcard on the list.To post the LIM that associates with the EIU, type>POSTLIMlim_no	C suffix of eacl
If the RTS commandDopassedstep 98failed, and the system generatedstep 72a card lista card listfailed, and the system did notstep 75generate a card listgenerate a card listRecord the location, description, slot number, PEC, and PEcard on the list.To post the LIM that associates with the EIU, type>POSTLIMlim_noand press the Enter key.	C suffix of each
If the RTS commandDopassedstep 98failed, and the system generatedstep 72a card lista card listfailed, and the system did notstep 75generate a card listgenerate a card listRecord the location, description, slot number, PEC, and PECcard on the list.To post the LIM that associates with the EIU, type>POST LIM lim_noand press the Enter key.where	C suffix of eacl

74	To access the F-bus level of the MAP	display, type
	>FBUS	
	and press the Enter key.	
	Go to step 44.	
75	Determine if you removed and replace during this procedure.	d the NTEX22 and NT9X84 EIU cards
	lf you	Do
	removed and replaced the two EIU cards	step 97
	did not remove and replace the two EIU cards	step 81
76	To return the EIU to service, type >RTS	
	and press the Enter key.	
	If the RTS command	Do
	passed	step 98
	failed	step 75
77	Determine the state of the second EIL	J tap.
	If the state of the second EIU tap	Do
	is M	step 68
	is S	step 78
78	To force the F-bus tap that associates	with the EIU to busy, type
	>BSY FBUS fbus_no tap_no	FORCE
	and press the Enter key.	
	where	
	fbus_no is the number of the F-bus (0 o	r 1)
	tap_no is the number of the F-bus tap	(0 to 35)
	Go to step 68.	
79	To quit from the F-bus level, type	
	>QUIT	
	and press the Enter key.	

80 To post the EIU, type

>POST EIU eiu_no

and press the Enter key.

where

eiu_no

is the number of the EIU (0 to 215)

81 To determine the location of the EIU, type

>QUERYPM

and press the Enter key.

Note: The QUERYPM command provides the LIM number, shelf number, and slot number for the left card of the EIU.

Example of a MAP response:

```
PM type:EIU PM No.:110 Status: ManB(NA)
LIM: 1 Shelf:2 Slot: 12
                           EIU FTA:4249 1000
Default Load: LCC35BX
Running Load: LCC35BX
Potential service affecting conditions:
   Msg Channel #0 NA
   Msg Channel #1 NA
   TAP #0 OOS/NA
   TAP #1 OOS/NA
LMS States: InSv InSv
Auditing :
             No
                    No
Msg Channels: NA
                   NA
TAP 2 :
         S(NA) M(NA)
```

At the LPP

82



WARNING Static electricity damage

Wear a wrist strap that connects to the wrist-strap grounding point of a frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the NT9X84 card that associates with the EIU.

83 Open the locking levers on the NT9X84 card. Carefully pull the NT9X84 card toward you until you remove the card from the connector.



- 84 Leave the NT9X84 card in the slot on the link interface shelf (LIS).
- 85 Locate the NTEX22 card that associates with the EIU.
- 86 Open the locking levers on the NTEX22 card. Carefully pull the NTEX22 card toward you until you remove the card from the connector.



87 Carefully slide the NTEX22 card in the LIS.



Seat and lock the NT9X84 card as follows:

- Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Make sure that the card sits completely in the shelf. а
- b Close the locking levers.

90



At the MAP terminal

91 To load the EIU, type >LOADPM

and press the Enter key.

If the LOADPM command	Do			
passed	step 92			
failed. A card list is present. You did not replace any cards in the EIU	step 93			
failed. A card list is present. You replaced cards in the EIU	step 97			
failed. A card list is not present	step 97			
To return the EIU to service, type				
>RTS				
and press the Enter key.				
If the RTS command	Do			
passed	step 98			
failed. A card list is present. You did not replace cards in the	step 93			

If the RTS command	Do
failed. A card list is present. You replaced cards in the EIU	step 97
failed. A card list is not present	step 97
Record the location, description, slot r card on the list.	number, PEC, and PEC suffix of
To post the LIM that associates with th	ie EIU, type
>POST LIM lim_no	
and press the Enter key.	
where	
lim_no is the number of the LIM (0 to 1	6)
To access the F-bus level of the MAP	display, type
>FBUS	
and press the Enter key.	
Example of a MAP display:	
LIM 1 ISTb	
Unit0: ISTb .	ps_005 19
Unitl: InSv .	2
Tap: 0 4 8	12 16 20 24 28 32
FBUSU: MARE BBBB BBBB BBBB BBB FBUS1: InSVM .IS	3BB BB
<i>Note:</i> In the example, B under a ta manually busy. The letter B under a controlling LIM unit is system busy of in-service tap. An M indicates a main-service trouble tap. An S indicate indicates a tap that is not equipped.	p number indicates that the F-t a tap number can indicate that or manually busy. A dot (.) indica anually-busy tap. An I indicates es a system-busy tap. A dash that associate with the FU.
lf	Do
a minimum of one of the EIU	step 39
taps is in service	
both EIU taps are M	step 45

PM EIU major (end)

- **97** For additional help, contact the next level of support.
- **98** The procedure is complete.

PM EIU minor

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL	
•	-	·	·	1EIU	•	-	•	•	•	

Indication

At the MTC level of the MAPdisplay, EIU (preceded by a number) appears under the PM header of the alarm banner. The EIU indicates a minor alarm for the Ethernet interface unit (EIU).

Meaning

A minimum of one EIUs is in-service trouble. One of the F-bus taps that associates with the EIU is manually busy or system busy. The EIU can have a loadname mismatch. The local area network (LAN) or wide area network (WAN) can have a defect.

The number under the PM header of the alarm banner indicates the number of affected EIUs.

Result

EIUs that are in-service trouble continue to function.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM EIU minor alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

Clearing a PM EIU alarm

At the MAP terminal

1



WARNING

Possible loss of service

Performance of the following procedure can require the removal of an EIU from service. Busy an EIU as instructed. Do not busy the EIU when communication is critical between the switch and the LAN or WAN that connects to the EIU. Communication stops when you busy the EIU.

To access the PM level of the MAPdisplay, type

>MAPCI;MTC;PM

and press the Enter key. Example of a MAP display:

		SysB	ManB	OffL	CBsy	ISTb
InSv	<i>r</i> PM		0	0	0	0
1	39					

2 To post the EIUs that have in-service trouble, type >POST EIU ISTB

and press the Enter key.

Example of a MAP response:

EIU 131 ISTb Rsvd

3 Record the EIU number of the posted EIU.

Note: In the example in step 2, the EIU number is 131.

4 To display the faults that cause the in-service trouble condition, type >QUERYPM

and press the Enter key.

Example of a MAP response:

```
PM type:EIU PM No.:110 Status: ISTb
LIM: 1 Shelf:2 Slot: 12 EIU FTA:4249
1000
Default Load: LCC35BX
Running Load: LCC35BX
ISTB conditions:
   Msg Channel #0 NA
  TAP #0 OOS/NA
LMS States:
               InSv
                         InSv
Auditing :
               No
                         Yes
Msg Channels: NA
                         Acc
TAP 2 :
           М
Determine the faults that cause the in-service trouble condition.
  Note: The faults appear under the ISTB conditions header in the MAP
  response.
 If the response indicates
                                             Do
 Indicates one of the following faults under the
                                             step 6
 ISTB conditions header:
 rx framing errors
 rx overflow errors
 rx CRC errors
 tx deferred errors
 loss of carrier errors
 late collision errors
 retries exceeded errors
 Indicates F-bus tap is out of service (shown as step 8
 Tap # n OOS or Tap # n OOS/NA)
 Indicates a loadname mismatch is present
                                             step 65
 Indicates other than listed here
                                             step 106
```

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If the state of the EIU		Do											
changes from ISTb t	o InSv	step 10'	7										
does not change		step 7											
The LAN requires a diag	gnostic test.												
Go to step 106.													
Record the number of the	e F-bus tha	t contains th	ne out-of-s	ervice	EI								
<i>Note:</i> The F-bus num response.	nber appear	s on the rig	ht side of	TAP # d	on '								
To post the LIM that asso	ciates with	the EIU, typ	be										
>POST LIM lim no													
and press the Enter key													
where													
lim no				is the number of the LIM that appears in step 4									
is the number of th	he LIM that	appears in	step 4										
is the number of th <i>Example of a MAP displa</i>	he LIM that a <i>y:</i>	appears in	step 4										
is the number of th Example of a MAP displa	he LIM that ay:	appears in	step 4										
IIM_no is the number of th Example of a MAP displa	he LIM that ay:	appears in	step 4										
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv	he LIM that ay: Lin	appears in	step 4 aps_00S	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv	he LIM that a <i>y:</i> Lin	appears in ks_00S Ta	step 4 aps_00S	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve	he LIM that ay: Lin	appears in ks_00S Ta P display ty	step 4 aps_00S	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve	he LIM that ay: Lin I of the MA	appears in ks_OOS Ta P display, ty	step 4 aps_00S pe	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve >FBUS	he LIM that ay: Lin	appears in ks_00S Ta P display, ty	step 4 aps_00S pe	1									
IIM_no is the number of th Example of a MAP displa UNITO: INSV UNITO: INSV UNITO: INSV To access the F-bus leve >FBUS and press the Enter key.	he LIM that ay: Lin I of the MA	appears in ks_OOS Ta P display, ty	step 4 aps_00S	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve >FBUS and press the Enter key. Example of a MAP displa	he LIM that ay: Lin I of the MA	appears in ks_00S Ta P display, ty	step 4 aps_00S	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve >FBUS and press the Enter key. Example of a MAP displa	he LIM that ay: Lin I of the MA	appears in ks_OOS Ta P display, ty	step 4	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve >FBUS and press the Enter key. Example of a MAP displa	he LIM that ay: Lin I of the MA	appears in ks_00S Ta P display, ty ks_00S	step 4 aps_00S pe	1									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve FBUS and press the Enter key. Example of a MAP displa LIM 1 ISTb	he LIM that ay: Lin I of the MA ay: Lin	appears in ks_OOS Ta P display, ty ks_OOS	step 4 aps_00S pe	1 0S									
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve FBUS and press the Enter key. Example of a MAP displa LIM 1 ISTb Unit0: ISTb Jnit1: InSv	he LIM that ay: Lin el of the MA ay: Lin	appears in ks_OOS Ta P display, ty ks_OOS	step 4 aps_00S pe Taps_00 19 2	1 05	20								
IIM_no is the number of th Example of a MAP displa LIM 1 InSv Unit0: InSv Unit1: InSv To access the F-bus leve >FBUS and press the Enter key. Example of a MAP displa LIM 1 ISTb Jnit0: ISTb Jnit1: InSv Tap: FBus0: ManB	he LIM that ay: Lin el of the MA ay: Lin 0 4 BBBB BBB	appears in ks_OOS Ta P display, ty ks_OOS 8 12 3 BBBB BBBB	step 4 aps_00S pe 19 2 16 20	1 0S 24	28								

Note: In the previous example, B under a tap number indicates that the F-bus is manually busy. The letter B under a tap number can indicate that the controlling LIM unit is system busy or manually busy. A dot (.) indicates an in-service tap. An M indicates a manual-busy tap. An I indicates an in-service trouble tap. An S indicates a system busy tap. A dash (-) indicates a tap that is not equipped.
Determine the state of the LIM units and both F-buses (0 and 1). 11 *Note:* Make sure that each LIM unit is in service or in-service trouble. Make sure that each F-bus is in service or in-service trouble. If the state of both LIM units and Do both F buses is InSv or ISTb step 14 is other than listed here step 12 A LIM or LIMF alarm is present. Perform the correct alarm clearing procedures in this document. Complete the procedure and return to this 12 point. 13 Determine if one EIU minor alarm cleared. If one EIU minor alarm Do cleared step 105 did not clear step 1 14 To determine the F-bus taps that associate with the EIU, type >TRNSL n and press the Enter key. where n is the number of the F-bus that you recorded in step 8. Example of a MAP response: LIM 1 FBus 0 Tap 0 is on LIU7 101 LIM 1 FBus 0 Tap 1 is unequipped 2 is on EIU 110 LIM 1 FBus 0 Tap LIM 1 0 Tap 3 is on LIU7 104 FBus 15 Read through the response until you see the number of the EIU that you posted in step 2. Record the number of the tap that associates with the EIU. 16 Determine the state of the F-bus tap that associates with the EIU. *Note:* The tap number applies to both F-buses. The tap state appears under the tap number. If the state of the damaged F-bus Do tap step 17 is M is S step 18

lf you Do	
can return the F-bus tap to ser- step 1 vice	9
cannot return the F-bus tap to step 1 service	.07
To force the F-bus tap that associates with the	e EIU to busy, type
>BSY FBUS fbus_no tap_no FORC	E
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 or 1)	
tap_no is the number of the F-bus tap (0 to 35)
Example of a MAP response:	
LIM 1 FBUS 0 Tap 0 Busy initiated. LIM 1 FBUS 0 Tap 0 Busy passed.	
Test the F-bus tap that associates with the EI	U in use, type
>TST FBUS fbus_no tap_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 or 1)	
tap_no is the number of the F-bus tap (0 to 35)
If the TST command	Do
passed	step 46
failed, and the system generated a card lis	t step 47
failed, and the system did not generate card list	a step 82

20 To perform an in-service test on the LIM unit that associates with the EIU, type

>TST UNIT unit_no

and press the Enter key.

where

unit_no

is the number of the LIM unit that you recorded in step 4

Note: In step 8, you recorded the number of the F-bus that contains the out-of service EIU tap. The LIM unit 0 associates with F-bus 0. The LIM unit 1 associates with F-bus 1.

If the TST command	Do
passed	step 46
failed, and the system generated a card list	step 21
failed, and the system did not generate a card list	step 106

21 Record the location, description, slot number, and product engineering code (PEC), and PEC suffix of each card on the list.

22



WARNING

Possible loss of service

Make sure that the mate LIM unit is in service before you manually busy the LIM unit. The LIM unit contains the card to replace. Failure to make sure that the unit is in service can result in isolation of nodes on link interface shelves (LIS) 1, 2, and 3.

Check the MAP display to determine the state of the mate LIM unit.

Note: If the out-of-service EIU tap is on F-bus 0, the LIM unit 1 is the mate. If the out-of-service EIU tap is on F-bus 1, LIM unit 0 is the mate.

If the state of the mate LIM unit	Do
is InSv or ISTb	step 25
is other than listed here	step 23

23 Perform the correct alarm clearing procedure in this document to return the LIM unit to service. Complete the procedure and return to this point.

24 Go to step 13.

25

To access the F-bus level of the MAP display, type

>FBUS

and press the Enter key.

Example of a MAP display:

		Tap:	0	4	8	12	16	20	24	28	32
FBus0:	ManB		BBBB	BBBB	BBBB	BBBB				B	BB
FBus1:	InSv		M	.I	.s						

Note: In the previous example, B under a tap number means that the F-bus is manually busy. The letter B under a tap number can indicate that the controlling LIM unit is system busy or manually busy. A dot (.) indicates an in-service tap. An M indicates a manually-busy tap. An I indicates an in-service trouble tap. An S indicates a system-busy tap. A dash (-) indicates a tap that is not equipped.

26



WARNING

Possible loss of service

Make sure that the mate F-bus and taps for equipped and online nodes are in service. The F-bus and taps must be in service before you manually busy the LIM unit that contains the card to replace. Failure to make sure that the F-bus and taps are in service can result in isolation of nodes on LIS 1, 2, and 3.

Determine the state of the mate F-bus.

Note: If the out-of-service EIU tap is on F-bus 0, F-bus 1 is the mate. If the out-of-service EIU tap is on F-bus 1, F-bus 0 is the mate. The state of the F-bus appears on the right side of the words FBus0 or FBus1. The state of the F-bus appears in the example in step 25.

If the state of the mate F-bus	Do
is InSv or ISTb	step 29
is other than listed here	step 27

- 27 Perform the correct alarm clearing procedure in this document to return the mate F-bus to service. Complete the procedure and return to this point.
- **28** Go to step 13.
- **29** Determine the state of the taps on the mate F-bus.

Note: The tap states appear in the two rows of characters under the numbers 0 to 35 (or 0 to 23). The tap states appear in the example in step

10. If the out-of-service EIU tap is on F-bus 0, check the taps on F-bus 1. If the out-of-service EIU tap is on F-bus 1, check the taps on F-bus 0.

If the taps on the mate F-bus	Do
are in service (.) or in-service trouble (I)	step 32
are manual busy (M) or system busy (S)	step 30

- **30** Perform the correct alarm clearing procedure in this document to return the taps to service. Complete the procedure and return to this point.
- **31** Go to step 13.

32



WARNING Loss of service

Make sure that you manually busy the F-bus that associates with the LIM unit. The LIM unit contains the card to replace. Failure to manually busy the F-bus results in loss of CCS7 messaging. Loss of messaging occurs for all LIU7s in the LPP that currently carry traffic.

Manually busy the F-bus that associates with the LIM unit. The LIM unit contains the card to replace. To manually busy the F-bus, type

>BSY FBUS fbus_no

and press the Enter key.

where

fbus_no is the number of the F-bus (0 or 1)

Note: F-bus 0 associates with LIM unit 0. F-bus 1 associates with LIM unit 1.

If the response	Do
isLIM x FBus y Busy initiated.	step 34
LIM x FBus y Busy passed.	

If the response	Do
<pre>is LIM x FBus y Busy requires conf mation because the following N may be active on this bus: NIU xx unit 0 NIU xx unit 1 Please confirm ("YES", "Y", "N or "N"):</pre>	Eir- step 33 NUS
To confirm the command, type	
>YES	
and press the Enter key.	
Example of a MAP display:	
Tap: 0 4 8 12 16	20 24 28 32
FBus0: ManB BBBB BBBB BBBB	B BB
LIM 1 FBus 0 Busy initiated.	
LIM 1 FBus 0 Busy passed.	
Note: In the example, you manually busied F-bus	s 0.
To manually busy the LIM unit that contains the card	I that has faults, type
>BSY UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the LIM unit (0 or 1)	
If the response is	Do
Imaging is currently in	step 35
Imaging is currently in progress on LIM x UNIT y. Busy	step 35
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force	step 35
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force option if you wish to override	step 35
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force option if you wish to override the imaging of this unit.	step 35
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force option if you wish to override the imaging of this unit. Imaging is currently in	step 35 step 36
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force option if you wish to override the imaging of this unit. Imaging is currently in progress on LIM x UNIT y and	step 35 step 36
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force option if you wish to override the imaging of this unit. Imaging is currently in progress on LIM x UNIT y and UNIT z. Busy Action aborted.	step 35 step 36
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force option if you wish to override the imaging of this unit. Imaging is currently in progress on LIM x UNIT y and UNIT z. Busy Action aborted. Use the force option if you wish to override the imaging of	step 35 step 36
Imaging is currently in progress on LIM x UNIT y. Busy Action aborted. Use the force option if you wish to override the imaging of this unit. Imaging is currently in progress on LIM x UNIT y and UNIT z. Busy Action aborted. Use the force option if you wish to override the imaging of this unit.	step 35 step 36

If the re	sponse is	Do
anythin	ig else	step 37
Imaging i next level directed.	s being performed on the LIN of support to determine if it	I unit you are working on. Contact t is safe to proceed. Continue as
Imaging i LIM unit. Continue	s being performed on the LIM Contact the next level of supp as directed.	I unit you are working on and the ma port to determine if it is safe to procee
To reset t	he LIM unit, type	
>PMRESE	T UNIT unit_no	
and press	s the Enter key.	
where		
unit_ is	n o the number of the LIM unit (0) or 1)
If the P	MRESET command	Do
passed		step 43
failed		step 38
To load th	ne LIM unit, type	
>LOADPM	UNIT unit_no	
and press	s the Enter key.	
where		
unit_ is	n o the number of the LIM unit (0) or 1)
If the L	OADPM command	Do
passed		step 43
failed, a card l	and the system generated ist	step 39
failed, generat	and the system did not e a card list	step 106
Replace procedure return to	the first card on the list. Perf e in <i>Card Replacement Proc</i> this point.	orm the correct card replacement edures. Complete the procedure a
Totalli to		
To load th	ne LIM unit, type	
To load th	ne LIM unit, type UNIT unit_no	

41

42 43

44

45

PM EIU minor (continued)

	De
If the LOADPM command	Do
passed	step 43
failed. You did not replace all cards on the list that you recorded in step 39.	step 41
failed. You replaced all cards on the list that you recorded in step 39.	step 106
Replace the first card on the list. Performed procedure in <i>Card Replacement Proc</i> return to this point.	form the correct card replacement cedures. Complete the procedure and
Go to step 40.	
To return the LIM unit that associates	with the EIU to service, type
-	
>RTS UNIT unit_no	
>RTS UNIT unit_no and press the Enter key.	
>RTS UNIT unit_no and press the Enter key. where	
<pre>>RTS UNIT unitno and press the Enter key. where unit_no is the number of the LIM unit (())</pre>	0 or 1)
>RTS UNIT unit_no and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command	0 or 1) Do
<pre>>RTS UNIT unit_no and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed</pre>	0 or 1) Do step 44
<pre>>RTS UNIT unit_no and press the Enter key. where unit_no is the number of the LIM unit (0 If the RTS command passed failed</pre>	0 or 1) Do step 44 step 106
<pre>>RTS UNIT unit_no and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed failed To access the F-bus level of the MAP</pre>	0 or 1) Do step 44 step 106 display, type
<pre>>RTS UNIT unit_no and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed failed To access the F-bus level of the MAP >FBUS</pre>	0 or 1) Do step 44 step 106 display, type
<pre>>RTS UNIT unitno and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed failed To access the F-bus level of the MAP >FBUS and press the Enter key.</pre>	0 or 1) Do step 44 step 106 display, type
<pre>>RTS UNIT unit_no and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed failed To access the F-bus level of the MAP >FBUS and press the Enter key. To return the F-bus to service, type</pre>	0 or 1) Do step 44 step 106 display, type
<pre>>RTS UNIT unitno and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed failed To access the F-bus level of the MAP >FBUS and press the Enter key. To return the F-bus to service, type >RTS FBUS fbus_no</pre>	0 or 1) Do step 44 step 106 display, type
<pre>>RTS UNIT unitno and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed failed To access the F-bus level of the MAP >FBUS and press the Enter key. To return the F-bus to service, type >RTS FBUS fbus_no and press the Enter key.</pre>	0 or 1) Do step 44 step 106 display, type
<pre>>RTS UNIT unitno and press the Enter key. where unit_no is the number of the LIM unit ((If the RTS command passed failed To access the F-bus level of the MAP >FBUS and press the Enter key. To return the F-bus to service, type >RTS FBUS fbus_no and press the Enter key. where</pre>	0 or 1) Do step 44 step 106 display, type

Note: F-bus 0 associates with LIM unit 0. F-bus 1 associates with LIM unit 1.

If the RTS command	Do
passed	step 46
failed	step 106
To return the F-bus tap that associates	s with the EIU to service, type
>RTS FBUS fbus_no tap_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 or	· 1)
tap_no is the number of the F-bus tap (0 to 35)
If the RTS command	Do
passed	step 105
failed, and the system generated a card list	step 47
failed, and the system did not generate a card list	step 82
Record the location, description, slot n card on the list.	umber, PEC, and PEC suffix of each
To quit from the F-bus level, type	
>QUIT	
and press the Enter key.	
To post the EIU that you posted in step	o 2, type
>POST EIU eiu_no	
and press the Enter key.	
where	
eiu_no is the number of the EIU that yo	ou posted in step 2
To manually busy the EIU, type	
>BSY	
and press the Enter key.	
MAP response:	

	Bsy EIU eiu_no requires confi the action may isolate the Su the nodes on the LAN. Please confirm ("YES", "Y", "	rmation perNode NO", o:	n because e from r "N"):
51	To confirm the command, type		
	>YES		
	and press the Enter key.		
52	Replace the first card on the list. Perfor procedure in <i>Card Replacement Proced</i> return to this point.	m the co <i>dures</i> . C	rrect card replacement complete the procedure and
53	To reset the EIU, type		
	>PMRESET		
	and press the Enter key.		
	If the PMRESET command	Do	
	passed	step 55	
	failed	step 54	
54	To load the EIU, type		
	>LOADPM		
	and press the Enter key.		
	If the LOADPM command		Do
	passed		step 55
	failed. You did not replace all care you recorded on the list	ds that	step 60
	failed. You replaced all cards that y corded on the list	ou re-	step 87
55	To post the LIM that associates with the	EIU, typ	e
	>POST LIM lim_no		
	and press the Enter key.		
	where		
	lim_no is the number of the LIM (0 to 16)	
56	To access the F-bus level of the MAP di	splay, ty	De
	>FBUS		
	and press the Enter key.		

57	To return the F-bus tap that associates	with the EIU to service, type			
	>RTS FBUS fbus_no tap_no				
	and press the Enter key.				
	where				
	fbus_no is the number of the F-bus (0 or	1)			
	tap_no is the number of the F-bus tap (0 to 35)			
58	To quit from the F-bus level of the MAF	P display, type			
	>QUIT				
	and press the Enter key.				
59	To post the EIU, type				
	>POST EIU eiu_no				
	and press the Enter key.				
	where				
	eiu_no is the number of the EIU (0 to 2	15)			
60	Replace the first card on the list. Perforprocedure in the <i>Card Replacement Pland</i> return to this point.	orm the correct card replacement rocedures. Complete the procedure			
61	Go to step 53.				
62	To quit the F-bus level of the MAP disp	lay, type			
	>QUIT				
	and press the Enter key.				
63	To post the EIU for the F-bus tap, type				
	>POST EIU eiu_no				
	and press the Enter key.				
	where				
	eiu_no is the number of the EIU (0 to 2	15)			
64	To return the EIU to service, type				
	>RTS				
	and press the Enter key.				
	If the RTS command	Do			
	passed	step 107			
	failed	step 87			

65 Record the names of the default load and the running load.

Note: In the example, the default load is LCC35BX and the running load is LCC35BX.

Example of a MAP response:

```
PM type:EIU PM No.:110 Status: ISTb
LIM: 1 Shelf:2 Slot: 12 EIU FTA:4249 1000
Default Load: LCC35BX
Running Load: LCC35BX
ISTB conditions:
  Msg Channel #0 NA
  TAP #0 OOS/NA
LMS States:
               InSv
                       InSv
Auditing :
               No
                       Yes
Msg Channels: NA
                       Acc
TAP 2 : M
```

66



WARNING

Possible loss of service

Before you continue, contact the next level of support. Make sure that you can change the default load or the running load.

The default load and the running load do not match. To correct this defect, change the default load or the running load.

lf you	Do
must change the default load	step 67
must change the running load	step 73
must not take any action	step 107
To access table LIUINV, type	
>TABLE LIUINV	
and press the Enter key.	
<i>Example of a MAP response</i> : TABLE:LIUINV	
To position on the key value of the tup	le that you must change, type
>POSITION EIU eiu_no	
and press the Enter key.	

67

68

	where
	eiu_no is the number of the EIU that you recorded in step 3
69	To indicate the field in the tuple that you must change, type
	>CHANGE LOAD
	and press the Enter key.
70	To enter the new value of the field that you must change, type
	>new_load_name
	and press the Enter key.
	where
	<pre>new_load_name is the name of the running load that you recorded in step 65</pre>
71	Make sure that the indicated changes are correct. To confirm the new value of the changed field, type
	>Y<
	and press the Enter key.
	MAP response:
	TUPLE CHANGED
72	To quit from the table, type
	>QUIT
	and press the Enter key.
	Go to step 105.
73	To manually busy the EIU, type
	>BSY
	and press the Enter key.
	MAP response:
	Bsy EIU eiu_no requires confirmation because the action may isolate the SuperNode from the nodes on the LAN. Please confirm ("YES", "Y", "NO", or "N"):
74	To confirm the command, type
	>YES
	and press the Enter key.
75	To load the EIU, type
	>LOADPM

	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 81
	failed, and the system generated a card list	step 76
	failed, and the system did not generate a card list	step 87
6	Record the location, description, slot r card on the list.	number, PEC, and PEC suffix of each
7	Replace the first card on the list. Performance of the procedure in <i>Card Replacement Procette</i> procedure and return to this point.	orm the correct card replacement edures to replace the card. Complete
8	To load the EIU, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 81
	failed. You did not replace all cards on the list that you recorded in step 39.	step 79
	failed. You replaced all cards on the list that you recorded in step 39	step 87
9	Replace the first card on the list. Performance procedure in <i>Card Replacement Procethe procedure and return to this point.</i>	orm the correct card replacement <i>edures</i> to replace the card. Complete
0	Go to step 78.	
1	To return the EIU to service, type	
	>RTS	
	and press the Enter key.	
	If the RTS command	Do
	passed	step 105
	failed	step 88

82	To quit from the F-bus level, typ)e				
	>QUIT					
	and press the Enter key.					
83	To post the EIU, type					
	>POST EIU eiu_no					
	and press the Enter key.					
	where					
	eiu_no is the number of the EIL	J (0 to 215)				
84	Determine the state of the EIU.					
	If the state of the EIU	Do				
	is ManB	step 87				
	is not ManB	step 85				
85	To manually busy the EIU, type	,				
	>BSY					
	and press the Enter key.					
	MAP response:					
	Bsy EIU eiu_no requires confirmation because					
	the action may isolate the SuperNode from					
	the hodes on the LAN. Please confirm ("YES",	"Y", "NO", or "N"):				
86	To confirm the command, type					
	>YES					
	and press the Enter key.					
87	Determine if you removed and i during this procedure.	replaced the NTEX22 and NT9X84 EIU cards				
	lf you	Do				
	removed and replaced the EIU cards	e two step 106				
	did not remove and replac two EIU cards	the step 88				
88	To determine the location of the	e EIU, type				
	>QUERYPM					

and press the Enter key.

Note: The QUERYPM command provides the LIM number, shelf number, and slot number of the front left card of the EIU.

Example of a MAP response:

PM type:EIU PM No.:110 Status: MANb LIM: 1 Shelf:2 Slot: 12 EIU FTA:4249 1000 Default Load: LCC35BX Running Load: LCC35BX Msg Channel #0 NA TAP #0 OOS/NA LMS States: InSv InSv Auditing: No Yes Msg Channels: NA Acc TAP 2 : M .

At the MAP terminal

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CAUTION Static electricity damage

Wear a wrist-strap that connects to the wrist-strap grounding point of a frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the NT9X84 card that associates with the EIU in use.

90 Open the locking levers on the NT9X84 card. Carefully pull the NT9X84 card toward you until you remove the card from the connector.



- 91 Leave the NT9X84 card that sits in its slot on the LIS.
- 92 Locate the NTEX22 card that associates with the EIU.
- **93** Open the locking levers on the NTEX22 card. Carefully pull the NTEX22 card toward you until you remove the card from the connector.



94 Carefully slide the NTEX22 card in the LIS.



- 95 Seat and lock the NTEX22 card, as follows:
 - **a** Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Make sure that the card sits completely in the shelf.
 - **b** Close the locking levers.



96 Carefully slide the NT9X84 card in the LIS.



- Seat and lock the NT9X84 card, as follows:
 - Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Make sure that the card sits completely in the shelf. а
 - b Close the locking levers.

98	To load the EIU, type					
	>LOADPM					
	and press the Enter key.					
	If the LOADPM command	Do				
	passed	step 100				
	failed. The system generated a card list, and you did not replace any cards in the EIU.	step 99				
	failed. The system generated a card list, and you replaced cards in the EIU.	step 106				
	failed. The system did not gen- erate a card list.	step 106				
99	Record the location, description, slot r card on the list.	number, PEC, and PEC suffix, of each				
	Go to step 52.					
100	To return the EIU to service, type					
	>RTS	>RTS				
	and press the Enter key.					
	If the RTS command	Do				
	passed	step 101				

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If the RTS command	Do		
failed. The system generated a card list, and you did not replace any cards in the EIU.	step 99		
failed. The system generated a card list, and you replaced cards in the EIU.	step 106		
failed. The system did not gen- erate a card list.	step 106		
fTo post the LIM that associates with t	he EIU, type		
>POST LIM lim_no			
and press the Enter key.			
where			
lim_no is the number of the LIM in use			
To access the F-bus level of the MAP	display, type		
>FBUS			
and press the Enter key.			
To determine if one of the EIU taps is	manually busy.		
If an EIU tap	Do		
is manually busy	step 104		
is not manually busy	step 105		
To return the tap that associates with t	the EIU to service, type		
>RTS FBUS fbus_no tap_no			
and press the Enter key.			
where			
fbus_no is the number of the F-bus (0 or 1)			
tap_no is the number of the F-bus tap	(0 to 35)		
If the RTS command	Do		
passed	step 105		
failed	step 106		

PM EIU minor (end)

105	Determine if one EIU minor alar	n cleared.		
	If one EIU minor alarm	Do		
	cleared	step 107		
	did not clear	step 106		
106	For additional help, contact the next level of support.			
107	The procedure is complete.			

PM EXND minor

Alarm display

 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•	•	•	. 1	EXND	•	•	•	•	•
)									

Indication

At the MTC level of the MAP display, EXND preceded by a number appears under the PM header of the alarm banner. The EXND indicates an external node (EXND) minor alarm.

Meaning

A minimum of one EXND on an Ethernet LAN failed to respond to a maintenance audit. Failure to respond resulted in a system busy. A problem is present on the external node. A problem can be present on an intermediate node between the external node and the DMS core. Intermediate nodes are Ethernet interface units (EIU) and link interface units (LIU).

The number under the PM header of the alarm banner indicates the number of affected EXNDs.

Result

The external node is out of service. The external node cannot receive and store message signaling units that the EIUs transmit.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM EXND minor (continued)

Summary of clearing a PM EXND minor alarm



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PM EXND minor (continued)

Clearing a PM EXND minor alarm

At the MAP terminal

- 1 To access the PM level of the MAP, type
 - > MAPCI;MTC;PM

and press the Enter key.

- 2 To post the system-busy external nodes, type
 - > POST EXND SYSB

and press the Enter key.

Example of a MAP display:

PM EXND	SysB 1 1	ManB 0 0	OffL 0 0	CBsy O -	ISTB O O	InSv 30 0

EXND 0 BCARH388 ESTP SysB

3 Determine the state of the external node.

Note: The state of the node appears under the EXND header.

If the external node	Do
is SysB (NA)	step 4
is SysB	step 5

4 To obtain more information about the system-busy external node, type

> QUERYPM

and press the Enter key.

Example of a MAP response:

ENTYPE	HP
ENSITE	CARLING
ENLOCN	2 н 11
EIUs	NOT AVAILABLE FOR REQUESTS

Note: In the MAP response, HP indicates a Hewlett Packard external node. CARLING is the site name of the building that contains the external node. The location of the external node-floor 2, row H and bay 11 is 2 H 11. EIUS NOT AVAILABLE FOR REQUEST indicates that the Ethernet interface units are not available for the transmission of message blocks. EIUS NOT AVAILABLE FOR REQUEST also indicates that the Ethernet

PM EXND minor (continued)

interface units are not available for the transmission of control messages. The Ethernet interface units communicate with the external node.

If the response indicates that the EIUs	Do
is available for requests	step 5
is not available for requests	step 10
Wait 2 m for the system to clear the fa fault, manually busy the external node type	ult. If the system does not clear the . To manually busy the external node
> BSY	
and press the Enter key.	
To test the external node, type	
> TST	
and press the Enter key.	
If the TST command	Do
passed	step 7
failed	step 9
 RTS and press the Enter key. 	, 990
If the RTS command	Do
passed	step 8
failed	step 9
To move the next system-busy externation	al node into the control position, type
> NEXT	
and press the Enter key.	
Go to step 3.	
Determine the MAP response that the	command produces.
If the response	Do
is EXND did not reply	step 13
is EIU not available for requests	step 10

5

6

7

8

9

PM EXND minor (end)

If the response	Do
is SYSTEM ERROR	step 13
Determine if EIU or LIM alarm	ns are present.
If EIU or LIM alarms	Do
are present	step 11
are not present	step 13
Clear the EIU or LIM alarms. in this document. Complete t	Perform the correct alarm clearing procedure he procedures and return to this point.
Determine if the EXND minor	alarm cleared.
If the EXND alarm	Do
cleared	step 14

14 The procedure is complete.

PM FP critical

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•	-	•	•	1 FP	•	-	•	•	•
				C					

Indication

At the MTC level of the MAP display, FP preceded by a number appears under the PM header of the MAP alarm banner. FP indicates a critical alarm for the file processor (FP).

Meaning

If the system removes an FP from service, the FP shows a critical alarm.

The number under the PM header in the alarm banner indicates the number of the affected FPs.

Result

The FP is separate from the rest of the system. This separation affects the performance of applications that use the FP.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM FP critical (continued)

Summary of clearing a PM FP critical alarm



PM FP critical (continued)

Clearing a	a PM	FP	critical	alarm
------------	------	----	----------	-------

At the MAP terminal

1 To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key.

Example of a MAP response:

	SysB	ManB	Offl	CBsy	ISTb	InSv
PM	1	0	0	0	0	39

2 To post the system-busy FPs, type

>POST FP SYSB

and press the Enter key.

Example of a MAP response:

	SysB	ManB	Offl	CBsy	ISTb	InSv
PM	1	0	0	0	0	39
FP	3	0	0	0	0	7
FP 0:	FP0_	256	Plane		Device	S
SysB	/Mtce					

Note: In this example of a MAP response, FP 0 is the first system busy FP in the posted set.

3 Determine if the /Mtce flag is present.

Note: On the right side of the FP state in the MAP display is a field that contains the flag /Mtce. The flag is present if a maintenance action occurs on the FP.

step 4
step 5

5 Determine the state of the FP.

4

Note: In the example of a MAP response in step 2, the FP state is SysB.

If the FP state	Do
is SysB	step 7

PM FP critical (continued)

6 7

8

9

If the FP state	Do
is ISTb	step 6
is InSv	step 15
Perform the procedure <i>Clearing a PM</i> To manually busy the system busy FP, >BSY	<i>FP minor alarm</i> in this document. type
and press the Enter key.	
If the BSY command	Do
passed	step 8
failed	step 16
and press the Enter key. Example of a MAP response:	
FP 0 Reset PM: Request has k FP 0 Reset PM: Command compl completed successfully.	been submitted. .eted. Reload restart Do
Example of a MAP response: FP 0 Reset PM: Request has k FP 0 Reset PM: Command compl completed successfully. If the PMRESET command passed	been submitted. Leted. Reload restart Do step 9
Example of a MAP response: FP 0 Reset PM: Request has k FP 0 Reset PM: Command compl completed successfully. If the PMRESET command passed failed	Deen submitted. Leted. Reload restart Do step 9 step 16
and press the Enter Key. Example of a MAP response: FP 0 Reset PM: Request has k FP 0 Reset PM: Command compl completed successfully. If the PMRESET command passed failed To return the manually-busy FP to serve >RTS and press the Enter key. Example of a MAP response: FP 0 RTS PM: Request has been present and completed	Deen submitted. Leted. Reload restart Do step 9 step 16 vice, type en submitted. ted. The PM is in service.
and press the Enter Key. Example of a MAP response: FP 0 Reset PM: Request has k FP 0 Reset PM: Command completed successfully. If the PMRESET command passed failed To return the manually-busy FP to server RTS and press the Enter key. Example of a MAP response: FP 0 RTS PM: Request has been provided to the provi	Deen submitted. Acted. Reload restart Do step 9 step 16 vice, type en submitted. ted. The PM is in service.
and press the Enter Key. Example of a MAP response: FP 0 Reset PM: Request has k FP 0 Reset PM: Command compl completed successfully. If the PMRESET command passed failed To return the manually-busy FP to serve >RTS and press the Enter key. Example of a MAP response: FP 0 RTS PM: Request has been present and completed present	been submitted. eted. Reload restart Do step 9 step 16 vice, type en submitted. ted. The PM is in service. Do step 15
and press the Enter Key. Example of a MAP response: FP 0 Reset PM: Request has k FP 0 Reset PM: Command completed successfully. If the PMRESET command passed failed To return the manually-busy FP to server RTS and press the Enter key. Example of a MAP response: FP 0 RTS PM: Request has been presented and passed fi the RTS command passed failed	Deen submitted. Leted. Reload restart Do step 9 step 16 vice, type en submitted. ted. The PM is in service. Do step 15 step 10

PM FP critical (continued)

If the RTS command	Do
failed. The system did not gen- erate a card list	step 16
Record the location, product engineer card on the card list.	ing code, and PEC suffix of the first
To replace the card, use the correct can Replacement Procedures. Complete	ard replacement procedure in <i>Card</i> the procedure and return to this point.
To post the FP, type	
>MAPCI;MTC;PM;POST FP fp_n	10
and press the Enter key.	
where	
fp_no is the number of the FP (0 to 12	2)
To return the FP to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 15
failed. You did not replace all cards on the list	step 14
failed. You replaced all cards on the list	step 16
failed. The system did not gen- erate a card list	step 16
Record the location, product engineer card on the card list.	ing code, and PEC suffix of the next
Go to step 11.	
To post the next system busy FP, type	
>NEXT	
and press the Enter key.	
and press the Enter key. If more system busy FPs	Do
and press the Enter key. If more system busy FPs are present	Do step 3
and press the Enter key. If more system busy FPs are present are not present	Do step 3 step 17

PM FP critical (end)

- **16** For additional help, contact the next level of support.
- **17** The procedure is complete.

PM FP major

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP M	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP preceded by a number appears under the PM header of the alarm banner. The FP indicates a major alarm for the file processor (FP).

Meaning

Manual removal of an FP from service causes the FP to display a major alarm.

The number under the PM header in the alarm banner indicates the number of affected FPs.

Result

The FPs are separate from the rest of the system. This separation affects the performance of applications that use the FP.

Common procedures

There are no common procedures.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

PM FP major (continued)

Summary of clearing a PM FP major alarm



PM FP major (continued)

Clearing a PM FP major alar

At the MAP display

1 To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key.

Example of a MAP response:

	PM	SysB O	ManB 2	Offl 6	CBsy O	ISTb 1	InSv 32		
2	To post tl	Γο post the manually-busy FPs, type							
	>POST	FP MAN	В						
	and press the Enter key								
	Example of a MAP response:								
		SysB	ManB	Offl	CBsy	ISTb	InSv		
	PM	0	2	б	0	1	32		
	FP	0	2	0	0	1	7		
	FP 3:	FP3 2	56 Pl	ane	Devices				

.

ManB (NA)

3

4

 $\it Note:$ In the example of a preceding MAP response, FP 3 is the first manually-busy FP in the posted set.

.

Determine from office records or from operating company personnel why the FP is manually-busy.

lf	Do
you can return the FP to service	step 4
you cannot return the FP to ser- vice	step 12
To return the FP to service, type	
>RTS	
and press the Enter key.	
Example of a MAP response:	

PM FP major (continued)

FP 3 RTS PM: Request has been submitted. FP 3 RTS PM: Command completed. The PM is in service.							
If the RTS command	Do						
passed	step 10						
failed, and the system generated a card list	step 5						
failed, and the system generated a card list	step 13						
Record the location, product engineering code (PEC), and PEC suffix of the first card on the card list.							
To replace the card, use the correct procedure in <i>Card Replacement Procedures</i> . Complete the procedure and return to this point.							
To post the FP, type							
>MAPCI;MTC;PM;POST FP fp_no							
and press the Enter key.							
where							
<pre>fp_no is the number of the file processor (0 to 12)</pre>							
To return the FP to service, type							
>RTS							
and press the Enter key.							
If the RTS command	Do						
passed	step 10						
failed, and you did not replace all cards on the list	step 9						
failed, and you replaced all cards on the list	step 13						
failed, and the system did not generate a card list	step 13						
Record the location, PEC, and PEC suffix of the next card on the card list.							
Go to step 6.							
Determine the Plane state of the posted FP.							
Note: A dot (.) under the Plane header indicates that the FP planes are in service. Any other symbol indicates a fault. In the example of a MAP display in step 2, the FP planes are . (in service).							
service. Any other symbol indicates a fault. In the examp display in step 2, the FP planes are . (in service).							

step 12

is .(in service)
PM FP major (end)

If the Plane state	Do
is other than listed here	step 11
Perform the procedure Clearing a	PM FP minor alarm in this document.
To post the next manually-busy FF	P, type
>NEXT	
and press the Enter key.	
If more manually-busy FPs	Do
are present	step 3
1	

14 The procedure is complete.

PM FP minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•		•		1FP	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for a file processor (FP).

Meaning

A minimum of one FP has in-service trouble.

The number under the PM header in the alarm banner indicates the number of affected FPs.

Result

There is no result.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM FP minor (continued)

Summary of Clearing a PM FP minor alarm



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PM FP minor (continued)

Clearin	g a PM FP	minor a	alarm				
At the	MAP termi	inal					
1	To access	the PM	level of t	he MAF	o display,	type	
	>MAPCI;	MTC; PM					
	and press	the Ente	er key.				
	Example of	of a MAF	odisplay.	;			
РМ	SysB O	ManB 0	Offl 0	CBsy O	ISTb 2	InSv 39	
2	To post the	e FPs th	at have i	n-servic	e trouble	, type	
	>POST 1	P IST	в				
	and press	the Ente	er key.				
	Example of	of a MAF	odisplay.	:			
	SysB	ManB	Offl	CBsy	ISTb	InSv	
PM	1	0	0	0	0	39	
FP	0	0	0	0	2	7	
FP 3:	FP3_	_256	Plane		Device	S	
Istb		Lo	wMem				

Note: In the preceding MAP response, FP 3 is the first in-service trouble FP in the posted set.

3 Determine the plane state of the posted FP.

Note: The symbol . under the Plane header indicates that the FP planes are in service. Any other symbol indicates a fault.

If the Plane state	Do
is . (in service)	step 4
is LowMem	step 5
is Trap	step 6
is CPUFlt	step 7
is PrtFlt	step 8
is NoSync	step 9
is PrtTbl	step 10
is MemFlt	step 11

PM FP minor (end)

If the Plane state	Do
is MemCor	step 12
is JInact	step 13
is MMThrs	step 14
is NoOvr	step 15
Determine the Devices state of the po	sted FP.
<i>Note:</i> The symbol . under the De devices are in service. Any other s	vices header indicates that the FP ymbol indicates a fault.
If the Devices state	Do
is . (in service)	step 17
is other than listed here	step 16
Perform the procedure <i>Clearing a PM</i> document.	FP LowMem minor alarm in this
Perform the procedure Clearing a PM	FP Trap minor alarm in this documen
Perform the procedure <i>Clearing a PM</i> document.	FP CPUFIt minor alarm in this
Perform the procedure Clearing a PM	FP PrtFlt minor alarm in this documen
Perform the procedure <i>Clearing a PM</i> document.	FP NoSync minor alarm in this
Perform the procedure <i>Clearing a PM</i> document.	FP PrtTbl minor alarm in this
Perform the procedure <i>Clearing a PM</i> document.	FP MemFlt minor alarm in this
Perform the procedure <i>Clearing a PM</i> document.	FP MemCor minor alarm in this
Perform the procedure <i>Clearing a PM</i> document.	FP JInact minor alarm in this
Perform the procedure <i>Clearing a PM</i> document.	FP MMThrs minor alarm in this
Perform the procedure <i>Clearing a PM</i> document.	FP NoOvr minor alarm in this
Perform the procedure <i>Clearing a PM</i> this document.	FP device-related fault minor alarm i
For additional help, contact the next le	evel of support.
The procedure is complete.	

PM FP CPUFIt minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•		-	1 FP					•

Indication

At the MTC level of the MAP display, FP preceded by a number appears under the PM header of the alarm banner. The FP indicates a minor alarm for the file processor (FP). The Plane state field of the posted FP displays CPUFlt.

Meaning

A fault is present on one of the CPUs in the FP.

The number under the PM header in the alarm banner indicates the number of FPs affected.

Result

The FP can run out of sync and the fault can occur on the active plane. When these problems occur, the system performs a cold restart on the FP.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FP CPUFIt minor alarm



Clearing a PM FP CPUFIt minor alarm

At the MAP display

- 1 Proceed only if the procedure *Clearing a PM FP minor alarm* in this document directed you to this procedure.
- 2 To access the Plane level of the MAP display of the FP that is in-service trouble, type

>PLANE

and press the Enter key.

Example of a MAP display:

FP	3:	E	FP1_SR2	256		Plane	Device	S			
IST	b				(CPUFlt	•				
			_								
Syr	IC		CPI	J	Jam	DRAM	Port	Ms	gCh	ΡL	ink
No			state	act		0123	Card	0	1	0	1
	Plane	0	•	А			•				•
	Plane	1	F	I	No						

3 Determine if the CPU jammed.

Note: The word Yes under the Jam header indicates that the CPU jammed. The word No indicates that the CPU did not jam.

If the CPU	Do
jammed	step 5
did not jam	step 4

4 To jam the inactive CPU, type

>MATEJAM SET

and press the Enter key.

Example of a MAP response:

FP 3 Jam Mate: Request has been submitted. FP 3 Jam Mate Command completed. The inactive CPU is jammed

5 Determine if the FP is in sync.

 $\it Note:$ The word Yes under the Sync header indicates that the FP is in sync. The word No indicates that the FP is not in sync.

If the FP	Do
is in sync	step 6
is not in sync	step 8
To drop the synchronization, type	
>DPSYNC	
and press the Enter key.	
Example of a MAP response:	
If you intend to jam the ina before dropping synchronizat Please confirm ("YES" or "NO	active CPU, Please do so tion.)"):
To confirm the command, type	
>YES	
and press the Enter key.	
Example of a MAP response:	
FP 3 Drop synchronization: R FP 3 Drop synchronization: C Now running in simplex mode	equest has been submitted. Command completed. with CPU 0 active.
To test the inactive CPU hardware in t	he FP, type
>TST CPU HW	
and press the Enter key.	
Example of a MAP response:	
CPU test of Static Ram will inactive CPU.	corrupt the load in the
Please confirm ("YES", "Y",	"NO", or "N"):
To confirm the command, type	
>YES	
and press the Enter key.	
If the TST command	Do
passed	step 16

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10

11

12

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14

If the TST command	Do
failed, and the system generated a card list	step 10
failed, and the system did not generate a card list	step 25
Record the location, a product enginee first card on the card list.	ring code (PEC), and PEC suffix of the
To replace the card, use the correct procedures. Complete the procedure	rocedure in <i>Card Replacement</i> and return to this point.
To access the Plane level of the MAP trouble, type	display of the FP that is in-service
>MAPCI;MTC;PM;POST FP fp_n	O;PLANE
and press the Enter key.	
where	
<pre>fp_no is the number of the file proces</pre>	sor (0 to 12)
Example of a MAP display:	
Sync CPU Jam I No state act (Plane 0 . A - Plane 1 F I No -	DRAM Port MsgCh PLink D123 Card 0 1 0 1
To test the inactive CPU hardware in t	he FP. type
>TST CPU HW	
and press the Enter key.	
Example of a MAP response:	
CPU test of Static Ram will inactive CPU. Please confirm ("YES", "Y",	corrupt the load in the "NO", or "N"):
To confirm the command, type	
>YES	
and press the Enter key.	
If the TST command	Do
passed	step 16

If the TST command	Do
failed. You did not replace all cards on the list	step 15
failed. You replaced all cards on the list	step 25
failed. The system did not gen- erate a card list	step 25
Record the location, product enginee next card on the list.	ring code (PEC), and PEC suffix of the
Go to step 11.	
To synchronize the planes of the FP,	type
>SYNC	
and press the Enter key.	
If the SYNC command	Do
passed	step 22
failed, and the system generated a card list	step 17
failed, and the system did not generate a card list	step 25
Record the location, PEC, and PEC s	suffix of the first card on the card list.
To replace the card, use the correct of Replacement Procedures. Complete	ard replacement procedure in <i>Card</i> the procedure and return to this poir
To access the Plane level of the MAP trouble, type	display of the FP that is in-service
>MAPCI;MTC;PM;POST FP fp_	no;PLANE
and press the Enter key.	
where	
<pre>fp_no is the number of the file proces</pre>	ssor (0 to 12)
Example of a MAP display:	
Sync CPII Jam I	DRAM Port Msach PLink
No state act	0123 Card 0 1 0 1
Plane 0 . A	
Plane 1 . I No	

PM FP CPUFIt minor (end)

2
l
5
5
(PEC) and PEC suffix
bmitted.
eader indicates that the icates a fault.
5
5
Ļ
24 no su

26 The procedure is complete.

PM FP device-related fault minor

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for the file processor.

Meaning

A DABM, small computer system interface (SCSI), or device is out of service, or has in-service trouble. The Devices state field of the posted FP indicates the most severe fault present on the FP.

The number under the PM header in the alarm banner indicates the number of FPs affected.

Result

The out-of-service or in-service trouble state affects the performance of applications that use this FP.

Note: If a device that has faults is part of a shadow set, a drop in the performance of applications that use this FP occurs. This drop occurs for a period of time after the alarm clears. When the device is in sync with the rest of the shadow set, the performance becomes normal again.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FP device-related fault minor alarm



Clearing a PM FP device-related fault minor alarm

At the MAP terminal

- 1 Proceed only if the procedure *How to clear a PM FP minor alarm* in this document directed you to this procedure.
- 2 To access the Devices level of the MAP display of the FP that has a device-related fault, type

>DEVICES

and press the Enter key.

Example of a MAP display:

FP 1	:	FP1_R256	Plane De	ev	ice	es				
ISTb			. 1SysB							
		CTRL0	CTRL1				DE	EVI	C	£
DABM			. () :	1 2	2	3	4	5	
SCSI	0	. (EN)	. (DIS)			•	•			
SCSI	1	. (EN)	S (DIS)							_

3 Determine the state of the DABMs. If more than one fault is present, clear the highest priority fault first. The order of fault priority, from highest to lowest, is:

• faulty (F)

4

in-service trouble (I)

Note: In the example of a MAP display in step 2, the DABM for controller 1 has faults.

If the DABM state	Do
is F	step 4
is I	step 4
is . (in service)	step 10
To run a REx test on all the device cor	nponents, type
>TST ALL REX	
and press the Enter key.	
If the TST command	Do
passed	step 10

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8

If the TST command	Do
failed, and the system generated a card list	step 5
failed, and the system did not generate a card list	step 48
Record the location, product enginee first card on the card list.	ring code (PEC), and PEC suffix of the
To replace the card, use the correct p <i>Procedures</i> . Complete the procedure	procedure in <i>Card Replacement</i> e and return to this point.
To access the Devices level of the FF	P that has a device-related fault, type
>MAPCI;MTC;PM;POST FP fp_:	no;DEVICES
and press the Enter key.	
where	
fp_no is the number of the file proce	ssor (0 to 12)
Example of a MAP display:	
FP 1: FP1_R256 Plane ISTb . 2Sys	Devices BB
CTRLO CTRL1 DABM . F SCSI 0 . (EN) . (DI SCSI 1 . (EN) S (DI	DEVICE 0 1 2 3 4 5 IS) IS)
To run a REx test on all the device co	omponents, type
>TST ALL REX	
and press the Enter key.	
If the TST command	Do
passed	step 10
failed, and you did not replace all cards on the list	step 9
failed, and you replaced all cards on the list	step 48
failed, and the system did not generate a card list	step 48

9 Record the location, product engineering code (PEC), and PEC suffix of the next card on the card list.

Go to step 6.

12

13

- **10** Determine the state of the SCSI buses. If more than one fault is present, clear the highest priority fault first. The order of fault priority, from highest to lowest, is:
 - system busy (S)
 - manually busy (M)
 - in-service trouble (I)

Note: In the example of a MAP display in step 2, SCSI bus 1 of controller 1 is system busy.

If the SCSI bus state	Do
is S	step 12
is M	step 11
is I	step 12
is. (in service)	step 22

11 Determine from office records or operating company personnel why the SCSI bus is manual busy.

lf you	Do		
can return the SCSI bus to ser- vice	step 15		
cannot return the SCSI bus to service	step 22		
Determine if the SCSI bus that has fat	ults is enabled.		
If the SCSI bus	Do		
is enabled (EN)	step 13		
is disabled (DIS)	step 14		
To switch enable the SCSI bus, type			
>SWEN scsi_no			
and press the Enter key.			
where			
scsi_no is the number of the SCSI bus	(0 or 1) that has faults		

To manually busy the SCSI bus, type	
>BSY SCSI scsi_no ctrl_nc	,
and press the Enter key.	
where	
scsi_no is the number of the disabled S	CSI bus (0 or 1)
ctrl_no is the number of the controller ((0 or 1)
To return the SCSI bus to service, type	e
>RTS SCSI scsi_no ctrl_nc	,
and press the Enter key.	
where	
scsi_no is the number of the disabled S	CSI bus (0 or 1)
ctrl_no is the number of the controller ((0 or 1)
If the RTS command	Do
passed	step 21
failed, and the system generated a card list	step 16
failed, and the system did not generate a card list	step 48
Record the location, product engineer first card on the card list.	ing code (PEC), and PEC suffix of the
To replace the card, use the correct procedures. Complete the procedure	rocedure in <i>Card Replacement</i> and return to this point.
To access the Devices level of the FP	that has a device-related fault, type
>MAPCI;MTC;PM;POST FP fp_n	O;DEVICES
and press the Enter key.	
where	
<pre>fp_no is the number of the file proces</pre>	sor (0 to 12)

	FP 1: FP1_R256 Plane ISTb . 2SysF	Devices 3				
	CTRLO CTRL1 DABM SCSI 0 . (EN) . (DIS SCSI 1 . (EN) S (DIS	DEVICE 0 1 2 3 4 5 5) 5) S				
19	To return the SCSI bus to service, typ	e				
	>RTS SCSI scsi_no ctrl_no	0				
	and press the Enter key.					
	where					
	scsi_no is the number of the SCSI bus	(0 or 1)				
	ctrl_no is the number of the controller	(0 or 1)				
	If the RTS command	Do				
	passed	step 21				
	failed, and you did not replace all cards on the list	step 20				
	failed, and you replaced all cards on the list	step 48				
	failed, and the system did not generate a card list	step 48				
20	Record the location, product engineer next card on the card list.	ing code (PEC), and PEC suffix of the				
	Go to step 17.					
21	Determine the SCSI bus states of the	posted FP.				
	<i>Note:</i> In the example of a MAP dis are in service except SCSI bus 1 o controller 1 is system busy.	splay in step 18, all of the SCSI buses of controller 1. The SCS bus 1 of				
	If a SCSI bus field	Do				
	shows a value other than in ser- vice (.) or not equipped (-)	step 10				
	shows in service (.) or not equipped (-)	step 22				

- 22 Determine the DEVICE state of the posted FP. If more than one fault is present, clear the highest priority fault first. The order of fault priority, from highest to lowest, is:
 - system busy (S)
 - manually busy (M)
 - in-service trouble (I)
 - not equipped (-)

Note: In the example of a MAP display in step 18, device 0 on SCSI bus 1 is system busy.

If the DEVICE state	Do
is S	step 24
is M	step 23
is I	step 24
is - (unequipped)	step 48
is. (in service)	step 49

23 Determine from office records or operating company personnel why the device is manual busy.

lf	Do
you can return the device to ser- vice	step 24
you cannot return the device to service	step 49
o query all FP devices, type	
QUERYFP DEV ALL ALL	
and press the Enter key	

Example of a MAP response:

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Dev Name	SCSI	Dev	Туре	Quad	Shelf	Slot	Status
DK00	0	0	dk	0	2	8	SysB
CT01	0	1	ct	2	2	20	InSv
DK02	0	2	dk	0	3	8	InSv
DK03	0	3	dk	2	3	20	InSv
DK10	1	0	dk	1	2	14	InSv
CT11	1	1	ct	3	2	26	InSv
DK12	1	2	dk	1	3	14	InSv
DK13	1	3	dk	3	3	26	InSv

25 Determine the type of device that is not in service.

Note: In the example of a MAP response in step 24, the system busy device DK00 is a disk drive (device type dk).

If the device	Do
is a disk drive (device type is dk)	step 26
is a tape drive (device type is ct)	step 40
Determine if the disk drive is a shadow	w set member.
If the disk drive	Do
is a member of a shadow set	step 27
is not a member of a shadow set	step 40
Determine from office records or oper the shadow set.	ating company personnel the name of
To access the shadow utility of the FP	that contains the disk drive, type
>SHADOWUT FP fp_no	
and press the Enter key.	
where	
fp_no is the number of the FP that co	ntains the disk drive (0 to 12)
To stop the shadow set member, type	
>STOPMEMBER ss_name device	e_name
and press the Enter key.	
where	
<pre>ss_name is the name of the shadow set</pre>	(SS00 or SS01)
device_name is DK (disk drive) followed by tv	vo digits

Example input: >STOPMEMBER SS00 DK00 Example of a MAP response: ***** *** WARNING: * * * * * * If this is the last in-service member then File *** * * * *** Processing will no longer be available on the * * * shadow set: SS00 * * * ******* Do you wish to proceed? Please confirm ("YES", "Y", "NO", or "N"): 30 To confirm the response, type >YES and press the Enter key. Example of a MAP response: Ok, Shadow Set Member stopped. Approximately 1 minute to complete. 31 To start the shadow set member, type >STARTMEMBER ss_name device_name FORCE and press the Enter key. where ss_name is the name of the shadow set (SS00 or SS01) device_name is $D\overline{K}$ (disk drive) followed by two digits Example input: >STARTMEMBER SS00 DK00 FORCE Example of a MAP response:

```
The member will be started with the following
        parameter settings:
        Node name
                         : FP1
        Shadow set name: SS00
        Device name : DK00Transfer length: Optimal
                         : 0
        Interval
        Synchronization: Default
        Force
                  : NO
        Do you want to continue?
        Please confirm ("YES", "Y", "NO", or "N"):
32
       To confirm the command, type
       >YES
       and press the Enter key.
        If the shadow set member
                                         Do
        returned to service
                                         step 39
        did not return to service, and the
                                         step 33
        system generated a card list
        did not return to service, and the
                                         step 48
        system did not generate a card
        list
33
       Record the location, product engineering code (PEC), and PEC suffix of the
       first card on the card list.
34
       To replace the card, use the correct procedure in Card Replacement
       Procedures. Complete the procedure and return to this point.
35
       To access the shadow utility of the FP that contains the disk drive, type
       >SHADOWUT FP fp_no
       and press the Enter key.
       where
          fp no
            is the number of the FP that contains the disk drive (0 to 12)
36
       To start the shadow set member, type
       >STARTMEMBER ss_name device_name FORCE
       and press the Enter key.
       where
```

	ss_name is the name of the shadow set ((SS00 or SS01)
	device_name is DK (disk drive) followed by tw	vo digits
	Example input:	
	>STARTMEMBER SS00 DK00 FO	RCE
	Example of a MAP response:	
	The member will be started w parameter settings:	with the following
	Node name : FP1 Shadow set name: SS00 Device name : DK00Transfe Interval : 0 Synchronization: Default Force : NO	er length: Optimal
	Do you want to continue? Please confirm ("YES", "Y",	"NO", or "N"):
37	To confirm the command, type	
	>YES	
	and press the Enter key.	
	and press the Enter key. If the shadow set member	Do
	and press the Enter key. If the shadow set member returned to service	Do step 39
	and press the Enter key. If the shadow set member returned to service did not return to service, and you did not replace all cards on the list	Do step 39 step 38
	and press the Enter key.If the shadow set memberIf the shadow set memberreturned to servicedid not return to service, and youdid not replace all cards on thelistdid not return to service, and youreplaced all cards on the list	Do step 39 step 38 step 48
	 and press the Enter key. If the shadow set member returned to service did not return to service, and you did not replace all cards on the list did not return to service, and you replaced all cards on the list did not return to service, and the system did not generate a card list 	Do step 39 step 38 step 48 step 48
38	 and press the Enter key. If the shadow set member returned to service did not return to service, and you did not replace all cards on the list did not return to service, and you replaced all cards on the list did not return to service, and the system did not generate a card list Record the location, product engineer next card on the card list. 	Do step 39 step 38 step 48 step 48 ing code (PEC), and PEC suffix of the
38	and press the Enter key.If the shadow set memberreturned to servicedid not return to service, and youdid not replace all cards on thelistdid not return to service, and youreplaced all cards on the listdid not return to service, and thesystem did not generate a cardlistRecord the location, product engineernext card on the card list.Go to step 34.	Do step 39 step 38 step 48 step 48 ing code (PEC), and PEC suffix of the
38 39	 and press the Enter key. If the shadow set member returned to service did not return to service, and you did not replace all cards on the list did not return to service, and you replaced all cards on the list did not return to service, and the system did not generate a card list Record the location, product engineerinext card on the card list. Go to step 34. To quit the shadow utility, type 	Do step 39 step 38 step 48 step 48 ing code (PEC), and PEC suffix of the

and press the Linter key.	
Go to step 47.	
To manually busy the device, type	
>BSY DEV scsi_no dev_no	
and press the Enter key.	
where	
scsi_no is the number of the SCSI bus	(0 or 1)
dev_no is the number of the device (0 t	o 5)
Example of a MAP response:	
FP 1 Busy DEV 0 0: Command FP 1 Busy DEV 0 0: Command	request has been submitted passed.
If the BSY command	Do
passed	step 41
failed	step 48
To return the device to service, type	
>RTS DEV scsi_no dev_no	
and press the Enter key.	
where	
scsi_no is the number of the SCSI bus	(0 or 1)
dev_no is the number of the device (0 t	o 5)
If the RTS command	Do
If the RTS command passed	Do step 47
If the RTS command passed failed, and the system generated a card list	Do step 47 step 42

44 To access the Devices level of the FP that has a device-related fault, type >MAPCI;MTC;PM;POST FP fp_no;DEVICES and press the Enter key. where fp_no is the number of the file processor (0 to 12) Example of a MAP response: FP 1: FP1 R256 Plane Devices ISTb 1SysB . CTRL0 CTRL1 DEVICE 0 1 2 3 4 5 DABM . . SCSI 0 . (EN) . (DIS) -SCSI 1 . (DIS) S . . (EN) 45 To return the device to service, type >RTS DEV scsi no dev no and press the Enter key. where scsi no is the number of the SCSI bus (0 or 1) dev no is the number of the device (0 to 5) If the RTS command Do passed step 47 failed, and you did not replace step 46 all cards on the list failed, and you replaced all cards step 48 on the list failed, and the system did not step 48 generate a card list 46 Record the location, product engineering code (PEC), and PEC suffix of the next card on the card list. Go to step 43.

PM FP device-related fault minor (end)

47 Determine the Devices state of the posted FP.

 $\it Note:$ A dot . under the Devices header indicates that the FP devices are in service. Any other symbol indicates a fault.

If the Devices state	Do
is . (in service)	step 49
is other than listed here	step 48

- 48 For additional help, contact the next level of support.
- 49 The procedure is complete.

PM FP JInact minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
·	•	•	•	1FP	•	•	•	•	·

Indication

At the MTC level of the MAP, FP preceded by a number appears under the PM header of the alarm banner. FP indicates a minor alarm for the file processor (FP). The Plane state field of the posted FP displays JInact.

Meaning

The FP runs in sync with the jammed CPU that is inactive. A jam on an FP is a result of manual action. Also the loss and start again of power for the inactive FP results in a jam on an FP.

The number under the PM header in the MAP banner indicates the number of FPs affected.

Result

The alarm does not affect service. While the inactive CPU jams, neither the system nor the user can initiate SWACTs.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM FP JInact minor (continued)

Summary of clearing a PM FP JInact minor alarm



PM FP JInact minor (end)

Clearing a PM FP JInact minor alarm

At the MAP terminal

3

- Proceed only if the procedure Clearing a PM FP minor alarm in this document 1 directed you to this procedure.
- 2 Determine from office records or operating company personnel if the jam is the result of manual action.

	If the jam	Do				
-	was the result of manual action	step 3				
	was not the result of manual ac- tion	step 4				
-	Concult office records or exercting on					
l	reason that the FP jammed.	npany personnel. Determine the				
-	reason that the FP jammed.	Do				
-	If you can release the jam	Do step 4				

>MATEJAM RELEASE

and press the Enter key.

If the jam	Do
released	step 6
did not release	step 5

5 For additional help, contact the next level of support.

6 The procedure is complete.

PM FP LowMem minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP	•	•	·	-	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for the file processor (FP). The Plane state field of the posted FP shows LowMem.

Meaning

The FP runs low on available memory.

The number under the PM header in the alarm banner indicates the number of affected FPs.

Result

The alarm does not affect service. If a process requires the use of additional memory for any reason, a restart can occur on the FP. The restart disrupts applications that use the FP.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FP LowMem minor alarm



Clearing a PM FP LowMem minor alarm



CAUTION

Proceed only if the procedure How to clear a PM FP minor alarm in this document directed you to this procedure.

At the MAP terminal

1 To access the Plane level of the MAP display of the FP that has in service trouble, type

>PLANE

and press the Enter key.

Example of a MAP display:

Syr	ıc		CPU	J	Jam	DRAM	Port	Ms	gCh	PL	ink
No			state	act		0123	Card	0	1	0	1
	Plane	0	•	А			•				
	Plane	1	•	I	No			•	•	•	

2 Determine if the central processing unit (CPU) jammed.

Note: The word Yes under the Jam header indicates that the CPU jammed. The word No indicates that the CPU did not jam.

If the CPU	Do
jammed	step 4
did not jam	step 3

3 To jam the inactive CPU, type

>MATEJAM SET

and press the Enter key.

4 Determine if the FP is in sync.

Note: The word Yes under the Sync header indicates that the FP is in sync. The word No indicates that the FP is not in sync.

If the FP	Do
is in sync	step 5
is not in sync	step 7

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5 To drop synchronization, type >DPSYNC

and press the Enter key.

Example of a MAP response:

If you intend to jam the inactive CPU, please do so before dropping synchronization. Please confirm ("YES", "Y", "NO", or "N"):

6 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

FP 3 Drop synchronization: Request has been submitted. FP 3 Drop synchronization: Command completed. Now running in simplex mode with CPU 0 active.

7 Determine the state of the FP DRAMs.

Example of a MAP display:

Syr	IC		CPU	J	Jam	DRAM	Port	Ms	gCh	PL	ink
No			state	act		0123	Card	0	1	0	1
	Plane	0		A		-F					
	Plane	1		I	No						

Note: In the preceding example of a MAP display, all DRAMs are <> (in service) except DRAM card 1 on plane 1. The DRAM card 1 on plane 1 has faults.

lf	Do
a DRAM field contains an F in either plane	step 8
DRAM fields do not contain an F	step 15
To perform a memory test on the slot o	of the DRAM that has faults, type
>TST MEM dram_no	
and press the Enter key.	

8

	If the TST command	Do	
	passed	step 15	
	failed, and the system generated a card list	step 9	
	failed, and the system did not generate a card list	step 23	
)	Record the location, product engineering code (PEC), and PEC suffix of first card on the card list.		
10	Determine if the system generated fault indicators (alarms or logs) for th card.		
	If the system	Do	
	generated alarms or logs for the card	step 11	
	did not generate alarms or logs	step 23	
	for the card		
1	for the card To replace the card, use the correct p <i>Procedures.</i> Complete the procedure	procedure in <i>Card Replacement</i> e and return to this point.	
1 2	for the card To replace the card, use the correct p <i>Procedures.</i> Complete the procedure To access the Plane level of the FP th	procedure in <i>Card Replacement</i> e and return to this point. hat has in service trouble, type	
11 12	for the card To replace the card, use the correct p <i>Procedures</i> . Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_:	procedure in <i>Card Replacement</i> e and return to this point. hat has in service trouble, type no;PLANE	
11 12	for the card To replace the card, use the correct p <i>Procedures.</i> Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key.	procedure in <i>Card Replacement</i> e and return to this point. hat has in service trouble, type no;PLANE	
11 12	for the card To replace the card, use the correct p <i>Procedures.</i> Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key. <i>where</i>	procedure in <i>Card Replacement</i> e and return to this point. nat has in service trouble, type no;PLANE	
11 12	for the card To replace the card, use the correct p <i>Procedures.</i> Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key. where fp_no is the number of the FP (0 to 1	procedure in <i>Card Replacement</i> e and return to this point. hat has in service trouble, type no;PLANE	
11 12	for the card To replace the card, use the correct p <i>Procedures.</i> Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key. <i>where</i> fp_no is the number of the FP (0 to 1) <i>Example of a MAP:</i>	procedure in <i>Card Replacement</i> e and return to this point. that has in service trouble, type no;PLANE	
11 12	for the card To replace the card, use the correct p Procedures. Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_; and press the Enter key. where fp_no is the number of the FP (0 to 1 Example of a MAP: Sync CPU Jam No state act	Drocedure in <i>Card Replacement</i> e and return to this point. that has in service trouble, type no;PLANE (2) DRAM Port MsgCh PLink 0123 Card 0 1 0 1	
1	for the card To replace the card, use the correct p Procedures. Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key. where fp_no is the number of the FP (0 to 1 Example of a MAP: Sync CPU Jam No state act Plane 0 . A Plane 1 . I No	Drocedure in <i>Card Replacement</i> e and return to this point. hat has in service trouble, type no; PLANE 2) DRAM Port MsgCh PLink 0123 Card 0 1 0 1 	
11 12 13	for the card To replace the card, use the correct p Procedures. Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key. where fp_no is the number of the FP (0 to 1 Example of a MAP: Sync CPU Jam No state act Plane 0 . A Plane 1 . I No To perform a memory test on the slot	DRAM Port MsgCh PLink 0123 Card 0 1 0 1 	
11	for the card To replace the card, use the correct p Procedures. Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key. where fp_no is the number of the FP (0 to 1 Example of a MAP: Sync CPU Jam No state act Plane 0 . A Plane 1 . I No To perform a memory test on the slot >TST MEM dram_no	Drocedure in <i>Card Replacement</i> e and return to this point. hat has in service trouble, type no;PLANE DRAM Port MsgCh PLink 0123 Card 0 1 0 1 of the DRAM that has faults, type	
11	for the card To replace the card, use the correct p Procedures. Complete the procedure To access the Plane level of the FP th >MAPCI;MTC;PM;POST FP fp_: and press the Enter key. where fp_no is the number of the FP (0 to 1 Example of a MAP: Sync CPU Jam No state act Plane 0 . A Plane 1 . I No To perform a memory test on the slot >TST MEM dram_no and press the Enter key.	DRAM Port MsgCh PLink 0123 Card 0 1 0 1 	

14

15

16

dram_no is the number of the DRAM slot (0 to 3) with the fault		
If the TST command	Do	
passed	step 15	
failed, and you did not replace all cards on the list	step 14	
failed, and you replaced all cards on the list	step 23	
failed, and the system did not generate a card list	step 23	
Record the location, product engineer next card on the card list.	ing code (PEC), and PEC suffix of the	
Go to step 10.		
To claim the memory that was not in use on the node, type		
>CLAIM		
and press the Enter key.		
To confirm the command, type		
>YES		
and press the Enter key.		
Example of a MAP response:		
FP 0 Memory Reclaim: Request h FP 0 Memory Reclaim: Command f modules are in use.	has been submitted. Failed. All allocated memory	
If the CLAIM command	Do	
passed	step 17	
failed	step 23	
To configure the inactive CPU memor	y on the node, type	
>CONFIG		
and press the Enter key.		
Example of a MAP response:		

17
PM FP LowMem minor (continued)

WARNING

Memory configuration maps the inactive plane DRAM memory into the same Data Store and Program Store ranges currently existing on the active plane. This action could destroy the load running on the inactive plane. It should only be performed following a DRAM memory test involving a memory extension, reduction, or replacement. Please confirm ("YES", "Y", "NO", or "N"):

18 To confirm the command, type

>YES

19

20

21

and press the Enter key.

Example of a MAP response:

FP 0 Configure: Request has been submitted.

FP 0 Configure: Command completed. Memory configuration completed.

If the CONFIG command	Do					
passed	step 19					
failed	step 23					
To synchronize the node, type						
>SYNC						
and press the Enter key.						
If the SYNC command	Do					
passed	step 20					
failed	step 23					
To release the jam on the inactive	CPU, type					
>MATEJAM RELEASE						
and press the Enter key.						
Determine the Plane state of the p	osted FP.					
<i>Note:</i> The symbol <> under the planes are in service. Any othe	ne Plane header indicates that the FP r symbol indicates a fault.					
If the Plane state	Do					
is <> (in service)	step 24					

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PM FP LowMem minor (end)

22

If the Plane state	Do
isLowMem	step 23
is other than listed here	step 22

23 For additional help, contact the next level of support.

24 The procedure is complete.

PM FP MemCor minor

Alarm display

ſ	 СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	•	·	•	·	1FP	•	•	•	•	·

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a file processor (FP) minor alarm. The Plane state field of the posted FP displays MemCor.

Meaning

A memory fault occurred on an FP. Correct the memory fault.

The number under the PM header in the MAP banner indicates the number of affected FPs.

Result

There is no result.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FP MemCor minor alarm



Clearing a PM FP MemCor minor alarm

At the MAP terminal

1

2

ATTENTION

Proceed only if the procedure *Clearing a PM FP minor alarm* in this document directs you to go.

To access the plane level of the MAP display of the posted FP, type

>PLANE

and press the Enter key.

Example of a MAP display:

Syn	IC		CPI	J	Jam	DRAM	Port	Ms	gCh	PL	ink
No			state	act		0123	Card	0	1	0	1
	Plane	0	F	I		F.					
	Plane	1		А	Yes						

Determine if the fault is on the active or inactive plane. An F in the CPU state field indicates a fault.

Note: The letter A in the CPU act field indicates the active plane. An I in the CPU act field indicates the inactive plane.

If the fault	Do
is on the active plane	step 3
is on the inactive plane	step 6

3 Determine if the inactive CPU jammed.

Note: The word Yes under the Jam header indicates that the CPU jammed. The word No indicates that the CPU did not jam.

If the inactive CPU	Do	
jammed	step 4	
did not jam	step 5	

4 To release the jam on the inactive CPU, type

>MATEJAM RELEASE

and press the Enter key.

5

6

7

8

FP 3 Jam Mate: Request has FP 3 Jam Mate: Command Co The inactive CPU is not	as been submitted. ompleted. jammed.
To switch CPU activity on the FP,	type
>SWACT	
and press the Enter key.	
If the SWACT command	Do
passed	step 6
failed	step 19
To jam the inactive CPU, type	
>MATEJAM SET	
and press the Enter key.	
Example of a MAP response:	
FP 3 Jam Mate: Request ha	as been submitted.
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme	as been submitted. mpleted. ed
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th	as been submitted. mpleted. ed we FP, type
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC	as been submitted. mpleted. ed we FP, type
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key.	as been submitted. mpleted. ed me FP, type
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key. Example of a MAP response:	as been submitted. mpleted. ed we FP, type
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key. <i>Example of a MAP response:</i> If you intend to jam the before dropping synchron: Please confirm ("YES", "	as been submitted. mpleted. ed me FP,type inactive CPU, please do so ization. Y", "NO", or "N"):
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key. <i>Example of a MAP response:</i> If you intend to jam the before dropping synchron. Please confirm ("YES", "To confirm the command, type	as been submitted. mpleted. ed me FP, type inactive CPU, please do so ization. Y", "NO", or "N"):
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key. <i>Example of a MAP response:</i> If you intend to jam the before dropping synchron: Please confirm ("YES", ") To confirm the command, type >YES	as been submitted. mpleted. ed ne FP, type inactive CPU, please do so ization. Y", "NO", or "N"):
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key. <i>Example of a MAP response:</i> If you intend to jam the before dropping synchron: Please confirm ("YES", "To confirm the command, type >YES and press the Enter key.	as been submitted. mpleted. ed me FP,type inactive CPU, please do so ization. Y", "NO", or "N"):
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key. <i>Example of a MAP response:</i> If you intend to jam the before dropping synchron: Please confirm ("YES", "To To confirm the command, type >YES and press the Enter key. <i>Example of a MAP response:</i>	as been submitted. mpleted. ed ne FP, type inactive CPU, please do so ization. Y", "NO", or "N"):
FP 3 Jam Mate: Request ha FP 3 Jam Mate Command com The inactive CPU is jamme To drop the synchronization on th >DPSYNC and press the Enter key. <i>Example of a MAP response:</i> If you intend to jam the before dropping synchron: Please confirm ("YES", ") To confirm the command, type >YES and press the Enter key. <i>Example of a MAP response:</i> FP 3 Drop synchronization FP 3 Drop synchronization	<pre>as been submitted. mpleted. ed ne FP, type inactive CPU, please do so ization. Y", "NO", or "N"): n: Request has been submitted. n: Command completed.</pre>

in the 151 com	mand		Do					
passed	step	15						
failed, and the a card list	e system g	enerate	ed step	10				
failed, and th generate a car	e system d list	did no	ot step	19				
Record the locat first card on the	ion, produc card list.	t engine	eering co	de (PEC	C), a	nd PE	EC s	uffix
To replace the ca <i>Procedures</i> . Co	ard, use the mplete the	e correc proced	t proceduure and r	ure in <i>Ca</i> eturn to	<i>ard F</i> this	R <i>epla</i> point	cem	ent
To access the pla	ane level of	f the FP	that has	faults, t	ype			
>MAPCI;MTC;P	M;POST	FP fr	_no;PL	ANE				
and press the Er	nter key.							
where								
fp_no is the file	processor i	number	(0 to 12)					
Example of a MA	AP display:							
Sync	CPU	Jam	DRAM	Port	Ms	gCh	PL	ink
No s	tate act		0123	Card	0	1	0	1
Plane 0 Plane 1	F I	Veq	F. -	•	•	•	•	•
	• • • • • • • • • • • • • • • • • • •	haafau		•	•	•	•	•
		nas iau	iits, type					
and pross the Er	ter kov							
	iter key.							
WIEIC								
dram no	her of the	DRAM	(0 to 3) s	lot that	has f	aults		
dram_no is the num								
dram_no is the num	mand		Do					

PM FP MemCor minor (end)

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15

16

17

If the TST command	Do
failed, and you replaced all cards on the list	the step 19
failed, and the system did generate a card list	not step 19
Record the location, PEC, and F Go to step 11.	PEC suffix of the next card on the card list.
To release the jam on the inactiv	/e CPU, type
>MATEJAM RELEASE	
and press the Enter key.	
Example of a MAP response:	
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not	las been submitted. Completed. jammed.
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type	Completed. jammed.
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type >SYNC	las been submitted. Completed. jammed.
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key.	las been submitted. Completed. jammed.
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command	Do
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command passed	Do step 17
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command C The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command passed failed	Do Step 17 step 19
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command passed failed Determine the plane state of the	Do Step 17 Step 19 Posted FP.
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command passed failed Determine the plane state of the Note: The symbol . under th are in service. Any other sym	Do Step 17 Step 19 Posted FP. The Plane header indicates that the FP plane bol indicates a fault.
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command (The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command passed failed Determine the plane state of the Note: The symbol . under th are in service. Any other sym If the plane state	Do Step 17 Step 19 Posted FP. Posted FP. Posted FP. Do Do Do
FP 3 Jam Mate: Request F FP 3 Jam Mate: Command C The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command passed failed Determine the plane state of the Note: The symbol . under th are in service. Any other sym If the plane state is . (in service)	Do step 17 step 19 posted FP. he Plane header indicates that the FP plane hool indicates a fault. Do step 20
<pre>FP 3 Jam Mate: Request F FP 3 Jam Mate: Command C The inactive CPU is not To synchronize the FP, type >SYNC and press the Enter key. If the SYNC command passed failed Determine the plane state of the Note: The symbol . under th are in service. Any other sym If the plane state is . (in service) is MemCor</pre>	Do Step 17 Step 17 Step 19 Posted FP. The Plane header indicates that the FP plane abol indicates a fault. Do Step 20 Step 19

20 The procedure is complete.

PM FP MemFlt minor

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for a file processor (FP). The plane state field of the posted FP displays MemFlt.

Meaning

A memory fault that cannot be corrected occurred on an FP.

The number under the PM header in the alarm banner indicates the number of FPs affected.

Result

There is no result.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FP MemFlt minor alarm



Clearing a PM FP MemFlt minor alarm

At the MAP terminal

1

3

4

ATTENTION

Proceed only if the procedure *How to clear a PM FP minor alarm* in this document directs you to go.

To access the plane level of the MAP display of the posted FP, type

>PLANE

and press the Enter key.

Example of a MAP display:

Sync		CP	U	Jam	DRAM	Port	Ms	gCh	ΡL	ink
No		state	act		0123	Card	0	1	0	1
Plane	0		А			•				
Plane	1	F	I	No	F.					

2 Determine if the FP is in sync.

Note: The word Yes under the Sync header indicates that the FP is in sync. The word No indicates that the FP is not in sync.

If the FP	Do
is in sync	step 3
is not in sync	step 6
To jam the inactive CPU, typ)e
>MATEJAM SET	
and press the Enter key.	
Example of a MAP response	e:
FP 3 Jam Mate: Reques FP 3 Jam Mate Command The inactive CPU is j	t has been submitted. completed. ammed
To drop the synchronization	on the node, type
>DPSYNC	
and press the Enter key.	
Example of a MAP response	e:

If you intend to jam the inactive CPU, please do so before dropping synchronization. Please confirm ("YES", "Y", "NO", or "N"):

5 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

FP 3 Drop synchronization: Request has been submitted. FP 3 Drop synchronization: Command completed.

6 The letter F in the DRAM state field on the plane indicates a fault. To test the DRAM card that has faults, type

>TST MEM dram_no

and press the Enter key.

where

dram_no

is the number of the DRAM slot (0 to 3) that has faults

Example of a MAP display:

Syr	nc		CPU	J	Jam	DRAM	Port	Ms	gCh	PL	ink
No			state	act		0123	Card	0	1	0	1
	Plane	0		А					•		
	Plane	1	F	I	No	F.		•	•	•	•

If the TST command

Do

passed

step 11

failed, and the system generated step 7 a card list

failed, and the system did not step 15 generate a card list

- 7 Record the location, product equipment code (PEC), and PEC suffix of the first card on the card list.
- 8 To replace the card, use the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.
- 9 The letter F in the DRAM status field in the inactive plane indicates a fault. To test the DRAM card that has faults, type

>TST MEM dram_no

and press the Enter key.

where	
dram_no is the number of the DRAM slo	t (0 to 3) that has faults
If the TST command	Do
passed	step 11
failed, and you did not replace all the cards on the list	step 10
failed, and you replaced all the cards on the list	step 15
failed, and the system generated a card list	step 15
Record the location, PEC, and PEC so Go to step 8.	uffix of the next card on the card list.
To synchronize the FP, type	
>SYNC	
and press the Enter key.	
If the SYNC command	Do
passed	step 12
failed	step 15
To release the jam on the inactive CPI	J, type
>MATEJAM RELEASE	
and press the Enter key.	
Example of a MAP response:	
FP 3 Jam Mate: Request has bee FP 3 Jam Mate: Command complet jammed.	en submitted. ed, The inactive CPU is not
Determine the plane state of the poste	ed FP.
<i>Note:</i> The symbol . under the platare in service. Any other symbol in	ne header indicates that the FP planes dicates a fault.
If the state	Do
is . (in service)	step 16
is MemFlt	step 15

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PM FP MemFlt minor (end)

14

If the state	Do
is other than listed here	step 14
Perform the procedure Clearing a	A PM FP minor alarm in this document.

15 For additional help, contact the next level of support.

16 The procedure is complete.

PM FP MMThrs minor

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP	•	•	·	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for a file processor (FP). The Plane state field of the posted FP displays MMThrs.

Meaning

A resource in the FP node exceeded a mismatch threshold.

The number under the PM header in the MAP banner indicates the number of FPs affected.

Result

There is no result.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM FP MMThrs minor (continued)

Summary of Clearing a PM FP MMThrs minor alarm



PM FP MMThrs minor (end)

Clearing a PM FP MMThrs minor alarm

At your current location

- 1 Obtain copies of all current occurrences of the following logs:
 - AP317
 - AP318
 - FP354
- 2 For additional help, contact the next level of support.
- **3** The procedure is complete.

PM FP NoOvr minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for a file processor (FP). The Plane state field of the posted FP displays NoOvr.

Meaning

The FP operates in sync with the handshake override turned off. The system or manual action can decommission the handshake override.

The number under the PM header in the MAP banner indicates the number of FPs affected.

Result

A loss of service does not occur. The processing speed of the FP decreases by 3% to 5%.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FP NoOvr minor alarm



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Clearing a PM FP NoOvr minor alarm

At the MAP terminal

1

ATTENTION

Proceed only if the procedure *Clearing a PM FP minor alarm* in this document directs you to go.

To access the plane level of the MAP display for the in-service trouble FP, type

>PLANE

and press the Enter key.

Example of a MAP display:

Sync		CPU	J	Jam	DRAM	Port	Ms	gCh	PL	ink
Yes		state	act		0123	Card	0	1	0	1
Plane	0	•	А			•				
Plane	1	F	I	No			•			

2 Determine from office records or operating company personnel if the user used the NoHANDS option to put the FP in sync.

If you	Do
entered the last SYNC command with the NoHANDS option	step 3
did not enter the last SYNC command with the NoHANDS option	step 4
cannot determine if you entered the last SYNC command with the NoHANDS option	step 14
Determine if you have permission to m	natch the memories of the CPUs.
Determine if you have permission to n	Do
Determine if you have permission to n If you have permission to match CPU memories	Do step 4

4 To match the memories of the CPUs, type

>MATCH dram_no

and press the Enter key.

where

5

6

7

dram_no

is a number that represents a provisioned DRAM card.

Any value other than a dash (-) in the DRAM

status field (0 to 3) indicates a provisioned DRAM card.

If the MATCH command	Do
passed	step 5
failed	step 13
Determine from the Plane level MAF match are present.	P display if more DRAM card slots to
If more slots	Do
are present	step 4
are not present	step 6
To jam the inactive CPU, type	
>MATEJAM SET	
and press the Enter key.	
Example of a MAP response:	
FP 3 Jam Mate: Request has FP 3 Jam Mate: Command comp The inactive CPU is jammed	been submitted. leted.
To drop the synchronization on the F	P, type
and press the Enter key.	
Example of a MAP response:	
If you intend to jam the in. before dropping synchroniza	active CPU, please do so tion.

8 To confirm the command, type

and press the Enter key.

Example of a MAP response:

FP 3 Drop synchronization: Request has been submitted. FP 3 Drop synchronization: Command completed. Now running in simplex mode with CPU 0 active.

9 To synchronize the FP, type

>SYNC

and press the Enter key.

Example of a MAP response:

FP 3 Synchronization: Request has been submitted. FP 3 Synchronization: Command completed. The PM is now running in SYNC.

If the SYNC command	Do
passed	step 10
failed	step 11

10 To release the jam on the inactive CPU, type

>MATEJAM RELEASE

and press the Enter key.

Example of a MAP response:

FP 3 Jam Mate: Request has been submitted.
FP 3 Jam Mate: Command completed, The inactive CPU is
not jammed.

11 Determine the Plane state of the posted FP.

Example of a MAP display:

FP 3: FP3_256 Plane Devices InSv .

Note: The symbol . under the plane header indicates that the FP surfaces are in service. Any other symbol indicates a fault.

If the plane state	Do	
is . (in service)	step 15	
is NoOvr	step 13	
is other than listed here	step 12	

PM FP NoOvr minor (end)

- **12** Perform the procedure *Clearing a PM FP minor alarm* in this document.
- **13** Obtain copies of all current AP318 logs.
- 14 For additional help, contact the next level of support.
- **15** The procedure is complete.

PM FP NoSync minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•		•	•	1FP	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for a file processor (FP). The Plane state field of the posted FP displays NoSync.

Meaning

The two planes of the FP did not synchronize.

The number under the PM header in the MAP banner indicates the number of FPs affected.

Result

The active plane runs in simplex mode. The performance of applications that use this FP degrade while the FP is out of sync. The performance also degrades if synchronization occurs.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FP NoSync minor alarm



Clearing a PM FP NoSync minor alarm

At the MAP terminal

1

ATTENTION

Proceed only if the procedure *Clearing a PM FP minor alarm* in this document directs you to go.

Determine if the /Mtce flag is present.

Note: Immediately to the right of the FP state in the MAP display is a maintenance status field. The field contains the /Mtce flag if a maintenance action occurs on the FP.

Example of a MAP display:

FP 0:	FP0_256	Plane	Devices
ISTb	/Mtce		

If the /Mtce flag	Do
is present	step 3
is not present	step 4

2 Wait 5 min to 10 min for the system to complete recovery attempts.

If the /Mtce flag	Do
is present	step 16
is not present	step 4

3 To access the plane level of the MAP display of the posted FP, type

>PLANE

and press the Enter key.

Example of a MAP display:

Sync			CPU	J	Jam	DRAM	Port	Ms	gCh	PL	ink
No			state	act		0123	Card	0	1	0	1
P	lane	0	•	А							
P	lane	1	Ν	I	No	-NNN		•	•		

4 Determine if the CPUs are in sync.

Note: The word Yes under the Sync header indicates that the FP is in sync. The word No indicates that the FP is not in sync.

If the CPUs	Do
are in sync	step 12
are not in sync	step 5
Determine from office records or synchronization on the FP was o	r other operating company personnel if dropped manually.
If FP synchronization	Do
was dropped manually	step 6

6	Determine from office records or other operating company personnel why synchronization was dropped.

lf you	Do
have permission to sync the FP	step 7
do not have permission to sync	step 17

step 7

the FP

5

- 7 To synchronize the FP, type
 - >SYNC

and press the Enter key.

was not dropped manually

If the SYNC command	Do
passed	step 12
failed, and the system generated a card list	step 8
failed, and the system did not generate a card list	step 16
Record the location, product engineer first card on the card list.	ing code (PEC), and PEC suffix of the
To replace the card, use the appropria <i>Procedures</i> . Complete the procedure	ate procedure in <i>Card Replacement</i> and return to this point.
To synchronize the FP, type	

>SYNC

8

9

and press the Enter key.

	_				
If the SYNC command	Do				
passed	step 12				
failed, and you did not replace all the cards on the list	step 11				
failed, and you replaced all the cards on the list	step 16				
failed, and the system did not generate a card list	step 16				
Record the location, PEC, and PEC s	suffix of the next card on the card I				
Go to step 9.					
Determine if the inactive side of the F	P jammed.				
<i>Note:</i> The word Yes under the Jar jammed. The word No indicates the transmet.	m header indicates that the CPU nat the CPU did not jam.				
Example of a MAP display:					
No state act (Plane 0 . A - Plane 1 N I No - If the inactive side of the FP	D123 Card 0 1 0 1 -NNN Do				
is jammed	sten 13				
	step 15				
is not jammed	step 14				
To release the jam on the inactive sid	e of the FP, type				
>MATEJAM RELEASE					
and press the Enter key.					
Example of a MAP response:					
FP 0 Jam Mate: Request has b FP 0 Jam Mate: Command comp The inactive CPU is not jamm	been submitted. Leted. med.				
Determine the plane state of the post	ed FP.				
Note: The symbol <> under the Pla are in service. Any other symbol in	ane header indicates that the FP pl ndicates a fault.				
Example of a MAP display:					

PM FP NoSync minor (end)

FP 0:	FP3_256	Plane	Devices				
InSv		•	•				
If the pla	ane state		Do				
is NoS	ync		step 16				
is <> (in	n service)		step 17				
is other	than listed he	re	step 15				

15 Perform the procedure *Clearing a PM FP minor alarm* in this document.

16 For additional help, contact the next level of support.

17 The procedure is complete.

PM FP PrtFlt minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP	•	•	•	•	·

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for a file processor (FP). The Plane state field of the posted FP displays PrtFlt.

Meaning

The port on the FP has two links. A fault on the FP causes the links to be out of service.

The number under the PM header in the MAP banner indicates the number of FPs.

Result

The alarm does not affect subscriber service. A single-plane fault on a port in the other plane can isolate the FP.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM FP PrtFlt minor (continued)

Summary of clearing a PM FP PrtFlt minor alarm



PM FP PrtFlt minor (continued)

Clearing a PM FP PrtFlt minor alarm

At the MAP terminal

1

ATTENTION

Proceed only if the procedure *Clearing a PM FP minor alarm* in this document directs you to go.

To access the Plane level of the MAP display of the in-service trouble FP, type

>PLANE and press the Enter key.

Example of a MAP display:

Sync		CPU	J	Jam	DRAM	Port	Ms	gCh	PL	ink
No		state	act		0123	Card	0	1	0	1
Plane	0		A							
Plane	1		I	No		F	L	L	Ρ	Ρ

2 To query the port that has the fault, type

>QUERYPL PORT plane_no FLT

and press the Enter key.

where

plane no

is the number of the inactive plane (0 or 1)

lf	Do
the response is TEST, TRAP and Split info : Okay	step 10
indication of a fault is present, and the system generated a card list	step 3
indication of a fault is present, and the system did not generate a card list	step 10
Record the location, product engineer first card on the list.	ing code (PEC), and PEC suffix of the

4 Use the correct procedure in *Card Replacement Procedures* to replace the card. Complete the procedure and return to this point.

PM FP PrtFlt minor (continued)

(0 or 1) 9 ep 7 ep 6 ep 10						
(0 or 1) 9 ep 7 ep 6 ep 10						
(0 or 1) 9 ep 7 ep 6 ep 10						
(0 or 1) p p 7 p 6 p 10						
р ер 7 ер б ер 10						
ep 7 ep 6 ep 10						
ер б ер 10						
ep 10						
ep 10						
of the next card on the lis						
e plane to service, type						
<pre>plane_no is the number of the inactive plane (0 or 1)</pre>						
Do						
ep 8						
ep 10						

PM FP PrtFlt minor (end)

Sync		CPU		Jam	DRAM	Port	Ms	gCh	PL	ink	
NО		state	act		0123	Card	0	T	0	T	
	Plane 0	•	A				•	•	•		
	Plane 1	•	Ι	No		•	L	L	Ρ	Ρ	
It	the Port C	ard state	e		Do						
is	the Port C	ard state	9		Do step	11					

9 Perform the procedure *Clearing a PM FP minor alarm* in this document.

10 For additional help, contact the next level of support.

11 The procedure is complete.

PM FP PrtTbl minor

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
·	•	•	•	1FP	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a file processor minor alarm. The Plane state field of the posted FP displays PrtTbl.

Meaning

A link on a port card in the FP is out of service or has in-service trouble.

The number under the PM header in the MAP banner indicates the number of FPs affected.

Result

There is no result.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM FP PrtTbl minor (continued)

Summary of clearing a PM FP PrtTbl minor alarm


Clearing a PM FP PrtTbl minor alarm

At the MAP terminal

1

ATTENTION

Proceed only if the procedure *Clearing a PM FP minor alarm* in this document directs you to go.

To access the Plane level of the MAP display of the FP that has port trouble, type

>PLANE

and press the Enter key.

Example of a MAP display:

Sync		CPU	J	Jam	DRAM	Port	Ms	gCh	ΡL	ink
No		state	act		0123	Card	0	1	0	1
Plane	0		А				•			•
Plane	1		I	No		1	R		R	

- 2 Determine the PLink state. If more than one fault is present in the PLink fields, clear the highest priority fault first. The following faults are in order of priority:
 - system busy (S)
 - manual busy (M)
 - resource not available (R)
 - in-service trouble (I)

If the PLink state	Do
is S	step 5
is M	step 4
is R	step 3
is I	step 5
is . (in service)	step 13

3 Perform the appropriate MS procedure to clear the alarm. Complete the procedure and return to this point.

Go to step 1.									
Determine from office records or opera is manual busy. When you have perm	ting company personnel why ission, return the link to serv								
lf	Do								
you have permission, return the P-link to service	step 6								
you do not have permission to return the P-link to service	step 30								
To manually busy the P-link, type									
>BSY PORT plane_no PLINK	link_no								
and press the Enter key.									
where	vhere								
<pre>plane_no is the number of the inactive plane (0 or 1)</pre>									
link_no is the number of the link (0 or 1)								
To return the P-link to service, type									
>RTS PORT plane_no PLINK	link_no								
and press the Enter key.									
where									
plane_no is the number of the inactive plane (0 or 1)									
link_no is the number of the link (0 or 1)								
If the RTS command	Do								
passed	step 11								
failed, and the system generated a card	step 7								
failed, and the system did not generate a card list	step 29								
Record the location, product engineer first card on the list.	ing code (PEC), and PEC su								
Use the correct procedure in <i>Card Re</i> card. Complete the procedure and re	<i>placement Procedures</i> to rep eturn to this point.								

lo retu	urn the	P-link to ser	vice, type					
>RTS	PORT	plane_n	O PLINK	link_no				
and press the Enter key.								
where								
pl	ane_nc is the r) number of th	e inactive pla	ane (0 or 1)				
lir	ik_no is the r	number of th	e link (0 or 1)				
lf the	RTS c	ommand		Do				
pass	ed			step 11				
faile all tł	d, and ne card	you did n s on the list	ot replace t	step 10	step 10			
faile card	d, and s on the	you replac e list	step 29					
faile	d and	the system	stop 20					
gene	erate a o	card list	in ala not	step 29				
gene Recor Go to	d the lo step 8.	cation, PEC	, and PEC si	uffix of the next card on	the lis			
gene Recor Go to Deterr	d the lo step 8.	cation, PEC	, and PEC si	uffix of the next card on ed FP.	the lis			
gene Recor Go to Deterr <i>Exam</i>	d the lo step 8. nine the	cation, PEC e Plane state <i>MAP respo</i>	, and PEC se e of the postense:	uffix of the next card on ed FP.	the lis			
gene Recor Go to Deterr <i>Exam</i> FP 3 InSv	d the lo step 8. mine the ole of a	card list cation, PEC e Plane state <i>MAP respon</i> FP3_256	, and PEC si e of the postense: Plane	uffix of the next card on ed FP. Devices	the lis			
gene Recor Go to Deterr <i>Exam</i> InSv	d the lo step 8. mine the ole of a : F	card list cation, PEC e Plane state <i>MAP respon</i> FP3_256 state	, and PEC si e of the post nse: Plane	uffix of the next card on ed FP. Devices Do	the lis			
gene Recor Go to Deterr <i>Exam</i> InSv InSv	d the lo step 8. mine the ole of a : F Plane (in serv	card list cation, PEC e Plane state <i>MAP respon</i> rP3_256 state vice)	, and PEC so e of the posten <i>nse:</i> Plane	uffix of the next card on ed FP. Devices Do step 30	the lis			
Recor Go to Deterr <i>Exam</i> InSv InSv If the is .	d the lo step 8. nine the ole of a : F Plane (in serv rtTb]	card list cation, PEC e Plane state <i>MAP respon</i> FP3_256 state vice)	, and PEC se e of the postense: Plane	uffix of the next card on ed FP. Devices Do step 30 step 13	the lis			

- .
- of priority. If more than one fault is present in the MsgCh fields, clear the highest priority fault first. The following faults are in order of priority:
 - system busy (S) •
 - manual busy (M) •

- resource not available (R)
- in-service trouble (I)

Example of a MAP display:

If the MsgCh	Do											
Plane 1	•	I	No		1	R	•	R	•			
Plane 0	•	А					•		•			
No	state	act		0123	Card	0	1	0	1			
Sync	CPU		CPU		Jam	DRAM	Port	MsgCh		PLink		

is S	step 16
is M	step 15
is R	step 14
is I	step 16

14 Perform the correct MS procedure to clear the alarm. Complete the procedure and return to this point.

Go to step 11.

15 Determine from office records or operating company personnel why the message channel is manual busy.

lf	Do
you have permission to return the message channel to service	step 17
you do not have permission to return the message channel to service	step 30
To manually busy the message channel, type	
>BSY PORT plane_no MSGCH link_no	
and press the Enter key.	
where	
plane_no is the number of the inactive plane (0 or 1)	
link_no is the number of the link (0 or 1)	
To return the message channel to service, type	
>RTS PORT plane_no MSGCH link_no	
and press the Enter key. <i>where</i>	

17

16

	<pre>plane_no is the number of the inactive plane (0 or 1)</pre>								
	link_no is the number of the link (0 or 1)								
	If the RTS command	Do							
	passed	step 11							
	failed, and the system generated a card list	step 18							
	failed, and the system did not generate a card list	step 29							
18 19	Record the location, PEC, and PEC suffix of the first card or Use the correct procedure in <i>Card Replacement Procedures</i> card. Complete the procedure and return to this point.	n the list. s to replace the							
20	To return the message channel to service, type								
	>RTS PORT plane_no MSGCH link_no								
	and press the Enter key.								
	where								
	<pre>plane_no is the number of the inactive plane (0 or 1)</pre>								
	link_no is the number of the link (0 or 1)								
	If the RTS command	Do							
	passed	step 22							
	failed, and you did not replace all the cards on the list	step 21							
	failed, and you replaced all the cards on the list	step 29							
	failed, and the system did not generate a card list	step 29							
21	Record the location, PEC, and PEC suffix of the next card o	n the list.							
	Go to step 19.								
22	To test the port hardware, type								
	>TST PORT plane_no								
	and press the Enter key.								
	where								

23 24

25

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If the TST command passed failed, and the system generated a card list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the first card of Use the correct procedure in Card Replacement Procedure card. Complete the procedure and return to this point. To test the port hardware, type >TST PORT plane_no and press the Enter key. where plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 FP 3: FP3_256 Plane Devices	
passed failed, and the system generated a card list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the first card of Use the correct procedure in Card Replacement Procedure card. Complete the procedure and return to this point. To test the port hardware, type >TST PORT plane_no and press the Enter key. where plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv .	Do
failed, and the system generated a card list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the first card of Use the correct procedure in <i>Card Replacement Procedure</i> card. Complete the procedure and return to this point. To test the port hardware, type >TST PORT plane_no and press the Enter key. where plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. <i>Note:</i> The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. <i>Example of a MAP response:</i> FP 3: FP3_256 Plane Devices InSv	step 27
failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the first card of Use the correct procedure in <i>Card Replacement Procedure</i> card. Complete the procedure and return to this point. To test the port hardware, type >TST PORT plane_no and press the Enter key. <i>where</i> plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. <i>Note:</i> The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. <i>Example of a MAP response:</i> FP 3: FP3_256 Plane Devices InSv .	step 23
Record the location, PEC, and PEC suffix of the first card of Use the correct procedure in <i>Card Replacement Procedure</i> card. Complete the procedure and return to this point. To test the port hardware, type >TST PORT plane_no and press the Enter key. <i>where</i> plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. <i>Note:</i> The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. <i>Example of a MAP response:</i> FP 3: FP3_256 Plane Devices InSv .	step 29
Use the correct procedure in <i>Card Replacement Procedure</i> card. Complete the procedure and return to this point. To test the port hardware, type >TST PORT plane_no and press the Enter key. where plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. <i>Note:</i> The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. <i>Example of a MAP response:</i> FP 3: FP3_256 Plane Devices InSv	n the card list
To test the port hardware, type >TST PORT plane_no and press the Enter key. where plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv .	s to replace th
<pre>>TST PORT plane_no and press the Enter key. where plane_no is the number of the inactive plane (0 or 1) If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card o Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv</pre>	
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If the TST command passed failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv .	
passedfailed, and you did not replace all the cards on the listfailed, and you replaced all the cards on the listfailed, and the system did not generate a card listRecord the location, PEC, and PEC suffix of the next card ofGo to step 24.Determine the Plane state of the posted FP.Note:The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault.Example of a MAP response:FP 3:FP3_256FlaneDevicesInSv.	Do
failed, and you did not replace all the cards on the list failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv	step 27
failed, and you replaced all the cards on the list failed, and the system did not generate a card list Record the location, PEC, and PEC suffix of the next card of Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv .	step 26
failed, and the system did not generate a card listRecord the location, PEC, and PEC suffix of the next card ofGo to step 24.Determine the Plane state of the posted FP.Note:The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault.Example of a MAP response:FP 3:FP3_256PlaneDevicesInSv.	step 29
Record the location, PEC, and PEC suffix of the next card c Go to step 24. Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. <i>Example of a MAP response:</i> FP 3: FP3_256 Plane Devices InSv .	step 29
Go to step 24. Determine the Plane state of the posted FP. <i>Note:</i> The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. <i>Example of a MAP response:</i> FP 3: FP3_256 Plane Devices InSv .	n the card list
Determine the Plane state of the posted FP. Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv .	
Note: The symbol . under the Plane header indicates th are in service. Any other symbol indicates a fault. Example of a MAP response: FP 3: FP3_256 Plane Devices InSv .	
Example of a MAP response: FP 3: FP3_256 Plane Devices InSv	at the FP plar
FP 3: FP3_256 Plane Devices InSv	
If the Plane state Do	
is . (in service) step 30	
is PrtTbl step 29	

PM FP PrtTbl minor (end)

If the Plane state	Do
is other than listed here	step 28
Perform the procedure Clearing	a PM FP minor alarm in this document.
	· · · · ·

- **29** For additional help, contact the next level of support.
- **30** The procedure is complete.

PM FP Trap minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1FP	•	•	•	•	•

Indication

At the MTC level of the MAP display, FP (preceded by a number) appears under the PM header of the alarm banner. The FP indicates a minor alarm for a file processor (FP). The trap appears on the Plane state field of the posted FP.

Meaning

The trap rate on the FP approaches a threshold that can initiate a warm restart.

The number under the PM header in the MAP banner indicates the number of FPs affected.

Result

The FP CPU takes time to correct faults. A real-time delay problem can occur, for example a slow system response.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM FP Trap minor (continued)

Summary of clearing a PM FP Trap minor alarm



PM FP Trap minor (end)

Clearing a PM FP Trap minor alarm

At your current location

- 1 Obtain copies of all current occurrences of the following logs:
 - AP317
 - AP318
 - FP354
- 2 For additional help, contact the next level of support.
- **3** The procedure is complete.

PM FRIU critical (on an LPP)

Alarm display

1	CM MB OD Not PM CCS The Bd	CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
				•		1FRIU *C*			•		

Indication

At the MTC level of the MAP display, a number and FRIU appear under the PM header of the alarm banner. The FRIU indicates a critical alarm for the frame relay interface unit (FRIU).

Meaning

One or more FRIUs are system busy or system busy not available for one of the following reasons:

- The FRIU error interrupts
- The FRIU does not respond to computing module (CM) due to faults. These faults are in the link interface module (LIM), message switch (MS), F-buses, or F-bus taps
- An in-service test fails

The number under the PM header in the alarm banner indicates the number of affected FRIUs.

Result

The indicated number of FRIUs are out-of-service. The T1 channels for the FRIUs cannot transmit traffic.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of Clearing a PM FRIU critical alarm (on an LPP)



Clearing a PM FRIU alarm

At the MAP display

1 To access the peripheral module (PM) level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. Example of a MAP display

DM	SysB	ManB	OffL	CBsy	ISTb	InSv
	2		0	0	0	70
To display	the system b	usy FRIUs	s, type			
>POST	the Enter key	,				
Example	of a MAP disc	olav				
		,				
FRIU	121 SysB	Rsvd	l			
If the M	AP response		Do			
indicate FRIU	es a SysB or	SysB (N	A) step	6		
indicate	es end of post	ted set	step	3		
To display	the in service	e problem	FRIUs, typ	е		
>POST	FRIU ISTB					
and press	the Enter key	Ι.				
Example	of a MAP disp	olay				
FRIU	121 SysB (1	NA) R	svd			
If the M	AP response		Do			
indicate	es an ISTb FI	RIU	step	4		
indicate	es an ISTb (N	IA) FRIU	step	6		
indicate	es end of post	ted set	step	43		
To display	the next in se	ervice prob	olem FRIU,	type		
>NEXT						
and press	the Enter key	/.				
Example	of a MAP disp	olay				

If the MAP respo	onse	Do
indicates an IST	b FRIU	step 5
indicates an IST	Tb (NA) FRIU	step 6
indicates end of	posted set	step 43
Repeat step 4 until reach the end of th	an in-service p ne posted set.	roblem not available FRIU appears and
Record the numbe	r of the posted	FRIU for use in this procedure.
To query the FRIU	to determine t	he frame type, type
>QUERYPM		
and press the Ente	er key.	
	the second lin	a in the response An SSI DD supplie
FRIU, if the hea	the second lin ader MS appea Presponse:	e in the response. An SSLPP supplie rs. In the example, the header is LIM
Example of a MAP	the second lin ader MS appea ? response:	e in the response. An SSLPP supplie rs. In the example, the header is LIM
FRIU, if the heat FRIU, if the heat Example of a MAP	the second lin ader MS appea <i>Presponse:</i>	e in the response. An SSLPP supplie rs. In the example, the header is LIM
FRIU, if the heat FRIU, if the heat Example of a MAP FRIU FTA: 424 LIM: 0 Shelf: Default Load:	the second lin ader MS appea <i>Presponse:</i> 4B 1000 : 1 Slot: F8X36CJ	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14
FRIU, if the heat FRIU, if the heat Example of a MAP FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load:	the second lin ader MS appea <i>Presponse:</i> 4B 1000 : 1 Slot: F8X36CJ F8X36CJ	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14
FRIU, if the heat FRIU, if the heat Example of a MAF FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load: Carrier is cur	the second lin ader MS appea <i>Presponse:</i> 4B 1000 : 1 Slot: F8X36CJ F8X36CJ crently I	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14
FRIU, if the heat Example of a MAF FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load: Carrier is cur Carrier Alarm:	the second lin ader MS appea <i>Presponse:</i> 4B 1000 : 1 Slot: F8X36CJ F8X36CJ crently I :	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14
on the far left of FRIU, if the hea Example of a MAF FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load: Carrier is cur Carrier Alarm: LMS States:	the second in ader MS appea ? response: 4B 1000 : 1 Slot: F8X36CJ F8X36CJ F8X36CJ crently I : InSv	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14 nSv. InSv
on the far left of FRIU, if the hea Example of a MAF FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load: Carrier is cur Carrier Alarm: LMS States: Auditing?:	the second in ader MS appea <i>Presponse:</i> 4B 1000 : 1 Slot: F8X36CJ F8X36CJ F8X36CJ crently I : InSv Yes	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14 nSv. InSv Yes
on the far left of FRIU, if the hea Example of a MAF FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load: Carrier is cur Carrier Alarm: LMS States: Auditing?: Msg Channels: TAPs:	the second in ader MS appea ? response: 4B 1000 : 1 Slot: F8X36CJ F8X36CJ crently I : InSv Yes Acc	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14 nSv. InSv Yes Acc
on the far left of FRIU, if the hea Example of a MAF FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load: Carrier is cur Carrier Alarm: LMS States: Auditing?: Msg Channels: TAPs: If the code	the second in ader MS appea <i>Presponse:</i> 4B 1000 : 1 Slot: F8X36CJ F8X36CJ F8X36CJ crently I : InSv Yes Acc	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14 nSv. InSv Yes Acc Do
on the far left of FRIU, if the hea Example of a MAF FRIU FTA: 424 LIM: 0 Shelf: Default Load: Running Load: Carrier is cur Carrier Alarm: LMS States: Auditing?: Msg Channels: TAPs: If the code is LIM	the second in ader MS appea Presponse: 4B 1000 : 1 Slot: F8X36CJ F8X36CJ crently I : InSv Yes Acc	e in the response. An SSLPP supplie rs. In the example, the header is LIM 14 nSv. InSv Yes Acc · Do step 9

>BSY FORCE

and press the Enter key.

Example of a MAP response:

FRIU carrier will be affected by this mtce action. Please confirm ("YES", "Y", "NO", or "N"): 10 To confirm the command, type >YES and press the Enter key. If the FRIU Do is ManB step 29 is ManB (NA) step 11 11 To query the FRIU to determine if any related C-side faults are present, type >QUERYPM and press the Enter key. Example of a MAP response: FRIU FTA: 424B 1000 LIM: 0 Shelf: 1 Slot: 14 Default Load: F8X36CJ Running Load: Potential service affecting conditions: Config Data Mismatch Msg Channel #0 NA Msg Channel #1 NA TAP #0 OOS/NA TAP #1 OOS/NA Host Unit 0 is not inservice Host Unit 1 is not inservice Carrier is currently OffL. Carrier Alarm: -----. LMS States: SysB ManB Auditing?: No No Msg Channels: NA NA TAPs: S М 12 Record the number of the LIM. You will now clear faults for the LIM and F-bus. *Note:* The number of the LIM appears on the right side of the LIM header. The LIM header is on the MAP response in step 11. 13 To post the LIM that associates with the FRIU, type >POST LIM lim_no and press the Enter key. where

14

lim no is the number of the LIM (0 to 16) Example of a MAP response: LIM 0 ISTb Links_00S Taps_00S Unit0: ISTb 12 • 12 Unit1: ISTb To access the F-bus level of the MAP, type >FBUS and press the Enter key. Example of a MAP response: LIM 0 ISTb Links_00S Taps_00S Unit0: ISTb . 12 Unit1: ISTb 12 . Tap: 0 4 8 12 16 20 24 28 32 FBus0: ManB BBBB BBBB BBBB BBBB.---- --- ----FBus1: ManB *Note:* In the example, symbols under the tap numbers indicate the following: В F-bus is manually busy or the controlling LIM unit is system busy ormanually busy S system-busy tap Μ manually busy tap L in-service problem tap dot (.) in-service tap tap that is not equipped Determine the state of the LIM and both F-buses. If the state of the LIM and both Do **F-buses** is InSv and ISTb step 18

is other than listed here step 16

16 Record the state of the LIM and F-buses that have faults.

15

- **17** A problem with the LIM produces a PM LIM alarm. A problem with the F-bus produces a PM LIMF alarm. Perform the correct alarm clearing procedure in *Alarm and Performance Monitoring Procedures*. Complete the procedure and return to this point.
- 18 To determine the F-bus tap that associates with the FRIU, type

>TRNSL fbus_no

and press the Enter key.

where

20 21

fbus_no

is the number of one of the F-buses (0 or 1)

Note: The number of the F-bus tap for the FRIU appears in the third column.

Example of a MAP response:

LIM	0	FBus	0	Тар	0	is	on	FRIU	121
LIM	0	FBus	0	Тар	1	is	on	FRIU	122
LIM	0	FBus	0	Тар	2	is	on	FRIU	123
LIM	0	FBus	0	Тар	3	is	on	FRIU	124
LIM	0	FBus	0	Тар	4	is	on	FRIU	125
MORE	c								

19 Determine the state of the F-bus taps.

Note: The tap state appears on the right of the tap header. The tap header is in the MAP display in step 18. The tap number applies to both F-buses.

If the state of	Do
one or both F-bus taps is M	step 22
one F-bus tap is M and the other F-bus tap is S	step 22
one or both F-bus taps are S	step 20
both F-bus taps are I or dot (.)	step 26
Choose a system busy tap to work on To manually busy the system busy F-b >BSY FBUS fbus_no tap_no	ous tap, type FORCE
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 or	r 1)

tap_no

is the number of the F-bus tap (0 to 35)

Go to step 24.

- 22 Choose a manual busy tap to work on.
- 23 Consult office records or operating company personnel. Determine the reason that the tap is manually busy.

Continue this procedure when you receive permission.

24 To return the F-bus tap to service, type

where	
fbus_no is the number of the F-bus (0 o	r 1)
tap_no is the number of the F-bus tap	(0 to 35)
If the RTS command	Do
passed	step 25
failed, and a card list generated	step 36
failed, and a card list did not generate	step 32
failed, with the response local maintenance not accessible	step 32
failed for a reason other than listed here, and you did not work on the other tap	step 25
failed for a reason other than listed here, and you worked on the other tap	step 43
Determine the state of the other tap. Note: The tap state appears on the	e right of the tap header. The ta

is dot (.) (in service) or	
I (in-service problem)	

If the state of the other tap	Do
is M (manually busy)	step 23
is S (system busy)	step 21
To quit from the F-bus level of the	MAP, type
>QUIT	
and press the Enter key.	
To return to the PM level of the MA	NP, type
>PM	
and press the Enter key.	
To post the FRIU, type	
>POST FRIU friu_no	
and press the Enter key.	
where	
friu_no is the number of the FRIU th	hat you work on (0 to 500)
Example of a MAP response:	
FRIU 121 ManB Rsvd	
Go to step 29.	
To reset the FRIU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 31
failed	step 30
To load the FRIU, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 31

If the LOADPM command	Do
failed, with a card list that con- tained NTEX22 as the first card on the list	step 39
failed, with a card list that con- tained NTEX30 or NTEX31 as the first card on the list	step 31
failed, with no card list, and you did not check for LIM or F-bus faults with this procedure	step 11
failed, with no card list, and you already cleared LIM and F-bus alarms	step 43
To test the FRIU, type	
>TST	
and press the Enter key.	
If the TST command	Do
passed	step 42
failed, with a card list	step 36
failed, with any other result	step 43

At the frame

32

31



DANGER

Static electricity damage When you handle cards, wear a wrist-strap that connects to

the wrist-strap grounding point. The grounding point is on the frame supervisory panel (FSP). The wrist-strap protects the cards against static electricity damage.

Locate the NTEX22 card for the FRIU that you tested. Seat the three cards for the FRIU again.



33 Carefully raise the locking levers. Pull the card 25 mm (1 in.) toward you.



- **34** Seat and lock the card, as follows:
 - **a** Push on the upper and lower edges of the faceplate with finger or thumb pressure. Perform this procedure to make sure that the card sits completely in the shelf.
 - **b** Close the locking levers.



PM FRIU critical (on an LPP) (end)

To return the FRIU to service	, type	
>RTS		
and press the Enter key.		
If the RTS command	Do	
passed	step 44	
failed	step 43	

44 The procedure is complete.

PM FRIU major on an LPP

Alarm Display

(CM MS OD Net PM CCS The list	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
				•	·	1FRIU M	·		•		

Indication

At the MTC level of the MAP display, FRIU (preceded by a number) appears under the PM header of the alarm banner. The FRIU indicates a major alarm for a frame-relay interface unit (FRIU).

Meaning

A minimum of one FRIU is manual busy or manual busy not available for one of the following reasons:

- for maintenance purposes
- for maintenance purposes, and the FRIU does not respond to the computing module (CM)

The number under the PM header of the alarm banner indicates the number of FRIUs affected.

Result

The indicated number of FRIUs are out of service and the DS-1 channels associated with the FRIUs cannot carry traffic.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps m the procedure.

Summary of clearing a PM FRIU major alarm (on an LPP)



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2

Clearing a PM FRIU alarm

At the MAP terminal

1 To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key.

Example of a MAP display:

PM	SysB O	ManB 2	OffL O	CBsy O	ISTb 0	InSv 70
To display the >POST FRI and press the Example of a	e manual b t u мамв e Enter key a <i>MAP resp</i>	usy FRIUs ponse:	, type			
FRIU 123	l ManB	Rsvd				
If the MAP	response		D	0		
indicates a	indicates a ManB or ManB (NA) FRIU					
indicates End of posted set				tep 39		

- **3** Record the number of the posted FRIU for use in this procedure.
- 4 To query the FRIU to determine the frame type, type

>QUERYPM

and press the Enter key.

Note: The FRIU is in an LPP if the code LIM appears. The code appears on the far left side of the second line in the response. The FRIU is in an SSLPP if the code MS appears. In the following example, the code is LIM.

Example of a MAP response:

FRIU FTA: 424	в 1000		
LIM: 0 Shelf:	1 Slot: 1	14	
Default Load:	F8X36CJ		
Running Load:	F8X36CJ		
Carrier is cur	rently Ir	nSv.	
Carrier Alarm:			
LMS States:	InSv	InSv	
Auditing?:	Yes	Yes	
Msg Channels:	Acc	Acc	
TAPs:			
If the code		Do	
is LIM		step 6	

5 Perform the procedure *Clearing an FRIU major alarm (on an SSLPP)*. Do not return to this procedure.

6 Determine the state of the FRIU from the response you obtained in step 2.

If the FRIU	Do
is ManB	step 25
is ManB (NA)	step 7

7 To query the FRIU to determine if any related C-side faults are present, type >QUERYPM

and press the Enter key.

Example of a MAP response:

8

9

```
FRIU FTA: 424B 1000
      LIM: 0 Shelf: 1 Slot: 14
      Default Load: F8X36CJ
      Running Load:
      Potential service affecting conditions:
            Config Data Mismatch
            Msg Channel #1 NA
            TAP #0 OOS/NA
            TAP #1 OOS/NA
            Host Unit 1 is not inservice
      Carrier is currently OffL.
      Carrier Alarm: -----.
      LMS States: InSv
                                    ManB
      Auditing?: No
                                    No
      Msg Channels: Acc
                                    NA
      TAPs:
                      I
                                     М
      Record the number of the LIM. Clear the faults associated with the LIM and
      F-bus.
         Note: The number of the LIM appears on the right of the LIM header on
        the MAP response you obtained in step 7.
      To post the LIM associated with the FRIU, type
      >POST LIM lim_no
      and press the Enter key.
      where
          lim no
            is the number of the LIM (0 to 16)
      Example of a MAP response:
      LIM 0 ISTb
                          Links_00S Taps_00S
      Unit0: ISTb
                                          12
                               .
      Unitl: ISTb
                                          12
10
      To access the F-bus level of the MAP display, type
      >FBUS
      and press the Enter key.
      Example of a MAP display:
```

LIM 0 IST	о _			-						
Unit0: IST	Ц: С	inks_0	05 1	aps_00 12	JS					
Unitl: IST	0	•		12						
FBus0: Manl FBus1: Manl	Tap: 3	0 BBBB BBBB	4 BBBB BBBB	8 BBBB BBBB	12 BBBB BBBB	16 	20	24 	28	32
Note: T The tap	he followi numbers i	ng exa ndicat	imple e the	e disp e follov	ays s ving:	ymbo	ols un	der th	ne tap	numbers.
B F-bu	is is manu	al bus	y or	that th	ne cor	ntrollii	ng LII	/l uni	t is sy	stem busy
or m	or manual busy									
S										
syste	em-busy t	ар								
M	ual-busy t	an								
I	uui busy i	ap								
in-se	ervice trou	ble ta	р							
dot (.)										
IN-SE	ervice tap									
- uneo	quipped ta	p								
Determine	the state	of the	LIM a	and b	oth F-	buse	s.			
If the stat	e of the l	IM an	d bo	th	Do					
F-buses					00					
is InSv an	d ISTb				ste	p 14				
is other th	an listed l	nere			ste	p 12				
Record the state of the LIM and F-buses that have faults.										
A problem with the LIM produces a PM LIM alarm. A problem with the F-bus produces a PM LIMF alarm. Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.										
To determine the F-bus tap associated with the FRIU, type										
>TRNSL	fbus_no									
and press t	he Enter I	key.								
where										
fbus_n is th	i o e number	of one	e of tl	ne F-k	ouses	(1 or	0)			
<i>Note:</i> ⊤	he numbe	er of th	e F-b	ous ta	p ass	ociate	ed wit	h the	FRIL	J appears ir

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Example of a MAP response:

LIM 0 FBus 0 Tap 0 is on FRIU 121 LIM 0 FBus 0 Tap 1 is on FRIU 122 LIM 0 FBus 0 Tap 2 is on FRIU 123 LIM 0 FBus 0 Tap 3 is on FRIU 124 LIM 0 FBus 0 Tap 4 is on FRIU 125 MORE...

15 Determine the state of the F-bus taps.

Note: The tap state appears on the right of the tap header in the MAP display you obtained in step 10. The tap number applies to both F-buses.

If the state of	Do							
one or both F-bus taps is M	step 18 step 18							
one F-bus tap is M and the other F-bus tap is S								
one or both F-bus taps is S	step 16							
both F-bus taps is I or dot (.)	step 22							
Choose a system busy tap to work on.								
To manually busy the system busy F-bus tap, type								
>BSY FBUS fbus_no tap_no FORCE								
and press the Enter key.								
where								
fbus_no is the number of the F-bus (0 or 1)								
tap_no is the number of the F-bus tap (0 to 35)								
Go to step 20.								
Choose a manual busy tap to work on.								
Determine from office records or from operating company personnel wh tap is busy.								
When you have permission, continue this procedure	Э.							
To return the F-bus tap to service, type								
>RTS FBUS fbus_no tap_no								
and press the Enter key.								
where								
fbus_no is the number of the F-bus (0 or 1)								

	tap_no is the number of the F-bus tap (0 to 35)							
-	If the RTS command	Do						
-	passed	step 21						
	failed, and the system generated a card list	step 32						
	failed, and the system did not generate a card list	step 28						
	failed, with the responselocal maintenance not accessible	step 28						
	failed for any other reason, and you did not work on the other tap	step 21						
	failed for any other reason, and you worked on the other tap	step 39						
[Determine the state of the other tap.							
	<i>Note:</i> The tap state appears on the right of the Tap header in the MAP display you obtained in step 10. The tap number applies to both F-buses							
	If the state of the other tap	Do						
-	is dot (.) (in service) or I (in-service trouble)	step 22						
	is M (manual busy)	step 20						
	is S (system busy)	step 16						
-	To quit from the F-bus level of the MA	P display, type						
	TATE							
ć	and press the Enter key.							
2	and press the Enter key. To return to the PM level of the MAP c	lisplay, type						
	and press the Enter key. To return to the PM level of the MAP c >PM	lisplay, type						
	and press the Enter key. To return to the PM level of the MAP c >PM and press the Enter key.	lisplay, type						
	and press the Enter key. To return to the PM level of the MAP c >PM and press the Enter key. To post the FRIU, type	lisplay, type						
	and press the Enter key. To return to the PM level of the MAP o >PM and press the Enter key. To post the FRIU, type >POST FRIU friu_no	lisplay, type						
	and press the Enter key. To return to the PM level of the MAP o >PM and press the Enter key. To post the FRIU, type >POST FRIU friu_no and press the Enter key.	lisplay, type						
	and press the Enter key. To return to the PM level of the MAP o >PM and press the Enter key. To post the FRIU, type >POST FRIU friu_no and press the Enter key. where	lisplay, type						

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FRIU 121 ManB Rsvd	
Go to step 26.	
To reset the FRIU, type	
>PMRESET	
and press the Enter key.	
If the PMRESET command	Do
passed	step 27
failed	step 26
To load the FRIU, type	
>LOADPM	
and press the Enter key.	
lf	Do
passed	step 27
failed, with a card list that contains NTEX22 as the first card on the list	step 35
failed, with a card list that contains NTEX30 or NTEX31 as the first card on the list	step 27
failed, with no card list and you did not use this procedure to check for LIM or F-bus faults	step 7
failed, with no card list and you cleared LIM and F-bus alarms	step 39
To test the FRIU, type	
>TST	
and press the Enter key.	
If the TST command	Do
passed	step 38
failed, with a card list	step 32

At the frame

28



WARNING

Static electricity damage Wear a wrist strap that connects to the wrist-strap grounding point of a frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the NTEX22 card for the FRIU. Put in correct position the three cards for the FRIU.



29 Lift the locking levers. Pull the card toward you 25 mm (1 in.).



30 Seat and lock the card as follows:

- **a** Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Push on the edges of the faceplate to make sure that the card sits completely in the shelf.
- **b** Close the locking levers.



- Repeat steps 28 to 30 for the NTEX30 and NTEX31 cards for the FRIU.Go to step 26.
- **32** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the cards on the list. Replace cards on the list.

lf you	Do							
do not replace a minimum of one card on the list using this procedure	step 33							
replace all cards on the list using this procedure	step 39							
Replace the first card on the list that you did not replace as a result of this alarm. Perform the correct procedure in <i>Card Replacement Procedures</i> to clear the alarm. Complete the procedure and return to this point.								
Go to step 25.								
Determine if replacement of the NTEX22 card occurred.								
If replacement of the NTEX22	Do							
occurred	step 39							
did not occur	step 36							
Perform the correct procedure in <i>Card Replacement Procedures</i> to replace the NTEX22 card. Complete the procedure and return to this point.								
Go to step 36.								
To return the FRIU to service, type								
To return the FRIU to service, type								

PM FRIU major on an LPP (end)

and press the Enter key.

If the RTS command	Do
passed	step 40
failed	step 39

39 For additional help, contact the next level of support.

40 The procedure is complete.

PM FRIU minor on an LPP

Alarm Display

ſ	CM MB OD Not PM CCB The Ext LIU7	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
			•	•	·	1FRIU	•	•	·	•	·	

Indication

At the MTC level of the MAP display, FRIU (preceded by a number) appears under the PM header of the alarm banner. The FRIU indicates a minor alarm for a frame relay interface unit (FRIU).

Meaning

A minimum of one FRIU has in-service trouble for one of the following reasons:

- run and default load names do not match
- one tap is out of service
- one link interface module (LIM) unit is out of service for FRIUs provisioned on a link peripheral processor (LPP)
- one message switch (MS) unit is out of service for FRIUs provisioned on a single-shelf LPP (SSLPP)
- one F-bus is out of service

The number under the PM header of the alarm banner indicates the number of affected FRIUs.

Result

FRIUs with in-service trouble continue to function. The trouble does not affect the traffic on the DS-1 channels that associate with the FRIUs.

Common procedures

There are no common procedures.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.
Summary of clearing a PM FRIU minor alarm (on an LPP)



Clearing a PM FRIU alarm

At the MAP terminal

1



WARNING

Possible service-affecting action

Removal of an FRIU from service can be a requirement to complete the following procedure. When you take an FRIU out of service, loss of service can occur on the associated access or trunking DS-1 channels. When instructed, manually busy an FRIU during a period of low traffic.

To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key.

Example of a MAP display:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	0	0	0	0	2	72

2 To post in-service trouble FRIUs, type

>POST FRIU ISTB

and press the Enter key.

Example of a MAP display:

FRIU 121 ISTb Rsvd

3 To query the FRIU to determine the frame type, type

>QUERYPM

and press the Enter key.

Note: The FRIU provisions in an LPP if the code LIM is shown to the far left of the second line in the response. The FRIU provisions in an SSLPP if the code MS is shown. In the example, the code is LIM.

Example of a MAP response:

FRIU FTA: 424	3 1000		
LIM: 0 Shelf:	1 Slot:	14	
Default Load: H	F8X36CJ		
Running Load: H	F8X36CJ		
Carrier is curr	rently	InSv.	
Carrier Alarm:			
Istb conditions	3 :		
Msg Channe	L #0 NA		
TAP #0 OOS	/NA		
LMS States:	InSv	InSv	
Auditing?:	Yes	Yes	
Msg Channels:	NA	Acc	
TAPs:	S		
If the code		Do	
is LIM		step 5	
is MS		step 4	

4 Perform the procedure *Clearing a PM FRIU minor alarm (on an SSLPP)* in this document. Do not return to this procedure.

5 Determine the fault reason for the posted FRIU from the response you obtained in step 3.

If the response cleared from the MAP display and you want to obtain another query result, type

>QUERYPM

and press the Enter key.

Note: The fault reason appears under the ISTb conditions header in the response.

If the fault reason	Do
is Msg Channel #x NATAP #x OOS/NAHost Unit x is not inservice	step 6
is Loadname mismatch	step 14
is Msg Channel # <i>x</i> NATAP # <i>x</i> OOS/NA	step 25
switches repeatedly between more than one of the above reasons	step 58

6 Determine the number of the LIM associated with the FRIU from the MAP response you obtained in step 8. Clear faults associated with the LIM.

7

9 10

11

If the response cleared from the MAP display and you want to obtain another query result, type

>QUERYPM

and press the Enter key.

Note: The LIM number appears on the second line of the MAP response.

To post the LIM that associates with the in-service trouble FRIU, type

>POST LIM lim_no

and press the Enter key.

where

lim_no

is the LIM number (0 to 16)

Example of a MAP display:

LIM 0 ISTb

	Links_00S	Taps_00S
ISTb	•	1
InSv		0
	ISTb InSv	Links_OOS ISTb . InSv .

8 Determine the state of both LIM units.

lf		Do
the state of both LIM un InSv or ISTb	its is either	step 11
one LIM unit is in any of	her state	step 9
Record the number and t	he state of t	he LIM unit that has faults.
A problem with the LIM u procedure in <i>Alarm and I</i> alarm. Complete the pro	nit produces Performance cedure and	a PM LIM alarm. Perform the correc Monitoring Procedures to clear the return to this point.
To post the FRIU, type		
>POST FRIU friu_1	no	
and press the Enter key.		
where		
friu_no is the number of th	ne FRIU that	you are working on (0 to 500)
Example of a MAP displa	iy:	
FRIU 121 InSv	Rsvd	
If the state of the FRIU	l	Do

If the st	ate of the FRIU	Do			
is ISTb		step 12			
is other	than listed here	step 13			
To query	the fault reason, type				
>QUERYP	M FLT				
and press	s the Enter key.				
If the fa	ult reason	Do			
changed	1	step 5			
did not c	change	step 58			
The state the correc to this pro	of the FRIU deteriorated, ar t FRIU procedure in this doc ocedure.	nd alarm intensity increased. Perfor ument to clear the alarm. Do not retu			
Determine response	e the default load and the ru you obtained in step 8.	nning load for the FRIU from the MA			
If the resp result, typ	ponse cleared from the MAP	and you want to obtain another que			
>QUERYP	М				
and press	s the Enter key.				
<i>Note:</i> header the righ	The name of the default load in the MAP response. The nt of the Running Load Head	d appears next to the Default Load name of the running load appears to ler.			
Determine the correct name for the load from office records or from operating company personnel.					
Note:	The datafilled load name in	table PMLOADS must be correct.			
lf		Do			
both the running the load office re	default load name and the load name do not match name you obtained from cords	step 16			
only the match th from offi	default load name does not ne load name you obtained ce records	step 16			
only the not mate obtained	running load name does ch the load name you I from office records	step 24			
only the not mate obtained	running load name does ch the load name you d from office records s table LIUINV, type	step 24			

	and press the Enter key.
	TABLE: LIUINV
17	To position on the datafill for the FRIU, type
	>POSITION friu_no
	and press the Enter key.
	where
	friu_no is the number of the FRIU (0 to 500)
	Example of a MAP response:
	FRIU 121 LIM 0 2 12 XRX35CJ NTEX22BB NTEX30AA NTEX31BA
18	To change the load name datafilled for the FRIU to match the name you obtained from office records, type
	>CHANGE LOAD
	and press the Enter key.
	Example of a MAP response:
	ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
19	To confirm the command, type
	Y<
	and press the Enter key.
20	To enter the correct load name, type
	>loadname
	and press the Enter key.
	where
	loadname is the name of the correct load
	Example of a MAP response:
	TUPLE TO BE CHANGED: FRIU 121 LIM 0 2 12 XRX36CJ NTEX22BB NTEX30AA NTEX31BA
	ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
21	To confirm the command, type
	>Y
	and press the Enter key.

22 To quit table LIUINV, type

>QUIT

and press the Enter key.

23 Determine if the name of the running load matches the load name you obtained from office records.

	Since records.						
running	g load name	Do					
not mate	ch the name you office records	step 24					
nes the r	name you obtained cords	step 59					
ually bu	isy the FRIU, type						
FORCE							
ess the E	Enter key.						
tep 55.							
nine the r. Deter	number of the LIM th mine these numbers	hat associates with the FRIU a s from the MAP response you	and the tap obtained in				
If the response cleared from the MAP display and you want to obtain another query result, type							
>QUERYPM							
and press the Enter key.							
e: The L tap num onse.	IM number appears . Iber appears to the r	on the third line of the MAP r ight of the TAP header of the	esponse. MAP				
l the nun sociate	nber of the LIM and t with the LIM and the	the number of the F-bus tap. F-bus.	Clear faults				
e: The r MAP res ears to t	number of the LIM ap sponse you obtained he right of the TAP h	opears to the right of the LIM in step 3. The number of the leader.	header on F-bus tap				
the LIM	1 that associates with	h the FRIU, type					
LIM	lim_no						
lim_no							
is the number of the LIM (0 to 16)							
le of a N	/AP display:						
ISTb							
	Links 009	5 Taps_00S					
TCTL							
	running not mate not mate not set for research r	running load name not match the name you ned from office records hes the name you obtained office records hually busy the FRIU, type FORCE ess the Enter key. teep 55. hine the number of the LIM th r. Determine these numbers esponse cleared from the MA result, type YPM ess the Enter key. e: The LIM number appears tap number of the LIM and the sociate with the LIM and the sociate with the LIM and the e: The number of the LIM and the sociate with the LIM and the formse. I the number of the LIM and the formse to the right of the TAP h t the LIM that associates with LIM lim_no LIM lim_no LISTD	running load name Do not match the name you hed from office records step 24 nes the name you obtained boffice records step 59 office records step 59 nually busy the FRIU, type FORCE FORCE ass the Enter key. step 55. nine the number of the LIM that associates with the FRIU at r. Determine these numbers from the MAP response you essponse cleared from the MAP display and you want to obt result, type YPM ass the Enter key. er: The LIM number appears on the third line of the MAP r tap number appears to the right of the TAP header of the sociate with the LIM and the number of the F-bus tap. associate with the LIM and the F-bus. er: The number of the LIM appears to the right of the LIM IM MAP response you obtained in step 3. The number of the sociate with the LIM and the FRIU, type LIM lim_no LIM lim_no LIM lim_no				

28

```
To access the F-bus level of the MAP display, type
>FBUS
and press the Enter key.
Example of a MAP display:
LIM 0 ISTb
                 Links_00S Taps_00S
Unit0: ISTb
                              12
                    •
Unitl: InSv
                               0
                     .
          Tap: 0
                    4
                        8
                            12 16 20 24 28 32
FBus0: ManB BBBB BBBB BBBB BBBB.---- ----
FBus1: InSv .... .... ....
  Note: In the previous example, symbols under the tap numbers indicate
  the following:
   В
      F-bus is manual busy or the controlling LIM unit is system busy
      or manual busy
   S
      system busy tap
   Μ
      manual busy tap
   I
      in-service trouble tap
   dot (.)
      in-service tap
      unequipped tap
Determine the state of the F-buses.
  Note: The state of the F-buses appears to the right of the F-bus header
  on the MAP display.
 If the state of
                                   Do
 one of the F-buses is SysB or ManB
                                   step 30
 and the other is either InSv or ISTb
 both F-buses is either InSv or ISTb
                                   step 37
```

- **30** Record the state of the F-bus that has faults.
- 31 A problem with an F-bus produces a PM LIMF alarm. Perform the correct PM LIMF procedures in this document to clear the alarm. Complete the procedure and return to this point.
- **32** To post the FRIU, type

```
>PM;POST FRIU friu_no
```

29

and press the Enter key.

where

friu_no

is the number of the FRIU that you are working on (0 to 500) Example of a MAP display:

If the state of the FRIU	Do
is InSv	step 59
is ISTb	step 34
is other than listed here	step 33
The state of the FRIU deteriorate Perform the correct FRIU proced not return to this procedure.	ed, and the alarm intensity increased. lure in this document to clear the alarm. Do
To query the fault reason, type	
>QUERYPM FLT	
and press the Enter key.	
If the fault reason	Do
changed	step 5
did not change	step 35
To post the LIM that associates	with the FRIU, type
>POST LIM lim_no	
and press the Enter key.	
where	
lim_no is the number of the LIM ((0 to 16)
Example of a MAP display:	
LIM 0 InSv	00S Taps 00S
Unit0: InSv .	1
Unitl: InSv .	0
To access the F-bus level of the	MAP display, type
>FBUS	
and press the Enter key.	
Example of a MAP display:	

LIM 0	InSv	7									
			Links	_005 1	Taps_0	DS					
Unit0:	InSv	7			1						
Unit1:	InSv	7			0						
		Tap: 0	4	8	12	16	20	24	28	32	
FBus0:	InSv	·		.s							
FBusl:	InSv	· · · ·			•••••						
If the	stat	e of bo	th F-b	uses		Do					
is InSv or ISTb					step	37					
is other than listed here				step 58							

37 Determine the state of the F-bus taps for the FRIU in use. Use the MAP response you obtained in the previous step.

Note: The tap state appears to the right of of the Tap header in the MAP response in the previous step. The tap number applies to both F-buses.

lf	the state of Do						
bo th no	oth F-bus taps is I or dot (.) and ne state of the associated FRIU is ot InSv	step 38					
bo th In	oth F-bus taps is I or dot (.) and ne state of the associated FRIU is nSv	step 39					
01	ne F-bus tap is S	step 40					
01	ne F-bus tap is M	step 41					
To	To query the fault reason, type						
10							
>Q1	UERYPM FLT						
>Q1 and	UERYPM FLT d press the Enter key.						
>Q and	UERYPM FLT d press the Enter key.	Do					
>Q1 and If	UERYPM FLT d press the Enter key. the fault reason hanged	Do step 5					
>Q1 and If ch di	UERYPM FLT d press the Enter key. the fault reason hanged id not change	Do step 5 step 58					
>Q1 and If ch di The cle	UERYPM FLT d press the Enter key. the fault reason hanged id not change e system corrected the cause of the ared.	Do step 5 step 58 FRIU minor alarm and the alarm					
>Q1 and If ch di The cle Go	UERYPM FLT d press the Enter key. The fault reason hanged id not change e system corrected the cause of the ared. to step 59.	Do step 5 step 58 FRIU minor alarm and the alarm					
>Q1 and If ch di Ch ch ch ch ch ch ch ch ch ch ch ch ch ch	UERYPM FLT d press the Enter key. the fault reason hanged id not change e system corrected the cause of the ared. to step 59. manually busy the system busy F-b	Do step 5 step 58 FRIU minor alarm and the alarm us tap, type					
>Q1 and If ch di Ch ch ch ch ch ch ch ch ch ch ch ch ch ch	UERYPM FLT d press the Enter key. The fault reason hanged id not change e system corrected the cause of the ared. to step 59. manually busy the system busy F-b SY FBUS fbus_no tap_no	Do step 5 step 58 FRIU minor alarm and the alarm us tap, type FORCE					

where						
fbus_no is the number of the F-bus (0 or 1)						
tap_no is the number of the F-bus tap (0 to 35)						
Go to step 42.						
Determine the cause of the busied tap from office company personnel.	records or from operating					
When you have permission, continue the procedu	re.					
To return the F-bus tap to service, type						
<pre>>RTS FBUS fbus_no tap_no</pre>						
and press the Enter key.						
where						
fbus_no is the number of the F-bus (0 or 1)	fbus_no is the number of the F-bus (0 or 1)					
tap_no is the number of the F-bus tap (0 to 35)						
If the command	Do					
passed	step 43					
failed, and the system generates a card list that includes the NTEX22, NTEX30, or NTEX31	step 51					
failed, and the system did not generate a card list	step 46					
failed, with the responselocal maintenance not accessible	step 46					
failed, with a response that is other than listed here	step 58					
To post the FRIU, type						
>PM;POST FRIU friu_no						
and press the Enter key.						
where						
friu_no is the number of the ERILL that you are wor	king on $(0 \text{ to } 500)$					

Example of a MAP display:

If the state of the FRIU	Do
is InSv	step 59
is ISTb	step 44
is other than listed here	step 45
To query the fault reason,	type
>QUERYPM FLT	
and press the Enter key.	
If the fault reason	Do
changed	step 5
did not change	stop 58
ala not onungo	Step 30
The state of the FRIU dete Perform the correct FRIU not return to this procedur	eriorated, and the alarm intensity increased. procedure in this document to clear the alarm. 'e.
The state of the FRIU dete Perform the correct FRIU not return to this procedur To post the FRIU, type	eriorated, and the alarm intensity increased. procedure in this document to clear the alarm. re.
The state of the FRIU dete Perform the correct FRIU not return to this procedur To post the FRIU, type PM;POST FRIU friu	eriorated, and the alarm intensity increased. procedure in this document to clear the alarm. reno
The state of the FRIU dete Perform the correct FRIU not return to this procedur To post the FRIU, type PM;POST FRIU friu and press the Enter key.	eriorated, and the alarm intensity increased. procedure in this document to clear the alarm. re.
The state of the FRIU dete Perform the correct FRIU not return to this procedur To post the FRIU, type PM; POST FRIU friu and press the Enter key. where	eriorated, and the alarm intensity increased. procedure in this document to clear the alarm. re.
The state of the FRIU dete Perform the correct FRIU not return to this procedur To post the FRIU, type PM;POST FRIU friu and press the Enter key. where friu_no is the number of the	eriorated, and the alarm intensity increased. procedure in this document to clear the alarm. re. no e FRIU (0 to 500)
The state of the FRIU dete Perform the correct FRIU not return to this procedur To post the FRIU, type PM;POST FRIU friu and press the Enter key. where friu_no is the number of the Example of a MAP display	eriorated, and the alarm intensity increased. procedure in this document to clear the alarm. re. no e FRIU (0 to 500)

At the frame

47



WARNING

Static electricity damage Wear a wrist strap that connects to the wrist-strap grounding point of a frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the NTEX22 card for the FRIU. Put into correct position the three cards for the FRIU.



48 Lift the locking levers. Pull the card toward you 25 mm (1 in.).



49 Seat and lock the card as follows:

- **a** Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Push on the edges of the faceplate to make sure that the card sits completely in the shelf.
- **b** Close the locking levers.



PM FRIU minor on an LPP (end)

and press the Enter key.

56

57

58

If the LOADPM command	Do			
passed	step 56			
failed, without a card list and you put into correct position all cards	step 58			
failed, without a card list and you did not put into correct position all cards	step 47			
failed, with a card list and you did not replace a minimum of one card on the list	step 54			
failed, with a card list and you replaced all cards on the list	step 58			
To test the FRIU, type				
>TST				
and press the Enter key.				
and press the Enter key. If the TST command	Do			
and press the Enter key. If the TST command passed	Do step 57			
If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list	Do step 57 step 54			
If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list	Do step 57 step 54 step 58			
If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type	Do step 57 step 54 step 58			
If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type	Do step 57 step 54 step 58			
If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type RTS and press the Enter key.	Do step 57 step 54 step 58			
If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type RTS and press the Enter key.	Do step 57 step 54 step 58			
If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type RTS and press the Enter key. If the RTS command passed	Do step 57 step 54 step 58 Do Step 59			

59 The procedure is complete.

PM FRIU critical (on an SSLPP)

Alarm display

ĺ	CM MB OD Not PM CCB The Ext	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
				•	•	1FRIU * C*	•	:	·	•	

Indication

At the MTC level of the MAP display, a number and FRIU appear under the PM header of the alarm banner. The FRIU indicates a critical alarm for the frame relay interface unit (FRIU).

Meaning

One or more FRIUs are system busy or system busy not available for one of the following reasons:

- The FRIU error interrupts
- The FRIU does not respond to computing module (CM) due to faults in the message switch (MS), F-buses, or F-bus taps
- An in-service test fails

The number under the peripheral module (PM) header in the alarm banner indicates the number of affected FRIUs.

Result

The indicated FRIUs are out-of-service. The DS-1 channels for the FRIUs cannot carry traffic.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of Clearing a PM FRIU critical alarm (on an SSLPP)



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

Clearing a PM FRIU alarm

At the MAP display

1 Determine your next step.

If yo	u			Do				
came othe	e to this pro	ocedure fr	om an- dure	step 7				
came er th	e to this pro an listed he	ocedure fro ere	om oth-	step 2				
To acc	ess the PM	level of the	e MAP dis	splay, type				
>MAPC	CI;MTC;PM							
and pr	ess the Ent	er key.						
Exam	ole of a MAI	P display:						
PM	SysB 1	ManB 0	OffL 0	CBsy 0	ISTb 0	InSv 71		
To dis	play the sys	tem busy F	RIUs, typ	е				
>POS1	r FRIU	SYSB						
and pr	ess the Ent	er key.						
Exam	ple of a MAI	⊃ display:						
FRIU	121 Sys	sB 1	Rsvd					
If the	e MAP resp	onse		Do				
indic (NA	cates a S	SysB or	SysB	step 7				
ind pos	icates ted set	End of		step 4				
To che service	eck if in serv e trouble FR	ice trouble RIUs. To di	not availa splay the	able FRIUs a in service tr	are present ouble FRIU	, display the ls, type	in	
>POST	FRIU	ISTB						
and pr	ess the Ent	er key.						
Exam	ple of a MAI	P display:						

FRIU 121 ISTb (NA) Rsvd

Example of a MAP display:	
If the MAP response	Do
indicates an ISTb FRIU	step 5
indicates an ISTb (NA) FRIU	step 7
Text CharFormat="Mono">in- dicates End of posted setText>	step 34
To display the next in service trouble	FRIU, type
and press the Enter key.	
Example of a MAP display:	
FRIU 121 ISTb Rsvd	
If the MAP response	Do
indicates an ISTb FRIU	step 6
indicates an ISTb (NA) FRIU	step 7
Text CharFormat="Mono">in- dicates End of posted setText>	step35
Repeat step 4 until an in service troul step 4 until you reach the end of the	ble not available FRIU appears. Repeat posted set.
and press the Enter key.	
Example of a MAP display:	
FRIU carrier will be affecte Please confirm ("YES", "Y",	ed by this mtce action. "NO", or "N"):
To confirm the command, type	
>YES	
and press the Enter key.	
If the FRIU	Do
is ManB	step 21
is ManB (NA)	step 9

Access table MSCDINV to obtain the card number of the NT9X17AD MS
 4-port universal card. To access table MSCDINV, type

>TABLE MSCDINV;FORMAT PACK

and press the Enter key.

Example of a MAP response:

TABLE MSCDINV <line length>: 76 columns can be output per line. <pack mode>: Pack mode is ON. <indent column>: Indented lines will begin in column 1. <first column>: The first column of output is column 1

10 To list all entries in the table, type

```
>LIST ALL
```

and press the Enter key.

Example of a MAP response:

MSCDKEY SLOTINFO

- 0 0 1 TBUSACC NT9X52AA NIL
- 0 0 2 CLOCK NT9X53AC NT9X54AC
- 0 0 3 MSP NT9X13DC NT9X26AB
- 0 0 4 MEMORY NT9X14DB
- 0 0 5 MAPPER NT9X15AA
- 0 0 17 DS512 NT9X17AD NT9X62BA 1

Note: The example above shows a list that is not complete.

11 To determine the card number of the NT9X17AD MS 4-post universal card, use the response in step10.

Note: The card number appears in the third column of the MAP response to the LIST ALL command. In the example in step 10, the NT9X17AD appears on the last line of the listing. The NT9X17AD is card number 17.

12 To quit table MSCDINV, type

>QUIT

and press the Enter key.

13 To search for MS-related faults that affect the FRIU, access the MS level of the MAP. To access the MS level of the MAP, type

>MS

and press the Enter key.

Example of a MAP response:

 Message Switch
 Clock
 Shelf
 0
 Inter-MS
 Link
 0
 1

 MS 0
 .
 M Free
 .
 .
 2 MS 1
 .
 Slave

 .
 .
 .
 .
 .
 .
 .
 .
 .

14 To access shelf 0, type >SHELF 0

and press the Enter key. Example of a MAP display:

15 To post the NT9X17AD card identified in step 11, type

>CARD card_no

and press the Enter key.

where

card_no is the number of the card identified in step 11

Example of a MAP response:

. . 2 MS 1 MS 0 M Free . . 3 Slave 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 Shelf 0 Card 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 Chain MS 0 - - - - - - - - - MS 1 Card 17 Protocol Port 0____3 MS 0 . DS512 4 P - P -4 P - P -MS 1 . DS512

16 Determine if the NT9X17AD card identified in step 11 has any defects.

Note: Locate the state of the card under the card number that appears on the MAP.

If the card, taps, or F-bus	Do
have defects	step17
do not have defects	step18

- 17 To clear all MS alarms that relate to the NT9X17AD card, perform the correct MS alarm clearing procedure. The procedure is in *Alarm and Performance Monitoring Procedures*. Complete the procedure and return to this point.
- 18 To return to the PM level of the MAP display, type

>PM

and press the Enter key.

To post the FRIU, type							
>POST	FRIU friu_	no					
and press the Enter key.							
where	where						
_friu is	_ no the number of t	he FRIU that	you worked on (0 to 500)				
Example	e of a MAP displa	ay:					
FRIU	121 ManB	Rsvd					
Go to ste	әр 21.						
To reset	the FRIU, type						
>PMRES	ET						
and pres	s the Enter key.						
If the F	MRESET com	nand	Do				
passed	l		step 22				
failed			step 21				
To load t	he FRIU, type						
>LOADP	М						
and pres	s the Enter key.						
To test th	ne FRIU, type						
>TST							
and pres	s the Enter key.						
If the T	ST command		Do				
passed	l		step 33				
failed, contain card of	failed, with a card list that contains NTEX22 as the first card on the list		step 30				
failed, contain as the	with a card list ns NTEX31 of first card on the	t that r NTEX30 e list	step 27				

At the frame

23



DANGER

Static electricity damage Wear a wrist strap that connects to a wrist-strap grounding poin of a frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the NTEX22 card for the FRIU that you tested. Seat the three cards for the FRIU again.



24 Carefully lift the locking levers. Pull the card 25 mm (1 in.) toward you.



- **25** Seat and lock the card as follows:
 - **a** Use finger or thumb pressure to push on the upper and lower edges of the faceplate. Perform this procedure to make sure that the card sits completely in the shelf.
 - **b** Close the locking levers.



26 Repeat steps 23 to 25 for the NTEX31 and NTEX30 cards for the FRIU that you tested.

Go to step 21.

27 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the cards on the list. Replace cards on the list.

Do			
step 28			
step 34			
you did not replace as a result of this the first card, perform the correct card acement Procedures. Complete the			
e NTEX22 card.			
Do			
step 34			
step 31			

PM FRIU critical (on an SSLPP) (end)

34	For additional help, contact the next level of support.						
	failed step 34						
	passed	step 35					
	If the RTS command	Do					
	and press the Enter key.						
	>RTS						
33	To turn the FRIU to service, type						
32	Go to step 33.						
31	To replace the NTEX22 card, per procedure in <i>Card Replacement</i> return to this point.	erform the correct card replacement <i>the procedures.</i> Complete the procedure and					

35 The procedure is complete.

PM FRIU major on an SSLPP

CAN MIS OD Not PM CCS They like UN7	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
				•	1FRIU *C*				•		

Indication

At the MTC level of the MAP display, FRIU (preceded by a number) appears under the PM header of the alarm banner. The FRIU indicates a major alarm for a frame relay interface unit (FRIU).

Meaning

A minimum of one FRIU is manual busy or manual busy not available for one of the following reasons:

- for maintenance purposes
- for maintenance purposes, and the FRIU does not respond to the computing module (CM)

The number under the PM header of the alarm banner indicates the number of FRIUs affected.

Result

The indicated number of FRIUs are out of service. The DS-1 channels associated with the FRIUs cannot carry traffic.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FRIU critical alarm (on an SLPP)



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

Clearing a PM FRIU alarm

At the MAP terminal

1 Determine your next step.

procedure and the posted FRIU	
is ManB (NA)	step 4
is ManB	step 16
is other than listed here	step 2
To access the PM level of the MAP	display, type
>MAPCI;MTC;PM	
and press the Enter key.	
Example of a MAP display:	
SysB ManB OffL (CBsy ISTb InSv
PM 0 1 0	0 0 71
To display the system busy FRIUs, t	уре
>POST FRIU MANB	
and press the Enter key.	
Example of a MAP display:	
FRIU 121 ManB Rsvd	
Example of a MAP display:	
If the MAP response	Do
indicates the FRIU is ManB	step 16
indicates the FRIU is ManB (NA)	step 4
indicates End of posted set	step 29
To access table MSCDINV to obtain 4-port universal card, type	the card number of the NT9X17AD M
>TABLE MSCDINV;FORMAT PAG	CK
and press the Enter key.	

Example of a MAP response:

TABLE MSCDINV <line length="">: <pack mode="">: <indent column="">:</indent></pack></line>	76 columns can be output per line. Pack mode is ON. Indented lines will begin in column 1
<pre><first column="">:</first></pre>	The first column of output is column 1
To list all entries in the	table, type
>LIST ALL	
and press the Enter ke	у.
Example of a MAP res	ponse:
MSCDKEY SLOTINFO	
	25 9 A A ATT
0 0 1 IBUSACC N192 0 0 2 CLOCK NT9X53	3AC NT9X54AC
0 0 3 MSP NT9X13D	C NT9X26AB
0 0 4 MEMORY NT9X	14DB
0 0 5 MAPPER N19X. 0 0 17 DS512 NT9X	15AA 17ad nt9x62ba 1
Note: The precedin	a exemple shows part of a list
Note: The precedin	g example shows part of a list.
the NT9X17AD MS 4-p	post universal card.
<i>Note:</i> The card num to the LIST ALL com line of the listing and	uber appears in the third column of the MAP response mand. In step 10, the NT9X17AD appears on the last d is card number 17.
To quit table MSCDINV	, type
>QUIT	
and press the Enter ke	γ.
To access the MS level faults that affect the FR	of the MAP display to begin the search for MS-related
>MS	
and press the Enter ke	у.
Example of a MAP disp	olay:
Message Switch Cloc MS 0 . M Fr	ck Shelf 0 Inter-MS Link 0 1 cee . . 2 MS 1 . Slave
To access shelf 0, type	
>SHELF 0	
and press the Enter ke	у.
Example of a MAP disp	olay:

5

6

7

8

9

10

11

12

13

14

```
. . 2 MS 1
                                          . . 3
Card 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain
To post the NT9X17AD card you identified in step 1, type
 >CARD card_no
 and press the Enter key.
 where
    card no
      is the number of the card you identified in step 11
 Example of a MAP display:
                                               . . 2 MS 1
MS O
                M Free
       Slave
1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2
                                          . . 3
Shelf 0
Card 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain
Card 17 Protocol Port 0____3
MS 0 . DS512 4 P - P -
MS 1 . DS512 4 P - P -
 Determine if the NT9X17AD card you identified in step 11 has faults.
   Note: Locate the state of the card under the card number shown on the
   MAP display.
  If the card, taps or F-bus
                             Do
  have faults
                             step 12
  do not have faults
                             step 13
 Make sure that the alarms you identified in step 11 are clear. Perform the
 correct MS procedure in Alarm and Performance Monitoring Procedures to
 clear the alarms. Complete the procedure and return to this point.
 To return to the PM level of the MAP display, type
 >PM
 and press the Enter key.
 To post the FRIU, type
 >POST FRIU friu_no
 and press the Enter key.
 where
```

	friu_no is the number of the FRIU(0 to <i>Example of a MAP response:</i>	500)						
	FRIU 121 ManB Rsvd							
	Go to step16.							
15	To reset the FRIU, type							
	>PMRESET							
	and press the Enter key.							
	If the PMRESET command	Do						
	passed	step 17						
	failed	step 16						
16	To load the FRIU, type							
	>LOADPM							
	and press the Enter key.							
17	To test the FRIU, type							
	>TST							
	and press the Enter key.							
	If the TST command	Do						
	passed	step 28						
	failed, with a card list that contains NTEX22 as the first card on the list	step 25						
	failed, with a card list that contains NTEX31 or NTEX30 as the first card on the list	step 22						

At the frame

18



WARNING Static electricity damage

Wear a wrist strap that connects to the wrist-strap grounding point of a frame supervisory panel (FSP) to handle circuit cards. The grounding point is on a frame supervisory panel (FSP). The wrist strap protects the cards against static electricity damage.

Locate the NTEX22 card for the FRIU. Put in correct position the three cards for the FRIU.



19 Lift the locking levers. Pull the card toward you 25 mm (1 in.).



20 Seat and lock the card as follows:

- **a** Use your fingers or thumbs to push on the upper and lower edges of the faceplate. Make sure that the card sits completely in the shelf.
- **b** Close the locking levers.

23

24 25

26

27



- 21 Repeat steps 18 to 20 for the NTEX31 and NTEX30 card for the FRIU. Go to step 16.
- 22 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the cards on the list. Replace cards on the list.

ii you	Do step 23					
do not use this procedure to replace a minimum of one card on the list						
use this procedure to replace all cards on the list	step 29					
Replace the first card on the list that you did not replace as a result of this alarm. Perform the correct procedure in <i>Card Replacement Procedures</i> to clear the alarm. Complete the procedure and return to this point.						
Go to step 15.						
Determine if replacement of the NTE	X22 card occurred.					
If the replacement of the NTEV22	Do					
card	-					
occured	step 29					

PM FRIU major on an SSLPP (end)

To return the FRIU to service, type						
>RTS						
and press the Enter key.						
If the RTS command	Do					
passed	step 30					
failed	step 29					

30 The procedure is complete.

PM FRIU minor (on an SSLPP)

Alarm Display

CM MS OD Not PM CCS The Bat	СМ	MS	IOD	Net	РМ	Lns	Trks	Ext	APPL
	•	•	•	•	1FRIU	•	•	•	•

Indication

At the MTC level of the MAP display, FRIU (preceded by a number) appears under the PM header of the alarm banner. The FRIU indicates a minor alarm for a frame relay interface unit (FRIU).

Meaning

A minimum of one FRIU is in-service trouble for one of the following reasons:

- run and default load names do not match
- one tap is out of service
- one message switch (MS) unit is out of service
- one F-bus is out of service

The number under the PM header of the alarm banner indicates the number of affected FRIUs.

Result

The FRIUs with in-service trouble continue to function. The trouble does not affect traffic on the DS-1 channels associated with the FRIUs.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM FRIU minor alarm (on an SSLPP)


Clearing a PM FRIU alarm

At the MAP terminal

1 Determine your next step.

lf you	Do
came to this procedure from another maintenance procedure	step 4
came to this procedure from another position	step 2

At the MAP terminal

2

3

4



WARNING

Possible service-affecting action

Removal of an FRIU from service can be a requirement to complete the following procedure. When you take an FRIU out of service, loss of service can occur on the associated access or trunking DS-1 channels. When instructed, manually busy an FRIU during a period of low traffic.

To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key. Example of a MAP display:

PM	Sy	ysB O	ManB 0	OffL 0	CBsy O	ISTb 2	InSv 72
To post i	in-servic	e troubl	e FRIUs, 1	ype			
>POST	FRIU	ISTB					
and pres	ss the Er	nter key					
Example	e of a MA	AP disp	lay:				
FRIU	121 I	STb	Rsvd				
To query	/ the FR	IU to de	etermine th	e type of the	ne fault, typ	е	
>QUERY	PM						
and pres	ss the Er	nter key	-				
Example	e of a MA	AP resp	onse:				

```
FRIU FTA: 427E 1000
MS Shelf: 1 Slot: 24
Default Load: F8X36CJ
Running Load: F8X36CJ
ISTB conditions:
    Msg Channel #0 NA
    TAP #0 OOS/NA
Carrier is currently OffL.
Carrier Alarm: -----.
MS States: InSv
                        InSv
Auditing?: No
                        Yes
Msg Channels: NA
                        Acc
TAPs:
            В
                         .
```

5 Determine the fault reason for the posted FRIU from the response you obtained in step 4.

To obtain another query result when the response clears from the MAP display, type

>QUERYPM

and press the Enter key.

Note: The fault reason appears under the ISTb Conditions header in the response.

If the fault reason	Do
is Msg Channel #x NATAP #x OOS/NAHost Unit x is not inservice	step 6
is Loadname mismatch	step 17
is Msg Channel # <i>x</i> NATAP # <i>x</i> OOS/NA	step 6
switches repeatedly between more than one of the above reasons	step 39
To access table MSCDINIV to obtain th	e card number of the NT9X17AD MS

6 To access table MSCDINV to obtain the card number of the NT9X17AD MS 4-port universal card, type

>TABLE MSCDINV;FORMAT PACK

and press the Enter key.

Example of a MAP response:

TABLE MSCDINV <line length>: 76 columns can be output per line. <pack mode>: Pack mode is ON. <indent column>: Indented lines will begin in column 1. <first column>: The first column of output is column 1

7 To list all entries in the table, type

>LIST ALL

and press the Enter key.

Example of a MAP response:

MSCDKEY SLOTINFO

- 0 0 1 TBUSACC NT9X52AA NIL
- 0 0 2 CLOCK NT9X53AC NT9X54AC
- 0 0 3 MSP NT9X13DC NT9X26AB
- 0 0 4 MEMORY NT9X14DB
- 0 0 5 MAPPER NT9X15AA
- 0 0 17 DS512 NT9X17AD NT9X62BA 1

Note: Part of a list appears in the preceding example.

8 Use the response you obtained in step 10 to determine the card number of the NT9X17AD MS 4-post universal card.

Note: The card number appears in the third column of the MAP response. The MAP response is a result of the LIST ALL command. In step 10, the NT9X17A appears on the last line of the listing and is card number 17.

9 To quit table MSCDINV, type

>QUIT

and press the Enter key.

10 To access the MS level of the MAP display to begin the search for MS-related faults that affect the FRIU, type

>MS

and press the Enter key.

Example of a MAP display:

Message Switch	Clock	Shelf 0	Inter-MS Link 0 1
MS 0 .	M Free Slave		2 MS 1
To access shelf 0, type	•		

To access shelf 0, type
 SHELF 0
 and press the Enter key.
 Example of a MAP display:

MS 0 M Free . . 2 MS 1 . . 3 Card 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 Chain 12 To post the NT9X17AD card you identified in step 11, type >CARD card_no and press the Enter key. where card no is the number of the card you identified in step 11 Example of a MAP display: . . 2 MS 1 MS O M Free Slave . . 3 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 Shelf 0 Card 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 Chain MS 1 - - - - - - - Card 17 Protocol Port 0____3 MS 0 . DS512 4 P - P -MS 1 . DS512 4 P - P -13 Determine if the NT9X17AD card that you identified in step 11 has any faults. Note: Locate the state of the card under the card number shown on the MAP display. If the card, taps, or F-bus Do have faults step 14 do not have faults step 15 14 Make sure alarms related to the faults that you identified in step 13 are clear. Perform the correct MS procedure in Alarm and Performance Monitoring Procedures to clear the alarms. Complete the procedure and return to this point. To return to the PM level of the MAP display, type 15 >PM and press the Enter key. 16 To post the FRIU, type

>POST FRIU friu_no

and press the Enter key.

where

friu_no

is the number of the FRIU in use (0 to 500)

Example of a MAP response:

FRIU 121 ManB Rsvd

Go to step 36.

17 Determine the default load and the running load for the FRIU from the MAP response that you obtained in step 8.

To obtain another query result if the response cleared from the MAP, type

>QUERYPM

and press the Enter key.

Note: The name of the default load appears next to the Default Load header in the MAP response. The name of the running load appears to the right of the Running Load header.

18 Determine from office records or operating company personnel the correct name for the load.

Note: You must enter the correct load name in table PMLOADS for this procedure.

	lf	Do
	both the default load name and the running load name do not match the load name you obtained from office records	step 19
	only the default load name does not match the load name you obtained from office records	step 19
	only the running load name does not match the load name you obtained from office records	step 27
19	To access table LIUINV, type	
	>TABLE LIUINV	
	and press the Enter key.	
	Example of a MAP response:	
	TABLE: LIUINV	
20	To position on the datafill for the FRIU	, type
	>POSITION friu_no	
	and press the Enter key.	

where friu no is the number of the FRIU that was in use (0 to 500) Example of a MAP response: FRIU 121 LIM 0 2 12 F8X35CJ NTEX22BB NTEX30AA NTEX31BA 21 To change the load name datafilled for the FRIU to match the name you obtained from office records, type >CHANGE LOAD and press the Enter key. Example of a MAP response: ENTER Y TO CONTINUE PROCESSING OR N TO QUIT 22 To confirm the command, type >Y and press the Enter key. 23 To enter the correct load name, type >loadname and press the Enter key. where loadname is the name of the correct load Example of a MAP response: TUPLE TO BE CHANGED: FRIU 121 LIM 0 2 12 F8X36CJ NTEX22BB NTEX30AA NTEX31BA ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT. 24 To confirm the command, type >Y and press the Enter key. 25 To quit table LIUINV, type >QUIT and press the Enter key.

26 Determine if the name of the running load matches the load name you obtained from office records.

If the running load name	Do
does not match the name you obtained from office records	step 27
matches the name you obtained from office records	step 40
To manually busy the FRIU, type	
>BSY FORCE	
and press the Enter key.	
Go to step 36.	

At the frame

28

27



WARNING

Static electricity damage

Wear a wrist strap that connects with the wrist-strap grounding point of a frame supervisory panel (FSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the NTEX22 card for the FRIU. Put in correct position the three cards for the FRIU.



29 Lift the locking levers and pull the card towards you 25 mm (1 in.).



PM FRIU minor (on an SSLPP) (end)

and press the Enter key.

37

38

39

If the LOADPM command	Do
passed	step 37
failed, with no card list and you replaced all cards	step 39
failed, with no card list and you did not put in correct position all cards	step 28
failed, with a card list and you did not replace a minimum of one card on the list	step 35
failed, with a card list and you replaced all cards on the list	step 39
To test the FRIU, type	
>TST	
>тят and press the Enter key.	
>TST and press the Enter key. If the TST command	Do
>TST and press the Enter key. If the TST command passed	Do step 38
>TST and press the Enter key. If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list	Do step 38 step 35
>TST and press the Enter key. If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list	Do step 38 step 35 step 39
>TST and press the Enter key. If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type	Do step 38 step 35 step 39
<pre>>TST and press the Enter key. If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type >RTS</pre>	Do step 38 step 35 step 39
<pre>>TST and press the Enter key. If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type >RTS and press the Enter key.</pre>	Do step 38 step 35 step 39
<pre>>TST and press the Enter key. If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type >RTS and press the Enter key. If the RTS command</pre>	Do step 38 step 35 step 39 Do
<pre>>TST and press the Enter key. If the TST command passed failed, with a card list and you did not replace a minimum of one card on the list failed, with a card list and you replaced all cards on the list To return the FRIU to service, type >RTS and press the Enter key. If the RTS command passed</pre>	Do step 38 step 35 step 39 Do step 40

40 The procedure is complete.

PM HLIU critical

Alarm display

1	CM MB OD Not PM CC8 The Ext	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
		·		•	•	1HLIU *C*	•	•	·	•		

Indication

The HLIU alarm indicates a high-speed link interface unit (HLIU) critical alarm. The alarm appears at the MTC level of the MAP display under the PM header of the alarm banner. The alarm consists of a number followed by HLIU. The number indicates the number of affected HLIUs.

Meaning

One or more HLIUs are system busy (SysB) or system busy not accessible. The service maintenance system attempts to recover the HLIUs automatically.

This alarm may be caused by a hardware fault. If a hardware fault exists, operating company personnel must replace the faulty cards.

Impact

HLIUs and their associated signaling links are out of service.

Common procedures

Activating CCS7 links is referenced in this procedure.

Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.



Summary of clearing a PM HLIU critical alarm

Clearing a PM HLIU critical alarm

At the MAP terminal

1



CAUTION Possible service-affecting action Do not POST, RTS, and LOAD multiple sets of HLIUs. Finish working on one set of HLIUs before working on another set.

The system will automatically attempt to reload the system-busy HLIUs and return them to service. Monitor PM181 logs to determine if the system has attempted three autorecovery attempts.

Note: After three unsuccessful autorecovery attempts, a forced autoload pending maintenance flag will appear for the posted HLIU. When the system is in a forced autoload pending state, approximately 5 min will elapse before another autorecovery attempt is performed.

If PM181 logs indicate	Do
an HLIU has failed three autore- covery attempts and is in a forced autoload pending state	step 2
the system-busy HLIUs have successfully recovered automat- ically	step 55
Determine if all the MS alarms have b	een cleared.
If the MS alarm	Do
cleared	step 4
did not clear	step 3
Perform the appropriate MS alarm cle When you have completed the proced	aring procedure in this document. lure, return to this point.
Determine if the HLIU critical alarm cl	eared
If the HLIU alarm	Do

If the HLIU alarm	Do
cleared	step 55
did not clear	step 5

2

3

4

5	Access the PM level of the MAP displa	ay by typing
	>MAPCI;MTC;PM	
	and pressing the Enter key.	
6	Display all system-busy HLIUs by typi	ng
	>DISP STATE SYSB HLIU	
	and pressing the Enter key.	
7	Post the first system-busy HLIU on the	e list by typing
	>POST HLIU liu_no	
	and pressing the Enter key.	
	where	
	liu_no is the number of the selected H	ILIU (0 to 511)
8	Determine the state of the posted HLI	U
	If the state of the posted HLIU is	Do
	SysB (NA)	step 9
	SysB	step 39
9	Determine if there is an FSP alarm und	der the EXT header of the MAP display.
	If an FSP alarm is	Do
	present	step 10
	not present	step 11
10	Perform the appropriate alarm clearing you have completed the procedure, re	g procedure in this document. When turn to this point.
11	Determine if a service-affecting condit	ion is present by typing
	>QUERYPM	
	and pressing the Enter key.	
	Note: In the example, service-affective heading <i>Potential service affecting</i>	cting conditions appear under the conditions.
	Example of a MAP response:	

```
PM type:HLIU
                         PM No.:110 Status: SysB(NA)
       LIM: 1 Shelf:2 Slot: 12 LIU FTA:4249 1000
       Default Load: HCA04CX
       Running Load: HCA04CX
       Potential service affecting conditions:
          Msg Channel #0 NA
          Msg Channel #1 NA
          TAP #0 OOS/NA
          TAP #1 OOS/NA
       LMS States:
                        InSv
                                   InSv
       Auditing :
                         No
                                   No
       Msg Channels:
                        NA
                                   NA
       TAP 2 : S(NA)
                              M(NA)
       Reserved HLIU forms part of CCS7 Linkset: LSCAP1
       SLC: 5 LIU is allocated
12
      Determine the number of the link interface module (LIM), link interface shelf
      (LIS), and tap and the name of the linkset associated with the HLIU.
         Note: The numbers of the LIM and LIS associated with the HLIU appear
         in the second line of the MAP response. The number of the tap and linkset
         name associated with the HLIU appear at the bottom of the MAP response.
13
      Post the LIM associated with the HLIU by typing
      >POST LIM lim no
      and pressing the Enter key.
       where
          lim no
            is the number of the LIM (0 to 16)
      Example of a MAP display:
      LIM 1 ISTb
                            00S
                                        00S_Taps
                           Links LIS1 LIS2 LIS3
        Unit0: ISTb
                              2
                                     .
        Unit1: ManB
                              2
                                               8
                                     8
                                          8
14
      Determine the state of the LIM.
       If the LIM is
                                        Do
        InSv or ISTb and the LIM is
                                        step 17
       located on the link peripheral
       processor (LPP)
        InSv or ISTb and the LIM is
                                        step 18
       located on the enhanced LPP
        (ELPP)
```

If the	LIM is			Do	0			
anythi	ng else			ste	ep 15			
A proble alarm cl procedu	m with the L earing proce ire, return to	IM proc dure in this poi	luces a this do nt.	a PM LI ocumen	M alarr t. Whe	n. Perfo n you ha	rm the a ve comp	ppropriate leted the
Determi	ne if the HLI	J alarm	cleare	ed.				
If the	HLIU alarm			Do)			
cleare	d			ste	ep 55			
did no	ot clear			ste	ep 18			
Access	the FBus lev	el of the	MAP	display	by typi	ng		
>FBUS								
and pre	ssing the Ent	er key.						
Exampl	e of a MAP d	isplay:						
LIM O	InSv							
		Links	_00S	Та	ps_00	S		
Unit0:	InSv	2			•			
	InSv	2	4	0	•	1.0	0.0	0.4
JNITI:	1.22	0	4	8	12	16	20	24
Uniti:	Iap. ManB		תת					

A dot (.) indicates an in-service tap. An M indicates a manual-busy tap. An I indicates an in-service trouble tap. An S indicates a system-busy tap. A dash (-) indicates an unequipped tap.

Go to step 19.

18 Access the LIS level of the MAP display by typing

>LIS lis_no

and pressing the Enter key.

where

lis_no

is the number of the LIS that corresponds to the LIS number in step 12. *Example of a MAP display:*

LIM 8 InSv 00S 00S_Taps Links LIS1 LIS2 LIS3 Unit0: InSv 2 . 2 Unit1: InSv . . . LIS1 1 Tap: 0 8 4 FBus0: ManB --BB --BB --BB FBus1: InSv --IM ---S ----

Note: In the example, B under a tap number indicates that the F-bus is manual busy or that the controlling LIM unit is system busy or manual busy. A dot (.) indicates an in-service tap. An M indicates a manual-busy tap. An I indicates an in-service trouble tap. An S indicates a system-busy tap. A dash (-) indicates an unequipped tap.

19 Determine the state of the F-buses.

If the F-buses are both	Do
InSv or ISTb	step 22
anything else	step 20

- **20** A problem with the F-bus produces a PM LIMF alarm. Perform the appropriate alarm clearing procedure in this document. When you have completed the procedure, return to this point.
- 21 Determine if the HLIU alarm cleared.

If the HLIU alarm	Do
cleared	step 55
did not clear	step 22

22 Determine which F-bus taps are associated with the HLIU by typing

>TRNSL fbus_no

and pressing the Enter key.

where

fbus_no is the number of either F-bus (0 or 1)

Example of a MAP response:

LIM	8	LIS	2	FBus	0	Тар	0	is	on	HLIU	101
LIM	8	LIS	2	FBus	0	Тар	1	is	on	HSLR	101
LIM	8	LIS	2	FBus	0	Тар	2	is	on	HLIU	102
LIM	8	LIS	2	FBus	0	Тар	3	is	on	HSLR	102

23	From the MAP display generated in step 18, determine the state of the F-bus taps associated with the system-busy HLIU.						
	<i>Note:</i> The tap number shown in th both F-buses.	e MAP response in step 22 applies to					
	If the state of	Do					
	either F-bus tap is fluctuating from I to S, or is S	step 28					
	either F-bus tap is M	step 24					
	both taps are in service	step 54					
24	Determine from office records or other out of service. When permitted, go to	office personnel why the tap was taken step 25.					
25	Return the F-bus tap to service by typ	ing					
	>RTS FBUS fbus_no tap_no						
	and pressing the Enter key.						
	where						
	fbus_no is the number of the F-bus (0 or 1)						
	tap_no is the number of the F-bus tap (0 to 11)						
	If the RTS command	Do					
		step 23					
	passed, and the other tap is M	5tep 25					
	passed, and the other tap is M passed, and the other tap is in service	step 26					
	passed, and the other tap is M passed, and the other tap is in service failed	step 26 step 54					
26	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT	step 26 step 54 play by typing					
26	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key.	step 26 step 54 play by typing					
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HLIU alarm cleared.	step 26 step 54 play by typing					
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HLIU alarm cleared. If the HLIU alarm	step 26 step 54 play by typing					
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HLIU alarm cleared. If the HLIU alarm cleared	step 26 step 54 play by typing Do step 55					
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HLIU alarm cleared. If the HLIU alarm cleared did not clear	step 26 step 54 play by typing Do step 55 step 36					
26 27 28	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HLIU alarm cleared. If the HLIU alarm cleared did not clear Manually busy the tap on F-bus 0 by t	step 26 step 54 play by typing Do step 55 step 36 yping					
26 27 28	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HLIU alarm cleared. If the HLIU alarm cleared did not clear Manually busy the tap on F-bus 0 by t >BSY FBUS 0 tap_no	step 26 step 54 play by typing Do step 55 step 36 yping					

If the BSY command	Do
passed	step 30
failed	step 29
Force the F-bus tap to busy by	typing
>BSY FBUS 0 tap_no	FORCE
and pressing the Enter key.	
where	
tap_no	(0, to, 11)
Is the number of the F-b Manually busy the tap on E bus	as tap (0 to 11)
and pressing the Enter key	
tap_no is the number of the F-b	us tap (0 to 11) Do
passed	step 32
passed failed	step 32 step 31
passed failed	step 32 step 31
passed failed Force the F-bus tap to busy by	step 32 step 31 typing
passed failed Force the F-bus tap to busy by >BSY FBUS 1 tap_no and pressing the Enter key.	step 32 step 31 typing FORCE
passed failed Force the F-bus tap to busy by >BSY FBUS 1 tap_no and pressing the Enter key. where	step 32 step 31 typing FORCE
passed failed Force the F-bus tap to busy by >BSY FBUS 1 tap_no and pressing the Enter key. where tap_no is the number of the F-b	step 32 step 31 typing FORCE us tap (0 to 11)
passed failed Force the F-bus tap to busy by >BSY FBUS 1 tap_no and pressing the Enter key. where tap_no is the number of the F-b Replace the NTEX22CA card b replacement procedure in <i>Carc</i> completed the procedure, retur	step 32 step 31 typing FORCE us tap (0 to 11) by performing the appropriate card <i>d Replacement Procedures</i> . When yo n to this point.
passed failed Force the F-bus tap to busy by >BSY FBUS 1 tap_no and pressing the Enter key. where tap_no is the number of the F-b Replace the NTEX22CA card b replacement procedure in Card completed the procedure, retur Return the tap on F-bus 0 to se	step 32 step 31 typing FORCE us tap (0 to 11) by performing the appropriate card d <i>Replacement Procedures</i> . When yo n to this point. ervice by typing

	F ()
If the RTS command	Do
passed	step 34
failed	step 54
Return the tap on F-bus 1 to service	e by typing
>RTS FBUS 1 tap_no	
and pressing the Enter key.	
where	
tap_no is the number of the F-bus ta	p (0 to 11)
If the RTS command	Do
passed	step 35
failed	step 54
Quit from the F-bus level of the MAR	P display by typing
>QUIT	
and pressing the Enter key.	
Post the system busy HLIU by typin	g
>POST HLIU liu_no	
and pressing the Enter key.	
where	
where liu_no is the number of the HLIU (0	to 511)
where liu_no is the number of the HLIU (0 Manually busy the HLIU by typing	to 511)
where liu_no is the number of the HLIU (0 Manually busy the HLIU by typing >BSY	to 511)
where liu_no is the number of the HLIU (0 Manually busy the HLIU by typing >BSY and pressing the Enter key.	to 511)
where liu_no is the number of the HLIU (0 Manually busy the HLIU by typing >BSY and pressing the Enter key. If the response is	to 511) Do

	If the response is	Do
	Busying HLIU liu_no will take a CCS7 resource out of ser- vice Please confirm ("YES","Y","NO",or "N"):	step 38
	Anything else (apart from "failed"), including additional messages with above response	step 54
	HLIU liu_no BSY Failed	step 39
38	Confirm the command by typing >YES and pressing the Enter key.	
30	Go to step 41	
55	>BSY FORCE	
	and pressing the Enter key.	
	If the response is	Do
	HLIU liu_no BSY Passed	step 40
	HLIU liu_no BSY Passed Busying HLIU liu_no will take a CCS7 resource out of ser- vice Please confirm ("YES","Y","NO",or "N"):	step 40 step 40
	<pre>HLIU liu_no BSY Passed Busying HLIU liu_no will take a CCS7 resource out of ser- vice Please confirm ("YES","Y","NO",or "N"): Anything else, including addi- tional messages with above re- sponse</pre>	step 40 step 40 step 54
40	HLIU liu_no BSY Passed Busying HLIU liu_no will take a CCS7 resource out of ser- vice Please confirm ("YES", "Y", "NO", or "N"): Anything else, including addi- tional messages with above re- sponse Confirm the command by typing >YES and pressing the Enter key.	step 40 step 40 step 54

	and pressing the Enter key.					
	If the PMRESET command	Do				
	passed	step 43				
	failed	step 42				
	Load the HLIU by typing					
	>LOADPM					
	and pressing the Enter key.					
	Test the HLIU by typing					
>TST						
	and pressing the Enter key.					
	If the TST command	Do				
	passed	step 46				
	failed, and a card list is generat- ed that contains cards that have not already been changed	step 44				
	anything else	step 54				
	Record the location, description, slot r code (PEC), including suffix, of the first	number, and the product engineering st card on the list.				
	Replace the card by performing the ap in <i>Card Replacement Procedures</i> . Wh go to step 37.	propriate card replacement procedure en you have completed the procedure,				
	Return the HLIU to service by typing					
	>RTS					
	and pressing the Enter key.					
	If the RTS command	Do				
	passed	step 47				
	failed	step 54				
	Access the C7LKSET level of the MAR CCS7 link on the HLIU is in service by	P display to determine whether the v typing				
	>CCS;CCS7;C7LKSET					
	and pressing the Enter key.					
	Post the linkset associated with the HI	_IU by typing				
>POST C linkset_name						
	and pressing the Enter key.					

	where	
	linkset_name is the linkset name	
	Example of a MAP display:	
	Linkset TR000002 InSv Traf Sync LK Stat Stat Resource S 1 InSv Sync DLIU 8 2 InSv Sync DLIU 7	Stat Physical Access InSv DS1 InSv DS1
49	Determine the traffic state of the CCS	7 link for the HLIU you are working on.
	Note: The number of the HLIU you Resource header on the MAP displa shown under the Traf Stat header.	are working on is shown under the ay. The traffic state of the CCS7 link is
	If the state of the CCS7 link is	Do
	InSv	step 55
	anything else	step 50
50	Wait 8 min to see if the CCS7 link reco	overs when the HLIU re-establishes
	If the state of the link is	Do
	InSv	step 55
	anything else	step 51
51	Perform the procedure <i>Activating CCS</i> have completed the procedure, return	<i>T links</i> in this document. When you to this point.
52	Determine if the link activated.	
	If the link activation	Do
	passed	step 53
	failed	step 54
53	Determine if the HLIU alarm cleared.	
	If the alarm	Do
	cleared	step 55
	decreased in number (for example, changed from 2HLIU to 1HLIU)	step 5

PM HLIU critical (end)

If the alarm	Do
did not clear	step 54
or further excitations and	at the nergennel regressible for the next level

- 54 For further assistance, contact the personnel responsible for the next level of support.
- 55 You have completed this procedure.

PM HSLR critical

Alarm display

CM MB CO Not PM CCS The Ext	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
	·		•	·	1HSLR *C*	·	•	•	•		

Indication

The HSLR alarm indicates a high-speed link router (HSLR) critical alarm. The alarm appears at the MTC level of the MAP display under the PM header of the alarm banner. The alarm consists of a number followed by HSLR. The number indicates the number of affected HSLRs.

Meaning

One or more HSLRs are system busy (SysB) or system busy not accessible. The service maintenance system attempts to recover the HSLRs automatically.

This alarm may indicate a hardware fault. If a hardware fault exists, operating company personnel must replace the faulty cards.

Impact

HSLRs and their associated signaling links are out of service.

Common procedures

Activating CCS7 links is referenced in this procedure.

Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.



Summary of Clearing a PM HSLR critical alarm

Clearing a PM HSLR critical alarm

At the MAP terminal

1



CAUTION Possible service-affecting action Do not POST, RTS, and LOAD multiple sets of HSLRs. Finish working on one set of HSLRs before working on another set.

The system will automatically attempt to reload the system-busy HSLRs and return them to service. Monitor PM181 logs to determine if the system has attempted three autorecovery attempts.

Note: After three unsuccessful autorecovery attempts, a forced autoload pending maintenance flag will appear for the posted HSLR. When the system is in a forced autoload pending state, approximately 5 min will elapse before another autorecovery attempt is performed.

If PM181 logs indicate	Do					
an HSLR has failed three autore- covery attempts and is in a forced autoload pending state	step 2					
the system-busy HSLRs have successfully recovered automat- ically	step 55					
Determine if all the MS alarms have be	een cleared.					
If the MS alarm cleared	Do					
cleared	step 4					
did not clear	step 3					
Perform the appropriate MS alarm clearing procedure in this document. When you have completed the procedure, return to this point.						
Determine if the HSLR critical alarm c	leared.					
If the HSLR alarm	Do					
cleared	step 55					

step 5

did not clear

2

3

4

5	Access the PM level of the MAP displa	ay by typing
	>MAPCI; MTC; PM	
	and pressing the Enter key.	
6	Display all system-busy HSLRs by typ	ing
	>DISP STATE SYSB HSLR	
	and pressing the Enter key.	
7	Post the first system-busy HSLR on th	e list by typing
	>POST HSLR liu_no	
	and pressing the Enter key.	
	where	
	liu_no is the number of the selected H	ISLR (0 to 511)
8	Determine the state of the posted HSI	_R.
	If the state of the posted HSLR is	Do
	SysB (NA)	step 9
	SysB	step 39
9	Determine if there is an FSP alarm und	der the EXT header of the MAP display.
	If an FSP alarm is	Do
	present	step 10
	not present	step 11
10	Perform the appropriate alarm clearing you have completed the procedure, re	g procedure in this document. When turn to this point.
11	Determine if a service-affecting condit	ion is present by typing
	>QUERYPM	
	and pressing the Enter key.	
	Note: In the example, service-affect heading <i>Potential service affecting</i>	cting conditions appear under the conditions.
	Example of a MAP response:	

```
PM type:HSLR
                         PM No.:110 Status: SysB(NA)
       LIM: 1 Shelf:2 Slot: 12
                                       LIU FTA:4249 1000
       Default Load: HCA04CX
       Running Load: HCA04CX
       Potential service affecting conditions:
           Msg Channel #0 NA
           Msg Channel #1 NA
           TAP #0 OOS/NA
           TAP #1 OOS/NA
       LMS States:
                         InSv
                                   InSv
       Auditing :
                         No
                                   No
       Msg Channels:
                         NA
                                   NA
       TAP 2 :
                     S(NA)
                              M(NA)
       Reserved HSLR forms part of CCS7 Linkset: LSCAP1
       SLC: 5 LIU is allocated
12
      Determine the number of the link interface module (LIM), link interface shelf
      (LIS), and tap and the name of the linkset associated with the HSLR.
         Note: The numbers of the LIM and LIS associated with the HSLR appear
         in the second line of the MAP response. The number of the tap and linkset
         name associated with the HSLR appear at the bottom of the MAP
         response.
13
      Post the LIM associated with the HSLR by typing
      >POST LIM lim_no
      and pressing the Enter key.
       where
          lim no
            is the number of the LIM (0 to 16)
      Example of a MAP display:
      LIM 1 ISTb
                            00S
                                        00S_Taps
                           Links LIS1 LIS2 LIS3
        Unit0: ISTb
                              2
                                    .
        Unit1: ManB
                               2
                                     8
                                          8
                                               8
14
      Determine the state of the LIM.
       If the LIM is
                                        Do
        InSv or ISTb and the LIM is
                                        step 17
       located on the link peripheral
       processor (LPP)
        InSv or ISTb and the LIM is
                                        step 18
       located on the enhanced LPP
        (ELPP)
```

	IM is			Do				
anythi	ng else			ste	p 15			
A problei alarm cle procedur	m with the Ll aring procee e, return to f	IM prod dure in this poir	uces a this doo nt.	PM LIN cument	A alarm . When	. Perfori you hav	m the ap /e comp	prop leted
Determir	ne if the HSL	.R alarn	n cleare	ed.				
If the H	SLR alarm			Do				
cleared	1			ste	р 55			
did not	clear			ste	p 18			
Access t	he FBus leve	el of the	MAP	display	by typin	g		
>FBUS								
and pres	sing the Ent	er key.						
Example	of a MAP d	isplay:						
LIM 0 I	InSv							
		Links	_00S	Ta	ps_005	3		
		2			•			
Unit0:	InSv	-						
UnitO: Unitl:	InSv InSv	2	4	0	•	16	20	24
Unit0: Unit1: FBus0:	InSv InSv Tap: ManB	2 : 0 BB	4 BB	8 BB	12	16	20	24

Go to step 19.

18 Access the LIS level of the MAP display by typing

>LIS lis_no

and pressing the Enter key.

where

lis_no

is the number of the LIS that corresponds to the LIS number in step 12. *Example of a MAP display:*

LIM 8 In	nSv			00S	00S_	_Taps		
				Links	LIS1	LIS2	LIS3	
Unit0:	InSv			2				
Unit1:	InSv			2				
LIS1 1	Tap:	0	4	8				
FBus0:	ManB	BB	BB	BB				
FBus1:	InSv	IM	S					

Note: In the example, B under a tap number indicates that the F-bus is manual busy or that the controlling LIM unit is system busy or manual busy. A dot (.) indicates an in-service tap. An M indicates a manual-busy tap. An I indicates an in-service trouble tap. An S indicates a system-busy tap. A dash (-) indicates an unequipped tap.

19 Determine the state of the F-buses.

If the F-buses are both	Do
InSv or ISTb	step 22
anything else	step 20

- **20** A problem with the F-bus produces a PM LIMF alarm. Perform the appropriate alarm clearing procedure in this document. When you have completed the procedure, return to this point.
- 21 Determine if the HSLR alarm cleared.

If the HSLR alarm	Do
cleared	step 55
did not clear	step 22

22 Determine which F-bus taps are associated with the HSLR by typing

>TRNSL fbus_no

and pressing the Enter key.

where

fbus_no is the number of either F-bus (0 or 1)

Example of a MAP response:

LIM	8	LIS	2	FBus	0	Тар	0	is	on	HLIU	101
LIM	8	LIS	2	FBus	0	Тар	1	is	on	HSLR	101
LIM	8	LIS	2	FBus	0	Тар	2	is	on	HLIU	102
LIM	8	LIS	2	FBus	0	Тар	3	is	on	HSLR	102

23	From the MAP display generated in ste taps associated with the system-busy	ep 18, determine the state of the F-bus HSLR.
	<i>Note:</i> The tap number shown in th both F-buses.	e MAP response in step 22 applies to
	If the state of	Do
	either F-bus tap is fluctuating from I to S, or is S	step 28
	either F-bus tap is M	step 24
	both F-bus taps are in service	step 54
24	Determine from office records or other out of service. When permitted, go to	office personnel why the tap was taken step 25.
25	Return the F-bus tap to service by typ	ing
	>RTS FBUS fbus_no tap_no	
	and pressing the Enter key.	
	where	
	fbus_no is the number of the F-bus (0 o	r 1)
	tap_no is the number of the F-bus tap	(0 to 11)
	If the RTS command	Do
	passed, and the other tap is M	step 23
	passed, and the other tap is M passed, and the other tap is in service	step 23 step 26
	passed, and the other tap is M passed, and the other tap is in service failed	step 23 step 26 step 54
26	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis	step 23 step 26 step 54 play by typing
26	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT	step 23 step 26 step 54 play by typing
26	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key.	step 23 step 26 step 54 play by typing
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HSLR alarm cleared.	step 23 step 26 step 54 play by typing
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HSLR alarm cleared. If the HSLR alarm	step 23 step 26 step 54 play by typing
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HSLR alarm cleared. If the HSLR alarm cleared	step 23 step 26 step 54 play by typing Do step 55
26 27	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HSLR alarm cleared. If the HSLR alarm cleared did not clear	step 23 step 26 step 54 play by typing Do step 55 step 36
26 27 28	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HSLR alarm cleared. If the HSLR alarm cleared did not clear Manually busy the tap on F-bus 0 by t	step 23 step 26 step 54 play by typing Do step 55 step 36 yping
26 27 28	passed, and the other tap is M passed, and the other tap is in service failed Quit from the LIS level of the MAP dis >QUIT and pressing the Enter key. Determine if the HSLR alarm cleared. If the HSLR alarm cleared did not clear Manually busy the tap on F-bus 0 by t >BSY FBUS 0 tap_no	step 23 step 26 step 54 play by typing Do step 55 step 36 yping

passed step 30 failed step 29 Force the F-bus tap to busy by typing >BSY FBUS 0 tap_no FORCE and pressing the Enter key. where tap_no is the number of the F-bus tap (0 to 11) Manually busy the tap on F-bus 1 by typing >BSY FBUS 1 tap_no and pressing the Enter key. where tap_no is the number of the F-bus tap (0 to 11) If the BSY command passed step 31 Force the F-bus tap to busy by typing >BSY FBUS 1 tap_no Force the F-bus tap to busy by typing >BSY FBUS 1 tap_no FORCE and pressing the Enter key. where tap_no is the number of the F-bus tap (0 to 11) Replace the NTEX22CA card by performing the appropriate card replacement procedure in Card Replacement Procedures. When the placement Procedures in Card Replacement Procedures.	
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and pressing the Enter key. where tap_no is the number of the F-bus tap (0 to 11) Replace the NTEX22CA card by performing the appropriate card replacement procedure in <i>Card Replacement Procedures</i> . When	1 tap_no FORCE
where tap_no is the number of the F-bus tap (0 to 11) Replace the NTEX22CA card by performing the appropriate card replacement procedure in <i>Card Replacement Procedures</i> . When	ne Enter key.
tap_no is the number of the F-bus tap (0 to 11) Replace the NTEX22CA card by performing the appropriate card replacement procedure in <i>Card Replacement Procedures</i> . When	
Replace the NTEX22CA card by performing the appropriate card replacement procedure in <i>Card Replacement Procedures</i> . When	umber of the F-bus tap (0 to 11)
completed the procedure, return to this point.	TEX22CA card by performing the appropriate card
Return the tap on F-bus 0 to service by typing	procedure, return to this point.
<pre>>RTS FBUS 0 tap_no</pre>	on F-bus 0 to service by typing
and pressing the Enter key.	on F-bus 0 to service by typing 0 tap_no

tap_no is the number of the F-bus tap	(0 to 11)
If the RTS command	Do
passed	step 34
failed	step 54
Return the tap on F-bus 1 to service b	y typing
>RTS FBUS 1 tap_no	
and pressing the Enter key.	
where	
tap_no is the number of the F-bus tap	(0 to 11)
If the RTS command	Do
passed	step 35
failed	step 54
Quit from the F-bus level of the MAP of	lisplay by typing
>QUIT	
and pressing the Enter key.	
Post the system busy HSLR by typing	
>POST HSLR liu_no	
and pressing the Enter key.	
where	
liu_no is the number of the HSLR (0 to	511)
Manually busy the HSLR by typing	
>BSY	
and pressing the Enter key.	
If the response is	Do
HSLR liu_no BSY Passed	step 40
Busying HSLR liu_no will take a CCS7 resource out of ser-	step 38

	_
If the response is	Do
Anything else (apart from "failed"), including additional messages with above response	step 54
HSLR liu_no BSY Failed	step 39
Confirm the command by typing	
>YES	
and pressing the Enter key.	
Go to step 40	
Force the HSLR to busy by typing	
>BSY FORCE	
and pressing the Enter key.	
If the response is	Do
HSLR liu_no BSY Passed	step 40
<pre>Busying HSLR liu_no will take a CCS7 resource out of ser- vice Please confirm ("YES","Y","NO",or "N"):</pre>	step 40
Anything else, including addi- tional messages with above re- sponse	step 54
Confirm the command by typing	
>YES	
and pressing the Enter key.	
Reset the HSLR by typing	
>PMRESET	
and pressing the Enter key.	
If the PMRESET command	Do
passed	step 42
passed failed	step 42 step 42

42	Load the HSLR by typing >LOADPM and pressing the Enter key.	
43	Test the HSLR by typing	
	>TST	
	and pressing the Enter key.	
	If the TST command	Do
	passed	step 46
	failed, and a card list is generat-	step 44
	ed that contains cards that have	
	not already been changed	
	anything else	step 54
44	Record the location, description, slot r code (PEC), including suffix, of the first	number, and the product engineering st card on the list.
45	There is a hardware fault in the card. appropriate card replacement procedu When you have completed the proced	Replace the card by performing the ire in <i>Card Replacement Procedures</i> .
46	Return the HSLR to service by typing	
46	Return the HSLR to service by typing	
46	Return the HSLR to service by typing >RTS and pressing the Enter key.	
46	Return the HSLR to service by typing <pre>>RTS and pressing the Enter key. If the RTS command</pre>	Do
46	Return the HSLR to service by typing <pre>>RTS and pressing the Enter key. If the RTS command passed</pre>	Do step 47
46	Return the HSLR to service by typing <pre>>RTS and pressing the Enter key. If the RTS command passed failed</pre>	Do step 47 step 54
46 47	Return the HSLR to service by typing <pre>>RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAR on the HSLR is in service by typing</pre>	Do step 47 step 54 P display to determine if the CCS7 link
46 47	Return the HSLR to service by typing <pre>>RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAR on the HSLR is in service by typing >CCS;CCS7;C7LKSET</pre>	Do step 47 step 54 P display to determine if the CCS7 link
46	Return the HSLR to service by typing >RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAR on the HSLR is in service by typing >CCS;CCS7;C7LKSET and pressing the Enter key.	Do step 47 step 54 P display to determine if the CCS7 link
46 47 48	Return the HSLR to service by typing >RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAR on the HSLR is in service by typing >CCS;CCS7;C7LKSET and pressing the Enter key. Post the linkset associated with the HS	Do step 47 step 54 P display to determine if the CCS7 link SLR by typing
46 47 48	Return the HSLR to service by typing <pre>>RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAF on the HSLR is in service by typing >CCS;CCS7;C7LKSET and pressing the Enter key. Post the linkset associated with the HS >POST C linkset_name</pre>	Do step 47 step 54 P display to determine if the CCS7 link SLR by typing
46 47 48	Return the HSLR to service by typing >RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAR on the HSLR is in service by typing >CCS;CCS7;C7LKSET and pressing the Enter key. Post the linkset associated with the HS >POST C linkset_name and pressing the Enter key.	Do step 47 step 54 P display to determine if the CCS7 link SLR by typing
46 47 48	Return the HSLR to service by typing <pre>>RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAF on the HSLR is in service by typing >CCS;CCS7;C7LKSET and pressing the Enter key. Post the linkset associated with the HS >POST C linkset_name and pressing the Enter key. where</pre>	Do step 47 step 54 P display to determine if the CCS7 link SLR by typing
46 47 48	Return the HSLR to service by typing >RTS and pressing the Enter key. If the RTS command passed failed Access the C7LKSET level of the MAF on the HSLR is in service by typing >CCS;CCS7;C7LKSET and pressing the Enter key. Post the linkset associated with the HS >POST C linkset_name and pressing the Enter key. where linkset_name is the linkset name	Do step 47 step 54 P display to determine if the CCS7 link SLR by typing

PM HSLR critical (end)

The second secon	
LK Stat Stat Resource S	Stat Physical Access
1InSvSyncDLIU82InSvSyncDLIU7	InSv DS1 InSv DS1
Determine the traffic state of the CCS7	Iink for the HSLR you are working o
<i>Note:</i> The number of the HSLR yo Resource header on the MAP displa shown under the Traf Stat header.	u are working on is shown under the ay. The traffic state of the CCS7 link
If the state of the CCS7 link is	Do
InSv	step 55
anything else	step 50
Wait 8 min to see if the CCS7 link reco itself.	overs when the HSLR re-establishes
If the state of the link is	Do
InSv	step 55
anything else	step 51
Perform the procedure Activating CCS have completed the procedure. return	<i>7 links</i> in this document. When you
· · · · · · · · · · · · · · · · · · ·	to this point.
Determine if the link activated.	to this point.
Determine if the link activated.	Do
Determine if the link activated. If the link activation passed	Do step 53
Determine if the link activated. If the link activation passed failed	Do step 53 step 54
Determine if the link activated. If the link activation passed failed Determine if the HSLR alarm cleared.	Do step 53 step 54
Determine if the link activated. If the link activation passed failed Determine if the HSLR alarm cleared. If the alarm	Do step 53 step 54 Do
Determine if the link activated. If the link activation passed failed Determine if the HSLR alarm cleared. If the alarm cleared	Do step 53 step 54 Do step 55
Determine if the link activated. If the link activation passed failed Determine if the HSLR alarm cleared. If the alarm cleared decreased in number (for example, changed from 2HSLR to 1HSLR)	Do step 53 step 54 Do step 55 step 5
Determine if the link activated. If the link activation passed failed Determine if the HSLR alarm cleared. If the alarm cleared decreased in number (for example, changed from 2HSLR to 1HSLR) did not clear	Do step 53 step 54 Do step 55 step 55 step 54
Determine if the link activated. If the link activation passed failed Determine if the HSLR alarm cleared. If the alarm cleared decreased in number (for exam- ple, changed from 2HSLR to 1HSLR) did not clear For further assistance, contact the per- support.	Do step 53 step 54 Do step 55 step 55 step 54
PM IPGW Major

Alarm display

1	CM MB OD Not PM CC8 This list	CM	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
				•	·	1IPG M	•	•	•	•	·	

Indication

The alarm code IPG appears under the PM header at the IPGW level of the MAP display. This code indicates an Internet Protocol Gateway (IPGW) alarm. A number precedes the code, and an M appears below the code. The number preceding the alarm code indicates the number of IPGWs affected. The M indicates that the alarm class is major.

Meaning

An IPGW is system busy (SysB) or C-side busy (CBsy). The IPGW resides in an IP-ready line trunk controller (LTCI). A SysB or CBsy IPGW causes the LTCI to go in-service trouble (ISTb). The following conditions trigger a major alarm on the IPGW:

- transition of the IPGW node state to SysB
- transition of the IPGW node state to CBsy

Impact

The affected IPGW cannot support Centrex IP service.

Common procedures

This procedure does not refer to any common procedures.

Next level of maintenance

Repeat this procedure if it is not successful when you first perform the procedure.

A problem can occur that requires the help of the local maintenance personnel. Gather all important logs, reports, and system information (that is, product type and current software load) for analysis. The related logs, maintenance notes, and system information help make sure that the next level of maintenance and support can find the problem. More detail about logs appears in the *Log Report Reference Manual*.

PM IPGW

Major (continued)

Action

The flowchart that follows provides a summary of this procedure. Use the instructions in the step action procedure that follows the flowchart to clear the alarm.

PM IPGW Major (continued)

Summary of clearing a PM IPGW alarm



PM IPGW Major (continued)

Clearing a PM IPGW major alarm

At the MAP display

1 Go to the PM level of the MAP display and check for SysB or CBsy Gateway cards. Type

>MAPCI;MTC;PM;POST IPGW SYSB

If there are no SysB Gateway cards, type

>MAPCI;MTC;PM;POST IPGW CBSY

and press the Enter key.

Example of MAP response

C	M MS 	IOD	Net	: PM 1IPG M	CCS ·	Lns	Trks	Ext .	APPL •	
I	PGW		S	SysB	ManB	OffI	L CBsy	y ISTb	InSv	
0	Quit	PM		1	4	4	0	1	10	
2	Post_	IPC	SW	1	4	1	0	0	3	
3										
4		IPGW	GWIP	06 1	SysB	Lir	nks_00S	: CSide	0	
5	Trnsl_									
6	Tst_									
7	Bsy_									
8	RTS_									
9	OffL									
10	LoadPMQ									
11										
12	Next									
13										
14	QueryPM									
15	PMReset									
16	Spares									
17										
18										,

2 Determine your next step.

lf	Do
the system recovery controller automatically clears the alarm	step 6
the system recovery controller does not automatically clear the alarm	step 3

PM IPGW Major (end)

3	Manually busy the Gateway card. Type							
	>BSY							
	and press the Enter key.							
	Note: If the maintenance flag is up, type ABTK; BSY to clear.							
4	Bring the Gateway card into service. Type							
	>RTS							
	and press the Enter key.							
5	Determine your next step.							
	lf	Do						
	the Gateway card does not return to service	refer to the NT7X07 card replacement procedure						
-								

6 The procedure is complete.

PM IPML major or minor

Alarm display

 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
-	•	•		1IPML M	•	•		•	

Indication

At the MTC level of the MAP terminal, IPML (preceded by a number) appears under the PM header of the alarm banner. The IPML indicates an alarm for an interperipheral message link (IPML).

Meaning

A major (M) alarm occurs when an IPML is system busy (SysB), C-side busy (CBsy), or P-side busy (PBsy).

A minor alarm occurs when an IPML is in-service trouble (ISTb) or manual busy (ManB).

The number that precedes IPML is the number of IPMLs with an alarm.

Note: The IPMLs do not require manual maintenance. A problem can occur at the C-side or the P-side of the link. The problem occurs when an IPML is in a state other than InSv or ManB. You must clear the problem at the Net or PM level of the MAP terminal.

Result

You cannot establish or disassemble common channel signaling (CCS) when an IPML is SysB, CBsy, ManB, or PBsy. An IPML is ISTb and does not affect service.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM IPML major or minor alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

Clearing a PM IPML major or minor alarm

At the MAP terminal

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	0	3	5	7	6	12

2 Determine if an alarm appears under the Ext header of the MAP display.

If an Ext alarm	Do	
appears	step 3	
does not appear	step 4	

- **3** Perform the correct procedure in this document.
- 4 Determine if an audible alarm rings.

If an alarm	Do
rings	step 5
does not ring	step 6

5 To silence the alarm, type

>SIL

and press the Enter key.

- 6 To access the IPML level of the MAP terminal, type
 - >IPML

and press the Enter key.

Example of a MAP response:

IPML	PBsy	SysB	ManB	OffL	CBsy	ISTb	InSv
	3	0	0	0	0	0	0
IPML		PO	P1	Po	rt Ch		Port Ch
IPC0							
IPC1							

From the MAP display, determine the status of the IPMLs.							
If the status of the IPMLs	Do						
is SysB	step 9						
is ISTb	step 8						
is CBsy	step 20						
is PBsy	step 25						
is ManB	step 27						
To post the in-service trouble IPML, type >POST ISTD and press the Enter key.							
If an IPC	Do						
is SysB or ISTb	step 10						
is ManB	step 29						
is CBsy	step 21						
To post the system busy IPML, type							
>POST SYSB							
and press the Enter key.							
Note: A problem is present at the C-side or the P-side of the link.							
From the MAP display, record the the link. Record the PM number.	type of PM that connects to the P-side of						
To obtain the network, plane, and link numbers, type							
>TRNSL							
and press the Enter key.							
and press the Enter Key.							

Link 0: NET 0 0	5;Cap MS;Status:OK ,C
;MsgCond:CLS,Unrest	rict
Link 1: NET 1 0	5;Cap MS;Status:OK ,C
;MsgCond:CLS,Unrest	rict
Link 0: NET 0 0	3;Cap MS;Status:OK ,C
;MsgCond:CLS,Unrest	rict
Link I: NET I U	aicap MS/Status:OK ,C
ink 2. NET 0 0 1	$\frac{1}{2} \cdot C = \frac{1}{2} \cdot C = $
Link 3: NET 1 0 1	3;Cap S;Status:OK ,C,P
Link $2: NET 0 0$	6;Cap S;Status:OK .C.P
Link 3: NET 1 0	6;Cap S;Status:OK ,C,P
To post one of the two PMs	hat connect to the P-side of the link, type
- >POST pm_type pm_no	
and press the Enter key.	
where	
pm type	
is the type of PM that	is not posted (MSB, DTC, LTC)
pm_no is the number of the l	PM (0 to 255)
Check the status of the PM.	
If the status of the PM	Do
is InSv	step 14
is not InSv	sten 16
	sup 10
To post the other PM that co	nnects to the P-side of the link, type
>POST pm_type pm_no	
and press the Enter key.	
where	
pm_type is the type of PM that	is not posted (MSB, DTC, LTC)
pm_no is the number of the l	PM (0 to 255)
Check the status of the PM.	
If the status of the PM	Do
is InSv	step 23
	step 25

16	Determine the PM type.							
	If the PM	Do						
	is an MSB	step 17						
	is a DTC	step 18						
	is an LTC	step 19						
17	Perform the procedure <i>Clearing a PM alarm</i> in this document. This procedure	MSB6, MSB7, critical, major, or minor ure returns the PM to service.						
18	Perform the procedure <i>Clearing a PN</i> this document. This procedure return	Perform the procedure <i>Clearing a PM DTC, critical, major, or minor alarm</i> in this document. This procedure returns the PM to service.						
19	Perform the procedure <i>Clearing a PM LTC, critical, major, or minor alarm</i> in this document. This procedure returns the PM to service.							
20	To post the C-side busy IPML, type							
	>POST CBSY							
	and press the Enter key.							
	<i>Note:</i> A problem is present at the C-side or the P-side of the link.							
21	The problem is present at the Net level.							
	To obtain the network, plane, and link numbers, type							
	>TRNSL							
	and press the Enter key.							
22	Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.							
23	The next action depends on your reason to perform this procedure.							
	If another procedure	Do						
	did not direct you to this proce- dure	step 36						
	directed you to this procedure	step 24						
24	Return to the procedure that sent you directed by the step-action procedure	to this procedure and continue as						
25	To post the P-side busy IPML, type							
	>POST PBSY							
	and press the Enter key.							
	<i>Note:</i> A fault is present at the C-side or the P-side of the link.							

If the PM	Do					
is an MSB	step 17					
is a DTC	step 18					
is an LTC	step 19					
To post the manually-busy IF	PML, type					
>POST MANB						
and press the Enter key.						
Choose an interperipheral c	onnection (IPC) to use (0 or 1).					
Determine from office record is manual busy. When you h	ds or operating company person nave permission, continue the p	nel why the II rocedure.				
To return the IPC to service,	type					
>RTS ipc_no						
and press the Enter key.						
vhere						
ipc_no is the number of the I	PC that has not returned to serv	/ice (0 or 1)				
Example of a MAP response	9:					
This will temporarily from service Please of	y remove IPML ipml_no IF confirm ("YES", or "NO")	PC ipc_no				
To confirm the command, ty	ре					
>YES						
and press the Enter key.						
If the RTS command		Do				
passes, the IPC is InSv,	and the other IPC is ManB	step 29				
passes, both IPCs are In ManB	Sv, and no other IPMLs are	step 36				
passes, both IPCs are I ManB	nSv, and other IPMLs are	step 33				

fails, and the IPML is not InSv step 35

PM IPML major or minor (end)

32	Go to step 7 and continue as directed by the step-action procedure according to the state of the IPML.
	to the state of the IPML.

33 To display the next IPML in the posted set, type>NEXT

and press the Enter key.

- 34 Repeat steps 28 to 31 for each ManB IPML.
- **35** For additional help, contact the next level of support.
- **36** The procedure is complete.

PM ISTb minor

Alarm display

	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext
	•	•	•	•	1ISTb				

Indication

At the MTC level of the MAP display, ISTb (preceded by a number) appears under the PM header of the alarm banner. The ISTb indicates a minor alarm for an in-service trouble (ISTb).

This alarm applies to the following PMs:

- maintenance trunk module (MTM)
- service trunk module (STM)
- trunk module 8 (TM8)

Meaning

The indicated number of PMs are ISTb.

Result

The alarm does not affect service.

Common procedures

This procedure refers to Monitoring system maintenance.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM ISTb minor alarm



Layout of a TM shelf

		21
NT2X09	Power converter card	20
	Trunk interface circuit	19
	Trunk interface circuit	18
	Trunk interface circuit	17
	Trunk interface circuit	16
	Trunk interface circuit	15
	Trunk interface circuit	14
	Trunk interface circuit	13
	Trunk interface circuit	12
	Trunk interface circuit	11
	Trunk interface circuit	10
	Trunk interface circuit	09
	Trunk interface circuit	08
	Trunk interface circuit	07
	Trunk interface circuit	06
	Trunk interface circuit	05
NT2X59	Codec and tone card	04
NT2X53	Control card	03
NT0X70	Processor card	02
NT2X45	Network interface card	01

Layout of an MTM shelf

NT2X06 –O	Power converter card R–	21
NT2X70	Power converter card	20
NT0X50	Filler card	19
		18
NT2X09	Power converter card	17
	Trunk interface circuit	16
	Trunk interface circuit	15
	Trunk interface circuit	14
	Trunk interface circuit	13
	Trunk interface circuit	12
	Trunk interface circuit	11
	Trunk interface circuit	10
	Trunk interface circuit	09
	Trunk interface circuit	08
	Trunk interface circuit	07
	Trunk interface circuit	06
	Trunk interface circuit	05
NT2X59	Codec and tone card	04
NT2X53	Control card	03
NT0X70	Processor card	02
NT2X45	Network interface card	01

Clearing a PM ISTb minor alarm

At the MAP terminal

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

PM	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12	
If ar	n audible a	llarm		Do			
ring	ζS			step 2			
doe	s not ring			step 3			

2 To silence the alarm, type

>SIL

and press the Enter key.

3 To display all the ISTb PMs, type

>DISP STATE ISTb

and press the Enter key.

Example of a MAP response: MTM 4 ISTb

Note: If multiple types of PMs are ISTb, work on MTMs first. If multiple PMs of the same type are ISTb, select one to use.

Record the number for the PM.

At the MAP terminal

4 To post the PM, type

>POST pm pm_no

and press the Enter key.

where

pm

is the type of PM (MTM, STM, or TM8)

pm_no is the number (0 to 2047)	of the PM	
If a Mtce flag	Do	
appears next to the PM	step 5	
does not appear	step 6	
Go to the common procedure <i>Mo</i> document. Complete the proced	onitoring system maintenar lure and return to this point	<i>nce</i> in this
If the minor alarm	Do	
changes	step 22	
remains	step 6	
clears	step 24	
If the TST command		Do
> TST and press the Enter key.		
fails, a card list is generated.	and the PM type is nei-	step 1
ther an MTM or TM8	51	
fails, a card list is generated, or TM8, and the office is not a DMS-100 office, or a DM office without the TOPS fun-	the PM type is an MTM t a TOPS office (that is, S-200 or DMS-100/200 ctionality)	step 1
fails, a card list is generated, MTM or TM8, and the offic is, a DMS-200 or DMS-10 TOPS functionality)	the PM type is either an e is a TOPS office (that 00/200 office with the	step 7
	nerated	step 23
fails and a card list is not ger	loiutou	-
fails and a card list is not ger passes and the alarm clears		step 24
fails and a card list is not ger passes and the alarm clears Check the PM module (MTM or TOPS positions in table TOPSPO	TM8) posted in step 4 for an S by typing	step 24
fails and a card list is not ger passes and the alarm clears Check the PM module (MTM or TOPS positions in table TOPSPO >table TOPSPOS	TM8) posted in step 4 for an S by typing	step 24

The following figure shows sample datafill for table TOPSPOS.

MAP display example for table TOPSPOS

(
	POSNO	VCCK:	Г	VCPDGRP		CARDCODE	
						DATAPATH	
						POSAREA	
	110	 тм8	2 10	NDUGD		2x72aa	
	DMOD	EM BP	ASCII	TM8	2	11 NPDGP BELL108	
						IC 1 DASERV INTCSERV \$	
	370	TM8	0 26	NPDGP		2X72AA	
	DMOD	EM SP	ASCII	TM8	0	27 NPDGP BELL108	
				OP	R	3 TOPSACD TASERV \$ GEN \$	
	570	TM8	8 20	NPDGP		2X88AA	
	DMOD	EM MP	ASCII	TM8	8	21 NPDGP BELL202	
(

In the above example, the first tuple is for TOPS position 110 that uses TM8 number 2, circuit 10, for a BP (basic purpose) type position. The other tuples show position types SP (single purpose) and MP (multi-purpose). A TM8 is only used on these position types (BP, SP, and MP). Additional information on these position types follows:

- An SP position refers to a TOPS 04 position. The TM8 is connected to the position either directly (on older systems with the TOPS 04 ASCII protocol) or through a TOPS 04 Controller (using the newer AOSS ASCII protocol). For further information on a TOPS 04 Controller (PEC NT4X73), refer to documents PLN-2281-001, TOPS MP/04 Technical Specification, and NED-297-0003, DMS-100F Maintenance and Operations Manual.
- A BP position is a dedicated directory assistance/intercept terminal. The TM8 connects to the position through a TOPS 04 Controller using AOSS ASCII protocol.
- An MP position connects to the TM8 through a standalone TOPS Position Controller (sTPC). An sTPC cannot be posted on the MAP display and does not generate alarms on the DMS switch. The sTPC is accessed through the TPC Maintenance and Administration Interface (TAMI). For more information, refer to the TOPS MP TAMI User Guide, 297-2281-530.

Check the remaining tuples in table TOPSPOS for any other associated positions and note the position numbers. Repeatedly, type the following command and check the displayed tuples until all tuples are examined

>list 20

and pressing the Enter key.

If any TOPS positions are supported by the posted PM in step 4, check with an operator Force Management supervisor to see if these TOPS positions are

actively processing calls. This is possible since a PM could fail the test in step 6 and still be handling calls.

IfAre associated positions handling calls?	Do
no	step 1
yes (note, it is important not to continue with step 1; otherwise, active positions would be disabled and lose calls)	step 22
To busy the PM, type	

>BSY

8

and press the Enter key.

At the equipment frame

Replace the first or next card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figures *Layout of a TM shelf* and 9 Layout of an MTM shelf for help to locate the card.

	If the card	Do						
	is an NT0X70, NT2X06, NT2X09, NT2X45, NT2X53, or NT2X70	step 10						
	is other than listed here	step 16						
At th	e MAP terminal							
10	To load the PM, type							
	>LOADPM							
	and press the Enter key.							
	where							
	pm is the type of PM (MTM, STM, or TM8)							
	pm_no is the number (0 to 2047) of the	PM						
	If the LOADPM		Do					
	fails, the system generates a card not replaced all the cards that have	list, and you have e faults	step 9					
	fails, the system generates a care placed all the cards that have fault	d list, and you re- ts on the list	step 23					

If th	ne LOADPM		Do
fail	s, and the system does not gene	erate a card list	step 23
fails, and the response is loadfile not found in directory		step 11	
pas	ses		step 16
Check office records to determine the device and volume the PM load files.		at contains the	
lf yo	our device	Do	
is a	n SLM	step 12	
is a	DDU	step 14	
To ac	ccess the DISKUT level, type		
>DIS	SKUT		
and p	press the Enter key.		
To lis	t the PM load file to the user direc	ctory, type	
>LF	device_volume_name		
and p	press the Enter key.		
wher	'e		
d	device_volume_name is the location and name of the	PM load file	
Exan	nple of input: LF S00DPMLOADS	6	
Go to	o step 10.		
To ac	ccess the DSKUT level, type		
>DSK	τυτ		
and p	press the Enter key.		
To lis	t the PM load file to the user direc	ctory, type	
>LIV	/ device_volume_name		
and p	press the Enter key.		
wher	'e		
d	levice_volume_name is the location and name of the	PM load file	
Exan	nple of input: LIV D01PMLOADS		
Go to	o step 10.		
To re	turn the PM to service, type		
>RTS	3		

and press the Enter key.

	If the PM	Do
	does not return to service, the system generates a card list, and you did not replace all the cards that have faults on the list	step 9
	does not return to service, the system generates a card list, and you replaced all the cards that have faults on the list	step 23
	does not return to service and the system does not generate a card list	step 23
	returns to service	step 17
17	To access the TTP level, type	
	>TRKS;TTP	
	and press the Enter key.	
18	To post the PM, type	
	>POST P pm pm_no	
	and press the Enter key.	
	where	
	pm is the type of PM (MTM, STM, or TM8)	
	<pre>pm_no is the number (0 to 2047) of the PM</pre>	
19	To busy all trunk circuits, type	
	>BSY ALL	
	and press the Enter key.	
20	To post the PM again, type	
	>POST P pm pm_no	
	and press the Enter key.	
	where	
	pm is the type of PM (MTM, STM, or TM8)	
	<pre>pm_no is the number (0 to 2047) of the PM</pre>	
21	To return to service all trunk circuits, type	
	>RTS ALL	

PM ISTb minor (end)

and press the Enter key.

Go to step 24.

- 22 The ISTb minor alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm. Go to step 24.
- 23 You require additional help to clear this alarm. Contact the next level of support. Describe in detail the steps that you performed to attempt to clear this alarm.
- 24 The procedure is complete.

PM ISTb (OSNM) minor

Alarm display

	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•		•	•	1ISTb	·	•	•	•	

Indication

At the MTC level of the MAP display, a 1ISTb can appear under the PM header of the alarm banner. This condition indicates an inservice trouble minor alarm.

Meaning

A peripheral module is inservice trouble. An Operator Service Node Maintained (OSNM) module is inservice trouble.

One of the following conditions is present:

- A user manually busies (ManB) an OSNM
- A user manually busies (ManB) a Session Pools
- Session Pools are system busy (SysB)

Result

Session pools on the OSNM are out of service. Limited call processing can occur on the OSNM.

Common procedures

Does not apply

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM ISTb (OSNM)

minor (continued)

Summary of clearing an OSNM SysB minor alarm



PM ISTb (OSNM) minor (continued)

Clear	Clearing an OSBN SysB alarm								
At th	e MAP								
1	To silence the alarm, type								
	>MAPCI;	MTC;S	IL						
	and press	s the Er	nter key.						
2	To acces	s the PI	A level of the	ne MAP dis	splay, type				
	>PM								
	and press	s the Er	iter key.						
	Example	or a IVIA	AP display.						
	S	ysB	ManB	OffL	CBsy	ISTb	InSv		
		0	0	0	0	1	50		
	PM								
3	To post th	ne in se	rvice troub	le OSNM, 1	type				
	>POST C	SNM I	STb						
	and press	s the Er	nter key.						
	Example	of a MA	AP display:						
		SysB	ManB	OffL	CBsy		ISTb	InSv	
		0	0	0	0		1	10	
	PM								
	OSNM								
	OSNM ()							
	NONE								
	ISTb								
4	Check the	e status	of the OS	NM					
	If the O	SNM			Do				
	is Man	В			step 5				
	is ISTb)			step 7				
5	To return	the OS	NM to serv	vice, type					
	>RTS								

PM ISTb (OSNM)

minor (continued)

	and proce the Enter Key								
6	Proceed according to the following ta	able:	le:						
	If the RTS	Do							
	passes	step 19							
	fails	step 18							
7	To query the PM for fault reason, typ >QUERYPM FLT and press the Enter key. <i>Example of a MAP display:</i>	e							
	SysB ManB OffI 0 0 0	CBsy) 0	ISTb 1	InSv 10					
	PM OSNM								
	OSNM 0 NONE ISTD								
	Session pool out of service								
8	Note the OSNM in service trouble re	ason							
	If the ISTb reason	Do							
	is session pool out of service	step 9							
	is anything else	step 18							
9	To enter the SesnPool level of the M	AP, type							
	>SESNPOOL and press the Enter key.								
	Example of a MAP display:								

PM ISTb (OSNM) minor (continued)

		SysB O	ManB 0	OffL 0	CBsy O	ISTb 1	InSv 10
	PM OSNM						
	OSNM NONE ISTb	0					
	Status SP	s SysB 1	ManB 0	OffL 0	CBsy 0	Ins	Sv L4
	SESNPOC)L:					
10	Observe	e the sess	ion pool sta	atus display	/		
	If the	session p	ools		Do		
	are sy	stem bus	У		step 11		
	are ma	anual bus	У		step 15		
11	To post >POST and pre <i>Exampl</i>	the syster SP SysB ss the Ent e of a MAI	n busy ses er key. P <i>display:</i>	sion pool, t	уре		
	PM OSNM	SysB O	ManB 0	OffL O	CBsy O	ISTb 1	InSv 10
	OSNM NONE ISTb	0					
	Status SP	s SysB 1	ManB 0	OffL 0	CBsy O	Ins	Sv L4
	OSNM Size of	1 SP Post s	5 Sy et: 1	sB			
12	To manı >BSY	ually busy	the sessio	n pool, type	e		

PM ISTb (OSNM) minor (end)

and pre	ess the Ent	er key.								
To return the session pool to service by type										
>RTS										
and press the Enter key. Proceed according to the following table:										
in the	RIJ									
passe	S			step 19						
fails				step 18						
To post	the manu	al busy ses	sion pool,	type						
>POST	SP ManB									
and pre	ess the Ent	er key.								
Examp	le of a MA	P display:								
	SysB	ManB	OffL	CBsy	ISTb	InSv				
	0	0	0	0	1	0				
PM OSNM										
OSNM	0									
NONE ISTb										
Q b a b a		Mara	0557		Te	0				
Statu	s Syse 1	Mans 0	0 0	0 CBSY	LU	.SV 14				
SNM	1 SP f Post s	5 MA et: 1	NB							
To retu	rn the sess	sion pool to	service, ty	vpe						
>RTS										
and pre	ess the Ent	er key.								
Procee	d accordin	g to the foll	lowing table	e:						
If the	RTS			Do						
passe	S			step 19						
fails				step 18						

PM LCM critical

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext
•	•	·	·	1LCM *C*	·	•	•	•

Indication

At the MTC level of the MAP terminal, LCM (preceded by a number) appears under the PM header of the alarm banner. A *C* follows the LCM. The LCM indicates a critical alarm for a line concentrating module (LCM). The number that precedes the LCM indicates the number of LCMs that the alarm affects. The preceding figure illustrates an alarm banner with an LCM critical alarm.

Meaning

The LCM is system busy (SysB) or C-side busy. An LCM is SysB if both units are SysB. An LCM is SysB if one unit is SysB and the other unit is manual busy (ManB). An LCM is C-side busy if both units are C-side busy.

Result

Service stops when an LCM is SysB or C-side busy.

Common procedures

This procedure refers to the following common procedures:

- Clearing PM C-side links
- Monitoring system maintenance
- Clearing ringing generator faults

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM LCM critical alarm



Clearing a PM LCM critical alarm

At the MAP terminal

2

3

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy		ISTb	InSv
PM	1	3	5		7	6	12
lf				Do			
an a	udible alar	m rings		step 2			
the banı	*C* indication indication *C* indication in the second sec	ator at the	alarm	step 2			
the the	response is	other than	listed	step 3			
To sile	ence the ala	rm, type					
>SIL							
and p	ress the Ent	ter key.					
To de	termine the	status of all I	_CMs and	d line gr	oup c	ontrollers ((LGCs), type
>STA	TUS						
and p	ress the Ent	ter key.					
Exam	ple of a MA	P response:					

	SysB	ManB	OffL	CBsy	ISTb	InSv	
PM	2	0	0	2	0	25	
TM8	0	0	0	0	0	2	
MTM	0	0	0	0	0	3	
LGC	1	0	0	0	0	3	
LCM	1	0	0	2	0	0	
DTC	0	0	0	0	0	1	
LIM	0	0	0	0	0	1	
LIU7	0	0	0	0	0	1	
FRIU	0	0	0	0	0	1	
DTCI	0	0	0	0	0	1	
LCME	0	0	0	0	0	1	
						MORE	

Note: If LCMs are SysB and CBsy, work on the SysB LCMs first.

lf	Do
a minimum of one LGC is SysB or CBsy	step 4
none of the LGCs are SysB or CBsy	step 5
A minimum of one LGC critical alarm i alarms, perform the correct procedure to clear related LCM alarms.	s present. To clear all LGC critical in this document. Wait for the system

lf		Do			
the system alarms	clears all LCM	step 42			
the LCM cri	tical alarm remains	step 5			
the LCM cr to an LCM LCM minor	itical alarm changes major alarm or an alarm	the correct alarm clearing proce- dure in this document. Go to step 42.			
To display all the	ne CBsy or SysB LCN	ls, type			
>DISP STATE	state LCM				
and press the	Enter key.				
where					
state is CBsy	or SysB, as determin	ed in step 3			

5

4

Example of a MAP response: SYSB LCM:HOST 00 0

Note: If multiple LCMs are $\tt CBsy$ or $\tt SysB$, select an LCM to use. Record the number of the LCM.

lf you	Do
recover a CBsy LCM	step 6
recover a SysB LCM	step 7

6 Go to the common procedure *Clearing PM C-side faults* in this document. Complete the procedure and return to this point.

lf	Do				
the LCM remains CBsy	Treat the CBsy LCM as a SysB LCM and go to step 7.				
the LCM changes to SysB	step 7				
one LCM unit returns to service	step 41				
both LCM units return to service	step 42				
Check the EXT header of the alarm banner.					

If an FSP alarm	Do	
is present	step 8	
is not present	step 23	

8 To locate the FSP alarm, type

>EXT; LIST FSP

and press the Enter key.

Example of a MAP response:

FSPAİSD

In this example, the alarm is an FSP alarm on Aisle D.

At the equipment aisle

7

9 Go to the aisle identified in step 8. The end aisle alarm is lit.

At the equipment frame

10 Identify the frame with the FSP alarm. Check the frame fail lamp on the frame of each frame supervisory panel (FSP). The frame with the FSP alarm will have a lit frame fail lamp. The following figure shows an FSP with a lit fail lamp.



11 Identify the LCMs in the frame. Refer to the figure *LCE frame* on page for help.
LCE frame

		F	NT Ringing	GX30/ Gene	AA erator 0			NT Ringing	6X30AA Generato	r 1
		Frame Supervisory Panel Shelf 72								
	Unit 1	6X53	6X51	6X52	LSG 11 DRWR 5 LSG 10	LSG 1 DRWI LSG 1	3 R 6 2	LSG 15 DRWR 7 LSG 14	LSG 17 DRWR 8 LSG 16	LSG 19 DRWR 9 LSG 18
LCM 01	Unit 0	6X53	6X51	6X52	LSG 01 DRWR 0 LSG 00	LSG DRW LSG	03 'R 1 02	LSG 05 DRWR 2 LSG 04	LSG 07 DRWR 3 LSG 06	LSG 09 DRWR 4 LSG 08
	Unit 1	6X53	6X51	6X52	LSG 11 DRWR 5 LSG 10	LSG 1 DRWF LSG 1	3 R 6 2	LSG 15 DRWR 7 LSG 14	LSG 17 DRWR 8 LSG 16	LSG 19 DRWR 9 LSG 18
LCM 00	Unit 0	6X53	6X51	6X52	LSG 01 DRWR 0 LSG 00	LSG (DRW LSG (03 R 1 02	LSG 05 DRWR 2 LSG 04	LSG 07 DRWR 3 LSG 06	LSG 09 DRWR 4 LSG 08

12 Check the Converter Fail LED on each 6X53 power converter card in the frame. Refer to the figure *LCE frame* for help to locate this card. Refer to the following figure for help to check the Converter Fail LED.



If any LEDs	Do
are lit	step 13
are not lit	step 17

13 Note the LCM with the LED light on.

14 To post the system busy LCM and identify the location of the system busy LCM, type

>PM; POST LCM lcm_no;QUERYPM

and press the Enter key.

where

lcm_no

is the number (0 to 255) of the LCM that you recorded in step 5 *Example of a MAP response:*

```
LCM HOST 00 0 SysB Links_OOS: CSide 17 PSide 0
Unit0: Act SysB /RG 0
Unitl: Inact SysB /RG 0
                       11 11 11 11 11 RG: Pref 0 InSv
Drwr: 01 23 45 67 89 01 23 45 67 89 Stby 1 InSv
    .. -- -- -- .. -- -- -- --
QueryPM
PM Type: LCM Int. No: 0 Status index: 0 Node_No: 13
Memory Size - Unit 0: 64k , Unit 1: 64K
Loadnames: LCMINV - LCMO1D , Unit0: LCMO1D , Unit1: LCMO1D
LCM HOST 00 0 is included in the list of LCM types
   scheduled for a REX test.
Last REX test was TUE. 1994/10/18 at 1:08:58; FAILED.
Node Status: {OK, FALSE}
Unit 0 Status: {OK, FALSE}
Unit 1 Status: {OK, FALSE}
Site Flr RPos Bay_id Shf Description Slot EqPEC
HOST 01 C05 LCE 00 04 LCM 00 0
                                         6X04AA
Services: NEUTRAL
Next LCM for REx
```

If a Mtce indicator	Do
appears next to either unit	step 15
does not appear	step 16

15 Go to the common procedure *Monitoring system maintenance* in this document. Complete the procedure and return to this point.

If the critical alarm	Do	
remains	step 16	
changes	step 41	
clears	step 42	
	we as the LOM identified in star 40	_

16 Determine if the LCM is the same as the LCM identified in step 13.

If the LCM	Do
is different	step 17
is the same	step 18

17 Clear the FSP alarm. Perform the correct alarm clearing procedure in this document. Complete the procedure and return to this point.

18 To busy the LCM, type

>BSY PM

and press the Enter key.

At the equipment frame

- **19** Power down the 6X53 power converter card in the LCM unit in use. To power down the 6X53 power converter card, switch off the circuit breaker that supports the shelf. Refer to the figure in step 10 for help.
- **20** Change the 6X53 card. Refer to the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.
- 21 Power up the 6X53 power converter card in the LCM unit in use. To power up the 6X53 power converter card, switch on the circuit breaker that supports the shelf. Refer to the figure in step 10 for help.
- 22 To load the LCM unit, type

>LOADPM UNIT unit_no

and press the Enter key.

where

unit_no

is the number (0 to 1) of the LCM unit

If the load	Do
passes	step 33
fails	step 40

23 To post the LCM, type

>POST LCM lcm_no

and press the Enter key.

where

lcm no

is the number (0 to 255) of the LCM that you recorded in step 5.

Example of a MAP response:

LCM HOST 01 1 SysB Links_OOS: CSide 17, PSide 0 Unit0: Act SysB /RG 0 Unit1: Inact SysB /RG 1

If a Mtce flag	Do
appears next to either unit	step 24
does not appear	step 25

24 Go to the common procedure *Monitoring system maintenance* in this document. Complete the procedure and return to this point.

If the critical alarm	Do	
remains	step 25	
changes	step 41	
clears	step 42	

25 To query the LCM for indications that have faults, type

>QUERYPM FLT

and press the Enter key.

Example of a MAP response: PM Audit

26 Record the MAP response.

29

If the MAP response	Do
is REx Test Aborted	step 27
is Load Corruption	step 29
is Load Failed	step 29
is any type of ringing generator failure	step 28
is other than listed here	step 31

- 27 The LCMs C-side PM runs a routine exercise (REx) test. Wait until the REx test for the PM is complete. The REx test for the PM must finish before the REx test for the LCM can begin. If the REx test continues to abort, go to step 31.
- **28** Refer to the procedure *Clearing ringing generator problems* in this document. Complete the procedure and return to this step.

lf	Do
the LCM critical alarm remains	step 31
one LCM unit returns to service	step 41
both LCM units return to service	step 42
To busy the LCM, type	
>BSY PM	

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and press the Enter key.

To load the LCM, type >LOADPM РМ and press the Enter key.	
If the load	Do
fails	step 35
passes	step 32
To busy the LCM, type >BSY PM and press the Enter key. To return the LCM to service, type	
>RTS PM and press the Enter key.	
lf	Do
the LCM does not return to ser- vice	Follow the instructions in the MAP response. Go to step 33.
one LCM unit returns to service	step 41
both LCM units return to service	step 42
To return the active LCM unit to servic >RTS UNIT unit_no and press the Enter key. where	e, type
unit_no is the number (0 to 1) of the LC	M unit
If the unit	Do
does not recover and the system generates a card list	step 34
does not recover and the system generates a card list does not recover and the system does not generate a card list	step 34 step 40

At the equipment frame

34 Replace the first card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure *LCE frame* for help to locate the card.

If the card	Do	
is a 6X51, 6X52, or 6X53	step 35	
is other than listed here	step 36	

At the MAP terminal

35 To load the LCM unit, type

>LOADPM UNIT unit_no

and press the Enter key.

where

unit no

36

is the number (0 to 1) of the LCM unit

If the load	Do
passes	step 36
fails	step 40
To return the LCM unit to service, type)
>RTS UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number (0 to 1) of the LC	M unit
If the unit	Do
does not return to service, and you did not replace all the cards that have faults on the list	step 37
does not return to service, and you replaced all the cards that have faults on the list	step 40
returns to service	step 42

At the equipment frame

37 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure *LCE frame* to help locate the card.

Do
step 38
step 39

At the MAP terminal

- 38 To load the LCM unit, type
 - >LOADPM UNIT unit_no

and press the Enter key.

where

unit no

is the number (0 to 1) of the LCM unit in use in step 37

If the load	Do
passes	step 39
fails	step 40
To return the LCM unit to service, type)
RTS UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number (0 to 1) of the LC	M unit
If the unit	Do
If the unit does not return to service and you did not replace all the cards that have faults on the list	Do step 37
If the unit does not return to service and you did not replace all the cards that have faults on the list does not return to service and you replaced all the cards that have faults on the list	Do step 37 step 40

40

39

PM LCM critical (end)

- 41 The LCM critical alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm.
- 42 The procedure is complete.

PM LCM major

Alarm display

1	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext
	•	•	•	•	1LCM M		•		•

Indication

At the MTC level of the MAP display, an LCM (preceded by a number) appears under the PM header of the alarm banner. An M follows the LCM. The LCM indicates a major alarm for a line concentrating module (LCM). The number that precedes the LCM indicates the number of LCMs affected by the alarm. The alarm banner appears at the MTC level of the MAP. The preceding figure shows an alarm banner with an LCM major alarm.

Meaning

The LCM is in-service trouble (ISTb) because of one of the following conditions:

- one unit is system busy and one unit is ISTb
- one unit is system busy and one unit is in-service
- one unit is C-side busy and one unit is ISTb
- one unit is C-side busy and one unit is in-service

Result

Line drawers that are out of service affect call processing. Line drawers that are not out of service do not affect call processing.

Common procedures

Refer to the following common procedures:

- Monitoring system maintenance
- Clearing ringing generator faults

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM LCM major alarm



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LCE frame

		F	NT Ringing	6X30A g Gene	AA erator 0	NT6X30AA Ringing Generator 1					
			Frame Super Shelf					rvisory Panel If 72			
	Unit 1	6X53	6X51	6X52	LSG 11 DRWR 5 LSG 10	LSG 1: DRWR LSG 1:	3 LSG 15 26 DRWR 7 2 LSG 14	LSG 17 DRWR 8 LSG 16	LSG 19 DRWR 9 LSG 18		
LCM	1 01 Unit 0	6X53	6X51	6X52	LSG 01 DRWR 0 LSG 00	LSG 0 DRWF LSG 0	13 LSG 05 R 1 DRWR 2 12 LSG 04	LSG 07 DRWR 3 LSG 06	LSG 09 DRWR 4 LSG 08		
	Unit 1	6X53	6X51	6X52	LSG 11 DRWR 5 LSG 10	LSG 13 DRWR LSG 12	3 LSG 15 6 DRWR 7 2 LSG 14	LSG 17 DRWR 8 LSG 16	LSG 19 DRWR 9 LSG 18		
LCN	1 00 Unit 0	6X53	6X51	6X52	LSG 01 DRWR 0 LSG 00	LSG 0 DRWF LSG 0	3 LSG 05 3 DRWR 2 2 LSG 04	LSG 07 DRWR 3 LSG 06	LSG 09 DRWR 4 LSG 08		

PM LCM major (continued)

Clearing a PM LCM major alarm

At the MAP terminal

2

3

4

5

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	3	5	7	6	12
lf				Do		
an a	udible ala	rm rings		step 2		
the ban	M indicaner flashes	ator at the	e alarm	step 2		
neit occi	her of the ur	above co	nditions	step 3		
To sile	ence the al	arm, type				
>SIL						
and p	oress the Er	nter key.				
To dis	splay all the	ISTb LCM	s, type			
>DIS	P STATE	ISTB LCM				
and p	oress the Er	nter key.				
<i>Exan</i> ISTb	<i>ple of a M/</i> LCM: HOS	A <i>P response</i> T 0 0	9:			
No	te: If multi	ple LCMs a	re ISTb, s	elect an LC	CM to work	on.
Reco	rd the nam	e and numb	er of the I	STb LCMs		
Chec	k the EXT I	neader of th	e alarm ba	anner.		
If ar	n FSP alarr	n		Do		
is p	resent			step 5		
is n	ot present			step 19		
To loc	cate the FS	P alarm, typ	e			
>ЕХТ	: LIST F	SP				

and press the Enter key.

Example of a MAP display: FSPAISD

In this example, the alarm is an FSP alarm on Aisle D.

At the equipment aisle

6 Go to the aisle identified in step 5. The end aisle alarm is lit.

At the equipment frame

7 To identify the frame with the FSP alarm, check the frame fail lamp on the frame supervisory panel (FSP) of each frame. The frame with the FSP alarm has a lit frame fail lamp. The following figure shows an FSP with a lit fail lamp.



- 8 Identify the LCMs in the frame. Refer to the figure *LCE frame* for help.
- 9 Check the converter fail LED on each NT6X53 power converter card in the frame. Refer to the figure *LCE frame* for help. For help in checking the Converter Fail LED, refer to the following figure;

PM LCM major (continued)



If any LEDs	Do
are lit	step 10
are not lit	step 13

10 Note the LCM and LCM unit with the LED light on.

11 To post the in-service trouble LCM and identify the location of this LCM, type

>POST LCM site frame_no lcm_no;QUERYPM

and press the Enter key.

where

site is <string> of the LCM you recorded in step 3

frame no

is the number (00 to 511) of the LCM you recorded in step 3 Icm no

is the number (00 to 255) of the LCM you recorded in step 3

Example of a MAP display:

LCM HOST 00 0 ISTb Links_OOS: CSide 1 PSide 0 Unit0: SysB Unit1: InSv /RG 0 /RG 0 11 11 11 11 11 RG: Pref 0 InSv Drwr: 01 23 45 67 89 01 23 45 67 89 Stby 1 InSv .. -- -- -- .. -- -- --QueryPM PM Type: LCM Int. No: 0 Status index: 0 Node_No: 13 Memory Size - Unit 0: 64k , Unit 1: 64K Loadnames: LCMINV - LCMO1D , Unit0: LCMO1D , Unit1: LCMO1D LCM HOST 00 0 is included in the list of LCM types scheduled for a REX test. ast REX test was TUE. 1994/10/18 at 1:08:58; FAILED. Node Status: {OK, FALSE} Unit 0 Status: {OK, FALSE} Unit 1 Status: {OK, FALSE} Site Flr RPos Bay_id Shf Description Slot EqPEC HOST 01 C05 LCE 00 04 LCM 00 0 6X04AA Services: NEUTRAL Next LCM for REx

12 Determine if the LCM is the same as the LCM you identified in step 10.

If the LCM	Do
is different	step 13
is the same	step 14

- **13** Clear the FSP alarm. Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this step.
- 14 To busy the LCM unit, type

>BSY UNIT unit_no

and press the Enter key.

where

unit no

is the number (0 to 1) of the LCM unit

At the equipment frame

- **15** Power down the NT6X53 power converter card in the LCM unit that you are working on. Switch off the circuit breaker that supports the shelf. For help, refer to the figure "LCE frame".
- 16 Change the NT6X53 card. Refer to the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.
- 17 Turn on NT6X53 power converter card in the LCM unit. Switch on the circuit breaker that supports the shelf. For help, refer to the figure *LCE frame*.
- **18** To load the LCM unit, type

>LOADPM UNIT unit_no

PM LCM major (continued)

where	
unit_no	
If the load	
fails, and the system generat	tes a step 34
fails, and the system did generate a card list	not step 38
passes	step 33
To post the LCM, type	
<pre>>POST LCM site frame_no and press the Enter key. where site is <string> of the LCM yo frame_no is the number (00 to 511) lcm_no is the number of the LCM Example of a MAP display:</string></pre>	lcm_no u recorded in step 3 of the LCM you recorded in step 3 I you recorded in step 3
LCM HOST 01 1 ISTb L	inks_OOS: CSide 1, PSide 0
Unitl: InSv	/RG 1
If a Mtce flag	Do
appeared next to either unit	step 20
did not appear	step 21
Proceed to the common proceed document. Complete the proceed	lure <i>Monitoring system maintenance</i> in th dure and return to this point.
If the major alarm	Do
remains	step 21
changes	step 37
clears	step 39

19

20

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PM LCM

major (continued)

21	To query the LCM for fault indications,	type				
	>QUERYPM FLT					
	and press the Enter key.					
	Example of a MAP response:					
	PM Audit					
22	Record the MAP response.					
	If the MAP response	Do				
	is REx Test Aborted	step 23				
	is Load Corruption	step 30				
	is Load Failed	step 30				
	is Drawer Fault	step 25				
	is any type of ringing genera- tor failure	step 24				
	is other than listed here	step 32				
23	The C-side PM of the LCM also runs a the PM is complete. The REx test of the LCM can begin. If the REx test	an REx test. Wait until the REx test of he PM must finish before the REx test continues to abort, go to step 32.				
24	Refer to the procedure "How to clear r document. Complete the procedure a	inging generator faults" in this nd return to this point.				
	If the LCM	Do				
	major alarm continues	step 32				
	returns to service	step 39				
25	Check the MAP display for a line draw under the line subgroup numbers that indicate a drawer that has faults.	er that has faults. Letters that appear associate with a physical drawer				
	Example of a MAP display:					
	LCM HOST 00 0 ISTb Links_OOS: C	CSide 0 PSide 0				
	Unit0: InSv /RG 0					
	Unitl: ISTb /RG 0					
	11 11	11 11 11 RG: Pref 0 InSv				
	Drwr: 01 23 45 67 89 01 23	45 67 89 Stby 1 InSv				
	SS					

PM LCM major (continued)

26	To busy one line subgroup that associates with the drawer that has faults, type					
	>BSY DRWR lsg_no					
	and press the Enter key.					
	where					
	<pre>Isg_no is the number of the line subgroup you ide</pre>	ntified in step 25.				
27	To return the line subgroup to service, type					
	>RTS DRWR lsg_no					
	and press the Enter key.					
	where					
	<pre>Isg_no is the number of the line subgroup</pre>					
	If the RTS command	Do				
	fails and the system generates a card list	step 28				
	fails and the system does not generate a card list	step 38				
	passes, the LCM major alarm remains, and you worked on both line subgroups	step 21				
	passes, the LCM major alarm remains, and you did not work on the other line sub- group	Go to step 26 and work on the other line subgroup.				
	passes and the LCM major alarm clears	step 39				
A4 46 -						
AT THE						
28	Replace the first or next card on the list. Refer to Card Replacement Procedures. Complete the pr	the correct procedure in ocedure and go to step 29.				

29 To return the line subgroup to service, type

>RTS DRWR lsg_no

and press the Enter key.

where

lsg_no is the number of the line subgrou	ιp				
If the RTS command	Do				
fails and you did not replace all the on the list	e cards step 28				
fails and you replaced all the cards list, or the system does not generate list	s on the step 38 e a card				
passes, the LCM major alarm rema you worked on both line subgroups	ins, and step 21				
passes, the LCM major alarm rema you did not work on the other li group	ins, and Go to step 26 and ne sub- subgroup.				
passes and the LCM major alarm c	lears step 39				
To busy the LCM, type					
>BSY UNIT unit_no					
and press the Enter key.					
where					
unit_no is the number (0 to 1) of the LCM	1 unit				
To load the LCM, type					
>LOADPM UNIT unit_no					
and press the Enter key.					
where					
<pre>unit_no is the number (0 to 1) of the LCM unit</pre>					
If the load	Do				
fails, and the system generates a card list	step 34				
fails, and the system does not generate a card list	step 38				
passes	step 33				

30

31

32	To busy the LCM, type										
	>BSY UNIT unit_no										
	and press the Enter key.										
	where										
	unit_no is the number (0 to 1) of the LC	M unit									
33	To return the LCM to service, type										
	>RTS UNIT unit_no										
	and press the Enter key.										
	where										
	unit_no is the number (0 to 1) of the LC	M unit									
	If the RTS command	Do									
	fails and the system generates a card list	step 34									
	fails and the system does not generate a card list	step 38									
	succeeds and the ICM major	sten 39									

At the equipment frame

Replace the first or next card on the list. Refer to the correct procedure in *Card Replacement Procedures*. For help, refer to figure *LCE frame* at the 34 start of this module.

	lf you	Do
	replace a NT6X51, NT6X52, or NT6X53 card	step 35
	replace any other card	step 36
At th	e MAP terminal	
35	To load the LCM unit, type	
	>LOADPM UNIT unit_no	
	and press the Enter key.	

where

PM LCM major (end)

unit_no is the number (0 to 1) of the LCM unit	
If the load	Do
fails, the system generates a card list, and you do not replace all the cards on the list of cards that have faults	step 34
fails, the system generates a card list, and you replace all the cards on the list of cards that have faults	step 38
fails and the system did not generate a card list	step 38
passes	step 36
To return the LCM unit to service, type	
>RTS UNIT unit_no	
and press the Enter key.	
where	
<pre>unit_no is the number (0 to 1) of the LCM unit</pre>	
If the RTS command	Do
fails, the system generates a card list, and you did not replace all the cards on the list of cards that have faults	step 34
fails, and the system generates a card list, and you re- placed all the cards on the list of cards that have faults	step 38
fails and the system did not generate a card list	step 38
succeed and the LCM major alarm clears	step 39
The LCM major alarm changed to another type of alarm. Ref procedure to clear the alarm. Go to step 39.	er to the corre
For additional help, contact the next level of support.	

39 The procedure is complete.

PM LCM minor

Alarm display

ĺ	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	-	•	•		1LCM	•	•	•		•

Indication

At the MTC level of the MAP terminal, LCM appears under the PM header of the alarm banner. The LCM indicates a minor alarm for a line concentrating module (LCM). The number that precedes LCM indicates the number of LCMs that the alarm affects. The preceding figure shows an alarm banner with an LCM minor alarm.

Meaning

The LCM is in-service trouble (ISTb) as a result of one of the following conditions:

- both units are ISTb.
- one unit is ISTb and one unit is in service.
- one unit is ISTb and one unit is manual busy.
- one unit is in service and one unit is manual busy.
- both units are in service with some C-side links out of service.

Result

The alarm does not affect service.

Common procedures

This procedure refers to the following common procedures:

- Monitoring system maintenance
- Clearing PM C-side faults
- Clearing ringing generator faults

Do not go to the common procedure unless the step-action procedure directs you to go.

PM LCM

minor (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM LCM minor alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

LCE frame

		F	NT Ringing	6X30/ g Gene	AA erator 0	NT6X30AA Ringing Generator 1				
			Frame Supervisory Panel Shelf 72							
	Unit 1	6X53	6X51	6X52	LSG 11 DRWR 5 LSG 10	LSG 1 DRWF LSG 1	3 ₹6 2	LSG 15 DRWR 7 LSG 14	LSG 17 DRWR 8 LSG 16	LSG 19 DRWR 9 LSG 18
LCM 01	Unit 0	6X53	6X51	6X52	LSG 01 DRWR 0 LSG 00	LSG (DRWI LSG (LSG 03 LSG DRWR 1 DRV LSG 02 LSG		LSG 07 DRWR 3 LSG 06	LSG 09 DRWR 4 LSG 08
	Unit 1	6X53	6X51	6X52	LSG 11 DRWR 5 LSG 10	LSG 1 DRWR LSG 1	3 ₹ 6 2	LSG 15 DRWR 7 LSG 14	LSG 17 DRWR 8 LSG 16	LSG 19 DRWR 9 LSG 18
	Unit 0	6X53	6X51	6X52	LSG 01 DRWR 0 LSG 00	LSG 0 DRWF LSG 0)3 ₹ 1)2	LSG 05 DRWR 2 LSG 04	LSG 07 DRWR 3 LSG 06	LSG 09 DRWR 4 LSG 08

Clearing a PM LCM minor alarm

At the MAP display.

2

3

4

- 1 To access the PM level of the MAP display, type
 - >MAPCI; MTC; PM
 - and press the Enter key.

Example MAP response:

PM	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12
lf an a	udible ala	arm		Do		
rings				step 2		
does n	not ring			step 3		
To silen	ce the ala	rm, type				
>SIL						
and pres	ss the Ent	ter key.				
To displa	ay all the	ISTb LCN	/ls, type			
>DISP	STATE I	STB LCM	1			
and pres	ss the Ent	ter key.				
<i>Example</i> ISTb LC	<i>e MAP re</i> : M: HOST	sponse: 00				
<i>Note</i> Repe	: If multip at this pro	ole LCMs ocedure fo	are ISTb or each L(, select ar CM that is	LCM on	which to work.
Record	the name	and num	ber of the	ISTb LCI	Ms.	
To post	the LCM,	type				
>POST	LCM sit	e frame	e_no lcm	1_no		
and pres	ss the Ent	ter key.				
where						
site iક	s <string></string>	of the LC	M that yo	u recorde	d in step	3
fran is	ne_no s the num	ber (00 to	511) of ti	he LCM th	nat you re	corded in
S	tep 3					

lcm_no

is the number (0 to 255) of the LCM that you recorded in step 3 *Example of a MAP display:*

LCM HOST 00 0 ISTb Links_OOS: CSide 1 PSide 0 Unit0: ISTb /RG 0 Unit1: InSv /RG 0 II 11 11 11 11 RG: Pref 0 InSv Drwr: 01 23 45 67 89 01 23 45 67 89 Stby 1 InSv ... -- -- -- ... -- -- -- --

If a Mtce flag	Do
appears next to either unit	step 5
does not appear	step 6

5 Go to the common procedure *Monitoring system maintenance* in this document. Complete the procedure and return to this point.

If the LCM minor alarm	Do
remains	step 6
changes	step 20
clears	step 22

6 To determine the cause of the-in service trouble condition, type

>QUERYPM FLT

and press the Enter key.

Note: Multiple causes are possible for the in-service trouble condition of an LCM. The LCM and the LCM units remain ISTb until all the in-service trouble conditions clear.

If the MAP response	Do
is any type of ringing generator fault	step 7
is REx Test Aborted	step 8
is C-side links out of service	step 9
is Drawer Fault	step 10
is Diagnostic Failed	step 16

is other		ponse	•			Do)				
15 Other	than li	sted h	nere			ste	p 16	5			
Go to the common procedure <i>Clear</i> document. Complete the procedure							<i>ring ringing generator faults</i> in this re and return to this point.				
If the LC	M min	or ala	rm			Do)				
continu	es					ste	р б				
clears						ste	p 22	2			
The C-sid REx test f the REx te step 21.	e PM o or the F est for t	f the L PM is c he LC	.CM ru comple M can	ins a ete. star	rou The t. If	tine REx the l	exer test REx	cise for t test	(REx he P cont	i) test M mu inues	. Wait st finisl to abo
Go to the Complete	commo the pro	on proc ocedur	cedure e and	e <i>Cle</i> retu	<i>arin</i> rn to	<i>g PI</i> this	1 C-s poir	s <i>ide</i> nt.	faults	s in thi	is docu
If the LC	CM min	or ala	rm			Do)				
continu	es					ste	р6				
clears						ste	ep 22	2			
with the p	hysical	drowe	india	tero	Inat	appe	bot U	haa	foulto		abgies
with the p numbers f Example (LCM HOS' Unit0: Unit1: Drwr: 0	r oo o InSv 1 23	AP disp ISTb	/rindica <i>blay:</i> Link /RG 0 /RG 0 7 89	ate a s_00	11 23	csid	11 67	PSic	faults le 0 RG:	Pref Stby	0 InSv 1 InSv
with the p numbers f Example (LCM HOS' Unit0: Unit1: Drwr: 0 To busy o	nysical for the of of a MA r 00 0 InSv ISTb 1 23 . II ne line	drawer AP disp ISTb 45 6' 	Link /RG 0 /RG 0 7 89	11 11 11 11 11	dra s: 11 23 	csid	Le 0 11 67 	PSid 11 89 	faults	Pref Stby	0 InSv 1 InSv

7

8

12	To confirm the command, type	
	>YES	
	and press the Enter key.	
13	To return the line subgroup to service, type	
	>RTS DRWR lsg_no	
	and press the Enter key.	
	where	
	<pre>Isg_no is the number of the line subgroup</pre>	
	If the RTS command	Do
	fails and the system generates a card list	step14
	fails and the system does not generate a card list	step21
	passes, the LCM minor alarm remains, and you worked on both line subgroups	step 6
	passes, the LCM minor alarm remains, and you did not work on the other line sub- group	Go to step 11 and work on the other line subgroup.
	passes and the LCM minor alarm clears	step 22
At the	equipment frame	
14	Replace the first or next card on the list. Refer to Card Replacement Procedures. Complete the pr	the correct procedure in ocedure and go to step 15.
15	To return the line subgroup to service, type	
	>RTS DRWR lsg_no	
	and press the Enter key.	
	where	
	<pre>Isg_no is the number of the line subgroup</pre>	
	If the RTS command	Do
	fails and you did not replace all the cards on the list	step 14

If the RTS commandDofails and you replaced all the cards on the list, or the system did not generate a card liststep 21passes, the LCM minor alarm remains, andstep 6	
fails and you replaced all the cards on the step 21 list, or the system did not generate a card list passes, the LCM minor alarm remains, and step 6	
passes, the LCM minor alarm remains, and step 6	
you worked on both line subgroups	
passes, the LCM minor alarm remains, and Go to stee you did not work on the other line sub- group	ep 11 and le other line
passes and the LCM minor alarm clears step 22	
To test the LCM unit, type	
>TST UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number (0 to 1) of the LCM unit	
If the TST command Do	
fails, and the system generates a step 17 card list	
fails, and the system does not step 21 generate a card list	
passes and the alarm clears step 22	
To busy the LCM unit for the alarm, type	
>BSY UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number (0 to 1) of the LCM unit	
8 Replace the first or next card on the list. Refer to the correct p <i>Card Replacement Procedures.</i> Complete the procedure and	procedure in go to step 19.
9 To return the LCM unit to service, type	
>RTS UNIT unit_no	
and press the Enter key.	
where	

20

21

PM LCM minor (end)

If the RTS command	Do				
fails, and you did not replace all the cards on the list	step 18				
fails, and you replaced all the cards on the list	step 21				
passes	step 22				
The LCM minor alarm changed to anot procedure in this document to clear the go to step 22.	her type of alarm. Refer to the correct e alarm. Complete the procedure and				
You need additional help to clear this a maintenance. Describe in detail the st	alarm. Contact the next level of eps you performed to clear this alarm				
The procedure is complete. If addition	al alarms annear proceed to the				

22 The procedure is complete. If additional alarms appear, proceed to the correct alarm clearing procedure.

PM LCM ringing generator (LRG) critical

Alarm display

CHI NIS OD Not Phi CCS This Bat LU17	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
	·		•	·	1LRG *C*	•	•	•	•	·	

Indication

An nLRG indicates a critical alarm that involves a line concentrating module (LCM) ringing generator (RG). The MAP display lists nLRG under the PM subsystem with a C^* beneath the nLRG at the MTC level. The C^* indicates a critical alarm class.

Meaning

Both ringing generator units are in the in-service trouble (ISTb) state.

Result

If both ringing generator units fail, automatic switching to an active ringing generator (SwRG) unit will not occur. The result is that the system cannot generate ringing. This problem affects subscriber service.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM LCM ringing generator (LRG) critical (continued)





PM LCM ringing generator (LRG) critical (continued)

Summary of clearing an PM LCM ringing generator (LRG) critical (continued)



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PM LCM ringing generator (LRG) critical (continued)

Summary of How to clear PM LCM ringing generator (LRG) critical (continued)


Clearing an PM LCM ringing generator (LRG) critical

ATTENTION

You enter this procedure only from a PM system level alarm clearing procedure. You enter this procedure from the step of the procedure that identified a PM alarm for an LCM ringing generator fault.

At the MAP terminal

1 To silence the alarm, type

>MAPCI;MTC;PM;SIL

and press the Enter key.

2 To identify the damaged line concentrating module (LCM) or enhanced LCM (LCME), type

>DISP STATE LCM ISTB

and press the Enter key.

or

>DISP STATE ISTB LCME

and press the Enter key.

Example of an LCM MAP response:

ISTD: HOST 00 0

3 To post the ISTb LCM(E) identified in step 2, type

>POST LCM(E) ISTB

and press the Enter key.

Example of an LCM MAP response:

	S	ysB			Man	В		Off	L		CBsy		IS	STb		II	nSt	7
PM		0			0			2			0		1	L			12	
LCM		0			0			2			0		1	L			9	
		_			_ ~ _								_					
LCM	HOS	т	00	0	IST	b	Lin	ks_	005	:	CSid	e (J	PS	ıde	0		
Unit0:		Sys	В						/R(G:	0							
Unit1:		IST	b						/R	G:	0							
								1	1 :	11	11	11	11	L	RG:	Pref	0	ISTb
Drwr:	0	1 :	23	4	5	67	89	0	1 :	23	45	67	89	9		Stby	1	ISTb
		•	••	•	•	• •	• •	•	•	• •	••	• •	•	•				

4 To check for fault indicators, type

>QUERYPM FLT

and press the Enter key.

Example of a MAP response:

LCM UNIT 0 Inservice troubles Exist: Ringing Generator Failure:Ring Generator ANI/COIN Fault LCM UNIT 1 Inservice Troubles Exist: Ringing Generator Failure:Ring Generator in Excess load

At the LCE frame/LCME cabinet

5 Make a visual inspection of the ringing generators. Check to see if the LED light is ON.

If the LED light	Do
is ON	step 6
is OFF	step 10

6 Power on the ringing generator.

7 Use the following table to determine the next step in the power-on procedure.

If the equipment housing	Do
is in an LCE frame	step 8
is in an LCME cabinet	step 9

At the LCE frame

- 8 To power on the ringing generators, set the following circuit breakers (CBs) to the ON position.
 - RG 0 corresponds to LCM unit 0 (CB5)
 - RG 1 corresponds to LCM unit 1 (CB6)

At the LCME cabinet

- 9 To power on the ringing generators, set the following CB to the ON position.
 - RG 0 corresponds to LCME unit 0 (CB1)
 - RG 1 corresponds to LCME unit 1 (CB10)

At the MAP terminal

10 To manually busy the system busy (SysB) LCM(E) unit identified in step 2, type
>BSY UNIT unit_no

and press the Enter key.

where

unit_no

is the number of the SysB LCM(E) unit (0 or 1)

11 To test the manual busy (ManB) LCM(E) unit, type

>TST UNIT unit_no

and press the Enter key.

where

unit_no is the number of the ManB LCM(E) unit (0 or 1)

If a generated card list	Do	
is present	step 12	
is not present	step 23	

12 Check the card list that results from step 11.

Example of a MAP response:

SITE	FLR	RPOS	BAY_	ID	SHF	DESCRIP	NOIT	SLOT	EQPEC
HOST	01	A00	LCE	00	72	LCM:00	0	01	6X60
HOST	01	A00	LCE	00	21	LCM:00	0	04	6X51
HOST	01	A00	LCE	00	72	LCM:00	0	11	6X60
HOST	01	A00	LCE	00	04	LCM:00	0	04	6X51

¹³ Go to step 22 to replace the card that has faults.

14 To return the LCM(E) unit to service, type

>RTS UNIT unit_no

and press the Enter key.

where

unit_no

is the number of the LCM(E) unit (0 or 1) you want to RTS

If the RTS command	Do
passed	step 17
failed	step 15

15	To load the LCM(E) from the CM again, type >LOADPM UNIT unit_no CC and press the Enter key							
	and press the Enter key.							
	where							
	is the LCM(E) unit (0 or 1) you	want to load						
	If the LOADPM command	Do						
	passed	step 16						
	failed	step 23						
16	To return the LCM(E) unit to service, t	уре						
	<pre>>RTS UNIT unit_no</pre>							
	and press Enter.							
	where							
	unit_no is the number of the LCM(E) ur (RTS)	it (0 or 1) you want to return to service						
	If the RTS command	Do						
	passed	step 17						
	failed	step 23						
17	To align RG activity to the new RG, ty	ре						
	>SWRG UNIT unit_no							
	and press the Enter key.							
	where							
	unit_no is the LCM(E) unit (0 or 1) for t	he new RG						
	Example of an LCM MAP response: LCM HOST 00 1 Unit 1 SWRG Passe	d						
	If the SWRG command	Do						
	passed, and RG activity must change for the other unit	step 18						
	passed, and RG activity is ac- ceptable for both units	step 19						
	failed	step 23						

18	Repeat step 17 for the other L	CM(E) unit.
19	To test the new RG, type	
	>TST UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the LC	M(E) unit (0 or 1) for the new RG.
	Example of an LCM MAP resp LCM HOST 00 0 Unit 1 InSvo LCM HOST 00 0 Unit 1 Tst Pa	<i>onse:</i> ce Tests Initiated assed
	If the TST command	Do
	passed	step 20
	failed	step 23
20	Repeat step 10 through step 1	9 for the other LCM(E) unit. Go to step 21.
21	To align RG activity to the pref	erred RG, type
	>SWRG UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the LCM(E) unit (0 or	1) for the new RG
	Example of an LCM MAP resp	onse:
	LCM HOST 00 0 InSy Links OOS: Cside 0 Psic	le ()
	Unit 0: InSv /RG:0Unit 1:	
	InSv /	
	RG:0 11 11 1 RG: Pref 0 InSvDrwr: 01 23	11 11 11 45 67 89 01 23 45 67 89
	Stby 1 InSv	
	<i>Note:</i> Repeat this step unti RG.	I both units of the LCM are on the preferred
	If the SWRG command	Do
	passed	step 24
	failed	step 23
	Go to <i>Card Replacement Proc</i> Complete the card replacement	<i>edures</i> . Replace the first card on the list. t procedures. Go to step 14 of this procedure.
	For additional help, contact the	e next level of support.

24 The procedure is complete.

If other alarms appear, refer to the correct alarm clearing procedures for the indicated alarms.

PM LCME major

Alarm display

 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	-	•	1LCME M	•				·

Indication

At the MTC level of the MAP display, LCME appears under the PM header of the alarm banner. An M follows the LCME. The LCME indicates a line concentrating module enhanced (LCME) major alarm. The number that precedes the LCME indicates the number of LCMEs that the alarm affects. The previous figure shows an alarm banner with an LCME major alarm.

Meaning

The LCME is in-service trouble (ISTb) as a result of one of the following conditions:

- one unit is system busy and one unit is ISTb.
- one unit is system busy and one unit is in service.
- one unit is C-side busy and one unit is ISTb.
- one unit is C-side busy and one unit is in service.

Result

The alarm does not affect service.

Common procedures

This procedure refers to the following common procedures:

- Monitoring system maintenance
- Clearing ringing generator faults

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of Clearing a PM LCME major alarm



LCME frame

	Ri	NT6X nging Ge	(30 nerator 0		NT6X30 Ringing Generator 1				
			Fram	e Supervi Shelf	isory Pa 72	anel			
l Init 1	PLD 04 LSG 09	PLD 05 LSG 11	PLD 06 LSG 13	PLD 07 LSG 15	Fuse panel	BX35	BX35	BX34	
	08	10	12	14					
	PLD 00 LSG 01	PLD 00 LSG 03	PLD 00 LSG 05	PLD 00 LSG 07	Fuse panel	BX35	BX35	BX34	
	00	02	04	06					
Lipit 1	PLD 04 LSG 09	PLD 05 LSG 11	PLD 06 LSG 13	PLD 07 LSG 15	Fuse panel	BX35	BX35	BX34	
	08	10	12	14					
	PLD 00 LSG 01	PLD 00 LSG 03	PLD 00 LSG 05	PLD 00 LSG 07	Fuse panel			BX34	
	00	02	04	06					

Clearing a PM LCME major alarm

At the MAP display

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

16									
It					Do				
an ai	idible a	alarm	rings		step 2				
the N ner f	I indicates I indi	ator a	at the alarr	n ban-	step 2				
other	than l	isted	here		step 3				
To sile	nce the	alarn	n, type						
>SIL									
and press the Enter key.									
To display all the ISTb LCMEs, type									
>DISP	STAT	E IS	TB LCME						
and pr	ess the	Ente	r key.						
<i>Examp</i> ISTb L	o <i>le of a</i> CME: ⊦	<i>MAP:</i> IOST	00						
Not	e: If m	ultiple	LCMEs ar	e ISTb, s	elect an	LCN	IE to work	on.	
Record	d the nu	ımber	of the LCN	ΛEs.					
Check	the EX	T hea	der of the	alarm bar	nner.				
lf an	FSP ala	arm			Do				
is pro	esent				step 5				
	t prese	nt			step 20)			
is no									

2

3

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5

Example of a MAP response: FSPAISD

In this example, the alarm is an FSP alarm on aisle D.

At the equipment aisle

6 Go to the aisle that you identified in step 5. The end aisle alarm is lit.

At the equipment frame

7 Identify the frame with the FSP alarm. To identify this frame, check the frame fail lamp on the frame of each frame supervisory panel (FSP). The frame with the FSP alarm has a lit frame fail lamp. The following figure shows an FSP with a lit fail lamp.



- 8 Identify the LCMEs in the frame. Refer to the "LCME frame" figure for help.
- **9** Check the converter fail LED on each 6X53 power converter card in the frame. Refer to the "LCME frame" figure for help. Refer to the following figure for help to check the converter fail LED.



If any LEDs	Do
are lit	step 10
are not lit	step 14

10 Note the LCME with the LED light on.

11 To post the system busy LCME and identify the location of the LCME, type >PM; POST LCME site frame_no lcme_no;QUERYPM

and press the Enter key.

where

site is <string> of the LCM you recorded in step 3

frame no

is the number (00 to 511) of the LCM you recorded in step 3 Icm no

is the number (00 to 255) of the LCM you recorded in step 3

Example of a MAP response:

```
LCME HOST 00 0 ISTb Links_OOS: CSide 17 PSide 0
Unit0: Act SysB /RG 0
Unitl: Inact InSv /RG 0
                        11 11 11 RG: Pref 0 InSv
Drwr: 01 23 45 67 89 01 23 45 Stby 1 InSv
     .. -- -- -- .. -- --
QueryPM
PM Type: LCME Int. No: 0 Status index: 0 Node_No: 13
Memory Size - Unit 0: 256k , Unit 1: 256K
Loadnames: LCMEINV - CCC , Unit0: LCMEO1D , Unit1: LCMEO1D
\ensuremath{\texttt{LCME}} HOST 00 0 is included in the list of \ensuremath{\texttt{LCME}} types
   scheduled for a REX test.
Last REX test was TUE. 1994/10/18 at 1:08:58; FAILED.
Node Status: {OK, FALSE}
Unit 0 Status: {OK, FALSE}
Unit 1 Status: {OK, FALSE}
Site Flr RPos Bay_id Shf Description Slot EqPEC
HOST 01 C05 LCE 00 04 LCME 00 0
                                              6X04AA
Services: NEUTRAL
Next LCME for REx
```

If a Mtce flag	Do
appears next to either unit	step 12
does not appear	step 13

12 Go to the common procedure *Monitoring system maintenance* in this document. Complete the procedure and return to this point.

If the major alarm	Do
remains	step 13
changes	step 36
clears	step 38
	step 20

13 Determine if the LCME is the same as the LCME that you identified in step 10.

If the LCME 7	Do
is different	step 14
is the same	step 15

14 Clear the FSP alarm. Perform the correct alarm clearing procedure in this document. Complete the procedure and return to this point.

PM LCME

major (continued)

15 To busy the LCME, type

```
>BSY UNIT unit_no
```

and press the Enter key.

where

unit_no

is the number (0 to 1) of the LCME unit

At the equipment frame

- 16 Power down the 6X53 power converter card in the LCME unit that you are working on. Switch off the circuit breaker that supports the shelf of this LCME. Refer to the diagram in step 7 for help.
- **17** Change the 6X53 card. Refer to the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.
- **18** Power up the 6X53 power converter card in the LCME unit that is in use. To power up the card, switch on the circuit breaker that supports the shelf of the LCME unit. Refer to the diagram in step 7 for help.
- **19** To load the LCME unit, type

>LOADPM UNIT unit_no

and press the Enter key.

where

unit_no is the number (0 to 1) of the LCME unit

If the load	Do	
passes	step 29	
fails	step 37	
To post the LCME, type		
>POST LCME lcme_no		
and press the Enter key.		

where

Icme no

is the number (0 to 255) of the LCME that you recorded in step 3 *Example of a MAP response:*

LCME HOST 01 1 SysB Links_OOS: CSide 17, PSide 0 Unit0: Act SysB /RG 0 Unit1: Inact InSv /RG 1

If a Mtce flagDoappears next to either unitstep 21

20

n a witce hag	Do
does not appear	step 22
Go to the common procedure <i>Monitol</i> document. Complete the procedure a	<i>ring system maintenance</i> in this and return to this point.
If the major alarm	Do
remains	step 22
changes	step 36
clears	step 38
To query the LCME for fault indication	s, type
>QUERYPM FLT	
and press the Enter key.	
<i>Example of a MAP response:</i> PM Audit	
Record the MAP response.	
If the MAP response	Do
isREx Test Aborted	step 24
is Load Corruption	step 26
is house corraporon	
is Load Failed	step 26
is Load Failed is any type of ringing generator failure	step 26 step 25
is Load Failed is any type of ringing generator failure is other than listed here	step 26 step 25 step 28
is Load Failed is any type of ringing generator failure is other than listed here The C-side PM for the LCME runs a R PM is complete. The REx test for the the LCME can start. If the REx test c	step 26 step 25 step 28 Ex test. Wait until the REx test PM must finish before the REx t ontinues to abort, go to step 26.
is Load Failed is any type of ringing generator failure is other than listed here The C-side PM for the LCME runs a R PM is complete. The REx test for the the LCME can start. If the REx test c Refer to the procedure <i>Clearing ringin</i> Complete the procedure and return to	step 26 step 25 step 28 Ex test. Wait until the REx test PM must finish before the REx t ontinues to abort, go to step 26. bg generator faults in this docum o this point.
is Load Failed is any type of ringing generator failure is other than listed here The C-side PM for the LCME runs a R PM is complete. The REx test for the the LCME can start. If the REx test c Refer to the procedure <i>Clearing ringin</i> Complete the procedure and return to If the LCME	step 26 step 25 step 28 Ex test. Wait until the REx test PM must finish before the REx t ontinues to abort, go to step 26. ag generator faults in this docum o this point.
is Load Failed is any type of ringing generator failure is other than listed here The C-side PM for the LCME runs a R PM is complete. The REx test for the the LCME can start. If the REx test c Refer to the procedure <i>Clearing ringin</i> Complete the procedure and return to If the LCME major alarm continues	step 26 step 25 step 28 Ex test. Wait until the REx test r PM must finish before the REx t ontinues to abort, go to step 26. <i>The generator faults</i> in this docum of this point.

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PM LCME

major (continued)

	and press the Enter key.										
27	To load the LCME, type	To load the LCME, type									
	>LOADPM UNIT unit_n	0									
	and press the Enter key.										
	where										
	unit_no is the number (0 to 1) of the LCME unit									
	If the load	Do									
	fails	step 37									
	passes	step 29									
28	To busy the LCME unit, type										
	>BSY UNIT unit_no										
	and press the Enter key.										
	where										
	unit_no is the number (0 to 1) of the LCME unit										
29	To return the LCME unit to service, type										
	>RTS UNIT unit_no										
	and press the Enter key.										
	where	where									
	unit_no is the number (0 to 1) of the LCME unit									
	If the RTS command		Do								
	fails and the system ger	nerates a card list	step 30								
	fails and the system did	not generate a card list	step 37								
	passes and the LCME n	step 38									
At the	e equipment frame										
30	Replace the first card on th <i>Replacement Procedures</i> .	Replace the first card on the list. Refer to the correct procedure in <i>Card Replacement Procedures</i> . Refer to the figure "LCME frame" for help.									
	lf you	Do									

replace a BX35, BX34, or 6X53 step 31 card

	lf you	Do								
	replace other than listed here	step 32								
At th	e MAP display									
31	To load the LCME unit, type									
	>LOADPM UNIT unit_no									
	and press the Enter key.									
	where									
	unit_no is the number (0 to 1) of the L	CME unit								
	If the load	Do								
	passes	step 32								
	fails	step 37								
32	To return the LCME unit to service, t	уре								
	>RTS UNIT unit_no									
	and press the Enter key.									
	where									
	unit_no is the number (0 to 1) of the L	CME unit								
	If the RTS command		Do							
	fails and you did not replace all of cards that have faults	step 33								
	fails and you replaced all the care that have faults	step 37								
	passes and the LCME major alar	step 38								
At th	e equipment frame									
33	Replace the next card on the card list <i>Replacement Procedures</i> . Refer to t	. Refer to the correct pr he figure "LCME frame	rocedure in <i>Car</i> " for help.							
	If you replace	Do								
	replace a BX35, BX34, or 6X53 card	step 34								
	replace other than listed here	step 35								

PM LCME major (end)

At the	MAP display									
34	To load the LCME unit, type									
	>LOADPM UNIT unit_no									
	and press the Enter key.									
	where									
	unit_no is the number (0 to 1) of the LC	ME unit								
	If the load	Do								
	passes	step 35								
	fails	step 37								
35	To return the LCME unit to service, type									
	>RTS UNIT unit_no									
	and press the Enter key.									
	where									
	unit_no is the number (0 to 1) of the LC	ME unit								
	If the RTS command		Do							
	fails and you did not replace all the of cards that have faults	ne cards on the list	step 33							
	fails and you replaced all the cards that have faults	on the list of cards	step 37							
	succeeds and the LCME major ala	arm clears	step 38							
36	The LCME major alarm changed to an correct alarm clearing procedure in this	other type of alarm. Is document. Go to ste	Refer to the p 38.							
37	For additional help, contact the next level	vel of support.								
38	The procedure is complete.									

PM LCME minor

Alarm display

ĺ	 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	·	•	•	•	1LCME	•	•	•		•

Indication

LCME (preceded by a number) appears under the PM header of the alarm banner. The LCME indicates minor alarm for a line concentrating module enhanced (LCME). The number that precedes the LCME indicates the number of LCMEs affected by the alarm. The alarm banner appears at the MTC level of the MAP display. The previous figure illustrates an alarm banner with an LCME minor alarm.

Meaning

The LCME has in-service trouble (ISTb) as a result of one of the following conditions:

- both units are ISTb
- one unit is ISTb and one unit is in-service
- one unit is ISTb and one unit is manual busy
- one unit is in-service and one unit is manual busy
- both units are in-service with some C-side links out of service

Result

The alarm does not affect service.

Common procedures

This procedure refers to the following common procedures:

- Monitoring system maintenance
- Clearing PM C-side faults
- Clearing ringing generator faults

Do not go to the common procedures unless the step-action procedure directs you to go.

PM LCME

minor (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM LCME minor (continued)

Summary of clearing a PM LCME minor alarm



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PM LCME

minor (continued)

LCME frame

		Ri	NT6X nging Ge	(30 nerator 0	NT6X30 Ringing Generator 1					
				Fram	e Supervi Shelf 7	sory Pa 72	nel			
		PLD 04 LSG 09	PLD 05 LSG 11	PLD 06 LSG 13	PLD 07 LSG 15	Fuse panel	BX35	BX35	BX34	6X53
	Unit 1	08	10	12	14					
		PLD 00 LSG 01	PLD 00 LSG 03	PLD 00 LSG 05	PLD 00 LSG 07	Fuse panel	BX35	BX35	BX34	6X53
		00	02	04	06					
	Unit 1	PLD 04 LSG 09	PLD 05 LSG 11	PLD 06 LSG 13	PLD 07 LSG 15	Fuse panel	BX35	BX35	BX34	6X53
		08	10	12	14					
		PLD 00 LSG 01	PLD 00 LSG 03	PLD 00 LSG 05	PLD 00 LSG 07	Fuse panel	BX35	BX35	BX34	6X53
		00	02	04	06					

PM LCME minor (continued)

Clearing a PM LCME minor alarm

At the MAP terminal

2

3

4

- 1 To access the PM level of the MAP terminal, type
 - >MAPCI; MTC; PM
 - and press the Enter key.

Example of a MAP response:

LCME	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12				
If an au	udible alarr	n	Do							
rings			ste	p 2						
does n	oes not ring step 3									
To silenc	e the alarm	, type								
>SIL										
and pres	s the Enter	key.								
To displa	y all the IS	Tb LCMEs,	type							
>DISP a	STATE IST	B LCME								
and pres	s the Enter	key.								
<i>Example</i> ISTb LC	e <i>of a MAP i</i> ME: HOST	response: 0 0								
<i>Note:</i> proce	If multiple dure for ead	LCMEs are	e ISTb, sele nat is ISTb.	ct an LCM	E to use. F	Repeat this				
Record t	he number	of the LCN	1Es.							
To post t	he LCME, t	уре								
>POST 1	LCME lcme	e_no								
and pres	s the Enter	key.								
where										
lcme is	e_no the numbe	r (0 to 255)	of the LCN	IE identified	d in step 3					

Example of a MAP response:

LCME HOST 00 0 ISTb						Lin	ks_C	os:	CSi	de 1	7 PSid	le	0	
Ur	Unit0: Act ISTb						/RG 0							
Ur	nit1	:	Inac	t	In	nSv /RG		0						
							11	11	11	RG:	Pref	0	InSv	
Dı	cwr:	01	23	45	67	89	01	23	45		Stby	1	InSv	
		••					••							
li	If an MTCE flag							Do)					
a	ppe	ars r	next	to ei	ther	uni	t		step 5					
d	loes	not	appe	ear					ste	step 6				

5 Go to the common procedure "Monitoring system maintenance" in this document. Complete this procedure and return to this step.

If the LCME minor alarm	Do
remains	step 6
changes	step 25
clears	step 27

6 To determine the cause of the in-service trouble condition, type

>QUERYPM FLT

and press the Enter key.

Note: There can be multiple causes for an in-service trouble condition for the LCME. The LCME and the LCME units remain ISTb until all the in-service trouble conditions clear.

If	Do
the MAP response is any type of ringing generator fault	step 7
the MAP response is REx Test Aborted	step 8
the MAP response is C-side links out of service	step 9
the MAP response is Drawer Fault	step 10
the MAP response is Diagnostic Failed	step 18
other than listed here	step 18

7 Go to the common procedure "Clearing ringing generator faults" in this document. Complete the procedure and return to this step.

If the LCME minor alarm	Do
continues	step 23
clears	step 27

- 8 The C-side PM of the LCME runs a routine exercise (REx) test. Wait until the REx test of the PM is complete. The REx test of the PM must finish before the REx test of the LCME can begin. If the REx test continues to abort, go to step 26.
- **9** Go to the common procedure "Clearing PM C-side faults" in this document. Complete this procedure and return to this step.

If the LCME minor alarm	Do
continues	step 23
clears	step 27

10 Check the MAP display for a line drawer that has faults. Letters that appear under the line subgroup numbers indicates a drawer has faults. The line subgroup numbers associate with a drawer.

Example of a MAP response:

LCME 1	HOST	00 1	0 1	ISTb	Lin	ks_0	oos:	CSi	.de O	PSide	e (C
Unit0:		Act	InS	Sv			/RG	0				
Unit1:		Inac	t	IS	Tb		/RG	0				
						11	11	11	RG:	Pref	0	InSv
Drwr:	01	23	45	67	89	01	23	45		Stby	1	InSv
		SS										

11 To busy one line subgroup associated with the drawer that has faults, type

>BSY DRWR lsg_no

and press the Enter key.

where

lsg no

is the number of the line subgroup that you identified in step 10 *Example of a MAP response:*

LCME HOST 00 0 Drwr 2 will be taken out of service. Please confirm ("YES" or "NO"):

12 To confirm the command, type

>YES

and press the Enter key.

PM LCME

minor (continued)

13	To test the line subgroup, type >TST DRWR lsg_no and press the Enter key. where lsg_no is the number of the line subgroup						
	If the TST command	Do					
	passes	step 14					
	fails and the system generates a card list	step 15					
	fails and the system did not generate a card	list step 26					
14	To return the line subgroup to service, type >RTS DRWR lsg_no and press the Enter key. where lsg_no is the number of the line subgroup						
	If the RTS command	Do					
	naggag and the LCME minor alarm alarg						
	passes and the LCME minor afarm clears	step 27					
	passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line sub- group	step 27 Go to step 11 and work on the other line subgroup.					
	 passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line subgroup passes, the LCME minor alarm remains, and you worked on both line subgroups 	step 27 Go to step 11 and work on the other line subgroup. step 24					
	 passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line subgroup passes, the LCME minor alarm remains, and you worked on both line subgroups fails and the system generates a card list 	step 27 Go to step 11 and work on the other line subgroup. step 24 step 15					
	 passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line subgroup passes, the LCME minor alarm remains, and you worked on both line subgroups fails and the system generates a card list fails and the system did not generate a card list 	step 27 Go to step 11 and work on the other line subgroup. step 24 step 15 step 26					
15	 passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line subgroup passes, the LCME minor alarm remains, and you worked on both line subgroups fails and the system generates a card list fails and the system did not generate a card list Replace the first card on the list. Refer to the cor <i>Replacement Procedures</i>. Complete the procedures 	step 27 Go to step 11 and work on the other line subgroup. step 24 step 15 step 26 rrect procedure in <i>Card</i> ure and go to step 16.					
15	 passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line subgroup passes, the LCME minor alarm remains, and you worked on both line subgroups fails and the system generates a card list fails and the system did not generate a card list Replace the first card on the list. Refer to the con <i>Replacement Procedures</i>. Complete the procedure 	step 27 Go to step 11 and work on the other line subgroup. step 24 step 15 step 26 rrect procedure in <i>Card</i> ure and go to step 16.					
15	passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line sub- group passes, the LCME minor alarm remains, and you worked on both line subgroups fails and the system generates a card list fails and the system did not generate a card list Replace the first card on the list. Refer to the cor <i>Replacement Procedures</i> . Complete the procedu To return the line subgroup to service, type >RTS DRWR lsg_no	step 27 Go to step 11 and work on the other line subgroup. step 24 step 15 step 26 rrect procedure in <i>Card</i> ure and go to step 16.					
15	passes and the LCME minor alarm clears passes, the LCME minor alarm remains, and you did not work on the other line sub- group passes, the LCME minor alarm remains, and you worked on both line subgroups fails and the system generates a card list fails and the system did not generate a card list Replace the first card on the list. Refer to the cor <i>Replacement Procedures.</i> Complete the procedure To return the line subgroup to service, type >RTS DRWR lsg_no and press the Enter key.	step 27 Go to step 11 and work on the other line subgroup. step 24 step 15 step 26 rrect procedure in <i>Card</i> ure and go to step 16.					

PM LCME minor (continued)

	Isg_no is the number of the line subgro	oup					
	If the RTS command		Do				
	passes and the LCME minor alarr	n clears	step 27				
	passes, the LCME minor alarm and you did not work on the other group	he LCME minor alarm remains, did not work on the other line sub-					
	passes, the LCME minor alarm and you have worked on both groups	he LCME minor alarm remains, have worked on both line sub-					
	fails and you did not replace all on the list	ails and you did not replace all the cards on the list					
	fails and you replaced all the care list	fails and you replaced all the cards on the list					
17	Replace the next card on the list. Ref Replacement Procedures. Complete	er to the co the proced	rrect procedure in <i>Card</i> ure and go to step 16.				
18	To test the LCME unit, type						
	>TST UNIT unit_no						
	and press the Enter key.						
	where						
	unit_no is the number (0 to 1) of the LC	ME unit					
	If the TST command	Do					
	passes and the alarm clears	step 27					
	fails and the system generates a card list	step 19					
	fails and the system did not gen- erate a card list	step 26					
19	To busy the LCME unit associated wit	h the alarm	, type				
	>BSY UNIT unit_no						
	and press the Enter key.						
	where						
	unit_no is the number (0 to 1) of the LC	ME unit					

20	Replace the first card on the list. Refer to the correct procedure in <i>Card Replacement Procedures</i> . Complete the procedure and go to step 21.								
21	To return the LCME unit to service, ty	To return the LCME unit to service, type							
	>RTS UNIT unit_no								
	and press the Enter key.	and press the Enter key.							
	where								
	unit_no is the number (0 to 1) of the LCME unit								
	If the RTS command Do								
	passes	step 27							
	fails and you did not replace all the cards on the list	step 22							
	fails and you replaced all the step 26 cards on the list								
22	Replace the next card on the list. Ref <i>Replacement Procedures</i> . Complete	Replace the next card on the list. Refer to the correct procedure in <i>Card Replacement Procedures</i> . Complete the procedure and go to step 21.							
23	To post the LCME, type								
	>POST LCME lcme_no								
	and press the Enter key.								
	where								
	lcme_no is the number (0 to 255) of the	LCME							
24	To determine the cause of the in-serv	ce trouble condition, type							
	>QUERYPM FLT								
	and press the Enter key.								
	Note: An LCME can have multiple causes for the in-service trouble condition. The LCME and the LCME units remain ISTb until all the in-service trouble conditions clear.								
	If the MAP response	Do							
	is C-side links out of service	step 9							
	is Drawer Fault	step 10							
	is Diagnostic Failed	step 18							
	is other than listed here	step 26							

PM LCME minor (end)

- **25** The LCME minor alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm. Complete the procedure and go to step 27.
- 26 You will require additional maintenance action to clear this alarm. Contact the next level of maintenance. Describe in detail the steps you performed to clear this alarm.
- 27 This procedure is complete. If the system displays additional alarms, proceed to the correct procedure to clear the alarm.

PM LGC critical

Alarm display

ĺ	СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
		•	•	•	1LGC	•	•	•		
					" U "					

Indication

At the MTC level of the MAP display, LGC appears under the PM header of the alarm banner. A *C* follows the LGC. An LGC indicates a critical alarm for a line group controller (LGC). The number that precedes the LGC indicates the number of LGCs that the alarm affects. The preceding figure shows an alarm banner with an LGC critical alarm.

Meaning

The LGC is system busy (SysB) or C-side busy (CBsy). An LGC is C-side busy if both units are C-side busy. An LGC is system busy if

- both LGC units are system busy or
- one LGC unit is system busy and the other LGC unit is manually busy (ManB)

Result

Service stops when an LGC is system busy or C-side busy. Each subtending peripheral module (PM) is also without service unless the PM has emergency stand-alone (ESA). An example of a subtending PM is the line concentrating module (LCM).

Common procedures

This procedure refers to the following common procedures:

- "Clearing PM C-side faults"
- "Monitoring system maintenance"

Do not go to the common procedure unless the step-action procedure directs you to go.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action follows the flowchart.

PM LGC critical (continued)

Summary of clearing a PM LGC critical alarm



PM LGC critical (continued)

LGC shelf layout

Г	Paddle b	oards card		Cards
25R			NT2X70	Power converter card
24R			NT0X50	Filler faceplate
23R			NT0X50	Filler faceplate
2R			NT6X40	DS30 C-side interface card
21R			NT6X41	Speech bus formatter card
20R	NTMX71	XPM+ terminator PB	NT6X42	CSM card
9R			NT0X50	Filler faceplate
8R			NT6X69	Message protocol card
7R			NT6X92	Universal tone receiver card
I6R			NTBX01	ISDN signaling preprocessor
15R			NT6X92	Universal tone receiver card
14R			NT6X44	Time switch card, or
I3R				Time switch card (Note 1)
2R			- NT0X50	Filler faceplate
2R				Unified processor
1R			- NISX05	SX05 processor (Note 2)
0R			<u>N10X50</u>	Filler faceplate
9R				Filler faceplate
8R				Filler faceplate
7R				Filler faceplate
06R				DS20A Interface cord
)5R			NT6X48	DS30A Interface card
)4R				DS-1 Interface card
)3R				DS-1 Interface card
)2R			NT6X50	DS-1 Interface card
1R			NT6X50	DS-1 Interface card
Ľ				
	— Rear			Front ——

Note 2: Beginning with NA011/XPM11, the NTSX05AA processor is supported in the LGC and LGCI with a QLI load.

PM LGC critical (continued)

Clearing a PM LGC critical alarm

At the MAP display

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

PM	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12	
lf				Do			
an	audible ala	arm rings		step 2			
no	audible ala	arm rings		step 3			

2 To silence the alarm, type

>SIL

and press the Enter key.

3 To determine if system busy or C-side busy LGCs cause the critical alarm, type

>STATUS

and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	0	0	2	0	25
TM8	0	0	0	0	0	2
MTC	0	0	0	0	0	3
LGC	1	0	0	0	0	3
LCM	0	0	0	2	0	0
DTC	0	0	0	0	0	1
LIM	0	0	0	0	0	1
LIU7	0	0	0	0	0	1
FRIU	0	0	0	0	0	1
DTCI	0	0	0	0	0	1
LCME	0	0	0	0	0	1
						MORE .

Note 1: An LGC critical alarm can cause LCM alarms. If an LGC is SysB, the associated LCMs of the LGC are CBsy.

PM LGC critical (continued)

4

5

Note 2: If LGCs are both SysB and CBsy, work on the SysB LGCs first.

To display all CBsy or SysB LGCs, type

>DISP STATE state LGC

and press the Enter key.

where

state

is CBsy or SysB, as you determined in step 3

Example of a MAP response: SysB LGC : 0

Note: If multiple LGCs are CBsy or SysB, select an LGC to work on. Record the number of the LGC.

lf you	Do
recover a CBsy LGC	step 5
recover a SysB LGC	step 6

Go to the common procedure "Clearing PM C-side faults" in this document. Complete the procedure and return to this step.

lf	Do
the LGC remains CBsy	Treat the CBsy LGC as a SysB LGC and go to step 25
the LGC changes to SysB	step 6
one LGC unit returns to service	step 46
both LGC units return to service	step 48

6 Check the EXT header of the alarm banner for a frame supervisory panel (FSP) alarm.

If an FSP alarm	Do	
is present	step 7	
is not present	step 25	

7 To locate the FSP alarm, type

>EXT; LIST FSP

and press the Enter key.

Example of a MAP response:

FSPAÍSD

In this example, the alarm is an FSP alarm on Aisle D.

PM LGC critical (continued)

At the equipment aisle

8 Go to the aisle that you identified in step 7. The end aisle alarm is lit.

At the equipment frame

9 To identify the frame with the FSP alarm, check the FRAME FAIL lamp on the FSP of each frame. The frame with the FSP alarm has a lit FRAME FAIL lamp. The following figure shows an FSP with a lit FRAME FAIL lamp.



Note: The CB3 does not fit in a frame for a common peripheral controller equipment (CPCE).

10 The following figure illustrates an LGC critical alarm. The frame that contains the LGC is a CPCE type. This frame can be a line group equipment (LGE) frame, line trunk equipment (LTE) frame, or digital trunk equipment (DTE) frame. Identify the PMs that are in the frame. Refer to the following figure for help.

PM LGC critical (continued)



11 Check the Converter Fail LED on each 2X70 power converter card in the frame. Refer to the figure "LGC shelf layout" for help to locate this card. Refer to the following figure of a 2X70AE card for help to check the Converter Fail LED.


If any LEDs	Do
are lit	step 12
are not lit	step 16

12 Note the LGC with the LED light on.

At the MAP display

13

ATTENTION

Record the active unit (0 or 1) to use later in this procedure. When you manual busy the LGC, unit activity will not display.

To post the system busy LGC, type >PM; POST LGC lgc_no and press the Enter key.

where

lgc_no

is the number (0 to 255) of the LGC that you recorded in step 4 *Example of a MAP response:*

14

15

16

17

18

At 19

At 20

PM LGC critical (continued)

	Do
appears next to either unit	step 14
does not appear	step 15
Go the common procedure "M document. Complete the proc	Ionitoring system maintenance" in this cedure and return to this point.
If the critical alarm	Do
remains	step 15
changes	step 46
clears	step 48
Determine if the LGC is the sa	ame as the LGC that you identified in step
If the LGC	Do
is different	step 16
is the same	step 17
Clear the FSP alarm. Perform document. Complete the proc	the correct alarm clearing procedure in th cedure and return to step 6.
Clear the FSP alarm. Perform document. Complete the proc To busy the LGC, type	n the correct alarm clearing procedure in th cedure and return to step 6.
Clear the FSP alarm. Perform document. Complete the proc To busy the LGC, type >BSY PM	n the correct alarm clearing procedure in th cedure and return to step 6.
Clear the FSP alarm. Perform document. Complete the proo To busy the LGC, type >BSY PM and press the Enter key.	n the correct alarm clearing procedure in th cedure and return to step 6.
Clear the FSP alarm. Perform document. Complete the proo To busy the LGC, type >BSY PM and press the Enter key. <i>Note:</i> When you busy the LCM alarm.	n the correct alarm clearing procedure in th cedure and return to step 6. whole LGC, the system generates a critica
Clear the FSP alarm. Perform document. Complete the proo To busy the LGC, type >BSY PM and press the Enter key. <i>Note:</i> When you busy the LCM alarm. Choose the active unit to work	the correct alarm clearing procedure in the correct alarm clearing procedure in the cedure and return to step 6. whole LGC, the system generates a critica
Clear the FSP alarm. Perform document. Complete the proo To busy the LGC, type >BSY PM and press the Enter key. <i>Note:</i> When you busy the LCM alarm. Choose the active unit to work equipment frame	the correct alarm clearing procedure in the correct alarm clearing procedure in the cedure and return to step 6. whole LGC, the system generates a critica

data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

21

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LGC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI (Processor load file name)

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LGC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash Image File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 21
is not present	step 24
Determine if the LGC is equipped with a PRL card.	an NTSX06 PRL packlet or an NT7X05

If the LGC is equipped with an	Do
NT7X05 PRL card	step 22
NTSX06 PRL packlet	step 23

22 To load the LGC from the local image, type

>LOADPM PM LOCAL IMAGE

and press the Enter key.

If the load	Do	
passed	step 37	
failed	step 23	

23



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the LGC from the local loadfile, type

>LOADPM PM LOCAL LOADFILE

and press the Enter key.

If the load	Do
passed	step 37
failed	step 24
To load the LGC that you worked on ir	n step 19, type
>LOADPM PM	
and press the Enter key.	
If the load	Do
failed, and the system generated a card list	step 38
failed, and the system did not generate a card list	step 47
passed	step 37

24

25	To post the LGC, type	
	>POST LGC lgc_no	
	and press the Enter key.	
	where	
	lgc_no is the number (0 to 255) of the	LGC that you recorded in step 4
	Example of a MAP display response:	
	LGC 0 SysB Links_OOS: Unit0: Act SysB Unit1: Inact SysB	CSide 20, PSide 0
	If a Mtce indicator	Do
	appears next to either unit	step 26
	does not appear	step 27
26	Go the common procedure "Monitoring system maintenance" in this document. Complete the procedure and return to this step.	
	If the critical alarm	Do
	remains	step 27
	changes	step 46
	clears	step 48
27	To query the LGC for fault indications,	type
	>QUERYPM FLT	
	and press the Enter key.	
	<i>Example of a MAP display response:</i> Activity dropped	
28	Record the MAP response.	
	If the MAP response	Do
	is SWACT In Progress	step 29
	is Load Corruption	step 30
	is Load Failed	step 30
	is Distributed Data Loading Failed	step 30

If the MAP response	Do
is Activity dropped	step 30
is Not loaded since power up	step 30
is other than listed here	step 36
In an attempt to recover the LGC, the	system switches the activity between

29

the two LGC units. Wait until system maintenance is complete.

Do
step 36
step 46
step 48

30 To busy the LGC, type

>BSY PM

and press the Enter key.

Note: When you busy a the whole LGC, the system generates a critical LCM alarm for each associated LCM.

31 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LGC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:
  Flash load File: ECL07BI ] - (Processor load file name)
  Flash Image File: ECL07BI
  Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.
Unit 1:
  Flash load File: ECL07BI
   Flash Image File: ECL07BI
  Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LGC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash Image File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 32
is not present	step 35

32 Determine if the LGC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the LGC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

QueryPM config UNIT 0 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet UNIT 1 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet

If the LGC is equipped with an	Do
NT7X05 PRL card	step 33
NTSX06 PRL packlet	step 34

33

To load the LGC from the local image, type

>LOADPM PM LOCAL IMAGE

and press the Enter key.

If the load	Do
passed	step 37
failed	step 34

34



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the LGC from the local loadfile, type

>LOADPM PM LOCAL LOADFILE

and press the Enter key.

If the load	Do
passed	step 37
failed	step 35

35

To load the LGC from the computing module (CM) at the front end, type

>LOADPM PM

and press the Enter key.

If the load	Do
failed, and the system generated a card list	step 38
failed, and the system did not generate a card list	step 47
passed	step 37

36 To busy the LGC, type

>BSY PM

and press the Enter key.

Note: When you busy the whole LGC, the system generates a critical LCM alarm for each associated LCM.

37 To return the LGC to service, type

>RTS PM

and press the Enter key.

lf	Do
the LGC failed to return to service, and the system generated a card list	step 38
one LGC unit returns to service	step 46
both LGC units return to service	step 48

At the equipment frame

38 Replace the first card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LGC shelf layout" for help to locate this card.

The MAP response in step 13 (if you completed this step) or step 28 can help you isolate the card that has faults. Refer to the following table for help.

(Sheet 1 of 2)

MAP response	Suspect cards
PM Audit	NT6X69, NTMX77, NTSX05
Activity Dropped	NTMX77, NTSX05
No WAI Received	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
LINK Audit	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
Load Corruption	NT6X42, NTMX77, NTSX05

(Sheet 2 of 2)

MAP response	Suspect cards
Load Failed	NTMX77, NTSX05
Distributed Data Loading Failed	NT6X69, NTMX77, NTSX05
If you replace	Do
If you replace an NT6X42 or NTMX77 card	Do step 39
If you replace an NT6X42 or NTMX77 card an NTSX05 card	Do step 39 step 40

At the MAP display

39 Use the information that you recorded in step 13 to load the active LGC unit. To load the active LGC unit from the local image on the NT7X05 card, type

>LOADPM ACTIVE LOCAL IMAGE

and press the Enter key.

If the load	Do
passed	step 42
failed	step 40

40



Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the active LGC unit from the local loadfile on the PRL card, type >LOADPM ACTIVE LOCAL LOADFILE

	Do		
passed	step 42		
failed	step 41		
To load the active LGC uni	t from the CM, type		
>LOADPM ACTIVE			
and press the Enter key.			
If the load	Do		
passes	step 42		
fails	step 47		
type	for the firmware load on the NTMX77 or N		

Example of a MAP display for an LGC equipped with an NTSX05:

QueryPM cntrs Unsolicited MSG limit	
Unit 0:	
QueryPM CNTRS command	may take up to 2 minutes
FEPRom Load: Loadable:	: SA01 Executable: SA01
IIP:SX05AA	· SAUL, EXECULABLE. SAUL
TP:BX01	
Unit 1:	
Ram Load: OLI10BG	
EPRom Version: AC01	r —
EEPRom Load: Loadable:	SA01, Executable: SA01
UP:SX05AA	Δ Δ
IP:BX01	
	└─ NTSX05 Firmware —
	loadname version
If firmware	Do
is valid	step 44
To load the NTMX77 or NTSX >LOADFW ACTIVE	step 43 (05 firmware, type
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key.	step 43 K05 firmware, type
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load	step 43 K05 firmware, type Do
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed	step 43 K05 firmware, type Do step 44
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed failed	step 43 K05 firmware, type Do step 44 step 47
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed failed To return the LGC unit to serv	step 43 K05 firmware, type Do step 44 step 47 vice, type
To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed failed To return the LGC unit to serv >RTS ACTIVE	step 43 (05 firmware, type Do step 44 step 47 vice, type
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed failed To return the LGC unit to serv >RTS ACTIVE and press the Enter key.	step 43 (05 firmware, type Do step 44 step 47 vice, type
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed failed To return the LGC unit to serv >RTS ACTIVE and press the Enter key. If the unit	step 43 (05 firmware, type Do step 44 step 47 vice, type Do
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed failed To return the LGC unit to serv >RTS ACTIVE and press the Enter key. If the unit does not return to service, cards on the list of cards the service of	step 43 X05 firmware, type Do step 44 step 47 vice, type Do and you did not replace all step 45 hat have faults
is invalid To load the NTMX77 or NTSX >LOADFW ACTIVE and press the Enter key. If load passed failed To return the LGC unit to serv >RTS ACTIVE and press the Enter key. If the unit does not return to service, cards on the list of cards th does not return to service, on the list of cards that ha	step 43 X05 firmware, type Do step 44 step 47 vice, type Do and you did not replace all step 45 hat have faults and you replaced all cards step 47

43

44

PM LGC critical (end)

If the unit	Do
returns to service	step 46

At the equipment frame

45 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LGC shelf layout" in this procedure for help in how to locate this card.

If you replace	Do
an NTMX77 or NT6X42 card	step 39
an NTSX05 card	step 40
other cards	step 44

- 46 The LGC critical alarm changed to another type of alarm. Refer to the correct alarm clearing procedure in this document. Go to step 48.
- **47** You need additional maintenance action to clear this alarm. Contact the next level of support. Describe in detail the steps that you performed to clear this alarm.
- **48** The procedure is complete.

PM LGC major

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1LGC	•	•	•		•
				IVI					

Indication

At the MTC level of the MAP display, LGC (preceded by a number and followed by an M) appears under the PM header of the alarm banner. The LGC indicates a major alarm for a line group controller (LGC). The number that precedes the LGC indicates the number of LGCs that the alarm affects. The preceding figure shows an alarm banner with an LGC major alarm.

Meaning

The LGC is in-service trouble (ISTb) as a result of one of the following conditions:

- one unit is system busy and one unit is ISTb
- one unit is system busy and one unit is in service
- one unit is C-side busy and one unit is ISTb
- one unit is C-side busy and one unit is in service

Result

The alarm does not affect service. A backup unit is not available in the LGC.

Common procedures

This procedure refers to the following common procedures:

- "Clearing PM C-side faults"
- "Monitoring system maintenance"

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM LGC major alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

LGC shelf layout

R			NT2X70	Power converter card
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
R			NT6X40	DS30 C-side interface card
R			NT6X41	Speech bus formatter card
R	NTMX71	XPM+ terminator PB	NT6X42	CSM card
R			NT0X50	Filler faceplate
R			NT6X69	Message protocol card
'R			NT6X92	Universal tone receiver card
R			NTBX01	ISDN signaling preprocessor
R			NT6X92	Universal tone receiver card
1R				Time switch card, or
3R				Filler faceplate
'R				Unified processor
R			NTSX05	SX05 processor (Note 2)
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
8R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
R			NT6X48	DS30A Interface card
R			NT6X48	DS30A Interface card
R			NT6X50	DS-1 Interface card
R			NT6X50	DS-1 Interface card
2R			NT6X50	DS-1 Interface card
R			NT6X50	DS-1 Interface card

Clearing a PM LGC major alarm

At the MAP display

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

PM	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12
lf				Do		
an	audible ala	arm rings		step 2		
no	audible al	arm rings		step 3		
To si	lence the a	larm, type				
>SII						
and	press the E	nter key.				
To di	splay all the	e ISTb LGCs	s, type			
>DIS	SP STATE	ISTB LGC				
and	press the E	nter key.				
Exar	mple of a M	AP response	9:			
IST	B LGC :	0				
N nu	ote: If mult umber of th	iple LGCs a e LGC.	re ISTb, se	elect an LG	C to work or	n. Record the
Cheo (FSF	ck the EXT ?) alarm.	header of the	e alarm ba	anner for a	frame super	visory panel
lf a	n FSP alar	m		Do		
is p	oresent			step 5		
is r	not present			step 22		
To lo	cate the FS	SP alarm, typ	e			
>EX:	F; LIST H	SP				
and	press the E	nter key.				
Exar	mple of a M	AP response) :			

FSPAID

In this example, the alarm is an FSP alarm on Aisle D.

At the equipment aisle

6 Go to the aisle that you identified in step 5. The end aisle alarm is lit.

At the equipment frame

7 To identify the frame with the FSP alarm, check the FRAME FAIL lamp on the FSP of each frame. The frame with the FSP alarm has a lit FRAME FAIL lamp. The following figure shows an FSP with a lit FRAME FAIL lamp.



Note: The CB3 does not fit in a frame for a common peripheral controller equipment (CPCE).

frame. Refer to the following diagram for help.

The following diagram shows a line group equipment (LGE) frame. Because this is an EXT FSP alarm, the frame that contains LGC can be a line group equipment (LGE) frame. The FSP alarm can appear in line trunk equipment (LTE) frames or digital trunk equipment (DTE) frames. Identify the PMs in the

8



9 Check the Converter Fail LED on each NT2X70 power converter card in the frame. Refer to the figure "LGC shelf layout" in this procedure for help to locate this card. Refer to the following figure of a NT2X70AE card for help to check the Converter Fail LED.



If any LEDs	Do
are lit	step 10
are not lit	step 14

10 Note the LGC with the LED lamp on.

At the MAP display

11 To post the LGC, type

>PM; POST LGC lgc_no

and press the Enter key.

where

lgc_no is the number (0 to 255) of the LGC that you recorded in step 3 *Example of a MAP response:*

LGC	0	ISTb	Links_00S:	CSide 17,	PSide 0
Unit0:	Act	InSv			
Unit1:	Inact	CBsy			
If a Mtc	e indicato	r	Do		
appears next to either unit		step 12			
does not appear		step 13			

12 Go to the common procedure *Monitoring system maintenance* in this document. Complete the procedure and return to this point.

If the major alarm	Do
remains	step 13
changes	step 47
clears	step 49

13 Determine if the LGC is the same as the LGC that you identified in step 10.

If the LGC	Do
is different	step 14
is the same	step 15

- 14 Clear the FSP alarm. Perform the correct alarm clearing procedure in this document. Complete the procedure and return to step 4.
- 15 To busy the SysB LGC unit, type

>BSY UNIT unit_no

and press the Enter key.

where

unit_no

is the number (0 to 1) of the LGC unit

At the equipment frame

16 Change the NT2X70 card. Refer to the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this step.

At the MAP display

17 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM

data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LGC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI (Processor load file name)

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LGC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 1:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do		
is present	step 18		
is not present	step 21		

18 Determine if the LGC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card.

If the LGC is equipped with an	Do
NT7X05 PRL card	step 19
NTSX06 PRL packlet	step 20

 19
 To load the LGC unit from the local image, type

 >LOADPM UNIT unit_no LOCAL IMAGE

 and press the Enter key.

 where

 unit_no

 is the number (0 to 1) of the LGC unit

 If the load
 Do

 passed
 step 36

 failed
 step 20

20



DANGER

Possible service interruption The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you want to use the NOPATCH option of the loadfile.

To load the LGC unit from the local loadfile, type

>LOADPM UNIT unit_no LOCAL LOADFILE

and press the Enter key.

where

unit_no

is the number (0 to 1) of the LGC unit

If the load	Do	
passed	step 36	
failed	step 21	

21 To load the LGC unit, type >LOADPM UNIT unit_no and press the Enter key. where 22

23

24

PM LGC major (continued)

If the load	Do
failed, and the system generated a card list	step 37
failed, and the system did not generate the card list	step 48
passed	step 36
To post the LGC, type	
>POST LGC lgc_no	
and press the Enter key.	
where	
lgc_no	I GC that you recorded in stop 2
	LGC that you recorded in step 3
Example of a MAP response.	
LGC 0 InSv Links_OOS:	CSide 20, PSide 0
Unit0: Act InSv	
Unitl: Inact SysB	
Unit1: Inact SysB	Do
Unit1: Inact SysB If a Mtce indicator appears next to either unit	Do step 23
Unit1: Inact SysB If a Mtce indicator appears next to either unit does not appear	Do step 23 step 24
Unit1: Inact SysB If a Mtce indicator appears next to either unit does not appear Go to the common procedure "Monito document. Complete the procedure appear	Do step 23 step 24 ring system maintenance" in this and return to this point.
Unit1: Inact SysB If a Mtce indicator appears next to either unit does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm	Do step 23 step 24 ring system maintenance" in this and return to this point.
Unit1: Inact SysB If a Mtce indicator appears next to either unit does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains	Do step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24
Unit1: Inact SysB If a Mtce indicator appears next to either unit does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes	Do step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 24 step 47
Unit1: Inact SysB If a Mtce indicator appears next to either unit does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes clears	Do step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 47 step 49
Unit1: Inact SysB If a Mtce indicator appears next to either unit appears next to either unit does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes clears Determine the maintenance state of e	Do step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 47 step 49 ach LGC unit.
Unit1: Inact SysB If a Mtce indicator appears next to either unit does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes clears Determine the maintenance state of e If	Do step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 47 step 49 ach LGC unit. Do

lf	Do				
one unit is SysB and the other unit is InSv or ISTb	Work on the SysB unit. Go to step 26.				
Go to the common procedure "Clear PM C-side faults" in this document. Complete the procedure and return to this point.					
lf	Do				
the LGC remains ISTb because one unit is SysB and the other is InSv or ISTb	Work on the SysB unit. Go to step 26.				
the LGC returns to service	step 49				
To query the LGC for fault indications, type					
>QUERYPM FLT					
and press the Enter key.					
<i>Example of a MAP response:</i> Activity dropped					
Record the MAP response.					
If the MAP response is	Do				
SWACT In Progress	step 28				
Load Corruption	step 29				
Load Failed	step 29				
Distributed Data Load- ing Failed	step 29				
Activity dropped	step 29				
other than listed here	step 35				
In an attempt to recover the LGC, the system switches the activity between the two LGC units. Wait until system maintenance is complete.					
If the LGC	Do				
does not return to service	step 35				
returns to service	step 49				

PM LGC

major (continued)

29 To busy the LGC unit, type

```
>BSY UNIT unit_no
```

and press the Enter key.

where

unit no

is the number of the inactive LGC unit

30 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LGC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LGC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI (Processor load file name)

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 31
is not present	step 34

31 Determine if the LGC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the LGC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

```
QueryPM config
UNIT 0 Slot 12: SX05AA
PCMCIA Slotlet 0: SX06CA
PCMCIA Slotlet 1: No packlet
UNIT 1 Slot 12: SX05AA
PCMCIA Slotlet 0: SX06CA
PCMCIA Slotlet 1: No packlet
```

32

If the LGC is equipped with an	Do				
NT7X05 PRL card	step 32				
NTSX06 PRL packlet	step 33				
To load the LGC unit from the local ir	To load the LGC unit from the local image, type				
>LOADPM UNIT unit_no LOCAL IMAGE					
and press the Enter key.					
where					
unit_no is the number (0 to 1) of the L	GC unit				
If the load	Do				
passed	step 36				
failed	step 33				

33

34



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you want the NOPATCH option of the loadfile.

To load the LGC unit from the local loadfile, type

>LOADPM UNIT unit_no LOCAL LOADFILE

and press the Enter key.

where

unit no

is the number (0 to 1) of the LGC unit

If the load	Do
passed	step 36
failed	step 34
To load the LGC unit, type	
>LOADPM UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the inactive LC	GC unit
If the load	Do
failed, and the system generated a card list	step 37
failed, and the system did not generate the card list	step 48
passed	step 36
Passea	-
To busy the LGC unit that has faults, t	уре
To busy the LGC unit that has faults, ty >BSY UNIT unit_no	ype
To busy the LGC unit that has faults, ty >BSY UNIT unit_no and press the Enter key.	уре

35

36	unit_no is the number (0 to 1) of the LGC unit To return the LGC unit to service, type >RTS UNIT unit_no and press the Enter key.					
	where					
	unit_no is the number (0 to 1) of the LG	GC unit				
	If the LGC unit	Do				
	failed, and the system generated a card list	step 37				
	failed, and the system did not generate the card list	step 48				
	passed	step 49				

At the equipment frame

37 Replace the first or next card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LGC shelf layout" in this procedure for help to locate this card.

The MAP response in step 11 (if you completed this step) or step 27 can help you isolate the card that has faults. Refer to the following table for help.

(Sheet 1 of 2)

MAP response	Suspect cards
PM Audit	NT6X69, NTMX77, NTSX05
Activity Dropped	NTMX77, NTSX05
No WAI Received	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
LINK Audit	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
Load Corruption	NTMX77, NTSX05

(Sheet 2 of 2)

MAP response	Suspect cards		
Load Failed	NTMX77, NTSX05		
Distributed Data Loading Failed	NT6X69, NTMX77, NTSX05		
If you replace	Do		
an NT6X42, NTMX77, or NTSX05 card	step 38		
other than listed here	step 45		

At the MAP display

38 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LGC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LGC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 1:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 39
is not present	step 42

39 Determine if the LGC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the LGC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

QueryPM config UNIT 0 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet UNIT 1 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet

If the LGC is equipped with an	Do
NT7X05 PRL card	step 40
NTSX06 PRL packlet	step 41

 40
 To load the inactive LGC unit from the local image on the NT7X05 card. type

 >LOADPM UNIT unit_no LOCAL IMAGE

 and press the Enter key.

 where

 unit_no

 is the number of the inactive LGC unit

 If the load
 Do

If the loadDopassedstep 43failedstep 41

41



DANGER

Possible service interruption The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you want the NOPATCH option of the loadfile.

To load the inactive LGC unit from the local loadfile on the NT7X05 card, type

>LOADPM UNIT unit_no LOCAL LOADFILE

and press the Enter key.

where

unit_no

is the number of the inactive LGC unit

If the load	Do	
passed	step 43	
failed	step 42	

42 To load the inactive LGC unit from the CM, type

>LOADPM UNIT unit_no

and press the Enter key.

where

If the load	Do
passed	step 43
failed	step 48
To query the LGC countertype	ers for the firmware load on the NTMX77 or NTSX
>QUERYPM CNTRS	
and press the Enter key.	
Example of a MAP displ	ay for an LGC equipped with an NTMX77:
Unsolicitited MSG Unit 0: Ram Load: ECL07BI	limit = 250, Unit 0 = 0, Unit 1 = 0
EPRom Version: AB(EEPRom Load: Loada UP:MX77AA Unit 1:)2 able: MX77NG03, Executable: MX77NG03
Ram Load: ECL07BI	
EPRom Version: AB(EEPRom Load: Loada UP:MX77AA	D2 able: [MX77NG03], Executable: [MX77NG03]

Example of a MAP display for an LGC equipped with an NTSX05:

Unsolicited MSG limit = 2	50, Unit 0 = 0, Unit 1 = 0
Unit 0:	
QueryPM CNTRS command may	take up to 2 minutes
EEPRom Load: Loadable: SA	01, Executable: SA01
UP:SX05AA	
IP:BX01	
Unit 1:	
Ram Load: QLI10BG	
EPRom Version: ACUI –	
IIP:SX05AA	LE EXECULADIE: DAUL]
IP:BX01	▲
L	NTSX05 Firmware
	loadname version
If firmware	Do
is valid	step 45
is invalid	step 44
To load the NTMX77 or NTSX05 f	firmware in the inactive unit, type
>LOADFW UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the inactiv	ve LGC unit
If load	Do
passed	step 45
failed	step 48
To return the LGC unit to service,	type
>RTS UNIT unit_no	
and press the Enter key.	
where	

PM LGC major (end)

unit_no is the number of the inactive LGC unit					
If the LGC unit	Do				
does not return to service, and you did not replace all cards on the list of cards that have faults	step 46				
does not return to service, and you replaced all cards on the list of cards that have faults	step 48				
fails and the system does not generate a card list	step 48				
returns to service	step 49				

At the equipment frame

46 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LGC shelf layout" in this procedure for help to locate this card.

If you replace	Do	
an NTMX77, NTSX05, NT6X42 card	or	step 38
replace any other cards		step 45

- 47 The LGC major alarm changed to another type of alarm. Refer to the correct alarm clearing procedure in this document. Go to step 49.
- **48** For additional help, contact the next level of support.
- **49** The procedure is complete.

PM LGC minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext
•	•	•	•	1LGC	·	•	•	•

Indication

At the MTC level of the display, LGC (preceded by a number) appears under the PM header of the alarm banner. The LGC indicates a minor alarm for a line group controller (LGC). The number that precedes the LGC indicates the number of LGCs that the alarm affects. The preceding figure shows an alarm banner with an LGC minor alarm.

Meaning

The LGC is in service trouble (ISTb) as a result of one of the following conditions:

- both units are ISTb
- one unit is ISTb and one unit is in service
- one unit is ISTb and one unit is manually busy
- one unit is in service and one unit is manually busy
- both units are in service with some P-side links or C-side links out of service

Result

The alarm does not affect service.

Common procedures

This procedure refers to the following common procedures:

- "Monitoring system maintenance"
- "Clearing PM C-side faults"

Do not go to the common procedure unless the step-action procedure directs you to go.
PM LGC minor (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review procedure. Follow the steps to perform the procedure.

PM LGC minor (continued)

Summary of clearing a PM LGC minor alarm



PM LGC minor (continued)

LGC shelf design

	NT2X70 Power converter card
<u> </u>	NT0X50 Filler faceplate
R	NT0X50 Filler faceplate
۲	NT6X40 DS30 C-side interface card
۶	NT6X41 Speech bus formatter card
	NT6X42 CSM card
R NIMX/1 XPM+ terminator PB	NT0X50 Filler faceplate
	NT6X69 Message protocol card
	NT6X92 Universal tone receiver card
	NTBX01 ISDN signaling preprocessor
	NT6X92 Universal tone receiver card
<pre>{</pre>	NT6X44 Time switch card, or NTAX78 Time switch card (Note 1)
२	NT0X50 Filler faceplate
۲	NTSX05 SX05 processor (Note 2)
۲ [NTMX77 Unified processor
٤	NT0X50 Filler faceplate
<u> </u>	NT0X50 Filler faceplate
R	NT0X50 Filler faceplate
R	NT0X50 Filler faceplate
	NT0X50 Filler faceplate
	NT6X48 DS30A Interface card
R	NT6X48 DS30A Interface card
2	NT6X50 DS-1 Interface card
	NT6X50 DS-1 Interface card
R	NT6X50 DS-1 Interface card
	N16X50 DS-1 Interface card

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PM LGC minor (continued)

Clearing a PM LGC minor alarm

At the MAP display

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP display response:

DM	SysB	ManB	OffL	CBsy	ISTb	InSv	
PM	Ţ	3	S	1	б	12	
lf				Do			
an a	an audible alarm rings step 2						
no a	no audible alarm rings step 3						
To sil	ence the al	arm, type					
>SIL							
and p	press the E	nter key.					
To dis	splay all the	e ISTb LGCs,	type				
>DIS	P STATE	ISTB LGC					
and p	oress the E	nter key.					
Exan	nple of a M	AP display:					
IST	b LGC : ()					
No pro	Note: If multiple LGCs are ISTD, select an LGC to work on. Repeat this procedure for each LGC that is ISTD.						
Reco	Record the number of the LGC.						
То ро	st the LGC	, type					
>POS	>POST LGC lgc_no						
and p	oress the E	nter key.					
wher	where						
ļ	gc_no is the nur	nber (0 to 25	5) of the L	GC that yo	ou recorded i	n step 3	

Example of a MAP display response:

2

3

4

PM LGC minor (continued)

LGC	0		ISTb	Links_	_00S:	CSide 0,	PSide	0
Unit0:		Act	In	Sv				
Unit1:		Inact	IS	Tb	Mtce			
If a M	tce	flag				Do		
appears next to either unit			step 5					
does not appear			step 6					

5 Go the common procedure "Monitoring system maintenance" in this document. Complete the procedure and return to this point.

6

7

If the LGC minor alarm	Do		
remains	step 6		
changes	step 35		
clears	step 36		
Select an LGC unit to recover.			
If	Do		
one unit is ISTb and one unit is InSv	step 7		
both units are ISTb	Work on the inactive unit and go to step 11.		
one unit is ManB and one unit is ISTb or InSv	Work on the manually busy unit and go to step 11.		
Determine if the ISTb unit is active or inactive.			
If the ISTb unit	Do		
is active	step 8		

is inactive	Work on the in-service trouble unit and go to step 11.

PM LGC minor (continued)

8



CAUTION

Possible loss of service If the procedure directs you to perform a cold SWACT, perform this activity during a period of low traffic. If you perform a cold SWACT during other periods of traffic, the

To switch the activity of the units, type

>SWACT

and press the Enter key.

The switch determines if you must perform a cold SWACT or a warm SWACT. The switch shows a confirmation prompt for the selected SWACT.

system drops all calls that the LGC handles.

If the SWACT	Do
cannot continue	step 9
can continue	step 10

9 To reject the prompt, type

>NO

and press the Enter key.

The system discontinues the SWACT. Go to step 34.

10 To confirm the SWACT, type

>YES

and press the Enter key.

The switch switches the activity between the active unit and the inactive unit. A Mtce flag appears during the switch of activity. Wait until the flag disappears before you proceed.

If the MAP response	Do		
is SWACT Passed	Work on the inactive unit and go to step 11.		
is SWACT failed Reason: XPM SWACTback	step 34		
is SWACT refused by SWACT controller	step 34		

PM LGC minor (continued)

11 To determine the cause of the ISTb condition, type

>QUERYPM FLT

12

and press the Enter key.

Note: An in-service trouble condition for an LGC can be the result of multiple causes. The LGC and LGC units remain ISTb until all the in-service trouble conditions clear.

If the MAP response	Do		
is Dynamic data sync in progress	step 12		
is Superframe sync in progress	step 12		
isCLASS Modem Resource Card 6X78 out of ser- vice	step 13		
is CMR Load not present	step 16		
is Static data mismatch with CC	step 19		
is P-side links out of service	step 21		
is C-side links out of service	step 31		
is other than listed here	step 34		
Wait 5 min for the system to return the LGC to service.			

If the LGC minor alarm	Do	
clears	step 36	
does not clear	step 34	

13

14

PM LGC minor (continued)

CAUTION Possible loss of service The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during periods of low traffic to minimize the risk of traffic interruption. To manually busy the CMR card, type >BSY UNIT unit_no CMR and press the Enter key. where unit no is the number of the LGC unit (0 or 1) that contains the CMR card To test the CMR card, type >TST UNIT unit_no CMR and press the Enter key. where unit no is the number of the LGC unit (0 or 1) that contains the CMR card If the TST command Do fails step 15 passes step 18 At the equipment frame Replace the CMR card (NT6X78). Refer to the correct procedure in Card Replacement Procedures. Complete the procedure and go to step 17. At the MAP display To manually busy the CMR card, type

>BSY UNIT unit_no CMR

and press the Enter key.

where

unit no

is the number of the LGC unit (0 or 1) that contains the CMR card

15

16

PM LGC minor (continued)

To load the CMR card, type						
>LOADPM UNIT unit_no CMR						
and press the Enter key.						
where						
unit_no is the number of the LGC unit (0 or 1) that contains the CMR card					
If the LOADPM command	Do					
passes	step 18					
fails, and you replaced the CMR card	step 34					
fails, and you did not replace the CMR card	step 15					
To return the LGC unit to service, type	}					
>RTS UNIT unit_no						
and press the Enter key.						
where						
unit_no is the number of the LGC unit (0 or 1)					
If the RTS command	Do					
passes, and the LGC returns to service	step 36					
passes, and the LGC does not re- turn to service	step 33					
fails	step 34					

19

17

18



CAUTION

Possible loss of service The active unit does not have backup until you return the

inactive unit does not have backup unit you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during periods of low traffic to minimize traffic interruption.

PM LGC minor (continued)

20	1	To manually busy the inactive in-service trouble LGC unit, type >BSY UNIT unit_no and press the Enter key. where unit_no is the number of the LGC unit (0 or 1) To return the LGC unit to service, type >RTS UNIT unit_no and press the Enter key. where				
		unit_no is the number of th	e LGC unit (0 or	1)		
		If the RTS command	Do	D .		
	passes, and the LGC returns to step 36 service					
		passes, and the LGC d turn to service	oes not re- ste	ep 33		
		fails	ste	ep 34		
21		To identify the out-of-serv	ice P-side links,	type		
		>TRNSL P				
		and press the Enter key.				
		Example of a MAP displa	y response:			
Link	0;	LCM HOST 05 0	0;Cap MS	S;Status:ok	;MsgCond:OPN	
Link	1;	LCM HOST 05 0	0;Cap S	S;Status:ok		
Link	2;	LCM HOST 05 0	0;Cap MS	S;Status:ok	;MsgCond:OPN	
Link	3;	LCM HOST 05 0	0;Cap S	S;Status:ok	·Magaad · ODM	
Link	4; 5.	LCM HOST 05 1	0:Cap MS	S:Status.OK	, msgcona · OPN	
Link	18:	LCM HOST 05 4	0;Cap MG	S:Status:ok	:MsgCond:OPN	
Link	19;	LCM HOST 05 4	0;Cap S	S;Status:ok	/hbgcond.orn	
				2		

Note: Links 6 to 17 do not appear in this example.

PM LGC minor (continued)

22 Record the number and state of each out-of-service P-side link.

Note: P-side links with the status OK are in service. Any other status indicates an out-of-service P-side link. The MAP display can identify the P-side links as a CARRIER.

If the out-of-service links	Do
are carriers	step 23
are links	step 24
Clear the Trks alarm. Perform the cor document. Complete the procedure a	rect alarm clearing procedure in this nd return to this point.
If the LGC minor alarm	Do
clears	step 36
does not clear	step 34
Choose a link on which to work.	
If the link	Do
is SysB	step 25
is ManB	step 26
To manually busy the link, type	
>BSY LINK link_no	
and press the Enter key.	
where	
link_no is the number of the link (0 to 1	9)
The test the link, type	
>TST LINK link_no	
and press the Enter key.	
where	
link_no is the number of the link (0 to 1	9)
If the TST command	Do
passes	step 27
fails, and the system generates a card list	step 28

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27

PM LGC minor (continued)

If the TST command Do	
fails, and the system does not step 34 generate a card list	
To return the link to service, type	
RTS LINK link_no	
and press the Enter key.	
where	
link_no is the number of the link (0 to 19)	
If the RTS command	Do
fails, and the system generates a card list	step 28
fails, and the system does not generate a card list	step 34
passes, and other out-of-service links are present	step 24
passes and the LGC remains ISTb	step 34
passes and the LGC is InSv	step 36

At the equipment frame

28 Replace the first card on the list. Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and go to step 29.

At the MAP display

29 To return the link to service, type >RTS LINK link_no and press the Enter key. where link no

is the number of the link (0 to 19)

If the RTS command	Do
fails, and you did not replace all cards on the list	step 30
fails, and you replaced all cards on the list	step 34
passes, and other out-of-service links are present	step 24
passes, and the LGC remains ISTb	step 34

PM LGC minor (continued)

If the RTS command	Do
passes, and the LGC minor alarm clears	step 36
Replace the next card on the list. Perform the correct proceeding Replacement Procedures. Complete the procedure and go	dure in <i>Card</i> to step 29.
Go to the common procedure "Clearing PM C-side faults" in Complete the procedure and go to step 32.	this documer
To post the LGC, type	
>PM;POST LGC lgc_no	
and press the Enter key.	
where	
lgc_no is the number of the LGC (0 to 255)	
lf	Do
the LGC minor alarm clears	step 36
the LGC is ISTb because one unit is ISTb or \ensuremath{CBsy}	step 33
other than listed here	step 34
To determine the cause of the ISTb condition, type	
>QUERYPM FLT	
and press the Enter key.	
Note: In-service trouble condition for an LGC can be the multiple causes. The LGC and the LGC units remain IST in-service trouble conditions clear.	result of a
If the MAP response	Do
is Dynamic data sync in progress	step 12
is Superframe sync in progress	step 12
	1
isCLASS Modem Resource Card 6X78 out of service	step 13
is CLASS Modem Resource Card 6X78 out of service is CMR Load not present	step 13 step 16
is CLASS Modem Resource Card 6X78 out of service is CMR Load not present is Static data mismatch with CC	step 13 step 16 step 19
<pre>is CLASS Modem Resource Card 6X78 out of service is CMR Load not present is Static data mismatch with CC is P-side links out of service</pre>	step 13 step 16 step 19 step 21

PM LGC minor (end)

If the MAP response	Do
indicates a fault you cleared during this procedure	step 34
is other than listed here	step 34
You need additional maintenance action to clear this alarn level of maintenance. Describe in detail the steps that you this alarm. Go to step 36.	n. Contact the next performed to clear
The LGC minor alarm changed to another type of alarm. procedure in this document to clear the alarm.	Refer to the correct

36 The procedure is complete.

PM LIM critical

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL	
•	·	•	·	1LIM *C*	•	•	•	·	•	
				•						

Indication

At the MTC level of the MAP display, LIM (preceded by a number) appears under the PM header of the alarm banner. The LIM indicates a critical alarm for a link interface module (LIM).

Meaning

A minimum of one LIM is either system busy (SysB) or system busy resource not available (SysB RU). An LIM is system busy when both LIM units are out of service, and a minimum of one unit is system busy.

The number under the PM header of the alarm banner indicates the number of LIMs affected.

Result

All application specific units (ASUs) and all signaling links associated with this LIM are out of service.

Common procedures

The following common procedures are referenced in this procedure:

- Returning LIM-to-MS links to service
- Restoring LIM unit cross-links
- Recovering link peripheral processors

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM LIM critical alarm



Clearing a PM LIM critical alarm



CAUTION

Loss of service

Do not use this procedure to recover LIM units that are system busy due to a loss of A and B power feeds to the LPP. Refer instead to the procedure *Recovering link peripheral processors* in *Recovery Procedures*.



WARNING

Loss of service Do not use this procedure to recover LIM units that are system busy caused by loss of power. Loss of A and B power feeds to the LPP cause the LIM units to be system busy. Refer to the procedure *Recovering link peripheral processors* in *Recovery Procedures*.



WARNING

Delay in returning equipment to service

If the system generates a minimum of two card lists, replace all cards on the short card list. Replace the cards on the short card list before you replace any cards in a following full card list.

At the MAP terminal

1 To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key.

Example of a MAP display:

	РМ	SysB 1	ManB 0	OffL O	CBsy O	ISTb 0	InSv 39
2	To display all	system bus	sy LIMs, typ	be			
	>DISP STA and press the	ATE SYSE e Enter key.	3 LIM				

3

5

	Example of a MAP response:	
	SysB LIM: 1	
	To post a system busy LIM, type	
	>POST LIM lim_no	
	and press the Enter key.	
	where	
	lim_no is the number of a system busy	LIM (0 to 16)
	Example of a MAP display:	
	LIM 1 SysB (RU)	
	Link	s_00S Taps_00S
	UnitO: SysB (RU)	2 5
	Ine RU status appears to the display.	Do
	18 SysB (RU)	step 29
	is SysB	step 5
	Determine the state of each unit of the	system busy LIM.
	<i>Note:</i> The unit state appears to the display.	e right of Unit0 and Unit1 on the MAP
	lf	Do
	one LIM unit is ManB and the other LIM unit is SysB	step 17
	both LIM units are SysB	step 1
ho	I PP cabinet	
~		

An entire local message switch (LMS) shelf may have lost power due to the failure of both NT9X30 power converter cards. Check for a power fault at the 6

link peripheral processor (LPP) by examining the fail lamps of the two NT9X30 cards on the LMS shelf.

Note: A failed NT9X30 card on the left side of the LMS shelf is associated with LIM unit 0. A failed NT9X30 card on the right side of the LMS shelf is associated with LIM unit 1.

lf	Do
the fail lamp of at least one NT9X30 card is lit	step 7
the fail lamp of neither NT9X30 card is lit	step 16

7 To force a LIM unit that has a failed power converter to busy, type

>BSY UNIT unit_no FORCE

and press the Enter key.

where

unit_no is the number of the system busy LIM unit (0 or 1)

8 Replace the NT9X30 power converter card in the LIM unit. Perform the correct card procedure in *Card Replacement Procedures* to replace the card. Complete the procedure and return to this point.

Replace the NT9X30 or NT9X31 power converter card in the LIM unit. Perform the correct card procedure in *Card Replacement Procedures* to replace the card. Complete the procedure and return to this point.

9 To load the LIM unit, type

>LOADPM UNIT unit_no

and press the Enter key.

where

unit_no is the number of the manual busy LIM unit (0 or 1)

If the LOADPM command	Do
passed	step 14
failed and the system generates a card list	step 10
failed and the system does not generate a card list	step 40

10	Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engineering code the list.
11	Replace the first card on the list. Perfect Replacement Procedures to replace the return to this point.	orm the correct procedure in <i>Card</i> ne card. Complete the procedure and
12	To load the LIM unit, type	
	>LOADPM UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the manual bu	sy LIM unit (0 or 1)
	If the LOADPM command	Do
	passed	step 14
	failed, and you did not replace all the cards on the list	step 13
	failed, and you replaced all the cards on the list	step 40
13	Replace the next card on the list. Per <i>Replacement Procedures</i> to replace the return to this point.	form the correct procedure in <i>Card</i> ne card. Complete the procedure and
	Go to step 12.	
14	To return the LIM unit to service, type	
	>RTS UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the manual bu	sy LIM unit (0 or 1)
	If the RTS command	Do
	passed	step 15
	failed	step 40
15	Determine if a power fault is present of	on the mate LIM unit.
	If the fail lamp of the NT9X30 power converter card of the mate LIM unit	Do
	is lit	step 7

	If the fail lamp of the NT9X30 power converter card of the mate LIM unit	Do
	is not lit	step 16
16	To manually busy a system busy LIM	unit, type
	>BSY UNIT unit_no FORCE	
	and press the Enter key.	
	where	
	unit_no is the number of the system bu	sy LIM unit (0 or 1)
	Go to step 19.	
17	Work on the manual busy LIM unit firs	it.
18	Determine why the LIM unit is manual operating company personnel.	busy from office records or from
	When you have permission, continue unit to service.	with this procedure to return the LIM
19	To test the manual busy LIM unit, type	9
	>TST UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the manual bu	sy LIM unit (0 or 1)
	If the TST command	Do
	passed	step 39
	failed, and the system generates a card list	step 20
	failed, and the system does not generate a card list	step 21
20	Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engineering code
21	To set the LIM units again, type	
	>PMRESET UNIT unit_no	
	and press the Enter key.	
	where	

is the number of the LIM unit (0	or 1)
If the PMRESET command	Do
passed	step 28
failed and the system generates a card list	step 22
failed and the system does not generate a card list	step 23
Record the location, description, slot n (PEC), and PEC suffix of the cards on	umber, product engineering code the list.
<i>Note:</i> If the system generates a car you record the listed cards at these	rd list at any previous step, make su steps.
To load the LIM unit, type	
>LOADPM UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the LIM unit (0	or 1)
If the LOADPM command	Do
passed	step 28
tailed and the system generates a card list	step 24
failed and the system generates a card list failed and the system did not generate a card list	step 24 step 42
failed and the system generates a card list failed and the system did not generate a card list Record the location, description, slot n (PEC), and PEC suffix of the cards on	step 24 step 42 umber, product engineering code the list.
failed and the system generates a card list failed and the system did not generate a card list Record the location, description, slot n (PEC), and PEC suffix of the cards on Note: If the system generates a car you record the listed cards at these	step 24 step 42 umber, product engineering code the list. d list at any previous step, make su steps.
failed and the system generates a card list failed and the system did not generate a card list Record the location, description, slot n (PEC), and PEC suffix of the cards on <i>Note:</i> If the system generates a car you record the listed cards at these Replace the first card on the list. Perfor <i>Replacement Procedures</i> to replace the return to this point.	step 24 step 42 umber, product engineering code the list. d list at any previous step, make su steps. rm the correct procedure in <i>Card</i> e card. Complete the procedure an
failed and the system generates a card list failed and the system did not generate a card list Record the location, description, slot n (PEC), and PEC suffix of the cards on Note: If the system generates a car you record the listed cards at these Replace the first card on the list. Perfor <i>Replacement Procedures</i> to replace the return to this point. To load the LIM unit, type	step 24 step 42 umber, product engineering code the list. d list at any previous step, make su steps. rm the correct procedure in <i>Card</i> e card. Complete the procedure an
<pre>failed and the system generates a card list failed and the system did not generate a card list Record the location, description, slot n (PEC), and PEC suffix of the cards on Note: If the system generates a car you record the listed cards at these Replace the first card on the list. Perfor Replacement Procedures to replace th return to this point. To load the LIM unit, type >LOADPM UNIT unit_no</pre>	step 24 step 42 umber, product engineering code the list. d list at any previous step, make su steps. rm the correct procedure in <i>Card</i> e card. Complete the procedure an
<pre>failed and the system generates a card list failed and the system did not generate a card list Record the location, description, slot n (PEC), and PEC suffix of the cards on Note: If the system generates a car you record the listed cards at these Replace the first card on the list. Perfor Replacement Procedures to replace th return to this point. To load the LIM unit, type >LOADPM UNIT unit_no and press the Enter key.</pre>	step 24 step 42 umber, product engineering code the list. d list at any previous step, make su steps. rm the correct procedure in <i>Card</i> e card. Complete the procedure at

	If the LOADPM command	Do
	passed	step 28
	failed, and you did not replace all the cards on the list you re- corded	step 27
	failed, and you replaced all the cards on the list you recorded	step 42
27	Replace the next card on the list. Per <i>Replacement Procedures</i> to replace to return to this point.	form the correct procedure in <i>Card</i> he card. Complete the procedure and
	Go to step 26.	
28	To return the LIM unit to service, type	
	>RTS UNIT unit_no	
	and press the Enter key.	
	where	
	unit no	
	is the number of the manual b	usy LIM unit (0 or 1)
	If the RTS command	usy LIM unit (0 or 1) Do
	is the number of the manual b If the RTS command passed	usy LIM unit (0 or 1) Do step 40
	is the number of the manual b If the RTS command passed failed	usy LIM unit (0 or 1) Do step 40 step 42
29	is the number of the manual b If the RTS command passed failed Determine the state of the LIM units.	usy LIM unit (0 or 1) Do step 40 step 42
29	is the number of the manual b If the RTS command passed failed Determine the state of the LIM units. If	Do Step 40 Step 42 Do
29	is the number of the manual b If the RTS command passed failed Determine the state of the LIM units. If one LIM unit is SysB (RU)	usy LIM unit (0 or 1) Do step 40 step 42 Do step 30
29	is the number of the manual b If the RTS command passed failed Determine the state of the LIM units. If one LIM unit is SysB (RU) both LIM units are SysB (RU)	UUSY LIM unit (0 or 1) Do step 40 step 42 Do step 30 step 31
29 30	is the number of the manual b If the RTS command passed failed Determine the state of the LIM units. If one LIM unit is SysB (RU) both LIM units are SysB (RU) To manually busy the LIM unit, type	Do step 40 step 42 Do Step 30 step 31
29 30	is the number of the manual b If the RTS command passed failed Determine the state of the LIM units. If one LIM unit is SysB (RU) both LIM units are SysB (RU) To manually busy the LIM unit, type >BSY UNIT unit_no	usy LIM unit (0 or 1) Do step 40 step 42 Do step 30 step 31
29 30	is the number of the manual b is the number of the manual b If the RTS command passed failed Determine the state of the LIM units. If one LIM unit is SysB (RU) both LIM units are SysB (RU) To manually busy the LIM unit, type >BSY UNIT unit_no and press the Enter key.	Do step 40 step 42 Do step 30 step 31
29 30	If the RTS command passed failed Determine the state of the LIM units. If one LIM unit is SysB (RU) both LIM units are SysB (RU) To manually busy the LIM unit, type >BSY UNIT unit_no and press the Enter key. where	Usy LIM unit (0 or 1) Do step 40 step 42 Do step 30 step 31
29 30	If the RTS command passed failed Determine the state of the LIM units. If one LIM unit is SysB (RU) both LIM units are SysB (RU) To manually busy the LIM unit, type >BSY UNIT unit_no and press the Enter key. where unit_no is the number of the SysB (RU)	UUSY LIM unit (0 or 1) Do step 40 step 42 Do step 30 step 31) LIM unit (0 or 1)

31 32	To manually busy LIM unit 0, type >BSY UNIT 0 and press the Enter key. To display more information about the >QUERYPM UNIT unit_no FL	e fault, type T	
	and press the Enter key.		
	where		
	unit_no is the number of the manual b	usy LIM unit (0 or 1)	
	If the response		Do
	is LIM UNIT HAS NO HOST L	INKS.	step 33
	is LIM UNIT HAS NO CLOCK	ING LINKS.	step 33
	is LIM UNIT HAS NO MS COM	NNECTIVITY.	step 33
	is LIM UNIT IS ISOLATED FR	OM INSV MS.	step 33
	is LIM UNIT CROSS-LINKS O	OS.	step 37
	is LIM UNIT COMMUNICATI	ON FAILURE.	step 38
	is LIM UNIT NOT RESPONDI	NG.	step 38
	is LIM unit data sync failure		step 40
	is other than listed here		step 40
33	To access the MS level of the MAP d	isplay, type	
	>MS		
	and press the Enter key.		
	Example of a MAP display:		
	Message Switch Clock MS 0 . MS 1 .	Shelf 0 Inter-MS M Free Slave	Link 0 1
	<i>Note:</i> In the previous example, a c indicates an in-service MS plane. MS. The letter M indicates a man in-service trouble MS. The letter (lot (.) under the Messag The letter S indicates a ual busy MS. The letter D indicates an offline M	e Switch header a system busy ⁻ L indicates an S.

Determine the state of both MS	S plane 0 and 1.
If both MS 0 and 1	Do
are in service (.) or are in vice trouble (I)	n-ser- step 36
are other than listed here	step 35
Perform the appropriate alarm you have completed the proce	clearing procedure in this document. When dure, go to step 40.
Perform the procedure <i>Returnii</i> When you have completed the	ng LIM-to-MS links to service in this document procedure, return to this point.
Perform the procedure <i>Restorin</i> you have completed the proce	ng LIM unit cross-links in this document. When dure, return to this point. Go to step 40.
To test the LIM unit through the	e mate unit, type
>TST UNIT unit_no VIA	AMATE
and press the Enter key.	
where	
unit_no is the number of the ma	nual busy LIM unit (0 or 1)
If the TST command	Do
passed	step 39
failed	step 42
To return the LIM unit to servic	e, type
>RTS UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the ma	nul busy LIM unit (0 or 1)
If the RTS command	Do
passed	step 40
failed	step 42

PM LIM critical (end)

lf	Do
both LIM units are in service	step 41
either LIM unit is SysB.	step 16
one LIM unit is SysB RU.	step 30
either LIM unit is SysB RU.	step 31

41 The procedure is complete.

42 For additional help, contact the next level of support.

PM LIM major

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
-	•	•	•	1LIM M	•	•	•	•	•

Indication

At the MTC level of the MAP display, LIM (preceded by a number) appears under the PM header of the alarm banner. The display indicates a major alarm for a link interface module (LIM).

Meaning

A minimum of one LIM is either manual busy (ManB), manual busy resource not available (ManB RU), or in-service trouble (ISTb) with one unit system busy (SysB) and the other unit in-service trouble. A LIM becomes manual busy (Man B) when both LIM units are manual busy.

The number under the PM header of the alarm banner indicates the number of LIMs affected.

Result

A manual busy LIM interrupts service. An LIM with in-service trouble does not interrupt service. A backup LIM unit is not present.

Common procedures

The following common procedures are referenced in this procedure:

- Returning LIM-to-MS links to service
- Returning LIM-to-MS links to service for an ELPP
- Restoring LIM unit cross-links
- Recovering link peripheral processors

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

PM LIM major (continued)

Summary of clearing a PM LIM major alarm



PM LIM major (continued)

Clearing a PM LIM major alarm



WARNING

Loss of service Do not use this procedure to recover LIM units that are out of service caused by a loss of A and B power feeds to the link peripheral processor (LPP) or enhanced LPP (ELPP). Refer instead, to the procedure *Recovering link peripheral processors* or *Recovering enhanced link peripheral processors* in the *Recovery Procedures*.



3

WARNING

Delay in returning equipment to service

If the system generates more than one card list, replace all cards on the short card list. Replace the cards on the short list before you replace any cards in a following full card list.

At the MAP terminal

1 To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key.

Example of a MAP:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	0	1	0	0	0	39

2 To display all the manual-busy LIMs, type

>DISP STATE MANB LIM

and press the Enter key.

lf	Do
ManB LIMs appear	step 3
the response is None	step 26
To post a manual busy LIM, type	
>POST LIM lim_no	

and press the Enter key.

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PM LIM major (continued)

Example of a MAP display:	
LIM 1 ManB (RU) Links OOS	Taps OOS
Unit0: ManB (RU) 6 Unit1: ManB (RU) 6	5
Determine if the manual-busy LIM is	resource unavailable (RU).
<i>Note:</i> The RU status appears to t display.	he right of the LIM state in the MAF
If the state of the LIM is	Do
ManB (RU)	step 42
ManB	step 5
Determine from office records or from manual busy. When you have permission, continue service.	n office personnel why the LIM unit with this procedure to return the LII
Determine from office records or from manual busy. When you have permission, continue service. To test LIM unit 0, type >TST UNIT 0 and press the Enter key.	n office personnel why the LIM unit with this procedure to return the LII
Determine from office records or from manual busy. When you have permission, continue service. To test LIM unit 0, type >TST UNIT 0 and press the Enter key. If the TST command	n office personnel why the LIM unit with this procedure to return the LII Do
Determine from office records or from manual busy. When you have permission, continue service. To test LIM unit 0, type >TST UNIT 0 and press the Enter key. If the TST command passed	n office personnel why the LIM unit with this procedure to return the LII Do step 15
Determine from office records or from manual busy. When you have permission, continue service. To test LIM unit 0, type >TST UNIT 0 and press the Enter key. If the TST command passed failed, and the system generates a card list	n office personnel why the LIM unit with this procedure to return the LII Do step 15 step 7
Determine from office records or from manual busy. When you have permission, continue service. To test LIM unit 0, type >TST UNIT 0 and press the Enter key. If the TST command passed failed, and the system generates a card list failed, and the system does not generate a card list	n office personnel why the LIM unit with this procedure to return the LII Do step 15 step 7 step 8
Determine from office records or from manual busy. When you have permission, continue service. To test LIM unit 0, type >TST UNIT 0 and press the Enter key. If the TST command passed failed, and the system generates a card list failed, and the system does not generate a card list Record the location, description, slot (PEC), and PEC suffix of the cards o	n office personnel why the LIM unit with this procedure to return the LII Do step 15 step 7 step 8 number, product engineering code n the list.
Determine from office records or from manual busy. When you have permission, continue service. To test LIM unit 0, type >TST UNIT 0 and press the Enter key. If the TST command passed failed, and the system generates a card list failed, and the system does not generate a card list Record the location, description, slot (PEC), and PEC suffix of the cards o To reset the LIM unit, type	n office personnel why the LIM unit with this procedure to return the LII Do step 15 step 7 step 8 number, product engineering code n the list.

PM LIM major (continued)

	unit_no is the number of the LIM unit (0) or 1)
	If the PMRESET command	Do
	passed	step 15
	failed, and the system generates a card list	step 9
	anything else	step 10
9	Record the location, description, slot (PEC), and PEC suffix of the cards or	number, product engineering code n the list.
	<i>Note:</i> If the system generates a car you record all cards listed in all ste	ard list at any previous step, make sure ps.
10	To load the LIM unit, type	
	>LOADPM UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the LIM unit (0) or 1)
	If the LOADPM command	Do
	passed	step 15
	failed, and the system generates a card list	step 11
	anything else	step 52
11	Record the location, description, slot (PEC), and PEC suffix of the cards or	number, product engineering code n the list.
	<i>Note:</i> If the system generates a car you record all cards listed in all ste	ard list at any previous step, make sure ps.
12	Replace the first card on the list. Perf <i>Replacement Procedures</i> to replace t return to this point.	form the correct procedure in <i>Card</i> he card. Complete the procedure and
13	To load the LIM unit, type	
	>LOADPM UNIT unit_no	
	and press the Enter key.	
	where	

PM LIM major (continued)

If the LOADPM command	Do
passed	step 15
failed, and you did not replace all the cards on the list you re- corded	step 14
failed, and you replaced all the cards on the list you recorded	step 52
Replace the next card on the list. Per <i>Replacement Procedures</i> to replace the return to this point.	form the correct procedure in <i>C</i> ne card. Complete the procedu
Go to step 13.	
To return the LIM unit to service, type	
>RTS UNIT unit_no	
and press the Enter key.	
and press the Enter key. <i>where</i>	
and press the Enter key. <i>where</i> unit_no is the number of the manual-bu	isy LIM unit (0 or 1)
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command	isy LIM unit (0 or 1) Do
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command passed	sy LIM unit (0 or 1) Do step 16
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command passed failed	Isy LIM unit (0 or 1) Do step 16 step 52
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command passed failed To test LIM unit, type	Isy LIM unit (0 or 1) Do step 16 step 52
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command passed failed To test LIM unit, type >TST UNIT	Do Step 16 step 52
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command passed failed To test LIM unit, type >TST UNIT and press the Enter key.	Do step 16 step 52
and press the Enter key. where unit_no is the number of the manual-but If the RTS command passed failed To test LIM unit, type >TST UNIT and press the Enter key. If the TST command	Do Step 16 Step 52
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command passed failed To test LIM unit, type >TST UNIT and press the Enter key. If the TST command passed	Do Step 16 Step 52 Do Step 25
and press the Enter key. where unit_no is the number of the manual-bu If the RTS command passed failed To test LIM unit, type >TST UNIT and press the Enter key. If the TST command passed failed, and the system generates a card list	Isy LIM unit (0 or 1) Do step 16 step 52 Do step 25 step 17

PM LIM major (continued)

-	To reset the LIM unit, type	
	>PMRESET UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the LIM unit (0) or 1)
	If the PMRESET command	Do
	passed	step 25
	failed, and the system generates a card list	step 19
	anything else	step 20
	Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engineering code the list.
	Note: If the system generates a car you record all cards listed in all step	rd list at any previous step, make sure os.
)	To load the LIM unit, type	
	>LOADPM UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the LIM unit (0) or 1)
	unit_no is the number of the LIM unit (0 If the LOADPM command	0 or 1) Do
	unit_no is the number of the LIM unit (0 If the LOADPM command passed	0 or 1) Do step 25
	unit_no is the number of the LIM unit (C If the LOADPM command passed failed, and the system generates a card list	Dor 1) Do step 25 step 21
	unit_no is the number of the LIM unit (C If the LOADPM command passed failed, and the system generates a card list anything else	Dor 1) Do step 25 step 21 step 52
	unit_no is the number of the LIM unit (C If the LOADPM command passed failed, and the system generates a card list anything else Record the location, description, slot r (PEC), and PEC suffix of the cards on	Dor 1) Do step 25 step 21 step 52 number, product engineering code the list.
	<pre>unit_no is the number of the LIM unit (0 If the LOADPM command passed failed, and the system generates a card list anything else Record the location, description, slot r (PEC), and PEC suffix of the cards on Note: If the system generates a ca you record all cards listed in all step </pre>	Do Do step 25 step 21 step 52 number, product engineering code the list. rd list at any previous step, make sure ps.
1	<pre>unit_no is the number of the LIM unit (0 if the LOADPM command passed failed, and the system generates a card list anything else Record the location, description, slot r (PEC), and PEC suffix of the cards on Note: If the system generates a car you record all cards listed in all step Replace the first card on the list. Perfi Replace the first card on the list.</pre>	Do bo step 25 step 21 step 52 number, product engineering code the list. rd list at any previous step, make sure port orm the correct procedure in <i>Card</i> he card. Complete the procedure and
	 unit_no is the number of the LIM unit (0) If the LOADPM command passed failed, and the system generates a card list anything else Record the location, description, slot r (PEC), and PEC suffix of the cards on Note: If the system generates a card use a card all cards listed in all step Replace the first card on the list. Perfire Replacement Procedures to replace the return to this point. To load the LIM unit, type 	Do step 25 step 21 step 52 number, product engineering code the list. rd list at any previous step, make sure orm the correct procedure in <i>Card</i> he card. Complete the procedure and
	<pre>unit_no is the number of the LIM unit (0) If the LOADPM command passed failed, and the system generates a card list anything else Record the location, description, slot r (PEC), and PEC suffix of the cards on Note: If the system generates a ca you record all cards listed in all step Replace the first card on the list. Perfir Replace the first card on the list. Perfir Replacement Procedures to replace th return to this point. To load the LIM unit, type >LOADPM_UNIT_unit_no</pre>	Do step 25 step 21 step 52 number, product engineering code number, product engineering code number, product engineering code ord list at any previous step, make sure orm the correct procedure in <i>Card</i> ne card. Complete the procedure and

24

25

26

PM LIM major (continued)

Do
step 25
step 24
step 52
e card. Complete the procedure a
sy LIM unit (0 or 1)
sy LIM unit (0 or 1) Do
sy LIM unit (0 or 1) Do step 53
sy LIM unit (0 or 1) Do step 53 step 52 Ws. type

PM LIM major (continued)

		Do	
one the	LIM unit is SysB RU other unit is ISTb	J and step 40	
one oth	LIM unit is SysB an er unit is ISTb	d the step 29	
the Sy:	state of the LIM units i sB and not ISTb	is not step 28	
To display the next LIM in the posted set of in-service trouble LIMs, typ			
>NEXT			
and press the Enter key.			
Go to step 27.			
Work on the system busy LIM unit.			
To fo	To force the LIM unit with a failed NT9X30 card to busy, type		
>BSY UNIT unit_no FORCE			
and press the Enter key.			
where			
<pre>unit_no is the number of the system busy LIM unit (0 or 1)</pre>			
Failure of the NT9X30 or NT9X31 power converter can cause the LIM to be system busy. To check for a power fault at the LPP or ELPP, examin fail lamp of the NT9X30 or NT9X31 card. This card powers the system LIM unit that you are working on.			
Note 1: An NT9X30 card in slot 04F powers LIM unit 0. An NT9X30 in slot 36F powers LIM unit 1.			
<i>Note 2:</i> An NT9X31 card in slot 1 powers LIM unit 0. An NT9X31 c slot 33 powers LIM unit 1.			
lf		Do	
the NT	fail lamp of at least 9X30 or NT9X31 card i	t one step 32 is lit	
no	NT9X30 or NT9X31 car	rd fail step 33	

PM LIM major (continued)

To load the LIM unit, type			
>LOADPM UNIT unit_no			
and press the Enter key.			
where			
unit_no is the number of the manual busy LIM unit (0 or 1)			
If the LOADPM command	Do		
passed	step 34		
failed, and the system generates a card	step 35		
failed, and the system does not generate a card list	step 52		
To return the LIM unit to service, type			
>RTS UNIT unit_no			
and press the Enter key.			
where			
<pre>unit_no is the number of the manual busy LIM unit (0 or 1)</pre>			
If the RTS command	Do		
passed	step 50		
failed, and the system generates a card list	step 35		
failed, and the system does not generate a card list	step 52		
Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the cards on the list.			
Replace the first card on the list. Perform the correct procedure in <i>Card Replacement Procedures</i> to replace the card. Complete the procedure and return to this point.			
To load the LIM unit, type			
>LOADPM UNIT unit_no			
and press the Enter key.			
where			
	<pre>unit_no is the number of the manual bu</pre>	isy LIM unit (0 or 1)	
---	--	---	
	If the LOADPM command	Do	
	passed	step 39	
	failed, and you did not replace all the cards on the list	step 38	
	failed, and you replaced all the cards on the list	step 52	
3	Replace the next card on the list. Per <i>Replacement Procedures</i> to replace the return to this point.	form the correct procedure in <i>Card</i> he card. Complete the procedure and	
	Go to step 37.		
	To return the LIM unit to service, type		
	>RTS UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the manual bu	isy LIM unit (0 or 1)	
	If the RTS command	Do	
	passed	step 50	
	failed	step 52	
	Work on the system-busy RU LIM unit	t.	
	To force the system-busy RU LIM unit	to busy, type	
	>BSY UNIT unit_no FORCE	57 51	
	and press the Enter key.		
	where		
	unit_no is the number of the LIM unit (0) or 1)	
	To display more information about the	fault, type	
	>QUERYPM UNIT unit_no FLI		
	and press the Enter key.		
	where		

If the	respons	e is						Do	
LIM	UNIT	HAS	NO	HOS	T L	INKS.		step	43
LIM	UNIT	HAS	NO	CLO	CKI	NG LI	NKS.	step	43
LIM	UNIT	HAS	NO	MS	CON	NECTI	VITY	. step	43
LIM MS.	UNIT	IS	IS	OLAI	ED	FROM	INS	V step	43
LIM	UNIT	CROS	SS-	LINK	S O	OS.		step	47
LIM	UNIT	COMN	/UN	ICAT	ION	FAIL	URE.	step	48
LIM	UNIT	NOT	RE	SPON	DIN	G.		step	48
LIM	UNIT	DATA	A S	YNC	FAI	LURE.		step	52
other	than list	ted he	ere					step	52
> MS and pro Examp M IS 0	ess the E ble of a M essage	nter ko AP dis Swite	ey. s <i>pla</i> y ch	/: Cloc M Fr	k S ee	Splay, ty Shelf (Int	er-MS 1	Link
>MS and pro Examp 1S 0 4S 1 Not Not MS. in-se	ess the E ole of a M essage e: In the cates an i The lette ervice tro	nter ko <i>AP dis</i> Swite previc n-serv r M in uble M	ey. splay ch ous e /ice dica /S.	/: M Fr Slav MS pla tes a r The le	ek S ee e le, (.) ane. manua tter O	Shelf (under the The lette al busy f) indicate	Int e Mes r S ind AS. Th es an o	er-MS sage Swi licates a ne letter L ffline MS	Link itch he syster _ indic
>MS and pro Examp 4S 0 4S 1 Not indic MS. in-se Determ	ess the E ble of a M essage e: In the cates an i The lette ervice tro nine the s	nter k AP dis Swite previc n-serv r M in uble N tate o	ey. splay ch vice dica 1S. f bot	/: Cloc M Fr Slav MS plates a r The le	ek S eee re le, (.) ane. manua tter C plane	Shelf (The lette al busy f) indicate 0 and 1	Int e Mes r S inc AS. Th es an o	er-MS sage Swi licates a ne letter L ffline MS	Link itch he syster _ indic
>MS and pro Examp AS 0 AS 1 Not india MS. in-se Determ	ess the E ble of a M essage e: In the cates an i The lette ervice tro hine the s h MS 0 a	nter k AP dis Swit previc n-serv er M in uble M tate o	ey. splay ch dica dica f bot are	/: Cloc M Fr Slav MS pla tes a r The le	ek S ee e le, (.) ane. manua tter C plane	Shelf (under the The letter al busy f indicate 0 and 1 Do	Int e Mes r S inc AS. Th es an o	er-MS sage Swi licates a le letter L ffline MS	Link · · itch he syster - indic
>MS and pro Examp 4S 0 4S 1 Not india MS. in-se Determ If bot in ser in-se	ess the E ble of a M essage e: In the cates an i The lette ervice tro hine the s h MS 0 a vice (.) rvice tro	nter ko AP dis Swite previc n-serv er M in uble M tate o nd 1 a or uble (ey. splay ch dica f bot are	/: M Fr Slav MS pla tes a r The le	k S ee e le, (.) ane. manua tter C plane	Shelf (Shelf (under the The lette al busy f b indicate to and 1 Do step 4	Int e Mes r S inc AS. Th es an o 6	er-MS sage Swi licates a le letter L ffline MS	Link syster indic
>MS and pro Examp IS 0 IS 1 Not indic MS. in-se Determ If bot in-se other	ess the E ble of a M essage e: In the cates an i The lette ervice tro hine the s h MS 0 a vice (.) rvice tro than list	nter ko AP dis Swite previc n-server muble M tate o uble M or uble (ted he	ey. splay ch dica dica f bot are (I) ere	/: M Fr Slav MS pla tes a r The le	ek S ee e le, (.) ane. manua tter C plane	Shelf (inder the The letter al busy f indicate to and 1 Do step 4	Int e Mes r S ind AS. Th es an o 6	er-MS sage Swi licates a ne letter L ffline MS	Link syster indic

procedure <i>Returning LIM-to-MS lini</i>	<i>ks to service for an ELPP</i> in this			
Go to step 50				
Perform the procedure <i>Restoring Li</i> Complete the procedure and return	<i>IM unit cross-links</i> in this document. to this point.			
Go to step 50.				
To test the LIM unit through the mat	te unit, type			
>TST UNIT unit_no VIAMA	TE			
and press the Enter key.				
where				
unit_no is the number of the LIM unit	t (0 or 1)			
Example of a MAP response:				
I.TM lim no IINIT unit no te	st initiated			
If the TST command	Do			
passed	step 49			
failed	step 52			
To return the LIM unit to service, typ	ре			
>RTS UNIT unit_no				
and press the Enter key.				
where				
unit_no is the number of the LIM unit (0 or 1)				
If the RTS command	Do			
passed	step 50			
failed	step 52			
Determine the state of the mate LIM unit.				
If the mate LIM unit is	Do			
ManB	step16			
ManB (RU)	step 42			
ISTb	step 51			

PM LIM major (end)

	If the mate LIM unit is	Do
	InSv	step 52
1	Perform the procedure <i>Clearing</i> return the in-service trouble LIN	<i>a PM LIM minor alarm</i> in this document to 1 unit to service.
2	For additional help, contact the	next level of support.

53 The procedure is complete.

PM LIM minor

Alarm display

ĺ	 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	-	•	•	•	1LIM	•	•	•	•	•

Indication

At the MTC level of the MAP display, LIM preceded by a number appears under the PM header of the alarm banner, and indicates a link interface module (LIM) minor alarm.

Meaning

One or more LIMs are in-service trouble. A LIM becomes in-service trouble when one of its units is manual busy or in-service trouble, both of its units are in-service trouble, one or more of its F-buses are in-service trouble, or when a minimum of one of its F-buses is manually busy and the other is in-service trouble.

The number of LIMs affected is indicated by the number under the PM header of the alarm banner.

Impact

There is no impact on service.

Common procedures

Restoring LIM unit cross links is referenced in this procedure.

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

PM LIM minor (continued)

Summary of Clearing a PM LIM minor alarm



PM LIM minor (continued)

At th	ne MAP termin	nal					
1	Access the	PM level	of the MAP of	lisplay by t	yping		
	>MAPCI;M	IC;PM					
	and pressir	ng the Ent	er key.				
	Example of	f a MAP d	lisplay:				
	214	SysB	ManB	OffL	CBsy	ISTb	InS
	PM	0	T	0	0	2	39
2	Display all i	in-service	trouble LIMs	by typing			
	>DISP S	TATE I	STB LIM				
	and pressin	ng the Ent	er key.				
3	Post the firs	st in-servi	ce trouble LIN	/I by typing	9		
	>POST L	IM lim	_no				
	and pressir	ng the Ent	er key.				
	where						
	lim_no is the	e number	of the in-serv	vice trouble	e LIM (0 to	16)	
	lim_no is the Example of	e number f <i>a MAP d</i>	of the in-serv <i>lisplay for link</i>	vice trouble periphera	e LIM (0 to <i>I processo</i>	16) rs (LPP):	
	lim_no is the Example of	e number f <i>a MAP d</i> ISTb	of the in-serv <i>lisplay for link</i>	vice trouble periphera	e LIM (0 to <i>I processo</i>	16) rs (LPP):	
	lim_no is the Example of LIM 1 :	e number f <i>a MAP d</i> ISTb	of the in-serv <i>lisplay for link</i> Links_00S	vice trouble periphera Taps_	e LIM (0 to <i>I processo</i> _00S	16) rs (LPP):	
	lim_no is the Example of LIM 1 I Unit0: IS	e number f <i>a MAP d</i> ISTb	of the in-serv <i>lisplay for link</i> Links_00S 0	vice trouble periphera Taps_ 0	e LIM (0 to <i>I processo</i> _00S	16) rs (LPP):	
	lim_no is the Example of LIM 1 : Unit0: IS Unit1: In	e number f <i>a MAP d</i> ISTb STb nSv	of the in-serv <i>lisplay for link</i> Links_OOS 0 0	vice trouble periphera Taps_ 0 0	e LIM (0 to <i>I processo</i> _00S	16) rs (LPP):	
4	lim_no is the Example of LIM 1 = Unit0: IS Unit1: In Determine	e number f <i>a MAP d</i> ISTb STb nSv the state o	of the in-serv <i>lisplay for link</i> Links_OOS 0 0 of the LIM un	vice trouble periphera Taps_ 0 0 its.	e LIM (0 to <i>I processo</i> _00S	16) rs (LPP):	
4	lim_no is the Example of LIM 1 : Unit0: IS Unit1: In Determine	e number f <i>a MAP d</i> ISTb STb nSv the state o	of the in-serv <i>lisplay for link</i> Links_00S 0 0 of the LIM un	vice trouble periphera Taps_ 0 0 its. Do	e LIM (0 to <i>I processo</i> _00S	16) rs (LPP):	
4	lim_no is the Example of LIM 1 I Unit0: IS Unit1: In Determine If a LIM un	e number f a MAP d ISTb STb nSv the state o	of the in-serv lisplay for link Links_OOS 0 of the LIM un	vice trouble periphera Taps_ 0 its. Do step	e LIM (0 to <i>I processo</i> _00S	16) rs (LPP):	
4	lim_no is the Example of LIM 1 I Unit0: IS Unit1: In Determine If a LIM un a LIM un	e number f a MAP d ISTb STb SV the state o nit is Man	of the in-serv lisplay for link Links_OOS 0 of the LIM un 1B	vice trouble periphera Taps_ 0 0 its. Do step step	e LIM (0 to <i>I processo</i> _00S _8 5	16) rs (LPP):	
4	lim_no is the Example of LIM 1 I Unit0: IS Unit1: In Determine f If a LIM un a LIM un Display mo	e number f a MAP d ISTb STb nSv the state o nit is Man nit is IST re informa	of the in-serv lisplay for link Links_OOS 0 of the LIM un 1B Tb	vice trouble periphera Taps_ 0 0 its. Do step step	e LIM (0 to <i>I processo</i> _00S _00S 	16) rs (LPP):	
4	lim_no is the Example of LIM 1 I Unit0: IS Unit1: In Determine f If a LIM un a LIM un Display mo	e number f a MAP d ISTb STb STb STb stb stb stb stb state f it is Man it is IST re informa UNIT	of the in-serv lisplay for link Links_OOS 0 0 of the LIM un 1B 1B 1:D ation about th unit_no	vice trouble periphera Taps_ 0 0 its. Do step step e fault by t	e LIM (0 to <i>I processo</i> _00S 8 5 typing	16) rs (LPP):	

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7

PM LIM minor (continued)

If the response	Do
indicates that the LIM unit crosslinks are out of service	step 6
indicates that a fault exists, and a card list is generated	step 10
indicates that the F-bus is ISTb	step 25
indicates anything else	step 7
Test the in-service trouble LIM unit by >TST UNIT unit_no and pressing the Enter key. where unit_no	typing
is the number of the in-service	trouble LIM unit (0 or 1)
passed, and the LIM unit is INSv	step 29
passed, and the LIM unit is still	step 30
ISTb	
ISTb failed, and a card list is generat- ed	step 10
ISTb failed, and a card list is generat- ed failed, and no card list is gener- ated	step 10 step 30
ISTb failed, and a card list is generat- ed failed, and no card list is gener- ated Determine from office records or from o busy.	step 10 step 30 office personnel why the unit is man
ISTb failed, and a card list is generat- ed failed, and no card list is gener- ated Determine from office records or from busy. When permitted, return to this point.	step 10 step 30 office personnel why the unit is man
ISTb failed, and a card list is generat- ed failed, and no card list is gener- ated Determine from office records or from busy. When permitted, return to this point. Test the manual-busy LIM unit by typin	step 10 step 30 office personnel why the unit is man
ISTb failed, and a card list is generat- ed failed, and no card list is gener- ated Determine from office records or from busy. When permitted, return to this point. Test the manual-busy LIM unit by typin >TST UNIT unit_no	step 10 step 30 office personnel why the unit is man
ISTb failed, and a card list is generat- ed failed, and no card list is gener- ated Determine from office records or from busy. When permitted, return to this point. Test the manual-busy LIM unit by typin >TST UNIT unit_no and pressing the Enter key.	step 10 step 30 office personnel why the unit is man

8

9

PM LIM minor (continued)

If the TST command	Do
passed	step 19
failed, and a card list is generated	step 11
failed, and no card list is gener- ated	step 30
Manually busy the LIM unit by typing	
>BSY UNIT unit_no	
and pressing the Enter key.	
where	
unit_no is the number of the LIM unit (0) or 1)
Record the location, description, slot r (PEC), including suffix, of the cards or	number, and product engineering n the list.
<i>Note:</i> If a card list was generated i listed in all steps are recorded.	n another step, ensure that all ca
Reset the LIM unit by typing	
>PMRESET UNIT unit_no	
and pressing the Enter key.	
where	
unit_no is the number of the LIM unit (0) or 1)
If the PMRESET command	Do
passed	step 19
failed, and a card list is generated	step 13
failed, and no card list is gener-	step 14

Note: If a card list was generated in another step, ensure that all cards listed in all steps are recorded.

PM LIM minor (continued)

Load the LIM unit by typing		
>LOADPM UNIT unit_no		
and pressing the Enter key.		
where		
unit_no is the number of the LIM unit (0	or 1)	
If the LOADPM command	Do	
passed	step 19	
failed, and a card list is generat- ed	step 15	
failed, and no card list is gener- ated	step 30	
Record the location, description, slot n (PEC), including suffix, of the cards or	umber, and product en the list.	ngineering code
Note: If a card list was generated i listed in all steps are recorded.	n another step, ensure	e that all cards
Replace the first card on the list. Perference procedure in <i>Card Replacement Proce</i> procedure, return to this point.	orm the appropriate ca edures. When you have	ard replacement e completed the
Load the LIM unit by typing		
>LOADPM UNIT unit_no		
and pressing the Enter key.		
where		
unit_no is the number of the LIM unit (0	or 1)	
If the LOADPM command		Do
passed		step 19
failed, and you have not replaced list	all the cards on the	step 18
failed, and you have replaced all t	he cards on the list	step 30
Replace the next card on the list. Performed procedure in <i>Card Replacement Proce</i> procedure, return to this point.	orm the appropriate ca edures. When you have	ard replacement e completed the
Go to step 17.		

PM LIM minor (continued)

 >RTS UNIT unit_no and pressing the Enter key. where unit_no is the number of the manual-busy LIM unit (0 or 1) If the RTS command Do passed step 25 failed, and a card list is generated step 20 failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do there are cards on the list that have not yet been replaced as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: LIM 1 ISTb Links_OOS Taps_OOS Unit0: ISTD . 19 Unit1: InSv . 2 Tap: 0 4 8 12 16 20 24 28 32 	19	Return the LIM unit to service by typing
and pressing the Enter key. where unit_no is the number of the manual-busy LIM unit (0 or 1) If the RTS command Do passed step 25 failed, and a card list is generated step 20 failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do there are cards on the list that have not yet been replaced as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: LIM 1 ISTD Unit0: ISTD . Unit0: ISTD . Tap: 0 Tap: 0 A t 16 2 . Tap: 0		>RTS UNIT unit_no
where unit_no is the number of the manual-busy LIM unit (0 or 1) If the RTS command Do passed step 25 failed, and a card list is generated step 20 failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do there are cards on the list that have not yet been replaced as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: LIM 1 ISTb Unit0: ISTb Unit1: InSv Tap: 0 4 8 12 16		and pressing the Enter key.
unit_no is the number of the manual-busy LIM unit (0 or 1) If the RTS command Do passed step 25 failed, and a card list is generated step 20 failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. Do If Do there are cards on the list that have not yet been re-step16 placed as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. and pressing the Enter key. Links_OOS Taps_OOS Unit0: ISTD . 19 Unit1: InSv . 2 Tap: 0 4 8 12 16 20 24 28 32		where
If the RTS command Do passed step 25 failed, and a card list is generated step 20 failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do ft Do there are cards on the list that have not yet been replaced as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: LIM 1 ISTD Unit0: ISTD Unit0: ISTD Unit1: InSv Tap: 0 4 8 12 0		unit_no is the number of the manual-busy LIM unit (0 or 1)
passed step 25 failed, and a card list is generated step 20 failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do there are cards on the list that have not yet been replaced as a result of performing this procedure all cards on the list have been replaced as a result of step 30 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: LIM 1 ISTb Links_OOS Taps_OOS Unit0: ISTb . Unit0: ISTb . Tap: 0 4 8 12 16 20 24 28 32		If the RTS command Do
failed, and a card list is generated step 20 failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do there are cards on the list that have not yet been resided as a result of performing this procedure all cards on the list that have not yet been resided as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure and pressing the Enter key. FBUS and pressing the Enter key. Example of a MAP display: Links_OOS Taps_OOS Unit0: ISTB Unit0: ISTB Unit1: Insv Tap: 0 4 8 12 16 20 24 28 32		passed step 25
failed, and no card list is generated step 30 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do there are cards on the list that have not yet been resisten the placed as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: Links_OOS Taps_OOS Unit0: ISTb 19 Unit1: InSv 2 Tap: 0 4 8 12 16 20 24 28 32		failed, and a card list is generated step 20
 20 Determine if there are any cards on the list that have not been replaced as a result of performing this procedure. If Do there are cards on the list that have not yet been replaced as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. <i>Example of a MAP display:</i> LIM 1 ISTb Limks_OOS Taps_OOS Unit0: ISTb 19 Unit1: InSv 2 Tap: 0 4 8 12 16 20 24 28 32 		failed, and no card list is generated step 30
If Do there are cards on the list that have not yet been replaced as a result of performing this procedure step 16 all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: Links_OOS Taps_OOS Unit0: ISTB Unit0: ISTB Tap: 0 4 8 12 16 20 24 24 28 32	20	Determine if there are any cards on the list that have not been replaced as a result of performing this procedure.
there are cards on the list that have not yet been re-step16 placed as a result of performing this procedure all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. <i>Example of a MAP display:</i> LIM 1 ISTb Links_OOS Taps_OOS Unit0: ISTb . 19 Unit1: InSv . 2 Tap: 0 4 8 12 16 20 24 28 32		lf Do
all cards on the list have been replaced as a result of step 30 performing this procedure 21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. Example of a MAP display: LIM 1 ISTb Unit0: ISTb Unit0: ISTb Unit1: Insv Tap: 0 4 8 12 16 20 24 21 Tap: 21 16 21 16 22 16 23 16		there are cards on the list that have not yet been re- step16 placed as a result of performing this procedure
21 Access the F-bus level of the MAP display by typing >FBUS and pressing the Enter key. <i>Example of a MAP display:</i> LIM 1 ISTb Links_OOS Taps_OOS Unit0: ISTb . 19 Unit1: InSv . 2 Tap: 0 4 8 12 16 20 24 28 32		all cards on the list have been replaced as a result of step 30 performing this procedure
<pre>>FBUS and pressing the Enter key. Example of a MAP display: LIM 1 ISTb Links_OOS Taps_OOS Unit0: ISTb Links_OOS Taps_OOS Unit1: InSv Tap: 0 4 8 12 16 20 24 28 32</pre>	21	Access the F-bus level of the MAP display by typing
and pressing the Enter key. Example of a MAP display: LIM 1 ISTb Links_OOS Taps_OOS Unit0: ISTb Unit1: InSv Tap: 0 4 8 12 16 20 24 28 32		>FBUS
Example of a MAP display: LIM 1 ISTb Links_OOS Unit0: ISTb Unit1: InSv Tap: 0 4 8 12 16 20 24 28 12 16 20 24 28 24 28 25 24 28 32		and pressing the Enter key.
LIM 1 ISTb Links_OOS Taps_OOS Unit0: ISTb . 19 Unit1: InSv . 2 Tap: 0 4 8 12 16 20 24 28 32		Example of a MAP display:
Links_OOS Taps_OOS Unit0: ISTb . 19 Unit1: InSv . 2 Tap: 0 4 8 12 16 20 24 28 32		LIM 1 ISTb
Tap: 0 4 8 12 16 20 24 28 32		Links_OOS Taps_OOS Unit0: ISTb . 19 Unit1: InSv . 2
FBus0: ManB BBBB BBBB BBBB BBBB BBB		Tap: U 4 8 12 16 20 24 28 32 FBus0: ManB BBBB BBBB BBBB BBBB BBBB BBB-
FBusl: InSv		FBus1: InSv

PM LIM minor (continued)

22 Determine the state of the F-bus that is associated with the LIM unit you are working on.

Note: F-bus 1 is associated with LIM unit 1. F-bus 0 is associated with LIM unit 0. The F-bus state is displayed to the right of the words FBus0 or FBus1 in the MAP display.

If the F-bus state is	Do
InSv	step 29
ManB	step 23
IStb	step 24
anything else	step 29
Return the F-bus to service by typing >RTS FBUS fbus_no and pressing the Enter key. where fbus_no is the number of the F-bus (0 o	r 1)
If the RTS command	Do
passed	step 29
passed, but the F-bus is ISTb	step 24
anything else	step 30
Determine the state of the taps on the	F-bus.
<i>Note:</i> The tap states are displayed the numbers 0 to 35, 0 to 23, or 0 display in step 21.	l in the two rows of characters beneath to 11, as shown in the example MAP
If the taps on the F-bus are	Do
in service (.), in-service trouble, or(<i>I</i>)manual busy (<i>M</i>)	step 25
system busy (S)	step 30

23

24

PM LIM minor (continued)

25



CAUTION

Loss of service Manually busy the F-bus associated with the in-service trouble LIM unit you are working on. Failure to do so results in a loss of service.



CAUTION Possible loss of service

If the *BSY FBUS* command requires confirmation, do not confirm the command. Cancel the command and contact your next level of support.

Manually busy the F-bus associated with the LIM unit you are working on by typing

>BSY FBUS fbus_no and pressing the Enter key.

where

fbus_no is the number of the F-bus (0 or 1)

	If the response is	Do
	LIM x LIS Y FBus Z	step 27
	Busy initiated. LIM x FBus y Busy passed.	step 27
	requires confirmation	step 26
26	Cancel the command by typing	
	>NO	
	and pressing the Enter key.	
	Go to step 30.	
27	Test the F-bus by typing	
	>TST FBUS fbus_no	
	and pressing the Enter key.	
	where	

PM LIM minor (end)

fbus_no is the number of the F-bus	
If the TST command	Do
passed	step 28
failed and a card list is generated	step 15
failed and no card list is generat- ed	step 30
Return the F-bus to service by typing	
>RTS FBUS fbus_no	
and pressing the enter key.	
where	
fbus_no is the number of the F-bus (0 o	r 1)
If the RTS command	Do
passed	step 29
failed and a card list is generated	step 15
failed and no card list is generat- ed	step 30
Determine the state of the LIM units.	
lf	Do
both LIM units are INSv	step 31
either LIM unit is ManB or ISTb	step 4
neither of the above conditions are met	step 30
For further assistance, contact the per support.	sonnel responsible for the next level of
You have completed this procedure.	

PM LIMF critical

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•			•	1LIMF *C*	•	•	•	•	•

Indication

At the MTC level of the MAP, LIMF (preceded by a number) appears under the PM header of the alarm banner. The LIMF indicates a critical alarm for a link interface module (LIM) F-bus.

Meaning

An LIMF critical alarm indicates that both F-buses of a LIM are system busy or manual busy. This condition causes the LIM to be in-service trouble.

The number under the PM header of the alarm banner indicates the number of LIMs affected.

Result

All application specific units (ASU) on the F-buses and the associated signaling links are out of service.

Common procedures

There are no common procedures.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM LIMF critical alarm



At th	ne MAP te	erminal									
1	To acc	ess the PI	M level o	of the N	1AP dis	splay,	type				
	>MAPC	I;MTC;P	м								
	and pr	ess the Er	nter key.								
	Examp	ole of a MA	AP displ	ay:							
		Sy	rsB	ManB	Of	fL	CBsy	I	STb	I	nSv
	PM		0	1		0	0		2		39
2	To disp	play all in-	service	trouble	LIMs, 1	type					
	>DISP	STATE	ISTE	B LIM							
	and pr	ess the Er	nter key.								
3	To pos	t the first i	n-servic	e trout	le LIM	, type					
	>POST	LIM	lim_nc)							
	and pr	ess the Er	nter key.								
	where										
	lin	n_no is the nun	nber of t	he LIM	(0 to 1	6)					
	Examp	ole of a MA	AP resp	onse fo	r LPPs): ;					
	LIM	1 ISTb									
				Links	_00S	Taps	_00S				
	Unit(Unit1): ISTb : ISTb		()	3	56 56				
4	To 000		huo lov	ol of the		طامعام					
4						uispia	ц, цре				
	>FBUS	, iooo tha Er	otor kov								
	anu pr		ILEI KEY.								
	схатц		AP uispi	ay.							
I	IM 1 IS	Tb									
		T O []		Li	nks_0	OS	Taps_00)S			
U U	nitl:	ISTD InSv		•			19 2				
0		 Тар	p: 0	4	8	12	_ 16	20	24	28	32
	FBus0:	ManB	BI	BBB BBE	B BBBB	BBBB				B	BB
	FBusl:	InSv		M .I.	s						

Note: In the previous example, B under a tap number indicates that the F-bus is out of service. The letter B under a tap number can also indicate that the controlling LIM unit is system busy or manual busy. A dot (.) indicates an in-service tap. The letter M indicates a manual busy tap. The letter I indicates an in-service trouble tap. The letter S indicates a system busy tap. A dash (-) indicates an unequipped tap.

5 Determine the state of the F-buses.

If the state of	Do				
one F-bus is ManB	step 13				
both F-buses is ManB	step 11				
either F-bus is SysB (RU)	step 16				
either F-bus is SysB (NA)	step 16				
both F-buses is SysB	step 6				
To manually busy the system busy	To manually busy the system busy F-buses, type				

>BSY FBUS 0; BSY FBUS 1

and press the Enter key.

At the LPP

6

8

7 Determine the type of power converters used in the LPP.

If the power converters	Do
are NTDX16s	step 12
are NT9X30s	step 8

Failure of NT9X30 cards on both sides of the link interface shelf (LIS) can cause both F-buses to be system busy. Check for a power fault at the link peripheral processor (LPP). Examine the fail lamps of the NT9X30 power converters.

Note: A failed NT9X30 power converter in slot 4 of the LIS associates with F-bus 0 and LIM unit 0. A failed NT9X30 power converter in slot 36 of the LIS associates with F-bus 1 and LIM unit 1.

If fail lamps of the NT9X30 power converters	Do
are lit	step 9
are not lit	step 12

9 Replace the NT9X30 card. Perform the correct procedure in *Card Replacement Procedures* to replace the card. Complete the procedure and return to this point.

10	Determine if other failed NT9X30 power converter cards are present.					
	If another lit fail lamp on an NT9X30 power converter	Do				
	is present	step 9				
	is not present	step 12				
11	Determine from office records or from F-buses are manual busy.	operating company personnel why the				
	When you have permission, continue service.	this procedure to return the F-buses to				
At the	MAP terminal					
12	To test F-bus 0, type					
	>TST FBUS 0					
	and press the Enter key.					
	If the TST command	Do				
	passed	step 27				
	failed, and the system generates a card list	step 15				
	failed, and the system does not generate a card list	step 16				
13	Determine from office records or from F-bus is manual busy.	operating company personnel why the				
	When you have permission, continue service.	this procedure to return the F-bus to				
14	To test the manual busy F-bus, type					
	>TST FBUS fbus_no					
	and press the Enter key.					
	where					
	fbus_no is the number of the F-bus (0 or 1)					
	If the TST command	Do				
	passed	step 27				
	failed and the system generates a card list	step 15				

If the TST com	mand	Do
failed and the generate a card	system does r l list	not step 16
Record the locati (PEC), and PEC	on, description, s suffix of the card	slot number, product engineering code s on the list.
	CAUTION Possible loss of se If the attempt to b isolation, do not c command.	ervice busy a unit produces a warning of possible confirm the command. Cancel the
To manually busy working on, type	the LIM unit tha	t associates with the F-bus that you a
>BSY UNIT u	nit_no	
and press the En	ter key.	
where		
unit_no is the num	ber of the LIM ur	nit (0 or 1)

If the command	Do
passed	step 19
requested confirmation	step 17
To cancel the command type	
>NO	
and press the Enter key.	
Choose a different F-bus to work on.	
If you have	Do
If you have tested both F-buses	Do step 30
If you have tested both F-buses not tested both F-buses	Do step 30 step 14
If you havetested both F-busesnot tested both F-busesTo reset the LIM unit, type	Do step 30 step 14
If you have tested both F-buses not tested both F-buses To reset the LIM unit, type >PMRESET UNIT unit_no	Do step 30 step 14
If you have tested both F-buses not tested both F-buses To reset the LIM unit, type >PMRESET UNIT unit_no and press the Enter key.	Do step 30 step 14
If you have tested both F-buses not tested both F-buses To reset the LIM unit, type >PMRESET UNIT unit_no and press the Enter key. where	Do step 30 step 14

17

18

19

	If the PMRESET command	Do
	passed	step 26
	failed and the system generates a card list	step 20
	failed and the system does not generate a card list	step 21
20	Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engineering code the list.
	<i>Note:</i> If the system generates a ca you record the listed cards at these	rd list at any previous step, make sure steps.
21	To load the LIM unit, type	
	>LOADPM UNIT unit_no	
	and press the Enter key.	
	where	
	unit_no is the number of the LIM unit (0	or 1)
	If the LOADPM command	Do
	passed	step 26
	pussed	5 10 p 2 0
	failed and the system generates a card list	step 22
	failed and the system generates a card list failed and the system does not generate a card list	step 22 step 30
22	failed and the system generates a card list failed and the system does not generate a card list Record the location, description, slot r (PEC), and PE suffix of the cards on the	step 22 step 30 number, product engineering code he list.
22	failed and the system generates a card list failed and the system does not generate a card list Record the location, description, slot r (PEC), and PE suffix of the cards on the Note: If the system generates a ca you record the listed cards at these	step 22 step 30 number, product engineering code he list. rd list at any previous step, make sure steps.
22 23	failed and the system generates a card list failed and the system does not generate a card list Record the location, description, slot r (PEC), and PE suffix of the cards on th <i>Note:</i> If the system generates a ca you record the listed cards at these Replace the first card on the list. Perfor <i>Replacement Procedures</i> to replace the return to this point.	step 22 step 30 number, product engineering code he list. rd list at any previous step, make sure steps. orm the correct procedure in <i>Card</i> he card. Complete the procedure and
22	 failed and the system generates a card list failed and the system does not generate a card list Record the location, description, slot r (PEC), and PE suffix of the cards on the Note: If the system generates a card you record the listed cards at these Replace the first card on the list. Performer Replace the first card on the list. Performer to this point. To test the manual busy F-bus, type 	step 22 step 30 number, product engineering code he list. rd list at any previous step, make sure steps. orm the correct procedure in <i>Card</i> he card. Complete the procedure and
22 33 44	failed and the system generates a card list failed and the system does not generate a card list Record the location, description, slot r (PEC), and PE suffix of the cards on th Note: If the system generates a ca you record the listed cards at these Replace the first card on the list. Perfor Replacement Procedures to replace the return to this point. To test the manual busy F-bus, type >TST FBUS fbus_no	step 22 step 30 number, product engineering code he list. rd list at any previous step, make sure steps. orm the correct procedure in <i>Card</i> he card. Complete the procedure and
2 3 4	 failed and the system generates a card list failed and the system does not generate a card list Record the location, description, slot r (PEC), and PE suffix of the cards on the Note: If the system generates a card you record the listed cards at these Replace the first card on the list. Performer Replace the first card on the list. Performer to this point. To test the manual busy F-bus, type >TST FBUS fbus_no and press the Enter key. 	step 22 step 30 number, product engineering code he list. rd list at any previous step, make sure steps. orm the correct procedure in <i>Card</i> he card. Complete the procedure and

fbus_no is the number of the F-bus (0 o	r 1)
If the TST command	Do
passed	step 26
failed, and you did not replace all the cards on the list	step 25
failed, and you replaced all the cards on the list	step 30
Replace the next card on the list. Per <i>Replacement Procedures</i> to replace the return to this point.	form the correct procedure in <i>Card</i> ne card. Complete the procedure and
Go to step 24.	
To return the LIM unit to service, type	
>RTS UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the LIM unit (0	or 1)
If the RTS command	Do
passed, and the associated F-bus is manual busy	step 27
passed, and the associated F-bus is in service	step 28
failed	step 30
To return the F-bus to service, type	
>RTS FBUS fbus_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 o	r 1)
If the RTS command	Do
passed	step 28
failed	step 30

PM LIMF critical (end)

28	Determine the state of the mate F-bus.					
	If the mate F-bus is	Do				
	SysB	step 29				
	SysB (RU)	step 16				
	SysB (NA)	step 16				
	ManB	step 14				
	InSv	step 31				
	other than listed here	step 30				
29	To manually busy the system bu	sy F-bus, type				
	>BSY FBUS fbus_no					
	and press the Enter key.					
	where					
	fbus_no is the number of the F-bus (0 or 1)					
	Go to step 14.					
30	For additional help, contact the	next level of support.				
31	The procedure is complete.					

PM LIMF major

Alarm display

ĺ	 СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL	
	-	•	•	•	1LIMF M	•	•	•	•	•	

Indication

At the MTC level of the MAP display, LIMF appears under the PM header of the alarm banner. The LIMF indicates an F-bus major alarm for a link interface module (LIM).

Meaning

A LIMF major alarm indicates one of the following:

- one F-bus associated with a LIM is system busy and the other F-bus is in service. All taps on the system busy F-bus are busy.
- one F-bus associated with a LIM is in service and the other is in service trouble due to problems with the composite clock.

The number under the PM header of the alarm banner indicates the number of LIMs affected.

Result

The alarm does not affect service.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM LIMF major alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

Clea	ring a PM	I LIMF maj	or alarm								
At th	ne MAP te	rminal									
1	To acc	ess the PM	level of th	ne MA	P dis	play, t	type				
	>MAPC	I;MTC;PM									
	and pr	ess the Ent	er key.								
	Examp	ole of a MAI	P display:								
	DM	SysB	ManB	Of	fL	СВ	sy	I	STb	Ir	ıSv
•	PM 				0		0		0	2	59
2	lo disp	blay all in-se	ervice trou		IMS, t	уре					
	>DISP	STATE	ISTB .	LIM							
•	and pr	ess the Ent	er key.			4					
3	lo pos	t the first in	-service ti	rouble	ELIVI,	туре					
	>POST	LIM 1	im_no								
	and pr	ess the Ent	er key.								
	wnere										
	lin	n_no is the numb	per of the	LIM (() to 1	6)					
	Examp	ole of a MAI	P display i	for LP	Ps:						
	т.тм	1 ISTh									
		1 1010	Li	nks_	00S	Taps	_00S				
	UnitC): ISTb		0		0					
	Unit1	: InSv		0		0					
4	To acc	ess the F-b	us level o	f the N	MAP	displa	y, type				
	>FBUS	}									
	and pr	ess the Ent	er key.								
	Examp	ole of a MAI	P display:								
L	IM 1 IS	Tb									
		T OMI-		Link	s_00	DS	Taps_00	S			
U TI	nitl:	15TD InSv		•			19 2				
0		Тар	: 0	4	8	12	_ 16	20	24	28	32
	FBus0: 1	ManB	BBBB	BBBB	BBBB	BBBB				B	BB
	FBusl:	InSv	М	. I	.S						

Note: In the example, B under a tap number indicates that the F-bus is out of service. The letter B under a tap number can also indicate that the controlling LIM unit is system busy or manually busy. A dot (.) indicates an in-service tap. An M indicates a manually busy tap. An I indicates an in-service trouble tap. An S indicates a system busy tap. A dash (-) indicates an unequipped tap.

5 Determine the state of the F-buses.

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If either F-bus	Do
is SysB	step 7
is SysB (RU)	step 12
is SysB (NA)	step 12
is ManB	step 8
is ISTb	step 6
To test the In-service F-bus, type >TST FBUS fbus_no and press the Enter key. where fbus_no is the number of the F-bus (0 or	r 1)
If the TST command	Do
passed	step 23
failed, and indicates a problem with the DS-0 clock signal	step 22
failed with any other response	step 7
To manually busy the F-bus, type	
>BSY FBUS fbus_no	
and press the Enter key.	
where	
fbus_no is the number of the system but	sy F-bus (0 or 1)
Go to step 9.	
Determine from office records or from F-bus is manually busy.	operating company personnel why the
When you have permission, continue t service.	this procedure to return the F-bus to

PM LIMF

major (continued)

To test the manually-busy F-bus, type >TST FBUS fbus_no and press the Enter key. where									
fbus_no is the number of the F-bus (0 c	or 1)								
If the TST command	Do								
passed	step 21								
failed, and the system generated a card list	step 10								
failed, and the system did not generate a card list	step 12								
Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the cards on the list.									
If the processor is an	Do								
If the processor is an	Do step 12								
If the processor is an LPP ELPP	Do step 12 step 5								
If the processor is an LPP ELPP To busy the F-bus associated with the >BSY FBUS fbus_no and press the Enter key. where	Do step 12 step 5 e unit you are working on, type								

To manually busy the LIM unit for the F-bus, type >BSY UNIT unit_no and press the Enter key. where

unit_no is the number of the LIM unit (0	or 1)						
If the command	Do						
passed	step 13						
failed	step 22						
requests confirmation	step 22						
To reset the LIM unit, type							
>PMRESET UNIT unit_no							
and press the Enter key.							
where							
unit_no is the number of the LIM unit (0	or 1)						
If the PMRESET command	Do						
passed	step 20						
failed, and the system generated a card list	step 14						
failed, and the system did not generate a card list	step 15						
Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engineering code the list.						
Note: If the system generated a carecord all cards listed in all steps.	ard list in another step, make sure you						
To load the LIM unit, type							
>LOADPM UNIT unit_no							
and press the Enter key.							
where							
unit_no is the number of the LIM unit (0	or 1)						
If the LOADPM command	Do						
passed	step 20						
failed, and the system generated a card list	step 16						

If the LOADPM command	Do						
failed, and the system did not generate a card list	step 22						
Record the location, description, slot r (PEC), and PEC suffix of the cards on	number, product engineering code the list.						
Note: If the system generated a car you record all cards listed in all step	ard list in another step, make sure that os.						
Replace the first card on the list. Perference Replacement Procedures. Complete	orm the correct procedure in <i>Card</i> the procedure and return to this point.						
To test the manually-busy F-bus, type							
>TST FBUS fbus_no							
and press the Enter key.							
where							
fbus_no is the number of the F-bus (0 or	r 1)						
If the TST command	Do						
passed	step 20						
failed, and you did not replace all the cards on the list	step 19						
failed, and you replaced all the cards on the list	step 22						
Replace the next card on the list. Per Replacement Procedures. Complete	form the correct procedure in <i>Card</i> the procedure and return to this point.						
Go to step 18.							
To return the LIM unit to service, type							
>RTS UNIT unit_no							
and press the Enter key.							
where							
unit_no is the number of the LIM unit (0 or 1)							
If the RTS command	Do						
passed	step 21						
failed, and the system did not generate a card list	step 22						

PM LIMF major (end)

21	To return the F-bus to service, type									
	>RTS FBUS fbus_no									
	and press the Enter key.									
	where									
	fbus_no is the number of the F-bus (0 or 1)									
	If the RTS command	Do								
	passed	step 23								
		step 22								
	failed	step 22								

23 The procedure is complete.

PM LIMREX minor

Alarm display

ĺ	 СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	-	. L	IMREX	•	•	•	•	•
Į	J									

Indication

At the MTC level of the MAP display, LIMREX appears under the PM header of the alarm banner. The LIMREX indicates that an LIM unit executes a routine exercise (REx) test.

Meaning

One unit of a LIM executes an REx test. The mate LIM unit is in service. The mate unit provides messaging and other LIM functions for all application specific units (ASU) in the link peripheral processor (LPP). The LIMREX alarm disappears when the LIM REx tests are complete.

Result

Service is not affected.

Common procedures

There are no common procedures.

Action

There is no action required.

PM LIU7 critical

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
•		•		1LIU7 *C*			•	·	

Indication

At the MTC level of the MAP display, LIU7 (preceded by a number) appears under the PM header of the alarm banner. The LIU7 indicates a critical alarm for a CCS7 link interface unit (LIU7).

Meaning

A minimum of one LIU7 is system busy or system busy not accessible.

Result

Out of service LIU7s cause signaling links that associate with the LIU7s to be out of service.

The number under the PM header in the alarm banner indicates the number of LIU7s affected.

Common procedures

This procedure refers to Activating CCS7 links.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM LIU7 critical alarm



Clearing a PM LIU7 critical alarm

At the MAP terminal

1

2

3

4



WARNING Possible action that affects service Do not POST, RTS, and LOAD multiple sets of LIU7s. Finish work on one set of LIU7s before you work on another set.

The system automatically attempts to reload the system busy LIU7s and return the LIU7s to service. Monitor PM181 logs to determine if the system performed three autorecovery attempts.

Note: After three failed autorecovery attempts, a forced autoload pending maintenance flag appears for the posted LIU7. When the system is in a forced autoload pending state, five minutes pass before another autorecovery attempt occurs.

If PM181 logs	Do						
indicate an LIU7 failed three autorecovery attempts and is in a forced autoload pending state	step 4						
indicate the system busy LIU7s performed a correct automatic recovery	step 66						
Determine if all the MS alarms cleared	Determine if all the MS alarms cleared.						
If all the MS alarms	Do						
did clear	step 10						
did not clear	step 3						
Perform the correct MS procedure in the Complete the procedure and return to	Perform the correct MS procedure in this document to clear the alarm. Complete the procedure and return to this point.						
Determine if the LIU7 critical alarm clo	Determine if the LIU7 critical alarm cleared.						
If the LIU7 alarm	Do						
did clear	step 66						
did not clear	step 5						

5	To a	ccess table SUSHELF, type
	>TAI	BLE SUSHELF
	and j	press the Enter key.
6	To lis	st the contents of the table, type
	>LIS	ST ALL
	and j	press the Enter key.
	Exar	nple of a MAP response:
	TOT	>
	101	SHELFKEY FLOOR ROW FRAMPOS FRAMETYP FRAMENUM
		SHELFPOS SHELFPEC CARDINFO
	MS	NIL 15 0 1 1 A 1 EMC 1
		0 NT9X72CA
	(')	NT9X96AA NT9X98AA) (30 NIL NTEX20AA) Ş (32 NT9X96AA NT9X98AA) (8 NIL NTEX20BA) S
	MS	NIL 15 2 1 1 A 1 EMC 1
	(7	υ ΝΤ9Χ72CA ΝΤ9Χ96δδ ΝΤ9Χ98δδ) (30 ΝΤΙ. ΝΤΕΧ20δδ) \$
		(32 NT9X96AA NT9X98AA) (8 NIL NTEX20BA) \$
7	Reco	ord the frame type information.
	N e di	<i>ote:</i> The frame type appears under the FRAMETYP header of the MAP splay. The example in step 6 indicates that the frame type is EMC.
8	Dete	rmine the frame type recorded in step 7.
	lf tł	ne frame type Do
	is	LIM step 9
	is	SC or EMC step 65
9	To qu	uit from table SUSHELF, type
	>QUI	IT
	and j	press the Enter key.
10	To a	ccess the PM level of the MAP display, type
	>MAI	PCI;MTC;PM
	and j	press the Enter key.
11	To di	splay all system busy LIU7s, type
	>DIS	SP STATE SYSB LIU7
	and	press the Enter key.
To post the first system busy LIU7 of	on the list, type	
--	---	
>POST LIU7 liu_no		
and press the Enter key.		
where		
liu_no is the number of the selected	l LIU7 (0 to 511)	
Determine the state of the posted L	IU7.	
If the state of the posted LIU7	Do	
is SysB (NA)	step 14	
is SysB	step 48	
Determine if an FSP alarm under th present.	e EXT header of the MAP display is	
If an FSP alarm	Do	
is present	step 15	
is not present	step 16	
Perform the correct procedure in this the procedure and return to this poi	s document to clear the alarm. Complete nt.	
Go to step 50.		

16 To determine if a condition that affects service for an NIU is present, type

>QUERYPM

and press the Enter key.

Note: In the following example, conditions that affect service appear under the heading Potential service affecting conditions .

Example of a MAP response:

PM type:LIU PM	No.:110 Stat	us: SysB(NA)
LIM: 1 Shelf:	2 Slot: 12	LIU FTA:4249	9 1000
Default Load:	LCC36BX		
Running Load:	LCC36BX		
Potential serv	ce affecting	conditions:	
Msg Channel	#0 NA		
Msg Channel	#1 NA		
TAP #0 00S/	JA		
TAP #1 00S/3	JA		
NIU Unit I is :	lot inservice		
LMC States.	There is the the second	not inservi	ce
LMS States.	No No		
Msg Channels:	NO NO		
TAP 2 : $S(1)$	JA) M(NA)		
Reserved LIU7	forms part of	CCS7 Linkse	t: LSCAP1
SLC: 5 LIU is	allocated		
If an NIU conditio	n that affects	Do	
service			
is present		step 17	
		. 10	
1s not present		step 18	
Perform the correct Complete the proce	NIU alarm procedu dure and return to	re in this docum this point.	ent to clear the alarm.
Go to step 64.			
Determine the num the LIU7.	per of the link interf	ace module (LIN	A) that associates with
<i>Note:</i> The numb second line of th	er of the LIM that a MAP response.	ssociates with t	he LIU7 appears in the
To post the LIM that	associates with th	e LIU7, type	
>POST LIM li	n_no		
and press the Enter	key.		
where			
lim_no is the numbe	r of the LIM (0 to 1	6)	
Example of a MAP	display:		
-	-		
LIM 1 ISTb			
	Links_00S 7	l'aps_00S	
Unitu: ISTb	2	•	
	,		

20	Determine the state of the LIM.	
	If the LIM	Do
	is InSv or ISTb	step 23
	is other than listed here	step 21
21	A problem with the LIM produces a PM procedure in this document to clear the return to this point.	LIM alarm. Perform the correct alarm. Complete the procedure a
22	Determine if the LIU7 alarm cleared.	
	If the LIU7 alarm	Do
	cleared	step 66
	did not clear	step 23
23	To access the F-bus level of the MAP d	isplay, type
	>FBUS	
	and press the Enter key.	
	Example of a MAP display:	
.		
.با	Links 00	S Taps OOS
U	InitO: ISTb .	19
U	Initl: InSv .	2
	Tap: 0 4 8	12 16 20 24 28 3
1	FBusU: ManB BBBB BBBB BBBB B	BBBBB BI
1	FBUSI: INSVM.IS	···· · ···· ···· ··· ··· ··· ···
	Note: In the previous example, B un F-bus is out of service. The letter B ut that the controlling LIM unit is system indicates an in-service tap. The letter letter I indicates an in-service trouble system-busy tap. A dash (-) indicate	nder a tap number indicates that th under a tap number can also indica m busy or manual busy. A dot (.) r M indicates a manual-busy tap. T e tap. The letter S indicates a es an unequipped tap.
24	Determine the state of the F-buses.	
	If the F-buses	Do
	are both InSv or ISTb	step 27
	are both other than listed here	step 25
25	A problem with the F-bus produces a P procedure in this document to clear the	M LIMF alarm. Perform the correct alarm. Complete the procedure a

lf	the	e Ll	U7 al	arm					D	0							
cl	ea	red							st	ep 6	56						
di	d ı	not	clear	•					st	ep 2	27						
То	det	term	nine t	he F-b	ous	taps tl	nat as	sso	ciat	te w	ith t	he	LIU7	7, typ	be		
>TI	RN	SL	fbu	ls_no													
anc	d b	ress	s the	Enter	key												
wh	ere	;															
	fb	us_ is t	_ no the nu	umber	of	either	F-bu	s (0	or	1)							
Exa	am	ple	of a l	MAP r	esp	onse:											
LII LII LII LII	м М М	1 1 1 1	FBu FBu FBu FBu	ເຮ ເຮ ເຮ	0 0 0 0	Тар Тар Тар Тар	0 1 2 3		is is is	on un on on	LI equ LI LI	:U7 iip] :U7 :U7	10 ped 11 10	1) 4			
The system generated a MAP display in step 23. Use this MAP display to determine the state of the F-bus taps that associate with the system busy LIU7.																	
k	Vo pot	<i>te:</i> h F	The t -buse	ap nu s.	mb	er sho	wn in	the	€ M	ΙAΡ	res	pon	se ii	n ste	ep 27	appli	es
lf	the	e st	ate o	f					D	D							
ei I	the to	er F S,	-bus or is	tap f S	luc	tuates	s froi	n	st	ep 3	34						
ei	the	er F	-bus	tap is	sМ				st	ep 2	29						
bo	oth	ı tap	os are	e in se	ervi	ce			st	ep 6	55						
Def	eri	min /al c	e fron of the	n offic tap fro	e re om	cords servic	or fro	om c surre	ope ed.	rati WI	ng c nen	om you	pan i hav	/ pei /e pe	rsonr ermis	nel wł ssion,	ıy
ren cor	tin	ue	the pi	ocedu	ire	to retu	irn th	e ta	p t	o se	ervic	e.					

and press the Enter key.

where

fbus_no

is the number of the F-bus (0 or 1)

tap_no is the number of the F-bus tap (0 to 23 or 0 to 35)
If the RTS command	Do
passed, and the other tap is M	step 28
passed, and the other tap is in service	step 31
failed	step 65
To quit from the F-bus level of the MAR >QUIT and press the Enter key. To post the system busy LIU7, type >POST LIU7 liu_no and press the Enter key. where liu_no is the number of the LIU7 (0 to a To return the LIU7 to service, type >RTS and press the Enter key.	^D display, type 511)
If the RTS command	Do
passed	step 58
failed	step 65
To manually busy the tap on F-bus 0, t >BSY FBUS 0 tap_no and press the Enter key. where tap_no is the number of the F-bus tap (ype 0 to 23 or 0 to 35)
If the BSY command	Do
passed	step 36
failed	step 35

31

32

33

34

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PM LIU7 critical (continued)

35	To force the F-bus tap to busy type	
	>BSY FBUS 0 tap no FOR	Έ
	and press the Enter key.	-
	where	
	tap no	
	is the number of the tap (0 to	23 or 0 to 35)
36	To manually busy the tap on F-bus 1	, type
	>BSY FBUS 1 tap_no	
	and press the Enter key.	
	where	
	tap_no is the number of the F-bus tar	o (0 to 23 or 0 to 35)
	If the BSY command	Do
	passed	step 38
	failed	step 37
37	To force the F-bus tap to busy, type	
	>BSY FBUS 1 tap_no FORC	CE
	and press the Enter key.	
	where	
	tap_no is the number of the tap (0 or	23 or 0 to 35)
38	To access table LIUINV to determine a three-slot LIU, type	e if the system busy LIU7 is a two-slot or
	>TABLE LIUINV	
	and press the Enter key.	
	MAP response:	
	TABLE: LIUINV	
39	To display the tuple in table LIUINV f	or the system busy LIU7, type
	>POSITION LIU7 liu_no	
	and press the Enter key.	
	where	
	liu_no is the number of the LIU7 (0 t	o 511)
	Example of a MAP response:	

LIU7 101 LIM 0 1 8 LCC36CH NT9X13CA NT9X75AA

NT9X76AA NT9X78AA FBUS

Note: The tuple in table LIUINV contains the card number NTEX22 if the LIU7 is a two-slot LIU. The tuple contains the card number NT9X13 if the LIU7 is a three-slot LIU.

If the tuple	Do
contains NTEX22	step 40
contains NT9X13	step 42

- **40** Replace the NTEX22 card. To replace the card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.
- **41** Go to step 43.
- 42 Replace the NT9X13 card. To replace the card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.
- **43** To return the tap on F-bus 0 to service, type

>RTS FBUS 0 tap_no

and press the Enter key.

where

44

- tap no
 - is the number of the F-bus tap (0 to 23 or 0 to 35)

If the RTS command	Do
passed	step 44
failed	step 65
To return the tap on F-bus 1 to service	e, type
>RTS FBUS 1 tap_no	
and press the Enter key.	
where	
tap_no is the number of the F-bus tap	(0 to 23 or 0 to 35)
If the RTS command	Do
passed	step 50
failed	step 65

preset the LILIZ type	
nd press the Enter key.	
If the PMRESET command	Do
passed	step 57
failed	step 50
o manually busy the LIU7, type	
and press the Enter key.	
If the response	Do
is LIU7 liu_no BSY Pas	sed step 50
is Busying LIU7 liu_r take a CCS7 resource service Please ("YES","Y","NO",or "N	o will step 47 out of confirm "):
is other than listed here (a "failed"), including additional with the above response	part from step 65 messages
is LIU7 liu_no BSY Fai	led step 48
To confirm the command, type >YES and press the Enter key. Go to step 50 To force the LIU7 to busy, type >BSY FORCE and press the Enter key.	
If the response	Do
is LIU7 liu_no BSY Pas	sed step 50

	If the response	Do
	is Busying LIU7 liu_ will take a CCS7 resour out of service Please confi ("YES","Y","NO",or "N"	_no step 49 cce .rm):
	is other than listed here, including additional messages with the ab response	g step 65 ove
49	To confirm the command, type	
	>YES	
	and press the Enter key.	
	Go to step 50	
50	To load the LIU7, type	
	>LOADPM	
	and press the Enter key.	
	If the LOADPM command	Do
	passed	step 57
	failed	step 51
51	To test the LIU7, type	
	>TST	
	and press the Enter key.	
	If the TST command	Do
	passed	step 57
	fails, and the system generates a card list that contains cards that are not changed	step 52
	is other than listed here	step 65
52	Record the location, description, slot r (PEC), and PEC suffix of the first card	number, product engineering code I on the list.
53	To replace the card, perform the corre <i>Procedures</i> to replace the card. Com point.	ect procedure in <i>Card Replacement</i> plete the procedure and return to this

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To load the LIU7, type >LOADPM and press the Enter key.	
If the LOADPM command	Do
passed	step 55
failed	step 65
To test the LIU7, type >TST and press the Enter key.	
If the TST command	Do
passed	step 57
fails, and you did not replace more cards on the list	step 56
is other than listed here	step 65
Record the location, description, slot r (PEC), and PEC suffix of the next card	number, product engineering code d on the list.
Go to step 53.	
To return the LIU7 to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 58
failed	step 65
To access the C7LKSET level of the M. link on the LIU7 is in service, type	AP display to determine that the CCS7
>CCS;CCS7;C7LKSET	
and press the Enter key.	
To post the linkset that associates with	n the LIU7, type
>POST C linkset_name	
and press the Enter key.	
where	

linkset name is the linkset name Example of a MAP display: Linkset TR000002 InSv Traf Sync LK Stat Stat Stat Physical Access Resource 1 InSv LIU7 8 InSv DS0A Sync 2 InSv Sync LIU7 7 InSv DS0A 60 Determine the traffic state of the CCS7 link for the LIU7 in use. *Note:* The number of the LIU7 in use appears under the Resource header on the MAP display. The traffic state of the CCS7 link appears under the Traf Stat header. If the state of the CCS7 link Do is InSv step 66 is other than listed here step 61 61 Wait eight minutes to see if the CCS7 link terminated on the LIU7 establishes again. If the state of the link Do is InSv step 66 is other than listed here step 62 62 Perform the procedure Activating CCS7 links in this document. Complete the procedure and return to this point. 63 Determine if the link activated. If the link activation Do passed step 64 failed step 65 64 Determine if the LIU7 alarm cleared. If the alarm Do cleared step 66 decreased in number step 10 (for example, changed from 2LIU7 to 1LIU7)

PM LIU7 critical (end)

If the alarm	Do
did not clear	step 65
For additional help, contac	t the next level of support.

66 The procedure is complete.

PM LIU7 major

Alarm display



Indication

At the MTC level of the MAP display, LIU7 (preceded by a number) appears under the PM header of the alarm banner. The LIU7 indicates a major alarm for a CCS7 link interface unit (LIU7).

Meaning

A minimum of one LIU7 is manual busy or manual busy not accessible.

The number under the PM header of the alarm banner indicates the number of LIU7s affected.

Result

The indicated number of LIU7s that are out of service cause signaling links that associate with the LIU7s to be out of service.

Common procedures

This procedure refers to Activating CCS7 links.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM LIU7 major alarm



Clearing a PM LIU7 major alarm

WARNING

Possible service-affecting action Do not POST, RTS and LOAD multiple sets of LIU7s. Finish work on one set of LIU7s before you work on another set.

At the MAP terminal

- 1 Determine from office records or from operating company personnel why the LIU7 is manual busy. When you have permission, continue this procedure.
- 2 Determine if all the MS alarms cleared.

If all the MS alarms	Do
cleared	step 10
did not clear	step 3

- **3** To clear the alarm, perform the correct MS procedure in this document to clear the alarm. Complete the procedure and return to this point.
- 4 Determine if the LIU7 major alarm cleared.

If the LIU7 alarm	Do	
cleared	step 61	
did not clear	step 5	

5 To access table SUSHELF, type

>TABLE SUSHELF

and press the Enter key.

6 To list the contents of the table, type

>LIST ALL

and press the Enter key.

Example of a MAP response:

	TOP SHELFKEY FLOOR ROW FRAMPOS FRAMETYP FRAMENUM SHELFPOS SHELFPEC CARDINFO
	MS NIL 15 O 1 1 A 1 EMC 1 0 NT9X72CA
	(7 NT9X96AA NT9X98AA) (30 NIL NTEX20AA) \$ (32 NT9X96AA NT9X98AA) (8 NIL NTEX20BA) \$
	MS NIL 15 2 1 1 A 1 EMC 1 0 NT9X72CA
	(7 NT9X96AA NT9X98AA) (30 NIL NTEX20AA) \$ (32 NT9X96AA NT9X98AA) (8 NIL NTEX20BA) \$
7	Record the frame type information.
	<i>Note:</i> In the previous example, find the frame type under the FRAMETYP header in the MAP display. The example in step 6 indicates the frame type is EMC.
8	Determine the frame type recorded in step 7.
	If the frame type Do
	is LIM step 9
	is SCC or EMC step 60
9	To quit from table SUSHELF, type
	>QUIT and press the Enter key
10	To access the PM level of the MAP display, type
	>MAPCI;MTC;PM
	and press the Enter key.
11	To display all manual busy LIU7s, type
	>DISP STATE MANB LIU7
	and press the Enter key.
12	To post the first manual busy LIU7 on the list, type
	>POST LIU7 liu_no
	and press the Enter key.
	is the number of the selected LIU7 (0 to 511)

13	Determine the state of the posted LIU7.		
	If the state of the posted LIU7	Do	
	is ManB (NA)	step 14	
	is ManB	step 44	
14	Determine if an FSP alarm is present under the EXT header of the MAP display.		
	If an FSP alarm	Do	
	is present	step 15	
	is not present	step 16	
15	To clear the alarm, perform the correct procedure in this document. the procedure and return to this point.		
	Go to step 45.		
16	To determine if a condition that affects service for an NIU is present, type		
	>QUERYPM		
	and press the Enter key.		
	Note: In the following example, conditions that affect service appear under the header Potential service affecting conditions.		

Example of a MAP response:

PM type:LIU PM 1 LIM: 1 Shelf:2 Default Load: L Running Load: L	No.:110 Stat Slot: 12 CC36BX CC36BX	tus: SysB(NA LIU FTA:424) 9 1000
Potential servi Msg Channel Msg Channel TAP #0 OOS/N TAP #1 OOS/N	ce affecting #0 NA #1 NA A A	conditions:	
NIU Unit 1 is n CBUS PORT for N LMS States: Auditing :	ot inservice IU Unit 1 is InSv InS ^v No No	not inservi v	ce
TAP 2 : S(N. Reserved LIU7 for SLC: 5 LIU is a	A) M(NA) orms part of llocated	CCS7 Linkse	t: LSCAP1
If an NIU condition service	that affects	Do	
is present		step 17	
is not present		step 18	
To clear the alarm, pe Complete the procedu	erform the correc ure and return to	t NIU procedure this point.	in this document.
Determine the numbe the LIU7.	r of the link interf	ace module (LIM) that associates with
<i>Note:</i> The number second line of the l	r of the LIM that a MAP response.	ssociates with th	e LIU7 appears in the
To post the LIM that a	ssociates with th	ne LIU7, type	
>POST LIM lim_	no		
and press the Enter k	ey.		
where			
lim_no is the number of	of the LIM (0 to 1	6)	
Example of a MAP di	splay:		
LIM 1 ISTb	Linka 009	Tang OOS	
Unit0: ISTb	2		
Unitl: ManB	2	18	

If the LIM	Do
is InsvorISTb	step 23
is other than listed here	step 21
A problem with the LIM produce perform the correct procedure in return to this point	es a PM LIM alarm. To clear the alarm this document. Complete the procedu
Determine the state of the post	ed LIU7.
If the state of the posted LIU	J7 Do
is ManB (NA)	step 23
is ManB	step 44
To access the F-bus level of the	MAP display, type
>FBUS	
and press the Enter key.	
Example of a MAP display.	
LIM 1 ISTb	
	Links_00S Taps_00S
Unit0: ISTb	. 19
Unit1: InSv	. 2
Tap: 0	4 8 12 16 20 24 28
FBUSU: MANB BBBB	3 BBBB BBBB BBBBB
rbusi: 1115vP	4 .15
Note: In the example, B und manual busy. The letter B un controlling LIM unit is system in-service tap. The letter M i	der a tap number indicates that the F- lider a tap number can also indicate th h busy or manual busy. A dot (.) indica indicates a manual busy tap. The lette
indicates an in-service troub tap. A dash (-) indicates an	le tap. The letter S indicates a system unequipped tap.
indicates an in-service troub tap. A dash (-) indicates an Determine the state of the F-bu	le tap. The letter S indicates a system unequipped tap. ises.
indicates an in-service troubl tap. A dash (-) indicates an Determine the state of the F-bu	le tap. The letter S indicates a system unequipped tap.
indicates an in-service troubl tap. A dash (-) indicates an Determine the state of the F-bu If both F-buses are InSv or ISTb	le tap. The letter S indicates a system unequipped tap. ises. Do step 27
indicates an in-service troubl tap. A dash (-) indicates an Determine the state of the F-bu If both F-buses are InSv or ISTb are other than listed here	le tap. The letter S indicates a syster unequipped tap. ises. Do step 27 step 25

26	Determine the state of the posted LI	J7.
	If the state of the posted LIU7	Do
	is ManB (NA)	step 27
	is ManB	step 44
27	To determine the F-bus taps that ass	ociate with the LIU7, type
	>TRNSL fbus_no	
	and press the Enter key.	
	where	
	fbus_no is the number of either E-bus ((0 or 1)
	Example of a MAP response:	
	LIM 1 FBus 0 Tap 0	is on LIU7 101
	LIM I FBus O Tap I	is unequipped
	LIM 1 FBus 0 Tap 3	is on LIU7 104
28	Ine system generated a MAP display determine the state of the F-bus taps LIU7. Note: The tap number that appea applies to both F-buses.	y in step 23. Use this display to sthat associate with the system-busy ars in the MAP response in step 27
	If the state of either F-bus tap	Do
	fluctuates from I to S or is S	step 34
	is M	step 29
	is I	step 60
29	Determine from office records or from caused the tap to be out of service. W procedure to return the tap to service	n operating company personnel what /hen you have permission, continue this a.
30	To return the F-bus tap to service, typ	be
	>RTS FBUS fbus_no tap_no	
	and press the Enter key.	
	where	
	fbus_no is the number of the F-bus (0	or 1)

tap_no is the number of the F-bus tap (0 to 23 or 0 to 35)		
If the RTS command	Do	
passed, and the other tap is M	step 28	
passed, and the other tap is in service	step 52	
failed	step 60	
To quit from the F-bus level of the MA <pre>>QUIT and press the Enter key. To post the LIU7, type >POST LIU7 liu_no and press the Enter key. where liu_no is the number of the selected L To return the LIU7 to service, type >RTS and press the Enter key.</pre>	P display, type IU7 (0 to 511)	
If the RTS command	Do	
passed	step 53	
failed	step 60	
To manually busy the tap on F-bus 0, >BSY FBUS 0 tap_no and press the Enter key. where tap_no is the number of the F-bus tap	type (0 to 23 or 0 to 35)	
If the BSY command	Do	
passed	step 36	
failed	step 35	

31

32

33

34

35	To force the F-bus tap to busy, typ	be
	>BSY FBUS 0 tap_no FC	DRCE
	and press the Enter key.	
	where	
	tap_no	
	is the number of the tap (0	or 23 or 0 to 35)
36	To manually busy the tap on F-bu	s 1, type
	>BSY FBUS 1 tap_no	
	and press the Enter key.	
	where	
	tap_no is the number of the F-bus	tap (0 to 23 or 0 to 35)
	If the BSY command	Do
	passed	step 38
	failed	step 37
37	To force the F-bus tap to busy, typ	e
	>BSY FBUS 1 tap_no FC	DRCE
	and press the Enter key.	
	where	
	tap_no is the number of the tap (0	or 23 or 0 to 35)
38	To access table LIUINV to determi or a three-slot LIU, type	ne if the system busy LIU7 is a two-slot LIU
	>TABLE LIUINV	
	and press the Enter key.	
	MAP response:	
	TABLE: LIUINV	
39	To display the tuple in table LIUIN	V for the system busy LIU7, type
	>POSITION LIU7 liu_no	
	and press the Enter key.	
	where	
	liu_no	
	is the number of the LIU7 (0 to 511)
	Example of a MAP response:	

LIU7 101 LIM 0 1 8 LCC	C36CH NT9X13CA NT9X75AA NT9X76AA NT9X78AA FBUS
<i>Note:</i> The tuple in table LIUI	NV contains the card number NTEX22.
Replace the NTEX22 card. To cl in <i>Card Replacement Procedure</i> point.	ear the alarm, perform the correct procedure s. Complete the procedure and return to this
To return the tap on F-bus 0 to s	service, type
>RTS FBUS 0 tap_no	
and press the Enter key.	
where	
tap_no is the number of the F-bu	s tap (0 to 23 or 0 to 35)
If the RTS command	Do
passed	step 42
failed	step 60
To return the tap on F-bus 1 to s	service, type
lo return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu</pre>	service, type is tap (0 to 23 or 0 to 35)
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command</pre>	service, type is tap (0 to 23 or 0 to 35) Do
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed</pre>	service, type s tap (0 to 23 or 0 to 35) Do step 45
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed</pre>	service, type s tap (0 to 23 or 0 to 35) Do step 45 step 60
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed To post the manual busy LIU7, t</pre>	service, type Is tap (0 to 23 or 0 to 35) Do step 45 step 60 ype
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed To post the manual busy LIU7, t >POST LIU7 liu_no and press the Enter key.</pre>	service, type Is tap (0 to 23 or 0 to 35) Do step 45 step 60 ype
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed To post the manual busy LIU7, t >POST LIU7 liu_no and press the Enter key. where</pre>	service, type s tap (0 to 23 or 0 to 35) Do step 45 step 60 ype
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed To post the manual busy LIU7, t >POST LIU7 liu_no and press the Enter key. where liu po</pre>	service, type Is tap (0 to 23 or 0 to 35) Do step 45 step 60 ype
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed To post the manual busy LIU7, t >POST LIU7 liu_no and press the Enter key. where liu_no is the number of the select is the number of the select </pre>	service, type s tap (0 to 23 or 0 to 35) Do step 45 step 60 ype
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed To post the manual busy LIU7, t >POST LIU7 liu_no and press the Enter key. where liu_no is the number of the selea To reset the LIU7, type</pre>	service, type s tap (0 to 23 or 0 to 35) Do step 45 step 60 ype
Io return the tap on F-bus 1 to s <pre>>RTS FBUS 1 tap_no and press the Enter key. where tap_no is the number of the F-bu If the RTS command passed failed To post the manual busy LIU7, t >POST LIU7 liu_no and press the Enter key. where liu_no is the number of the select To reset the LIU7, type >PMRESET</pre>	service, type s tap (0 to 23 or 0 to 35) Do step 45 step 60 ype cted LIU7 (0 to 511)

If the PMRESET command	Do
passed	step 52
failed	step 45
To load the LIU7, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 52
failed	step 46
To test the LIU7, type	
>TST	
and press the Enter key.	
If the TST command	Do
passed	step 52
failed, and the system generates a card list that contains cards that you did not change	step 47
is other than listed here	step 60
Record the location, description, slot (PEC), and PEC suffix of the first car	number, product engineering code d on the list.
To replace the card, perform the corre <i>Procedures.</i> Complete the procedure	ect procedure in <i>Card Replacemer</i> and return to this point.
To load the LIU7, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 50

If the TST command	Do
passed	step 52
failed, and more cards on the list that are not replaced are present	step 51
is other than listed here	step 60
Record the location, description, slot r	number, product engineering code
Go to step 48	
To return the LIU7 to service, type	
>RTS	
and press the Enter key.	
If the RTS command	Do
passed	step 53
failed	step 60
To access the C7LKSET level of the M	AP display to determine that the CCS
and press the Enter key	
To post the linkset that associates with	n the LIU7
>POST C linkset name	
and press the Enter key.	
where	
linkset_name is the linkset name	
Example of a MAP display:	
Linkset TR000002 InSv Traf Sync	

PM LIU7 major (end)

55	Determine the traffic state of the CC Note: The number of the LIU7 ap MAP display. The traffic state of the	CS7 link for the LIU7 you are working on. opears under the Resource header on the he CCS7 link appears under the Traf Stat
	If the state of the CCS7 link	Do
	is InSv	step 61
	is other than listed here	step 56
56	Wait eight minutes to determine if the stablishes again.	ne CCS7 link terminated on the LIU7
	If the state of the link	Do
	is InSv	step 61
	is other than listed here	step 57
57	Perform the procedure <i>Activating CC</i> procedure and return to this point.	CS7 links in this document. Complete the
58	Determine if the link activated.	
	If the link activation	Do
	passed	step 59
	failed	step 60
59	Determine if the LIU7 alarm cleared	l.
	If the alarm	Do
	cleared	step 61
	decreased in number (for example, changed from 2LIU7 to 1LIU7)	step 10 n
	did not clear	step 60
60	For additional help, contact the next	level of support.

61 The procedure is complete.

PM LIU7 minor

Alarm display

ſ	 СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1LIU7	•	•	•	•	•
	J									

Indication

At the MTC level of the MAP display, LIU7 (preceded by a number) appears under the PM header of the alarm banner. The LIU7 indicates a minor alarm for a CCS7 link interface unit (LIU7).

Meaning

A minimum of one LIU7 has in-service trouble.

The number under the PM header of the alarm banner indicates the number of LIU7s affected.

Result

LIU7s with in-service trouble continue to function. Traffic is not affected on CCS7 links that connect to LIU7s with minor alarms.

Common procedures

This procedure refers to Activating CCS7 links.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM LIU7 minor alarm



Clearing a PM LIU7 minor alarm



WARNING

Possible service-affecting action The following procedure can require that you take an LIU7 out of service. If instructions require you to busy an LIU7, busy the LIU7 during a period of low traffic to prevent service interruption.



4

5

WARNING

Possible service-affecting action

Do not POST, RTS and LOAD multiple sets of LIU7s. Finish work on one set of LIU7s before you work on another set.

At the MAP terminal

1 Determine if all the MS alarms cleared.

If all the MS alarms	Do	
cleared	step 9	
did not clear	step 2	

- 2 Perform the correct MS procedure in this document to clear the alarm. Complete the procedure and return to this point.
- 3 Determine if the LIU7 minor alarm cleared.

If the LIU7 minor alarm	Do
cleared	step 83
did not clear	step 4
To access table SUSHELF, type	
>TABLE SUSHELF	
and press the Enter key.	
To list the contents of the table, type	
>LIST ALL	
and press the Enter key.	
Example of a MAP response:	

TOP SHELFKEY FLOOR ROW FRAMPOS FRAMETYP FRAMENUM SHELFPOS SHELFPEC CARDINFO	
MS NIL 15 O 1 1 A 1 EMC 1 0 NT9X72CA	
(7 NT9X96AA NT9X98AA) (30 NIL NTEX20AA) \$ (32 NT9X96AA NT9X98AA) (8 NIL NTEX20BA) \$	
MS NIL 15 2 1 1 A 1 EMC 1 0 NT9X72CA	
(7 NT9X96AA NT9X98AA) (30 NIL NTEX20AA) \$ (32 NT9X96AA NT9X98AA) (8 NIL NTEX20BA) \$	
Record the frame type information.	
<i>Note:</i> Find the frame type under the FRAMETYP header in the MAP display. The example in step 5 indicates that the frame type is EMC.	
Determine the frame type recorded in step 6.	
If the frame type Do	-
is LIM step 8	
is SSC or EMC step 82	
To guilt from table CUCUELE type	
to quit from table SUSHELF, type	
>QUIT	
>QUIT and press the Enter key.	
 >QUIT and press the Enter key. To access the PM level of the MAP display, type 	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key.</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7 and press the Enter key. To prest the first in convice trouble LIU7 on the list type</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7 and press the Enter key. To post the first in-service trouble LIU7 on the list, type</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7 and press the Enter key. To post the first in-service trouble LIU7 on the list, type >POST LIU7 liu_no and press the Enter key.</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7 and press the Enter key. To post the first in-service trouble LIU7 on the list, type >POST LIU7 liu_no and press the Enter key. where</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7 and press the Enter key. To post the first in-service trouble LIU7 on the list, type >POST LIU7 liu_no and press the Enter key. where liu no</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7 and press the Enter key. To post the first in-service trouble LIU7 on the list, type >POST LIU7 liu_no and press the Enter key. where liu_no is the number of the selected LIU7 (0 to 511)</pre>	
<pre>>QUIT and press the Enter key. To access the PM level of the MAP display, type >MAPCI;MTC;PM and press the Enter key. To display all in-service trouble LIU7s, type >DISP STATE ISTB LIU7 and press the Enter key. To post the first in-service trouble LIU7 on the list, type >POST LIU7 liu_no and press the Enter key. where liu_no is the number of the selected LIU7 (0 to 511) To query the state of the LIU7, type</pre>	

and press the Enter key.

Example of a MAP response:

PM type:LIU7 PM No.:110 Status:ISTb LIM: 1 Shelf:2 Slot: 12 LIU FTA:4249 1000 Default Load: LCC36BX Running Load: LCC36BX ISTB conditions: Msg Channel #0 NA TAP #0 OOS/NA LMS States: INSV INSV Auditing?: No Yes Msg Channels: NA Acc TAPs: М • Reserved LIU7 forms part of CCS7 Linkset: LSCAP1 SLC: 5 LIU is allocated

- **13** Record the following information from the response that the system generated in step 12.
 - LIM number
 - default load name
 - running load name
 - ISTb conditions
 - CCS7 linkset name
- 14 Determine if an F-bus tap problem causes the in-service trouble condition.

Note: F-bus tap problems appear next to the TAP # header. The TAP # header appears under the ISTB conditions header of the MAP response. When a tap is out of service, the associated MSG channel is out of service, as displayed in the previous example.

If an F-bus tap	Do
is OOS/NA	step 16
is OOS	step 25
fault is not listed	step 15

15 Determine if a mismatch between the name of the default load and the running load is present.

Note: The names of the default and running loads appear in the third and fourth lines of the response. The system generates the response in step 12.

If a load name mismatch	Do
is present	step 54

If a load name mismatch	Do
is not present	step 82
Determine the number of the L	IM that associates with the LIU7.
<i>Note:</i> The number of the ass response that the system ge	sociated LIM appears in the second line of the nerated in step 12.
To post the LIM that associates	with the in-service trouble LIU7, type
>POST LIM lim_no	
and press the Enter key.	
where	
lim_no is the LIM number (0 to 1	16)
Example of a MAP display:	
LIM 1 ISTb	
Links	_00S Taps_00S
Unit0: ISTb Unit1: ManB	2 . 2 18
Determine the state of the LIM.	
If the LIM	Do
is InSv	sten 21
	step 21
is other than listed here	step 19
A problem with the LIM produce perform the correct procedure ir return to this point.	es a PM LIM alarm. To clear the alarm, a this document. Complete the procedure and
Determine if the LIU7 alarm cle	eared.
If the alarm	Do
cleared	step 83
did not clear	step 21
To access the F-bus level of the	e MAP display, type
>FBUS	
and press the Enter key.	
Example of a MAP display:	

LIM 1 Insv

				Link	s_00	DS	Taps	s_005	3		
Unit0:	Insv			•			1				
Unitl:	InSv						2				
		Тар:	0	4	8	12	16	20	24	28	32
FBus0:	Insv		BBBB	s.						·	••
FBus1:	InSv		M	.I	.s						

Note: In the previous example, B under a tap number indicates that the F-bus is manual busy. The letter B also can indicate that the controlling LIM unit is system busy or manual busy. A dot (.) indicates an in-service tap. The letter M indicates a manual busy tap. An I indicates an in-service trouble tap. An S indicates a system busy tap. A dash (-) indicates an unequipped tap.

22 Determine the state of the F-buses.

If both F-buses	Do
are InSv	step 25
are other than listed here	step 23

23 A problem with the F-bus produces a PM LIMF alarm. Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

24 Determine if the LIU7 alarm cleared.

If the alarm	Do
cleared	step 83
did not clear	step 25

25 To determine that the F-bus taps associated with the in-service trouble LIU7, type

>TRNSL fbus_no

and press the Enter key.

where

fbus_no

is the number of the F-bus that contains the out-of-service tap (determined in step 12)

Note: The number of the F-bus tap associates with the LIU7 you are working on. The number of the F-bus appears to the left of the LIU7 number on the MAP. In the following example, LIU7 110 associates with tap 2 on F-bus 0.

Example of a MAP response:

LIM	1	FBus	0	Тар	0	is	on	LIU7	101
LIM	1	FBus	0	Тар	1	is	une	equipp	ped
LIM	1	FBus	0	Тар	2	is	on	LIU7	110
LIM	1	FBus	0	Тар	3	is	on	LIU7	104

26 From the MAP display that the system generated in step 21, determine the state of the F-bus taps. The F-bus taps associate with the in-service trouble LIU7.

Note: The tap number that appears in the MAP display applies to both F-buses.

If either tap	Do
is M	step 29
is S	step 27
is other than listed here	step 82

27 To manually busy the F-bus tap that associates with the in-service trouble LIU7, type

>BSY FBUS fbus_no tap_no

and press the Enter key.

where

fbus_no

is the number of the F-bus (0 or 1)

tap_no

is the number of the F-bus tap (0 to 23 or 0 to 35)

If the BSY command	Do
passed	step 30
failed	step 28
To force the F-bus tap to busy, type	
>BSY FBUS fbus_no tap_no	FORCE
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 or 1)	
tap_no is the number of the tap (0 to 23 or 0 to 35)	
Go to step 30.	

28

29	Determine from office records or from of F-bus tap is manual busy. When you h procedure to return the tap to service.	operating company personnel why the nave permission, continue this
30	To return the F-bus tap that associates service, type	s with the in-service trouble LIU7 to
	>RTS FBUS fbus_no tap_no	
	and press the Enter key.	
	where	
	fbus_no is the number of the F-bus (0 or	r 1)
	tap_no is the number of the F-bus tap (0 to 23 or 0 to 35)
	If the RTS command	Do
	passed, and the other tap is not in service	step 31
	passed, and the other tap is in service	step 81
	failed, and the system generates a card list	step 32
	is other than listed here	step 82
31	Determine the state of the other F-bus	tap for the same LIU7.
	If the state of the other F-bus tap	Do
	is M	step 29
	is S	step 27
32	Record the location, description, slot n (PEC), and PEC suffix of all the cards	umber, product engineering code on the list.
33	To access the C7LKSET level of the MAP display, type	
	>CCS;CCS7;C7LKSET	
	and press the Enter key.	
34	To post the linkset that associates with	n the LIU7, type
	>POST C linkset_name	
	and press the Enter key.	
	where	
	linkset_name is the name of the linkset	

	Note: The name of the linkset that LIU7 appears in the second last lingenerated this response in step 12.	associates with the in-service trouble ne of the response. The system
35	To inhibit the link that associates with	the LIU7, type
	>INH link_no	
	and press the Enter key.	
	where	
	link_no is the number of the link (0 to 1	5)
	If the INH command	Do
	passed	step 36
	failed	step 82
36	To manually busy the link that associa	tes with the LIU7, type
	>BSY link_no	
	and press the Enter key.	
	where	
	link_no is the number of the link (0 to 7	or 0 to 15)
	If the response	Do
	is Link link_no:Traffic	step 37
	is running on that	
	is running on that link Please confirm	
	is running on that link Please confirm ("YES","Y","NO", or	
	<pre>is running on that link Please confirm ("YES","Y","NO", or "N"):</pre>	
	<pre>is running on that link Please confirm ("YES","Y","NO", or "N"): is other than listed here, includ-</pre>	step 82
	<pre>is running on that link Please confirm ("YES","Y","NO", or "N"): is other than listed here, includ- ing additional messages with</pre>	step 82
	<pre>is running on that link Please confirm ("YES","Y","NO", or "N"): is other than listed here, includ- ing additional messages with above response</pre>	step 82
37	<pre>is running on that link Please confirm ("YES", "Y", "NO", or "N"): is other than listed here, includ- ing additional messages with above response To confirm the command, type</pre>	step 82
37	<pre>is running on that link Please confirm ("YES","Y","NO", or "N"): is other than listed here, includ- ing additional messages with above response To confirm the command, type >YES</pre>	step 82
37	<pre>is running on that link Please confirm ("YES", "Y", "NO", or "N"): is other than listed here, includ- ing additional messages with above response To confirm the command, type >YES and press the Enter key</pre>	step 82
37	<pre>is running on that link Please confirm ("YES", "Y", "NO", or "N"): is other than listed here, includ- ing additional messages with above response To confirm the command, type >YES and press the Enter key Go to step 38</pre>	step 82
37 38	<pre>is running on that link Please confirm ("YES", "Y", "NO", or "N"): is other than listed here, includ- ing additional messages with above response To confirm the command, type >YES and press the Enter key Go to step 38 To return to the PM level of the MAP of the the the text of tex of tex of text of text of text of text</pre>	step 82
37 38	<pre>is running on that link Please confirm ("YES", "Y", "NO", or "N"): is other than listed here, includ- ing additional messages with above response To confirm the command, type >YES and press the Enter key Go to step 38 To return to the PM level of the MAP of >PM</pre>	step 82
39 To post the LIU7, type
>POST LIU7 liu_no
and press the Enter key.
where
liu_no
is the number of the LIU7 (0 to 511)

40

41

42

43



Risk of service interruption To perform the next step, remove an LIU7 from service. Manually busy the LIU7 during a period of low traffic to prevent service interruption.

To manually busy the LIU7, type

WARNING

>BSY

and press the Enter key.

If the response Do is Busying LIU7 liu_no will step 41 take a CCS7 resource out of service Please confirm ("YES", "Y", "NO", or "N"): is other than listed here, including step 82 additional messages with above response To confirm the command, type >YES and press the Enter key Replace the first card on the list recorded in step 32. To replace the card, perform the correct procedure in Card Replacement Procedures. Complete the procedure and return to this point. To set the LIU7 again, type

>PMRESET

If the PMRESET command	Do
passed	step 47
failed	step 44
To load the LIU7, type	
>LOADPM	
and press the Enter key.	
If the LOADPM command	Do
passed	step 47
failed, and you did not replace all the cards on the list recorded in step 32	step 45
is other than listed here	step 82
To replace the next card on the list, pe Replacement Procedures. Complete	erform the correct procedure in <i>Card</i> the procedure and return to this point.
Go to step 43.	
To post the LIM that associates with th	ne LIU7, type
>POST LIM lim_no	
and press the Enter key.	
where	
lim_no is the number of the LIM (0 to 1	6)
To access the F-bus level of the MAP	display, type
>FBUS	
and press the Enter key.	
To return the F-bus tap to service, type	e
>RTS FBUS fbus_no tap_no	
and press the Enter key.	
where	
fbus_no is the number of the F-bus (0 o	r 1)

tap_no is the number of the F-bus tap (0 to 23 or 0 to 35)							
	If the RTS command	Do					
	passed	step 50					
	failed	step 82					
0	Determine the state of the other F-bus tap that associates with the LIU7.						
	If the other F-bus tap	Do					
	is M	step 29					
	is S	step 27					
	is in service	step 51					
I	To quit from the F-bus level of the	MAP display, type					
	>QUIT						
	and press the Enter key.						
	To post the LIU7, type						
	>POST LIU7 liu_no						
	and press the Enter key.						
	where						
	liu_no is the number of the LIU7 (0 to 511)						
	To return the LIU7 to service, type						
	>RTS						
	and press the Enter key.						
	If the RTS command	Do					
	passed	step 74					
	failed	step 82					
	Determine from office records or f name of the load that runs in the s	Determine from office records or from operating company personnel the name of the load that runs in the switch.					
	Determine if the default load name matches the correct load name determined in step 54.						
	If the default load name	Do					
	matches the correct load name	e step 62					

If the default load name	Do
does not match the correct load	l step 56
To access table LIUINV, type	
>TABLE LIUINV	
and press the Enter key.	
To position on the key value of the tu	uple to change, type
>POSITION LIU7 liu_no	
and press the Enter key.	
where	
liu_no	
Is the number of the in-servic	e trouble LIU7 (0 to 511)
Example of a MAP response:	
LIU7 102 LIM 1 1 12 LRC36	CV NTEX22BB
	NT9X76AA NT9X78AA FBUS
To specify the field in the tuple to ch	ange, type
>CHANGE LOAD	
and press the Enter key.	
To enter the new value of the field the	at you want to change, type
>new_value	
and press the Enter key.	
where	
new_value is the new value for the field	
Example of a MAP response:	
TUPLE TO BE CHANGED:	
LIU7 102 LIM 1 1 12 LCC36E NT	3X NTEX22BB 19X76AA NT9X78AA FBUS
ENTER Y TO CONFIRM, N TO RE	EJECT OR E TO EDIT.
To confirm the new value of the char	nged field, type
>Y	
>y and press the Enter key.	
>¥ and press the Enter key. <i>MAP response:</i>	

1	To quit from the table, type	To quit from the table, type						
	>QUIT							
	and press the Enter key.							
2	Determine if the running load nan determined in step 54.	Determine if the running load name matches the correct load name that you determined in step 54.						
	If the running load	Do						
	is correct	step 74						
	is not correct	step 63						
3	To access the C7LKSET level of t	he MAP display, type						
	>CCS;CCS7;C7LKSET							
	and press the Enter key.							
4	To post the linkset that associates	To post the linkset that associates with the LIU7, type						
	>POST C linkset_name							
	and press the Enter key.							
	where							
	linkset_name is the name of the linkset							
	To inhibit the link, type							
	>INH link_no							
	and press the Enter key.	and press the Enter key.						
	where	where						
	link_no is the number of the link (0) to 15)						
	If the INH command	Do						
	passed	step 66						
	failed	step 82						
	To manually busy the link, type							
	>BSY link_no							
	and press the Enter key.	and press the Enter key.						
	where	<i>i</i> here						

link_no is the number of the link (0 to 7 c	or 0 to 15)
If the response	Do
<pre>is Link link_no:Traffic running on that link Please con ("YES","Y","NO", or "N"</pre>	is step 67 firm):
is other than listed here, including tional messages with above response	addi- step 82 se
To confirm the command, type	
>YES	
and press the Enter key	
To return to the PM level of the MAP dis	splay, type
>PM	
and press the Enter key.	
To post the in-service trouble LIU7, type	9
>POST LIU7 liu_no	
and press the Enter key.	
where	
liu_no is the number of the LIU7 (0 to 5	11)

70



WARNING

Risk of service interruption If you perform the next step, you will take an LIU7 out of service. Manually busy the LIU7 during a period of low traffic to prevent service interruption.

To manually busy the LIU7, type >BSY

and press the Enter key.

If the response	Do		
<pre>is Busying LIU7 liu will take a CCS7 resource out of so vice Please conf ("YES","Y","NO",</pre>	_no step 71 er- irm or		
is other than listed here, inc ing additional messages above response	elud- step 82 with		
To confirm the command, type			
>YES			
To load the LIU7. type			
>LOADPM			
and press the Enter key.			
If the LOADPM command	Do		
passed	step 73		
is other than listed here	step 82		
To return the LIU7 to service, typ >RTS and press the Enter key.	pe		
If the RTS command	Do		
passed	step 74		
failed	step 82		
To access the C7LKSET level of >CCS;CCS7;C7LKSET	f the MAP display, type		
and press the Enter key. To post the linkset that associates with the LIU7, type >POST C linkset_name			

and press the Enter key.

where

linkset_name is the linkset name

Example of a MAP display:

Linkset		TR000002	2 I	nSv			
	Traf	Sync					
LΚ	Stat	Stat	Resou	irce	Stat	Physical	Access
1	InSv	Sync	LIU7	110	InSv	DS0A	
2	InSv	Sync	LIU7	104	InSv	DS0A	

76 Determine the traffic state of the CCS7 link that associates with the LIU7.

Note: The LIU7 numbers appear under the Resource header in the display in step 75. The traffic state of the CCS7 links appear under the Traf Stat header.

If the state of the CCS7 link	Do		
is InSv	step 81		
is ManB	step 77		
is other than listed here	step 79		
To return the link to service, type			
>RTS link_no			
and press the Enter key.			
where			
link_no is the number of the link (0 t	o 7 or 0 to 15)		
If the RTS command	Do		
passed	step 78		
passed	step 79		
failed	step 82		
To restore traffic to the link that ass	ociates with the LIU7, type		
>UINH link_no			
and press the Enter key.			
where			

PM LIU7 minor (end)

If the UINH command	Do		
passed	step 81		
failed	step 82		
Wait eight minutes to see if the CCS7 link terminated on the LIU7 establis again.			
If, after eight minutes, the link	Do		
is InSv	step 81		
is other than listed here	step 80		
Perform the procedure <i>How to activat</i> Complete the procedure and return to	<i>te CCS7 links</i> in this document. b this point.		
Perform the procedure <i>How to activat</i> Complete the procedure and return to If the link activation	<i>te CCS7 links</i> in this document. this point.		
Perform the procedure <i>How to activat</i> Complete the procedure and return to If the link activation passed	te CCS7 links in this document. b this point. Do step 81		
Perform the procedure <i>How to activat</i> Complete the procedure and return to If the link activation passed failed	te CCS7 links in this document. to this point. Do step 81 step 82		
Perform the procedure <i>How to activat</i> Complete the procedure and return to If the link activation passed failed Determine if the LIU7 minor alarm clear	te CCS7 links in this document. b this point. Do step 81 step 82 eared.		
Perform the procedure <i>How to activat</i> Complete the procedure and return to If the link activation passed failed Determine if the LIU7 minor alarm cle If the LIU7 minor alarm	te CCS7 links in this document. Do step 81 step 82 eared. Do		
Perform the procedure <i>How to activat</i> Complete the procedure and return to If the link activation passed failed Determine if the LIU7 minor alarm cle If the LIU7 minor alarm cleared	te CCS7 links in this document. Do step 81 step 82 eared. Do step 83		
Perform the procedure <i>How to activat</i> Complete the procedure and return to If the link activation passed failed Determine if the LIU7 minor alarm cle If the LIU7 minor alarm cleared reduced in number (for example, changed from 4LIU7 to 3LIU7)	te CCS7 links in this document. Do step 81 step 82 eared. Do step 83 step 9		

83 The procedure is complete.

PM LMDrwr major or minor

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
·	•	•	. 1	ILMDrw M	r.		•		·

Indication

At the MTC level of the MAP display, LMDrwr (preceded by a number) appears under the PM header of the alarm banner. The LMDrwr indicates a major or minor fault for a line module drawer.

Meaning

The system generates a major (M) alarm when one or more drawers in an LM are system busy (SysB). The system also generates a major alarm when the LM is in-service trouble (ISTb).

The number that precedes LMDrwr is the number of LMs with a drawer fault.

Result

All lines in a system busy drawer are without service.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart of the procedure. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM LMDrwr major or minor (continued)

Summary of clearing a PM LMDrwr major or minor alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

PM LMDrwr major or minor (continued)

Clearing a PM LMDrwr major or minor alarm

At the MAP terminal

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	3	5	7	б	12

2 Determine if an alarm is present under the Ext header of the MAP display.

lf an Ext alarm	Do
is present	step 3
is not present	step 4

- **3** Perform the correct alarm clearing procedure in this document.
- 4 Determine if an audible alarm rings.

If an alarm	Do
rings	step 5
does not ring	step 6

5 To silence the alarm, type

>SIL

and press the Enter key.

6 To display all the in-service trouble LMs, type

Example of a MAP display response:

>DISP STATE ISTB LM

and press the Enter key.

ISTb LM : HOST 01 0,HOST 01 1

7 Record the number of each in-service trouble LM.

- 8 Choose an in-service trouble LM on which to work.
- 9 To post the selected LM, type

>POST LM site frame_no bay_no

PM LMDrwr major or minor (continued)

and press the Enter key. where site is the four character string that indicates the location of the LM frame no is the number of the LM frame (0 to 511) bay no is the number of the LM bay (0 or 1) Example of a MAP display: LM HOST 01 1 ISTb RGen : 0 Standby 1 Standby To determine which drawers are system busy, type >QUERYPM DRWR and press the Enter key. Example of a MAP display response: Line drawer status: Bay LM HOST 01 1 controlled via LM HOST 01 1 is inactive status: .---- .----. Bay LM HOST 01 1 $\,$ controlled via LM HOST 01 0 $\,$ is inactive status: .---- .----. Bay LM HOST 01 0 controlled via LM HOST 01 1 is inactive status: .---- ----. .----Record the number of each system busy drawer. Choose a system busy drawer on which to work. To test the drawer, type >TST DRWR drwr no and press the Enter key. where drwr no is the number of the drawer (0 to 19) If the TST command Do step 16 passes fails, and the system generated a step 14 card list fails, and the system did not genstep 19 erate a card list

10

11

12

13

PM LMDrwr major or minor (end)

14	Record the location, description, slot number, product engin (PEC), and PEC suffix of the cards on the list.	eering code
15	Perform the correct procedure in <i>Card Replacement Proced</i> the procedure and return to this point.	ures. Complete
16	To return the drawer to service, type	
	>RTS DRWR drwr_no	
	and press the Enter key.	
	where	
	drwr_no is the number of the drawer (0 to 19)	
	If the RTS command	Do
	passes, and the drawer is in service, but you recorded other system busy drawers in step 11	step 13
	passes, and all drawers are in service	step 20
	fails, and you did not replace all cards in the list that you recorded in step 14	step 17
	fails, and you replaced all cards in the list that you re- corded in step 14	step 19
17	Perform the correct procedure in <i>Card Replacement Proced</i> the procedure and return to this point.	ures. Complete
18	Go to step 16.	
19	For additional help, contact the next level of support.	
20	The procedure is complete.	

PM LMPr critical

Alarm display

CM	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
·	·	·	•	1LMPr *C*	•	•	•		•

Indication

At the MTC level of the MAP display, LMPr (preceded by a number) appears under the PM header of the alarm banner. The LMPr indicates a line module pair alarm. The number under the PM header in the alarm banner indicates the number of LMPrs affected.

Meaning

The system generates a critical $(*C^*)$ alarm when an LM pair is system busy, C-side busy, or manually busy.

Result

Service stops when an LM pair is system busy, C-side busy, or manually busy.

Common procedures

The procedure refers to Loading a PM.

Do not go to the common procedure unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM LMPr critical alarm



Clearing a PM LMPr critical alarm

At the MAP display

5

6

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP display response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	15	0	0	1	3	5

2 Determine if an alarm is present under the Ext header of the MAP display.

lf an Ext alarm	Do
is present	step 3
is not present	step 4

- **3** Perform the correct alarm clearing procedure in this document.
- 4 Determine if an audible alarm rings.

If an alar	rm		D	D		
rings			st	ep 5		
does not	ring		st	ep 6		
To silence	the alarm	i, type				
>SIL						
and press	the Enter	key.				
To display	the status	s of all the l	PMs, type			
>STATUS						
and press	the Enter	key.				
Example c	of a MAP o	display res _l	oonse:			
TM8	2	0	0	0	0	1

TMO	2	0	0	0	0	T
MTM	7	0	0	0	0	4
STM	4	0	0	0	0	0
LM	2	0	0	0	3	0
LGC	0	0	0	1	0	0

7	Determine the status of the LMs.	
	If one of the LMs	Do
	is SysB	step 8
	is CBsy	step 20
	is ManB	step 27
8	To display all the system busy LMs, ty	ре
	>DISP STATE SYSB LM	
	and press the Enter key.	
	Example of a MAP display response: SysB LM : HOST 01 0,HOST 01 1	
9	Record the number of each system be	usy LM.
10	Choose a system busy LM on which t	o work.
11	To post the LM, type	
	>POST LM site frame_no b	pay_no
	and press the Enter key.	
	where	
	site is the four-character string that	indicates the location of the LM
	frame_no is the number of the frame (0 to	o 511) that contains the LM
	bay_no is the number of the LM bay (0	to 1)
	Example of a MAP display response:	
	LM HOST 01 0 SysB NoTake RGen : 0 Standby 1 Stan	over dby
12	To busy the LM, type	
	>BSY	
	and press the Enter key.	
13	To test the LM, type	
	>TST	
	and press the Enter key.	
	If the TST command	Do
	passes	step 14

	If the TST command	Do	
	fails and the system concreted a	stop 15	
	card list	step 15	
	fails, and the system did not gen- erate a card list	step 17	
14	To return the LM to service, type		
	>RTS		
	If the RTS command		Do
	passes, the LM is InSv, but SysBLMs in step 9	you recorded other	step 11
	fails, and the MAP response firmware Load	is: Invalid PP	step 17
	fails, and the system generated a	card list	step 15
	fails, and the system did not gen	erate a card list	step 17
15	Record the location, description, slot (PEC), and PEC suffix of the cards of	number, product engir n the list.	neering code
6	Perform correct procedure in <i>Card R</i> first card on the list. Complete the p	eplacement Procedure rocedure rocedure and return to	es to change t this point.
7	To load the LM, type		
	>LOADPM		
	and press the Enter key.		
	If the LOADPM command	Do	
	passes	step 19	
	fails	step 18	
8	Perform the procedure <i>Loading a PI</i> procedure and return to this point.	<i>I</i> in this document. Co	mplete the
9	To return the LM to service, type		

If the RTS command	Do
passes, the LM is InSv, but you recorded other Sy LMs in step 9	sB step 1
passes, the LM is InSv, and no other LMs are Sys	B step 4
fails and you did not replace all cards in the list the you recorded in step 15	hat step 1
fails and you replaced all cards in the list that you corded in step 15	re- step 40
To display all the C-side busy LMs, type	
>DISP STATE CBSY LM	
and press the Enter key.	
<i>Example of a MAP display response:</i> SysB LM:HOST 02 0,HOST 02 1	
Record the number of each C-side busy LM.	
Choose a C-side busy LM on which to work.	
To post the LM, type	
>POST LM site frame_no pair_no	
and press the Enter key.	
where	
site is the four-character string that indicates the loca	tion of the LN
frame_no is the number of the frame (0 to 511) that contain	is the LM
pair_no is the number of the LM (0 to 1)	
Example of a MAP display response:	
LM HOST 02 0 CBsy NoTakeover RGen : 0 Standby 1 Standby	
The fault is present on the C-side of the LM.	
To obtain the network, plane, and link numbers, type	
>TRNSL	
and press the Enter key.	
Example of a MAP display response:	

	LINK 0: NET 0 0 33;CAP:MS;STATUS:OK ,C,P;MsgCond:CLS LINK 0: NET 1 0 33;CAP:MS;STATUS:OK ,C,P;MsgCond:CLS LINK 1: NET 0 0 41;CAP: S;STATUS:OK ,C,P LINK 1: NET 1 0 41;CAP: S;STATUS:OK ,C,P	5
25	Perform the correct alarm clearing procedure in this documer procedure and return to this point.	nt. Complete the
26	To post the LM that was C-side busy, type	
	>PM;POST LM site frame_no bay_no	
	and press the Enter key.	
	where	
	site is the four-character string that indicates the location	of the LM
	frame_no is the number of the frame (0 to 511) that contains the	e LM
	pair_no is the number of the LM (0 to 1)	
	If the LM	Do
	is InSv, but you recorded other CBsy LMs in step 21	step 23
	is InSv, and no other LMs are CBsy	step 41
	remains CBsy	step 40
27	To display all the manual busy LMs, type	
	>DISP STATE MANB LM	
	and press the Enter key.	
	<i>Example of a MAP display response:</i> SysB LM :HOST 03 0,HOST 03 1	
28	Record the number of each manual busy LM.	
29	Choose a manual busy LM to work on.	
30	To post the selected LM, type	
	>POST LM site frame_no bay_no	
	and press the Enter key.	
	where	
	site is the four-character string that indicates the location	of the LM
	frame_no is the number of the frame (0 to 511) that contains the	e LM

pair_no is the number of the LM (0 to	1)	
Example of a MAP display response); ;;	
LM HOST 03 0 ManB NoTake RGen : 0 Standby 1 Star	eover udby	
Determine from office records or ope LM is manual busy. Continue this p	rating company office percent	ersonnel v
To return the LM to service, type		
>RTS		
and press the Enter key.		
If the RTS command		Do
passes, the LM is InSv, and no	other LMs are ManB	step 41
passes, the LM is InSv, but ManB LMs in step 28	you recorded other	step 30
fails, and the system generates a	a card list	step 33
fails, and the system does not ge	enerate a card list	step 35
Record the location, description, slo (PEC), and PEC suffix of the cards of	t number, product engir on the list.	eering co
Perform the correct procedure in <i>Ca</i> the first card on the list. Complete the	rd Replacement Proced	<i>dures</i> to cl n to this p
To load the LM, type		
>LOADPM		
and press the Enter key.		
If the LOADPM command	Do	
passes	step 37	
fails	step 36	
Perform the procedure "Loading a P procedure and return to this point.	M" in this document. C	omplete t
To return the LM to service, type		
>RTS		
and press the Enter key.		
		_

PM LMPr critical (end)

If the RTS command	Do
passes, the LM is InSv, but you recorded other ManB LMs in step 28	step 30
fails, and you did not replace all cards in the list that you recorded in step 33	step 38
fails, and you replaced all cards in the list that you re- corded in step 33	step 40
Perform the correct procedure in <i>Card Replacement Proced</i> the next card on the list. Complete the procedure and return	<i>ures</i> to change to this point.
Go to step 35.	
For additional help, contact the next level of support.	
The procedure is complete.	

PM LMRex minor

Alarm display

СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
•	•	•	•	1LMRex	•	•	•	•	•

Indication

At the MTC level of the MAP display, LMRex (preceded by a number) appears under the PM header of the alarm banner. The LMRex indicates a line module (LM) routine exercise (REx) test failure. The number that precedes the LMRex indicates the number of LMs that failed the REx test.

Meaning

The system generates a minor alarm when an LM fails a REx test. When an LM fails a REx test, the LM is in-service trouble (ISTb).

Result

The alarm does not affect subscriber service when an LM is ISTb.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart of the procedure and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM LMRex minor (continued)

Summary of clearing a PM LMRex minor alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

PM LMRex minor (continued)

Clearing a PM LMRex minor alarm

At the MAP terminal

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP display response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	15	0	0	1	0	5

2 Determine if an alarm is present under the Ext header of the MAP display.

lf an Ext alarm	Do	
is present	step 3	
is not present	step 4	

- **3** Perform the correct procedure in this document.
- 4 To display all the in-service trouble LMs, type
 - >DISP STATE ISTB LM
 - and press the Enter key.
 - Example of a MAP display response: ISTb LM : HOST 01 0,HOST 01 1
- 5 Record the number of each in-service trouble LM.
- 6 Choose an in-service trouble LM on which to work.
- 7 To post the LM, type

>POST LM site frame_no bay_no

and press the Enter key.

where

site is the four-character string that indicates the location of the LM

frame no

is the number of the frame (0 to 511) that contains the LM

```
bay_no
```

is the number of the LM bay (0 or 1)

Example of a MAP display response:

PM LMRex minor (end)

	LM HOST 01 0 ISTb NoTake RGen: 0 Standby 1 Star	eover ndby					
8	To run a routine exercise test on the >TST LM REX and press the Enter key.	LM, type					
	If the LM REX test	Do					
	passes, and the LM is InSv	step 14					
	fails, and the system generated a step 9 card list						
	fails, and the system did not gen-step 13 erate a card list						
9	Record the location, description, slot (PEC), and PEC suffix of the cards of	t number, product engineering code on the list.					
10	To manually busy the LM, type						
	>BSY						
	and press the Enter key.						
11	Perform the correct procedure in <i>Ca</i> the first card on the list. Complete the	rd Replacement Procedures to change ne procedure and return to this point.					
12	To return the LM to service, type						
	>RTS						
	and press the Enter key.						
	If the RTS command	Do					
	passes, and the LM is InSv	step 14					
	fails	step 13					
13	For additional help, contact the next	level of support.					

14 The procedure is complete.

PM LMRGen major or minor

Alarm display

EXt	Irks	Lns	CCS	PM	Net	IOD	MS	CM	(======)
·	•	•	n.	LMRGe M	. 1	•	•	•	
•			n.	M	. 1	•	•		

Indication

At the MTC level of the MAP display, LMRGen (preceded by a number) appears under the PM header of the alarm banner. The LMRGen indicates a fault with the line module (LM) ringing generator (RG). The number that precedes the LMRGen indicates the number of LMRGen faults.

Meaning

For a major alarm, an M appears under the alarm indicator. The system generates a major alarm when one of the two LM ringing generators is system busy.

For a minor alarm, information does not appear under the alarm indicator. The system generates a minor alarm when one of the two LMRGs is manually busy or in service trouble (ISTb).

Result

A system busy or manually-busy RG causes the loss of calls on this RG. When the other RG is in service, this RG takes over the load of the system busy or manually-busy RG.

Common procedures

There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM LMRGen major or minor (continued)

Summary of clearing a PM LMRGen major or minor alarm



DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

PM LMRGen major or minor (continued)

Clearing a PM LMRGen major or minor alarm

At the MAP display

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP display response:

SysB	ManB	OffL	CBsy	ISTb	InSv	
PM	15	0	0	1	3	5

2 Determine if an alarm is present under the Ext header of the MAP display.

If an Ext alarm is	Do
present	step 3
not present	step 4

- **3** Perform the correct procedure in this document.
- 4 To display all the in-service trouble LMs, type
 - >DISP STATE ISTB LM
 - and press the Enter key.
 - Example of a MAP display response: ISTb LM : HOST 01 0,HOST 01 1
- **5** Record the number of each in-service-trouble LM.
- 6 Choose an in-service-trouble LM on which to work.
- 7 To post the LM, type

>POST LM site frame_no bay_no

and press the Enter key.

where

site is the four-character string that indicates the location of the LM

frame_no

is the number of the LM frame (0 to 511)

bay_no

is the number of the LM bay (0 or 1)

Example of a MAP display response:

PM LMRGen major or minor (end)

If an RG	Do
is SysBorISTb	step 8
is ManB	step 11
To busy the RG, type	
>BSY RGI rgi_no	
and press the Enter key.	
where	
rgi_no is the number of the RG (0 or 1)
To test the RG, type	
>TST RGI	
and press the Enter key.	
If the TST command	Do
passes	step 11
fails	step 10
Perform the correct procedure in <i>Caro</i> the RG (NT2X05). Complete the proc	d Replacement Procedures to replaced replacement of the second second second second second second second second
To return the ringing generator to serv	vice, type
>RTS RGI rgi_no	
and press the Enter key.	
where	
rgi_no is the number of the RG (0 or 1)
If the RTS command	Do
passag and both PCs are In Cr	step 13
passes, and bour KOs are 1115V	

8

9

10

11

12 13

PM LTC critical

Alarm display

СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext
•	•	•	•	1LTC *C*	•	•	•	•

Indication

At the MTC level of the MAP display, LTC (preceded by a number and followed by a $*C^*$) appears under the PM header of the alarm banner. The LTC indicates a critical alarm for a line trunk controller (LTC). The number that precedes the LTC indicates the number of LTCs that the alarm affects. The preceding figure shows an alarm banner with an LTC critical alarm.

Meaning

The LTC is system busy (SysB) or C-side busy (CBsy). An LTC is C-side busy if both units are C-side busy.

An LTC is system busy under one of the following conditions:

- both LTC units are system busy
- one unit is system busy and the other unit is manually busy (ManB)

Result

Service stops when an LTC is system busy or C-side busy.

Common procedures

This procedure refers to the following common procedures:

- "Clearing PM C-side faults"
- "Monitoring system maintenance"

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This section provides a summary flowchart and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

PM LTC critical (continued)

Summary of clearing a PM LTC critical alarm



PM LTC critical (continued)

LTC shelf design

ъ			NT2X70	Power converter card
R			NT0X50	Filler faceplate
R			NT0X50	Filler faceplate
			NT6X40	DS30 C-side interface card
R			NT6X41	Speech bus formatter card
R	NTMX71	XPM+ terminator PB	NT6X42	CSM card
R			NT0X50	Filler faceplate
8R			NT6X69	Message protocol card
'R			NT6X92	Universal tone receiver card
βR			NTBX01	ISDN signaling preprocessor
5R			NT6X92	Universal tone receiver card
4R			NT6X44 NTAX78	Time switch card, or Time switch card (Note 1)
3R			NT0X50	Filler faceplate
2R			NTMX77	Unified processor
2R			NTSX05	SX05 processor (Note 2)
1R			NT0X50	Filler faceplate
)R			NT0X50	Filler faceplate
9R			NT0X50	Filler faceplate
8R			NT0X50	Filler faceplate
7R			NT0X50	Filler faceplate
R			NT6X48	DS30A Interface card
5R			NT6X48	DS30A Interface card
4R			NT6X50	DS-1 Interface card
3R			NT6X50	DS-1 Interface card
2R			NT6X50	DS-1 Interface card
1R I			N16X50	DS-1 Interface card

PM LTC critical (continued)

Clearing a PM LTC critical alarm

At the MAP display

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP response:

PM	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12
lf				Do		
an a	udible ala	rm rings		step 2		
no a	udible ala	rm rings		step 3		

2 To silence the alarm, type

>SIL

and press the Enter key.

3 To determine if system busy or C-side busy LTCs cause the critical alarm, type

>STATUS

and press the Enter key.

Example of a MAP response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	2	0	0	2	0	25
TM8	0	0	0	0	0	2
MTM	0	0	0	0	0	3
LGC	1	0	0	0	0	3
LCM	0	0	0	2	0	0
LTC	1	0	0	0	0	1
LIM	0	0	0	0	0	1
LIU7	0	0	0	0	0	1
FRIU	0	0	0	0	0	1
DTC	0	0	0	0	0	1
LCME	0	0	0	0	0	1
						MORE

Note: If LTCs are both SysB and CBsy, work on the SysB LTCs first.

To display all the CBsy or SysB LTCs, type						
>DISP STATE state LTC						
and press the Enter key.						
where state						
						Example of a MAP response:
SysB LTC : 0						
<i>Note:</i> If multiple LTCs are CBsy or SysB, select an LTC on which to work Record the number of the LTC.						
lf you	Do					
recover a CBsy LTC	step 5					
recover a SysB LTC	step 6					
Go to the common procedure "Clearing PM C-side faults" in this document Complete the procedure and return to this point.						
lf	Do					
the LTC remains CBsy	Treat the CBsy LTC as a SysB LTC and go to step 25.					
the LTC changes to SysB	step 6					
one LTC unit returns to service	step 46					
both LTC units return to service	step 48					
Check the Ext header of the alarm banner.						
If an FSP alarm	Do					
is present	step 7					
is not present	step 25					
To locate the frame supervisory panel (FSP) alarm, type						
>EXT; LIST FSP						
and press the Enter key.						
<i>Example of a MAP response:</i> FSPAISD						

In this example, the alarm is an FSP alarm on Aisle D.
At the equipment aisle

8 Go to the aisle that you identified in step 7. The end aisle alarm is lit.

At the equipment frame

9 To identify the frame with the FSP alarm, check the FRAME FAIL lamp on the FSP of each frame. The frame with the FSP alarm has a lit FRAME FAIL lamp. The following figure shows an FSP with a lit FRAME FAIL lamp.



Note: The CB3 does not fit in a frame for a common peripheral controller equipment (CPCE).

10 The following figure shows a line trunk equipment (LTE) and a digital trunk equipment (DTE) frame. Because this is an LTC critical alarm, the frame type that contains the LTC is a CPCE type. The CPCE frame can be an LTE frame, or a line group equipment (LGE) frame. The CPCE frame type also can be a DTE frame. Identify the PMs in the frame. Refer to the following figure for help.



11 Check the Converter Fail LED on each NT2X70 power converter card in the frame. Refer to the figure "LTC shelf design" for help to locate this card. Refer to the following figure of an NT2X70AE card for help to check the Converter Fail LED.



If any LEDs	Do
are lit	step 12
are not lit	step 16

12 Note the LTC with the LED lamps on.

At the MAP display

13

ATTENTION

Record the active unit (0 or 1) to use later in this procedure. When you manual busy the LTC, unit activity will not display.

To post the system busy LTC, type >PM; POST LTC ltc_no and press the Enter key. where ltc_no is the number (0 to 255) of the LTC that you recorded in step 4

Example of a MAP response:

	PM Type: LTC PM No.: 0 PM PMs Equipped: 38 Loadname: Unit 0 is patched Unit 1 is patched	Int. No: 0 Node_No.: 21 ECL07BI
	If a Mtce indicator	Do
	appears next to either unit	step 14
	does not appear	step 15
	Go the common procedure "Monitoring document. Complete the procedure a	g system maintenance" in this nd return to this step.
	If the critical alarm	Do
	remains	step 15
	changes	step 46
	clears	step 48
	Determine if the LTC is the same as the	ne LTC that you identified in step 12.
	If the LTC	Do
	is different	step 16
	is the same	step 17
	Clear the FSP alarm. Perform the correct procedure in this document. Complete the procedure and return to step 6.	
	To busy the LTC, type	
	>BSY PM	
	and press the Enter key.	
	Choose the active unit to work on, as	recorded in step 13.
e	equipment frame	
	Change the NT2X70 card. Refer to th <i>Replacement Procedures</i> . Complete	e correct procedure in <i>Card</i> the procedure and return to this point.
ne	MAP display	
	The NT7X05 peripheral/remote loader	(PRL) card used with the NTMX77 or

data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

21

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LTC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI (Processor load file name)

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 21
is not present	step 24
Determine if the LTC is equipped with PRL card.	an NTSX06 PRL packlet or an NT7X05

If the LTC is equipped with an	Do
NT7X05 PRL card	step 22
NTSX06 PRL packlet	step 23

22	To load the LTC from the local image, type
	>LOADPM PM LOCAL IMAGE
	and press the Enter key.

If the load	Do
passed	step 37
failed	step 23

23



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the LTC from the local loadfile, type

>LOADPM PM LOCAL LOADFILE

and press the Enter key.

If the load	Do	
passed	step 37	
failed	step 24	
To load the LTC that you worked on in step19, type		
>LOADPM PM		
and press the Enter key.		
If the load	Do	
failed, and the system generated a card list	step 38	
failed, and the system did not generate a card list	step 47	
passed	step 37	

24

25	To post the LTC, type >POST LTC ltc_no and press the Enter key. where Itc_no is the number (0 to 255) of the LTC that you recorded in step 4		
	Example of a MAP response:		
	LTC 0 SysB Links_OOS: Unit0: Act SysB Unit1: Inact SysB	CSide 20, PSide 0	
	If a Mtce indicator	Do	
	appears next to either unit	step 26	
	does not appear	step 27	
26	Go the common procedure "Monitoring system maintenance" in this document. Complete the procedure and return to this point.		
	If the critical alarm	Do	
	remains	step 27	
	changes	step 46	
	clears	step 48	
27	To query the LTC for fault indications, type		
	>QUERYPM FLT		
	and press the Enter key.		
	<i>Example of a MAP response:</i> Activity dropped		
28	Record the MAP response.		
	If the MAP response for the unit that you selected	Do	
	is SWACT In Progress	step 29	
	is Load Corruption	step 30	
	is Load Failed	step 30	
	is Distributed Data Loading Failed	step 30	

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PM LTC critical (continued)

If the MAP response for the unit that you selected	Do
is Activity dropped	step 30
is Not loaded since power up	step 30
is other than listed here	step 36
n an attempt to recover the LTC, the sy wo LTC units. Wait until system main	stem switches the activity between the tenance is complete.
lf	Do
If the LTC units do not return to service	Do step 36

both LTC units return to service step 48

30 To busy the LTC, type

>BSY PM

and press the Enter key.

31 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LTC with an NTMX77 processor with an NT7X05 PRL card:

Unit 0: Flash load File: ECL07BI Flash Image File:ECL07BI Flash Image Timestamp: 1996/01/17 16:01:52.944 WED. Unit 1: Flash load File: ECL07BI Flash Image File:ECL07BI Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.

Example of a MAP display for an LTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 0:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash Image File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If a PRL card or packlet	Do
is present	step 32
is not present	step 35

32 Determine if the LTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the LTC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

QueryPM config UNIT 0 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet UNIT 1 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet

If the LTC is equipped with an	Do
NT7X05 PRL card	step 33
NTSX06 PRL packlet	step 34

33

To load the LTC from the local image, type >LOADPM PM LOCAL IMAGE

>IOADPM PM IOCAL IMAC

and press the Enter key.

If the load	Do	
passed	step 37	
failed	step 34	

34



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the LTC from the local loadfile, type

>LOADPM PM LOCAL LOADFILE

and press the Enter key.

If the load	Do
passed	step 37
failed	step 35
To load the LTC, type	
>LOADPM PM	
and press the Enter key.	
If the load	Do
failed, and the system generated a card list	step 38
failed, and the system did not generate a card list	step 47
passed	step 37

35

36	To busy the LTC, type	
	>BSY PM	
	and press the Enter key.	
37	To return the LTC to service, type	
	>RTS PM	
	and press the Enter key.	
	If	Do
	the LTC failed to return to service, and the system generated a card list	step 38
	one LTC unit returns to service	step 46

At the equipment frame

38 Replace the first or next card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LTC shelf design" in this procedure for help to locate this card.

The MAP response in step 13 (if you completed this step) or step 28 can help you isolate the card that has faults. Refer to the following table for help.

MAP response	Suspect cards
PM Audit	NT6X69, NTMX77, NTSX05
Activity Dropped	NTMX77, NTSX05
No WAI Received	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
LINK Audit	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
Load Corruption	NT6X42, NTMX77, NTSX05
Load Failed	NTMX77, NTSX05
Distributed Data Loading Failed	NT6X69, NTMX77, NTSX05

If you replace	Do
an NT6X42 or MTMX77 card	step 39
an NTSX05 card	step 40
any other card	step 44

At the MAP display

39 Use the information that you recorded in step 13 to load the active LTC unit. To load the active LTC unit from the local image on the NT7X05 or NTSX06 PRL card, type

>LOADPM ACTIVE LOCAL IMAGE

and press the Enter key.

If the load	Do
passed	step 42
failed	step 40

40



DANGER

Possible service interruption The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the active LTC unit from the local loadfile on the PRL card, type

>LOADPM ACTIVE LOCAL LOADFILE

and press the Enter key.

If the load	Do
passed	step 42
failed	step 41

41 To load the active LTC unit from the CM, type

>LOADPM ACTIVE

	Do
passed	step 42
failed	step 47
To query the LTC counters for t	he firmware load on the NTMX77 or NTSX05
QUERYPM CNTRS	
and press the Enter key.	
Example of a MAP display for a	an LTC equipped with an NTMX77:
Jnsolicitited MSG limit Jnit 0: Ram Load: ECL07BI EPRom Version: AB02 EEPRom Load: Loadable:	<pre>x = 250, Unit 0 = 0, Unit 1 = 0 MX77NG03, Executable: MX77NG03</pre>

42

Example of a MAP display for an LTC equipped with an NTSX05:

JueryPM Cntrs Jnsolicited MSG	limit = 250 ,	$\bigcup_{i=1}^{n} \bigcup_{i=1}^{n} \bigcup_{i$	0
Jnit O:	_		
QueryPM CNTRS co Init at ROM low	ommand may ta	ke up to 2 minute	S
EPRom Load: Lo	adable: SA01	Executable: SA01	
JP:SX05AA	duadic: Brui,	EXCEREDIC: DAVI	
LP:BX01			
Jnit 1:			
Ram Load: QLI10	BG		
PRom Version: 2	AC01 г — т	г — -	
EEPRom Load: Loa	adable: <u>SA0</u> 1,	Executable: SA01	<u> </u>
JP:SX05AA		A	
[P:BX01	L N		
		adname version	
	10		
If firmware		Do	
is valid		step 44	
		10	
is invalid To load the NTMX7 >LOADFW ACTIVE	7 or NTSX05 firm	step 43 ware, type	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter	7 or NTSX05 firm key.	step 43 ware, type	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load	7 or NTSX05 firm key.	step 43 ware, type Do	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load passed	7 or NTSX05 firm key.	step 43 ware, type Do step 44	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load passed failed	7 or NTSX05 firm key.	step 43 ware, type Do step 44 step 47	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load passed failed To return the active	7 or NTSX05 firm key. LTC unit to servio	step 43 ware, type Do step 44 step 47 ce, type	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load passed failed To return the active >RTS ACTIVE	7 or NTSX05 firm key. LTC unit to servio	step 43 ware, type Do step 44 step 47 ce, type	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load passed failed To return the active >RTS ACTIVE and press the Enter	7 or NTSX05 firm key. LTC unit to servio key.	step 43 ware, type Do step 44 step 47 ce, type	
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load passed failed To return the active >RTS ACTIVE and press the Enter If the unit	7 or NTSX05 firm key. LTC unit to servio key.	step 43 ware, type Do step 44 step 47 ce, type	Do
is invalid To load the NTMX7 >LOADFW ACTIVE and press the Enter If load passed failed To return the active >RTS ACTIVE and press the Enter If the unit does not return to cards on the list of	7 or NTSX05 firm key. LTC unit to servic key.	step 43 ware, type Do step 44 step 47 ce, type u did not replace all re faults	Do step 45
is invalid To load the NTMX77 >LOADFW ACTIVE and press the Enter If load passed failed To return the active >RTS ACTIVE and press the Enter If the unit does not return to cards on the list of on the list of card	7 or NTSX05 firm key. LTC unit to servic key. o service, and yo of cards that hav o service, and yo ls that have faul	step 43 ware, type Do step 44 step 47 ce, type u did not replace all re faults ou replaced all cards ts	Do step 45 step 47

43

44

PM LTC critical (end)

If the unit	Do
returns to service	step 46

At the equipment frame

45 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LTC shelf design" in this procedure for help in how to locate this card.

If you replace	Do
an NTMX77 or NT6X42 card	step 39
an NTSX05 card	step 40
any other cards	step 44

- 46 The LTC critical alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm. Go to step 48.
- **47** You need additional maintenance action to clear this alarm. Contact the next level of support. Describe in detail the steps that you performed to clear this alarm.
- **48** The procedure is complete.

PM LTC major

Alarm display

	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext
	•	•	•	•	1LTC		•		
					Μ				
J									

Indication

At the MTC level of the MAP display, LTC (preceded by a number and followed by an M) appears under the PM header of the alarm banner. The LTC indicates a major alarm for a line trunk controller (LTC). The number that precedes the LTC indicates the number of LTCs that the alarm affects. The preceding figure shows an alarm banner with an LTC major alarm.

Meaning

The LTC is in-service trouble (ISTb) as a result of one of the following conditions:

- one unit is system busy and one unit is ISTb
- one unit is system busy and one unit is in service
- one unit is C-side busy and one unit is ISTb
- one unit is C-side busy and one unit is in service

Result

The alarm does not affect service. A backup unit is not available within the LTC.

Common procedures

The procedure refers to the following common procedures:

- "Clearing C-side faults"
- "Monitoring system maintenance"

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM LTC major alarm



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LTC shelf design

5R			NT2X70	Power converter card
4R			NT0X50	Filler faceplate
3R			NT0X50	Filler faceplate
2R			NT6X40	DS30 C-side interface card
1R			NT6X41	Speech bus formatter card
0R	NTMX71	XPM+ terminator PB	NT6X42	CSM card
9R			NT0X50	Filler faceplate
8R			NT6X69	Message protocol card
7R			NT6X92	Universal tone receiver card
6R			NTBX01	ISDN signaling preprocessor
5R			NT6X92	Universal tone receiver card
4R			NT6X44 NTAX78	Time switch card, or Time switch card (Note 1)
3R			NT0X50	Filler faceplate
2R			NTMX77	Unified processor
2R			NTSX05	SX05 processor (Note 2)
1R			NT0X50	Filler faceplate
0R			NT0X50	Filler faceplate
9R			NT0X50	Filler faceplate
8R			NT0X50	Filler faceplate
7R			NT0X50	Filler faceplate
6R			NT6X48	DS30A Interface card
5R			NT6X48	DS30A Interface card
4R			NT6X50	DS-1 Interface card
3R			NT6X50	DS-1 Interface card
2R			NT6X50	DS-1 Interface card
			NT6X50	DS-1 Interface card

Clearing a PM LTC major alarm

At the MAP display

2

3

4

5

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP display response:

PM	SysB 1	ManB 3	OffL 5	CBsy 7	ISTb 6	InSv 12
lf				Do		
an	audible al	arm rings		step 2		
no	audible al	arm rings		step 3		
To si	lence the a	alarm, type				
>SII	L					
and	press the E	Enter key.				
To di	isplay all th	e ISTb LTCs,	type			
>DI	SP STATE	ISTB LTC				
and press the Enter key. <i>Example of a MAP display response:</i> ISTB LTC : 0						
N th	ote: If mul	tiple LTCs are	e ISTb, se	lect an LT	C on which to	work. Record
Cheo (FSF	ck the Ext I ?) alarm.	neader of the	alarm ba	nner for a	frame superv	isory panel
If a	n FSP ala	rm		Do		
is p	present			step 5		
is r	not presen	t		step 22		
To lo	cate the F	SP alarm, typ	е			
>EX:	F; LIST	FSP				
and	press the E	Enter key.				
Example of a MAP display response: FSPAISD						

In this example, the alarm is an FSP alarm on Aisle D.

At the equipment aisle

6 Go to the aisle that you identified in step 5. The end aisle alarm is lit.

At the equipment frame

7 To identify the frame with the FSP alarm, check the FRAME FAIL lamp on the FSP. The frame with the FSP alarm has a lit FRAME FAIL lamp. The following figure shows an FSP with a lit fail lamp.



Note: The CB3 does not fit in a frame for a common peripheral controller equipment (CPCE).

8

The following figure shows a line trunk equipment (LTE) frame. Because this is an EXT FSP alarm, the frame that contains the LTC is a common peripheral control equipment (CPCE) type and can be an LTE frame. The FSP alarm also can appear in a digital trunk equipment (DTE) frame or a line group equipment (LGE) frame. Identify the PMs in the frame. Refer to the following figure for help.



9 Check the Converter Fail LED on each NT2X70 power converter card in the frame. Refer to the figure "LTC shelf design" in this procedure for help to locate this card. Refer to the following figure of an NT2X70AE card for help to check the Converter Fail LED.

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If any LEDs	Do	
are lit	step 10	
are not lit	step 14	

10 Note the LTC with the LED lamp on.

At the MAP display

11 To post the LTC, type

>PM; POST LTC ltc_no

and press the Enter key.

where

Itc_no is the number (0 to 255) of the LTC that you recorded in step 3 *Example of a MAP display response:*

LTC 0 ISTb		Links_00S:	CSide 17, PSide 0	
Unit0:	Act	InSv		
Unit1:	Inact	CBsy		
If a Mtce	e indicato	•	Do	
appears next to either unit			step 12	
does not appear		step 13		

12 Go to the common procedure "Monitoring system maintenance" in this document. Complete the procedure and return to this point.

If the major alarm	Do
remains	step 13
changes	step 47
clears	step 49

13 Determine if the LTC is the same as the LTC that you identified in step 10.

If the LTC	Do
is different	step 14
is the same	step 15

- 14 Clear the FSP alarm. Perform the correct alarm clearing procedure in this manual. Complete the procedure and return to step 4.
- 15 To busy the SysB LTC unit, type
 - >BSY UNIT unit_no

and press the Enter key.

where

unit_no

is the number (0 to 1) of the LTC unit

At the equipment frame

16 Change the NT2X70 card. Refer to the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

At the MAP display

17 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM

data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LTC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI (Processor load file name)

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 1:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If the PRL card or packlet	Do
is present	step 18
is not present	step 21

18 Determine if the LTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card.

If the LTC is equipped with an	Do
NT7X05 PRL card	step 19
NTSX06 PRL packlet	step 20

 19
 To load the LTC unit from the local image, type

 >LOADPM UNIT unit_no LOCAL IMAGE

 and press the Enter key.

 where

 unit_no

 is the number (0 to 1) of the LTC unit

 If the load
 Do

 passed
 step 36

 failed
 step 20

20



DANGER

Possible service interruption The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the LTC unit from the local loadfile, type

>LOADPM UNIT unit_no LOCAL LOADFILE

and press the Enter key.

where

unit_no

is the number (0 to 1) of the LTC unit

If the load	Do	
passed	step 36	
failed	step 21	

21 To load the LTC unit, type >LOADPM UNIT unit_no and press the Enter key. where 22

23

24

PM LTC major (continued)

If the load	Do
failed, and the system generated a card list	step 37
failed, and the system did not generate a card list	step 48
passed	step 36
To post the LTC, type >POST LTC ltc_no and press the Enter key. where Itc_no is the number (0 to 255) of the Example of a MAP display response: LTC 0 InSv Links_00S: Unit0: Act InSv	LTC that you recorded in step 3 CSide 20, PSide 0
Unitl: Inact SysB	Do
	50
	aton 22
appears next to entite unit	step 23
does not appear	step 23 step 24
does not appear Go to the common procedure "Monito document. Complete the procedure a	step 23 step 24 ring system maintenance" in this ind return to this point.
does not appear Go to the common procedure "Monito document. Complete the procedure a	step 23 step 24 ring system maintenance" in this ind return to this point.
does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains	step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24
does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes	step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 24 step 47
does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes clears	step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 47 step 49
does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes clears Determine the maintenance state of e	step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 47 step 49 ach LTC unit.
does not appear Go to the common procedure "Monito document. Complete the procedure a If the alarm remains changes clears Determine the maintenance state of e If	step 23 step 24 ring system maintenance" in this ind return to this point. Do step 24 step 47 step 49 ach LTC unit. Do

	lf	Do					
	one unit is SysB and the other unit is InSv or ISTb	Work on the SysB unit. Go to step 26.					
	Go to the common procedure "Clearing PM C-side faults" in this document. Complete the procedure and return to this point.						
	lf	Do					
	the LTC remains ISTb because one unit is SysB and the other is InSv or ISTb	Work on the SysB unit. Go to step 26.					
	the LTC returns to service	step 49					
To query the LTC for fault indications, type							
	>QUERYPM FLT						
	and press the Enter key.						
	<i>Example of a MAP display response:</i> Activity dropped						
Record the MAP response.							
	If the MAP response	Do					
	is SWACT In Progress	step 28					
	is Load Corruption	step 29					
	is Load Failed	step 29					
	is Distributed Data Loading Failed	step 29					
	is Activity dropped	step 29					
	is other than listed here	step 35					
	In an attempt to recover the LTC, the system switches the activity between the two LTC units. Wait until system maintenance is complete.						
	If the LTC	Do					
	does not return to service	step 35					
	returns to service	step 49					

PM LTC

major (continued)

29 To busy the LTC unit, type

>BSY UNIT unit_no

and press the Enter key.

30 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LTC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LTC with an NTSX05 processor with an NTSX06 PRL card:

τ	Jnit O:				
	Slotlet):			
	Flash	Load File: <u>QLI</u> 1() <u>bi</u>	�─(Proce	essor load file name)
	Flash	Image File: QLI10)BI		
	Flash	CMR File: CMR07A			
τ	Jnit 1				
	Slotlet):			
	Flash	Load File: QLI10)BG **	Mismatch	* *
	Flash	Image File: QLI10)BG **	Mismatch	* *
	Flash	CMR File: CMR07A			

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If a PRL card or packlet	Do
is present	step 31
is not present	step 34

31 Determine if the LTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the LTC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config UNIT 0 Request invalid. Unit does not have SX05 processor UNIT 1 Request invalid. Unit does not have SX05 processor

Example of a MAP response if an SX05 processor is present

QueryPM config UNIT 0 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet UNIT 1 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet

If the LTC is equipped with an	Do			
NT7X05 PRL card	step 32			
NTSX06 PRL packlet	step 33			
To load the LTC from the local image, type				
>LOADPM UNIT unit_no LOCAL IMAGE				

and press the Enter key.

where

unit no

is the number (0 to 1) of the LTC unit

If the load	Do
passed	step 36
failed	step 33

33

32



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string}]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

	To load the LTC unit from the local load	dfile, type		
	>LOADPM UNIT unit_no LOCAL LOADFILE			
	where			
	unit_no is the number (0 to 1) of the LTC unit			
	If the load	Do		
	passed	step 36		
	failed	step 34		
34	To load the LTC unit, type			
	>LOADPM UNIT unit_no			
	and press the Enter key.			
	If the load	Do		
	failed, and the system generated a card list	step 37		
	failed, and the system did not generate a card list	step 48		
	passed	step 36		
35	To busy the LTC unit that has faults, ty	ре		
	>BSY UNIT unit_no			
	and press the Enter key.			
	where			
	unit_no is the number (0 to 1) of the LT(C unit		
36	36 To return the LTC unit to service, type			
	>RTS UNIT unit_no			
	and press the Enter key.			
	where			
	unit_no is the number (0 to 1) of the LTC unit			
	If the LTC unit	Do		
failed, and the system generated step 37 a card list				

If the LTC unit	Do
failed, and the system did not generate a card list	step 48
passed	step 49

At the equipment frame

37 Replace the first card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LTC shelf design" in this procedure for help in how to locate this card.

The MAP response in step 11 (if you completed this step) or step 27 can help you isolate the card that has faults. Refer to the following table for help.

MAP response	Suspect cards
PM Audit	NT6X69, NTMX77, NTSX05
Activity Dropped	NTMX77, NTSX05
No WAI Received	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
LINK Audit	NT6X40, NT6X41, NT6X42, NT6X44, NT6X69, NTAX78, NTMX77, NTSX05
Load Corruption	NT6X42, NTMX77, NTSX05
Load Failed	NTMX77, NTSX05
Distributed Data Loading Failed	NT6X69, NTMX77, NTSX05

Do

If you replace an NT6X42, NTMX77,

replace an NT6X42, NTMX77, step 38 or NTSX05 card

replace any other card step 45

At the MAP display

38 The NT7X05 peripheral/remote loader (PRL) card used with the NTMX77 or the NTSX06 PRL card in the NTSX05 processor, allows a local load of XPM

data. A local load of XPM data reduces recovery time. To determine if a PRL card is present, type

>QUERYPM FILES

and press the Enter key.

Note: If PRL cards are not present, the MAP response is: Flash not datafilled. QueryPm files invalid

Example of a MAP display for an LTC with an NTMX77 processor with an NT7X05 PRL card:

```
Unit 0:

Flash load File: ECL07BI (Processor load file name)

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:01:52.944 WED.

Unit 1:

Flash load File: ECL07BI

Flash Image File:ECL07BI

Flash Image Timestamp: 1996/01/17 16:04:52.944 WED.
```

Example of a MAP display for an LTC with an NTSX05 processor with an NTSX06 PRL card:

```
Unit 0:

Slotlet 0:

Flash Load File: OLI10BI

Flash Image File: QLI10BI

Flash CMR File: CMR07A

Unit 1

Slotlet 1:

Flash Load File: QLI10BG ** Mismatch **

Flash Image File: QLI10BG ** Mismatch **

Flash CMR File: CMR07A
```

Note: If the load file on the flash memory is bad or missing, the system response is Unusable load file or file not found. Reload flash.

If a PRL card or packlet	Do
is present	step 39
is not present	step 42

39 Determine if the LTC is equipped with an NTSX06 PRL packlet or an NT7X05 PRL card. To determine if the LTC is equipped with an NTSX05 with an NTSX06 PRL, type

>QUERYPM CONFIG

and press the Enter key.

The response identifies if an NTSX05 is installed and what the PEC of the NTSX06 PRL card is, if installed.

Example of a MAP response if no SX05 processor is present

QueryPM config	
UNIT 1 Request invalid. Unit	does not have SX05 processor
Example of a MAP response if an S	SX05 processor is present
QueryPM config UNIT 0 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA PCMCIA Slotlet 1: No packlet UNIT 1 Slot 12: SX05AA PCMCIA Slotlet 0: SX06CA	
PCMCIA Slotlet 1: No packlet	Do
NT7X05 PRL card	step 40
NT7X05 PRL card NTSX06 PRL packlet	step 40 step 41
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local >LOADPM UNIT unit_no LOCAL	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type IMAGE
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local >LOADPM UNIT unit_no LOCAL and press the Enter key.	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type IMAGE
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local >LOADPM UNIT unit_no LOCAL and press the Enter key. where	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type IMAGE
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local >LOADPM UNIT unit_no LOCAL and press the Enter key. where unit_no is the number of the inactive	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type IMAGE LTC unit that you recorded in step 11
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local >LOADPM UNIT unit_no LOCAL and press the Enter key. where unit_no is the number of the inactive If the load	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type IMAGE LTC unit that you recorded in step 11 Do
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local >LOADPM UNIT unit_no LOCAL and press the Enter key. where unit_no is the number of the inactive If the load passed	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type IMAGE LTC unit that you recorded in step 11 Do step 43
NT7X05 PRL card NTSX06 PRL packlet Use the information recorded in step the inactive LTC unit from the local >LOADPM UNIT unit_no LOCAL and press the Enter key. where unit_no is the number of the inactive If the load passed failed	step 40 step 41 o 11 to load the inactive LTC unit. To load image on the NT7X05 PRL card, type IMAGE LTC unit that you recorded in step 11 Do step 43 step 41

41

40



DANGER

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the inactive LTC unit from the local loadfile on the PRL card, type >LOADPM UNIT unit_no LOCAL LOADFILE

42

43

PM LTC major (continued)

and press the Enter key.	
where	
unit_no is the number of th	ne inactive LTC unit that you recorded in step 11
If the load	Do
passed	step 43
failed	step 42
To load the inactive LTC	unit from the CM, type
>LOADPM UNIT unit_	no
and press the Enter key.	
where	
unit_no is the number of th	ne inactive LTC unit that you recorded in step 11
If the load	Do
passed	step 43
failed	step 48
To query the LTC counter type	s for the firmware load on the NTMX77 or NTSX05
>QUERYPM CNTRS	
and press the Enter key.	
Example of a MAP displa	ay for an LTC equipped with an NTMX77:
Unsolicitited MSG limit Unit 0:	= 250, Unit 0 = 0, Unit 1 = 0
Ram Load: ECL07BI	
EEPRom Load: Loadable: UP:MX77AA	MX77NG03, Executable: MX77NG03
Unit 1: Ram Load: ECL07BI EPRom Version: AB02	NTMX77 Firmware loadname
EEPRom Load: Loadable:	MX77NG03, Executable: MX77NG03,

Example of a MAP display for an LTC equipped with an NTSX05:

```
Unsolicited MSG limit = 250, Unit 0 = 0, Unit 1 = 0
         Unit 0:
         QueryPM CNTRS command may take up to 2 minutes
         Unit at ROM level
         EEPRom Load: Loadable: SA01, Executable: SA01
         UP:SX05AA
         IP:BX01
                                      NTSX05 Firmware
         Unit 1:
                                       loadname version
         Ram Load: QLI10BG
         EPRom Version: AC01
         EEPRom Load: Loadable: SA01, Executable:
                                                   SA01
         UP:SX05AA
         IP:BX01
        If firmware
                                             Do
        is valid
                                             step 45
        is invalid
                                             step 44
44
       To load the NTMX77 or NTSX05 firmware, type
       >LOADFW UNIT unit_no
       and press the Enter key.
       where
           unit no
              is the number of the inactive LTC unit that you recorded in step 11
        If the load
                                             Do
        passed
                                             step 45
        failed
                                             step 48
45
       To return the LTC unit to service, type
       >RTS UNIT unit_no
       and press the Enter key.
       where
           unit no
              is the number of the inactive LTC unit that you recorded in step 11
        If the unit
                                                                  Do
        does not return to service, and you did not replace all
                                                                  step 46
        cards on the list of cards that have faults
        does not return to service, and you replaced all cards
                                                                 step 48
         on the list of cards that have faults
```

PM LTC major (end)

If the unit	Do
fails, and the system did not generate a card list	step 48
returns to service	step 49

At the equipment frame

47

48

46 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figure "LTC shelf design" in this procedure for help to locate this card.

If you replace			Do	
an NT	NTMX77, 6X42 card	NTSX05	or	step 38
any	other cards			step 45
The LTC major alarm changed to another type of alarm. Refer to the correct alarm clearing procedure in this document. Go to step 49.				
For a	dditional help,	contact the n	ext le	evel of support.

49 The procedure is complete.
PM LTC minor

Alarm display

ſ	 СМ	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	•		•	•	1LTC	•	•	•	•	

Indication

At the MTC level of the MAP display, an LTC (preceded by a number) appears under the PM header of the alarm banner. The LTC indicates a minor alarm for a line trunk controller (LTC). The number that precedes the LTC indicates the number of LTCs that the alarm affects. The preceding figure shows an alarm banner with an LTC minor alarm.

Meaning

The LTC is in-service trouble (ISTb) as a result of one of the following conditions:

- both units are ISTb
- one unit is ISTb and one unit is in service
- one unit is ISTb and one unit is manual busy
- one unit is in service and one unit is manual busy
- both units are in service with some P-side links or C-side links that are out of service

Result

The alarm does not affect service.

Common procedures

The procedure refers to the following common procedures:

- "Monitoring system maintenance"
- "Clearing PM C-side faults"

Do not go to the common procedures unless the step-action procedure directs you to go.

PM LTC

minor (continued)

Action

This section provides a summary flowchart and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

Summary of clearing a PM LTC minor alarm



PM LTC minor (continued)

NT0X50 NT0X50 NT6X40 NT6X41 NT6X42 NT0X50 NT6X69 NT6X92 NT6X92	Filler faceplate Filler faceplate DS30 C-side interface card Speech bus formatter card CSM card Filler faceplate Message protocol card Universal tone receiver card
NT0X50 NT6X40 NT6X41 NT6X42 NT0X50 NT6X69 NT6X92 NT6X92	Filler faceplate DS30 C-side interface card Speech bus formatter card CSM card Filler faceplate Message protocol card Universal tone receiver card
NT6X40 NT6X41 NT6X42 NT0X50 NT6X69 NT6X92 NTBX01	DS30 C-side interface card Speech bus formatter card CSM card Filler faceplate Message protocol card Universal tone receiver card
NT6X41 NT6X42 NT0X50 NT6X69 NT6X92 NTBX01	Speech bus formatter card CSM card Filler faceplate Message protocol card Universal tone receiver card
NT6X42 NT0X50 NT6X69 NT6X92 NTBX01	CSM card Filler faceplate Message protocol card Universal tone receiver card
NT0X50 NT6X69 NT6X92 NTBX01	Filler faceplate Message protocol card Universal tone receiver card
NT6X69 NT6X92 NTBX01	Message protocol card Universal tone receiver card
NT6X92 NTBX01	Universal tone receiver card
NTBX01	
	ISDN signaling preprocessor
NT6X92	Universal tone receiver card
NT6X44 NTAX78	Time switch card, or Time switch card (Note 1)
NT0X50	Filler faceplate
NTMX77	Unified processor
NTSX05	SX05 processor (Note 2)
NT0X50	Filler faceplate
NT6X48	DS30A Interface card
N16X48	DS30A Interface card
NT6X50	DS-1 Interface card
NT6X50	DS-1 Interface card
NT6X50	DS-1 Interface card
N16X90	DS-1 Interface card
	NTOX50 NTOX50 NTOX50 NTOX50 NTOX50 NTOX50 NTOX50 NTOX50 NTOX50 NTOX50 NT6X48 NT6X48 NT6X48 NT6X50 NT6X50 NT6X50 NT6X50 NT6X50

LTC shelf design

DMS-100 Family NA100 Alarm Clearing and Perform. Monitoring Proc. Volume 3 of 4 LET0015 and up

PM LTC minor (continued)

Clearing a PM LTC minor alarm

At the MAP display

2

3

4

- 1 To access the PM level of the MAP display, type
 - >MAPCI;MTC;PM
 - and press the Enter key.

Example of a MAP display response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
ΡM	1	3	5	7	6	12
lf				Do		
an a	udible ala	arm rings		step 2		
no a	audible al	arm rings		step 3		
To sil	ence the a	larm, type				
>SIL	ı					
and p	oress the E	nter key.				
To dis	splay all the	e ISTb LTCs	, type			
>DIS	P STATE	ISTB LTC				
and p	oress the E	nter key.				
<i>Exan</i> ISTb	nple of a M LTC : 0	IAP display r	esponse:			
No this	o te: If mult s procedur	iple LTCs are te for each LT	e ISTb, se FC that is	lect an LTC ISTb.	on which to	work. Repea
Reco	rd the num	ber of the LT	TC.			
То ро	st the LTC	, type				
>POS	T LTC lt	c_no				
and p	oress the E	nter key.				
where	е					
lt	:c_no is the nu	mber (0 to 2	55) of the	LTC that yo	ou recorded i	n step 3
_						

PM LTC minor (continued)

LTC	0		ISTb	Links_	_00S:	CSide 0, PSide 0	
Unit0:		Act	In	Sv			
Unit1:		Inact	IS	Tb	Mtce		
lf a M	tce	flag				Do	
appears next to either unit				unit	step 5		
does not appear					step 6		
Go the docum	Go the common procedure "Monitoring system maintenance" in this document. Complete the procedure and return to this point.						

5

6

7

If the LTC minor alarm	Do
remains	step 6
changes	step 35
clears	step 36
Select an LTC unit to recover.	
lf	Do
one unit is ISTb and one unit is InSv	step 7
both units are ISTb	Work on the inactive unit and go to step 11.
one unit is ManB and one unit is ISTb or InSv	Work on the manually busy unit and go to step 11.
Determine if the ISTb unit is active or	inactive.
If the ISTb unit	Do
is active	sten 8

is inactive	Work on the in-service trouble

PM LTC minor (continued)

8



CAUTION Possible loss of service Confirm a cold SWACT during a period of low traffic. If you confirm a cold SWACT during a period of high traffic, the calls that the LTC handles will drop.

To switch the activity of the units, type

>SWACT

and press the Enter key.

The switch determines if you must perform a cold SWACT or a warm SWACT. The switch also shows a confirmation prompt for the selected SWACT.

If the switch of activity	Do
cannot continue	step 9
can continue	step 10

9 To reject the prompt, type

>NO

and press the Enter key.

The system discontinues the switch of activity. Go to step 34.

10 To confirm the switch of activity, type

>YES

and press the Enter key.

The switch switches the activity between the active unit and the inactive unit. A Mtce flag appears during the switch of activity. Wait until the flag disappears before you proceed.

If the MAP response is	Do
SWACT Passed	Work on the inactive unit and go to step 11.
SWACT failed Reason: XPM SWACTback	step 34
SWACT refused by SWACT controller	step 34

PM LTC minor (continued)

11 To determine the cause of the in-service trouble condition, type

>QUERYPM FLT

and press the Enter key.

Note: The in-service trouble condition of the LTC can be the result of multiple causes. The LTC and the LTC units remain ISTb until all the in-service trouble conditions clear.

If the MAP response is	Do
Dynamic data sync in progress	step 12
Superframe sync in progress	step 12
CLASS Modem Resource Card 6X78 out of service	step 13
CMR Load not present	step 16
Static data mismatch with CC	step 19
P-side links out of service	step 21
C-side links out of service	step 31
other than listed here	step 34

12 Wait 5 min for the system to return the LTC to service.

If the LTC minor alarm	Do
clears	step 36
does not clear	step 34

13



CAUTION

Possible loss of service

The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during periods of low traffic to minimize the risk of traffic interruption.

To manually busy the CMR card, type >BSY UNIT unit_no CMR and press the Enter key.

PM LTC minor (continued)

	where						
	unit_no	or 1) that contains the CMP cord					
1/	To test the CMR card, type						
14	NTET INTE unit no CMP						
	and proce the Enter key						
	whore						
	is the number of the LTC unit (0 or 1) that contains the CMR card						
	If the TST command	Do					
	fails	step 15					
	passes	step 18					
At the	equipment frame						
15	Replace the CMR card (NT6X78). Re Replacement Procedures. Complete	fer to the correct procedure in <i>Card</i> the procedure and go to step 17.					
At the	MAP display						
16	To manually busy the CMR card, type						
	>BSY UNIT unit_no CMR						
	and press the Enter key.						
	where						
	unit_no is the number of the LTC unit (0	or 1) that contains the CMR card					
17	To load the CMR card, type						
	>LOADPM UNIT unit_no CMR						
	and press the Enter key.						
	where						
	unit_no is the number of the LTC unit (0	or 1) that contains the CMR card					
	If the LOADPM command	Do					
	passes	step 18					
	fails, and you replaced the CMR card	step 34					
	fails, and you did not replace the CMR card	step 15					

PM LTC minor (continued)

To return the CMR card to service, typ	De
<pre>>RTS UNIT unit_no CMR</pre>	
and press the Enter key.	
where	
unit_no is the number of the LTC unit (0) or 1) that contains the CMR card
If the RTS command	Do
passes and the LTC returns to service	step 36
passes and the LTC does not re- turn to service	step 33
fails	step 31

19

18



CAUTION Possible loss of service

The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during periods of low traffic to minimize the risk of traffic interruption.

To manually busy the inactive in-service-trouble LTC unit, type >BSY UNIT unit_no and press the Enter key. where unit_no is the number of the LTC unit (0 or 1) To return the LTC unit to service, type >RTS UNIT unit_no and press the Enter key. where

20

21

22

23

24

PM LTC minor (continued)

If the RTS command Do						
passes, and the LTC unit returns to service	step 36					
passes, and the LTC unit does not return to service	step 33					
fails	step 34					
To identify the out-of-service P-side links, type						
>TRNSL P						
and press the Enter key.						
Example of a MAP display response:						
Link 0: Carrier of Class - Timing;Status; Link 1: Carrier of Class - Trunk ;Status;	Offl OK					
Link 18: Carrier of Class - Trunk ;Status;	OK					
LINK 19. Carrier of Class - Trunk /Status	OK					
<i>Note:</i> Links 2 to 17 and 20-39 do not appear in this ex	ample.					
<i>Note:</i> Links 2 to 17 and 20-39 do not appear in this ex Record the number and state of all the out-of-service P-si	ample. de links.					
Note: Links 2 to 17 and 20-39 do not appear in this ex Record the number and state of all the out-of-service P-si Note: P-side links with a status of OK are in service. A indicates a P-side link that is out of service. The MAP of P-side links as a CARRIER.	ample. de links. Any other status lisplay can identi					
Note: Links 2 to 17 and 20-39 do not appear in this ex Record the number and state of all the out-of-service P-si Note: P-side links with a status of OK are in service. A indicates a P-side link that is out of service. The MAP of P-side links as a CARRIER. If the out-of-service links Do	ample. de links. Any other status lisplay can identi					
Note: Links 2 to 17 and 20-39 do not appear in this ex Record the number and state of all the out-of-service P-si Note: P-side links with a status of OK are in service. A indicates a P-side link that is out of service. The MAP of P-side links as a CARRIER. If the out-of-service links Do are carriers step 23	ample. de links. Any other status lisplay can identi					
Note: Links 2 to 17 and 20-39 do not appear in this ex Record the number and state of all the out-of-service P-si Note: P-side links with a status of OK are in service. A indicates a P-side link that is out of service. The MAP of P-side links as a CARRIER. If the out-of-service links Do are carriers step 23 are links step 24	ample. de links. Any other status lisplay can identi					
Note: Links 2 to 17 and 20-39 do not appear in this ex Record the number and state of all the out-of-service P-si Note: P-side links with a status of OK are in service. A indicates a P-side link that is out of service. The MAP of P-side links as a CARRIER. If the out-of-service links Do are carriers step 23 are links step 24 Clear the Trks alarm. Perform the correct alarm clearing p document. Complete the procedure and return to this point	ample. de links. Any other status lisplay can identi					
Note:Links 2 to 17 and 20-39 do not appear in this exRecord the number and state of all the out-of-service P-siNote:P-side links with a status of OK are in service.Note:P-side links with a status of OK are in service.P-side links as a CARRIER.If the out-of-service linksDoare carriersstep 23are linksstep 24Clear the Trks alarm.Perform the correct alarm clearing procedure and return to this pointIf the LTC minor alarmDo	ample. de links. Any other status lisplay can identi					
Note:Links 2 to 17 and 20-39 do not appear in this exRecord the number and state of all the out-of-service P-siNote:P-side links with a status of OK are in service. Aindicates a P-side link that is out of service.The MAP ofP-side links as a CARRIER.DoIf the out-of-service linksDoare carriersstep 23are linksstep 24Clear the Trks alarm.Perform the correct alarm clearing pdocument.Complete the procedure and return to this pointIf the LTC minor alarmDoclearsstep 36	ample. de links. Any other status lisplay can identi					
Note:Links 2 to 17 and 20-39 do not appear in this exRecord the number and state of all the out-of-service P-siNote:P-side links with a status of OK are in service. Indicates a P-side link that is out of service. The MAP of P-side links as a CARRIER.If the out-of-service linksDoare carriersstep 23are linksstep 24Clear the Trks alarm. Perform the correct alarm clearing pocument. Complete the procedure and return to this pointIf the LTC minor alarmDoclearsstep 36does not clearstep 34	ample. de links. Any other status lisplay can identi					
Note: Links 2 to 17 and 20-39 do not appear in this ex Record the number and state of all the out-of-service P-si Note: P-side links with a status of OK are in service. A indicates a P-side link that is out of service. The MAP of P-side links as a CARRIER. If the out-of-service links Do are carriers step 23 are links step 24 Clear the Trks alarm. Perform the correct alarm clearing procedure and return to this point. If the LTC minor alarm Do clears step 34 Choose a link on which to work. Step 34	ample. de links. Any other status lisplay can identi					
Note:Links 2 to 17 and 20-39 do not appear in this exRecord the number and state of all the out-of-service P-siNote:P-side links with a status of OK are in service. The MAP of P-side links as a CARRIER.If the out-of-service linksDoare carriersstep 23are linksstep 24Clear the Trks alarm. Perform the correct alarm clearing procedure and return to this point. Complete the procedure and return to this point.If the LTC minor alarmDoclearsstep 34Choose a link on which to work.Do	ample. de links. Any other status lisplay can identi procedure in this nt.					

PM LTC minor (continued)

If the link	Do	
is ManB	step 26	
To manually busy the link, type		
>BSY LINK link_no		
and press the Enter key.		
where		
link_no is the number of the link (0 to	o 39)	
To test the link, type		
>TST LINK link_no		
and press the Enter key.		
where		
link_no	20)	
	53)	
If the TST command		Do
passes		step 27
fails, and the system generates a	a card list	step 28
fails, and the system does not g	enerate a card list	step 34
To return the link to service, type		
>RTS LINK link_no		
and press the Enter key.		
where		
link_no is the number of the link (0 to	o 63)	
If the RTS command		Do
fails, and the system generates a	a card list	step 28
fails, and the system does not g	enerate a card list	step 34
passes, and other out-of-service	links are present	step 24
passes, and the LTC remains IS	STb	step 34
passes, and the LTC minor alar	m clears	step 36

PM LTC minor (continued)

At the equipment frame

28 Replace the first card on the list. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and go to step 29.

At the MAP display

29 To return the link to service, type

>RTS LINK link_no

and press the Enter key.

where

link_no is the number of the link (0 to 63)

If the RTS command	Do
fails, and you did not replace all cards on the list	step 30
fails, and you replaced all cards on the list	step 34
passes but other out-of-service links are present	step 24
passes and the LTC remains ISTb	step 34
passes and the LTC minor alarm clears	step 36

- **30** Replace the next card on the list. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and go to step 29.
- **31** Go to the common procedure "Clearing PM C-side faults" in this document. Complete the procedure and go to step 32.
- **32** To post the LTC, type

>PM;POST LTC ltc_no

and press the Enter key.

where

ltc_no	
is the number of the LTC ((0 to 255)

If the LTC	Do
is InSv	step 36
is ISTb one unit is ISTb or CBsy	step 33
is other than listed here	step 34

33 To determine the cause of the in-service trouble condition, type >QUERYPM FLT

PM LTC minor (end)

and press the Enter key.

Note: In-service trouble condition of an LTC can be the result of multiple of causes. The LTC and LTC units remain ISTb until all the in-service trouble conditions clear.

If the MAP response is	Do
Dynamic data sync in progress	step 12
Superframe sync in progress	step 12
CLASS Modem Resource Card 6X78 out of service	step 13
CMR Load not present	step 16
Static data mismatch with CC	step 19
P-side links out of service	step 21
C-side links out of service	step 31
indicates a fault you cleared during this procedure	step 34
is other than listed here	step 34

- **34** You need additional maintenance action to clear this alarm. Contact the next level of maintenance. Describe in detail the steps that you performed in your attempt to clear this alarm. Go to step 36.
- **35** The LTC minor alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm.
- **36** The procedure is complete.

PM LTCI critical, major, or minor

Alarm display

ĺ	СМ	MS	IOD	Net	РМ	CCS	Lns	Trks	Ext	APPL
	•	•	•	•	1LTCI *C*	·	•	•	•	•
					Ŭ					

Indication

At the MTC level of the MAP display, LTCI (preceded by a number) appears under the PM header of the alarm banner. The LTCI indicates a critical, major, or minor alarm for an ISDN line trunk controller (LTCI).

Meaning

For a critical alarm, *C* appears under the alarm indicator. The system generates a critical alarm when the LTCI is system busy or C-side busy. An LTCI is system busy when both units are system busy. An LTCI is also system busy when one unit is system busy and the other unit is manually busy. An LTCI is C-side busy when both units are C-side busy.

For a major alarm, an M appears under the alarm indicator. The system generates a major alarm when the LTCI is manually busy, C-side busy, or in-service trouble (ISTb). An LTCI is manually busy when both units are manually busy. An LTCI is C-side busy with a major alarm when:

- one unit is C-side busy
- the other unit is system busy or manually busy

An LTCI is ISTb with a major alarm when:

- one unit is ISTb and the other unit is in service, C-side busy, manually busy, or ISTb
- one unit is manually busy and the other is in service
- both units are in service with some out-of-service P-side or C-side links

The number under the PM header in the alarm banner indicates the number of LTCIs affected.

Result

Service stops when an LTCI is system busy, C-side busy, or manually busy. Each subtending PM does not have service, unless the PM has Emergency Stand-Alone (ESA) capabilities. The condition does not affect service when

an LTCI is ISTb with a major or minor alarm. A backup unit is not present when one unit is manually busy and the other LTCI unit is ISTb. A backup unit is also not present when one unit is system busy and the other LTCI is ISTb. Service also continues in an in-service trouble LTCI as long as some P-side or C-side links are in service.

Common procedures

This procedure refers to

- Loading a PM
- Correcting a load mismatch

Do not go to the common procedures unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a PM LTCI critical, major, or minor alarm



Δt th	ΑΜΑΡ				
1	To access the PM level o >MAPCI;MTC;PM and press the Enter key. Example of a MAP respo	f the MAP, <i>nse:</i>	type		
	SysB ManB PM 1 3	OffL 5	CBsy 7	ISTb 6	InSv 12
2	Determine if an alarm is	present une	der the Ex	t header	of the MAP.
	If an Ext alarm		Do		
	is present		step 3		
	is not present		step 4		
3 4	Perform the correct alarm Determine if an audible a	n clearing p larm rings.	rocedure	in this do	cument.
	If an alarm		Do		
	rings		step 5		
	does not ring		step 6		
5	To silence the alarm, type	<u>;</u>			
6	To display the status of a	l PMs, type	e		
	and press the Enter key. <i>Example of a MAP respo</i>	nse:			

	TM8 MTM STM LGC LCM DTC LTC LCMI LTCI LCME	0 0 0 0 0 3 0 0 0 0	0 0 0 0 0 0 0 0 0 0 1	0 0 1 0 0 0 0 1 0 0	0 0 0 0 0 0 0 0 0 1 0	0 1 0 0 1 1 2 0 1 1	1 3 2 1 3 0 1 1 1 1 1		
7	Determine	the state	of the LTCIs						
	If the stat	e of one	LTCI	De	0				
	is system	busy (S	ysB)	st	ep 8				
	is C-side busy (CBsy)			st	step 64				
	is manually busy (ManB)			st	step 72				
	is in-service trouble (ISTb)				step 90				
8	To display all system busy LTCIs, type								
	>DISP ST	ATE SYS	B LTCI						
	and press t	he Enter	key.						
	Example of SysB LTCI	f a MAP re : 0,3,5	esponse:						
9	Record the	number o	of each syste	em busy	LTCI.				
10	Choose an	LTCI on v	which to wor	k.					
11	To post the LTCI, type								
	>POST LTCI ltci_no								
	and press t	he Enter	key.						
	where								
	ltci_no is the) e number	of the LTCI	(0 to 255	5)				
	Example of	f a MAP re	esponse:	, 5 15 200	/				

LTCI	0 SysB	Links_0	OS: CSide	e O , PSi	ide O			
Unitl:	Inact	Manb SysB	Mtce					
lf					Do			
one LTC	CI is ManB	and the ot	her LTCI i	s SysB	step 12			
both LT either un	to step 13							
both LT next to e	CI units ar either unit	e SysB and	d Mtce doe	s not appea	ar step 15			
Go to step	76 to work	on the man	ually busy u	unit first.				
A maintena tasks are in the next m	ance flag (N n progress. aintenance	Itce) appea Wait until th action.	rs in the MA ne flag disap	P display w pears befor	hen maintenand e you proceed v			
Note: 1 mainten 60 minu on the r	The status c lance flag ir ltes. The le number and	of system m in the MAP d ngth of time type of PM	aintenance isplay. The required for s in your off	appears on flag appears system mai ice.	the right of the s for a maximun intenance depen			
If, after 6	0 min, the	flag	Do					
did not c	lisappear		step 1	step 161				
disappea	urs		step 1	step 14				
Determine	if the LTCI	is in service).					
If the sta	te of the L	ГСІ	Do					
is InSv	is InSv			step 162				
is other t								
To determi	ne the loca	tion of the L	TCI, type					
>QUERYPM	I							
and press	the Enter ke	ey.						
Example of	of a MAP res	sponse:						

12 13

14

15

PM Type: LTCI PM No.: 0 PM Int. No.: 0 Node_No: 18
PMs Equipped: 53 Loadname: NLT35CC
WARM SWACT is supported but not possible: node
redundancy lost
LTCI 0 is included in the REX schedule.
REX on LTCI 0 has not been performed.
Node Status: {MACHINE_BUSY, TRUE}
Unit 0 Act, Status: {MACHINE_BUSY, TRUE}
Unit 1 Inact, Status: {MACHINE_BUSY, TRUE}
Site Flr RPos Bay_id Shf Description Slot EqPEC
HOST 00 B01 LTE 00 18 LTCI: 000 6X02AA

At the LTE frame

16 Determine if a power fault is the cause of the system busy condition. Examine the LTCIs in the LTC equipment (LTE) frame for a power converter fault.

Note: To check for a power fault, examine the fail lamp on the power converter (NT2X70) on each unit of the LTCI.

If the fail lamp	Do
is lit on either converter	step 17
is not lit on either converter	step 30
Determine if one or both LTCI units	are system busy.
lf	Do
one LTCI unit is SysB	step 18

At the MAP terminal

17

- 18 To manually busy the LTCI unit, type
 - >BSY UNIT unit_no
 - and press the Enter key.

where

unit_no is the number of the system busy LTCI unit (0 or 1)

If the BSY command	Do
passes	step 20
fails	step 19

19	To force the LTCI unit to busy, type		
	>BSY UNIT unit_no FORCE		
	and press the Enter key.		
	where		
	unit_no is the number of the system bu	usy LTCI unit (0 or 1)	
20	To replace the NT2X70 card, perform <i>Replacement Procedures</i> . Complete	the correct procedure the procedure and ret	in <i>Card</i> urn to this point.
21	To load the LTCI unit, type		
	>LOADPM UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the LTCI unit	(0 or 1) that you manua	ally busied in
	step 18		
	If the LOADPM command	Do	
	passes	step 23	
	fails	step 22	
22	Perform the procedure <i>Loading a PM</i> procedure and return to this point.	in this document. Cor	mplete the
23	To return the manual busy LTCI unit t	o service, type	
	>RTS UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the LTCI unit	(0 or 1) busied in step	18
	If the RTS command		Do
	passes, and the LTCI unit is InSy other LTCI unit is SysB	v or ISTb, while the	step 30
	passes, the LTCI unit is InSv, but on for the power converter on the	ut the fail lamp was e other LTCI unit	step 18
	passes, and both LTCI units are In ed other SysB LTCIs in step 9	nSv, but you record-	step 11

If the RTS command		Do
passes, both LTCI units are are not SysB	InSv, and other LTCIs	step 16
fails, and you replaced the def	ective power converter	step 39
To busy the LTCI, type		
>BSY PM		
and press the Enter key.		
If the BSY command	Do	
passes	step 26	
fails	step 25	
To force the LTCI to busy, type		
>BSY PM FORCE		
and press the Enter key.		
and press the Enter key. To replace the NT2X70 card, perf <i>Replacement Procedures</i> . Comp	orm the correct procedure lete the procedure and ret	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perfe <i>Replacement Procedures</i> . Comp To load the LTCI, type	orm the correct procedure lete the procedure and ret	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perfe <i>Replacement Procedures</i> . Comp To load the LTCI, type >LOADPM PM	orm the correct procedure lete the procedure and ret	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perfe <i>Replacement Procedures</i> . Comp To load the LTCI, type >LOADPM РМ and press the Enter key.	orm the correct procedure lete the procedure and ret	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perfe <i>Replacement Procedures</i> . Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command	orm the correct procedure lete the procedure and retu Do	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perfe <i>Replacement Procedures</i> . Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes	orm the correct procedure lete the procedure and return Do step 29	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perfe <i>Replacement Procedures</i> . Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes fails	orm the correct procedure lete the procedure and return Do step 29 step 28	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perference of the Replacement Procedures. Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes fails Perform the procedure Loading a procedure and return to this point	Do Step 29 Step 28 <i>PM</i> in this document. Co	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perference of the Replacement Procedures. Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes fails Perform the procedure Loading a procedure and return to this point To return the LTCI to service, type	orm the correct procedure lete the procedure and return Do step 29 step 28 a <i>PM</i> in this document. Co	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perference of the Replacement Procedures. Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes fails Perform the procedure Loading a procedure and return to this point To return the LTCI to service, type >RTS PM	Do Step 29 Step 28 <i>PM</i> in this document. Co	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perference of the Replacement Procedures. Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes fails Perform the procedure Loading a procedure and return to this point To return the LTCI to service, type >RTS PM and press the Enter key.	Do Step 29 Step 28 Step 28	in <i>Card</i> urn to this
and press the Enter key. To replace the NT2X70 card, perference of the Replacement Procedures. Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes fails Perform the procedure Loading a procedure and return to this point To return the LTCI to service, type >RTS PM and press the Enter key. If the RTS command	Do Step 29 Step 28 <i>PM</i> in this document. Co	in <i>Card</i> urn to this mplete th
and press the Enter key. To replace the NT2X70 card, perference of the Replacement Procedures. Comp To load the LTCI, type >LOADPM PM and press the Enter key. If the LOADPM command passes fails Perform the procedure Loading a procedure and return to this point To return the LTCI to service, type >RTS PM and press the Enter key. If the RTS command passes, and one LTCI unit is I other LTCI unit is SysB	Do Step 29 Step 28 <i>PM</i> in this document. Co	in <i>Card</i> urn to this mplete th Do step 30

If the RTS command	Do
passes, both LTCI units are InSv are not SysB	r, and other LTCIs step 162
fails, and you replaced the power faults	convertert that has step 53
To determine the cause of the system	busy condition, type
>QUERYPM FLT	
and press the Enter key.	
time. The unit remains system busy on the unit.	i one system busy condition at a given / until all system busy conditions clear
If the MAP response	Do
is PM Audit	step 15
is activity dropped	step 15
is WAI received	step 15
is SWACT in progress	step 31
is Link Audit	step 32
is C-Side Link RTS	step 32
is CC restart has oc- curred	step 36
is ISP failed to re- spond to MP audit	step 36
is unit SysB due to diagnostic failure	step 36
is not loaded since power up	step 55
is load corruption suspected	step 55
is load failed	step 55

If the	MAP re	spons	e		Do		
is loa	Dist: ding f	ribut faile	ced ed	Dat	za step	55	
is otł	her than	listed	here		step	0 161	
The sy (Inact) is in pr	stem per unit. The ogress.	rforms i e Mtce f After sy	mainter flag app ystem r	nanco bears naint	e on the u next to th enance is	init that became e unit when syst s complete, repe	the inactive em maintenanc at step 30.
To che	ck the st	atus of	the C-s	side l	inks, type	•	
>TRNS	гc						
and pr	ess the E	Enter ke	ey.				
Examp	ole of a N	/AP res	sponse	-			
Link Link	0: EN 1: EN	IET 0 IET 1	0 32 0 32	0 0 0 0	0;Cap 0;Cap	MS;Status:01 MS;Status:01	X X
Link Link	30: EN 31: EN	IET 0 IET 1	0 32 0 32	00 00	15;Cap 15;Cap	S;Status:0 S;Status:0	K K
Not	<i>e 1:</i> Linł	k 2 to lii	nk 29 d	o no	t appear i	n the previous e	xample.
<i>Not</i> stat	e 2: The us indica	e C-side ates an	e links v out-of-s	with a servio	a status of ce C-side	f OK are in serv link.	ce. Any other
If the	links				Do		
are o	ut of sei	rvice			step	0 33	
are ii	1 service	e			step	o 36	
Record status	the net of OK.	work, p	lane, a	nd lir	ık numbe	r of the links tha	t do not have a
Perforr procec	n the cor lure and	rect ala return f	irm clea to this p	aring point.	procedure	e in this docume	nt. Complete th
To pos	t the LTC	CI that h	nad out	-of-se	ervice C-s	side links, type	
>PM;P	OST LT	CI lto	ci_no				
and pr	ess the E	Enter ke	ey.				
where							
ltc	i_no is the nu	ımber o	f the L	FCI (() to 255)		
lf							Do

lf		Do
both LTCI units are InSv, but SysB LTCIs in step 9	you recorded other	step 11
both LTCI units are InSv, and o SysB	ther LTCIs are not	step 162
the LTCI unit is InSv, while the ISTb	other LTCI unit is	step 97
both LTCI units are ISTb		step 100
Determine if one or both LTCI units an	re system busy.	
lf	Do	
one LTCI unit is SysB	step 37	
both LTCI units are SysB	step 52	
To manually busy the system busy LT	CI unit, type	
>BSY UNIT unit_no		
and press the Enter key.		
where		
unit_no is the number of the LTCI unit	(0 or 1)	
If the BSY command	Do	
passes	step 39	
fails	step 38	
To force the LTCI unit to busy, type		
>BSY UNIT unit_no FORCE		
and press the Enter key.		
where		
unit_no is the number of the LTCI unit	(0 or 1)	
To test the LTCI unit, type		
>TST UNIT unit_no		
and press the Enter key.		
where		

step 37 Example of a MAP respo	onse:	
LTCI 0 Unit 1 N	Ion-Destructive ROM test a	and
C LTCI 0 Unit 1 T)Svce tests will be run 'st Passed	
If the TST command		Do
passes		step 42
fails and part of the resible logs	esponse is check for pos-	step 40
fails and part of the re	esponse is Try PMRESET	step 41
fails and part of the red	step 42	
fails and the system g	step 43	
fails and the system d	lid not generate a card list	step 47
fails and part of the reinitialize, tr	esponse is Unit failed to y reloading	step 47
is other than listed he	re	step 161
Obtain the log that the sy	ystem generated for the LTCI.	
If the log	Do	
provides a card list	step 43	
does not provide a card list step 48		
To reset the LTCI unit, ty	ре	
>PMRESET UNIT unit	_no	
and press the Enter key.		

step 37

40

41

If the	PMRESET command	Do	
passe	es	step 42	
fails		step 48	
To retu	Irn the manually busy LTCI	unit to service, type	
>RTS	UNIT unit_no		
and pr	ess the Enter key.		
where			
un	it_no is the number of the LTCI u	unit (0 or 1) that you manua	ally busied
	step 37		
If the	RTS command		Do
passe ed ot	es, and both LTCI units a her SysB LTCIs in step	re InSv, but you record- 9	step 11
passe other	es, and one LTCI unit is LTCI unit is SysB	InSv or ISTb, while the	step 16
	es, and one LTCI unit is	s InSv, while the other	step 80
passe LTC	I unit is ManB		
passe LTC passe LTC	I unit is ManB es, and one LTCI unit is I unit is ISTb	s InSv, while the other	step 97
passe LTC passe LTC passe	I unit is ManB es, and one LTCI unit is I unit is ISTb es, and both LTCI units a	s InSv, while the other are ISTb	step 97 step 100
passe LTC passe LTC passe passe CIs a	I unit is ManB es, and one LTCI unit is I unit is ISTb es, and both LTCI units a es, and both LTCI units a are not SysB	s InSv, while the other are ISTb are InSv, and other LT-	step 97 step 100 step 162
passe LTC passe LTC passe CIs a fails,	I unit is ManB es, and one LTCI unit is I unit is ISTb es, and both LTCI units a es, and both LTCI units a ure not SysB and the system generate	s InSv, while the other are ISTb are InSv, and other LT- ed a card list	step 97 step 100 step 162 step 43
passe LTC passe LTC passe CIs a fails, fails,	I unit is ManB es, and one LTCI unit is I unit is ISTb es, and both LTCI units a es, and both LTCI units a ure not SysB and the system generate and the system did not g	s InSv, while the other are ISTb are InSv, and other LT- ed a card list generate a card list	step 97 step 100 step 162 step 43 step 47

44 To replace the first card on the list, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

45 Determine if the card that you replaced was a processor card (NT6X45), memory card (NT6X46), or processor memory card (NT6X47).

If the card	Do
was an NT6X45, NT6X46, o NT6X47	or step 47
was other than listed here	step 46
To reset the LTCI unit, type	
>PMRESET UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the LTCI ur	nit (0 or 1) that you manually busied in
step 37	
Example of a MAP response: LTCI 0 Unit 1 PMReset Passed	
If the PMRESET command	Do
passes	step 49
is other than listed here	step 47
To load the LTCI unit, type	
>LOADPM UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the LTCI uni 37	it (0 or 1) that you manually busied in s
If the LOADPM command	Do
passes	step 49
fails	step 48
Perform the procedure <i>Loading a F</i> procedure and return to this point.	PM in this document. Complete the
To return the manually busy LTCI u	init to service, type
>RTS UNIT unit_no	

where

unit_no

is the number of the LTCI unit (0 or 1) that you manually busied in

```
step 37
```

Example of a MAP response: LTCI 0 Unit 1 Rts Passed

If the RTS command	Do			
passes, and both LTCIs are InSv, but you recorded other SysB LTCIs in step 9	step 11			
passes, and the LTCI is InSv or ISTb, while the other LTCI is SysB	step 16			
fails, and you did not replace all cards in the list that you recorded in step 43	step 50			
passes, and one LTCI is InSv, while the other LTCI is ManB	step 80			
passes, and the LTCI is InSv, while the other LTCI is ISTb	step 97			
passes, and both LTCIs are ISTb	step 100			
passes, and both LTCIs are InSv, and other LTCIs are not SysB	step 162			
fails, and the system did not generate a card list	step 161			
fails, and you replaced all cards in the list that you re- corded in step 43	step 161			
other than listed here	step 161			
To replace the next card on the list, perform the correct procedure in <i>Card Replacement Procedures</i> . Complete the procedure and return to this point.				
Go to step 45.				
To busy the LTCI, type				

>BSY PM and press the Enter key. *Example of a MAP response:* LTCI 0 Bsy Passed

50

51 52

To test the LTCI, typ >TST PM and press the Enter <i>Example of a MAP</i>	be r key. response:	
LTCI 0 Unit 0 LTCI 0 Unit 1 LTCI 0 Unit 0 LTCI 0 Unit 1	Non-Destructive ROM test and OSvce tests will be run Non-Destructive ROM test and OSvce tests will be run Tst Passed Tst Passed	
If the TST comma	and	Do
passes on both up	nits	step 54
fails on one or be check for p	oth units, and part of the response is ossible logs	step 40
fails on one or be Try PMRESET	oth units, and part of the response is	step 41
fails on one or bo card list	oth units, and the system generated a	step 43
fails on one or bo erate a card list	oth units, and the system did not gen-	step 47
fails on one or bo PM failed to ing	oth units, and part of the response is o initialize, try reload-	step 57
other than listed	here	step 161
To return the LTCI to >RTS PM and press the Enter <i>Example of a MAP</i> LTCI 0 Rts Passed	o service, type ^r key. <i>response:</i> d	
If the RTS comma	and	Do
passes, and both ed other SysB L ²	LTCI units are InSv, but you record- ICIs in step 9	step 11

	If the RTS command		Do
	passes, and one LTCI unit other LTCI unit is SysB	is InSv or ISTb, while the	step 16
	passes, and one LTCI uni LTCI unit is ISTb	t is InSv, while the other	step 97
	passes, and both LTCI unit	ts are ISTb	step 100
	passes, both LTCI units a are not SysB	re InSv, and other LTCIs	step 162
	fails on one unit, and the card list	system did not generate a	step 43
	fails on one unit, and the sy	ystem generated a card list	step 47
55	Determine if one or both LTCI	units are system busy.	
	lf	Do	
	one LTCI unit is SysB	step 56	
	both LTCI units are SysB	step 60	
56	To manually busy the system b	ousy LTCI unit, type	
	>BSY UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the sys	stem busy LTCI unit (0 or 1)	
57	To load the LTCI unit, type		
	>LOADPM UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the LT(CI unit (0 or 1) that you manu	ally busied in
	step 56		
	If the LOADPM command	Do	
	passes	step 59	

If the LOADPM command	Do	
fails	step 58	
Perform the procedure <i>Loading a</i> procedure and return to this point	<i>PM</i> in this document. Cor	nplete the
To return the manually-busy LTCI	unit to service, type	
>RTS UNIT unit_no		
and press the Enter key.		
where		
unit_no is the number of the LTCI ເ	unit (0 or 1) that you manu	ally busied in
step 56		
If the RTS command		Do
passes, both LTCI units are I CIs are SysB	nSV, and no other LT-	step 162
passes, and both LTCI units and other SysB LTCIs in step 9	re InSv, but you record- 9	step 11
passes, and the LTCI unit is I other LTCI unit is SysB	inSv or ISTb, while the	step 16
passes, and the LTCI unit is LTCI unit is	InSv, while the other	step 97
passes, and both LTCI units a	are ISTb	step 100
fails		step 161
To manually busy the LTCI, type >вsy рм		
and press the Enter key.		
To load the LTCI, type		
>LOADPM PM		
and press the Enter key.		
If the LOADPM command	Do	
passes	step 63	
fails	step 62	
	-	

62	Perform the procedure <i>Loading a PM</i> in this document. Complete the procedure and return to this point.										
63	To return the LTCI to service, type										
	and press the Enter key.										
	If the RTS command	Do									
	passes, both LTCI units are InSv, and other LTCIs are not SysB	step 162									
	passes, and both LTCI units are InSv, but you recorded other SysB LTCIs in step 9	step 11									
	passes, and the LTCI unit is InSv or ISTb, while the step 16 other LTCI unit is SysB										
	passes, and the LTCI unit is InSv, while the other LTCI unit is ISTb	step 97									
	passes, and both LTCI units are ISTb	step 100									
	fails	step 161									
64	To display all C-side busy LTCIs, type										
	>DISP STATE CBSY LTCI										
	and press the Enter key.										
	<i>Example of a MAP response:</i> CBsy LTCI : 6,8										
65	Record the number of each C-side busy LTCI.										
66	Choose an LTCI on which to work.										
67	To post the LTCI, type										
	>POST LTCI ltci_no										
	and press the Enter key.										
	where										
	Itci_no is the number of the LTCI (0 to 255)										
	Example of a MAP response:										

LTC: Unit Unit	.0 .1	:	6 CBs <u>r</u> Act Inact	Y CB CB	Liı sy sy	nks _.	_00	S: CSid	e 32 , PSide	0
lf								Do		
one oth Ma	L er nB	TCI LT(unit is CI uni	s Cl it i	Bsy s	y an Sys	id th B (ne step or	68	
bot	ı I	LTCI	units	are	CB	sy		step	69	
Work	or	n the	C-side	bus	y u	nit fi	irst.			
The fault is on the C-side of the LTCI.										
To obtain the network plane and link numbers that the LTCI uses to communicate, type							ses to			
>TRN	SI	, C								
and press the Enter key. <i>Example of a MAP response:</i>										
Lir Lir	ık ık	0: 1:	ENET ENET	0 1	0 0	32 32	0 0 0 0	0;Cap 0;Cap	MS;Status:OK MS;Status:OK	
Lir Lir	ık ık	30: 31:	ENET ENET	0 1	0 0	32 32	0 0 0 0	15;Cap 15;Cap	S;Status:OK S;Status:OK	
No	ote	: Lin	k 2 to li	nk 2	29 c	do n	ot a	opear in t	his example.	
Perfo proce	rm du	the c ire ar	correct and retur	aları n to	m c thi	lear s po	ing p pint.	procedure	in this document.	Complete the
То ро	st	the L	TCI tha	t wa	as (C-sio	de b	usy, type		
>PM;	PM;POST LTCI ltci_no									
and press the Enter key.										
wher	e									
lt	ci is	_ no s the	numbe	r of	the	LTC	CI (0	to 255)		
Example of a MAP response:										

	LTCI 6 SysB Links_OOS: CSide 0 , PSid Unit0: Act InSv Unit1: Inact SysB	e O							
	lf	Do							
	both LTCI units are InSv, and other LTCIs are not CBsy	step 162							
	one LTCI unit is InSv, while the other LTCI unit is SysB	step 16							
	both LTCI units are InSv, but you recorded other step 67 CBsy LTCIs in step 65								
	one LTCI unit is InSv, while the other LTCI unit is step 76 ManB								
	one or both LTCI units remain CBsy	step 161							
72	To display all manually-busy LTCIs, type								
	>DISP STATE MANB LTCI								
	and press the Enter key.								
	<i>Example of a MAP response:</i> ManB LTCI : 2,10								
73	Record the number of each manually-busy LTCI.								
74	Choose an LTCI on which to work.								
75	To post the LTCI, type								
	>POST LTCI ltci_no								
	and press the Enter key.								
	where								
	Itci_no is the number of the LTCI (0 to 255) Example of a MAP response:								
	LTCI 2 ManB Links_OOS: CSide 0 , PSid Unit0: Act ManB Unit1: Inact ManB	le O							
76	Determine from office records or operating company person is manual busy.	nel why the unit							
	When you have permission, continue with this procedure.								

To test the LTCI unit, type											
>TST UNIT unit_no											
and press the Enter key.											
where											
unit_no is the number of the LTCI unit (0 or 1)											
Example of a MAP response:											
LTCI 2 Unit 0 Non-De OSvce t	nd										
LTCI 2 Unit 1 Non-De	nd										
OSvce t LTCI 2 Unit 0 Tst P											
LTCI 2 Unit 1 Tst P	LTCI 2 Unit 1 Tst Passed										
If the TST command		Do									
passes		step 80									
fails, and part of the response sible logs	eischeck for pos-	step 78									
fails, and part of the respons	fails, and part of the response is Try PMRESET										
fails, and the system generat	step 81										
fails, and the system did not	step 86										
fails on one unit, and part of failed to initializ	step 86										
other than listed here		step 161									
Obtain the log that the system generated for the LTCI.											
If the log	Do										
provides a card list	step 81										
does not provide a card list	step 86										
To reset the LTCI unit, type											
>PMRESET UNIT unit_no											
and press the Enter key.											
where											
unit_no

80

81

is the number of the LTCI unit (0 or 1) that you tested in step 77

Example of a MAP response: LTCI 2 Unit 1 PMReset Passed

If the PMRESET	Do	
passes	step 80	
fails	step 86	
To return the LTCI unit to servi	ce, type	
<pre>>RTS UNIT unit_no</pre>		
and press the Enter key.		
where		
unit_no is the number of the LT(CI unit (0 or 1) that you tested	in step 77
If the RTS command		Do
passes, and the LTCI unit is other LTCI unit is SysB	is InSv or ISTb, while the	step 16
passes, and the LTCI unit is other LTCI unit is ManB	is InSv or ISTb, while the	step 76
passes, both LTCI units an are not ManB	re InSv, and other LTCIs	step 162
passes, and both LTCI units ed other ManB LTCIs in st	s are InSv, but you record- rep 73	step 75
passes, and the LTCI unit	is InSv while the other	step 97
LTCI unit is ISTb		
LTCI unit is ISTb passes, and both LTCI unit	s are ISTb	step 100
LTCI unit is ISTb passes, and both LTCI unit fails, and the system gener	ated a card list	step 100 step 81
LTCI unit is ISTb passes, and both LTCI unit fails, and the system gener fails, and the system did no	ated a card list	step 100 step 81 step 86

(PEC), and PEC suffix of the cards on the list.82 To replace the first card on the list, perform the correct procedure in *Card*

Replacement Procedures. Complete the procedure and return to this point.

PM LTCI critical, major, or minor (continued)

If the card	Do
was an NT6X45, NT6X46, o NT6X47	r step 85
was other than listed here	step 84
To set the LTCI unit, type	
>PMRESET UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the LTCI uni	t (0 or 1) that you tested in ste
Example of a MAP response: LTCI 0 Unit 1 PMReset Passed	
If the PMRESET command	Do
passes	step 87
other than listed here	step 85
To load the LTCI unit, type	
>LOADPM UNIT unit_no	
and press the Enter key.	
where	
unit_no is the number of the LTCI uni	t (0 or 1) that you tested in ste
If the LOADPM command	Do
passes	step 87
fails	step 86
Perform the procedure <i>Loading a Pletore and return to this point.</i>	M in this document. Complete
' To return the manually-busy LTCI ur	nit to service, type
To return the manually-busy LTCI ur >RTS UNIT unit_no	hit to service, type

	unit_no is the number of the LTCI unit (0 or 1)	
	If the RTS command	Do
	passes, and the LTCI unit is InSv or ISTb, while the other LTCI unit is ManB	step 76
	passes, both LTCI units are InSv, and other LTCIs are not ManB	step 162
	passes, and both LTCI units are InSv, but you recorded other ManB LTCIs in step 73	step 75
	passes, and the LTCI unit is InSv, while the other LTCI unit is ISTb	step 97
	passes, and both LTCI units are ISTb	step 100
	fails, and you did not replace all cards in the list that you recorded in step 81	step 88
	fails, and you replaced all cards in the list that you re- corded in step 81	step 161
	other than listed here	step 161
88	To replace the next card on the list, perform the correct proc <i>Replacement Procedures</i> . Complete the procedure and ret	edure in <i>Card</i> urn to this point.
89	Go to step 83.	
90	To display all in-service trouble LTCIs, type	
	>DISP STATE ISTB LTCI	
	and press the Enter key.	
	Example of a MAP response: ISTb LTCI : 12	
91	Record the number of each in-service trouble LTCI.	
92	Choose an LTCI on which to work.	
93	To post the LTCI, type	
	>POST LTCI ltci_no	
	and press the Enter key.	
	where	
	Itci_no is the number of the LTCI (0 to 255)	
	Example of a MAP response:	

LTCI 12 ISTb Links_OOS: CSide 0 , PSi Unit0: Inact InSv Unit1: Act ISTb	.de O
If	Do
one LTCI unit is SysB and the other LTCI unit i ISTb or InSv	s step 94
one LTCI unit is ManB and the other LTCI unit i ISTb or InSv	s step 95
one LTCI unit is ISTb or InSv, while the other LTC unit is CBsy	EI step 96
one LTCI unit is ISTb and the other LTCI unit i InSv	s step 97
both LTCI units are ISTb	step 100
both LTCI units are InSv	step 101
Go to step 16 to work on the system busy unit first.	
Go to step 76 to work on the manually-busy unit first.	
Perform the procedure <i>Clearing a PM IPML major or mino</i> document. Complete the procedure and return to this point	o <i>r alarm</i> in this int.
Determine if the posted LTCI unit is active or inactive.	
<i>Note:</i> The activity status of the unit appears on the rig unit number in the MAP display in step 93.	ht side of the LTCI
If the unit Do	

If the unit	DO	
is inactive	step 100	
is active	step 98	

98

94 95 96

97



CAUTION

Possible loss of service

Perform this activity during a period of low traffic. If you perform this activity during periods of high traffic the system drops all calls and data calls that this PM handles.

To switch the activity of the units, type

>SWACT

and press the Enter key.

Example of a MAP response:

A Warm SWACT will be performed after data sync of active terminals Please confirm ("YES", "Y", "NO", or "N"):

99 To confirm the prompt to switch the activity of the units, type

>YES

and press the Enter key.

Note: A maintenance flag (Mtce) appears when maintenance tasks are in progress. Wait until the flag disappears before you proceed with the next maintenance action.

- **100** Work on the inactive in-service trouble unit.
- **101** To determine the cause of the in-service trouble condition, type

>QUERYPM FLT

and press the Enter key.

Note: One unit can have more than one in-service trouble condition at a given time. The unit remains in-service trouble until all in-service trouble conditions clear on the unit.

If the response	Do
is PM Overloaded	step 161
is Dynamic data sync in progress	step 102
is Superframe sync in progress	step 102
is CMR Load not present	step 103
is CMR Load mismatch with Inventory table	step 105
is PM Load mismatch with Inventory table	step 109
is Load File mismatch with Inventory table	step 109
is Static data mismatch with CC	step 111
is Sync trouble	step 111
is CLASS Modem Resource Card 6X78 out of service	step 116

If the response	Do
is P-side links out of service	step 123
is Major alarm raised due to P-side link failure	step 123
is C-side links out of service	step 157
is other than listed here	step 161
After a dynamic data or superframe synchronization process automatically returns the LTCI unit to service. If other in-ser conditions are not present, the system returns the unit to service.	s, the system vice trouble rvice.
<i>Note:</i> The system requires 5 min to change the status of the after a dynamic data or superframe synchronization process.	
If after 5 min	Do
the LTCI unit is InSv, while the other LTCI unit is ISTb	step 97
both LTCI units are InSv, and other LTCIs are not ISTb	step 162
both LTCI units are InSv, but you recorded other ISTb LTCIs in step 91	step 93
the LTCI unit remains ISTb	step 101
Perform the procedure <i>Loading a PM</i> in this document. Cor procedure and return to this point.	nplete the
Go to step 110.	



CAUTION

Possible loss of service

The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during a period of low traffic to minimize the risk of traffic interruption.

To manually busy the LTCI unit, type >BSY UNIT unit_no and press the Enter key.

	where			
	unit_no is the number of the LTCI unit (
	If the BSY command	Do		
	passes	step 106		
	fails	step 161		
106	To manually busy the CMR card, type			
	>BSY UNIT unit_no CMR			
	where			
	unit_no is the number of the LTCI unit (0 or 1) that contains th	ne CMR card	
	If the BSY command	Do		
	passes	step 107		
	fails	step 161		
107	Perform the procedure <i>Correcting a lo</i> Complete the procedure and return to	<i>ad mismatch</i> in this do this point.	ocument.	
108	To return the CMR card to service, type			
	>RTS UNIT unit_no CMR			
	and press the Enter key.			
	where			
	<pre>unit_no is the number of the LTCI unit (0 or 1) that contains the CMR c</pre>			
	If the RTS command		Do	
	passes, both LTCI units are InSv, a CIs are not ISTb	and other ISTb LT-	step 162	
	passes, and both LTCI units are In ed other ISTb LTCIs in step 91	Sv, but you record-	step 93	
	passes, and the LTCI unit is InS LTCI unit is ISTb	Sv, while the other	step 97	
	passes, but the LTCI unit remains	ISTb	step 101	

109

110

If the RTS command		Do
fails, and you did not replace (NT6X78)	e the CMR card	step 119
fails, and you replaced the CMR of	card (NT6X78)	step 161
Perform the procedure <i>Correcting a lo</i> Correcting a lo	<i>ad mismatch</i> in this de this point.	ocument.
rom the MAP of the posted LTCI, det	ermine the status of the	ne LTCI units.
<i>Note:</i> A maintenance flag (Mtce) approgress. Wait until the flag disappraintenance action.	opears when maintena ears before you proce	ance tasks are in ed with the next
lf	Do	
both LTCI units are InSv, and no other LTCIs are ISTb	step 162	
both LTCI units are InSv, but you recorded other ISTb LTCIs in step 91	step 93	
both LTCI units are InSv, but you recorded other ISTb LTCIs in step 91 one LTCI unit is InSv, while the other LTCI unit is ISTb	step 93 step 97	

111



CAUTION

Possible loss of service

The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during a period of low traffic to minimize the risk of traffic interruption.

To manually busy the inactive in-service trouble LTCI unit, type >BSY UNIT unit_no and press the Enter key. where

If the BSY command	Do	
passes	step 112	
fails	step 161	
To return the LTCI unit to service, type		
<pre>>RTS UNIT unit_no</pre>		
and press the Enter key.		
where		
unit_no is the number of the LTCI u	unit (0 or 1)	
If the RTS command		Do
passes, both LTCI units are are not ISTb	InSv, and other LTCIs	step 162
passes, and both LTCI units and ed other ISTb LTCIs in step 9	re InSv, but you record- 91	step 93
passes, and the LTCI unit is LTCI unit is	InSv, while the other	step 97
passes, but the LTCI unit rem	ains ISTb	step 101
fails		step 113
To load the LTCI unit, type		
>LOADPM UNIT unit_no		
and press the Enter key.		
where		
unit_no is the number of the LTCI u	unit (0 or 1)	
If the LOADPM command	Do	
passes	step 115	

procedure and return to this point.

115

To return the LTCI unit to service, type		
>RTS UNIT unit_no		
and press the Enter key.		
where		
unit_no is the number of the LTCI unit (0 or 1)		
If the RTS command	Do	
passes, both LTCI units are InSv, and other LTCIs are not ISTb	step 162	
passes, and both LTCI units are InSv, but you record- ed other ISTb LTCIs in step 91	step 93	
passes, and the LTCI unit is InSv, while the other LTCI unit is ISTb	step 97	
passes, but the LTCI unit remains ISTb	step 101	
fails	step 161	

116



CAUTION

Possible loss of service

The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during a period of low traffic to minimize the risk of traffic interruption.

To manually busy the LTCI unit, type

```
>BSY UNIT unit_no
```

and press the Enter key.

where

unit_no is the number of the LTCI unit (0 or 1)

If the BSY command	Do	
passes	step 117	
fails	step 161	

117	To manually busy the CMR card, t	ype
	>BSY UNIT unit_no CMR	
	and press the Enter key.	
	where	
	unit_no is the number of the LTCI u	nit (0 or 1) that contains the CMR card
118	To test the CMR card, type	
	>TST UNIT unit_no CMR	
	and press the Enter key.	
	where	
	unit_no is the number of the LTCI u	nit (0 or 1) that contains the CMR card
	If the TST command	Do
	passes	step 122
	fails	step 119
119	To replace the CMR card (NT6X7) Replacement Procedures. Compl	8), perform the correct procedure in <i>Card</i> lete the procedure and return to this point.
120	To load the CMR card, type	
	>LOADPM UNIT unit_no CMR	
	and press the Enter key.	
	where	
	nit (0 or 1) that contains the CMR card	
	If the LOADPM command	Do
	passes	step 122
	fails	step 121
121	Perform the procedure <i>Loading a PM</i> in this document. Complete the procedure and return to this point.	
	procedure and return to this point.	
122	procedure and return to this point. To return the CMR card to service	, type
122	To return the CMR card to service	e, type
122	 Perform the procedure Loading a procedure and return to this point. To return the CMR card to service >RTS UNIT unit_no CMR and press the Enter key. 	, type

123

124

<pre>unit_no is the number of the LTCI unit (0 or 1) that contains the CMR card</pre>			
If the RTS command Do			
passes, both LTCI units are InSv, and other LTCIs are not ISTb	step 162		
passes, and both LTCI units are InSv, but you record-step 93 ed other ISTb LTCIs in step 91			
passes, and the LTCI unit is InSv, while the other LTCI unit is ISTb	step 97		
passes, but the LTCI unit remains ISTb	step 101		
fails, and you did not replace the CMR card (NT6X78)	step 119		
fails, and you replaced the CMR card (NT6X78)	step 161		
<pre>>TRNSL P and press the Enter key. Example of a MAP response: Link 0: Carrier of Class - Timing;Status:Offl Link 1: Carrier of Class - Trunk;Status:OK Link 18: Carrier of Class - Trunk;Status:OK Link 19: Carrier of Class - Trunk;Status:OK Note: Link 2 to link 17 do not appear in this example. Record the number and state of each out-of-service P-side link. Note: P-side links with a status of OK are in service. Any other status indicates an out-of-service P-side link. All P-side links are links, unless identified in the MAP display as a CARRIER.</pre>			
If the out-of-service links Do			
are DCH step 125			
are carriers step 130			
are links step 132			
To access the DCH level of the MAP display, type >DCH			

125

and press the Enter key.

126	Perform the	procedure Clearing a PM DCH major or minor alarm in this
	document.	Complete the procedure and return to this point.

127 Determine the status of the LTCI.

If the LTCI	Do
is InSv, and other LTCIs are not ISTb	step 162
is InSv, but you recorded other ISTb LTCIs in step 91	step 93
remains ISTb	step 128
To exit the DCH level of the MAP disp	lay, type
>QUIT	
and press the Enter key.	
To determine the status of the P-side links, type	
>TRNSL P	
and press the Enter key.	
If the links	Do
are out of service	step 124
are in service	step 101
Perform the correct alarm clearing proprocedure and return to this point.	cedure in this document. Complete the
To post the LTCI that had out-of-servi	ce P-side links, type
>PM;POST LTCI ltci_no	
and press the Enter key.	
where	
Itci_no is the number of the LTCI (0 to 255)	
If the LTCI	Do
is InSv, and other LTCIs are not ISTb	step 162
is InSv, but you recorded other	step 93

If the LTCI	Do	
remains ISTb	step 129	
Determine if more than one I	link is out of service.	
Choose a link on which to we	ork.	
If the link	Do	
is SysB	step 134	
is ManB	step 135	
To busy the link, type		
>BSY LINK link_no		
and press the Enter key.		
where		
link_no is the number of the li	nk (0 to 63)	
To test the link, type		
>TST LINK link_no		
and press the Enter key.		
where		
link_no is the number of the li	nk (0 to 63)	
If the TST command		Do
passes		step 136
fails, and the system gene	erated a card list	step 137
fails and the system did r	not generate a card list	step 142
other than listed here		step 161
To return the link to service,	type	
>RTS LINK link_no		
and press the Enter key.		
where		

	If the RTS command	Do
	passes, the LTCI unit is InSv, and other LTCIs are not ISTb	step 162
	passes, and the LTCI unit is InSv, but you recorded other ISTb LTCIs in step 91	step 93
	passes, but other out-of-service links are present	step 132
	fails, and the system generated a card list	step 137
	fails, and the system did not generate a card list	step 142
37	Record the location, description, number, product engineerin and PEC suffix of the cards on the list.	ng code (PEC),
138	To replace the first card on the list, perform the correct proce <i>Replacement Procedures</i> . Complete the procedure and retu	edure in <i>Card</i> urn to this point.
139	To return the link to service, type	
	>RTS LINK link_no	
	and press the Enter key.	
	where	
	link_no is the number of the link (0 to 63)	
	If the RTS command	Do
	passes, the LTCI unit is InSv, and other LTCIs are not ISTb	step 162
	passage and the ITCI unit is Infur but you recorded	sten 93
	other ISTb LTCIs in step 91	step 75
	other ISTb LTCIs in step 91 passes, but other out-of-service links are present	step 132
	 passes, and the ETCT unit is hisv, but you recorded other ISTb LTCIs in step 91 passes, but other out-of-service links are present fails, and you did not replace all cards in the list that you recorded in step 137 	step 132 step 140
	 passes, and the ETCT unit is first, but you recorded other ISTb LTCIs in step 91 passes, but other out-of-service links are present fails, and you did not replace all cards in the list that you recorded in step 137 fails, and you replaced all cards in the list that you recorded in step 137 	step 132 step 140 step 161
140	 passes, and the ETCT unit is first, but you recorded other ISTb LTCIs in step 91 passes, but other out-of-service links are present fails, and you did not replace all cards in the list that you recorded in step 137 fails, and you replaced all cards in the list that you recorded in step 137 To replace the next card on the list, perform the correct proce <i>Replacement Procedures</i>. Complete the procedure and return the procedu	step 132 step 140 step 161 edure in <i>Card</i> urn to this point.

142



CAUTION

Possible loss of service

The active unit does not have backup until you return the inactive unit to service. System maintenance on the active unit can cause traffic interruption. Perform this section of the procedure during a period of low traffic to minimize the risk of traffic interruption.

To manually busy the inactive LTCI unit, type

>BSY UNIT unit_no

and press the Enter key.

where

unit no

is the number of the LTCI unit (0 or 1)

If the BSY command	Do	
passes	step 143	
fails	step 161	
To test the LTCI unit, type		
>TST UNIT unit_no		
and press the Enter key.		
where		
unit_no is the number of the LTCI unit (0 or 1)		
If the TST command	Do	
passes	step 151	
fails, and the system generated a card list	step 145	
fails, and part of the response is check for possible logs	step 144	
fails, and the system did not gen- erate a card list	step 149	

143

	If the TST command	Do	
	other than listed here	step 161	
144	44 Obtain the log that the system generated for the LTCI.		
	If the log	Do	
	provides a card list	step 145	
	does not provide a card list	step 149	
145	Record the location, description, slot (PEC), and PEC suffix of the cards or	number, product engineering code 1 the list.	
146	To replace the first card on the list, perform the correct procedure in <i>Card Replacement Procedures</i> . Complete the procedure and return to this point		
147	Determine if the card you replaced wa card (NT6X46), or processor memory	s a processor card (NT6X45), memory card (NT6X47).	
	If the card	Do	
	was an NT6X45, NT6X46, or NT6X47	step 149	
	was other than listed here	step 148	
148	To reset the LTCI unit, type		
	>PMRESET UNIT unit_no		
	and press the Enter key.		
	where		
	unit_no is the number of the LTCI unit ((0 or 1)	
	<i>Example of a MAP response:</i> LTCI 0 Unit 1 PMReset Passed		
	If the PMRESET command	Do	
	passes	step 151	
	other than listed here	step 149	
149	To load the LTCI unit, type		
	>LOADPM UNIT unit_no		
	and press the Enter key.		
	where		

If the LOADPM command	Do	
passes	step 151	
fails	step 150	
Perform the procedure <i>Loading a</i> procedure and return to this point	<i>PM</i> in this document. Cor	nplete the
To return the LTCI unit to service,	type	
<pre>>RTS UNIT unit_no</pre>		
and press the Enter key.		
where		
unit_no is the number of the LTCI u	unit (0 or 1)	
If the RTS command		Do
passes, but ManB links are pr	esent	step 154
passes, but out-of-service present	links continue to be	step 161
fails, and you did not replace you recorded in step 145	all cards in the list that	step 152
fails, and you replaced all card corded in step 145	ds in the list that you re-	step 161
To replace the next card on the lis Replacement Procedures. Comp	st, perform the correct proc lete the procedure and ret	edure in <i>Cal</i> urn to this po
Go to step 147.		
Determine if more than one link is	s manually busy.	
Choose a link on which to work.		
To return the link to service, type		
>RTS LINK link_no		
>RTS LINK link_no and press the Enter key.		

	If the RTS command [Do	
	passes, the LTCI unit is InSv, and other LTCIs are s not ISTb	step 162	
	passes, and the LTCI unit is InSv, but you recorded so other ISTb LTCIs in step 91	step 93	
	passes, but more ManB links are present	step 154	
	passes, and more out-of-service links are not present, s but the LTCI remains ISTb	step 97	
	fails s	step 161	
157	To identify the out-of-service C-side links, type >TRNSL C and press the Enter key. Example of a MAP response:		
	Link 0: ENET 0 0 32 00 0;Cap MS;Status:OK Link 1: ENET 1 0 32 00 0;Cap MS;Status:OK		
	Link 30: ENET 0 0 32 00 15;Cap S;Status:OK Link 31: ENET 1 0 32 00 15;Cap S;Status:OK		
	<i>Note:</i> Link 2 to link 29 do not appear in this example.		
158	Record the network, plane, and link number of the links that do status of OK.	o not have	
159	Perform the correct alarm clearing procedure in this document. procedure and return to this point.	Complete	
160	To post the LTCI that had the original out-of-service C-side link	ks, type	
	>PM;POST LTCI ltci_no		
	and press the Enter key.		
	where		
	Itci_no is the number of the LTCI (0 to 255)		
	If the LTCI Do		
	is InSv, and other LTCIs are not step 162		

	If the LTCI	Do
	is InSv, but you recorded other ISTb LTCIs in step 91	step 93
	remains ISTb	step 101
161	For additional help, contact the next level of support.	
162	The procedure is complete.	

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