Lucent Technologies
Bell Labs Innovations

4ESS™ Switching System Announcement Administration Processor

Maintenance, Diagnostics, and Trouble Clearing

201-525-016AC
Issue 3
September 1998

Lucent Technologies — Proprietary
This document contains proprietary information of Lucent Technologies and is not to be disclosed or used except in accordance with applicable agreements

Copyright © 1998 Lucent Technologies
Unpublished and Not for Publication
All Rights Reserved
Printed in U.S.A.

Copyright © 1998 Lucent Technologies
All Rights Reserved
This material is protected by the copyright laws of the United States and other countries. It may not be reproduced, distributed, or altered in any fashion by any entity including other Lucent Technologies business units or divisions without the expressed written consent of the Customer Training and Information Products (CTIP) Organization.

For permission to reproduce or distribute, please contact:

AAP Product Development Manager 1-800-LT INFO6(584-6366)

Notice

Every effort was made to ensure the information in this document was complete and accurate at the time of printing. However, information is subject to change.

Trademarks

4ESS is a trademark of Lucent Technologies
Common Language is a registered trademark and CLEI, CLLI, CLCI, and CLFI are trademarks of Bell Communications Research, Inc.
Datakit is a registered trademark of AT&T.
StarServer is a registered trademark of AT&T.
UNIX is a registered trademark in the United States and other countries, licenced exclusively through X/Open Company Limited.

Ordering Information

Call:

Additional copies of this document can be ordered by calling 1-888-LUCENT8(582-3688).

Write:

Lucent Technologies Customer Information Center
2855 North Franklin Road
P.O. Box 19901
Indianapolis, Indiana 46219-1385

To Comment on this Manual

Call:

The Lucent Technologies Customer Training and Information Products Organization

Hot Line: 1-888-LT INFO6(584-6366).

Developed by Lucent Technologies Network Systems Technical Support and Information Services.

Task Index List

Find Your Job in the List Below	Then Go To
AAP Application Software and/or Database(s)—Restore	DLP-532
AAP Application Software and/or Databases—Backup	DLP-533
AAP Applications Software Subsystem Down Alarm—Clear	TAP-114
AAP Applications Software Subsystem—Restart	DLP-516
AAP Boot Trouble - Data Collection Procedure	DLP-541
AAP User and Callup Logins and Passwords—Load	DLP-547
AAPADM Software Subsystem—Restart	DLP-517
ANNUPD Database—Corrupted	TAP-130
AUDIT Database—Corrupted	TAP-131
AUDIT Software Subsystem—Restart	DLP-518
Acceptance	NTP-002
Alarms—Clearing	TAP-101
Announcement Set Is OOS	TAP-115
Appendices Tape (#10) — Loading	DLP-542
Announcement Administration Processor (AAP) Tape (#9) — Loading	DLP-530
Audio Board Is OOS (Master CS-AAP Only)	TAP-116
Audio Driver Failed (Access)—Resolution (Master CS-AAP Only)	TAP-153
Audits — Activate	DLP-550
Boot Tape (#1) — Loading	DLP-537
BWMs — Send and Apply Any Further	DLP-549
BWM/SU Download—Preparation	DLP-502
BWM/SU Status Report for the AAP—Generate	DLP-509
BWM/SU—Apply	DLP-510
BWM/SU—Back-Out	DLP-511
BWM/SU—Display History Directory	DLP-514
BWM/SU—Download	DLP-507

Find Your Job in the List Below	Then Go To
BWM/SU—Perm	DLP-513
BWM/SU—Remove From BWM Directory	DLP-512
BWM/SU—Verify	DLP-508
BWMI Tape (#8) — Loading	DLP-520
Cabinet Cleaning and Inspection	DLP-539
Cartridge Tape Module Cleaning	DLP-538
CAUCS Database—Corrupted (Master CS-AAP Only)	TAP-139
CAUCS Interface Link OOS Alarm	TAP-103
CAUCS Links Are OOS (Both)	TAP-117
CAUCS Stream Failed (Access)—Resolution (Master CS-AAP Only)	TAP-154
CDSU Application and Operating System Software — Backup	DLP-557
CDSU Application and Operating System Software — Restore	DLP-558
CDSU BWM/SU—Apply	DLP-552
CDSU BWM/SU—Back-Out	DLP-553
CDSU BWM/SU—Display History Directory	DLP-556
CDSU BWM/SU—Perm	DLP-555
CDSU BWM/SU—Remove From BWM Directory	DLP-554
CDSU BWM/SU—Verify	DLP-551
CI Software Subsystem—Restart	DLP-519
CPU Boards Are OOS (Two)—Clear Alarm	TAP-143
CPU OOS Alarm—Clear	TAP-106
Circuit Board—General Replacement Procedures	DLP-524
Clock—Check Output and Set	DLP-505
Configuration Discrepancies—AAP Versus 1B—Resolution	TAP-140
Console Messages—Reason and Corrective Action	TAP-148
Critical Indicators and Display Pages	TAD-102
Database [%s] Not Unique in Attribute [%s] Value [%s] on the Key [%s] —Resolution	TAP-155
Disk Drive—Diagnose and Replace	TAP-141
Disk Space Is Totally Depleted Alarm—Clear	TAP-119

Find Your Job in the List Below	Then Go To
Disk Space Low Alarm	TAP-105
Disk Space Low and/or Totally Depleted—Clear Alarm	DLP-500
Emergency Action Interface (EAI) Pages	TAD-101
ENET Board OOS Alarm—Clear	TAP-110
ENET Boards Are OOS (Both)	TAP-123
Error Codes—Analysis and Resolution	TAP-150
Error Codes From CDSU — Analyze	TAP-162
Error Message—#1133 Announcement Versions Not Unique —Resolution	TAP-152
Error Message—Initialization of TLI Stream Failed —Resolution (CS-AAP Only)	TAP-157
Fan Module(s) OOS—Clear Alarm	TAP-125
FSITE Database—Corrupted (Master CS-AAP Only)	TAP-133
How to Use This Document	TNG-893
IOP Board OOS Alarm—Clear	TAP-108
IOP Boards Are OOS (Both)	TAP-121
ISDN B-Channels—Testing	DLP-515
ISDN Board OOS Alarm—Clear	TAP-111
ISDN Boards Are OOS (Two)	TAP-124
ISDN Software Subsystem—Restart	DLP-501
ISDN Driver and Utilities Tape (#7) — Loading	DLP-529
LAN Diagnostic	TAP-137
LAN Hardware Faults (AAP to SCU and AAP to Smart Hub)- Diagnose and Resolve	TAP-135
LAN Hardware Faults (Smart Hub to CDSU and CDSU to SCU)- Diagnose and Resolve	TAP-161
LAN Inhibited Alarm—Clear	TAP-134
LAN Maintenance Philosophy	TAD-103
LANADM Software Subsystem—Restart	DLP-504
LANCMD Software Subsystem—Restart	DLP-503

Find Your Job in the List Below	Then Go To
LOCOP Database—Corrupted	TAP-132
Logins—How to Administer	DLP-531
Log Message—Timeout Occurred While Waiting for Response From SCUs—Analysis and Resolution	TAP-145
Log Message—Warning, No Enabled ISDN Board Available to Service Request—Analysis and Resolution (CS-AAP Only)	TAP-146
Log Messages—Analysis and Resolution	TAP-151
Log Messages—Internal Failure Detected While Recording Announcement—Analysis and Resolution	TAP-156
MACHINE Database—Corrupted	TAP-127
MACHINE Database—Verify	DLP-536
MI Software Subsystem—Restart	DLP-523
Maintenance Menu CLLI Code—Verify	DLP-548
Maintenance Menu via the Local AAP Console—Access	NTP-005
Maintenance Philosophy	TAD-100
Memory Board OOS Alarm—Clear	TAP-107
Memory Boards Are OOS (Both)	TAP-120
NONSTOP-UK Sys-AT&T Tape (#2) — Loading	DLP-543
NSPS Database Corruption—Analysis and Recovery	TAP-147
Patch Panel Cards (PPC)—General Replacement Procedures	DLP-525
Power Component OOS Alarm (One)—Clear	TAP-113
Power Components Are OOS (Two)—Clear Alarm	TAP-126
Preventative Maintenance—Routine	NTP-006
Product-Non-Stop *UNIX* SVR4 Tape (#5) —Loading	DLP-544
Reload AAP Software	NTP-004
Replace RIOB Terminator Boards	DLP-560
Required Packages Tape (#3) — Loading	DLP-522
SCS Unit Type Translator—Perform Functional Word Change	DLP-535
SCSI Board OOS Alarm—Clear	TAP-109
SCSI Boards Are OOS (Both)	TAP-122
SCU Disabled Alarm—Clear	TAP-112

Find Your Job in the List Below	Then Go To
SCU Errors—Clearing	TAP-149
SCU Failed Request—Analysis and Resolution	TAP-158
SCU Update Capability Unavailable Alarm	TAP-102
SCUs and Their Announcement Sets—Verify Operational	DLP-546
SCUEQP Database—Corrupted	TAP-128
Security Administration Utilities - DES Tape (#4) — Loading	DLP-526
Service Processor (SP)—Testing	DLP-506
SETEQP Database—Corrupted	TAP-129
SLAVE Database—Corrupted (Master CS-AAP Only)	TAP-136
Software Updates—Administration	NTP-003
Software Updates for CDSU—Administration	NTP-007
SP Board(s) OOS—Clear	TAP-138
SP Board—Update Firmware (Flash Download)	DLP-521
SPs—Update and Restart the AAP	DLP-545
TNM, CAUCS, and Local Console Communications Lost—Clear Trouble	TAP-144
TNM Interface Link OOS Alarm	TAP-104
TNM Links Are OOS (Both)	TAP-118
TNMI Tape (#6) — Loading and Update SP Firmware	DLP-528
Tape Module — Clean, Diagnose, and/or Replace	TAP-142
Translate Display Page Indicator	TAP-159
T1 Alarm — Clear	TAP-160
T108 Automatic Disconnect Timer — Modify	DLP-559
UNIX System Login—Remote Access	DLP-540
Unmirrored Disks—Analysis and Repair	DLP-534
Update Audit Database	DLP-527

Acceptance

When the Announcement Administration Processor (AAP) is installed at a site, the installation group does adequate testing to assure that the system is operating properly. Since acceptance tests would only be a duplication of the installation procedures, and serve no beneficial purpose, they have been excluded from this document.

Lucent Technologies — Proprietary
Use pursuant to Company instructions

Software Updates—Administration

Do Items Below in the Order Listed and as Required		For Details, Go To
	Summary: Software Updates (SUs), when available, are maintained on and distributed from a central computer that is referred to as the Software Change Administration and Notification System (SCANS). The Integrated Services Digital Network (ISDN) private network facilities are used for actual delivery of the SUs to the individual Announcement Administration Processors (AAPs). There are two types of SUs. They are referred to as ''Craft'' and ''Official.'' Those SUs with the ''Craft'' designation are accessible only to the National Electronic Systems Assistance Center (NESAC) and Field Support organizations. Once an SU has been sufficiently tested and deemed appropriate for distribution its status is changed to ''Official.'' Subsequently, the Technology Control Centers (TCCs)/ Network Control Centers (NCCs) are informed to the availability of the SU. In order to actually download an SU to a particular AAP, the SU must be logged into the AAP and then engage by entering the appropriate Man-Machine Language (MML) input message. Once an SU has been downloaded, other MML input messages can be used to verify the accuracy of the SU, apply the SU, and generate an SU status report.	
1.	Prepare for a Broadcast Warning Message/Software Update (BWM/SU) Download—Check/Change Access Data to SCANS. ***Note:*** This step is only required if access information to SCANS (telephone numbers or machine name) has changed.	DLP-502
2.	Download a Broadcast Warning Message/Software Update (BWM/SU).	DLP-507
3.	Verify that a BWM/SU was downloaded correctly.	DLP-508

Do Items Below in the Order Listed and as Required		For Details, Go To
4.	Generate a status report for all BWMs/SUs that are associated with the AAP.	DLP-509
5.	Backup AAP Applications Software and/or Databases.	DLP-533
6.	Apply (make temporary) a BWM/SU.	DLP-510
7.	Back-out a BWM/SU. (As required.)	DLP-511
8.	Remove a BWM/SU. (As required.)	DLP-512
9.	Make permanent a BWM/SU.	DLP-513
10.	Display the BWM/SU history log.	DLP-514

Reload AAP Software

Do Items Below in the Order Listed		For Details, Go To
1.	Notify the TCC/NCC that this procedure is being initiated. Also, obtain the numbers listed below from the TCC/NCC and record them for later use. Correct any discrepancies, as required. AAP ID Hostname: _____ AAP CLLI* Code: _____ AAP ID Number (OFID): _____ Primary ISDN CIN: _____ Secondary ISDN CIN: _____	—
2.	Verify the Service Circuit Sytem (SCS) section of the Local Area Network (LAN): A. Inhibit the LAN at the 1B console by entering: **INH:SCS** *x***,LAN!** where: *x* is the first SCS on the LAN. B. At the MCC, poke the **INTERRUPT INHIBITED** key indicator to verify that the SCS is the cause for the lamp being on. C. At the 1B MTC terminal, disable both the primary and secondary ISDN links (to prevent local alarms) by entering the following input message **once for the primary ISDN link and once for the secondary ISDN link.** **SET:TRKSTAT CAD.DSA,CIN** *a***;SUM:TSG!** **where** *a* = CIN (at least 10 characters, recorded in Step 1) for the lead ISDN DS1 trunk.	—

* Trademark of Bellcore.

Do Items Below in the Order Listed		For Details, Go To
	Note: Ten numbered tapes will be used throughout the rest of this procedure. **These tapes must be loaded in numerical sequence.** If any tape is accidently loaded out of sequence, this procedure will have to be restarted.	
3.	Load (#1) Boot Tape into AAP.	DLP-537
4.	Load (#2) Nonstop-UK Sys-AT&T Tape into AAP.	DLP-543
5.	Load (#3) Required Packages Tape.	DLP-522
6.	This is a Safe Stop Point.	—
7.	Load (#4) Security Administration Utilities - DES Tape.	DLP-526
8.	Load (#5) Product-Nonstop *UNIX** SVR4 Tape.	DLP-544
9.	At the AAP console: A. At `#`, enter: **passwd root** B. At `New Password:`, enter: **aap$gr0w** C. At `Re-enter new password:`, enter: **aap$gr0w** D. At `#`, enter: **passwd -x -1 root**	—
10.	Enter the current date and time in the AAP system clock.	DLP-505
11.	This is a Safe Stop Point.	—
12.	Load (#6) TNMI Tape.	DLP-528
13.	This is a Safe Stop Point.	—
14.	Load (#7) ISDN Driver and Utilities Tape.	DLP-529
15.	Load (#8) Broadcast Warning Message Interface (BWMI) Tape.	DLP-520

* Registered trademark of Novell, Inc.

Do Items Below in the Order Listed		For Details, Go To
16.	Load (#9) Announcement Administration Processor (AAP) Tape.	DLP-530
17.	This is a Safe Stop Point.	—
18.	Load (#10) Appendices Tape.	DLP-542
19.	This is a Safe Stop Point.	—
20.	Update SPs and restart the AAP.	DLP-545
21.	Reboot the AAP to the multi-user mode (Run-Level 3) by doing the following at the AAP console: A. At #, Press **F9** B. With the EAI page displayed, enter **32**, then **53**. C. At `Do you want to boot now?`, enter: y D. When the boot sequence starts, press **F10**. E. At `COMPLETED NSPS INIT`, press **RETURN**. F. At `Console Login:`, enter: **root** G. At `Password:`, enter: **aap$gr0w** H. At #, enter: **/usr/aap/X/mtce/bin/runca** I. Select Option **1** (CRAFT SHELL). The < prompt is returned.	—
22.	This is a Safe Stop Point. If leaving the AAP unattended for any time at this point, exit out of the Craft Shell by entering **LOGOUT** followed by **q** at the AAP console. Then exit out of the root login by entering **exit** at the AAP console. When resuming growth, you will be prompted for the login (root) and root password after pressing the **ENTER** key at the AAP console. At that time, enter the Craft Shell by entering **/usr/aap/X/mtce/bin/runca** at the AAP console and selecting option **1** from the menu.	—
23.	Verify operational SCUs and their announcement sets	DLP-546

Do Items Below in the Order Listed		For Details, Go To

24.	A. At the AAP console, print the Announcement Set Equipage (SETEQP) database by entering:
	OP:SETEQP
	Response: A printout similar to the following example is generated.
	
	Example:
	`M mm OP:SETEQP  results`
	`KEY  ANNSET  SETADR  SETNUM`
	`0  N  09006A190A  0`
	`1  S  09006A190A  1`
	`mh/dy/yr hh:mm:ss tz #nnn`
	Using this printout, verify that the SETEQP database has 2 lines (one for multicast addressing to Set N Service Circuit Units (SCUs) and the other for Set S SCUs)
	B. If there are no SCUs with Announcement Set N or S, delete the corresponding line(s) in SETEQP by entering the following at the AAP console:
	RC:SETEQP:UPD=DLT,KEY=*x*
	
	where *x* = Database KEY for the line being deleted.
	
	C. If there are SCUs with Announcement Sets other than those listed in Step A, add the required line(s) in SETEQP by entering the following at the AAP console:
	RC:SETEQP:UPD=ADD,KEY=*x***:ANNSET=***y***, SETADR=DFLT,SETNUM=***z*** (all in one line)
	
	where *x* = Database KEY (See Table A at the end of this NTP)
	y = Appropriate Announcement Set (A-Z)
	z = Type of Service Circuit (0-7)
	
	D. If changes were made to the SETEQP database, repeat Step A to verify that the Recent Changes were made.
		—

Do Items Below in the Order Listed		For Details, Go To
25.	At the AAP console, view the SCU Equipage (SCUEQP) database by entering: **OP:SCUEQP** Response: `OP:SCUEQP AAP System Error, #1149 Database empty` ***Note:*** The SCUEQP database should start empty because there may be more than one office's SCU connected to this AAP.	—

26.	At the AAP console, add lines to SCUEQP for the lowest-numbered SCS and equipped SCU by entering:
	RC:SCUEQP:UPD=ADD,KEY=*a*:ANNSET=*b*, SCS=*c*,SCU=*d*,LANADR=DFLT (all in one line)
	
	where *a* = Database KEY (See Table A at the end of this NTP)
	b = Announcement Set (A-Z)
	c = Member Number (0-7)
	d = Submember Number (0-15)
	
	Response:
	
	`RC:SCUEQP ADD KEY a ANNSET b SCS c SCU d LANADR DFLT results`
	
	`KEY ANNSET SCS SCU LANADR ENA ACT`
	`a b c d 08006A190A 0 0`
	`<`
	
	where KEY is Database Key (0-99999)
	ANNSET is Announcement Set (one value A-Z)
	SCS is SCS # (0-7)
	SCU is SCU # (0-15)
	LANADR is LAN address (08006A190A)
	ENA is SCU enabled (1), disabled (0)
	ACT is SCU active (1), inactive (0)
		—

Do Items Below in the Order Listed		For Details, Go To
27.	Repeat Step 26, as necessary until the database is equipped with all appropriate SCUs.	—

28.	At the AAP console, verify that the SCU Equipage database (SQUEQP) has the proper lines and info for each SCU in the office by entering:
	OP:SCUEQP
	Response:
	`OP:SCUEQP results` *(Example only)*
	`KEY ANNSET SCS SCU LANADR ENA ACT`
	`1 N 0 1 08006A190A 0 0`
	`0 S 0 0 08006A190A 0 0`
	`<`
		—

Do Items Below in the Order Listed		For Details, Go To

29.	A. At the AAP console, enable the SCUEQP database line entry for one of the SCUs that are OPERational state by entering:
	
	ALW:SCUEQP:KEY=*a*
	
	where *a* is the Key number for the specific SCS-SCU operating
	
	Response: <
	B. Repeat the Step A for all grown SCUs (either active or available to be active).
	C. At the AAP console, verify that the SCEUQP database has the proper grown SCUs enabled (1 in the ENA field) and the ungrown SCUs disabled (0 in the ENA field) by entering:
	
	OP:SCUEQP
	
	Response:
	
	`OP:SCUEQP  results (Example only)`
	
	`KEY ANNSET SCS SCU    LANADR     ENA   ACT`
	`1     N    0   1   08006A190A    1     0`
	`0     S    0   0   08006A190A    1     0`
	
	<
		—

Do Items Below in the Order Listed		For Details, Go To
30.	Update AUDIT database.	DLP-527

31.	At the AAP console, verify that the Local Operations (LOCOP) database is empty (i.e., the database should contain no data lines), by entering:
	OP:LOCOP
	Response:
	`OP:LOCOP AAP System Error,`
	`#1149 Database empty`
		—

32.	Verify MACHINE database.	DLP-536

33.	At the AAP console, verify that the Announcement Update (ANNUPD) database is empty (should contain no data lines), at the AAP console by entering:
	OP:ANNUPD
	Response:
	`OP:ANNUPD results`
	`OP:ANNUPD AAP System Error,`
	`#1149 Database empty`
	`<`
		—

Do Items Below in the Order Listed		For Details, Go To
34.	Restart the AAP software as follows: A. At the AAP console, restart the AAP Application Software since all the databases are loaded by entering: **INIT:AAP:AAP** Response: # AAP Starting at (date & time) B. At the AAP console, enter **LOGOUT** to access the main menu, then press **q** to get the *UNIX* prompt (#).	—
35.	This is a Safe Stop Point. If leaving the AAP unattended for more than two hours, exit out of the Root login by entering: **exit** at the AAP console. You will again be prompted for the login and password when resuming this procedure after pressing the **ENTER** key at the AAP console.	—
36.	Load AAP User and Callup Logins and Passwords.	DLP-547
37.	Verify Maintenance CLLI Code.	DLP-548
38.	At the AAP console, supply the proper SCANS call routing numbers to the FS-AAP to call, by entering: **UPD:SD:UPD=CHG,REL=AAP_SUDB:"SCANS_PRIMARY_NU=2495508"** and **UPD:SD:UPD=CHG,REL=AAP_SUDB:"SCANS_NORMAL_NU=2495509"**	—

Do Items Below in the Order Listed		For Details, Go To
39.	Send and Apply any Further BWMs.	DLP-549
40.	At the AAP console, start the AAP LANCMD software and LAN heartbeat through both ENET0 and ENET1, by entering: **INIT:AAP:LANCMD** Response: `INIT:AAP "LANCMD"  completed` ***Note:*** If ENET timeout messages occur at the AAP, there is a problem with either the transceiver or the AAP-Transceiver cable or possibly the ENET board/patch panel. To stop the messages, type slowly (between mes- sage output), by entering: **STOP:AAP:LANCMD** Resolve the problem and initialize the LANCMD again.	—

Do Items Below in the Order Listed		For Details, Go To
41.	Verify that the SCS is not blocked from updates as follows: A. At the 1B terminal, activate the SCUs to respond/report on LAN by entering: **ALW:SCS** *n*,**LAN!** where *n* is the first connected SCS on the LAN Response: ALW:SCS n LAN completed B. Poke the MCC INTERRUPT INHIBITED indicator and verify via the 1B ROP output that the SCS is not listed (not blocked from announcement updates). Wait at least one minute at the 1B terminal to check for interjects.	—
42.	Verify LAN0 and LAN1 paths as follows: A. At the AAP console, verify LAN0 path initially for SCU response by entering: **ANNC:POLL:ANNSET=S,LANCONT=0** Response: `Completed` OR `Conditional Success` (if any S Set SCU is OOS) ***Note:*** Partial or Complete Success means that LAN0 sent out a poll request and at least some SCU(s) responded. There may be OOS SCU that did not respond. B. At the AAP console, verify LAN1 path initially for SCU response by entering: **ANNC:POLL:ANNSET=S,LANCONT=1** Response: `Completed` OR `Conditional Success` (if any S Set SCU is OOS)	—

Do Items Below in the Order Listed		For Details, Go To
43.	This is a Safe Stop Point. If leaving the AAP unattended for more than two hours, get back to the AAP Main Menu at the AAP console by, entering: **LOGOUT** followed by **q**. Reply to the "Console Login" query by entering: **q** When resuming this procedure, the StarServerFT will prompt for the login (aapusr) and password **ENTER**) after you press the **ENTER** key at the AAP console. Enter **1** to go back into the AAP Craft Shell.	—
44.	Activate Audits.	DLP-550
45.	Backup Onto Tape, then store backup tape with the other AAP tapes. ***Note:*** When other BWMs occur to the AAP software, backup onto another blank tape (or oldest version of the backup tape) will be required upon perming those BWMs.	DLP-533
46.	At the AAP console, exit out of the Root login, by entering: **exit**. Response: `Console Login:`	—
47.	Inform the TCC/NCC and the AFSC that the AAP is back in service and that actual announcement updates may resume.	—
48.	This is a Safe Stop Point.	—
49.	Soak the AAP for 36 hours minimum.	—
50.	End of Software Re-Load Procedure.	—

TABLE A SCUEQP Database Lines for Specific SCUs

Key	Announcement Set	SCS	SCU	Key Set	Announcement	SCS	SCU
0	N/S	0	0	32	N/S	2	0
1	N/S	0	1	33	N/S	2	1
2	N/S	0	2	34	N/S	2	2
3	N/S	0	3	35	N/S	2	3
4	N/S	0	4	36	N/S	2	4
5	N/S	0	5	37	N/S	2	5
6	N/S	0	6	38	N/S	2	6
7	N/S	0	7	39	N/S	2	7
8	N/S	0	8	40	N/S	2	8
9	N/S	0	9	41	N/S	2	9
10	N/S	0	10	42	N/S	2	10
11	N/S	0	11	43	N/S	2	11
12	N/S	0	12	44	N/S	2	12
13	N/S	0	13	45	N/S	2	13
14	N/S	0	14	46	N/S	2	14
15	N/S	0	15	47	N/S	2	15
16	N/S	1	0	48	N/S	3	0
17	N/S	1	1	49	N/S	3	1
18	N/S	1	2	50	N/S	3	2
19	N/S	1	3	51	N/S	3	3
20	N/S	1	4	52	N/S	3	4
21	N/S	1	5	53	N/S	3	5
22	N/S	1	6	54	N/S	3	6
23	N/S	1	7	55	N/S	3	7
24	N/S	1	8	56	N/S	3	8
25	N/S	1	9	57	N/S	3	9
26	N/S	1	10	58	N/S	3	10
27	N/S	1	11	59	N/S	3	11
28	N/S	1	12	60	N/S	3	12
29	N/S	1	13	61	N/S	3	13
30	N/S	1	14	62	N/S	3	14
31	N/S	1	15	63	N/S	3	15

TABLE A SCUEQP Database Lines for Specific SCUs (Contd)

Key	Announcement Set	SCS	SCU	Key Set	Announcement	SCS	SCU
64	N/S	4	0	96	N/S	6	0
65	N/S	4	1	97	N/S	6	1
66	N/S	4	2	98	N/S	6	2
67	N/S	4	3	99	N/S	6	3
68	N/S	4	4	100	N/S	6	4
69	N/S	4	5	101	N/S	6	5
70	N/S	4	6	102	N/S	6	6
71	N/S	4	7	103	N/S	6	7
72	N/S	4	8	104	N/S	6	8
73	N/S	4	9	105	N/S	6	9
74	N/S	4	10	106	N/S	6	10
75	N/S	4	11	107	N/S	6	11
76	N/S	4	12	108	N/S	6	12
77	N/S	4	13	109	N/S	6	13
78	N/S	4	14	110	N/S	6	14
79	N/S	4	15	111	N/S	6	15
80	N/S	5	0	112	N/S	7	0
81	N/S	5	1	113	N/S	7	1
82	N/S	5	2	114	N/S	7	2
83	N/S	5	3	115	N/S	7	3
84	N/S	5	4	116	N/S	7	4
85	N/S	5	5	117	N/S	7	5
86	N/S	5	6	118	N/S	7	6
87	N/S	5	7	119	N/S	7	7
88	N/S	5	8	120	N/S	7	8
89	N/S	5	9	121	N/S	7	9
90	N/S	5	10	122	N/S	7	10
91	N/S	5	11	123	N/S	7	11
92	N/S	5	12	124	N/S	7	12
93	N/S	5	13	125	N/S	7	13
94	N/S	5	14	126	N/S	7	14
95	N/S	5	15	127	N/S	7	15

Maintenance Menu via the Local AAP Console—Access

Summary: The local work force uses the AAP console to access, monitor, and control the maintenance related AAP functions. All that is necessary is for the local group to use their unique craft login/password combination. Subsequently, the ‘‘Maintenance Menu’’ will be displayed on the console screen (refer to Figure 1). Thereafter, the local group need only select the number that corresponds to the desired maintenance function.

> ***Note:*** The local group, while logged in, may access the Emergency Action Interface (EAI) page by simply pressing the **F9** function key. Similarly, the EAI page may be cleared from the screen by pressing the **F10** function key. The EAI pages for both the system console and Total Network Management (TNM) terminal are depicted and fully described in TAD-101.

```
--------------------------------------------------------------------------------

        Select function (type q to quit, m to refresh menu) ...
        1) CRAFT SHELL
        2) DISPLAY PAGES
        3) AUTO MESSAGES
        4) AAP OPERATIONAL USER INTERFACE
        Pick one of the above by number:

--------------------------------------------------------------------------------
```

Figure 1. Local Console Maintenance Menu

> ***Note:*** The maintenance menu provides the local group with all of the same capabilities that are provided to the remote work group over PVC1-through-PVC6.

Explanation of Maintenance Menu Functions

Craft Shell

The Craft Shell provides a set of MML commands that are useful for troubleshooting the AAP hardware and associated communication links. A full and detailed description of each MML command is provided in the 201-525-012AC, *AAP Input/Output Manual*.

> ***Note:*** The MML Craft Shell prompt is the less than character (<). The local group may exit the Craft Shell by entering either (**L**, **LOGOUT**, or **logout**).

Display Pages

The Display Pages provide status information on the AAP's hardware components (including communication links) and software subsystems. The Display Pages are depicted in TAD-102.

> ***Note:*** The local group may exit the Display Pages by entering the letter **q**.

Auto_Messages

This menu item is provided for future use. Although the local group may select this menu item, it does not provide any functionality and the recommendation is that it not be selected.

> ***Note:*** The local group may exit this menu by pressing the **DEL** key.

User Interface

The user interface provides a set of PDS-type input/output messages that are useful for troubleshooting and correcting AAP applications software problems. The 201-525-012AC, *AAP Input/Output Manual* fully describes every input/output (I/O) message that is contained within the User Interface (UI).

> ***Note:*** The UI prompt is the greater than character (>). The local group and remote group may get out of UI by entering: **EXIT**.

Preventative Maintenance—Routine

The following preventive maintenance procedures have been identified for the AAP equipment. Refer to the corresponding sections in this document for details.

Do Items Below in the Order Listed		For Details, Go To
1.	Cartridge Tape Module Cleaning. (Refer to schedule.)	DLP-538
2.	Cabinet Cleaning and Inspection. (Refer to schedule.)	DLP-539

Software Updates for CDSU—Administration

Do Items Below in the Order Listed and as Required		For Details, Go To
	Summary: Software Updates (SUs), when available, are maintained on and distributed from a central computer that is referred to as the Software Change Administration and Notification System (SCANS). The Integrated Services Digital Network (ISDN) private network facilities are used for actual delivery of the SUs to the individual Announcement Administration Processors (AAPs). There are two types of SUs. They are referred to as ''Craft'' and ''Official.'' Those SUs with the ''Craft'' designation are accessible only to the National Electronic Systems Assistance Center (NESAC) and Field Support organizations. Once an SU has been sufficiently tested and deemed appropriate for distribution its status is changed to ''Official.'' Subsequently, the Technology Control Centers (TCCs)/ Network Control Centers (NCCs) are informed to the availability of the SU. In order to actually download an SU to a particular AAP, the SU must be logged into the AAP and then engage by entering the appropriate Man-Machine Language (MML) input message. Once an SU has been downloaded, other MML input messages can be used to verify the accuracy of the SU, apply the SU, and generate an SU status report. To analyze CDSU error codes, see TAP-162	
1.	Prepare for a Broadcast Warning Message/Software Update (BWM/SU) Download—Check/Change Access Data to SCANS. ***Note:*** This step is only required if access information to SCANS (telephone numbers or machine name) has changed.	DLP-502
2.	Download a Broadcast Warning Message/Software Update (BWM/SU).	DLP-507

Do Items Below in the Order Listed and as Required		For Details, Go To
3.	Verify that a Custom Data Services Unit (CDSU) BWM/SU was downloaded correctly.	DLP-551
4.	At the AAP console, enter: **OP:CDSU:FORM=SHORT** Response: The screen will return a list of CDSUs and associated Service Circuit Units (SCUs). Use this list to determine which CDSU(s) are to be updated and to determine their associated SCU number. This information will be used later in this procedure.	—
5.	Generate a status report for all BWMs/SUs that are associated with the AAP.	DLP-509
6.	Backup CDSU Applications and Operating System Software.	DLP-557
7.	Verify that the SCU associated with the CDSU to be restored is out of service. If not, take the SCU out of service (See DLP-510 in the 234-151-077AC, *Service Circuit System (SCS) Maintenance* document).	—
8.	Apply (make temporary) a CDSU BWM/SU.	DLP-552
9.	Back-out a CDSU BWM/SU. (As required.)	DLP-553
10.	Remove a CDSU BWM/SU. (As required.)	DLP-554
11.	Restore the SCU associated with the CDSU to service. (See DLP-524 in the 234-151-077AC, *SCS Maintenance* document).	—
12.	Make permanent a CDSU BWM/SU.	DLP-555
13.	Display the CDSU BWM/SU history log.	DLP-556

Maintenance Philosophy

General

The maintenance philosophy contained in this document is based on the design of the equipment (hardware), the status monitoring and alarm reporting capabilities, the built-in diagnostic software, and the system application. The Announcement Administration Processor (AAP) maintenance philosophy specifies that all day-to-day maintenance operations be performed on a centralized (remote) basis using the surveillance, control, and analysis capabilities of the Total Network Management (TNM) system. Each Technology Control Center (TCC)/Network Control Center (NCC) contains a TNM system and its supported terminals. These terminals are monitored continuously by personnel within the TCC/NCC. It is anticipated that the majority of AAP troubles can be cleared remotely by the TCC/NCC. For problems that cannot be cleared remotely, the TCC/NCC will coordinate with the local On-Site Work Force (OSWF), by telephone, to locate and fix these problems. This may include activities from changing a switch setting, replacing a cable, to removing and replacing a failed Customer Replaceable Unit (CRU).

Other documents that provide additional information on the AAP are:

- 201-525-012AC, *AAP Input/Output Manual*
- 201-525-014AC, *AAP Operations Manual*

By definition, CRUs are those modules (for example, disk drives, fan modules, circuit packs, patch panel cards, and so forth) that have a green ‘‘in-use’’ status Light Emitting Diode (LED) and are held in place by one or more mechanical extractor/latches. Furthermore, CRUs can be removed and replaced with the AAP powered-up and executing the applications software. As a contrast, most Field Replaceable Units (FRUs) require that the AAP be removed from service and powered-down before they are serviced.

> ***Note:*** A point of clarification is that although the CRUs can be removed with the AAP powered-up and executing the applications software, only one of a type (for example, 1 CPU, 1 memory, 1 ENET, etc.) can be removed at a time without causing a disruption in service.

All CRUs are accessible, either from the front or the rear of the AAP cabinet. Each CRU is located in a slot which is identified with a unique 3-digit slot number. If the CRU is a circuit board, then the **slot is further identified** with a color code and function label (for example, color code ‘‘Blue’’ and CPU-A). Each type of **CRU is identified** with a color code and function label (for example, color code ‘‘Blue’’ and CPU). A particular CRU may be installed in any slot that has the same color code and/or function label.

FRUs include the following:

- Power Entry Module
- System/Patch Panel Backplane
- Power Backplane
- Fan Backplane
- System Cabinet Disk Backplane
- VMEBus Terminator Board
- Reliable I/O Bus Terminator Board (RIOB).

Note: It is not the purpose of this document to describe software and hardware escalation procedures. However, if a problem is determined to be in one of the FRUs—then that problem should be escalated since the On-Site Work Force (OSWF) is not trained or responsible for the removal or installation of FRUs.

AAP Maintenance Architecture

The AAP (hardware and software) is designed to monitor and report its status (both to a local console/printer and remote TNM terminal). The Service Processor (SP) is the primary component that makes remote reporting possible. The SP provides the following three ports:

- One RS-232C asynchronous port for connecting a printer—which provides a hard copy of the system console messages and dialogue.
- One RS-232C asynchronous port for connecting the console terminal—which services as the I/O device for local administration and maintenance functions.
- One RS-232C 9600-bps synchronous port for connecting to the TNM—which functions to provide the remote surveillance, control, and analysis functions.

The synchronous port implements the X.25 protocol and supports 10 permanent virtual circuits (PVCs). Figure 1 functionally depicts the interface for providing these capabilities and identifies the function of each PVC.

Note: The AAP provides two SPs. They are identified as SP-0 and SP-1. While one SP is ‘‘active’’ the other is in ‘‘stand-by’’ mode. The two SPs are synchronized and if the active SP or its communication link should fail, the backup SP will become the active SP without any noticeable interruption. This is with the exception of user access. If someone is logged into an SP when it fails, they will be disconnected. They will have to reconnect via the other SP.

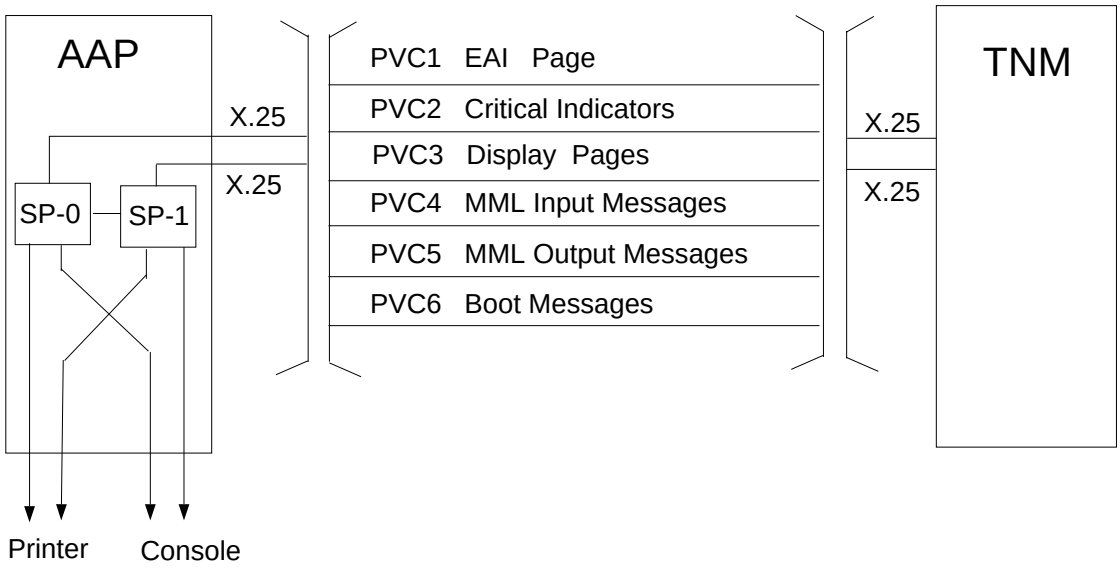


Figure 1. AAP to TNM Maintenance Interface

PVC Channel Assignment Descriptions

- PVC1—provides the Emergency Action Interface (EAI) and permits the TCC/NCC personnel to configure the operating environment and to remotely boot the AAP whenever it is down. During recovery operations and on request from TCC/NCC personnel, the AAP will display status data on lines 4-18 of the TNM synchronous terminal.
- PVC2—provides status summary messages and the critical indicator data. Every 2 minutes the TNM system attempts to communicate with the AAP. This is referred to as the heartbeat or handshake and enables the TNM system to detect link failure. The critical indicator data is used to drive the ‘‘Alarm Status Display’’ of the alarm monitor screen. These indicators are primarily alarms (which may be produced from either hardware or software troubles).
- PVC3—provides the Display Pages. These permit the TCC/NCC personnel to gain access (using POKE commands) to the system status summary information and to control certain operations of the AAP.
- PVC4—provides the Craft Shell. TCC/NCC personnel may enter Man-Machine Language (MML) formatted input commands and receive acknowledgements from the AAP.
- PVC5—provides MML formatted output messages in response to the MML input messages received over PVC4. Also, some *UNIX* system kernel messages that relate to system performance are received over PVC5.

- PVC6—provides *UNIX* system boot messages. These messages are available on lines 19-23 of the TNM synchronous terminal. But, the messages are only available during the boot (recovery) interval.
- PVC7—not supported.
- PVC8—functions as a remote *UNIX* system login channel. The TCC/NCC personnel, National Electronic Systems Assistance Center (NESAC) personnel, and other support organizations may use this channel to remotely access the AAPs *UNIX* system operating system and perform administration and maintenance functions that are not included within the AAP applications software.
- PVC9—is not used by the TNM system but is used by the Centralized Announcement Update Control System (CAUCS).
- PVC10—is not used by the TNM system but is used by CAUCS.

It should be emphasized that the format for most types of information displayed on the local console will be almost identical to that displayed on the TNM synchronous terminals. The EAI pages are fully described in TAD-101 and both the OSWF screen and the TNM screen are depicted with two figures.

Alarms

Hardware failures, communication link failures, and certain software failures are detected, categorized into one of three alarm levels, and displayed on the Critical Indicators Screen and appropriate Display Page. The Critical Indicators and Display Pages are fully described, and depicted with figures, in TAD-102.

The following list identifies the AAP alarms.

- Interface Link Operations System (OS LINK)—Includes both the CAUCS-to-AAP links and the TNM-to-AAP links. These links are duplicated; if one CAUCS or TNM link is Out of Service (OOS) a **MAJOR** alarm is generated, if both CAUCS links are OOS a **CRITICAL** alarm is returned, if both TNM links are OOS a telemetry (TELEM) alarm is indicated at the TCC/NCC.

  Note: Whenever an alarm is detected, the alarm level and an output message characterizing the alarm are transmitted to the TNM system. Additionally, an output message characterizing the alarm is entered in the AAP system log. The output message contains all pertinent information necessary for the TCC/NCC personnel to identify, isolate, and correct the problem.

- Service Circuit Unit (SCU) update capability unavailable—This would indicate that for some reason the AAP was not able to perform update capabilities to one or more SCUs. This results in a **MINOR** alarm being transmitted to the TNM terminal(s).

- AAP disk space low or out—This would indicate that the storage space left on the AAP disk is low or totally depleted. Disk space low would result in a **MAJOR** alarm being generated. Disk space totally depleted would result in a **CRITICAL** alarm being generated.

- CRUs OOS—Alarms are generated whenever one or more CRU is removed from service (either manually or automatically). The following list identifies the type CRU, quantity within the AAP, and the appropriate alarm levels.

  — CPU (three boards)—one board OOS generates a **MAJOR** alarm; two boards OOS bring the system down, and thus, also take down both TNM links causing a telemetry (TELEM) alarm is at the TCC/NCC.

  — Memory (two boards)—one board OOS generates a **MAJOR** alarm; two boards OOS bring the system down, and thus, also take down both TNM links causing a telemetry (TELEM) alarm is at the TCC/NCC.

  — Input/Output Processor (IOP) (two boards)—one board OOS generates a **MAJOR** alarm; two boards OOS bring the system down, and thus, also take down both TNM links causing a telemetry (TELEM) alarm is at the TCC/NCC.

  — Service Processors (SPs) (two boards)—one board OOS generates a **MAJOR** alarm; two boards OOS disrupt local and remote communication; causing TELEM error at TCC/NCC.

  — Small Computer System Interface (SCSI) (two boards)—one board OOS generates a **MAJOR** alarm; two boards OOS bring the system down.

  — Local Area Network (LAN) (two boards)—one board OOS generates a **MAJOR** alarm; two boards OOS generate a **CRITICAL** alarm.

  — Integrated Services Digital Network (ISDN)—one board OOS generates a **MAJOR** alarm; two boards OOS generate a **CRITICAL** alarm.

  — Audio (one board at the central site)—one board OOS generates a **CRITICAL** alarm.

  — Fans (three on top shelf and three on bottom shelf)—one fan OOS generates a **CRITICAL** alarm. More that one fan OOS shall create a system shutdown with the following criteria; any two fans on the same shelf OOS will shut down the system automatically; for any two fans OOS (one on the top shelf and one on the bottom shelf) the cabinet temperature sensor will monitor the temperature and shut down the system at a pre-determined threshold.

  — Disk drives (two per cabinet)—one drive OOS generates a **MAJOR** alarm; two drives OOS bring the system down, and thus, also take down both TNM links causing a telemetry (TELEM) alarm is at the TCC/NCC.

  — -48 V DC bulk power supplies (four per cabinet)—one power supply OOS generates a **MAJOR** alarm; two power supplies generate a **CRITICAL** alarm.

- AAP applications software subsystem down—one or more software subsystems OOS generates a **MAJOR** alarm.
- Database corruption—one or more elements of the AAP database corrupted generates a **CRITICAL** alarm.
- Announcement set OOS—an announcement set that is not accessible by the AAP shall result in the AAP generating a **CRITICAL** alarm.
- SCU disabled—indicates that the AAP has attempted to access an SCU, has determined that the update cannot be applied, and has internally marked the SCU as disabled for future announcement update attempts. This condition generates a **MAJOR** alarm.

> ***Note:*** The **CRITICAL** alarm may have different meaning depending on its source. For example, in most cases it will mean that the AAP is not operating and will require that hardware be repaired and a complete system recovery be performed. Additionally, it is possible to have a **CRITICAL** alarm related to DC power and still have a functioning system.

Resolving Alarms

Some hardware failures may result in generating multiple alarms. Therefore, it is important that alarms be resolved in terms of their importance (for example, all critical alarms first, a power component major alarm second, any additional major alarms third, and minor alarms last).

> ***Note:*** Whenever a Direct Current Converter (DCC) module is replaced (and the power alarm cleared) it may still take a number of minutes for its associated CRUs (for example, circuit boards) to complete their Power-On Self-Test (POST) and become reintegrated into the system. During this power-up and reintegration interval, the CRU status is indicated as initializing and until reintegration is complete it continues to generate an alarm. Therefore, before directing the replacement of a CRU, the TCC/NCC/OSWF should evaluate, isolate, and determine the exact status of a CRU.

Each CRU can be in one of the following five states:

- On line—CRU is fully functional
- Down—CRU is off-line or has failed
- Initializing—CRU is reintegrating into the system
- Absent—CRU is not installed in the cabinet slot
- Degraded—CRU is partially functional (fan module only).

The TCC/NCC can input various messages that perform the following functions:

- Cause a particular CRU to go down
- List all CRUs that are down
- Cause a particular CRU to go on-line.

Note: It is preferred that the MML input messages be used to change, control, and determine the CRU status. However, there are a series of *UNIX* system shell commands, referred to as the ‘‘cf commands,’’ that may also be used to perform the same functions.

Assumptions

In this document, certain assumptions are made. It is assumed that the AAP was installed correctly and that it was operational when a trouble occurred. It is assumed that one trouble is being cleared at a time. When directing the user to perform an action, it is assumed that the user performs that action correctly. Similarly, when directed to make replacements, the replacement part is always assumed to be good. Equipment used for testing, both built-in (hardware and software) and commercial, are assumed to be good.

Emergency Action Interface (EAI) Pages

Description

The EAI page runs in split-screen mode: the top portion of the screen displays the EAI page used to enter the EAI commands; the bottom portion functions as a standard *UNIX* system console terminal for output message display while the EAI page is in use.

The primary function of the EAI page is to enable personnel at either a TNM terminal or local console to restart, through manual intervention, an AAP whose *UNIX* operating system has crashed. The EAI page provides a menu-driven interface to handle the system initialization and recovery procedures.

> ***Note:*** The SP provides the remote and local login tasks.

The EAI page displays preconditioned commands and boot action commands, Boot Critical status and other information. A preconditioned command can be entered from the EAI page at any time. When a preconditioned command is entered, it is validated, and an OK/NG acknowledgement is output depending on whether it is a valid command or not. If the command is valid, it is back-lighted on the EAI page and is saved in memory on both SPs for the next boot action. The boot action commands require verification on the command line. The craft will be asked to confirm the boot command. If the answer is ‘‘YES,’’ then the boot sequence will begin. During system boot, the critical states will be displayed under the line marked as **BOOT CRITICAL STATES** on the EAI page.

Commands

The EAI commands, which are shown in Figures 1 and 2, consist of a 2-digit numeric value. The commands are listed as follows:

- SELECT BOOT DISK: to pick one of the three options for a boot device

  20—PRIMARY BOOT DISK

  21—SECONDARY BOOT DISK

  22—AUTOMATIC SELECT (this option lets the system pick the bootable device).

- SELECT OPERATING ENV: to select a running state of the operating system and applications after the completion of the boot.

  30—*UNIX* LVL 1 ONLY (only the *UNIX* operating system is initialized to init 1)

  31—*UNIX* LVL 1,2 (the operating system is initialized to init levels 2 through 6 and placed in multi-user mode)

  32—*UNIX* + APPL (the operating system and the application are initialized).

- The boot action commands are:

  53—Shut down and boot from disk (performs an ordered shutdown of the AAP applications software as well as the *UNIX* operating system and subsequently reboots the system from disk).

  54—Reset and boot from disk (performs an immediate system reset and subsequently reboots the system from disk).

  55—Load from tape (load system software from tape to disk).

  59—Boot in maintenance mode (allows the craft to manually boot the host directly using the system console dialogue, ignoring the preselected states of BOOT DEVICE, ROOT FILE SYSTEM and INIT-LEVEL. After the CPU reset occurrence during a boot process, the AAP will request manual response to a series of questions, instead of using the preselected default states).

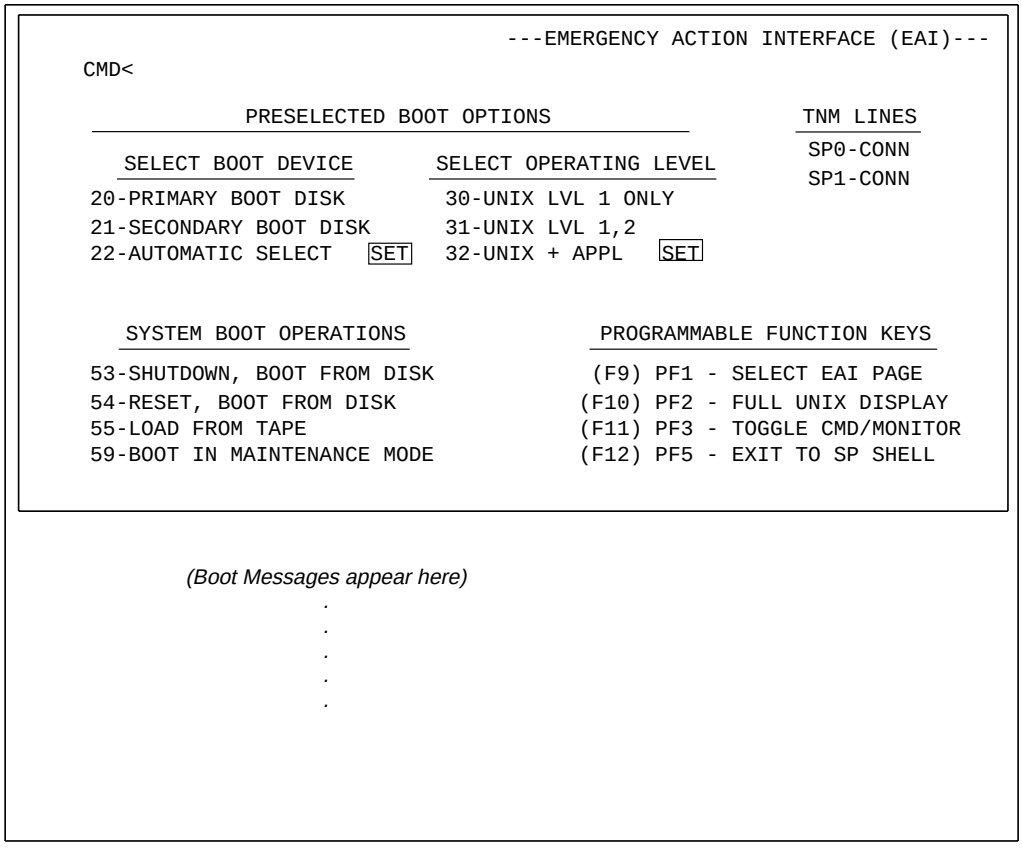
- The INSTRUCTIONS/INFORMATION section contains:

  F9—Use this key to select (force draw) the EAI page.

  F10—Use this key to select the full *UNIX* display.

  F11—Use this key to toggle between the EAI and command screens.

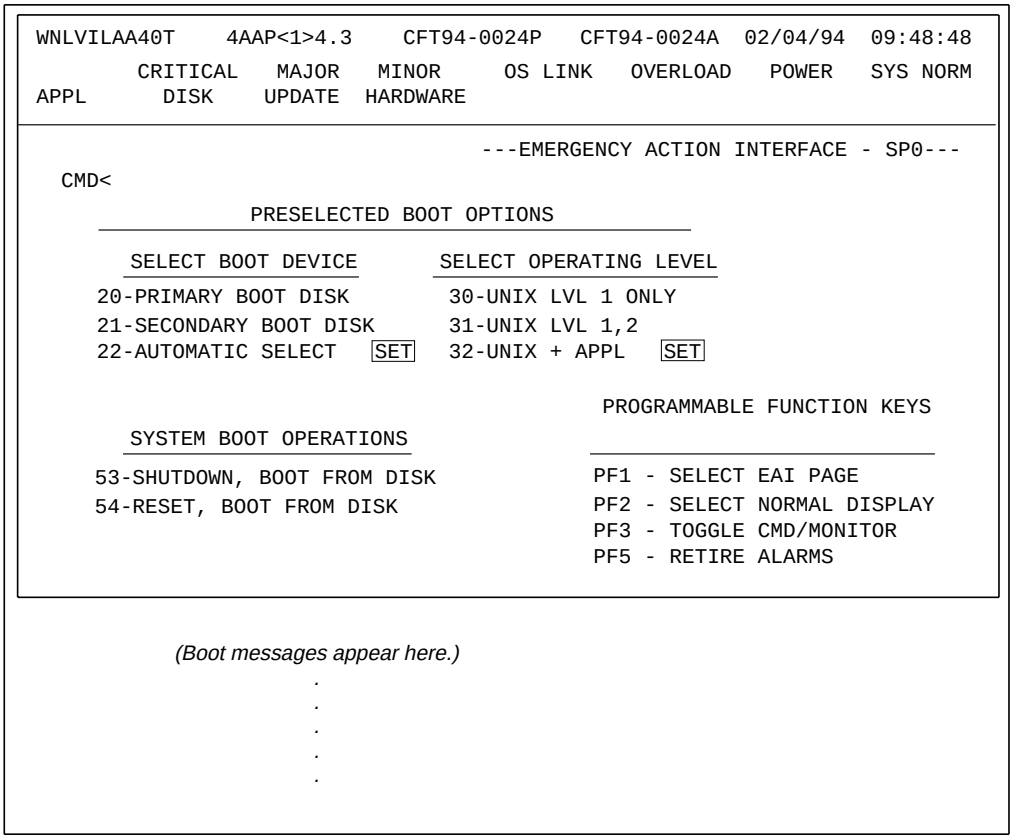
  F12—Use this key to exit to the SP shell.



NOTES:

1. The selected preconditions are indicated by reverse video in this figure and are back-lighted on the screen.
2. When BOOT IN MAINTENANCE MODE, none of the preselected states will be used. The user will be prompted with boot dialogue on the *UNIX* system console terminal.
3. The AUTOMATIC SELECT allows the system to pick up the next available option for the boot command.
4. The SET flags indicate the options which were used for the previous boot, and therefore define the current running state.

Figure 1. EAI Page for the System Console



NOTES:

1. The selected preconditions are indicated by reverse video in this figure and are back-lighted on the screen.
2. When BOOT IN MAINTENANCE MODE, none of the preselected states will be used. The user will be prompted with boot dialogue on the *UNIX* system console terminal.
3. The AUTOMATIC SELECT allows the system to pick up the next available option for the boot command.
4. The SET flags indicate the options which were used for the previous boot, and therefore define the current running state.

Figure 2. EAI Page for the TNM Terminal

Critical Indicators and Display Pages

Note: To translate and troubleshoot display page indicators, see TAP-159.

Critical Indicators Screen

Every AAP generates a heartbeat signal every 2 minutes. This heartbeat signal serves to update the critical indicators. The critical indicators are displayed along the top of every display page. Figure 1 depicts the critical indicators. The status of each indicator is determined by its color and state (for example, steady or flashing).

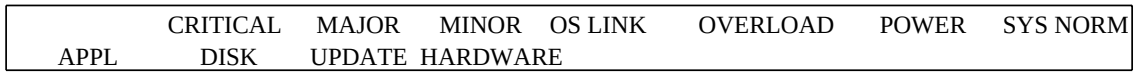


Figure 1. Critical Indicators

The following list identifies the specific critical indicators and alarms, and describes how they are displayed on the TNM synchronous terminal(s).

- Alarm Level Indicators—shall be displayed in the **CRITICAL**, **MAJOR**, and **MINOR** sections of the Critical Indicator screen.
- Link Status—shall be displayed in the **OS LINKS** section of the Critical Indicator screen.
- Overload—shall be displayed in the **OVERLOAD** section of the Critical Indicator screen. This indicator serves to alert the maintenance personnel to any overload condition in the AAP (for example, software problems).
- Power—shall be displayed in the **POWER** section of the Critical Indicator screen.
- No problem—shall be displayed in the **SYS NORM** section of the Critical Indicator screen.
- Applications Software subsystem failure—shall be displayed in the **APPL** section of the Critical Indicator screen. The **APPL** indicator means that one or more of the items depicted in Display Page 119 has failed, or an AAP audit has failed.
- Disk and/or Tape failure—shall be displayed in the **DISK** section of the Critical Indicator screen. This indicator serves to alert the maintenance personnel that one or more items within the middle shelf (refer to Display Page 104) have failed, or that you have run out of disk file space.
- SCS/SCU update failure—shall be displayed in the **UPDATE** section of the Critical Indicator screen. The UPDATE indicator means that there was an announcement update failure related to the SCS/SCU, and/or announcement SET. This indicator serves to alert the maintenance personnel to look on Display Pages 109 through 117 in order to identify the exact problem.

- Hardware failure—shall be displayed in the **HARDWARE** section of the Critical Indicator screen. This indicator serves to indicate that the failure is related to a particular hardware unit within the AAP cabinet.

Note: All critical indicators are updated every 2 minutes by the heartbeat signal.

Display Pages

Figures 2 through 18 show the Display Pages.

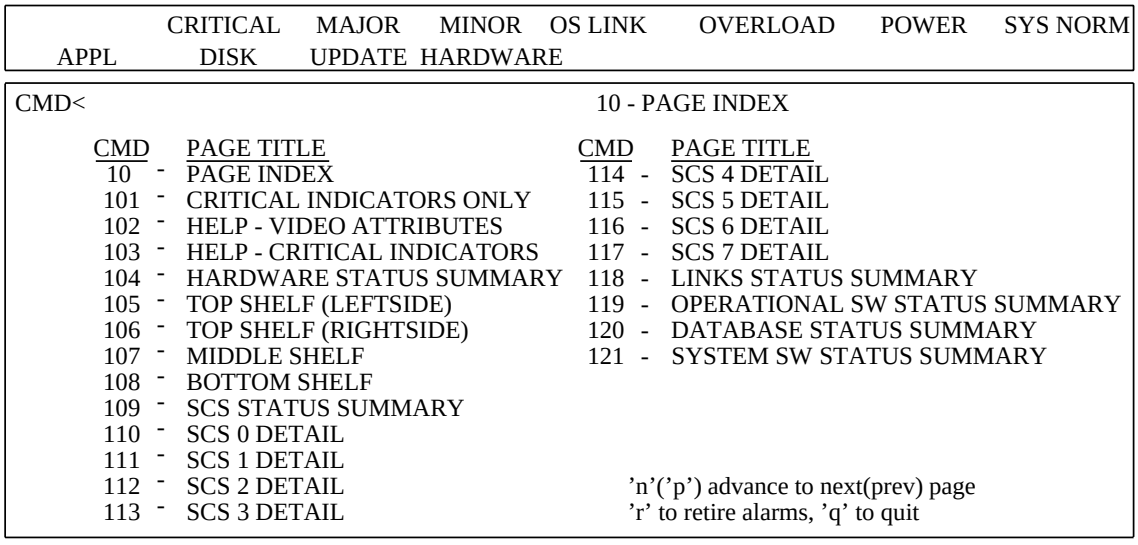


Figure 2. Display Page 10—Index

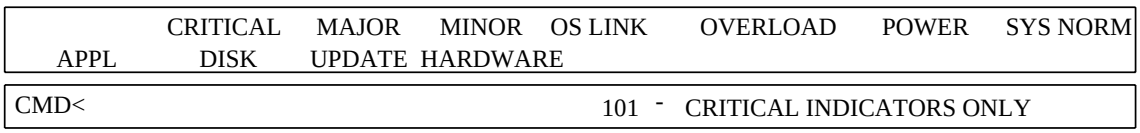


Figure 3. Display Page 101—Critical Indicators Only

```
                CRITICAL    MAJOR     MINOR   OS LINK      OVERLOAD      POWER     SYS NORM
  APPL          DISK        UPDATE    HARDWARE
```

```
CMD<                                                  102 - HELP - VIDEO ATTRIBUTES
  SYS NORM  (black-on-white) implies system trouble free
  SYS NORM  (white-on-black) implies system problem condition

  TROUBLE CONDITIONS WHICH NEED TO BE CORRECTED:
    XXX   -  Flashing white-on-red indicates a new trouble (ALARMED)
    XXX   -  Flashing black-on-yellow indicates a new trouble (ALARMED)
    XXX   -  Steady white-on-red indicates trouble (TROUBLE)

  NORMAL CONDITIONS:
    XXX   -  Any color on a green background indicates normal
    XXX   -  White-on-black indicates an unequipped condition

  PRECAUTIONARY STATES OR MANUAL ACTION UNDERWAY:
    XXX   -  Black-on-yellow indicates a test condition
    XXX   -  Cyan-on-red indicates a unit has been taken offline
    XXX   -  Red-on-yellow indicates a manual out-of-service condition
    XXX   -  White-on-magenta indicates initialization or growth underway
    XXX   -  White-on-blue indicates an inhibited or standby condition
```

Figure 4. Display Page 102—Help Video Attributes

```
                CRITICAL    MAJOR     MINOR   OS LINK      OVERLOAD      POWER     SYS NORM
  APPL          DISK        UPDATE    HARDWARE
```

```
CMD<                                                  103 - HELP - CRITICAL INDICATORS


    CRITICAL.......a critical alarm has been activated
    MAJOR..........a major alarm has been activated
    MINOR..........a minor alarm has been activated

    SYS NORM.....system is normal

    OS LINKS.......an administration system data link problem
    OVERLOAD...an application may be failing because of heavy load
    POWER..........fan or power supply in trouble
    APPL...........an operational application or audit is failing
    DISK...........system, disk, or tape or file system in trouble
    UPDATE.........announcement update in trouble
    HARDWARE..hardware component in trouble
```

Figure 5. Display Page 103—Help Critical Indicators

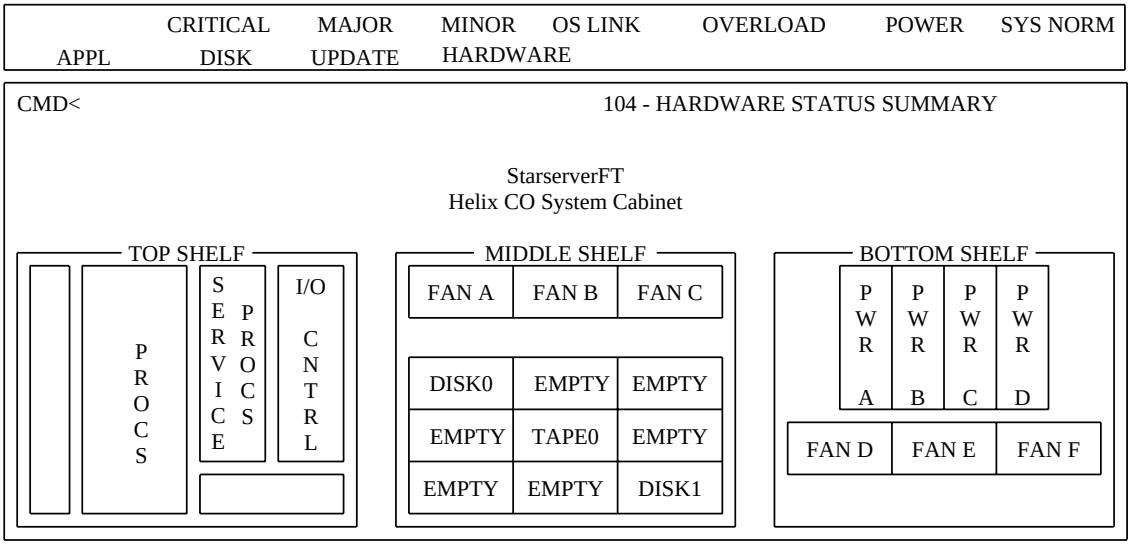


Figure 6. Display Page 104—Hardware Status Summary

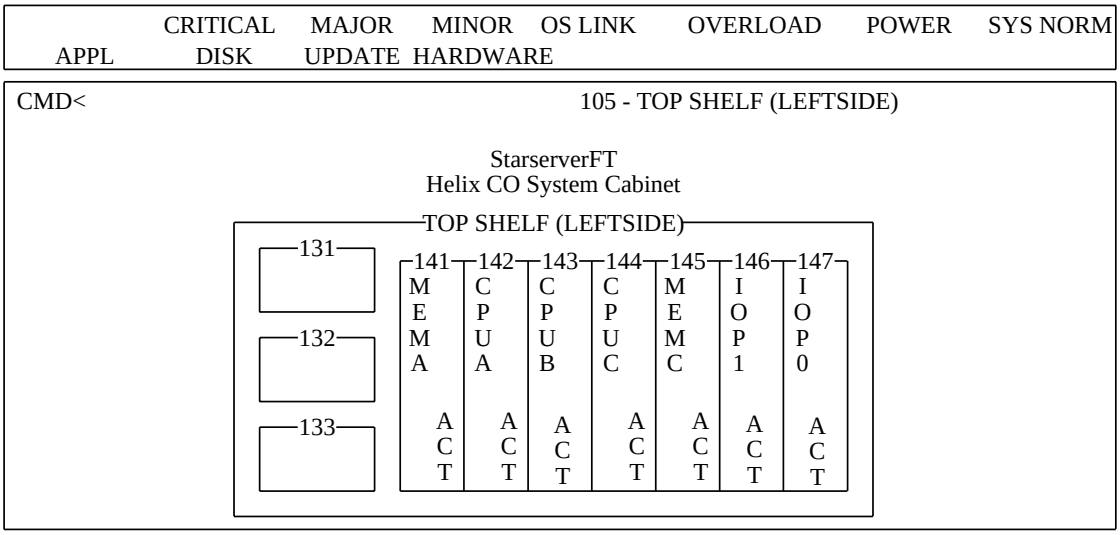


Figure 7. Display Page 105—Top Shelf (Left Side)

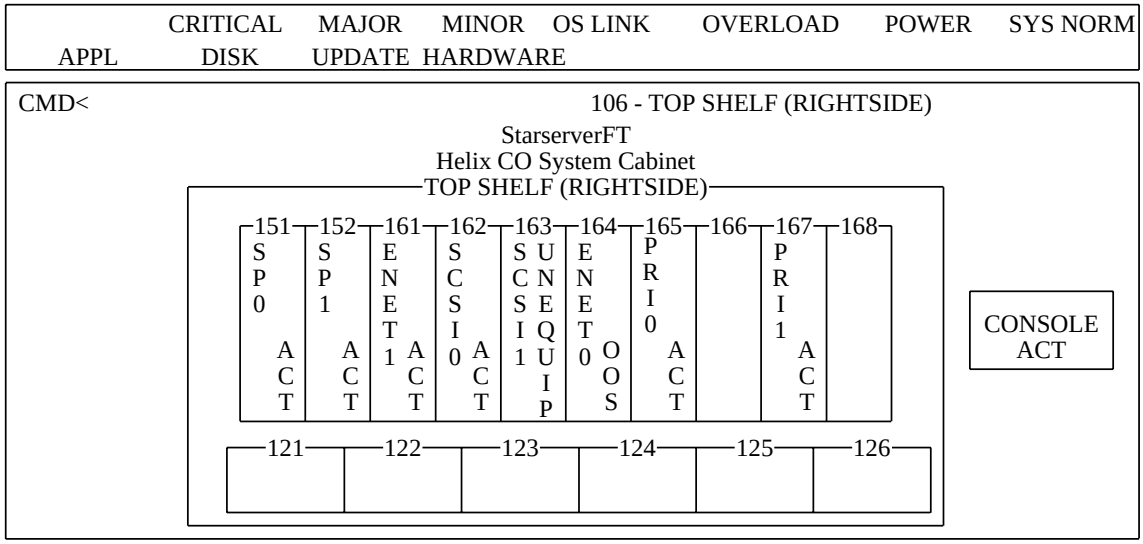


Figure 8. Display Page 106—Top Shelf (Right Side)—FS-AAP

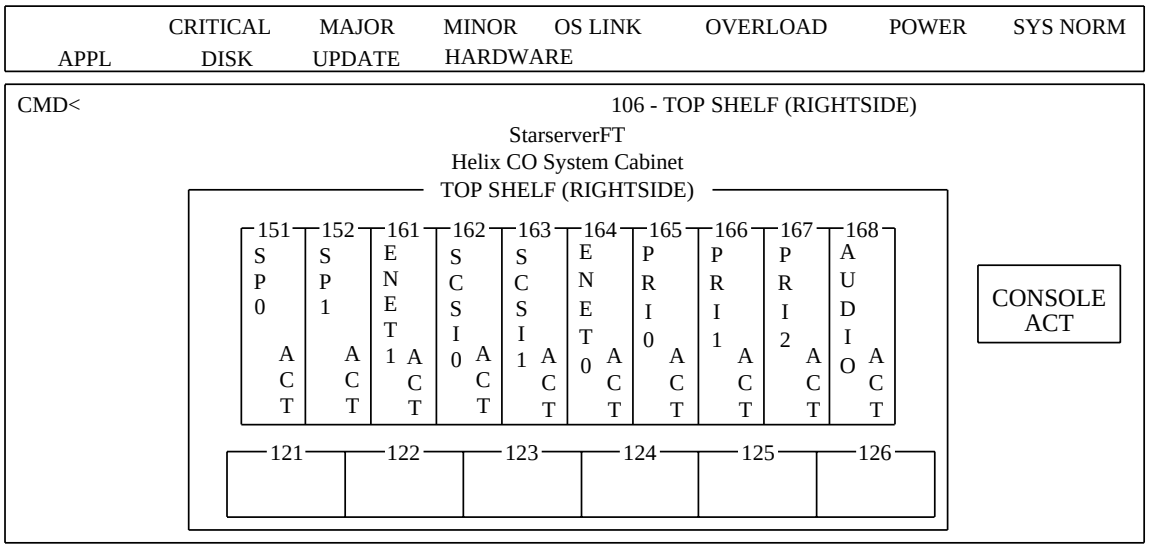


Figure 9. Display Page 106—Top Shelf (Right Side)—Master CS-AAP

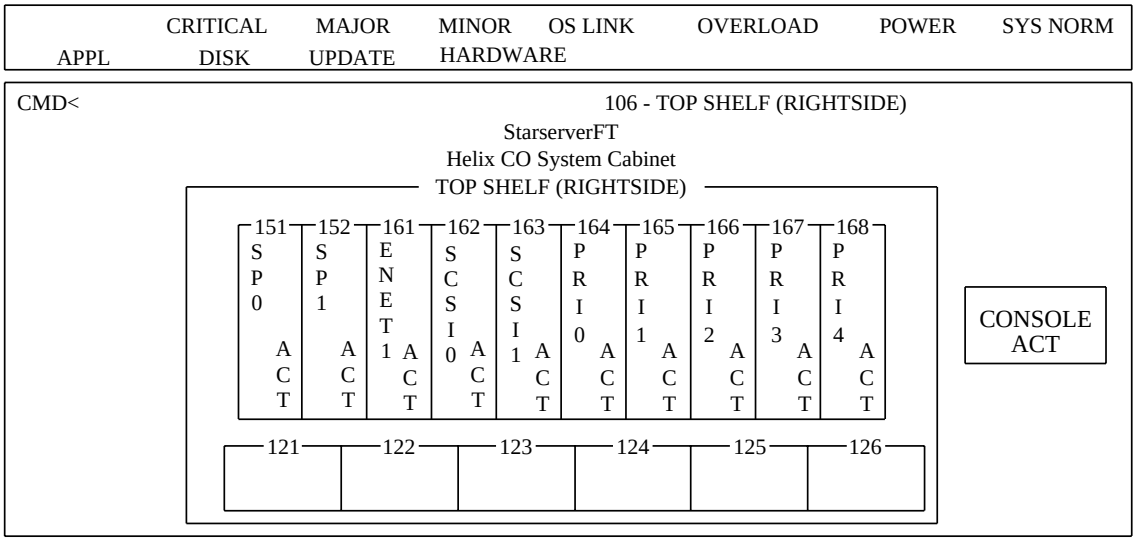


Figure 10. Display Page 106—Top Shelf (Right Side)—Slave CS-AAP

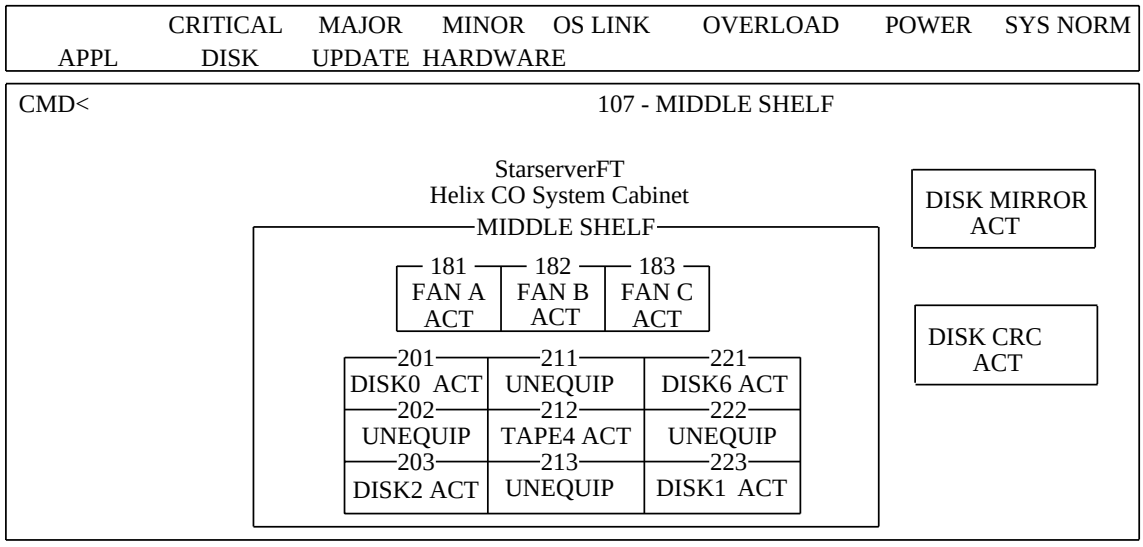


Figure 11. Display Page 107—Middle Shelf

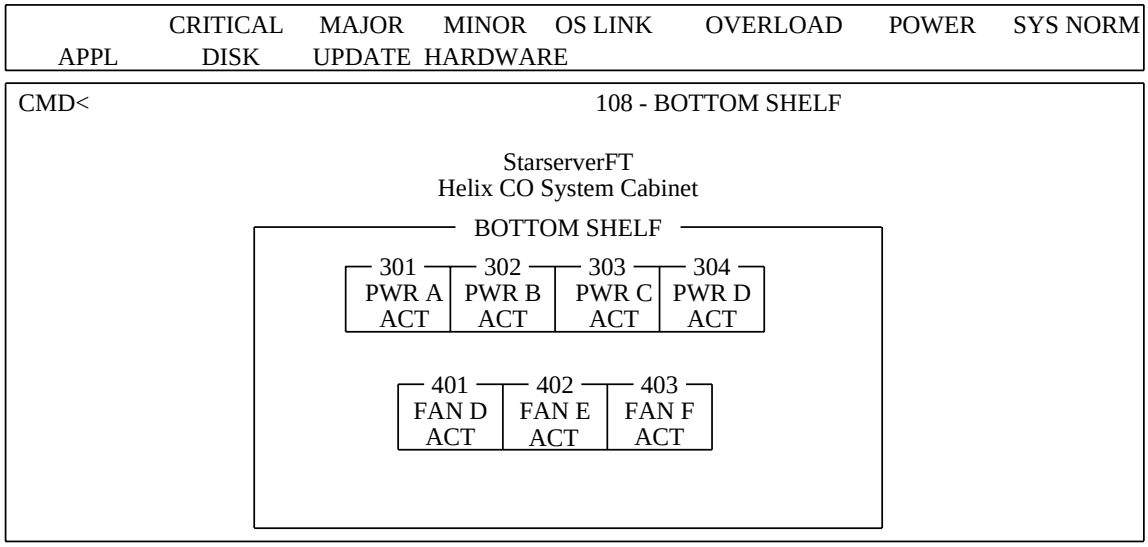


Figure 12. Display Page 108—Bottom Shelf

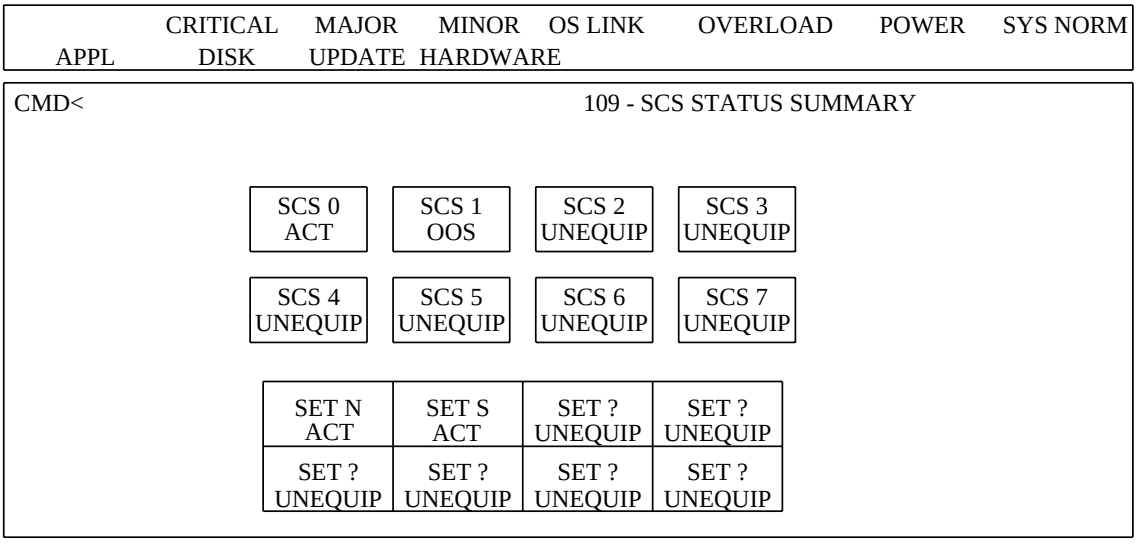


Figure 13. Display Page 109—SCS Status Summary

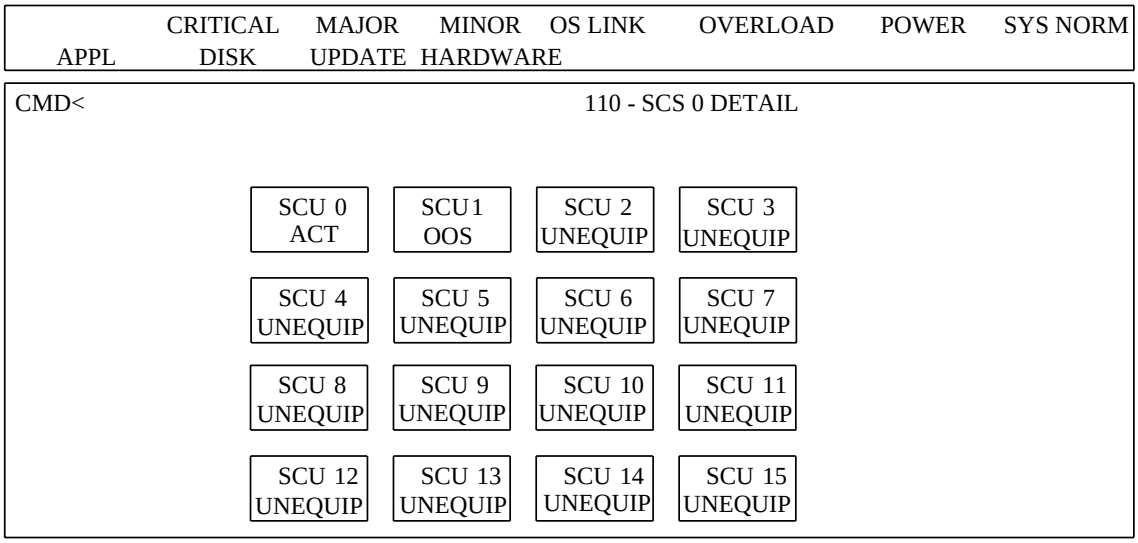


Figure 14. Display Page 110—SCS 0 Detail

The Display Pages for SCS 1 through SCS 7 are identical to SCS 0 except for the SCS number changes. Therefore, Display Pages for these are not shown.

Figures 15 and 16 show the **Links Status Summary** and the **Operational Software Status Summary** pages, respectively. These Display Pages are made up of two different kinds of indicators:

- **Discrete Indicators**: These indicators derive their state from other processes.
- **Summary Indicators**: These indicators derive their state from other indicators.

On Display Page 119, the **AAP** indicator is a summary indicator, because it reflects a summation of all the other indicators on that page. All of the other indicators on that page are discreet indicators, because their state is derived from some other process.

On Display Page 118, **ISDN LINKS**, **LAN LINKS**, **UPDATE LINKS**, and **MAINT LINKS** are all summary indicators which summarize the indicators below them. **TNM LINKS**, and all of the **LINK 0**, **LINK 1**, **Link 2**, **LINK 3**, and **LINK 4** indicators are discreet indicators, because their state is derived from some other process.

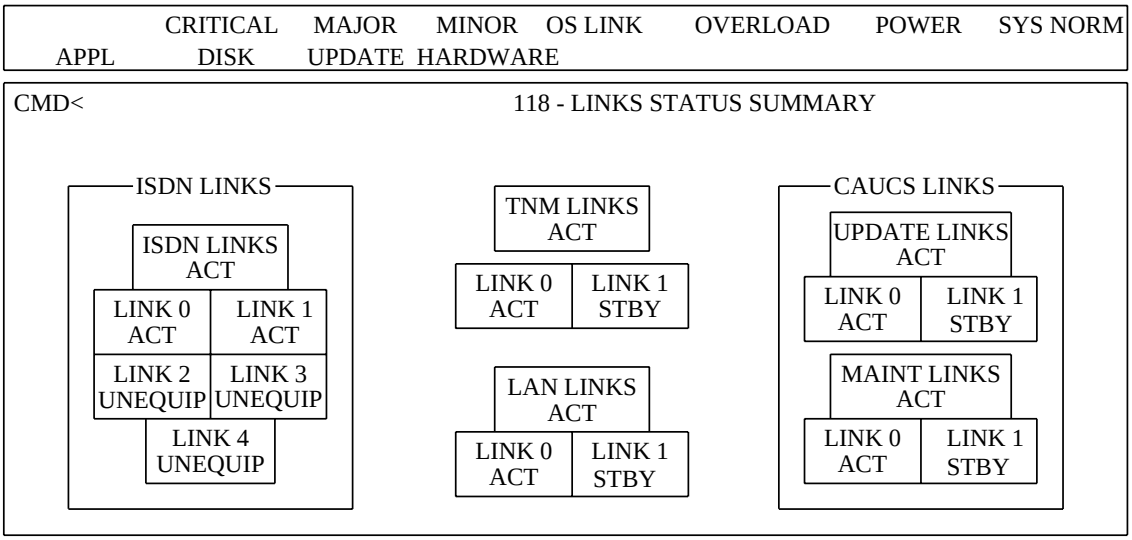


Figure 15. Display Page 118—FS-AAP Links Status Summary

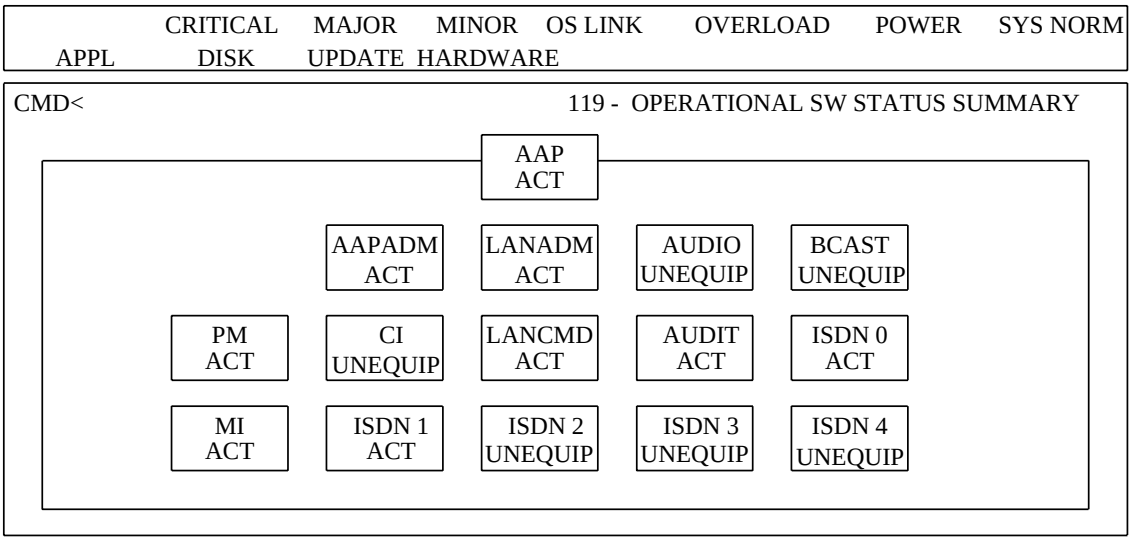


Figure 16. Display Page 119—FS-AAP Operational Software Status Summary

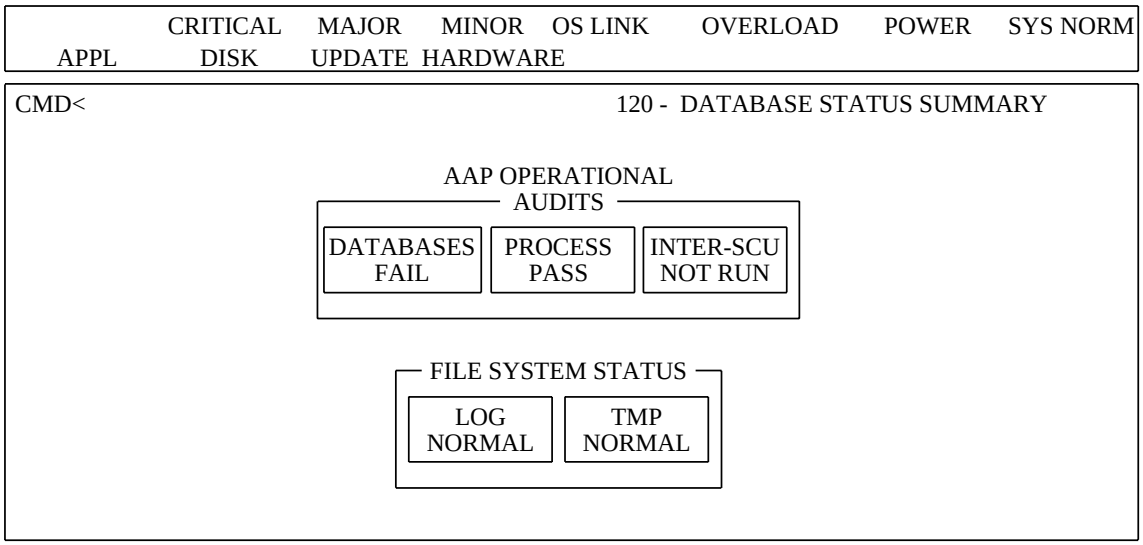


Figure 17. Display Page 120—Database Status Summary

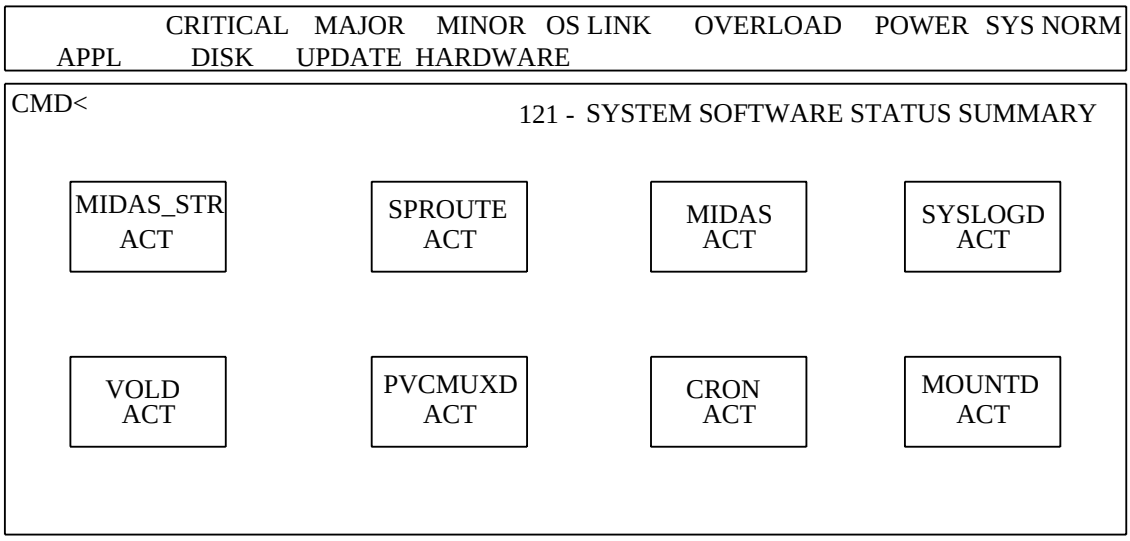


Figure 18. Display Page 121—Maintenance Software Status Summary

LAN Maintenance Philosophy

Summary: The LAN should be considered as a shared communications medium connecting the AAP to the SCUs. If the Automatic Speech Recognition (ASR) feature is provided, the LAN also connects the AAP to the Custom Data Services Units (CDSUs) via a Smart Hub and connects the CDSUs to the SCUs.

The list of possible LAN problems includes the following:

- LAN inhibited (because of multiple SCU interjects)
- Poll timeouts
- Repeater malfunctions
- SCU paddle board babbles
- Unterminated coaxial cable
- Broken coaxial cable
- Short in the coaxial cable
- All SCUs out of service
- One ENET board out of service.
- Smart Hub fault (if ASR is provided)

The basic LAN troubleshooting philosophy is as follows:

1. Inhibit the LAN on the switch side.
2. Stop the LANCMD software that is currently running on the AAP.
3. Run software diagnostics from the 1B maintenance console.
4. If after performing all necessary and appropriate software diagnostics the problem still remains unresolved, then replace paddle board, move terminator plug, and run the diagnostic test(s) again.

When the 1B Side SHOULD NOT Allow the LAN:

1. When there is no AAP present.
2. When the AAP exists but it is not yet up and in a stable functioning environment.
3. While restarting any part of the AAP software.
4. While changing the AAP databases.
5. When the AAP is in the process of a BWM operation (either BWM update or BWM apply).
6. When any in-service (on the switch) SCUs are disabled in the AAP database. Remove subject SCUs from service for corrective action before allowing the LAN.
7. When an SCU is being grown into the switch.
8. When ASR hardware (Smart Hub, CDSUs, etc.) are being grown into the switch.

When The 1B Side SHOULD Manually Allow the LAN:

1. When there exists an AAP and it is up and functioning normally, and no significant changes are currently being made to the AAP software.
2. Unless directed not to do so per a condition listed in the previous ‘‘SHOULD NOT’’ list.

When The 1B Side SHOULD Manually Inhibit the LAN:

1. When the 1B is experiencing an excessive number of BLMs which will not be automatically resolved with fault recovery procedures.
2. When there is a need to disconnect, move, or rearrange the LAN cable or any terminator plug.

   Note: When the LAN is inhibited, the ‘‘Interrupts Inhibited’’ indicator on the MCC will be lit. Also, the 1B printer will usually identify the reason that the LAN was inhibited.

3. Whenever the AAP software (which includes the AAP application software, TNM Interface software, or *UNIX* operating system) is being updated.
4. Before rebooting the *UNIX* system on the AAP.
5. Immediately following a *UNIX* operating system panic.
6. Whenever an AAP is not present, or is present but not active.

   Note: The OD40FCPARAM bit 7 is used to control LAN inhibit reporting. This bit will normally be zero if there is no AAP available so it is a good check as to whether or not the LAN should remain inhibited.

Reasons the LAN Could Have Been Inhibited Automatically

1. Because of anyone of a series of global type problems (for example, multiple SCU interjects, etc.).

   Note: The LAN will not be automatically inhibited because of a single failing SCU, for such cases, only the failing SCU will be taken out of service.

2. Because of LAN timeouts (that is, the AAP was rebooted without properly notifying the switch side to manually inhibit the LAN).
3. Because the LAN was allowed while the AAP SCUEQP database showed, as disabled, two or more SCUs on the same SCS member which were in-service (on the switch).

Alarms—Clearing

Clearing MINOR Alarms

If the Alarm Is	Then Go To
MINOR——Service Circuit Unit (SCU) update capability unavailable	TAP-102

Clearing MAJOR Alarms

If the Alarm Is	Then Go To
MAJOR——AAP-to-CAUCS interface link is out-of-service	TAP-103
MAJOR——AAP-to-TNM interface link is out-of-service	TAP-104
MAJOR——AAP disk space low	TAP-105
MAJOR——CPU_ out-of-service	TAP-106
MAJOR——MEM_ board out-of-service	TAP-107
MAJOR——IOP_ board out-of-service	TAP-108
MAJOR——SCSI_ board out-of-service	TAP-109
MAJOR——ENET_ board out-of-service	TAP-110
MAJOR——ISDN_ board out-of-service	TAP-111
MAJOR——SCU disabled	TAP-112
MAJOR——1 power component is out-of-service	TAP-113
MAJOR——AAP applications software subsystem down	TAP-114

Lucent Technologies — Proprietary
Use pursuant to Company instructions

Clearing CRITICAL Alarms

If the Alarm Is	Then Go To
CRITICAL——Announcement set _ is out-of-service	TAP-115
CRITICAL——Audio board out-of-service	TAP-116
CRITICAL——Both AAP-to-CAUCS links are out-of-service	TAP-117
CRITICAL——Both AAP-to-TNM links are out-of-service	TAP-118
CRITICAL——AAP disk space is totally depleted	TAP-119
CRITICAL——Both MEMORY boards are out-of-service	TAP-120
CRITICAL——Both IOP boards are out-of-service	TAP-121
CRITICAL——Both SCSI boards are out-of-service	TAP-122
CRITICAL——Both ENET boards are out-of-service	TAP-123
CRITICAL——Two ISDN boards are out-of-service	TAP-124
CRITICAL——One or more fan modules are out-of-service	TAP-125
CRITICAL——Two or more power components are out-of-service	TAP-126
CRITICAL——Machine database has been corrupted	TAP-127
CRITICAL——SCUEQP database has been corrupted	TAP-128
CRITICAL——SETEQP database has been corrupted	TAP-129
CRITICAL——ANNUPD database has been corrupted	TAP-130
CRITICAL——AUDIT database has been corrupted	TAP-131
CRITICAL——LOCOP database has been corrupted	TAP-132
CRITICAL——FSITE database has been corrupted	TAP-133
CRITICAL——SLAVE database has been corrupted	TAP-136
CRITICAL——CAUCS database has been corrupted	TAP-139

SCU Update Capability Unavailable Alarm

This alarm serves to alert the remote maintenance personnel that one or more Service Circuit Units (SCUs) are not responding to the AAP heartbeat signal and thus are not available to receive new announcement updates.

> ***Note:*** The AAP will queue all announcement updates intended for the non-responding SCUs. Queued announcements are thus deferred until the SCU is returned to service. Whenever an SCU is returned to service the AAP will automatically update the deferred announcements.

The typical reason for this alarm would be because the *4ESS*™ switch is performing routine maintenance on an SCU. Generally, there is not anything that the remote maintenance personnel can do for this situation other than be mindful of what is actually happening and periodically check on the SCU maintenance status.

Another possible reason for this alarm would be as a result of the SCU going out of service (OOS). Depending on the type, a particular SCU problem may be resolved by the following:

- Maintenance personnel from the *4ESS* switch side
- Maintenance personnel from the AAP side
- Coordinated effort from both sides.

CAUCS Interface Link OOS Alarm

Summary: The first task should be to determine whether this Out Of Service (OOS) alarm is the result of (a) a Service Processor (SP) board failure, (b) a *Datakit*® Virtual Circuit Switch (VCS) failure, or (c) network facilities failure. Recall that the SP drives both the Centralized Announcement Update Control System (CAUCS) and Total Network Manager (TNM) links. Therefore, if the SP or cabling to the Digital Access and Cross-Connect System (DACS) frame should fail it is likely (although not mandatory) that both the Announcement Administration Processor (AAP)-to-CAUCS and AAP-to-TNM links would generate alarms simultaneously.

1. Is CAUCS link alarmed?

   If **YES**, then continue.
   If **NO**, then go to Step 7.

2. Is the TNM link generating an alarm?

   If **YES**, then refer to DLP-506 for procedures on testing the SP board. If the results from DLP-506 were ‘‘all tests passed’’ and no defective boards found, then go to Step 4.
   If **NO**, continue.

3. Is the *Datakit* VCS frame alarmed?

   If **YES**, then go to Step 7.
   If **NO**, then refer to DLP-506 for procedures on testing the SP board. If the results from DLP-506 were ‘‘all tests passed and no defective boards found,’’ then continue with Step 4.

4. Is the cable firmly attached to the SP-Patch Panel Connector (PPC), the cable run undamaged, and, are all of the physical cable connections firmly attached to the *Datakit* VCS frame?

   If **YES**, then the problem is most likely with the *Datakit* VCS frame. Escalate the problem to the *Datakit* VCS maintenance organization. Go to Step 7.
   If **NO**, then properly attach and/or replace the cable as required and continue.

5. Is the CAUCS link still alarmed?

   If **YES**, then go to Step 7.
   If **NO**, then go to Step 6.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

7. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

TNM Interface Link OOS Alarm

Summary: The first task should be to determine whether this Out Of Service (OOS) alarm is the result of (a) a Service Processor (SP) board failure, (b) a *Datakit* VCS failure, or (c) network facilities failure. Recall that the SP drives both the Centralized Announcement Update Control System (CAUCS) and Total Network Management (TNM) links. Therefore, if the SP or cabling to the DACS frame should fail it is likely (although not mandatory) that both the AAP-to-CAUCS and AAP-to-TNM links would generate alarms simultaneously.

1. Is TNM link alarmed?

   If **YES**, then continue.

   If **NO**, then go to Step 7.

2. Is the CAUCS link generating an alarm?

   If **YES**, then refer to DLP-506 for procedures on testing the SP board. If the results from DLP-506 were ‘‘all tests passed and no defective boards found,’’ then go to Step 4.

   If **NO**, continue.

3. Is the *Datakit* VCS frame alarmed?

   If **YES**, then go to Step 7.

   If **NO**, then refer to DLP-506 for procedures on testing the SP board. If the results from DLP-506 were ‘‘all tests passed and no defective boards found,’’ then continue with Step 4.

4. Is the cable firmly attached to the SP-Patch Panel Connector (PPC), the cable run undamaged, and, are all of the physical cable connections firmly attached to the *Datakit* VCS frame?

   If **YES**, then the problem is most likely with the *Datakit* VCS frame. Escalate the problem to the *Datakit* VCS maintenance organization. Go to Step 7.

   If **NO**, then properly attach and/or replace the cable as required and continue.

5. Is the TNM link still alarmed?

   If **YES**, then go to Step 7.

   If **NO**, then go to Step 6.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

7. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

Disk Space Low Alarm

This alarm serves to alert the remote maintenance personnel that the AAP is in danger of running out of disk space and that corrective actions should be taken to overcome this problem. This alarm is raised as the result of a TYPE 5 (file system) audit. The critical indicator ''DISK'' is also lit.

The recommended procedure is to perform a corrective action, manually run the TYPE 5 audit, and check to see if the problem still exists.

> ***Note:*** If the corrective action was successful—then the ''DISK'' critical indicator will be returned to normal.

1. Refer to and perform the tasks contained in DLP-500.

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

CPU OOS Alarm—Clear

Summary: The triple redundant CPU architecture uses a complex synchronization scheme. Occasionally, it is possible that one CPU will loose synchronization and thus take itself down. Therefore, the recommended corrective action is to restore the CPU that is down. If the CPU cannot restore itself—then that CPU should be replaced. Additionally, if the CPU should restore itself but go down again within a short amount of time (that is, 1 to 2 days), then the recommendation is to replace that CPU board.

Note: If two CPUs boards are out of service, refer to TAP-143.

1. Refer to all available historical records and determine whether this is a first occurrence for the offending board or a repeat occurrence.

2. Is this a repeat occurrence?

   If **YES**, then go to Step 5.
   If **NO**, then continue.

3. Access the Craft Shell command line and enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the down CPU (for example, CPUA, CPUB, CPUC).

4. Display and monitor Display Page 105. After a short time interval, determine whether or not the particular CPU status has changed to ACT.

   If **YES**, then go to Step 6.
   If **NO**, continue with Step 5.

5. Replace the failed CPU board (see DLP-524).

   Note: It is not necessary to issue the RMV command for a board that is already down. Remove the failed board and replace it with a good board. The good CPU board will automatically complete POST and reintegrate itself into the system.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Memory Board OOS Alarm—Clear

Summary: There are two Memory (MEM) boards. If one MEM should fail, then all memory activities assigned to it will be automatically moved to the other MEM board. The recommended corrective action is to restore the MEM that is down. If the MEM cannot restore itself, then that MEM should be replaced. Additionally, if the MEM should restore itself but go down again within a short amount of time (that is, 1 to 2 days), then the recommendation is to replace that MEM board.

1. Refer to all available historical records and determine whether this is a first occurrence for the failed board or a repeat occurrence.

2. Is this a repeat occurrence?

   If **YES**, then go to Step 5.
   If **NO**, then continue.

3. Access the Craft Shell command line and enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the failed memory board (that is, MEMA, MEMC).

4. Display and monitor Display Page 105. After a short time interval, determine whether or not the particular MEM status has changed to ACT.

   If **YES**, then go to Step 6.
   If **NO**, continue with Step 5.

5. Replace the failed memory board (see DLP-524).

   Note: It is not necessary to issue the RMV command for a board that is already down. Remove the failed board and replace it with a good board. The good board will automatically complete POST and reintegrate itself into the system.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

IOP Board OOS Alarm—Clear

Summary: There are two IOP boards. If one IOP should fail, then all I/O controllers that are assigned to it will be automatically moved to the other IOP board. The recommended corrective action is to restore the IOP that is down. If the IOP can not restore itself—then that IOP should be replaced. Additionally, if the IOP should restore itself but go down again within a short amount of time (that is, 1 to 2 days), then the recommendation is to replace that IOP board.

1. Refer to all available historical records and determine whether this is a first occurrence for the offending board or a repeat occurrence.

2. Is this a repeat occurrence?

   If **YES**, then go to Step 5.
   If **NO**, then continue.

3. Access the Craft Shell command line and enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the failed IOP board (that is, IOP0, IOP1).

4. Display and monitor Display Page 105. After a short time interval, determine whether or not the particular IOP status has changed to ACT.

   If **YES**, then go to Step 6.
   If **NO**, continue with Step 5.

5. Replace the failed IOP board (see DLP-524).

   Note: It is not necessary to issue the RMV command for a board that is already OOS. Remove the failed board and replace it with a good one. The good IOP board will automatically complete POST and reintegrate itself into the system.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

SCSI Board OOS Alarm—Clear

Summary: There are two SCSI boards. If one should fail, then all communications involving the SCSI devices will be automatically moved to the other SCSI board. The recommended corrective action is to restore the SCSI board that is OOS. If the SCSI controller can not restore itself—then that board should be replaced. Additionally, if the SCSI controller should go OOS again within a short amount of time (that is, 1 to 2 days), then the recommendation is to replace the SCSI board.

1. Refer to all available historical records and determine whether this is a first occurrence for the SCSI board that is OOS.

2. Is this a repeat occurrence?

   If **YES**, then go to Step 5.
   If **NO**, then continue.

3. Access the Craft Shell command line and enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the OOS SCSI board (that is, SCSI0, SCSI1).

4. Display and monitor Display Page 105. After a short time interval they should determine whether or not the particular SCSI boards status has changed to ACT.

   If **YES**, then go to Step 8.
   If **NO**, continue.

   Note: This board normally completes its Power On Self Test (POST) in a matter of seconds. However, it will take approximately 1 hour for the supporting disk drive to become fully reintegrated. The DISK MIRROR indicator (via Display Page 107) will be OOS (red) during this period of time.

5. Replace the failed SCSI board (see DLP-524).

   Note: It is not necessary to issue the RMV command for a board that is already OOS. Remove the failed board and replace it with a good one. Inform the remote maintenance personnel that the replacement SCSI board has been installed.

6. In the Craft Shell, enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the replaced SCSI board (that is, SCSI0, SCSI1).

7. Display and monitor Display Page 105. After a short time interval, determine whether or not the particular SCSI boards status has changed to ACT.

   If **NO**, go to Step 11.
   If **YES**, continue.

8. In the Craft Shell, enter the following:
   AUD:MIRROR:CMD=REPAIR

   Note: This will take several hours to complete.

9. Display and monitor Display Page 107. When the AUD:MIRROR command completes, determine whether the **DISK MIRROR** indicator has changed state to **ACT**.

   If **YES**, continue
   If **NO**, go to Step 11.

10. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

11. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult the next level of support for assistance.

ENET Board OOS Alarm—Clear

Summary: The AAP provides two ENET boards which can alternately use a single Local Area Network (LAN) to communicate with the Service Circuit Units (SCUs). During normal operations, the AAP applications software is free to select either ENET board. The two states of an ENET board are active (ACT) and Out-Of-Service (OOS). If either board, associated patch panel connector (PPC), internal physical cabling, or transceiver is determined to be malfunctioning, then that ENET board is switched to the OOS state and a MAJOR alarm is raised.

The recommended corrective action for an OOS ENET board is to first restore the ENET board. Then, make the ENET board and its associated PPC ACT as a test to verify that the problem is not the associated PPC, cabling, or transceiver. If the ENET board should restore itself but go OOS again within a short amount of time (1 to 2 days), then the board should be replaced and retested along with the associated PPC and LAN transceiver.

> ***Note:*** The coaxial cable, transceivers, and repeaters (when used) are collectively referred to as the LAN. It should be understood that a failing transceiver, repeater, or broken LAN cable will not cause the ENET board(s) to go OOS; but will affect communication with one or more SCUs.

1. Refer to the AAP historical records and determine whether this is a first occurrence for the OOS ENET board or a repeat occurrence.

2. Is this a repeat occurrence?

   If **YES**, then go to Step 5.
   If **NO**, then continue.

3. Access the Craft Shell command line and enter:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the OOS ENET board (ENET0 or ENET1).

4. Access Display Page 106 and determine the status of the ENET boards. Did the ENET board restore itself (complete its POST and go to the ACT state)?

   If **YES**, then go to Step 8.
   If **NO**, continue.

5. Replace the failed ENET board (see DLP-524).

   Note: It is not necessary to issue the RMV command for an OOS board.

6. Once the ENET board has been replaced, enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the OOS ENET board (ENET0 or ENET1).

7. Access Display Page 106 and determine the status of the ENET boards. Did the ENET board restore itself (complete its POST and go to the ACT state)?

   If **NO**, then go to Step 14.
   If **YES**, then continue.

8. After approximately 2 minutes the critical indicator ‘‘OS LINK’’ should return to normal. Once this happens, clear this **MAJOR** alarm.

9. Enter the following:
   ANNC:POLL:ANNSET=N:LANCONT=*a*

   where: *a* is the single digit identity (0 or 1) of the ENET that was previously restored.

10. If the POLL request passed—then the ENET path is good. Did the POLL request pass?

    If **YES**, then go to Step 13.
    If **NO**, then continue.

11. Inspect and verify that the Auxiliary Unit Interface (AUI) cable and the LAN coaxial cable between the PPC and the LAN transceiver are properly connected and are in good working order.

    If **YES**, then replace the PPC (see DLP-525).
    If **NO**, then replace and/or reconnect the cables, as necessary.

12. Go to Step 3.

13. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

14. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

ISDN Board OOS Alarm—Clear

Summary: Each AAP (field site, central site master, and central site slave) has a spare ISDN board. Therefore, if one ISDN board goes OOS, a MAJOR alarm will be issued, but the interface for downloading announcements will still be operational.

The recommended corrective action for an OOS ISDN board is to attempt a manual restore on that board. If the OOS board cannot be restored, it should be replaced. If board is restored but goes OOS again within a short period of time (1 to 2 days), then test each B-channel on an individual basis. If all B-channels pass, then suspect a cable or connector problem and escalate to next level of support. If one or more of the B-channels do not pass, then replace the ISDN board.

1. Refer to the AAP historical records and determine if this is a repeat OOS occurrence for this ISDN board.

2. Is this a repeat OOS occurrence?

   If **YES**, test the B-channels per instructions in DLP-515 and then go to Step 4 of this DLP.
   If **NO**, then continue.

3. Access the Craft Shell command line (go to Display Page 101—Critical Indicators Only—and select the CMD mode of the NML/CMD function) and enter the following command, and then go to Step 5 of this TAP.

   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the OOS ISDN board (pri0, pri1, etc.).

4. Did all B-channels pass?

   If **YES**, suspect a network problem, report the problem and go to Step 9.
   If **NO**, replace board (DLP-524), and then go to Step 6.

5. Access Display Page 106 and determine if the previously restored ISDN board is ACT. Is this board ACT?

   If **YES**, then go to Step 9.
   If **NO**, then continue.

6. Replace the failed ISDN board (see DLP-524).

   Note: It is not necessary to issue the RMV command for a board that is already OOS. Remove the failed board, replace it with a good one, and inform the remote maintenance center that the replacement ISDN board has been installed.

7. Access the Craft Shell command line and enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the replaced ISDN board (pri0, pri1, etc.).

8. Access Display Page 106 and determine if the previously replaced and restored ISDN board is ACT. Is this board ACT?

   If **NO**, then go to Step 10.
   If **YES**, then continue.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

10. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

SCU Disabled Alarm—Clear

An SCU may be manually disabled with the inhibit message (for example, as a result of growing an SCU) or automatically disabled (such as when the AAP detects that an SCU announcement SET is corrupt).

> ***Note:*** The AAP will not attempt to update a disabled SCU with new announcement updates; but will hold those updates until the SCU is enabled.

1. Was the SCU manually disabled for growth reasons?

   If **YES**, nothing can be done until the SCU growth procedures are completed. Go to Step 7.
   If **No**, then continue.

2. Contact the AFSC and inform them of the problem. The AFSC will need the office ID and the SCS/SCU ID.

3. Allow the AFSC to investigate and, if possible, correct the problem.

4. Wait for the AFSC to respond to the problem. The AFSC will provide one of the following responses:

   a. The problem has been corrected and the SCU can now be enabled.
   b. The problem cannot be corrected and should be referred to the appropriate *4ESS* switch maintenance organization.

5. Did the AFSC correct the problem?

   If **YES**, go to Step 6.
   If **NO**, inform the appropriate *4ESS* switch maintenance organization to perform an SCU copy operation on the 1B-processor side of the SCS. The *4ESS* switch maintenance organization must return notification to the AFSC that the SCU problem is fixed and that SCU can be enabled again. Once receiving notification that the problem has been corrected, continue to Step 6.

6. Access the Craft Shell command line and enter the following input message to enable the disabled SCU:
   ALW:SCUEQP:KEY=a

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Power Component OOS Alarm (One)—Clear

Note: Normally, the status LED on the failed power component will not be lit. The recommendation is to remove and replace any failing power component immediately.

Generally, the one-line message that accompanies the alarm will sufficiently identify the power component that has failed. If the failing component is not identified, then enter:
OP:OOS

Complete the following steps to remove a power module:

1. Unlock and open the extractor/latch.

2. Grasp the handle on the front of the module, and pull the module out of its slot. The Direct Current Converter (DCC) modules (both 150 watt and 75 watt) are removed similarly.

Complete the following steps to install a replacement power module:

1. Unlock and open the extractor/latch on the replacement module.

2. Orient the module with the extractor/latch at the top. Slide the module into the vacated slot until it engages the backplane connector.

3. Lock the module in place with the extractor/latch. Confirm that the status LED on the new module lights. If not, escalate it to a higher level of support.

4. Close the cabinet door.

   Note: Power components begin normal operation immediately upon installation. No command is required to put this Customer Replaceable Unit (CRU) on-line.

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

AAP Applications Software Subsystem Down Alarm—Clear

When a particular subsystem is experiencing problems, the subsystem will attempt to restart itself. If several unsuccessful restart attempts occur within a specified interval, the application will generate an alarm and discontinue the attempts. When restart attempts are stopped, manual intervention in the form of identifying the root cause of the problem and providing a fix is required before the subsystem can be restarted.

Restart the failing subsystem per the following:

1. If failing subsystem is AAP Applications Software, refer to DLP-516.

   If failing subsystem is AAPADM, refer to DLP-517.

   If failing subsystem is AUDIT, refer to DLP-518.

   If failing subsystem is CI, refer to DLP-519.

   If failing subsystem is ISDN0, refer to DLP-501.

   If failing subsystem is ISDN1, refer to DLP-501.

   If failing subsystem is ISDN2, refer to DLP-501.

   If failing subsystem is ISDN3, refer to DLP-501.

   If failing subsystem is ISDN4, refer to DLP-501.

   If failing subsystem is LANCMD, refer to DLP-503.

   If failing subsystem is LANADM, refer to DLP-504.

   If failing subsystem is MI, refer to DLP-523.

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Announcement Set Is OOS

Summary: This alarm may be generated whenever the last remaining active SCU with a particular announcement set goes out of service. An SCU may be manually disabled with the inhibit message (for example, as a result of growing an SCU) or automatically disabled (such as when the AAP detects that an SCU announcement SET is corrupt). The primary maintenance objective is to identify the reason for the SET being OOS and get it restored as soon as possible.

> ***Note:*** As an issue of completeness, it should be understood that the CAUCS maintenance interface (MI) has the same capabilities as the User Interface (UI). The only difference is that the AAP maintenance personnel (local/remote) is only occasionally logged into UI, while CAUCS is always logged in on MI.

1. Were all SCUs or the last SCU manually disabled?

   If **YES**, do nothing but wait for SCU to be returned to service. Go to Step 4.
   If **NO**, then continue.

2. Were all SCUs automatically disabled?

   If **YES**, then go to TAP-112.
   If **NO**, continue.

3. Access Display Page 109 and determine if all SCUs in all SETs are marked OOS?

   If **YES**, then the problem is related to the LAN (refer to TAP-137).
   If **NO**, then refer to TAP-102.

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Audio Board Is OOS (Master CS-AAP Only)

Summary: The Audio board is only in the Master CS-AAP. Therefore, if the Audio board goes OOS, a **CRITICAL** alarm will be issued but the system will remain operational.

The recommended corrective action for an OOS Audio board is to attempt a manual restore on the board. If the board cannot be restored, replace it. If the board is restored but goes OOS again within a short period of time (1 to 2 days), then replace it.

1. Refer to local historical records and determine whether this is the first occurrence for the offending board or a repeat occurrence.

2. Is this a repeat occurrence?

   If **YES**, then go to Step 5.
   If **NO**, then continue.

3. Access the Craft Shell command line and enter the following:
   RST:AAPDB:*aaaa*

   where: *aaaa* is the identity of the failed audio board (audio0).

4. Bring up and monitor Display Page 105. After no more than 5 minutes, determine whether or not the audio0 board status has changed to ACT.

   If **YES**, then go to Step 8.
   If **NO**, continue.

   Note: This board should normally complete its POST in a matter of seconds.

5. Replace the failed audio0 board (see DLP-524).

   Note: It is not necessary to issue the RMV command for a board that is already OOS.

6. While still on the Craft Shell command line, enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identify of the replaced board (audio0).

7. Bring up and monitor Display Page 105. After no more than 5 minutes, determine whether or not the audio board has changed to ACT.

   If **NO**, go to Step 9.
   If **YES**, continue.

8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult the next level of support for assistance.

CAUCS Links Are OOS (Both)

Summary: The purpose of this procedure is to determine the source of the CAUCS-to-AAP links failure (CAUCS, AAP, or *Datakit* VCS).

1. Is failure at a CS-AAP or a FS-AAP?

   If **CS-AAP**, then continue.
   If **FS-AAP**, go to Step 3.

2. At Display Page 118, are the UPDATE LINKS and/or MAINT LINKS status indicating OOS?

   If **YES**, go to Step 4.
   If **NO**, go to Step 11.

3. At Display Page 118, are the MAINT LINKS status indicating OOS?

   If **YES**, then continue.
   If **NO**, go to Step 11.

4. Attempt to log into the AAP via the local AAP console.

5. Was the login to AAP successful?

   If **YES**, go to Step 9.
   If **NO**, then continue.

6. At the AAP console A/B switch box, switch to other Service Processor (SP).

7. Attempt to log into the AAP via the local AAP console.

8. Was the login to AAP successful?

   If **YES**, problem is with first SP, go to TAP-138.
   If **NO**, go to TAP-138.

9. Contact the AFSC to verify that CAUCS is operational.

   If **YES**, continue.
   If **NO**, refer problem to AFSC and go to Step 12.

10. Refer problem to the *Datakit* VCS Minicomputer Maintenance and Operations Center (MMOC).

11. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

12. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

TNM Links Are OOS (Both)

Summary: The purpose of this procedure is to determine the source of an AAP-to-TNM links failure (TNM, AAP, or *Datakit* VCS).

1. From the remote maintenance center, access Display Page 118 on several different FS-AAPs.

2. Is the TNM indicating a TELEM alarm (simultaneously) from several different FS-AAPs?

   If **YES**, then contact the appropriate TNM maintenance organization about this problem and then go to Step 6.
   If **NO**, then continue.

3. Login to the AAP at the local AAP console.

4. Was the log into the AAP successful?

   If **YES**, continue to Step 5.
   If **NO**, then refer to TAP-138.

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

6. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

Lucent Technologies — Proprietary
Use pursuant to Company instructions

Disk Space Is Totally Depleted Alarm—Clear

This alarm is an alerting indicator that the AAP has totally depleted its disk space and is in immediate danger of ceasing operations. This alarm is raised as the result of running a TYPE 5 (file system) audit. The critical indicator ‘‘DISK’’ is also lit.

The recommended procedure is to perform a corrective action, manually run the TYPE 5 audit, and check to see if the problem still exists.

> ***Note:*** If the corrective action was successful—then the ‘‘DISK’’ critical indicator will be returned to normal.

1. Refer to and perform the tasks contained in DLP-500.

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Memory Boards Are OOS (Both)

Summary: This problem is indicated by the following:

- A TELEM alarm at the TCC/NCC
- Local console message(s) indicating a memory problem
- LEDs on both memory boards off.

Note: A minimum set of components are required for the AAP to operate. This minimum set of components consists of two CPU boards, one memory board, one IOP board, one SCSI board, one disk drive, and the corresponding DCC power modules for these boards and disk drive.

1. Press the **F9** key and bring up the EAI page.

2. Attempt to reset and boot the AAP by doing a Poke **54** and **y**.

3. Monitor the boot messages to verify that the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both memory boards are not OOS. Go to Step 12.
   If **NO**, continue.

4. Press the **F9** key and bring up the EAI page again.

5. Attempt to reset and boot the AAP a second time by doing another Poke **54** and **y**.

6. Monitor the boot messages to verify if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both memory boards are not OOS. Go to Step 12.
   If **NO**, continue.

7. Press the **F9** key and bring up the EAI page.

8. Attempt to reset and boot the AAP a third time by doing another Poke **54** and **y**.

9. Monitor the boot message to verify if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both memory boards are not OOS. Go to Step 12.
   If **NO**, continue.

10. Perform a power cycle by turning both SP patch panel switches to the OFF position—wait 2 minutes, and then turn both switches back ON. Did the AAP successfully boot?

    If **YES**, then go to Step 12.
    If **NO**, continue.

11. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** At least one of the required critical components is not functional. Contact the next level of support.

12. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

IOP Boards Are OOS (Both)

Summary: This problem is indicated by the following:

- A TELEM alarm at the TCC/NCC
- Local console message(s) indicating a memory problem
- LEDs on both memory boards off.

Note: A minimum set of components are required for the AAP to operate. This minimum set of components consists of two CPU boards, one memory board, one IOP board, one SCSI board, one disk drive, and the corresponding DCC power modules for these boards and disk drive.

1. Press the **F9** key and bring up the EAI page.

2. Attempt to reset and boot the AAP by doing a Poke **54** and **y**.

3. Monitor the boot messages to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both memory boards are not OOS. Go to Step 12.
   If **NO**, continue.

4. Press the **F9** key and bring up the EAI page.

5. Attempt to reset and boot the AAP a second time by doing another Poke **54** and **y**.

6. Monitor the boot messages to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both IOP boards are not OOS. Go to Step 12.
   If **NO**, continue.

7. Press the **F9** key and bring up the EAI page.

8. Attempt to reset and boot the AAP a third time by doing another Poke **54** and **y**.

9. Monitor the boot message to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both IOP boards are not OOS. Go to Step 12.
   If **NO**, continue.

10. Perform a power cycle by turning both SP patch panel switches to the OFF position—wait 2 minutes, and then turn both switches back ON. Did the AAP successfully boot?

    If **YES**, then go to Step 12.
    If **NO**, continue.

11. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** At least one of the required critical components is not functional. Contact the next level of support.

12. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

SCSI Boards Are OOS (Both)

Summary: This problem is indicated by the following:

- A TELEM alarm at the TCC/NCC
- Local console message(s) indicating a memory problem
- LEDs on both memory boards off.

Note: A minimum set of components are required for the AAP to operate. This minimum set of components consists of two CPU boards, one memory board, one IOP board, one SCSI board, one disk drive, and the corresponding DCC power modules for these boards and disk drive.

1. Press the **F9** key and bring up the EAI page.

2. Attempt to reset and boot the AAP by doing a Poke **54** and **y**.

3. Monitor the boot messages to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both memory boards are not OOS. Go to Step 12.
   If **NO**, continue.

4. Press the **F9** key and bring up the EAI page.

5. Attempt to reset and boot the AAP a second time by doing another Poke **54** and **y**.

6. Monitor the boot messages to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both SCSI boards are not OOS. Go to Step 12.
   If **NO**, continue.

7. Press the **F9** key and bring up the EAI page.

8. Attempt to reset and boot the AAP a third time by doing another Poke **54** and **y**.

9. Monitor the boot message to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then both SCSI boards are not OOS. Go to Step 12.
   If **NO**, continue.

10. Perform a power cycle by turning both SP patch panel switches to the OFF position—wait 2 minutes, and then turn both switches back ON. Did the AAP successfully boot?

    If **YES**, then go to Step 12.
    If **NO**, continue.

11. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** At least one of the required critical components is not functional. Contact the next level of support.

12. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

ENET Boards Are OOS (Both)

Summary: The AAP provides two ENET boards which can alternately use a single Local Area Network (LAN) to communicate with the Service Circuit Units (SCUs). During normal operations, the AAP applications software is free to select either ENET board. The four states that an ENET board can be in are: active (ACT), Out-Of-Service (OOS), Manually Out-Of-Service (MOOS), and Unequipped (UNEQP). If either board (or its associated patch panel connector [PPC], internal physical cabling, or transceiver) is determined to be malfunctioning—then the Display Page 118 indicator "LINK 0" or LINK 1" (depending on which ENET board is involved) will show an OOS state and an alarm is raised.

The recommended corrective action for an OOS ENET board is first restore it. Then, make the ENET board and its associated PPC active (ACT) as a brief test to verify that the problem is not the associated PPC, cabling, or transceiver. Additionally, if the ENET board should restore itself but go OOS again within a short amount of time (1 to 2 days); then, the ENET board should be replaced and retested along with the associated PPC and LAN transceiver.

> ***Note:*** The coaxial cable, transceivers, and repeaters (when used) are jointly referred to as the LAN. It should be understood that a failing transceiver, repeater, or broken LAN cable will not cause the ENET board(s) to go OOS; but will affect communication to one or more SCUs.

1. Access the Craft Shell command line and enter the following command:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the OOS ENET board. If a DCC module was replaced, then the OOS ENET board should be the one that is associated with the replaced DCC module.

2. Did the ENET_ board restore itself (complete its POST and go to the ACT state)?

   If **YES**, then go to Step 4.
   If **NO**, continue.

3. Replace the failed ENET board (see DLP-524).

   > ***Note:*** It is not necessary to issue the RMV command for a board that is already OOS. Remove the failed board and replace it with a good board. The good ENET board will automatically run POST and reintegrate itself into the system.

4. After approximately 2 minutes the critical indicator ‘‘OS LINK’’ should return to normal. Once this happens, clear the major alarm.

5. Test the currently active ENET board along with its associated PPC, internal cabling, and transceiver. On the Craft Shell command line enter:
   RMV:AAP:*aaaa*

   where: *aaaa* is the identity of the other ENET board.

   Note: This step is necessary to force the ENET board that is currently STBY to the ACT state. Observe that the major alarm has reoccurred and the critical indicator ''OS LINK'' is lit.

6. Briefly monitor Display Page 106 and verify that the ENET board (which is currently being tested) is ACT and remains in that state. Is the ENET board ACT?

   If **YES**, go to Step 8.
   If **NO**, then continue.

7. Inspect the AUI cable as well as the coaxial cable that connects the PPC to the LAN transceiver. Are these cables in proper working order?

   If **YES**, replace the PPC and retest from Step 1.
   If **NO**, resecure and/or replace the cable connections, as necessary. Retest from Step 1.

8. Access the Craft Shell command line and enter:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identify of the ENET board that was made OOS in Step 5.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

ISDN Boards Are OOS (Two)

Summary: Each AAP (field site, central site master, and central site slave) will have one spare ISDN board. If two ISDN boards should fail simultaneously and go OOS, then a **CRITICAL** alarm will be generated. The recommended corrective action is to attempt a manual restore on one ISDN board and then the other. If either ISDN board cannot restore itself—then that board should be replaced. Additionally, if either ISDN board should go OOS again within a short amount of time (for example, 1 to 2 days), then the recommendations (in order) are:

a. Test each B-channel on an individual basis. If all B-channels pass, then replace the PPC. If one or more B-channels fail, then replace the ISDN board.
b. Replace that ISDN board.

1. Refer to all available historical records and determine whether this is a first occurrence for the ISDN board that is OOS.

2. Is this a repeat occurrence?

   If **YES**, then test the B-channels per instructions in DLP-515.
   If **NO**, then continue.

3. Access the Craft Shell command line and enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the OOS ISDN board (pri0, pri1, etc.).

4. Access Display Page 106 and determine if the previously restored ISDN board is ACT. Is this board ACT?

   If **YES**, then go to Step 8.
   If **NO**, then continue.

5. Replace the failed ISDN board (see DLP-524).

   Note: It is not necessary to issue the RMV command for a board that is already OOS. Remove the failed board, replace it with a good one, and inform the remote maintenance personnel that the ISDN board has been replaced.

6. Access the Craft Shell command line and enter the following:
   RST:AAPBD:*aaaa*

   where: *aaaa* is the identity of the replaced ISDN board (pri0, pri1, etc.).

7. Access Display Page 106 and determine if the previously replaced and restored ISDN board is ACT. Is this board ACT?

   If **YES**, then go to Step 9.
   If **NO**, then continue to Step 8.

8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

Fan Module(s) OOS—Clear Alarm

Summary: Generally, the one-line message that accompanies a fan module Out-Of-Service (OOS) alarm will sufficiently identify (by slot location) the fan module that has failed. If the failing component is not identified, then log into the AAP and enter the following the MML input message:
OP:OOS

1. Replace the identified failing fan module.

   Note: If the failing fan module is not replaced within approximately 5 minutes, the cabinet over temperature sensor may activate and engage the controlled power-down sequence. Therefore, if the cabinet is in the powered down state due to over temperature, it will be necessary to let the cabinet temperature decrease to within the permitted range before an automatic reboot will occur.

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Power Components Are OOS (Two)—Clear Alarm

Summary: If more than one failed power component exists, the AAP will not reboot. As a result, the failed power components should be identified, replaced, and the AAP should then be rebooted. At a minimum, at least one of the failed power components should be identified, replaced, and a reboot of the system should be attempted. If the AAP will not reboot, there is more than one failed power component.

> ***Note:*** Generally, if a power component fails (one component), a major alarm will be transmitted to the Total Network Management (TNM) system along with a message identifying the slot location of the failed component. The identified module should be replaced promptly. If a second power component should fail before the first failure is replaced—then there may or may not have been a controlled shutdown (depending on exactly which power component fails). For the uncontrolled shutdown scenario, there will not be an identifying message.

1. Identify and replace the failed power components.

2. Access the Emergency Action Interface (EAI) page and select option **53** and **y** to reboot the AAP.

3. Did the AAP reboot successfully?

   If **YES**, then continue with Step 4.
   If **NO**, then go to Step 5.

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

5. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

MACHINE Database—Corrupted

Summary: The following recommended corrective procedures are based on the assumption that immediately after the Announcement Administration Processor (AAP) detected the database problem it transmitted the critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system. To correct this alarm condition, edit the database to remove the incorrect information and then restart the AAP, if needed.

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:MACHINE

2. From the local historical records obtain a paper copy (printout) of the MACHINE database. Compare the printout with the results obtained from Step 1 and determine which field(s) need changing.

3. On the command line, enter the following command and change the tuple that is incorrect:
   RC:MACHINE.....

   Note: Only one tuple can be changed at a time. Therefore, if there is more than one error it will be necessary to reissue this input message for each desired change.

4. Did the operations, that were performed in Step 3, result in changing the OFID field?

   If **YES**, then reboot the AAP (EAI page boot option **53** and **y**).
   If **NO**, then continue.

5. On the command line, enter the following:
   OP:AUDIT

   Response (typical):

```
OP:AUDIT   results
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
    0  0     N        1   511  0   *   *     *    0  00  0   0
    1  1     N        1 65535  0   *   *     *    0  00  0   0
    2  2     N        1 65535  0   *   *     *    0  00  0   0
    3  3     N        1 65535  0   *   *     *    0  00  0   0
    4  4     N        1     1  0   *   *     *    0  00  0   0
```

6. On the Craft Shell command line, enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the Database key for the TYPE 4 audit.

   Note: The recommendation is that this audit be run in order to check for possible database corruption. The results from this audit (for example, audit complete or error data) will be displayed on the screen. It should be understood that audits do not run unconditionally; but halt at the first occurrence of an error.

7. Did the audit report any error data?

   If **YES**, go to Step 9.
   If **NO**, then continue.

8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

SCUEQP Database—Corrupted

Summary: The following recommended corrective procedures are based on the assumption that immediately after the Announcement Administration Processor (AAP) detected this database problem, it transmitted the critical alarm condition and accompanying descriptive statement to Total Network Management (TNM) system. The solution to correcting this alarm condition is to edit the database—thus removing the incorrect information.

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:SCUEQP

2. From the local historical records obtain a paper copy (printout) of the SCUEQP database. Compare the printout with the results obtained from Step 1 and determine which field(s) need changing.

3. On the command line, enter the following:
   RC:SCUEQP..... and change the tuple that is incorrect.

   Note: Only one tuple can be changed at a time. Therefore, if there is more than one error it will be necessary to reissue this input message for each desired change.

4. On the command line, enter the following:
   OP:AUDIT

   Response (typical):

```
OP:AUDIT   results
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
    0  0     N        1   511  0   *   *     *    0  00  0   0
    1  1     N        1 65535  0   *   *     *    0  00  0   0
    2  2     N        1 65535  0   *   *     *    0  00  0   0
    3  3     N        1 65535  0   *   *     *    0  00  0   0
    4  4     N        1     1  0   *   *     *    0  00  0   0
```

5. From the Craft Shell command line, enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the Database key for the TYPE 4 audit.

   Note: The recommendation is that this audit be run in order to check for possible database corruption. The results from this audit (for example, audit complete or error data) will be displayed on the screen. It should be understood that audits do not run unconditionally; but halt at the first occurrence of an error.

6. Did the audit report any error data?

   If **YES**, go to Step 8.
   If **NO**, then continue.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

SETEQP Database—Corrupted

Summary: The following recommended corrective procedures are based on the assumption that immediately after the AAP detected this database problem it transmitted the critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system. The solution to correcting this alarm condition is to edit the database—thus removing the incorrect information.

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:SETEQP

2. From the local historical records obtain a paper copy (printout) of the SETEQP database. Compare the printout with the results obtained from Step 1 and determine which field(s) need changing.

3. On the command line, enter the following:
   RC:SETEQP..... and change the tuple that is incorrect.

   Note: Only one tuple can be changed at a time. Therefore, if there is more than one error it will be necessary to reissue this input message for each desired change.

4. On the command line, enter the following:
   OP:AUDIT

   Response (typical):

```
OP:AUDIT   results
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
    0  0     N        1   511  0   *   *     *    0  00  0   0
    1  1     N        1 65535  0   *   *     *    0  00  0   0
    2  2     N        1 65535  0   *   *     *    0  00  0   0
    3  3     N        1 65535  0   *   *     *    0  00  0   0
    4  4     N        1     1  0   *   *     *    0  00  0   0
```

5. From the Craft Shell command line, enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the Database key for the TYPE 4 audit.

   Note: The recommendation is that this audit be run in order to check for possible database corruption. The results from this audit (for example, audit complete or error data) will be displayed on the screen. It should be understood that audits do not run unconditionally; but halt at the first occurrence of an error.

6. Did the audit report any error data?

   If **YES**, go to Step 8.
   If **NO**, then continue.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

ANNUPD Database—Corrupted

Summary: After the AAP detected the ANNUPD database problem, it transmitted a critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system.

1. Refer the problem to the AFSC for resolution.

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Lucent Technologies — Proprietary
Use pursuant to Company instructions

AUDIT Database—Corrupted

Summary: The following recommended corrective procedures are based on the assumption that immediately after the Announcement Administration Processor (AAP) detected the database problem it transmitted the critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system. The solution to correcting this alarm condition is to edit the database—thus correcting the incorrect information.

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:AUDIT

2. From the recent local historical records obtain a paper copy (printout) of the AUDIT database. Compare the printout with the results obtained from Step 1 and determine which tuple(s) need changing.

3. On the command line, enter the following:
   RC:AUDIT:UPD=CHG,KEY=*a*.....

   where: *a* is the key that contains the bad tuple.

   Note: Only one tuple can be changed at a time. Therefore, if there is more than one error it will be necessary to reissue this input message for each desired change.

4. On the command line, enter the following:
   OP:AUDIT

   Response (typical):

```
OP:AUDIT   results
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
    0  0     N        1   511  0   *   *     *    0  00  0   0
    1  1     N        1 65535  0   *   *     *    0  00  0   0
    2  2     N        1 65535  0   *   *     *    0  00  0   0
    3  3     N        1 65535  0   *   *     *    0  00  0   0
    4  4     N        1     1  0   *   *     *    0  00  0   0
```

5. From the Craft Shell command line, enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the Database key for the TYPE 4 audit.

   Note: The recommendation is that this audit be run in order to check for possible database corruption. The results from this audit (for example, audit complete or error data) will be displayed on the screen. It should be understood that audits do not run unconditionally; but halt at the first occurrence of an error.

6. Did the audit report any error data?

   If **YES**, go to Step 8.

   If **NO**, then continue.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

LOCOP Database—Corrupted

Summary: The following recommended corrective procedures are based on the assumption that immediately after the Announcement Administration Processor (AAP) detected this database problem, it transmitted the critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system. To correct this alarm condition, remove the existing database and create a zero length file with the database filename.

1. Access the remote *UNIX* system login port and log into the AAP with your assigned user login. Subsequently, do the following at the *UNIX* system shell prompt #

   Enter: **/bin/su - root**
   Response: `Password:`

   Enter: *root password*
   Response: #

2. At the *UNIX* system shell prompt #.

   Enter: **rm /usr/aap/database/locop**
   Response: #

3. At the *UNIX* system shell prompt #

   Enter: **> /usr/aap/database/locop**
   Response: #

4. At the *UNIX* system shell prompt #

   Enter: **exit**
   Response: #

5. At the *UNIX* system shell prompt #

   Enter: **exit**
   Response: login

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

FSITE Database—Corrupted (Master CS-AAP Only)

Summary: The following recommended corrective procedures are based on the assumption that immediately after the Announcement Administration Processor (AAP) detected this database problem, it transmitted the critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system. The solution to correcting this alarm condition is to edit the database—thus removing the incorrect information.

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:FSITE

2. From the recent historical records obtain a paper copy (printout) of the FSITE database. Compare the printout with the results obtained from Step 1 and determine which tuple(s) need changing.

3. On the command line, enter the following:
   RC:FSITE:UPD=CHG,KEY=*a*.....

   where: *a* is the key that contains the bad tuple.

   Note: Only one tuple can be changed at a time. Therefore, if there is more than one error it will be necessary to reissue this input message for each desired change.

4. On the command line, enter the following:
   OP:AUDIT

   Response (typical):

```
OP:AUDIT   results
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
    0  0     N        1   511  0   *   *     *    0  00  0   0
    1  1     N        1 65535  0   *   *     *    0  00  0   0
    2  2     N        1 65535  0   *   *     *    0  00  0   0
    3  3     N        1 65535  0   *   *     *    0  00  0   0
    4  4     N        1     1  0   *   *     *    0  00  0   0
```

5. From the Craft Shell command line, enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the Database key for the TYPE 4 audit.

   Note: The recommendation is that this audit be run in order to check for possible database corruption. The results from this audit (for example, audit complete or error data) will be displayed on the screen. It should be understood that audits do not run unconditionally; but halt at the first occurrence of an error.

6. Did the audit report any error data?

   If **YES**, go to Step 8.

   If **NO**, then continue.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

Clear LAN Inhibited Alarm

Summary: This alarm is initially raised on the switch side and it is not raised on the AAP side. Specifically, the "Interrupts Inhibited" indicator, which is located on the Master Control Console (MCC), will be lit. Initially, the reason for this alarm condition should be investigated and determined. Secondly, any actions that are required of the respective remote maintenance centers should be identified and completed in order to re-establish a fully functioning system.

Step	Responsible Side AAP	Responsible Side Switch
1		Determine whether or not someone on the switch side is doing LAN maintenance but failed to coordinate that issue properly. If **YES**, then go to Step 10. If **NO**, then continue.
2		Contact the AAP side and inquire whether a reboot is taking place? If **YES**, then go to Step 7. If **NO**, then continue.
3	Are any of the AAP's databases currently being altered? If **YES**, then go to Step 10. If **NO**, continue.	
4	Is any part of the AAP software currently being restarted? If **YES**, then go to Step 10. If **NO**, continue.	
5	Is the AAP currently in the process of completing a BWM operation? If **YES**, then go to Step 10. If **NO**, then continue.	

Step	Responsible Side AAP	Responsible Side Switch
6		Are there one or more in-service (on the switch) SCUs that are disabled in the AAP's SCUEQP database? If **YES**, then, (as appropriate) remove the subject SCU(s) from service, or enable those SCU(s) in the AAP's SCUEQP database. Then, go to Step 11. If **NO**, go to Step 8.
7	After a wait of approximately 15 to 20 minutes the AAP should have completed the reboot and the AAP applications software should be functioning normally. Continue with Step 11.	
8		Analyze the 1B maintenance reports and determine whether two or more SCUs have interjected (or if only one SCU is in service, and that SCU has interjected). ***Note:*** A single SCU interject (and removal) will be indicated with a **PMD 241**. Multiple SCU interjects (and automatic LAN inhibit) will be indicated with a **PMD 251**. If **YES**, then go to the procedure "Diagnose and Resolve Hardware Faults" (TAP-135). If **NO**, then continue.

Step	Responsible Side AAP	Responsible Side Switch
9		Enable the LAN by entering the following message at the 1B console: **ALW:SCS 0,LAN!** If the LAN **stays up**, go to Step 13. If the LAN **does not stay up**, see TAP-135.
10	**STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Retry this procedure at a time whenever the LAN can be allowed.	**STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Retry this procedure at a time whenever the LAN can be allowed.
11	Access the Craft Shell from the AAP Main Menu and enter the following: **INIT:AAP:LANCMD**	
12		Enter the following input message: **ALW:LAN!**
13	**STOP! YOU HAVE COMPLETED THIS PROCEDURE.**	**STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

LAN Hardware Faults (AAP to SCU and AAP to Smart Hub) — Diagnose and Resolve

This procedure addresses isolation of hardware faults which result in LAN-related Service Circuit Unit (SCU) interjects. This procedure assumes that the cause of the interjects is a result of LAN hardware faults. This procedure should not be undertaken unless this determination has been made.

> ***Note:*** This procedure is used to diagnose and resolve hardware faults on the LAN between the AAP and the SCU and the LAN between the AAP and Smart Hub. If a problem is suspected in the LAN that connects the Smart Hub, the Custom Data Services Units (CDSUs), and the SCU, see TAP-161.

Summary: LAN-related interjects will be handled by fault recovery based on the number of equipped and in-service SCUs in the Service Circuit System (SCS) complex(es).

Typical recovery actions are:

- Remove the SCU, if a single SCU reports LAN problems in a multiple SCU complex.
- Inhibit the LAN if multiple SCUs report LAN problems.
- Test the SCU if the SCU complains of LAN problems and fault recovery identifies this SCU in its ‘‘last SCU’’ check.

The philosophy for diagnosing LAN problems involves the following resources:

- The responsible maintenance personnel must be familiar with the configuration of the LAN.
- The receive-only printer (ROP) at the 1B console should be reviewed for messages that might indicate the cause of the LAN problem.
- The 1B software LAN test should be run on successive segments of the LAN in an attempt to localize the failure.

The 1B diagnostic will fail in the presents of any of the following LAN related faults:

- LAN cable problems
- SCS hardware problems
- AAP LAN transceiver problems.

Test results are indicated by PASS or FAIL.

1. Inhibit Local Area Network (LAN).

   a. At the AAP Console (Craft Shell command line), enter:
   INH:SCUEQP:KEY=ALL

   Response:
   `INH:SCUEQP KEY ALL completed`

   b. At the 1B MTC Terminal, enter:
   INH:SCS 0,LAN!

   Response:
   `INH:SCS 0,LAN COMPL`

2. Diagnose the SCS complex(es). At the 1B MTC Terminal, enter:
   DGN:SCS 0,SCU *x*:PH 10!

   where ***x*** = the lowest numbered in-service SCU in the SCS complex.

3. Did the SCU diagnostic test in Step 2 pass?

   If **YES**, restore the SCU and repeat Step 2 for the next higher numbered SCU within the complex. Ensure that all SCUs that were in-service prior to being diagnosed are restored after the diagnostic is completed. If all SCUs passed, stop this TAP and perform tests on the ENET board(s) described in TAP-110 (one OOS) or TAP-123 (both OOS).

   Note: If a diagnostic failure occurs on one or more SCUs, record the SCU number(s) for later reference and go to Step 4.

   If **NO**, continue to Step 4.

4. Is the Automatic Speech Recognition (ASR) feature assigned and associated hardware provided for the failing SCU?

   If **YES**, continue to Step 5.

   If **NO**, continue to Step 12.

5. Remove the LAN coaxial cable connecting the Smart Hub to the AAP at the AAP transciever. Install a 50-Ohm terminator at the AAP in place of cable that was just removed.

6. Diagnose the SCS complex(es). At the 1B MTC Terminal, enter:
   DGN:SCS 0,SCU *x*:PH 10!

   where ***x*** = the lowest numbered in-service SCU in the SCS complex.

7. Did the SCU diagnostic test in Step 6 pass?

   If **NO**, the Smart Hub and associated coaxial cable connection is not suspect. Reconnect the coaxial cable from the Smart Hub to the AAP transciever and continue to Step 12.

   If **YES**, measure the DC resistance of the coaxial between the AAP and the Hub at the AAP end. Measure the resistance between the center conductor and the outer shield. (Resistance should be between 40 and 70 Ohms.) Then continue to Step 8.

8. Was the DC resistance measured in the previous step correct?

   If **YES**, ensure that the cable is not somehow grounded to frame ground somewhere along it's route, especially at the connector ends. (The LAN is electrically isolated from ground.) If no problems are found, the Smart Hub is suspect. Replace the Smart Hub (DLP-542 in the 234-151-077AC, *SCS Maintenance* document), reconnect the coaxial cable from the Smart Hub to the AAP transciever, and continue to Step 38.

   If **NO**, continue to Step 9.

9. At the Smart Hub, remove the T-connector (that connects the AAP to the Smart Hub) from the Smart Hub (leaving both the LAN cable from the AAP and the 50-Ohm terminator connected to the T-connector). Carefully place the T-connector that was just removed so that is does not come in contact with any metallic surface.

10. Again, measure the DC resistance of the coaxial between the AAP and the Hub at the AAP end. Measure the resistance between the center conductor and the outer shield. (Resistance should be between 40 and 70 Ohms.)

11. Was the DC resistance measured in the previous step correct?

    If **YES**, the Smart Hub is suspect. Replace the Smart Hub (DLP-542 in the 234-151-077AC, *SCS Maintenance* document), reconnect the coaxial cable from the Smart Hub to the AAP transciever and continue to Step 38.

    If **NO**, verify that the proper 50-Ohm terminator is present. If the 50-Ohm terminator is correct, then there is a cable fault. Visually inspect the cable and the BNC connector at each end of the cable looking for any problems. If no problems can be found, then replace the LAN coaxial cable between the AAP and the Hub and continue to Step 38.

12. Isolate SCS Complex(es). Remove the AAP coax cable at the rear of the Service Circuit Controller Cabinet (SCCC) (Vertical EQL 65) and install the 50-Ohm terminator.

13. Diagnose the SCS Complex(es). At the 1B MTC Terminal, enter:
DGN:SCS 0,SCU *x*:PH 10!

    where ***x*** = all SCUs that failed in Step 3.

14. Did the SCU(s) diagnostic test in Step 13 pass?

    If **YES**, the coax and hardware within SCS complex is not suspect, therefore, continue.

    If **NO**, go to Step 25.

15. Measure DC resistance of coax cable between the SCS and AAP. Measure the resistance between the center conductor and the outer shield on the BNC connector of the coax cable (that was removed in Step 12) from the SCS frame to the AAP.

    Expected Results:
    Resistance between 40 and 70 Ohms.

    > ***Note:*** Remove the 50-Ohm terminator at the SCCC (Vertical EQL 65) and reconnect the coax cable.

16. Was the DC resistance in Step 15 between 40 and 70 Ohms?

    If **YES**, the AAP transceivers are suspect. Stop this TAP and perform tests on the ENET board(s) described in TAP-110 (one OOS) or TAP-123 (both OOS).

    If **NO**, continue.

17. Measure DC resistance of coax cable between the AAP and SCS. Disconnect the coax cable between the SCS frame and the AAP at the AAP transceivers. Measure the resistance between the center conductor and the outer shield on the BNC connector of the coax cable from the AAP transceivers to the SCS frame.

    Expected Results:
    Resistance between 40 and 70 Ohms.

18. Was the DC resistance in Step 17 between 40 and 70 Ohms?

    If **YES**, the coax cable between the SCS and AAP is not suspect, therefore, continue.

    If **NO**, replace the coax cable between the SCS frame and the AAP and go to Step 38.

    Note: Reconnect the coax cable between the SCS frame and the AAP at the AAP transceivers.

19. Measure DC resistance between AAP transceivers. Remove the 6-inch coax cable at the transceiver which is electrically closest to the SCS frame.

    Measure the resistance between the center conductor and the outer shield on the BNC Connector of the 6-inch coax cable.

    Expected results:
    Resistance reading between 40 and 70 Ohms.

    Note: Reconnect the 6-inch coax cable to the transceiver that is electrically closest to the SCS frame.

20. Was the DC resistance in Step 19 between 40 and 70 Ohms?

    If **YES**, replace the transceiver that is electrically closest to the SCS frame and go to Step 38.

    If **NO**, continue.

21. Measure DC resistance into the second AAP transceiver. Remove the 6-inch coax cable at the second transceiver.

    Measure the resistance between the center conductor and the outer shield on the BNC Connector of the second transceiver.

    Expected results:
    Resistance reading between 40 and 70 Ohms.

    Note: Reconnect the 6-inch coax cable to the second transceiver.

22. Was the DC resistance in Step 21 between 40 and 70 Ohms?

    If **YES**, replace the 6-inch coax cable between the two AAP transceivers and go to Step 38.

    If **NO**, continue.

23. Measure DC resistance at the 50-Ohm terminator. Remove the 50-Ohm terminator at the second transceiver.

    Measure the resistance between the center conductor and the outer shield on the 50-Ohm terminator.

    Expected results:
    Resistance reading between 40 and 70 Ohms.

    Note: Reconnect the 50-Ohm terminator to the second transceiver.

24. Was the DC resistance in Step 23 between 40 and 70 Ohms?

    If **YES**, replace the second transceiver and go to Step 38.

    If **NO**, replace the 50-Ohm terminator and go to Step 38.

25. Make visual inspection. Visually inspect the daisy-chained LAN coax cables connecting all SCUs within the SCS frame(s). Ensure that the appropriate 50-Ohm terminators are present on either end of the daisy-chained cables.

26. Remove LAN cables from paddle board. At the appropriate SCU, remove both cables at the paddle board (Horizontal EQL 024).

    Note: SCU 0 will always be the starting point for this step. Additionally, all SCUs, including the ones that are not populated with circuit packs will be included in this step.

27. Measure DC resistance of LAN cables. Measure the resistance of both cables between the center connector and the outer shield.

    Note: One of the coax cables will be connected to the 50-Ohm terminator resident in the SCCC. The second 50-Ohm terminator will reside in the last Service Circuit Unit Cabinet (SCUC). The object is ensure proper continuity between the coax cable and the 50-Ohm terminator.

    Expected results:
    Resistance reading between 40 and 70 Ohms.

28. Was the DC resistance in Step 27 between 40 and 70 Ohms?

    If **YES**, continue.

    If **NO**, replace the cable or 50-Ohm terminator and go to Step 37.

29. Measure DC resistance between center conductors at the paddle board. Measure the resistance between the center conductors of the 2 connectors on the SCU paddle board (Horizontal EQL 024).

    Expected results:
    Resistance reading should be near zero Ohms.

30. Was the DC resistance in Step 29 near zero Ohms?

    If **YES**, continue.

    If **NO**, replace the paddle board and go to Step 37.

31. Measure DC resistance between outer shields at the paddle board. Measure the resistance between the outer shield conductors of the two connectors on the SCU paddle board (Horizontal EQL 024).

    Expected results:
    Resistance reading should be near zero Ohms.

32. Was the DC resistance in Step 31 near zero Ohms?

    If **YES**, continue.

    If **NO**, replace the paddle board and go to Step 37.

33. Measure DC resistance between center conductors and the outer shields at the paddle board. Measure the resistance between the center conductor and the outer shield of the two connectors on the SCU paddle board (Horizontal EQL 024).

    Expected results:
    Resistance reading should be an ‘‘open circuit.’’

34. Was the DC resistance in Step 33 an ‘‘open circuit’’?

    If **YES**, continue.

    If **NO**, replace the paddle board. Go to Step 37.

35. Ensure that both coax cables are properly reconnected at the paddle board before proceeding.

36. Perform Steps 26 through 35 for all SCUs present. If all SCU are successfully tested, go to Step 37.

37. Reconnect the AAP coax cable at the rear of the SCCC. Remove the 50-Ohm terminator at the rear of the SCCC (Vertical EQL 024) and reconnect the AAP coax cable. Ensure that all cables have been properly reconnected to each paddle board.

38. Diagnose the SCS complex(es). At the 1B MTC Terminal, enter:
DGN:SCS 0,SCU *x*:PH 10!

    where ***x*** = all SCU(s) that failed.

39. Did the SCU(s) diagnosed in Step 38 pass?

    If **YES**, ensure that all SCU(s) that were in-service prior to diagnostics are restored and continue.

    If **NO**, go to Step 43.

40. Allow the SCU equipment database. At the AAP console (Craft Shell command line), enter:
ALW:SCUEQP:KEY=ALL

    Response:
    ```
    ALW:SCUEQP KEY ALL completed
    ```

41. Go to TAP-137 to determine the appropriate time to allow the LAN.

42. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

43. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

SLAVE Database—Corrupted (Master CS-AAP Only)

Summary: The following recommended corrective procedures are based on the assumption that immediately after the Announcement Administration Processor (AAP) detected this database problem, it transmitted the critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system. The solution to correcting this alarm condition is to edit the database—thus removing the incorrect information.

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:SLAVE

2. From the local historical records obtain a paper copy (printout) of the SLAVE database. Compare the printout with the results obtained from Step 1 and determine which field(s) need changing.

3. On the command line, enter the following:
   RC:SLAVE:UPD=CHG,..... and change the tuple that is incorrect.

   Note: Only one tuple can be changed at a time. Therefore, if there is more than one error it will be necessary to reissue this input message for each desired change.

4. On the command line, enter the following:
   OP:AUDIT

   Response (typical):

```
OP:AUDIT   results
  KEY TYPE ANNSET  FROM    TO UCL MO  DAYMO DAYWK HR MIN ENA ACT
    0  0     N        1   511  0   *   *     *    0  00  0   0
    1  1     N        1 65535  0   *   *     *    0  00  0   0
    2  2     N        1 65535  0   *   *     *    0  00  0   0
    3  3     N        1 65535  0   *   *     *    0  00  0   0
    4  4     N        1     1  0   *   *     *    0  00  0   0
```

5. From the Craft Shell command line, enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the Database key for the TYPE 4 audit.

   Note: The recommendation is that this audit be run in order to check for possible database corruption. The results from this audit (for example, audit complete or error data) will be displayed on the screen. It should be understood that audits do not run unconditionally; but halt at the first occurrence of an error.

6. Did the audit report any error data?

   If **YES**, go to Step 8.

   If **NO**, then continue.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

LAN Diagnostic

Summary: The LAN should be considered as a shared communications medium connecting the AAP to the SCUs. For LAN Maintenance Philosophy, see TAD-103.

1. Is LAN inhibited?

   If **NO**, go to Step 5.
   If **YES**, then continue.

2. Was the LAN inhibited automatically?

   If **YES**, then determine why and correct problem, go to the TAP-134.
   If **NO**, then continue.

3. Was the LAN inhibited manually?

   If **YES**, and the reason was so that someone on the switch side could do maintenance, then if they had properly coordinated that fact to the AAP side there would not be a problem.
   If **NO**, then continue.

4. **STOP! PROCEDURE cannot be completed at this time.** Retry this procedure at a later time whenever the LAN can be allowed.

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

SP Board(s) OOS—Clear

Summary: A communications problem may be reported in one of the following ways:

- An alarm condition
- Via a call from one of the other remote centers (such as CAUCS)
- By displaying the AAP file "/var/pvcmuxd/log" and analyzing the output for problems.

If a single SP board is OOS, then the reinitialization strategy is to first attempt a restore on that board. This will result in the board performing a check of its internal components. If the board fails its Power On Self Test (POST), it will remain OOS and should be replaced. If the board passes POST, it will result in the software program that controls the board operations being reloaded into the board RAM.

> ***Note:*** Each SP board contains its own processor, RAM, and EEPROMs. Whenever an SP board is first installed the EEPROMs are loaded (as a part of the installation process) with a program. Thereafter, this program and the EEPROMs are referred to as *FIRMWARE*. An SP board failure may occur as (1) a component failure, (2) the program in RAM may have become corrupt, (3) the firmware may have become corrupt.
>
> ***WARNING: Never remove both SP boards at the same time! If both SP boards are removed, all communications to the AAP will be cut and the X.25 communications links cannot be reestablished remotely. If this happens, the only way to reestablish communications to the AAP is to manually restart one of the SP boards.***

If both SP boards are removed or both are not responding to the remote centers (CAUCS, TCC/NCC, or NESAC), then refer to the heading "Both SP Boards OOS" later in this TAP (Step 18) for the recovery procedures.

1. Are one or both SP boards out of service? Locally, check the status LED on each board and remotely, check the board status on the Display Page 105.

   If **ONE**, continue.
   If **BOTH**, go to Step 18.

Single SP Board OOS

2. Did the remote maintenance center (TCC/NCC) receive notification of the problem via an alarm?

   If **YES**, continue.
   If **NO**, go to TAP-144.

3. Access Display Page 106 and identify the SP board that is OOS.

4. Access the Craft Shell and enter the following command:

   RST:AAPBD:sp*x*

   where: *x* is the number of the SP being restored (0,1).

5. Access Display Page 106 and monitor the status of the SP board being restored.

   Note: The SP board status should have changed from OOS to ACT within a 2-minute interval.

6. Did the SP board status change from OOS to ACT?

   If **YES**, go to Step 17.
   If **NO**, continue.

7. Determine what course of action to take considering the particular SP board history and current status:

   a. If there have been other cases of the SP board going OOS, go to DLP-506.
   b. If there have been no other cases of the SP board going OOS and the SP board is still OOS, continue.

8. Unplug and re-insert the SP board, see DLP-524.

9. The LED on the SP board should initially flash on/off and light continuously within 1 minute.

10. Did the LED light continuously?

    If **NO**, contact next higher level of support.
    If **YES**, continue.

11. Access Display Page 106 and monitor the status of the particular SP board.

    Note: The SP board status should have changed from OOS to ACT within a 1-minute interval.

12. Is the SP board status changed from OOS to ACT?

    If **YES**, continue.
    If **NO**, go to DLP-506.

13. Access Display Page 118 (link status) and monitor the status of the links from the SP that was just returned to service.

14. The CAUCS links from the SP should become active in a relatively short time. The TNM links from the SP become active within 6 minutes.

15. Attempt to access the AAP console through both SPs by setting the switch box to the appropriate SP and pressing the **F9** function key (for EAI page) and **F10** function key (for the AAP console access).

16. Attempt to log in via each SP.

17. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Both SP Boards OOS

18. Are both LEDs off?

    If **NO**, go to TAP-144.
    If **YES**, continue.

19. Locate the console switch box and determine which SP board is currently connected to the console.

20. Inform the remote maintenance center of the identity of the SP board that is connected to the console.

    Note: Make a note of the identified SP board.

21. At the front of the AAP cabinet, physically disengage the identified SP board (refer to DLP-524) and pull it out of the shelf approximately 3 inches. This serves to disconnect the board from the backplane.

22. Wait approximately 20 seconds and then reinsert the SP board back into the shelf (DLP-524).

23. The LED on the SP board should initially flash on/off and light continuously within 1 minute.

24. Did the LED light continuously?

    If **NO**, replace the identified SP board (using DLP-524), then continue.
    If **YES**, then continue.

25. Has the SP board in question just been replaced?

    If **YES**, download the latest software into the new SP board using DLP-521, then continue.
    If **NO**, continue.

26. Attempt to access the Display Pages interface.

    Note: The link from the SP for the Display Pages may take up to 6 minutes to re-establish itself.

    Was the Display Pages interface accessed?

    If **NO**, contact next level of support.
    If **YES** and the SP board is on-line, continue.

27. Attempt to access the AAP local console. Was the local console accessed?

    If **NO**, contact next level of support.
    If **YES**, continue.

28. Attempt to log in via the SP that has been returned to service. Was the login successful?

    If **NO**, go to Step 30.
    If **YES** and the SP board is on-line, continue.

29. Go back to Step 2, now one SP board should be back to functioning correctly and only Steps 2 through 17 need to be done to bring back the other SP board.

30. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

CAUCS Database—Corrupted (Master CS-AAP Only)

Summary: The following recommended corrective procedures are based on the assumption that immediately after the AAP detected this database problem, it transmitted the critical alarm condition and accompanying descriptive statement to the Total Network Management (TNM) system. To correct this alarm condition, clear the database and inform Advanced Feature Service Center (AFSC) to resubmit all outstanding jobs.

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   CLR:CAUCS

2. Inform the AFSC operators about the problem, that the CAUCS database has been cleared, and that the AFSC operators should resubmit all outstanding jobs.

3. On the command line, enter the following:
   LOGOUT

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

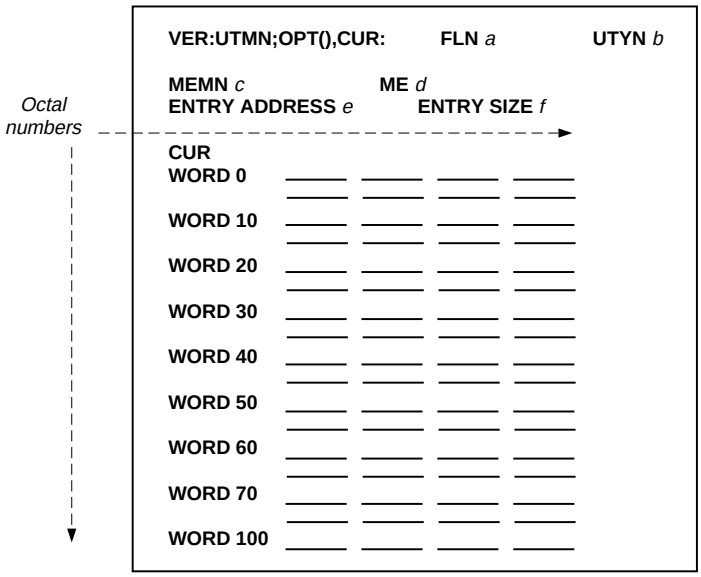
Configuration Discrepancies—AAP Versus 1B—Resolution

1. At the 1B Maintenance (MTC) terminal, enter the following:
   VER:UTYPE:SCS *x***!**

   where: *x* is the SCS Member Number (0-7).

   Response: (*see Figure 1 [4E20] or Figure 2 [4E21 and later])*

   Note: The words shown in Figure 1 and 2 are in **octal** format.



where:
a = Floor location number
b = Unit type name
c = Member number of growth associated complex
d = Member equipage
e = 8-digit entry address
f = 2-digit entry size

Figure 1. SCS Unit Type Translator (4E20)

VER:UTMN;OPT(),CUR: **FLN** *a* **UTYN** *b*

MEMN *c* **ME** *d*
ENTRY ADDRESS *e* **ENTRY SIZE** *f*

CUR				
WORD 0	_____ _____	_____ _____	_____ _____	_____ _____
WORD 10	_____ _____	_____ _____	_____ _____	_____ _____
WORD 20	_____ _____	_____ _____	_____ _____	_____ _____
WORD 30	_____ _____	_____ _____	_____ _____	_____ _____
WORD 40	_____ _____	_____ _____	_____ _____	_____ _____
WORD 50	_____ _____	_____ _____	_____ _____	_____ _____
WORD 60	_____ _____	_____ _____	_____ _____	_____ _____
WORD 70	_____ _____	_____ _____	_____ _____	_____ _____
WORD 100	_____ _____	_____ _____	_____ _____	_____ _____
WORD 110	_____ _____	_____ _____	_____ _____	_____ _____
WORD 120	_____ _____	_____ _____	_____ _____	_____ _____
WORD 130	_____ _____	_____ _____	_____ _____	_____ _____
WORD 140	_____	_____	_____	_____

a **= Floor location number**
b **= Unit type name**
c **= Member number of growth associated complex**
d **= Member equipage**
e **= 8-digit entry address**
f **= 2-digit entry size**

Figure 2. SCS Unit Type Translator (4E21 and later)

2. Is the message format and member identification correct as shown in Figure 1 or 2?

   If **YES**, continue with Step 3.
   If **NO**, determine and resolve the cause and repeat from Step 1.

3. Using the TTY output and Figure 3 (4E20) or Figure 4 (4E21 and later), verify the LAN address for the desired SCU, and note any discrepancies (the LAN address should be the SCS member number multiplied by 16, plus the SCU number).

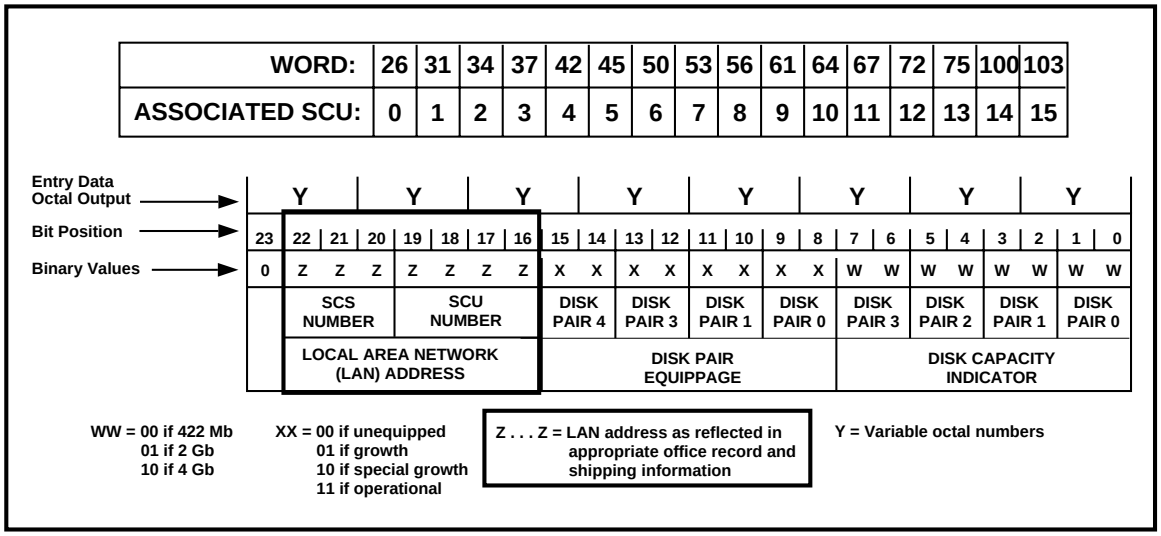


Figure 3. Words in SCS Unit Type Translator Used to Determine LAN Address (4E20)

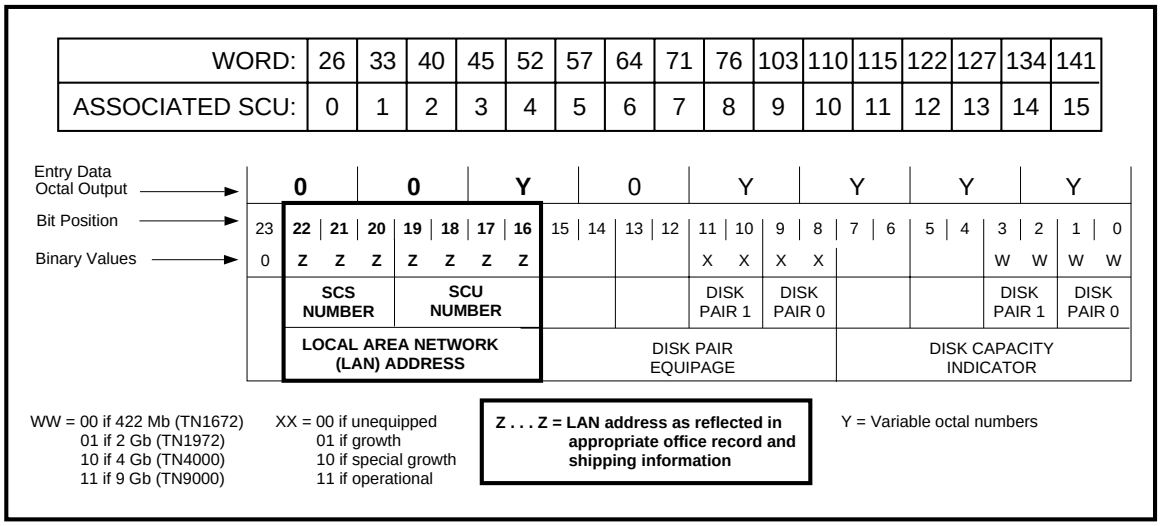


Figure 4. Words in SCS Unit Type Translator Used to Determine LAN Address (4E21 and later)

4. Was the SCU LAN address determined in Step 3 correct?

   If **NO**, correct the LAN address by using DLP-535 to perform a functional word change.

   > ***Note:*** Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change.

   If **YES**, use TAP-137 to determine and perform the required corrective action.

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Disk Drive—Diagnose and Replace

Summary: Hard disk problems generally result from either a gradual deterioration of disk activities that are exhibited by a series of disk-related console error messages or a complete and total hard disk failure.

If the hard disk is OOS, the recommendation is to restore the unit with the hope that as part of the re-initialization process the problem will be corrected. If the hard disk is still in service but is exhibiting problems, then the recommendation is to remove the disk from service and subsequently restore the disk to service with the command. If the hard disk problems are not corrected, the unit should be replaced.

> ***Note:*** AAP console messages, such as *UNIX* system disk errors, are only outputted to the local AAP console and printer, and a description of these errors are also written to the **/var/adm/messages** file. These messages are not normally displayed at the remote maintenance centers. Therefore, for the remote maintenance personnel to review these messages, they will either have to review the message printout with local maintenance personnel or access the *UNIX* system shell and enter the command **more /var/adm/messages** and look for specific error messages in that file.

1. Bring up Display Page 107.

   > ***Note:*** View the displayed information and determine the status (for example, ACT, OOS, or UNEQUIP) of the two hard disk drives. This TAP assumes that, at most, only one hard disk drive is OOS.

2. Refer to their local historical records in order to determine whether the identified disk drive is experiencing problems for the first time or whether the problem is a repeat. Is this a first occurrence for the problem?

   If **NO**, then go to Step 9.
   If **YES**, then continue.

3. Is the identified disk drive status indicated as being OOS? Refer to Display Page 107.

   If **NO**, then go to Step 16.
   If **YES**, then continue.

4. Access the Craft Shell Interface and enter:
   RST:AAPBD:SCSI*x*:disk*y*.

   where: *x* is the SCSI board number
   y is the Disk number.

5. Within 2 minutes, the status of the identified disk drive should change. Access the Display Pages interface and bring up Display Page 107. Has the status of the identified disk changed from **OOS** to **ACT**?

   If **NO**, go to Step 9.
   If **YES**, then continue.

   Note: It will normally take several hours before the newly inserted/reinserted disk drive becomes reintegrated. During this time interval the newly inserted/reinserted disk drive is not used by the system, but; is in the process of being updated so that its contents will be identical to that of the other.

   ***WARNING: While one disk drive is being reintegrated the other disk drive must not be removed from service. If that disk drive is removed, then the AAP must be reset (Poke* 54** and **y**) and all transient data will have been lost.

6. In the Craft Shell, enter the following:
   AUD:MIRROR:CMD=REPAIR

   Note: This will take several hours to complete.

7. Display and monitor Display Page 107. When the AUD:MIRROR command completes, determine whether the **DISK MIRROR** indicator has changed state to **ACT**.

   If **YES**, continue.
   If **NO**, then contact the next level of support.

8. After at least 10 hours, check the **/var/adm/messages** file for the reoccurrence of problems. Are problems reoccurring?

   If **NO**, then go to Step 23.
   If **YES**, then continue.

9. Access the Craft Shell and enter:
   RMV:AAPBD:SCSI*x*:disk*y*.

   where: *x* is the SCSI board number
   y is the Disk number.

10. Replace the defective disk drive.

11. After the new disk drive has been installed, access the Craft Shell and enter:
RST:AAPBD:SCSI*x*:disk*y*.

    where: *x* is the SCSI board number
    y is the Disk number.

12. Within 2 minutes, the status of the identified disk drive should change. Access the Display Pages interface and bring up Display Page 107. Has the status of the identified disk changed from **OOS** to **ACT**?

    If **NO**, then contact the next level of support.
    If **YES**, then continue.

13. In the Craft Shell, enter the following:
AUD:MIRROR:CMD=REPAIR

    Note: This will take several hours to complete.

14. Display and monitor Display Page 107. When the AUD:MIRROR command completes, determine whether the **DISK MIRROR** indicator has changed state to **ACT**.

    If **YES**, continue.
    If **NO**, then contact the next level of support.

15. After at least 10 hours, check the **/var/adm/messages** file for the reoccurrence of problems. Are problems reoccurring?

    If **NO**, then go to Step 23.
    If **YES**, then contact the next level of support.

16. Access the Craft Shell and enter:
RMV:AAPBD:SCSI*x*:disk*y*.

    where: *x* is the SCSI board number
    y is the Disk number.

17. Access Display Pages and bring up Display Page 107. Has the status of the identified disk changed from **ACT** to **OOS**?

    If **NO**, then contact the next level of support.
    If **YES**, then continue.

18. Wait at least 1 minute, then enter:
RST:AAPBD:SCSI*x*:disk*y*.

    where: *x* is the SCSI board number
    y is the Disk number.

19. Within 2 minutes, the status of the identified disk should change from **OOS** to **ACT**. Is the status **ACT**?

    If **NO**, then go to Step 9.
    If **YES**, then continue.

20. In the Craft Shell, enter the following:
AUD:MIRROR:CMD=REPAIR

    Note: This will take several hours to complete.

21. Display and monitor Display Page 107. When the AUD:MIRROR command completes, determine whether the **DISK MIRROR** indicator has changed state to **ACT**.

    If **YES**, continue.
    If **NO**, then contact next level of support.

22. After at least 10 hours, check the **/var/adm/messages** file for the reoccurrence of problems. Are problems reoccurring?

    If **YES**, then go to Step 9.
    If **NO**, then continue.

23. Confirm that the newly inserted/reinserted disk drive has completed the reintegration process by accessing the *UNIX* system shell and entering the following command:
/sbin/volprint -ht | egrep "DIS | STALE | DET | TEMP"

    Note: If the *UNIX* system prompt ($) is returned but there is no output, then the disk drive is fully reintegrated.

24. Is the disk drive fully reintegrated?

    If **NO**, then wait at least 2 more hours and return to Step 23.
    If **YES**, then continue.

25. Once the disk drive is fully reintegrated the state of the volume databases should be checked for stability by entering:
    /sbin/voladm -l list

26. The following screen indicates the desired STABLE response.

```
name:  unix   stable  count  4,  4  valid

database                       state      id/epoch
/dev/rdsk/sc0d0s1,0,2048       STABLE   2785/730740475
/dev/rdsk/sc0d0s1,2048,2048    STABLE   2785/730740475
/dev/rdsk/sc1d1s1,0,2048       STABLE   2785/730740475
/dev/rdsk/sc1d1s1,2048,2048    STABLE   2785/730740475
```

Note: The data in the response should match, except for the **id/epoch** which frequently changes; however, all four entries should have identical **id/epoch** values.

27. Are all databases listed as being STABLE?

    If **NO**, then go to Step 4.
    If **YES**, then continue.

28. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Tape Module— Clean, Diagnose, and/or Replace

Summary: Tape module problems generally result from one of the following:

— A gradual deterioration of tape read/write activities that are exhibited by a series of tape-related console error messages.
— A complete and total tape module failure.

If the tape module is just reporting error messages, then the recommendation is to perform the procedure for cleaning the tape module heads. If the tape module is OOS, the recommendation is to restore the unit with the hope that as part of the re-initialization process the problem will be corrected. If the tape module is still in service but is exhibiting problems, then the recommendation is to remove the unit from service and subsequently restore the unit to service with the command. If the tape module problems are not corrected in either case, the unit should be replaced.

> ***Note:*** AAP console messages, such as *UNIX* system tape errors, are only outputted to the local AAP console and printer, and a description of these errors are also written to the **/var/adm/messages** file. These message are not normally displayed at the remote maintenance centers. Therefore, for the remote maintenance personnel to review these messages, they will either have to review the message printout with local maintenance personnel, or access the *UNIX* system shell and enter the command **more /var/adm/messages** and look for specific error messages.

1. Have messages relating to tape module problems been observed at the AAP printer/console?

   If **NO**, go to Step 10.
   If **YES**, then continue.

2. Remove the backup tape from the tape module and insert the cleaning tape.

3. Access the remote *UNIX* system login port and log into the AAP with assigned user login.

4. At the *UNIX* system prompt **$**:

   Enter: **/bin/su - root**
   Response: Password:

   Enter: *(root password)*
   Response: #

5. At the *UNIX* system prompt #

   Enter: **/usr/mds/tst_tape -llow -t0 -w -n4 /dev/rmt/ctape0**

   Note: This command should complete in approximately 2 minutes.

   Response: #

6. Remove the cleaning tape and reinsert the backup tape into the tape module.

   Note: Backup tape must be write-enabled or an error will be shown in the response.

7. At the *UNIX* system prompt #

   Enter: **exit**
   Response: **$**

8. At the *UNIX* system prompt **$**

   Enter: **exit**
   Response: login:

9. Go to Step 26.

10. Is the tape module reported as being OOS?

    If **YES**, go to Step 15.
    If **NO**, then continue.

11. Access the remote *UNIX* system login port and log into the AAP with assigned user login. Subsequently, and at the *UNIX* system prompt #

    Enter: **pg /var/adm/messages**
    Response: *(messages)*

    Note: View each screen of text for the occurrence of one or more console-related messages that implicate the tape module.

12. Are there console messages that implicate the tape module?

    If **YES**, then go to Step 4.
    If **NO**, continue.

13. At the *UNIX* system prompt #

    Enter: **exit**
    Response: login

14. Go to Step 26.

15. Access the Display Pages interface and bring up Display Page 107.

    Note: View the displayed information and determine the status of the tape module (ACT, OOS, or UNEQUIP).

16. Refer to the local historical records in order to determine whether the identified tape module is experiencing problems for the first time or whether the problem is a repeat. Is this a first occurrence for the problem?

    If **NO**, then go to Step 22.
    If **YES**, then continue.

17. Is the identified tape module status indicated as being OOS? Refer to Display Page 107.

    If **NO**, then go to Step 21.
    If **YES**, then continue.

18. Access the Craft Shell interface and enter:
    RST:AAPBD:SCSI*x*:tape4.

    where: *x* is the SCSI board number.

19. The status of the tape module should change within 2 minutes. Access the Display Pages interface and bring up Display Page 107. Has the status of the tape module changed from **OOS** to **ACT**?

    If **NO**, go to Step 22.
    If **YES**, then continue.

20. After at least 10 hours, view the **/var/adm/messages** file and verify that there has been no reoccurrence of the problems. Are problems reoccurring?

    If **NO**, then go to Step 26.
    If **YES**, then continue.

21. Access the Craft Shell interface and enter:
    RST:AAPBD:SCSI*x*:tape4.

    where: *x* is the SCSI board number.

22. Remove/replace the defective tape module.

23. Restore the tape module to service by accessing the Craft Shell interface and entering:
    RST:AAPBD:SCSI*x*:tape4.

    where: *x* is the SCSI board number.

24. The status of the tape module should change within 2 minutes. Access the Display Pages and bring up Display Page 107. Has the status of the tape module changed from **OOS** to **ACT**?

    If **NO**, then contact the next level of support.
    If **YES**, then continue.

25. After at least 10 hours, view the **/var/adm/messages** file and verify that there has been no reoccurrence of the problems. Are problems reoccurring?

    If **NO**, then go to Step 26.
    If **YES**, then contact the next level of support.

26. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

CPU Boards Are OOS (Two)—Clear Alarm

Summary: This problem is indicated by a TELEM error at the TCC/NCC and the LEDs on at least two CPUs are out.

> ***Note:*** A minimum set of components are required for the AAP to operate. This minimum set of components consists of two CPU boards, one memory board, one IOP board, one SCSI board, one disk drive, and the corresponding DCC power modules for these boards and disk drive.

Use the following procedure to attempt an AAP system recovery:

1. Press the **F9** key and bring up the EAI page.

2. Attempt to reset and boot the AAP by doing a Poke **54** and **y**.

3. Monitor the boot messages, to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then one of the CPU boards may still be OOS. Go to Step 12.
   If **NO**, continue.

4. Press the **F9** key and bring up the EAI page.

5. Attempt to reset and boot the AAP a second time by doing a Poke **54** and **y**.

6. Monitor the boot messages to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then one of the CPU boards may still be OOS. Go to Step 12.
   If **NO**, continue.

7. Press the **F9** key and bring up the EAI page.

8. Attempt to reset and boot the AAP a third time by doing a Poke **54** and **y**.

9. Monitor the boot messages to determine if the system completes the boot successfully. Did the AAP boot successfully?

   If **YES**, then one of the CPU boards may still be OOS. Go to Step 12.
   If **NO**, continue.

10. Power cycle the AAP by turning both SP patch panel switches to the OFF position, wait 30 seconds, and then turn both switches back ON. Did the AAP boot successfully?

    If **YES**, then go to Step 12.
    If **NO**, continue.

11. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** At least one of the required components is not functional. Contact your next level of support.

12. Access the AAP Main Menu, get onto the Craft Shell, and at the prompt (<) enter the following command:
    OP:AAPBD

13. Is either CPUA, CPUB, or CPUC listed as being OOS?

    If **NO**, then go to Step 18.
    If **YES**, continue.

14. At the Craft Shell prompt (<), enter the following command:
    RST:AAPBD:CPU{A|B|C}

15. At the Craft Shell prompt (<), enter the following MML command:
    OP:AAPBD

16. Are CPUA, CPUB, and CPUC listed as being ACT?

    If **NO**, then refer to and complete steps in TAP-106.
    If **YES**, continue.

17. At the Craft Shell prompt (<), enter the following MML command:
    logout

18. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TNM, CAUCS, and Local Console Communications Lost - Clear Trouble

Summary: AAP communication problems may be seen either remotely by the TCC/NCC at the *UNIX* system interface or at the TNM terminal or locally at the AAP console. This problem may be due to a console sanity problem, a *Datakit* VCS problem, or a ''locked up'' SP board problem. This procedure tells how to investigate and possibly correct these problems.

> ***Note:*** The characters shown within brackets < > in this procedure are meant to depict a specific key sequence on the keyboard. The actual characters in the brackets and the < > are not to be entered, just the key(s) that they represent. For example: <CNTL-M> represents a key sequence which means to press the CONTROL key and upper-case M key at the same time.

1. Where is the problem being reported?

   If **LOCAL** console only, go to Step 11.
   If **REMOTE** terminals only, continue.
   If both the **LOCAL** and **REMOTE** terminals, continue.

2. Determine if one or both SPs are locked up. Both SPs being locked up is indicated by a TELEM error at the TNM terminal (Display Pages) and/or an inability to log into the AAP via either *UNIX* system channel. One SP being locked up is indicated by an inability to log into the AAP through a particular *UNIX* system channel while the Display Pages show that SP is still in service.

   What are the problem indications?

   If a **TELEM** error at the TNM terminal, go to Step 20.

   If **both SPs** are faulty, go to Step 11.

   If **one SP** is faulty, continue.

3. Make sure that the problem is not just a TTY sanity problem at the TNM terminal. Enter a <CNTL-M> or <CNTL-J> at the remote TNM console.

4. Was the console prompt returned?

   If **NO**, go to Step 7.
   If **YES**, then continue.

5. Try to restart the port of the remote TNM terminal by entering either of the following commands at the TNM terminal:

   stty sane <CNTL-J>

   —or—

   stty sane <CNTL-M>

6. Determine if the remote TNM terminal is now working properly.

7. Attempt to access the EAI page at the Display Page terminal by pressing the **F1** function key.

8. Determine if the EAI page is being displayed properly.

9. Are the remote interfaces (*UNIX* system and Display Pages) working properly?

   If **YES**, go to Step 21.
   If **NO**, continue.

10. To this point, it is known that the remote terminals are not working properly. More troubleshooting of the problem needs to be done locally.

11. Make sure the problem is not just a local TTY sanity problem at the local console. Enter a <CNTL-M> or <CNTL-J> at the local console.

12. Was the console prompt returned?

    If **NO**, go to Step 15.
    If **YES**, continue.

13. Attempt to restart the local console port by entering the following command at the local console:

    stty sane <CNTL-M>

    —or—

    stty sane <CNTL-J>

14. The local console should now be working properly.

15. Attempt to access the EAI page at the local console by pressing the **F9** function key.

16. The EAI page should now be displayed properly.

17. Is the local console working properly?

    If **YES** and there are no problems with the remote terminals, go to Step 21.
    If **YES** and there are problems with the remote terminals, then the problem must be with the *Datakit* VCS link, go to Step 20.

    If **NO** and both SPs are locked up, go to Step 18.
    If **NO** and only one SP is locked up, go to Step 18.

18. Slide out and re-insert the SP board(s). (See DLP-524.)

19. Is the local console working properly?

    If **YES**, go to Step 21.
    If **NO**, go to Step 20.

20. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

21. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Log Message—Timeout Occurred While Waiting for Response From SCUs—Analysis and Resolution

1. Consult with the 1B side and determine whether the Service Circuit Units (SCUs) are functioning properly. Is power applied to the specified SCU?

   If **NO**, then go to Step 8.
   If **YES**, continue.

2. At the 1B side, is the specified SCU being diagnosed?

   If **YES**, then go to Step 8.
   If **NO**, continue.

3. At the 1B side, is the specified SCU Out of Service (OOS) following completion of diagnostics?

   If **YES**, then go to Step 8.
   If **NO**, continue.

4. At the 1B side, has the specified SCU not been restored?

   If **YES**, then go to Step 8.
   If **NO**, continue.

5. At the 1B side, is the LAN inhibited?

   If **YES**, then go to Step 8.
   If **NO**, continue.

6. At the 1B side, are routine maintenance activities currently being performed on the SCU?

   If **YES**, then go to Step 8.
   If **NO**, continue.

7. Check for configuration discrepancies between the AAP and 1B side—refer to and complete TAP-140.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** The 1B side personnel should inform the AAP personnel whenever the identified problem has been corrected.

9. **STOP! YOU HAVE COMPLETED THIS TASK.**

Log Message—Warning, No Enabled ISDN Board Available to Service Request—Analysis and Resolution (CS-AAP Only)

1. Access the Craft Shell at the Master CS-AAP and enter the following:
   OP:LOG

2. Review the output log results and determine whether or not this log message is occurring during CAUCS requests. Is this log message occurring on the Master CS-AAP during CAUCS requests?

   If **NO**, go to Step 7.
   If **YES**, continue.

3. At the Craft Shell prompt (<), enter the following:
   INIT:AAP:ISDN0

4. At the Craft Shell prompt (<), enter the following:
   INIT:AAP:ISDN1

5. At the Craft Shell prompt (<), enter the following:
   INIT:AAP:ISDN2

6. Has the Slave CS-AAP ISDN process group been reinitialized?

   If **YES**, go to Step 16.
   If **NO**, continue.

7. At the Craft Shell prompt (<), enter the following:
   LOGOUT

8. At the *UNIX* system prompt (#), enter the following:
   exit

9. Access the Craft Shell at the Slave CS-AAP.

10. At the Craft Shell prompt (<), enter the following:
    INIT:AAP:ISDN0

11. At the Craft Shell prompt (<), enter the following:
    INIT:AAP:ISDN1

12. At the Craft Shell prompt (<), enter the following:
    INIT:AAP:ISDN2

13. At the Craft Shell prompt (<), enter the following:
    INIT:AAP:ISDN3

14. At the Craft Shell prompt (<), enter the following:
    INIT:AAP:ISDN4

15. At the Craft Shell prompt (<), enter the following:
    LOGOUT

16. At the Master CS-AAP, access the Craft Shell and enter the following:
    OP:LOG

17. Review the Output Log results and determine whether or not this log message reoccurs. Has this log message occurred again (after restarting the ISDN_ process groups)?

    If **NO**, go to Step 24.
    If **YES**, continue.

18. Physically inspect the ISDN cabling. Were any problems identified and corrected with the ISDN cabling?

    If **YES**, then go to Step 24.
    If **NO**, continue.

19. Run the loopback tests on the ISDN board, refer to and complete DLP-515. Did the loopback tests identify a problem?

    If **YES**, refer to and complete TAP-111.
    If **NO**, continue.

20. Consult with the 1B side personnel and request that they check the ISDN configuration on the switch.

21. At the Master CS-AAP Craft Shell prompt (<), enter the following:
    OP:LOG

22. Review the Output Log results and determine whether or not this log message still reoccurs. Has this log message occurred again (after the switch side checked their configuration)?

    If **NO**, go to Step 24.
    If **YES**, continue.

23. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support for assistance.

24. **STOP! YOU HAVE COMPLETED THIS TASK.**

NSPS Database Corruption—Analysis and Recovery

Summary: The NSPS software provides the main menu, includes the MML command parser, supports the MML command interface, and contains the NSPS related databases. There may be some rare instances where one (or more) of the NSPS databases may have been corrupted as the result of performing a system reset (Poke **54** and **y**). If there are trouble indications which lead to the suspicion that the NSPS software is the source of the problem. Then, the following procedure may be used to determine if a database corruption has occurred; and, (if so) how to recover from this problem.

Are there Indications of NSPS Database Corruption?

1. Log into the AAP. At the *UNIX* system shell prompt #, do the following:

   Enter: **/bin/su - root**
   Response: *password*

2. At the *UNIX* system root prompt #, do the following:

   Enter: **ps -aef | grep mtce**
   Response: *Indicates probable database corruption.*

```
sh -c TZ=CST6CDT /usr/aap/X/mtce/bin/scm_cleanup 3
/usr/aap/X/mtce/bin/scm 3
/usr/aap/X/mtce/bin/scm_cleanup 3
```

Note: If there are only the preceding three **mtce** processes listed—then there are probably one or more corrupted NSPS databases. Normally, (whenever there are no NSPS databases corrupted) there should be several **mtce** processes listed.

3. Did the response indicate probable corruption?

   If **NO**, go to Step 17.
   If **YES**, then continue.

4. At the *UNIX* system prompt #, do the following:

   Enter: **tail -f /usr/aap/mtce/log/LOG***

   Note: The range of possible responses can vary widely and will depend on what processes are currently executing, the quantity of AAP application processes running, etc.

   To exit the **tail** process, enter **Ctrl-c**.
   Response: *Definite indication of a database corruption.*

```
2NCP TBL STATE: FAIL rollin NSPS DB
```

Note: If the preceding response line occurs twice within a 5-minute interval then this should be considered as a symptom indicating database corruption and (as a minimum) the pre-recovery procedure should be completed.

Pre-Recovery Procedure:

5. Did the preceding response indicate probable corruption?

   If **NO**, go to Step 17.
   If **YES**, then continue.

6. At the *UNIX* system prompt #, do the following:

   Enter: **/usr/aap/X/mtce/bin/rmallipc**
   Response: #

7. At the *UNIX* system prompt #, do the following:

   Enter: **tail -f /usr/aap/mtce/log/LOG***
   To exit the **tail** process, enter **Ctrl-c**.
   Response: *Definite indication of NSPS database corruption.*

```
2NCP TBL STATE: FAIL rollin NSPS DB
```

Note: If the preceding response line occurs twice within a 5-minute interval then this fact should now be viewed as definite NSPS database corruption and the recovery procedure should be completed.

8. Did the preceding response indicate definite NSPS Database corruption?

   If **YES**, go to Step 11.
   If **NO**, then continue.

9. At the *UNIX* system prompt #, do the following:

   Enter: **ps -aef | grep mtce**
   Response: *Should see several (more than three)* **mtce** *processes listed.*

10. Did the preceding response list several mtce processes?

    If **YES**, go to Step 17.
    If **NO**, contact next level of support.

Recovery Procedure:

11. Restore all of the "mtce" Databases. At the *UNIX* system prompt #, do the following:

    Enter: **/usr/aap/X/bin/aap_rst "mtce/db"**

    Note: This should have restored the AAP MTCE software back to a healthy state.

12. Verify that the NSPS database corruption problem no longer exists. At the *UNIX* system prompt #, do the following:

    Enter: **tail -f /usr/aap/mtce/log/LOG***

    Note: The range of possible responses can vary widely and will depend on what processes are currently executing, the quantity of AAP application processes running, etc.

    To exit the **tail** process, enter **Ctrl-c**.

    Response: *Definite indication of a database corruption.*

```
2NCP TBL STATE: FAIL rollin NSPS DB
```

Note: If the preceding response line occurs twice within a 5-minute interval then this fact indicates that the "base" databases need to be restored.

13. Did the preceding response indicate continued NSPS database corruption?

    If **NO**, to Step 17 .
    If **YES**, then continue.

14. At the *UNIX* system prompt #, do the following:

    Enter: **cp /usr/aap/mtce/db/csdbD05 /usr/aap/mtce/db/csdbA05**
    cp /usr/aap/mtce/db/csdbD05 /usr/aap/mtce/db/csdb05

    cp /usr/aap/mtce/db/mcddbD09 /usr/aap/mtce/db/mcddbA09
    cp /usr/aap/mtce/db/mcddbD09 /usr/aap/mtce/db/mcddb09

    cp /usr/aap/mtce/db/omdbD10 /usr/aap/mtce/db/omdbA10
    cp /usr/aap/mtce/db/omdbD10 /usr/aap/mtce/db/omdb10

    cp /usr/aap/mtce/db/scdbD04 /usr/aap/mtce/db/scdbA04
    cp /usr/aap/mtce/db/scdbD04 /usr/aap/mtce/db/scdb04

15. Did the preceding series of cp commands correct the NSPS database problem? At the *UNIX* system prompt #, do the following:

    Enter: **tail -f /usr/aap/mtce/log/LOG***
    To exit the **tail** process, enter **Ctrl-c**.

    Response: *Indicates continued NSPS database problems.*

```
2NCP TBL STATE: FAIL rollin NSPS DB
```

Note: If the preceding response line occurs twice within a 5-minute interval then the problem still exists.

16. Did the preceding response indicate continued NSPS database corruption?

    If **YES**, go to Step 18.
    If **NO**, then continue.

    Note: If Step 6 (Pre-recovery) was performed, then reboot the AAP (EAI page boot, option **53** and **y**).

17. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

18. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

Console Messages—Reason and Corrective Action

Summary: Console messages are different from AAP application software errors and update messages. As a contrast; both error messages and update messages are normally written to the log files while console messages are only displayed on the system console/printer. Additionally, both error messages and update messages have unique identification numbers while console messages do not have unique identifying numbers. Console messages may result from any of three different sources. These sources are:

- *UNIX* system kernel messages
- *UNIX* system kernel related application messages
- *UNIX* system driver messages (for example, the LANMUX driver).

These *UNIX* system console messages are not transmitted to the remote maintenance centers. Therefore, the only way that the remote centers will know about these messages is via the local work force. When a console message is reported, refer to the following multipage table for help in resolving the message. Use this table in the following manner:

a. Scan the **Console Message** column until the message type is identified.
b. Note the **Reason** for its occurrence.
c. Follow the steps in the **Action** column.

Note: If the log files are full or inaccessible—then the overflow of error messages and update messages will be output to the console/printer. The appearance of these messages should not be confused with the console messages.

Where appropriate, the console messages will be presented in the following format:

time stamp, type, description, failure path

Console Message	Reason	Action
`mh/dy/yr hh:mm:ss tz:LOGINIT ERROR: Unable to access- %s` ***Note:*** In this table the characters %s are used to represent the path of the process that failed.	The LOG process has failed to open the specified file. Messages are not being logged.	1. Check the file path and permission and correct any problems. 2. If the message reoccurs after correcting the file path and permission, contact the next level of support for assistance.

Console Message	Reason	Action
`mh/dy/yr hh:mm:ss tz:LOGEVENT ERROR: Unable to access- %s`	The LOG process has encountered a system error.	1. Check the file path and permission and correct any problems. 2. If the message reoccurs after correcting the file path and permission, contact the next level of support for assistance.
`mh/dy/yr hh:mm:ss tz:LOGUPDATE ERROR: Unable to access- %s`		
`mh/dy/yr hh:mm:ss tz:TRACEEVENT ERROR: Unable to access- %s`		
`mh/dy/yr hh:mm:ss tz:LOGINIT ERROR: Low log file system space- i-node [%d] device [%d]`	The LOG process has detected low file system space. Messages will continue to be logged until the file system runs out of space.	1. From the root login, enter the *UNIX* system command: **df -k /usr/aap/log** to check the file system space. Remove all unneeded files using the following *UNIX* system commands: **ls -l /usr/aap/log** **rm /usr/aap/log/***filename* 2. If the console message reoccurs after cleaning up the file system, contact the next level of support for assistance.

Console Message	Reason	Action
`mh/dy/yr hh:mm:ss tz:LOGINIT ERROR: Low trace file system space- i-node [%d] device [%d]`	The LOG process has detected low file system space. Messages will continue to be logged until the file system runs out of space.	1. From the Root login enter the *UNIX* system command: **df -k /usr/aap/log** to check the file system space. Remove all unneeded files using the following *UNIX* system commands: **ls -l /usr/aap/log** **rm /usr/aap/log/***filename* 2. If the console message reoccurs after cleaning up the file system, contact the next level of support for assistance.
`mh/dy/yr hh:mm:ss tz:LOGINIT ERROR: Low update file system space- i-node [%d] device [%d]`		
`mh/dy/yr hh:mm:ss tz:LOGEVENT ERROR: System low on file space.`		
`mh/dy/yr hh:mm:ss tz:TRACEEVENT ERROR: System low on file space.`		

Console Message	Reason	Action
`mh/dy/yr hh:mm:ss tz:LOGEVENT ERROR: Loginit not called yet.`	The LOG process is corrupted and not logging any messages.	1. Enter the MML command **INIT:AAP:APPL** on the maintenance Craft Shell to restart the AAP. 2. If the console message reoccurs restarting the AAP, contact the next level of support for assistance.
`mh/dy/yr hh:mm:ss tz:LOGUPDATE ERROR: Loginit not called yet.`		
`mh/dy/yr hh:mm:ss tz:TRACEEVENT ERROR: Loginit not called yet.`		
`mh/dy/yr hh:mm:ss tz:LOGEVENT ERROR: Invalid error.`		
`mh/dy/yr hh:mm:ss tz:LOGEVENT ERROR: A log event write was failed.`	The LOG process has failed to log a message.	1. Information only. No action required. 2. If the console message reoccurs, enter the MML command **INIT:AAP:APPL** on the maintenance Craft Shell to restart the AAP. 3. If the console message reoccurs after restarting the AAP, contact the next level of support for assistance.

Console Message	Reason	Action
`mh/dy/yr hh:mm:ss tz:LOGEVENT ERROR: A trace event write was failed.`	The LOG process has failed to log a message.	1. Information only. No action required. 2. If the console message reoccurs, enter the MML command **INIT:AAP:APPL** on the maintenance Craft Shell to restart the AAP. 3. If the console message reoccurs after restarting the AAP, contact the next level of support for assistance.
`mh/dy/yr hh:mm:ss tz:LOGEVENT ERROR: An update event write was failed.`		
`WARNING: rmi_open: Invalid tunable parameters`	The RMI driver tunable parameters specified in the driver Space.c file are not valid. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	Contact the next level of support for assistance.

Console Message	Reason	Action
`WARNING: rmi_log: Unable to log errors to aapadm process`	The RMI driver is unable to log messages to the AAP log files. Two problems can cause this to occur: AAPADM process not reading from its RMI stream on either the Master CS-AAP, Slave CS-AAP, or FS-AAP machines; the TLI connection is not established between the Master CS-AAP and Slave CS-AAP machines. The ''date-time'' stamp is available for this message in file **/var/adm/messages**.	If this message occurs on a FS-AAP machine: 1. Enter the MML command **INIT:AAP:AAPADM** from the Craft Shell to restart the AAPADM process on the FS-AAP machine. 2. If the problem reoccurs after restarting the AAPADM process, contact the next level of support for assistance. If this problem occurs on a Master CS-AAP or Slave CS-AAP machine: 1. Check the Display Pages for any software problems on the Master CS-AAP and Slave CS-AAP machines and correct them. 2. If no problems were found, check the Display Pages for any LAN problems on the Master CS-AAP machine and correct them. 3. If no problems were found, enter the MML command **INIT:AAP:AAPADM** from the Craft Shell to restart the AAPADM process on both the Master CS-AAP and Slave CS-AAP machines. 4. If the problem reoccurs after restarting the AAPADM process, contact the next level of support for assistance.

Console Message	Reason	Action
`WARNING: lmuxopen: Invalid tunable parameters`	Tunable parameter set incorrectly in Space.c file. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	Contact the next level of support for assistance.
`WARNING: lmuxuwmproto: dupb failed, data lost`	System error. Could not allocate a message block. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	1. Restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI Page (see TAD-101). 2. If the console message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
`WARNING: lmuxlrsrv: timeout failed, audits are disabled`	System error during call to KERNEL timeout routine. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	
`WARNING: lmuxhash: trying to hash nonexistent pds entry`	Internal LANMUX driver error, null pointer passed to hashing function. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	
`WARNING: lmuxhash: pds entry has bad pid, %d`	Internal LANMUX driver error, invalid process identifier passed to hashing function. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	

Console Message	Reason	Action
`WARNING: lmuxhashaudit: Error detected, rebuilding hash table`	LANMUX driver audit found a discrepancy in internal tables. Tables will be reconstructed. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	1. Restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI Page (see TAD-101). 2. If the console message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
`WARNING: lmux_send_update_rep: failed to allocate M_PROTO message, UPDATE_REP to SCU [0x%x] not sent`	System error. Could not allocate a message block. This error may cause the 1B to interject and take an SCU out of service or inhibit the LAN. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	
`WARNING: lmux_send_update_rep: failed to allocate M_DATA message, UPDATE_REP to SCU [0x%x] not sent`		
`WARNING: lmux_send_update_rep: dupb failed, UPDATE_REP to SCU [0x%x] not sent`		
`WARNING: lmux_send_update_cmpl: passed SCU number [0x%x] too big, using 0x%x`	Internal LANMUX driver error, invalid SCU number stored in internal table. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	

Console Message	Reason	Action
`WARNING: lmux_send_update_cmpl: failed to allocate M_PROTO message, UPDATE_CMPL to SCU [0x%x] not sent`	System error. Could not allocate a message block. SCU(s) may be in a state waiting for an UPDATE_CMPL message from the AAP, and therefore not be usable until reset. The ''date-time'' stamp is available for this message in file **/var/adm/messages**.	1. Restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI Page (see TAD-101). 2. If the console message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
`WARNING: lmux_send_update_cmpl: failed to allocate M_DATA message, UPDATE_CMPL to SCU [0x%x] not sent`		
`WARNING: lmux_send_update_cmpl: dupb failed, UPDATE_CMPL to SCU [0x%x] not sent`		

Console Message	Reason	Action
`WARNING: lmuxuwmproto: found SCU number [0x%x] too big, using 0x%x`	SCU number passed from SCU invalid. Could be corruption generated from the LAN or SCUs. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	1. Refer to TAP-158. 2. If the console message reoccurs after checking TAP-158, then refer to TAP-145. 3. If the console message reoccurs after checking TAP-145, then contact the next level of support.
`WARNING: lmux_send_update_rep: found SCU number [0x%x] too big, using 0x%x`		
`WARNING: lmuxlrmproto: Message length error detected in Ethernet packet received`	LANMUX driver has detected an Ethernet packet that may contain padded data that may cause errors in the AAP software due to wrong message lengths. Could be corruption generated from the LAN or SCUs. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	
`WARNING: lmuxlrmproto: message length received = %d`		
`WARNING: lmuxlrmproto: length stored in message = %d`		

Console Message	Reason	Action
`WARNING: lmux_addr: invalid message type received from lanadm, 0x%x`	Lanadm process sent a registration message to LANMUX driver that had an invalid type. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	1. Enter the MML command **INIT:AAP:LANADM** from the Craft Shell to restart the LANADM process. 2. If the console message reoccurs after restarting the LANADM process, contact the next level of support for assistance.
`WARNING: lmux_addr: no PIF info received from lanadm in address request message`	Lanadm process sent a registration message to LANMUX driver without any Protocol Information Field data block. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	
`WARNING: lmux_addr: too many data blocks in address request message from lanadm`	Lanadm process sent a registration message to LANMUX driver with too many Protocol Information Field data blocks. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	
`WARNING: lmux_addr: length in addr request msg from lanadm does not match data length`	Lanadm process sent a registration message to LANMUX driver with length of Protocol Information Field data different than amount of data sent. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	

Console Message	Reason	Action
`WARNING: lmux_link: invalid message type received from lanadm, 0x%x`	Lanadm process sent a LAN status message to LANMUX driver with an invalid type field. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	1. Enter the MML command **INIT:AAP:LANADM** from the Craft Shell to restart the LANADM process. 2. If the console message reoccurs after restarting the LANADM process, contact the next level of support for assistance.
`WARNING: lmux_link: invalid ACTIVE LAN controller specified in LADM_LINK_REQ from lanadm, 0x%x`	Lanadm process sent a LAN status message to LANMUX driver with an invalid active LAN field. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	

Console Message	Reason	Action
`WARNING: lmux_send_update_cmpl: No PIF, ptr NULL, UPDATE_CMPL to SCU [0x%x] not sent`	No Protocol Information Field data found to use in UPDATE_CMPL message to SCU. SCU(s) may be in a state waiting for an UPDATE_CMPL message from the AAP, and therefore not be usable until reset. The ''date-time'' stamp is available for this message in file **/var/adm/messages**.	1. Check LANADM process on the Display Page. If process is not running, enter the MML command **INIT:AAP:LANADM** from the Craft Shell to restart the LANADM process and enter the MML command **INIT:AAP:LANCMD** from the Craft Shell to restart the LANCMD process group. 2. If the console message reoccurs after restarting the processes, enter the MML command **OP:LOG** from the Craft Shell to check the log for LANADM messages. Refer to log messages for corrective action. 3. If the console message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Console Message	Reason	Action
`WARNING: lmux_send_update_cmpl: No ACTIVE LAN or no lower queues to send UPDATE_CMPL to scu 0x%x, msg deleted`	LANMUX driver has no lower STREAMs queues to send the UPDATE_CMPL messages to SCU over. SCU(s) may be in a state waiting for an UPDATE_CMPL message from the AAP, and therefore not be usable until reset. The ‘‘date-time’’ stamp is available for this message in file **/var/adm/messages**.	1. Check LANADM process on the Display Page. If process is not running, enter the MML command **INIT:AAP:LANADM** from the Craft Shell to restart the LANADM process and enter the MML command **INIT:AAP:LANCMD** from the Craft Shell to restart the LANCMD process group. 2. If the console message reoccurs after restarting the processes, enter the MML command **OP:LOG** from the Craft Shell to check the log for LANADM messages. Refer to log messages for corrective action. 3. If the console message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Console Message	Reason	Action
`WARNING: lmuxlogreq: data lost due to excessive queuing on lanadm queue`	LANMUX driver is attempting to send a log message to the Lanadm process, but due to flow control on the Lanadm STREAM, can not send or queue this message, the message is lost. The ''date-time'' stamp is available for this message in file **/var/adm/messages**.	1. Enter the MML command **INIT:AAP:LANCMD** from the Craft Shell to restart the LANADM process. 2. If the console message reoccurs after restarting the LANADM process, enter the MML command **OP:LOG** from the Craft Shell to check the log for LANADM messages. Refer to log messages for corrective action. 3. If the console message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
`NOTICE: <error message>`	*UNIX* system error message that provides information on the system status to anticipate problems before they occur.	1. Information only. No action required. 2. If the message reoccurs, contact the next level of support for assistance.
`WARNING: <error message not previously documented>`	*UNIX* system error message that indicates that the system may stop functioning if corrective action is not taken.	Contact the next level of support for assistance.

Console Message	Reason	Action
`PANIC: <error message>`	*UNIX* system error message that indicates a problem severe enough that the *UNIX* system operating system must stop.	Contact the next level of support for assistance.
`AAP Starting at <Date-Time>`	The AAP software has been started.	Information only. No action required.

`2NCP INIT STARTED [INIT LEVEL 3]`
`ROLLING IN NSPS DATABASES`
`COMPLETED ROLLIN NSPS DATABASES`
`CREATING LEVEL 1 NSPS PROCESSES`
`CREATING LEVEL 2 NSPS PROCESSES`
`CREATING LEVEL 3 NSPS PROCESSES`
`NSPS INITIALIZATION COMPLETE`
`COMPLETE NSPS INIT`
	The Maintenance software has been started.	Information only. No action required.

SCU Errors—Clearing

Summary: A Service Circuit Unit (SCU) error is the indication of a detected problem that is SCU related. The problem may be either within an SCU, or related to the Announcement Administration Processor (AAP) communicating with an SCU. Therefore, there are a group of SCU errors that are AAP exclusive, not directly related to the switch, and thus the switch side will not know of them and cannot do anything concerning them. Conversely, there are other SCU errors that are exclusively related to the SCU and the AAP cannot do anything to resolve them. Still further, there are some few SCU errors that may require a series of coordinated actions between the switch side and the AAP side. Each SCU error code is identified by a unique number. This number may be displayed in either Decimal (Dec), Hexadecimal (Hex), or both. This number serves to identify the SCU error code and to provide a quick method for locating the error code description and the recommended corrective action(s). Table A provides a numerical listing and description for the SCU error codes. Table B provides a numerical listing and the recommended corrective action(s) for each of the SCU error codes.

Note: Specific references to the SCS Maintenance document in this TAP refer to the 234-151-077AC, *Service Circuit System (SCS) Maintenance* document.

Note: Although all of the SCU error codes may, at one time or another, appear in the AAP log file, there may be many occurrences where those that are related exclusively to the SCU will not appear in this file. Thus, the AAP side may not know that they occurred.

TABLE A SCU Error Code Descriptions

Error Code ID			Code Descriptions as Listed in the AAP Log File
AAP		SCU	
Dec	Hex	Hex	
65281	0xff01	0x0501	Another order is in progress. (Only one order can be active at a time, [for example, record, retrieve, etc.])
65282	0xff02	0x0502	Process ID Mismatch. (The process ID must be the same for all orders within an order sequence, [for example, record, record data, record last.])
65283	0xff03	0x0503	Bad announcement status (for example, record: already in-use, retrieve: not recorded).
65284	0xff04	0x0504	Illegal order sequence (i.e., orders not in the expected sequence). For example, if performing a record function the sequence is: record, record data, record last.
65285	0xff05	0x0505	Parity error in moving data from LAN RAM to Table RAM.
65286	0xff06	0x0506	Error in returning Frame structures to RFA, (LAN co-processor data structure problem).
65287	0xff07	0x0507	Error in loading Transmit Buffer Descriptor, (LAN co-processor data structure problem).
65288	0xff08	0x0508	Error in setting SCB and CP (LAN co-processor data structure problem).
65289	0xff09	0x0509	Error in reading or writing the SCU disk drive.

TABLE A SCU Error Code Descriptions (Contd)

Error Code ID			Code Descriptions as Listed in the AAP Log File
AAP		SCU	
Dec	Hex	Hex	
65290	0xff0a	0x050a	Disk Offset table in Table RAM not initialized, (INIoffst data structure).
65291	0xff0b	0x050b	Illegal announcement length (< 4 blocks), (i.e., corrupt data).
65292	0xff0c	0x050c	Error in linking through Disk Link Vector Table, (data structure error).
65293	0xff0d	0x050d	Transmit (to AAP) timed out.
65294	0xff0e	0x050e	Illegal order received from AAP (i.e., bad opcode).
65295	0xff0f	0x050f	Order data range check error.
65296	0xff10	0x0510	File not found on disk (size=0) (for example, CRC and Announcement Version file.)
65298	0xff12	0x0512	Math error, overflow, divide by zero, etc.
65299	0xff13	0x0513	Error in the LAN co-processor.
65300	0xff14	0x0514	Header data mismatch (for example, announcement number). (Similar to Process ID mismatch above.)
65301	0xff15	0x0515	LAN data check-sum error.
65302	0xff16	0x0516	Disk state flag error (flag word not in proper state for recording, etc.)
65303	0xff17	0x0517	Invalid announcement number (i.e., 0, 2001-2017).
65304	0xff18	0x0518	Misc. Data Error when manipulating data structure or performing calculation.
65305	0xff19	0x0519	Error loading Free Space (FS) parameters.
65306	0xff1a	0x051a	Error loading Disk Link Vector Table (DLVT) parameters.
65307	0xff1b	0x051b	Error loading Version parameters in the Version file.
65308	0xff1c	0x051c	Error loading Status parameters in the Announcement Table.
65309	0xff1d	0x051d	SCSI ID out of range (only 0-3 is valid).
65310	0xff1e	0x051e	Disk pair number not equipped on the SCU.
65311	0xff1f	0x051f	Not enough space on the disk to perform desired length recording.
65312	0xff20	0x0520	Error during announcement data transfer to-from disk.
65314	0xff22	0x0522	Error in addressing list of free clumps in the Disk Link Vector Table (DLVT).
65316	0xff24	0x0524	Disk for Announcement Memory announcement not zero, (disk pair specified in order must be #0).
65317	0xff25	0x0525	Not enough space in Announcement Memory RAM to perform desired length recording.

TABLE A SCU Error Code Descriptions (Contd)

Error Code ID			Code Descriptions as Listed in the AAP Log File
AAP		SCU	
Dec	Hex	Hex	
65318	0xff26	0x0526	Internal Assignment mismatch. (SCU Table RAM mismatch with SCU disk.)
65319	0xff27	0x0527	External Assignment mismatch. (AAP "current" assignment value does not match "current" value in SCU table.)
65320	0xff28	0x0528	LAN transmit hardware error.
65321	0xff29	0x0529	LAN co-processor ran out of resources. (LAN co-processor data structure problem).
65326	0xff2e	0x052e	Announcement set error for Assign order. (Cannot change Assignment Table if announcement set does not support Final Handling announcements.)

TABLE B Resolving SCU Error(s)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65281	0xff01	0x0501	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	
65282	0xff02	0x0502	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	
65283	0xff03	0x0503	1. If the user attempted a **ANNC:VER** command on a nonexistent announcement, then they should retry the command on a announcement that does exist. 2. If the user attempted to **ANNC:RCD** onto an existing announcement, then they should determine if the existing announcement is wanted. If the announcement is not wanted, then it should be removed so that the desired announcement can be recorded.	
65284	0xff04	0x0504	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	
65285	0xff05	0x0505		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65285 (Contd)	0xff05	0x0505		3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.
65286	0xff06	0x0506		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65287	0xff07	0x0507		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.
65288	0xff08	0x0508		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65288 (Contd)	0xff07	0x0507		6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.
65289	0xff09	0x0509		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65289 (Contd)	0xff09	0x0509		15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document). 17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65290	0xff0a	0x050a		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.
65291	0xff0b	0x050b	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65292	0xff0c	0x050c		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document).

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65292 (Contd)	0xff0c	0x050c		17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65293	0xff0d	0x050d		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.
65294	0xff0e	0x050e		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65294 (Contd)	0xff0e	0x050e		6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.
65295	0xff0f	0x050f	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	
65296	0xff10	0x0510		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document).

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65296 (Contd)	0xff10	0x0510		11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document). 17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65298	0xff12	0x0512		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65299	0xff13	0x0513		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65300	0xff14	0x0514	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	
65301	0xff15	0x0515	1. The error message should be considered as information only. 2. User should retry the input message that resulted in this SCU error. 4. The AAP side should direct and coordinate LAN diagnostics with the switch side. See TAP-135 (LAN Hardware Faults). 5. The AAP side should request that the switch side inhibit the LAN and perform end-to-end diagnostics.	3. If this error reoccurs, then it is recommended that LAN diagnostics be performed. 6. The switch side should report their findings to the AAP and inform the AAP side whenever diagnostics are complete.
65302	0xff16	0x0516		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65302 (Contd)	0xff16	0x0516		6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document). 17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65302 (Contd)	0xff16	0x0516		24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**
65303	0xff17	0x0517	1. Is announcement number in the range of 2001 - 2017? If **YES**, select another number, then go to Step 2. If **NO**, go to Step 2. 2. User should reenter the command. 3. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 4. If error still reoccurs, then contact the next level of support.	
65304	0xff18	0x0518	1. User should reenter the command. 2. If error reoccurs, then report this to the switch side and request that they run the SCU diagnostics.	3. Switch side should coordinate the SCU diagnostic activities with the AAP side as required. 4. Is SCU problem identified and corrected? If **YES**, then go to Step 6. If **NO**, continue. 5. Contact the next level of support. 6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65305	0xff19	0x0519		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document).

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65305 (Contd)	0xff19	0x0519		17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65306	0xff1a	0x051a		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document).

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65306 (Contd)	0xff1a	0x051a		17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65307	0xff1b	0x051b		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document).

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65307 (Contd)	0xff1b	0x051b		17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65308	0xff1c	ox051c		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document).

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65308 (Contd)	0xff1c	0x051c		17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**
65309	0xff1d	0x051d	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65310	0xff1e	0x051e	1. The disk pairs could be OOS or not equipped. 2. Check the office records in order to determine if the disk pairs exist. 3. If the disk pairs do exist, then rerun the command. 4. If the command fails and the error reoccurs, then contact the next level of support.	
65311	0xff1f	0x051f	9. Determine if announcement RAM is full using the **ANNC:OP:DSKVER** command (refer to the 201-525-012AC, *AAP Input/Output Manual* for command description). If **Full**, contact AFSC for assistance. If **Not Full**, go to Step 10.	1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 10. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65312	0xff20	0x0520	1. The user should retry the command. 2. If the error reoccurs, then the AAP side should inform the switch side that we have a 65312 SCU error.	3. The AAP side should request that the switch side perform SCU diagnostics. 4. If the error reoccurs after performing the SCU diagnostics, then contact the next level of support.
65314	0xff22	0x0522		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65314 (Contd)	0xff22	0x0522		13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document). 17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65316	0xff24	0x0524	1. User should reenter the command. 2. If error reoccurs, then access the Craft Shell and enter **INIT:AAP:LANCMD** 3. If error still reoccurs, then contact the next level of support.	
65317	0xff25	0x0525	9. Determine if announcement RAM is full using the **ANNC:OP:DSKVER** command (refer to the 201-525-012AC, *AAP Input/Output Manual* for command description). If **Full**, contact AFSC for assistance. If **Not Full**, go to Step 10.	1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 10. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65318	0xff26	0x0526		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. Identify another disk pair which has identical contents. 10. Remove the newly identified SCU disk pair from service (DLP-510 in the SCS Maintenance document). 11. Power down the identified good SCU (DLP-506 in the SCS Maintenance document). 12. Remove one known good disk from the identified and powered down SCU. 13. Power down the faulty SCU (DLP-506 in the SCS Maintenance document). 14. Remove one of the disks from the suspected faulty pair. 15. Replace the suspected faulty disk with the known good disk from Step 12. 16. Power up the faulty SCU (DLP-506 in the SCS Maintenance document).

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65318 (Contd)	0xff1c	0x051c		17. Perform a disk copy from the known good disk to the suspected faulty disk (DLP-500 in the SCS Maintenance document). 18. Power down that SCU. 19. Remove the known good disk to its original location. 20. Power up the known good SCU (DLP-506 in the SCS Maintenance document). 21. Restore to service the known good SCU (DLP-524 in the SCS Maintenance document). 22. Return the suspect disk to its original location. 23. Power up the suspect SCU. 24. Perform a disk copy from the known good disk on the suspect SCU to the suspect disk (DLP-500 in the SCS Maintenance document). 25. Restore the suspect (but now fixed) SCU to service (DLP-524 in the SCS Maintenance document). 26. Contact the AFSC and request that the announcements on the suspect (but now fixed) SCU be verified. 27. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65319	0xff27	0x0527	1. The user should do a **ANNC:VER:MODE6** command in order to obtain the correct Announcement Mapping Address. 2. The user should reenter the input message (for example, ASN,.....) and determine whether the error reoccurs. 3. If the error message reoccurs, then contact the next level of support.	
65320	0xff28	0x0528		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

TABLE B Resolving SCU Errors (Contd)

Error Code ID			Error Description and Recommended Action(s)	
AAP		SCU	AAP Side Responsible	Switch Side Responsible
Dec	Hex	Hex	Recommended Corrective Action	Recommended Corrective Action
65321	0xff29	0x0529		1. Did the error result in fault recovery action to remove and diagnose the suspect SCU? If **YES**, go to Step 3. If **NO**, continue. 2. Request diagnostics of the suspect SCU with DLP-514 from the SCS Maintenance document. 3. Did diagnostics indicate faulty hardware? If **YES**, go to Step 6. If **NO**, continue. 4. Restore the suspect SCU. 5. Has the error been cleared? If **YES**, go to Step 8. If **NO**, go to Step 9. 6. Replace the indicated hardware. 7. Go to Step 4. 8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.** 9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.
65326	0xff2e	0x052e	1. This is the indication of a configuration problem between the AAP and the switch side. 2. Refer to TAP-140 to obtain service circuit type information from the unit translator. If the type is other than ‘‘0’’, go to Step 3. If type is ‘‘0’’, retry the command. 3. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.	

Error Codes—Analysis and Resolution

Summary: A system error is defined as the malfunctioning of any one of the databases, an internal software error, SCU troubles, announcement errors, and so forth. A system error is different from a user generated, or user caused, error. Each system error has a unique error code number, a unique reason for its occurrence, and a unique set of actions for resolving the error. When a system error occurs it is written to a log file along with its time stamp. The following table is a numerical listing of all system error codes, a brief description for the reason of occurrence, and the recommended steps (actions) for resolving the error. To use this table simply locate the desired error code, note its reason for occurrence, and perform the step(s) listed in the Action column.

Note: Specific references to the SCS Maintenance document in this TAP refer to the 234-151-077AC, *Service Circuit System (SCS) Maintenance* document.

Error Code Message	Reason	Action
#1100 Announcement record failed	Internal failure detected on the Master CS-AAP, this means the audio board reported a problem during the record. For the FS-AAP, this would mean that the audio data conversion had an internal error.	1. The software will recover from this error and return an error to the user. Retry the record input message. 2. If the failure persists, and the AAP is the Master CS-AAP, then refer to TAP-116 for resolving this error message. If the failure persists, and the AAP is a FS-AAP, then refer to TAP-111 for resolving this error message.
#1101 No SCUs responded	SCUs have failed to respond.	1. Enter the **OP:SCUEQP** MML command from the Craft Shell to check on the SCU status. Refer to TAP-112 for resolving/restoring any SCUs that are OOS. 2. If the output message reoccurs after checking the SCUs, enter the **OP:LOG** MML command from the Craft Shell to check for SCU or LAN messages. Refer to TAP-151 for corrective action. 3. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1102 All SCUs failed or did not respond	Same as #1101	Same as #1101
#1103 Announcement does not exist	The specified announcement number in the MML command from the Craft Shell does not exist.	1. If the SCS/SCU is not specified in the MML command from the Craft Shell, the announcement does not exist. Contact AFSC support team for assistance. 2. If the SCS/SCU is specified in the MML command from the Craft Shell, the announcement may exist on other SCUs. Enter the **ANNC:VER:MODE3** MML command from the Craft Shell to determine if this announcement exists on any other SCU. Contact AFSC support team for help.
#1104 Announcement version match error	The specified announcement version number in the MML command does not match the announcement version number in the announcement set or SCU.	Enter the **ANNC:VER:MODE3** MML command from the Craft Shell to obtain the correct announcement version number.
#1105 ISDN access error	FS-AAP only. An error or timeout occurred while trying to open, read/write, or activate the ISDN audio channel to the PRI0 board.	1. Retry the input message. 2. If the output message reoccurs, refer to TAP-111 for resolving this error message.
#1106 Audio board access error	Master CS-AAP only. An error or timeout occurred while trying to open, read/write, or send/receive command or status to the audio board.	1. If the output message happens once, it can be safely ignored. The process attempts to clean up and will fail the user's request. Retry the input message. 2. If the output message reoccurs repeatedly, refer to TAP-116 for resolving this error.

Error Code Message	Reason	Action
#1107 SCU mismatch error	Output from **ANNC:VER:MODE6.** One or more of the Announcement Mapping Addresses do not match between SCUs.	1. Enter the **ANNC:ASN:ANN** MML command from the Craft Shell to assign the correct announcement mapping address. Retry the input message. 2. If the output message reoccurs, contact the next level of support for assistance.
#1108 SCU or LAN checksum error	An SCU or LAN checksum error has occurred.	1. Retry the input message. 2. If the output message reoccurs, enter the **OP:LOG** MML command from the Craft Shell to check the log for SCU or LAN messages. Refer to TAP-151 for corrective action. 3. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1109 SCU or LAN length error	An SCU or LAN length error has occurred.	Same as #1108.
#1110 ASN invalid to this type SCU	An assign was issued to an SCU not in announcement set N. The SCUEQP (or SETEQP) database does not match the service circuit type on the 1B.	1. Contact the switch side personnel and verify the service circuit unit type with DLP-530 of the SCS Maintenance document. 2. If the output message was not resolved, contact the next level of support for assistance.
#1111 Parameter invalid	One or more of the parameters in the MML command are invalid.	Identify and correct the invalid parameter.

Error Code Message	Reason	Action
#1112 SCU or LAN protocol error	An SCU or LAN protocol error has occurred.	1. Retry the input message. 2. If the output message reoccurs, enter the **OP:LOG** MML command from the Craft Shell to check the log for SCU or LAN messages. Refer to TAP-151 for corrective action. 3. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1113 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1114 Internal software error	Same as #1113	Same as #1113
#1115 Resource busy	The resource requested by the MML command from the Craft Shell is busy.	1. Try the MML command from the Craft Shell again. 2. If the same output message occurs, enter the **OP:JOB** MML command from the Craft Shell to identify any similar job pending completion. Enter the **STOP:JOB** MML command from the Craft Shell to stop any job that may not have completed. 3. If the output message reoccurs after cleaning up the job queue, enter the **OP:LOG** MML command from the Craft Shell to check the log for SCU or LAN messages. Refer to TAP-151 for corrective action. 4. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1116 SCU time out	An SCU did not respond within the expected time.	1. Enter the **OP:UPD** MML command from the Craft Shell to check the update log for the number of the SCU that is timing out. 2. If all the SCUs are timing out, this indicates a possible LAN problem. Refer to TAP-137 for resolving this error message. If one or a few of the SCUs are timing out, this indicates these SCUs are having problems. Refer to TAP-112 for resolving any SCUs that are OOS. 3. If the output message reoccurs after resolving the SCU or LAN problem, contact the next level of support for assistance.
#1117 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1118 File access error	There is insufficient space on the AAP disk, an open of a file failed, or a file that was being removed does not exist. Some data may be lost.	1. Information only. No action required. 2. If the output message reoccurs, enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 5 Audit (file system audit). 3. If the output message reoccurs after running the Type 5 Audit, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP Applications software. 4. If the output message reoccurs after restarting the AAP Applications software, contact the next level of support for assistance.
#1119 LAN access error	A LAN access error has occurred.	1. Retry the input message. 2. If the output message reoccurs, enter the **OP:LOG** MML command from the Craft Shell to check the log for LAN messages. Refer to TAP-151 for corrective action. 3. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1120 Multiple responses from SCU	Multiple responses have been received from the same SCU or different SCUs with the same SCU number.	1. Retry the input message. 2. Enter the **OP:LOG** MML command from the Craft Shell to check the log for RMI stream messages. Refer to TAP-151 for corrective action. 3. If the output message reoccurs after correcting the log message or no log messages were identified, enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 4 Audit (database audit) to check the SCU configuration on the AAP. Correct any errors found. 4. If no AAP SCU configuration problem was found, this could be a service circuit type problem on the 1B. Refer to SCS Maintenance document to verify the service circuit type. 5. If the output message was not resolved, contact the next level of support for assistance.
#1121 RMI message invalid	An invalid message was received on the RMI stream.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for RMI stream messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1122 RMI access error	An access error was encountered on the RMI stream.	Same as #1121

Error Code Message	Reason	Action
#1123 *UNIX* system call or memory allocate error	The AAP system has encountered a *UNIX* system error.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1124 Announcement status error	The specified announcement on the SCU exists for the **ANNC:RCD:ANNSET** MML command and does not exist for the **ANNC:VER:MODE***x* MML command.	1. Check MML command arguments for possible error. 2. If no errors were found, enter the **ANNC:VER:MODE3** MML command from the Craft Shell to obtain announcement information. 3. Contact AFSC support team for assistance.
#1125 SCU reported system error	An SCU has encountered a system error.	1. Enter the **OP:UPD** MML command from the Craft Shell to check the update log for SCU messages. Refer to TAP-151 for message descriptions and actions. 2. If the output message reoccurs after applying the correction for the log message or no log messages were identified, refer to TAP-112 for resolving/restoring the SCU that is reporting the problem. 3. If the output message reoccurs after checking the SCUs, contact the next level of support.

Error Code Message	Reason	Action
#1126 PM process group target invalid	The specified System or process group in the MML command is invalid.	1. Refer to **INIT:AAP** or **STOP:AAP** MML command in the 201-525-012AC, *AAP Input/Output Manual* for valid target names. 2. If the output message was not resolved, contact the next level of support for assistance.
#1127 PM process group action invalid	The Process Manager process has received an invalid action request.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. 2. Contact the next level of support for assistance.
#1128 PM process group configuration file error	The Process Manager process has encountered a group configuration file error.	Information only. If this is in response to an **INIT:AAP:AAP** MML command from the Craft Shell, then a previous "encountered failure [result=%d] in trying to start application" log message should provide course of action to pursue. Otherwise, a previous "corruption of file [path=%s]" log message should provide course of action to pursue.
#1129 PM process group start failure	The Process Manager process has encountered a group start failure.	Information only. A previous "start of group [pgid=%s] failed due to process [pid=%d]" log message should provide course of action to pursue.
#1130 PM process group stop failure	The Process Manager has encountered a group stop failure.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. 2. Contact the next level of support for assistance.

Error Code Message	Reason	Action
#1131 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1132 SCU response error	A corrupted SCU response was received.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for SCU messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1133 Announcement versions not unique	The announcement versions of two announcements being replaced are the same.	Refer to the 201-515-014, *AAP Operations Manual* and follow the recommended steps for "Recording Announcements."
#1134 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to log messages for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1135 SCU reported disk space error	An SCU has reported a disk space error.	1. Enter the **ANNC:OP:DISKVER** MML command from the Craft Shell to check the SCU disk space. 2. Contact AFSC support team for assistance.
#1136 SCU disk not equipped	An SCU has reported a disk not equipped.	1. Check MML command arguments for possible error. 2. If no errors were found, contact 1B support team for assistance.
#1137 SCU reported announcement RAM space error	An SCU has reported an announcement RAM space error.	1. Enter the **ANNC:OP:DISKVER** MML command from the Craft Shell to check the SCU disk space. 2. Contact AFSC support team for assistance.
#1138 SCU reported announcement RAM disk assignment error	An SCU has reported an announcement RAM disk assignment error.	Contact the next level of support for assistance.
#1139 Announcement not in AA slot	An SCU has reported an announcement is not in the announcement mapping address slot.	Enter the **ANNC:VER:MODE6.** MML command from the Craft Shell to display the announcement number in the announcement mapping address. Use this information to retry the input message.
#1140 SCU LAN CRC or alignment error	The SCU LAN has reported a CRC or alignment error.	1. Retry the input message. 2. If the output message reoccurs, enter the **OP:LOG** MML command from the Craft Shell to check the log for LAN messages. Refer to TAP-151 for corrective action. 3. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1141 SCU reported disk mismatch	An SCU has reported a disk mismatch.	1. Enter the **OP:UPD** MML command from the Craft Shell to get the SCU number reporting the problem. 2. Contact 1B support team for assistance.
#1142 Database system error	One of the AAP databases has encountered a system error.	1. Retry the input message. 2. If the output message reoccurs, enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. 3. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1143 Announcement bit-by-bit comparison error	Output message results from ANNC:VER:MODE1, ANNC:VER:MODE4, or ANNC:AUD (Type 3 Audit). The announcement bit-by-bit comparison has failed. The ERROR DATA output that follows this output message, lists the announcement that has failed.	Contact AFSC support team for assistance.
#1144 Announcement file error	An announcement file has an error.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for file corruption messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1145 Value out of defined range	Output message results from ANNC:AUD (Type 4 Audit). The values in an AAP database are out of range.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1146 File removed	Output message results from ANNC:AUD (Type 5 Audit). The audit has removed one or more files.	Information only. No action required.
#1147 Database internal mismatch	Output message results from ANNC:AUD (Type 4 Audit). An AAP database has an internal mismatch error.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1148 Database key not unique	Output message results from ANNC:AUD (Type 4 Audit). An AAP database has a key that is not unique.	Same as #1147

Error Code Message	Reason	Action
#1149 Database empty	The specified database in the MML command from the Craft Shell is empty.	1. If this output message is an output message resulting from ANNC:AUD (Type 4 Audit), enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. If this output message is not an output message resulting from ANNC:AUD (Type 4 Audit), enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 4 audit and then enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1150 Database intra-attribute error	Output message results from ANNC:AUD (Type 4 Audit). An AAP database has an intra-attribute error.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1151 Low system space	Output message results from ANNC:AUD (Type 5 Audit). The file system space is low.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for system space messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1152 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1153 Internal software error	Same as #1153	Same as #1153
#1154 Undefined value	Output message results from ANNC:AUD (Type 4 Audit). The undefined value was found in an AAP database.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1155 Unexpected string	Output message resulting from ANNC:AUD (Type 4 Audit). An unexpected string was found in an AAP database.	Same as #1154
#1156 Unexpected string length	Output message resulting from ANNC:AUD (Type 4 Audit). An unexpected string length was found in an AAP database.	Same as #1154
#1157 Process not responding	Output message resulting from ANNC:AUD (Type 6 Audit). The audit did not get a response from a process.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for audit messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1158 SCU disabled	An SCU is disabled.	Information only. No action required.
#1159 SCU out of service	An SCU is out-of-service.	Same as #1158
#1160 Resource not available	The specified SCU is not enabled (ENA=0) or out-of-service (ACT=0).	1. Enter the **OP:SCUEQP** MML command from the Craft Shell to check on the SCU status. 2. If the specified SCU is not enabled, enter the **ALW:SCUEQP** MML command from the Craft Shell to allow (enable) the specified SCU. 3. If the specified SCU is OOS, refer to TAP-112. 4. If the output message reoccurs after checking the SCUs, contact the next level of support for assistance.
#1161 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1162 Internal software error	Same as #1161	Same as #1161
#1163 File system out of space	The file system is out of space.	1. Enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 5 Audit (file system audit). Enter the **OP:LOG** MML command from the Craft Shell to check the log for audit messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1164 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1165 Process abort received	An AAP process has received an abort.	Information only. No action required.
#1166 Internal software error	An internal software error has occurred in the AAP system software.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.
#1167 Internal software error	Same as #1166	Same as #1166
#1168 Internal software error	Same as #1166	Same as #1166
#1169 Internal software error	Same as $1166	Same as #1166
#1170 Internal software error	Same as #1166	Same as #1166
#1171 Internal software error	Same as #1166	Same as #1166
#1172 Database attribute name invalid	Output message results from ANNC:AUD (Type 4 Audit). An AAP database has an invalid name.	1. Enter the **OP:LOG** MML command from the Craft Shell to check the log for database messages. Refer to TAP-151 for corrective action. 2. If the output message reoccurs after correcting the log message or no log messages were identified, contact the next level of support for assistance.

Error Code Message	Reason	Action
#1173 Database attribute empty	Output message results from ANNC:AUD (Type 4 Audit). An AAP database has an empty attribute.	Same as #1172
#1174 Database tuple not found	Output message results from ANNC:AUD (Type 4 Audit). An AAP database tuple was not found.	Same as #1172
#1175 Database key empty	Output message results from ANNC:AUD (Type 4 Audit). An AAP database key is empty.	Same as #1172
#1176 Database missing	Output message results from ANNC:AUD (Type 4 Audit). An AAP database is missing.	Same as #1172
#1177 Announcement play failed	Internal Failure detected during play of announcement. On the Master CS-AAP, this means the audio board reported a problem during the play. On the FS-AAP, the audio data conversion had an internal error.	1. Retry the play input message. 2. If the failure persists, and the AAP is the Master CS-AAP, then refer to TAP-116 for resolving this error message. If the failure persists, and the AAP is a FS-AAP, then refer to TAP-111 for resolving this error message.

Log Messages—Analysis and Resolution

Summary: Log messages are somewhat similar to the 1100 series error codes. Understanding exactly what a log message is, how to analyze log messages, and how to use the output message results for resolving a particular problem is important for the maintenance of the AAP. A log message is generated and written to the log file as the result of a particular software process failing to complete properly. Each log message consists of six fields that are separated by vertical bars (|) that serve as field delimiters. Figure 1 is a descriptive example of a log message.

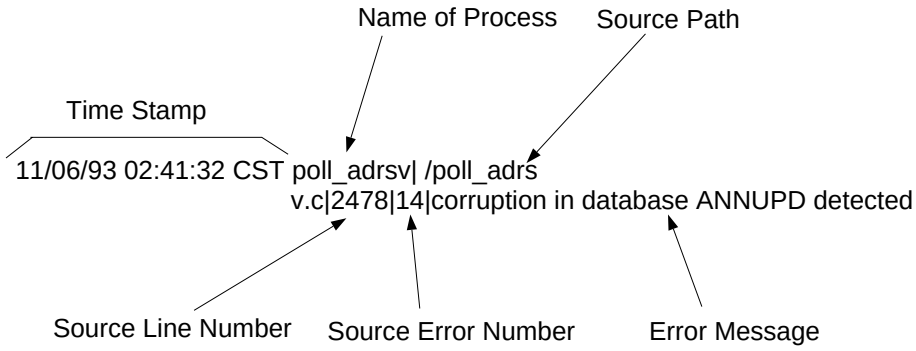


Figure 1. Example of Log Message #14

Tables A, B, C, and D contain information to further characterize the error codes. Log messages can be displayed by entering the MML command **OP:LOG** from the Craft Shell. Although each log message contains six fields, only three are normally of concern. These are the time stamp, source error number, and error message. The other fields provide information that is primarily of use to the field support organization.

The Source Error Number, that is displayed with the **OP:LOG** message, serves as a pointer into Table D. Identify the Source Error Number, locate the number in Table D, note the reason for its occurrence, and follow the steps in the ACTION column to resolve the problem. Depending on the particular log message being analyzed Table D may contain unspecified information in the form of brackets, such as, [m=0x%x, e=0x%x, i=0x%x], [opcode 0x%x], [type 0x%x], and so forth. Tables A, B, and C should be referred to in order to determine the meaning of information contained within brackets.

Note: The "[m=0x%x]" in the log message refers to the machine name. The single exception to this is "[m=0x7fff]", which always means the slave. The "[e=0x%x]" in the log message refers to the entity (process). The "[i=0x%x]" in the log message refers to the identification process. Enter the **OP:MACHINE** MML command on the User Interface to output the contents of the MACHINE database. Table A contains a list of entities for the Master CS-AAP (MCA), Slave CS-AAP (SCA), and FS-AAP (FS).

TABLE A Log Messages - Output Message Entities Description

Entity			
Decimal	**Hex**	**Name**	**Name of Process or Process Group**
1	0x01	ui	
2	0x02	ni	all ISDNs (FS only)
3	0x03	lan_monitor	LANCMD
4	0x04	aapadm	AAPADM
5	0x05	irs	AUDIT
6	0x06	play_rec	ISDN0 (FS only)/AUDIO (CS only)
7	0x07	lanadm	LANADM
10	0x0a	poll	LANCMD
11	0x0b	record	LANCMD
13	0x0d	verify_data	LANCMD
14	0x0e	verify_sme	LANCMD
16	0x10	recover	LANCMD
17	0x11	ci	CI (MCA only)
18	0x12	bcaster	BCAST (CS only)
19	0x13	msi	
20	0x14	pm	PM
21	0x15	backup	
22	0x16	IN:REMOTE:REPORT	
23	0x17	IN:REMOTE:START	
24	0x18	IN:REMOTE:STOP	
25	0x19	INIT:AAP	
26	0x1a	isdn_mon	all ISDNs
27	0x1b	mi	MI (MCA and FS only)
28	0x1c	lm_db	LANCMD

Note: The [opcode 0x%x] in the log message (from Table D) refers to the LAN message opcodes sent between the AAP and SCU. Table B contains a list of SCU opcodes.

TABLE B SCU Opcodes

Hex Value	Description
0x01	Data for RECORD
0x02	Last data for RECORD
0x03	RECORD announcement
0x04	DELETE announcement
0x05	REPLACE announcement
0x06	ASSIGN announcement to slot
0x07	Get announcement data from SCU
0x08	Get announcement statistics
0x09	Get active announcement numbers
0x0A	Get assign slot contents
0x0B	Get software version number
0x0C	Get disk version and statistics
0x0D	Check existence of SCUs
0x0E	Abort current LAN request(s)
0x0F	All updates to SCU completed
0x10	OK to continue with retrieve data
0x11	Reply to request AAP to send pending updates
0x12	Tell SCUs to stop looking for POLL
0x41	Reply to get disk version and statistics
0x42	Reply to get software version number
0x43	Reply to get announcement statistics
0x44	Reply to get active announcement numbers
0x45	Reply to get ASSIGN slot contents
0x46	Reply to check existence of SCUs
0x47	Request AAP to send pending updates
0x48	Indicate completion of ASSIGN
0x49	Indicate completion of REPLACE
0x4A	Indicate completion of DELETE
0x4B	Indicate completion of data transmission
0x4C	Indicate receipt of RECORD
0x4D	Data for retrieve
0x4E	Last data for retrieve
0x4F	OK to continue with RECORD data

Note: The [type 0x%x] in the log message (from Table D) refers to the RMI message type. Table C contains a list of message types.

TABLE C RMI Opcodes

Hex Value	Description
0x01	Request RECORD to Play_rec
0x02	Confirm RECORD from Play_rec
0x03	Request SCU RECORD to Lan_monitor
0x04	Confirm SCU RECORD from Lan_monitor
0x05	Request SCU RECORD to Record
0x06	Confirm SCU RECORD from Record
0x07	Request Annc DELETE to Lan_monitor
0x08	Confirm Annc DELETE from Lan_monitor
0x09	Request Annc DELETE to Delete
0x0A	Confirm Annc DELETE from Delete
0x0B	Request Annc REPLACE to Lan_monitor
0x0C	Confirm Annc REPLACE from Lan_monitor
0x0D	Request Annc REPLACE to Replace
0x0E	Confirm Annc REPLACE from Replace
0x0F	Request Annc ASSIGN to Lan_monitor
0x10	Confirm Annc ASSIGN from Lan_monitor
0x11	Request Annc ASSIGN to Assign
0x12	Confirm Annc ASSIGN from Assign
0x13	Request Annc VERIFY to IRS
0x14	Confirm Annc VERIFY from IRS
0x15	Request Annc VERIFY to Lan_monitor
0x16	Confirm Annc VERIFY from Lan_monitor
0x17	Request Slot MAP to VERIFY_SME
0x18	Confirm Slot MAP from VERIFY_SME
0x19	Request Audio data to VERIFY_DATA
0x1A	Confirm Audio data from VERIFY_DATA
0x1B	Request Annc stats to VERIFY_SME
0x1C	Confirm Annc stats from VERIFY_SME
0x1D	Request Annc equipage to VERIFY_SME
0x1E	Confirm Annc equipage from VERIFY_SME
0x1F	Request Audio Playback to PLAY_REC
0x20	Confirm Audio Playback from PLAY_REC
0x21	Inform SCU(s) to expect no more POLLs
0x22	Inform SCU(s) to expect no more POLLs
0x23	Request POLL to poll SCU(s)
0x24	Confirm poll of SCU(s) from POLL
0x25	Request Equipage stats
0x26	Confirm Equipage stats

TABLE C RMI Opcodes (Contd)

Hex Value	Description
0x27	Request Equipage to verify_equip
0x28	Confirm Equipage from verify_equip
0x29	Request connection to FS-AAP
0x2A	Confirm connection from Bcaster
0x2B	Request hangup to Bcaster
0x2C	Acknowledge RECORD from Play_rec, Tape recorder is ready
0x2D	Indicate hangup from Bcaster
0x2E	Request remote copy to Bcaster
0x2F	Confirm remote copy from Bcaster
0x30	Request check SCU to RECOVER
0x31	Confirm check SCU from RECOVER
0x32	Indicate command still in progress
0x33	Request ABORT command in progress
0x34	Request process to exit()
0x35	Request local Updates be sent to CI
0x36	Send one local update to CI
0x37	CI confirmation of update
0x38	Local updates process complete
0x39	Delete file on remote machine
0x3A	Set Trace level
0x3B	Provide Peg counts/statistics
0x3C	Respond with process specific stats
0x3D	Log request from rmi driver to aapadm
0x3E	Software restart of process/group/appl
0x3F	Software restart completed with result
0x40	Software stop of process/group/appl
0x41	Software stop completed with result
0x42	POLL requested by UI, poll SCU(s)
0x43	Confirm POLL requested by UI
0x44	Audit command request to IRS
0x45	Audit command confirmation sent from IRS
0x46	Measurement Reports to lan_monitor
0x47	Measurement Reports from lan_monitor
0x48	Indicate database update (broadcast)
0x49	Database update from UI to UI
0x4A	Message to MSI for Ind Status update, Alarms
0x4B	Message From MSI requesting Ind status
0x4C	Autonomous msg from Lan_monitor to UI/MI
0x4D	Report LAN status indication to Lan_adm

TABLE C RMI Opcodes (Contd)

Hex Value	Description
0x4E	Software restart of process/group/appl
0x4F	Software restart completed with result
0x50	Database update request from Lan_monitor
0x51	Database update confirm from Lm_db
0x52	CI poll for bcaster registration
0x53	CI register
0x54	CI unregister
0x55	Slave machine up
0x56	Slave machine down
0x57	Output isdn status
0x58	Output bcaster status

Important Definition

Reoccurs: When the word "reoccurs" appears for the first time in the ACTION text; action should be taken if the error message occurred more than twice in a one hour period. When the word "reoccurs" appears for the second time (or more) in the ACTION text; action should be taken immediately.

Strongly Suggested Action

Monitor Display Page 119 (Operational Software Status Summary) after an **INIT:AAP** MML command from the Craft Shell is entered to ensure the software has started and remains operational.

TABLE D LOG Messages

#	Log Message	Process - Reason	Action
1	`Initialization of RMI stream failed`	PM - This process was unable to open the RMI stream.	1. Information only. No action required. 2. If the log message reoccurs, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 3. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
		AAPADM - This process was not able to modify the configuration of the RMI stream. Other processes - This process was unable to open the RMI stream.	1. Enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 2. If the log message reoccurs after restarting the AAP, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 3. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
2	`Access of RMI stream failed [ret %d, errno %d]`	CI, LANADM, or VERIFY_DATA - This process has failed on some access to RMI stream (during sending or receiving of messages). Message to/from RMI could be lost. This recovery will be automatic. Other processes - This process was unable to either send or receive a message on the RMI stream. Actions should be taken if this error reoccurs a lot.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 3. If the log message reoccurs after restarting the AAP, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 4. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
3	`Invalid message [type 0x%x] received from process [m=0x%x, e=0x%x, i=0x%x] on RMI stream`	CI - This process received an RMI message with a size different than that expected for the found type of the message (for example, Kill_req message received is a different size or corrupted).	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 3. If the log message reoccurs after restarting the AAP, contact the next level of support for assistance.
		LANADM - This process received a message that is larger than the maximum RMI message allowed on the RMI stream, either in control or data portion.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
3	(Contd)	VERIFY_DATA - This process received an RMI message with a size different than that expected for the type of the message found (for example, a Kill_req message was received that is not the size of a Kill_req message, either too big or too small). Other processes - The message received on the RMI stream was invalid.	3. If the log message reoccurs after restarting AAP, contact the next level of support for assistance.
4	`Unexpected message [type 0x%x] received from process [m=0x%x, e=0x%x, i=0x%x] on RMI stream`	CI - This process received RMI message that caused an out-of-state case, that was of unexpected type for request (or part of request) currently being worked on, that was not from process expected, that has invalid/unknown *mode* for a **Verify_cnf** message, or that has invalid/unknown *type* for a **Lupdate_cnf** message. Message will be ignored. Other processes - This process was unable to either send or receive a message on the LAN stream.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 3. If the log message reoccurs after restarting the AAP, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
5	`Initialization of LAN stream failed`	LANADM - This process received an invalid message from the LAN driver during initialization.	1. Refer to TAP-135 for resolving any LAN problems. 2. If the log message reoccurs after resolving any LAN problems, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 3. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
		Other processes - This process was unable to open the LAN stream.	1. Enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 2. If the log message reoccurs after restarting the AAP, contact the next level of support for assistance.
6	`Access of LAN stream failed [ret %d, errno %d]`	LANADM - This process has failed on some access to LAN stream (could be initial open, or during sending or receiving of messages). Message to/from LANMUX driver could be lost. This recovery will be automatic. VERIFY_DATA - This process has failed on some access to LAN stream (during sending or receiving of messages). Message to/from SCU could be lost. This recovery will be automatic. Other processes - This process was unable to either send or receive a message on the LAN stream.	1. Information only. No action required. 2. Enter the **INIT:AAP:LANADM** MML command from the Craft Shell to restart the LANADM process. 3. If the log message reoccurs after restarting the LANADM process, enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. 4. If the log message reoccurs after restarting the LANCMD process group, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 5. If the log message reoccurs after restarting *UNIX* system, refer to TAP-158 for resolving this error message. 6. If the log message reoccurs after checking the SCU LAN, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
7	`Invalid message [o=0x%x,r=0x%x, p=0x%x] received from SCU [0x%2x] on LAN stream`	LANADM - This process received a message that was larger than the maximum LAN message allowed on the LAN stream, either in control or data portion. VERIFY_DATA - This process received a message from the LAN with an unexpected number of bytes (i.e., RETRIEVEDATA not size of RETRIEVEDATA [should always be full], or RETRIEVELAST not size of RETRIEVELAST [should always be full]).	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:process group** MML command from the Craft Shell for the specified process group. 3. If the log message reoccurs, refer to TAP-158 for resolving this error message. 4. If the log message reoccurs after checking the SCU LAN, refer to TAP-145 for resolving this error message. 5. If the log message reoccurs after checking the SCUs, contact the next level of support.
		Other processes - This process received an invalid message on the LAN stream.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
8	`Unexpected message [o=0x%x,r=0x%x, p=0x%x] received from SCU [0x%02x] on LAN stream`	VERIFY_DATA, RECORD, VERIFY_SME, POLL_ADRSV or RECOVER - An unexpected message was received on the LAN stream.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-145 for resolving this error message. 3. If the log message reoccurs after checking the SCUs, enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. 4. If the log message reoccurs after restarting the LANCMD process group, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
8	(Contd)		
		LANADM - This process received a high priority message from the LAN stream, or a message with an unknown type. Message will be ignored.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. 3. If the log message reoccurs after restarting the LANCMD process group, enter the **INIT:AAP:LANADM** MML command from the Craft Shell to restart the LANADM process. 4. If the log message reoccurs after restarting the LANADM process, contact the next level of support for assistance.
		LAN_MONITOR - This process receives all messages that are not destined for a current LAN command. This log could be the result of a LAN command exiting before receiving a reply or a message from the SCU that was not a reply to a request. The only message that is not expected and not a reply is an SCU Poll Timeout message, indicating that the SCU failed to receive a heartbeat message. Note that the SCU will probably interject on this message.	1. If the SCU interjects on the 1B or ‘‘r=0x21’’, enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. Refer to TAP-145 to bring any SCUs in service. 2. If the log message reoccurs after checking the SCUs, contact the next level of support.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
9	`Duplicate message received from SCU [0x%02x] on LAN stream`	A duplicate response was received from an SCU.	1. Information only. No action required. 2. If the log message reoccurs consistently, this could be a SCU addressing problem on the 1B. Refer to the 234-151-077AC, *Service Circuit System (SCS) Maintenance* document for resolving this error message.
10	`Initiali-zation of TLI stream failed`	This process was not able to access the transport driver through the TLI library interface.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-157 to resolve this error message. Also check if Slave CS-AAP machine is up. 3. If the log message reoccurs after checking the AAP LAN, enter **INIT:AAP:AAPADM** MML command from the Craft Shell to restart the AAPADM process group on both the Master CS-AAP and Slave CS-AAP machines. 4. If the log message reoccurs and the Slave CS-AAP machine has failed, enter **INIT:AAP:AAPADM** MML command from the Craft Shell to restart the AAPADM process group on Slave CS-AAP machine. If the log message reoccurs after restarting the AAPADM process group on the Master CS-AAP machine, on the Slave CS-AAP machine enter **INIT:AAP:AAP.** If the log message reoccurs after restarting the AAP system on the Slave CS-AAP machine, on the Slave CS-AAP machine enter the MML command from the Craft Shell to restart the AAP. Then restart *UNIX* system software on the Slave CS-AAP machine by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 5. If the log message reoccurs, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
11	`Access of TLI stream failed`	This process has detected that the TLI connection between the Master CS-AAP and Slave CS-AAP machines has failed. In most cases, no corrective action is required as these processes attempt to re-establish the connection. If the condition persists, this could indicate a hardware or software failure and the following actions should be taken.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-157 for resolving this error message. Also check if Slave CS-AAP machine is up. 3. If the log message reoccurs after checking the AAP LAN, enter the **INIT:AAP:AAPADM** MML command from the Craft Shell to restart the AAPADM process group on both the Master CS-AAP and Slave CS-AAP machines. 4. If the log message reoccurs and the Slave CS-AAP machine has failed, enter the **INIT:AAP:AAPADM** MML command from the Craft Shell to restart the AAPADM process group on Slave CS-AAP machine. If the log message reoccurs after restarting the AAPADM process group on the Master CS-AAP machine, on the Slave CS-AAP machine enter the **INIT:AAP:AAP** If the log message reoccurs after restarting the AAP system on the Slave CS-AAP machine, on the Slave CS-AAP machine enter the MML command from the Craft Shell to restart the AAP. Then restart *UNIX* system software on the Slave CS-AAP machine by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 5. If the log message reoccurs, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
12	`Timeout occurred while waiting for a response from all requested SCUs`	No response was received from any requested SCU within the expected time. Possible reasons for this error are LAN and SCU problems.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-158 for resolving this error message. 3. If the log message reoccurs after checking the SCU LAN, refer to TAP-145 for resolving this error message. 4. If the log message reoccurs after checking the SCUs, contact the next level of support. 5. If the log message reoccurs after resolving the SCU problem, contact the next level of support for assistance.
13	`Access of database [%s] failed`	The specified database has encountered an open or access error.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance. The description file for the specified database is missing or corrupted and can be restored via CFT BWM.
14	`Corruption in database [%s] detected`	The specified database is corrupted.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
15	`Access of file [%s] failed [errno %d]`	There is insufficient space on the disk, an open of a file failed, or a file that was being removed does not exist. Some data may be lost.	1. Information only. No action required. 2. If the log message reoccurs on the same file, enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 5 Audit (file system audit). 3. If the log message reoccurs on the same file after running the Type 5 Audit, enter the **INIT:AAP:AUDIT** MML command from the Craft Shell to restart the AUDIT process group. 4. If the log message reoccurs on the same file after restarting the AAP, contact the next level of support for assistance.
16	`File system [%s] out of space [errno %d]`	There is insufficient space on the disk. A write to a file failed.	1. Enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 5 Audit (file system audit). 2. If the log message reoccurs after running the Type 5 Audit, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. Enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 5 Audit (file system audit). 3. If the log message reoccurs after restarting the AAP, contact the next level of support for assistance.
17	`Kill request received`	PM - This process has received a kill and it will be ignored. Other processes - This process has received a request to exit.	Information only. No action required.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
18	`Abort request received`	LANADM, CI, or PM - This process has received an abort and it will be ignored. Other processes - This process has received an abort request to abort the current command or task.	Information only. No action required.
19	`Trace request received for trace level [0x%x]`	This process has received a trace request.	Information only. No action required.
20	`Poll stop request received`	The AAP software will not be sending poll requests to the SCUs for a while. This tells the SCUs not to take themselves out-of-service.	Information only. No action required.
21	`Unexpected signal [%d] received`	Too many unexpected signals received. The process will clean up and restart.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
22	`Access of AUDIO driver failed [errno %d]`	Master CS-AAP only. An error or timeout occurred while trying to open, read/write, or send/receive command or status to the audio board.	1. If the log message happens once, it can be safely ignored. The process attempts to clean up and will fail the user's request. Retry the input message. 2. If the log message reoccurs repeatedly, refer to TAP-153 for resolving this error message.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
23	`Access of ISDN driver failed [errno %d]`	This process has failed to communicate with the ISDN call-control application program or driver. Examples are **putmsg** or **getmsg** failures on the public FIFO, the private FIFOs or the B-channel device driver, or timeout waiting for response from daemon, etc.	1. Refer to TAP-146 for resolving this error message.
24	`Failure detected while recording announcement`	Internal Failure detected during record of announcement. On the Master CS-AAP, this means the audio board reported a problem during the record. On the FS-AAP, the audio data conversion had an internal error.	1. The software will recover from this error and return an error to the user. Retry the record input message. 2. On the Master CS-AAP, if the failure persists, refer to TAP-153 for resolving this error message. On the FS-AAP, if the failure persists, refer to TAP-156 to resolve the error.
25	`Failure detected while playing announcement`	Internal Failure detected during play of announcement. On the Master CS-AAP, this means the audio board reported a problem during the play. On the FS-AAP, the audio data conversion had an internal error.	1. The software will recover from this error and return an error to the user. Retry the play input message. 2. On the Master CS-AAP, if the failure persists, refer to TAP-153 for resolving this error message. On the FS-AAP, if the failure persists, refer to TAP-156 for resolving this error message.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
26	`Internal software failure detected`	This process has detected an internal software failure. These messages are intended to be warnings where the component will take the appropriate recovery action, either to exit and allow the program manager to restart the command or just continuing for less serious problems.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
27	`Database [%s] contains too many records`	LAN_MONITOR - This process has detected more announcement sets configured than what are supported. The maximum number of supported announcement sets is eight.	1. Enter the **RC:SETEQP:UPD=DLT** MML command from the Craft Shell to delete the additional announcements. Retry the input message. 2. If the log message reoccurs, contact the next level of support for assistance.
		Other Processes - This process has detected that the Slave CS-AAP database has too many entries. There should only be one entry for each Slave CS-AAP machine at the Central Site.	1. Enter the **STOP:AAP:AAPADM** MML command from the Craft Shell on both the Master CS-AAP and Slave CS-AAP machines to stop the AAPADM process group. Enter the **CLR:SLAVE** MML command from the Craft Shell on the Master CS-AAP to restore the initial attribute values. Enter the **INIT:AAP:AAPADM** MML command from the Craft Shell on both the Master CS-AAP and Slave CS-AAP machines to restart the AAPADM process group. 2. If the log message reoccurs, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
28	`Database [%s] missing records`	AAPADM - This process has detected that the Slave CS-AAP database does not have any entries. There should be at least one entry for a Slave CS-AAP machine.	1. Enter the **STOP:AAP:AAPADM** MML command from the Craft Shell on both the Master CS-AAP and Slave CS-AAP machines to stop the AAPADM process group. Enter the **CLR:SLAVE** MML command from the Craft Shell on the Master CS-AAP to restore the initial attribute values. Enter the **INIT:AAP:AAPADM** MML command from the Craft Shell on both the Master CS-AAP and Slave CS-AAP machines to restart the AAPADM process group. 2. If the log message reoccurs, contact the next level of support for assistance.
29	`Access of stream failed [errno %d]`	CI - This process has detected a fatal error on either RMI or LAN stream. CI will exit and be restarted. CAUCS request/response may not be completed or may be lost. LANADM and VERIFY_DATA - This process has detected a fatal error on either RMI or CAUCS stream. The process will exit and be restarted. Other processes - This process was unable to receive a message on either the RMI or LAN stream.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 3. If the log message reoccurs after restarting the AAP, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 4. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
30	`Database [%s] attribute [%s] value [%s] on the key [%s] out of range`	CI - The attribute in the FSITE database has out-of-range value. Either ''machine'' attribute is out of range, or length of ISDN phone number (primary or secondary) is too long. The FS-AAP with the bad information will not be included in CI list of FS-AAP, and therefore will not be used for any requests from CAUCS (i.e., this is a serious error). AUDIT - Type 4 Audit output (database audit). The specified attribute of a tuple in a database is out of range.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.
		LAN_MONITOR or AAPADM - This process has detected corruption in the TLI address attribute of the Slave CS-AAP database.	1. Enter the **STOP:AAP:AAPADM** MML command from the Craft Shell on both the Master CS-AAP and Slave CS-AAP machines to stop the AAPADM process group. Enter the **CLR:SLAVE** MML command from the Craft Shell on the Master CS-AAP to restore the initial attribute values. Enter the **INIT:AAP:AAPADM** MML command from the Craft Shell on both the Master CS-AAP and Slave CS-AAP machines to restart the AAPADM process group. 2. If the log message reoccurs, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
31	`SCU failed request [result failing code (for example, 65281), opcode 0x%x]`	All requested SCUs have responded with a failure condition.	1. Enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. 2. If the log message reoccurs, refer to TAP-145 for resolving this error message. 3. If the log message reoccurs after checking the SCUs, contact the next level of support.
32	`Initialization of TTY stream failed [ret %d, errno %d]`	This process was unable to open the TTY stream.	1. Information only. No action required. 2. If the log message reoccurs, enter the **LOGOUT** MML command from the Craft Shell to exit the Craft Shell. Then log into the Craft Shell. 3. If the log message reoccurs, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 4. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
33	`Access of TTY stream failed [ret %d, errno %d]`	This process was unable to either send or receive a message on the TTY stream.	1. Enter the **LOGOUT** MML command from the Craft Shell to exit the Craft Shell. Then log into the Craft Shell. 2. If the log message reoccurs, then restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 3. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
34	`Unknown pid in message received by LAN driver [o=0x%x,r=0x%x, p=0x%x] from SCU [0x%x]`	This process received a message from the LAN stream that had unknown pid.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. 3. If the log message reoccurs after restarting the LANCMD process group refer to TAP-158 for resolving this error message. 4. If the log message reoccurs after checking the SCU LAN, refer to TAP-145 for resolving this error message. 5. If the log message reoccurs after checking the SCUs, contact the next level of support.
35	`Unknown message type [0x%x] in message received by LAN driver [o=0x%x,r=0x%x, p=0x%x] from SCU [0x%x]`	This process received a high priority message from the LAN stream, or a message with an unknown type. Message will be ignored.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:LANADM** MML command from the Craft Shell to restart the LANADM process. 3. If the log message reoccurs after restarting the LANADM process, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 4. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
36	`Message dropped by LAN driver due to upper read queue overflow [o=0x%x, r=0x%x, p=0x%x, SCU=0x%x]`	This process received a message from the LAN stream that had the message type set to ELAN_RQ_FULL, indicating that the LAN driver received a message from its lower stream (i.e., the Ethernet driver) and the process to which this message is addressed has flow control exerted on its stream queue. The message will be discarded, as there is no place to queue the message for further processing. This would usually happen if a process is receiving many messages from the SCU LAN, but is not reading them from its queue.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. 3. If the log message reoccurs after restarting the LANCMD process group, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 4. If the log message reoccurs after restarting AAP, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 5. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
37	`Audits disabled in RMI driver`	The RMI driver software data structure audit could not be scheduled due to a kernel problem. The impact is that audits of the RMI software data structures are not being run. Until this problem is corrected there is a risk that data structure corruption that is normally recovered from will cause other AAP application problems.	1. Restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 2 If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
38	`Internal data structure corruption detected in RMI driver`	The RMI driver software data structure audit has detected corruption in the internal data structures of the RMI driver. The driver will attempt to restore the data structures. It is possible that the driver could kill an application process while recovering from this failure.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
39	`Bad sequence number [%d] received from LAN, expecting [%d]`	This process has received a sequence number from an SCU that was not expected. Warning only, request will continue with information passed. Final checksum of data should fail request, if data passed is, in fact, bad, or if a LAN packet was lost.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-158 for resolving this error message. 3. If the log message reoccurs after checking the SCU LAN, refer to TAP-145 for resolving this error message. 4. If the log message reoccurs after checking the SCUs, contact the next level of support.
40	`Corrupted reply message [o=0x%x, r=0x%x, p=0x%x] received from SCU [0x%2x] on LAN stream`	The data in the message is incorrect and the data stored in the SCU is probably corrupt. The data abbreviations contained in the message are ‘‘o’’ (opcode), ‘‘r’’ (return code or pad), and ‘‘p’’ (process id).	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-158 for resolving this error message. 3. If the log message reoccurs after checking the SCU LAN, refer to TAP-145 for resolving this error message. 4. If the log message reoccurs after checking the SCUs, contact the next level of support.
41	`Internal sanity timer expired`	A LAN command did not complete a task within the allotted time. LAN_MONITOR will fail the request and kill and restart the LAN command.	Information only. No action required.
42	`Kill request sent to process [m=0x%x, e=0x%x, i=0x%x]`	A kill request was sent to a process.	Information only. No action required.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
43	`System error detected`	A system error has occurred. Could be allocation of memory failed, attempt to access allocated memory fails, size of allocated memory not equal to (less than) requested, or attempt to send a message has failed.	1. Information only. No action required. 2. If the log message reoccurs, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (see TAD-101). 3. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
44	`Error code [0x%x] received from SCU [0x%x]`	The SCU sent an error code to the AAP.	Refer to TAP-149 for resolving this error message.
45	`Software_restart received for [pgid=%s]`	This process has received a restart request. The message is being handled.	Information only. No action required.
46	`Software_stop received for [pgid=%s]`	This process has received a stop request. The message is being handled.	Information only. No action required.
47	`Exiting due to restart on application`	The process is exiting to restart the AAP software.	Information only. No action required.
48	`Unexpected death of process [pid=%d] [stat_loc=%d]`	This process has detected that an AAP process has died unexpectedly. An attempt will be made to restart the process.	Information only. No action required.
49	`Making attempt to restart dead process [pid=%d] [path=%s]`	This process is attempting to restart an AAP process that has died.	Information only. No action required.
50	`Restart process group due to restart of dead process [pgid=%s]`	This process is attempting to restart an AAP process that has died and requires the process group containing this process to be restarted as well.	Information only. No action required.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
51	`Failed to cause death of process; giving up [pid=%d]`	This process has given up trying to cause the death of another software component.	Information only. No action required.
52	`Restart attempt on process [pid=%d] completed [result=%d]`	Results of an attempt to restart an AAP process that has died.	1. Information only. No action required. 2. If result is not equal to zero, check the log for previous messages that may resolve why this process has failed to start. Then correct the problem.
53	`Software_restart request completed [result=%d] on [pgid=%s]`	Posting results of a request for a software restart due to a manual request or hardware up/down.	Information only. No action required.
54	`Software_stop request completed [result=%d] on [pgid=%s]`	Posting results of a request for a software stop due to a manual request or hardware up/down.	Information only. No action required.
55	`Unrecognizable action [action=%d]`	This process has encountered an unrecognizable action value.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
56	`Corruption of file [%s]`	During an audit a corrupted audio file was accessed.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. 3. If the log message reoccurs after restarting the LANCMD process group, contact the next level of support for assistance.
		PM - This process has encountered a problem with the contents of the specified configuration file.	Contact the next level of support for assistance. Configuration files can be restored via CFT BWM.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
57	`Start of group [pgid=%s] failed due to process [pid=%d]`	This process has attempted to start a process group and has failed. All the processes within the process group that had started are stopped. Either notification of the failure will be sent to the requester of the operation or another attempt will be made.	Information only. A previous "Attempted to start process [path=%s] and exec/system call failed [errno=%d]" log message should provide course of action to pursue.
58	`Starting the application [aid=%s]`	This process has begun running and will begin to start the AAP system software.	Information only. No action required.
59	`Encountered failure [result=%d] in trying to start application`	This process has failed in attempting to start up the AAP operational software. Any AAP operational software will be stopped and an attempt will again be made to start up the AAP operational software.	If the ‘‘result=-3’’ then follow these actions: 1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AAP** MML command on the Craft Shell interface to restart the AAP operational software. 3. If the log message reoccurs after restarting the AAP operational software, restart *UNIX* software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (see TAD-101). 4. If the log message reoccurs after restarting the *UNIX* system, contact the next level of support for assistance. If the ‘‘result=-4’’ then follow these actions. 1. A previous "starting the application [aid=%s]" log message should provide "AAP" as the application name.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
59	(Contd)		2. If "AAP" is provided as the application name then a previous "corruption of file [%s]" log message should provide course of action to pursue. 3. Contact the next level of support for assistance. The /etc/inittab file needs to be restored. 4. Enter the **INIT:AAP:AAP** MML command on the Craft Shell interface to restart the AAP operational software. 5. If the log message reoccurs after restoring the inittab file and restarting the AAP operational software, contact the next level of support for assistance. If the ‘‘result=-6’’ then follow these actions: 1. Information only. A previous "attempted to start process [path=%s] and exec/system call failed [errno=%d]" log message should provide course of action to pursue. If the ‘‘result=-9’’ or ‘‘result=-10’’ then follow these actions: 1. Information only. A previous "corruption of file [%s]" log message should provide course of action to pursue.
60	`Attempted to start process [path=%s] and exec/system call failed [errno=%d]`	Process attempted to run (i.e., **exec/system/fork**) a process and failed.	1. Information only. No action required. 2. Enter the **INIT:AAP:APPL** MML input message on the maintenance Craft Shell to restart the AAP. 3. If the log message reoccurs after restarting the AAP, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
61	`Sent a sig_kill to process [path=%s] [pid=%d]`	This process has sent a kill signal to an AAP process which has not responded to a kill request previously sent.	Information only. No action required.
62	`Exceeded limit on restart attempts for process [path=%s] [pid=%d]`	The specified AAP software component has exceeded its allowed number of restarts within a specified period of time. Another set of attempts will be at a later time, but the component will not be running in the meantime.	1. Check the log for previous messages that may resolve why this process is stopping. Then correct the problem. 2. If the log message reoccurs, enter the **INIT:AAP:process group** MML command from the Craft Shell for the process group containing the defunct process. This will cause another set of attempts to restart the software component in trouble. 3. If the log message reoccurs after restarting the process group, contact the next level of support for assistance.
63	`Sent a kill_req to process [path=%s] [pid=%d]`	This process has sent a kill request to an AAP process.	Information only. No action required.
64	`The audio data file [%s] is different from the data file [%s]`	Type 3 Audit output (bit by bit audio data audit). The announcement bit by bit comparison has failed.	Contact AFSC support team for assistance. Announcements 2000-2018 require special handling.
65	`Database [%s] has a bad attribute name [%s]`	The description file for the specified database is missing or corrupted and can be restored via CFT BWM.	Contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
66	`Database [%s] attribute [%s] value [%s] on the key [%s] inconsistent with database [%s]`	Type 4 Audit output (database audit). The specified attribute of a tuple in a database is not consistent with another database.	1. If the first database in the log message is SCUEQP, the attribute is ANNSET, and the second database is SETEQP, enter the **RC:SCUEQP:UPD=CHG** MML command from the Craft Shell to change the ANNSET in the SCUEQP to the valid announcement set in the SETEQP database or enter the **RC:SETEQP:UPD={CHG|ADD}** MML command from the Craft Shell to change or add a new announcement set to the SETEQP database. 2. If the log message reoccurs, contact the next level of support for assistance.
67	`Database [%s] not unique in attribute [%s] value [%s] on the key [%s]`	CI - First case; a CAUCS request was sent with duplicate TAG field (same as one already in database). Second case; a CAUCS request was trying to abort a request, but TAG for request is found more than once in database.	1. In the first case, this is information only. No action required. 2. In the second case, the request will be aborted, but there is indication of database corruption, so the CAUCS database should be looked at or just cleared. 3. If the log message reoccurs, enter the **CLR:CAUCS** MML command from the Craft Shell to clear the CAUCS database. 4. If the log message reoccurs, contact AFSC support team for assistance. 5. If AFSC can not resolve the problem, contact the next level of support for assistance.
		Type 4 Audit output (database audit). The specified database has two or more tuples that have the same key or where the contents of two tuples are the same.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
68	`Database [%s] has no tuple`	Type 4 Audit output (database audit). The specified database is empty and contains no tuples.	1. If the specified database is MACHINE, SCUEQP, SETEQP, AUDIT, FSITE, or SLAVE, enter the **CLR:database** MML command from the Craft Shell to clear the specified database. Then enter the **RC:database:UPD={ADD|CHG|DLT}** MML command from the Craft Shell to set the appropriate Office Profile values. Then enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 4 Audit (database audit). 2. If the log message reoccurs, contact the next level of support for assistance.
69	`Database [%s] attribute [%s] value [%s] inconsistent with attribute [%s] value [%s] on the key [%s]`	Type 4 Audit output (database audit). The specified attribute values of a tuple in a database are inconsistent.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.
70	`WARNING: file system [%s] now only has [%d] free blocks`	The specified file system is getting low on free blocks.	Enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 5 Audit (file system audit).
71	`Audit event list missing audit id [%d]`	Internal audit software failure. Internal audit table has one less entry than AUDIT database. Missing entry has been added.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AUDIT** MML command from the Craft Shell to restart the AUDIT process. 3. If the log message reoccurs after restarting the AUDIT process, contact the next level of support for assistance.
72	`Inconsistent attribute [%s] value: Audit event list has [%s] database [%s] has [%s] on the key [%s]`	Internal audit software failure. The specified attribute in the internal audit table is inconsistent with AUDIT database. Inconsistent attribute has been changed.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AUDIT** MML command from the Craft Shell to restart the AUDIT process. 3. If the log message reoccurs after restarting the AUDIT process, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
73	`Audit key [%d] start`	The specified audit has started.	Information only. No action required.
74	`Audit key [%d] end`	The specified audit has completed.	Information only. No action required.
75	`Monitor process for audit key [%d] stop`	Type 6 Audit output (process audit). The specified audit key was stopped or cleared before it completed. The log message, ''Invalid message [0x%x] received from process [m=0x%x, e=0x%x, i=0x%x] on RMI stream'', may be present in the log as a result of the above log message.	Information only. No action required.
76	`Audit key [%d] error type [%d] and code [%d] received`	An error was encountered by the specified audit.	Use "code" number in the log message to find REASON and ACTION in the Output Message Results table.
77	`Audit key [%d] found no response from process [m=0x%x, e=0x%x, i=0x%x]`	Type 6 Audit output (process audit). The specified audit did not get a response from any process except "e=0x14" (PM).	1. Enter the **INIT:AAP:process group** MML command from the Craft Shell to restart the process group that did not respond. Then enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 6 Audit (process audit). 2. If the log message reoccurs after running Type 6 Audit, enter the **INIT:AAP:AUDIT** MML command from the Craft Shell to restart the AUDIT process. Then enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 6 Audit (process audit).

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
77	(Contd)		3. If the log message reoccurs after running Type 6 Audit, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. Then enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 6 Audit (process audit). 4. If the log message reoccurs after running Type 6 Audit, contact the next level of support for assistance.
		Type 6 Audit output (process audit). The specified audit did not get a response from process "e=0x14" (PM).	1. While logged in as "root", determine the PM process ID by entering the input command **ps -e**. 2. Use "root" login to stop the PM process by entering the input command **kill -9** *pm_process_id*. ***Caution***: Be careful to kill the correct process. The PM process is not owned by **init**. The **ppid** should not be ‘‘1’’. 3. If the log message reoccurs after restarting pm, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 4. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
78	`Attempt to activate an active audit key [%d]`	An attempt was made to activate the specified audit in the AUDIT database that was active.	1. Information only. No action required. 2. If the log message reoccurs and if the specified audit in the AUDIT database is disabled (ENA = 0) and activated (ENA = 1) (use **OP:AUDIT** MML command from the Craft Shell to output the AUDIT database), enter the **RC:AUDIT:UPD=DLT** MML command from the Craft Shell to delete the corrupted tuple. Then enter the **RC:AUDIT:UPD=ADD** MML command from the Craft Shell to add the correct tuple. 3. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
79	`Database [%s] attribute [%s] on the key [%s] has an empty value`	CI - The specified attribute in a database is empty and should contain a valid value. CAUCS request will be lost or failed. Type 4 Audit output (database audit). The specified attribute in a database is empty and must contain a valid value.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.
80	`Database [%s] attribute [%s] value [%s] key [%s] is different from the defined one`	Type 4 Audit output (database audit). The specified attribute of a tuple in a database has an unexpected string.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.
81	`Database [%s] attribute [%s] value [%s] key [%s] contains unexpected string character`	Type 4 Audit output (database audit). The specified attribute of a tuple in a database has an unexpected string character.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.
82	`Database [%s] attribute [%s] value [%s] key [%s] contains unexpected length of string character`	Type 4 Audit output (database audit). The specified attribute of a tuple in a database has a bad string character length.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
83	`Audit has removed file [%s]`	Type 5 Audit output (file system audit). The specified file has been removed.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
84	`Deferred update for SCU [0x%x] has failed`	A deferred update could not be performed. This could be because the SCU went down, the SCU was disabled for updates at the AAP, or an error occurred while trying to apply the update. Other log messages previous to this may give a clue as to the reason.	1. Enter the **OP:SCUEQP** MML command from the Craft Shell to display the SCU status. If the SCU is disabled at the AAP, enter the **ALW:SCUEQP** MML command from the Craft Shell to allow (enable) the SCUs disabled for updates. 2. If the log message reoccurs after allowing SCUs, contact the next level of support for assistance.
85	`Deferred update for SCU [0x%x] has succeeded`	All deferred updates (if any) for this SCU succeeded, and the AAP believes this SCU is ready to receive updates.	Information only. No action required.
86	`Request id [%d] found no response from process [m=0x%x, e=0x%x, i=0x%x]`	This process did not respond to an IRS request in required amount of time. The log message `invalid message [0x%x] received from process [m=0x%x, e=0x%x, i=0x%x] on RMI stream` may be present in the log as a result of the above log message.	1. If LANCMD process group is not active (Display Page 119 - Operational Software Status Summary), enter the **INIT:AAP:LANCMD** MML command from the Craft Shell to restart the LANCMD process group. Enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 6 Audit (process audit). 2. If the log message reoccurs after running Type 6 Audit, enter the **INIT:AAP:AUDIT** MML command from the Craft Shell to restart the AUDIT process. 3. If the log message reoccurs, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
87	`Deferred update for SCU [0x%x] can not succeed due to announcement status on SCU`	This update cannot be performed on this SCU as it was completed in another SCU in the SET. At least one SCU in the SET is corrupted in terms of announcement data or mapping. Note that this error will inhibit the SCU (disable the SCU for further updates).	Refer to TAP-112 for resolving this error message.
88	`SCU [0x%x] disabled for updates`	This SCU has been automatically disabled for updates by the AAP due to a problem in the log. The problem on the SCU must be fixed before re-enabling this SCU for updates. The SCU Disabled Alarm will be raised when this message is logged.	Refer to TAP-112 for resolving this error message.
89	`Access of ISDN stream failed [ret %d, errno %d]`	FS-AAP only. An error or timeout occurred while trying to open, read/write, or activate the ISDN audio channel to the PRI0 board. PLAY_REC - FS-AAP only. An error or timeout occurred while trying to open, read/write, or activate the ISDN audio channel to the PRI0 board.	1. If the log message happens once, it can be safely ignored. The process attempts to clean up and will fail the user's request. Retry the input message. 2. If the log message reoccurs, refer to TAP-156 for resolving this error message.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action

90	`Unexpected message [type 0x%x] received on ISDN stream`	This process has received an unexpected message on the ISDN network.	1. Information only. No action required.
			2. If the log message reoccurs, enter the **INIT:AAP:ISDNn** MML command from the Craft Shell on the Master CS-AAP and Slave CS-AAP machines to restart the ISDN process group. Below is the list of ISDN process groups for each type of site:
			`SITE PROCESS GROUP`
			`Master CS-AAP ISDN0, ISDN1 ISDN2`
			`Slave CS-AAP ISDN0, ISDN1 ISDN2, ISDN3 ISDN4`
			`FS-AAP ISDN0, ISDN1`
			3. Enter the **INIT:AAP:BCAST** MML command from the Craft Shell on the Master CS-AAP and Slave CS-AAP machines to restart the BCAST process group.
			4. If the log message reoccurs after restarting the ISDN and BCAST process groups, contact the next level of support for assistance.

91	`Network disconnect received`	This process has received an indication that the network has disconnected the call.	Information only. No action required.
92	`Errors found during audit of LAN commands`	An internal inconsistency within LAN_MONITOR was found by the internal audits LAN_MONITOR runs. LAN_MONITOR will exit on this error code to clean up the problem.	1. Information only. No action required. 2. If the problem persists, it could indicate a memory problem. Restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 3. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
93	`Message type = [0x%x], number of requests found = [0x%x], audit found more requests than expected`	There are more requests on the list than were expected.	Information only. No action required.
94	`Overflow message buffer, the overflow message will be dropped`	The internal IRS error buffer has overflowed.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
95	`Audit event list has an extra audit id [%d] info`	Internal audit software failure. Internal audit table has one more entry than AUDIT database. Extra entry has been deleted.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AUDIT** MML command from the Craft Shell to restart the AUDIT process. 3. If the log message reoccurs after restarting the AUDIT process, contact the next level of support for assistance.
96	`Database [%s] is missing, IRS recovers a 0 length file for this database`	Type 4 Audit output (database audit). The specified database was missing and replaced with a zero length file (no tuples). All AAP databases are checked.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.
97	`Access of CAUCS stream failed [revents %d, errno %d]`	This process was trying to get a message from the CAUCS stream, and received a fatal error. CI will exit and be restarted.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-154 to resolve this error.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
98	`Warning, not enough Bcasters [%d] found for number of field sites [%d] specified in database`	The number of FS-AAP in FSITE database exceeds the number of BCASTER processes that have registered in BCASTER database. This could happen if CI is started before all of the ISDN_MON processes have registered the status of all of the ISDN boards.	Information only. No action required.
99	`Unexpected high priority message received from CAUCS STREAM`	A CAUCS stream has received an unexpected priority message. The message will be ignored.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:CI** MML command from the Craft Shell to restart the CI process. 3. If the log message reoccurs after restarting the CI process, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 4. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
100	`Internal error encountered while processing CAUCS message [0x%x] from [m=0x%x, e=0x%x, i=0x%x]`	Internal CAUCS Interface or Maintenance Interface software failure. An error was encountered while processing the CAUCS message. This error will cause a loss of CAUCS data. Possible reasons for this error are process group or AAP system failures.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:CI** or **INIT:AAP:MI** MML command from the Craft Shell to restart the specified process group. 3. If the log message reoccurs after restarting the specified process group, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 4. If the log message reoccurs after restarting the AAP, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
101	`Warning, not enough enabled ISDN boards [%d] found for number of field sites [%d] specified in database`	The number of usable ISDN channels (23 times number of enabled ISDN boards) is found to be less than the number of FS-AAP specified in FSITE database. This could happen if CI is started before all of the ISDN_MON processes have registered the status of all of the ISDN boards.	Information only. No action required.
102	`Error encountered during access to CAUCS link [ret %d, errno %d]`	Internal CAUCS Interface or Maintenance Interface software failure. An error was encountered during an access to the CAUCS link. This error may cause a loss of CAUCS data. Possible reasons for this error are cabling, XIM, and TMS8.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-154 to resolve this error.
103	`Unexpected CAUCS message [type %d] received from CAUCS non-active link`	Message received from CAUCS on the non-active link. CAUCS request associated with message type stated [%d] will not be processed by CI, i.e., it is ignored. This could happen during a link-switch, where CI has switched the ACTIVE link, but before receiving the indication of this switch, CAUCS sends a request out to the AAP. This request then would be ignored by CI.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:CI** MML command from the Craft Shell to restart the CI process. 3. If the log message reoccurs after restarting the CI process, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
104	`No Bcaster found available to service request`	CI - The number of Bcaster processes found registered with CI and not currently in use is zero. Current connections to Field Sites, if any, will continue and the associated requests will continue to these connected Field Sites. All subsequent connection attempts, and requests to non-connected Field Sites, will fail until a currently connected FS-AAP is disconnected.	1. Enter the **OP:BCASTER** MML command from the Craft Shell to check the number of Bcaster processes registered and their active states. If this number is less than the number Bcaster processes currently configured, enter the **INIT:AAP:BCAST** MML command from the Craft Shell on the Master CS-AAP and Slave CS-AAP machines to restart the BCAST process. Or, if the number of Bcaster processes shown is correct, enter the **INIT:AAP:CI** MML command from the Craft Shell on the Master CS-AAP machine to restart the CI process. Repeat this step to verify that the number of Bcaster processes that are registered with CI is correct. 2. If the log message reoccurs after restarting both of the BCAST and CI processes, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 3. If the log message reoccurs after restarting the AAP, contact the next level of support for assistance.
105	`Warning, no ISDN channel found available to service request`	No ISDN boards are enabled in the process. This could happen if CI is started before all of the ISDN_MON processes have registered the status of all of the ISDN boards. Possible reasons for this error are cabling and ISDN configuration.	1. If seen only at startup of AAP, information only. No action required. 2. If the log message reoccurs, refer to TAP-146 for resolving this error message.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
106	`Invalid parameter received from CAUCS, [parameter %s passed as (num val) %d or (char val) %s]`	Value of parameter passed out of range, or tag parameter for request is already used for a currently queued request. A negative acknowledgement is returned to CAUCS for this request.	1. Information only. No action required. 2. If the log message reoccurs, the AAP/CAUCS links may be improperly configured or *Datakit* VCS may be corrupting messages. Enter the **INIT:AAP:CI** MML command from the Craft Shell to restart the CI process. 3. If the log message reoccurs after restarting the CI process, contact the next level of support for assistance. (Could check what CAUCS is trying to send to AAP.)
107	`Could not send response to CAUCS for CAUCS request type [%d],`	Internal CAUCS Interface software failure. Job completed but the response to CAUCS that the job was completed, could not be sent. The log message, ''Access of database /usr/aap/database/CAUCS failed'', may precede this log message.	Information only. No action required.
108	`Warning, request [type %d, key %d] for response does not match request [type %d, key %d] sent from CAUCS`	This process received a request from CAUCS and stored it in the CAUCS database. When returning the request from the database to CAUCS, the type found did not match the initial value. This is not a fatal error. The response will be returned to CAUCS using the information saved internally.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:CI** MML command from the Craft Shell to restart the CI process. 3. If the log message reoccurs, enter the **ANNC:AUD** MML command from the Craft Shell to run the Type 4 Audit (database audit). Correct any problems found by this audit. 4. If the log message reoccurs, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
109	`Cannot find CAUCS request sent from CAUCS [type %d, key %d] in CAUCS database`	Internal CAUCS Interface software failure. Internal table does not match CAUCS database. CAUCS job was lost.	Information only. No action required.
110	`System error encountered while processing CAUCS message [type 0x%x] from [m=0x%x, e=0x%x, i=0x%x]`	A system error was detected when trying to access the data received in an RMI message. The log message, ''Unexpected event [0x%x] received while in current state [0x%x]'', may precede this log message. CI will exit and be restarted.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:CI** MML command from the Craft Shell to restart the CI process. 3. If the log message reoccurs after restarting the CI process, enter the **INIT:AAP:AAP** MML command from the Craft Shell to restart the AAP. 4. If the log message reoccurs after restarting the AAP, restart *UNIX* system software by selecting option **53** and **y** (BOOT FROM DISK) on the EAI pages (TAD-101). 5. If the log message reoccurs after restarting *UNIX* system, contact the next level of support for assistance.
111	`Unknown request type [%d] received from CAUCS`	Request received from CAUCS with unknown type. CI will ignore this request, since it is of unknown type to CI.	1. Information only. No action required. 2. If the log message reoccurs, contact the next level of support for assistance.
112	`Unexpected event [0x%x] received while in current state [0x%x]`	The event passed within CI functions is out-of-state. It is unknown what to do with this event, so no action is taken (other than the log). CAUCS requests may fail due to this.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:CI** MML command from the Craft Shell to restart the CI process. 3. If the log message reoccurs after restarting the CI process, contact the next level of support for assistance.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
113	`Invalid message [%d] received from CAUCS with tag [%d]`	Upload ACK message received from CAUCS has invalid size or contains unexpected TAG field (UPLOAD_ACK.tag). Possible reasons for this error are improperly configured AAP/CAUCS links and corrupted *Datakit* VCS messages.	1. Information only. No action required. 2. If the log message reoccurs, the AAP/CAUCS links may be improperly configured or *Datakit* VCS may be corrupting messages. Enter the **INIT:AAP:CI** MML command from the Craft Shell to restart the CI process. 3. If the log message reoccurs after restarting the CI process, contact the next level of support for assistance. (Could check what CAUCS is trying to send to AAP.)
114	`Potential for lost message(s) from CAUCS, internal G2 buffers are out of sync`	The synchronization between CAUCS and CI, that uses the G2 message protocol, was lost for one message. One or more requests from CAUCS could have been lost. CAUCS will detect this when the ACK from CI is not received.	Information only. No action required.
115	`Timeout occurred while waiting for response from SCU [0x%x]`	The specified SCU did not respond within the expected time.	1. Information only. No action required. 2. If the log message reoccurs, refer to TAP-158 for resolving this error message. 3. If the log message reoccurs after checking the SCU LAN, refer to TAP-145 for resolving this error message. 4. If the log message reoccurs after checking the SCUs, contact the next level of support.

TABLE D LOG Messages (Contd)

#	Log Message	Process - Reason	Action
116	`Database [%s] attribute [%s] value [%s] less than attribute [%s] value [%s] on the key [%s]`	Type 4 Audit output (database audit). The first specified attribute of a tuple in a database is less than the second specified attribute.	1. Refer to TAP-155 for resolving this error message. 2. If the log message reoccurs after the database has been modified, contact the next level of support for assistance.
117	`Attempt to activate an active audit type [%d]`	An attempt was made to activate the Type 6 Audit in the AUDIT database that was active.	1. Information only. No action required. 2. If the log message reoccurs, enter the **INIT:AAP:AUDIT** MML command from the Craft Shell to restart the AUDIT process group. 3. If the log message reoccurs after restarting the AUDIT process group, contact the next level of support for assistance.
118	`Software_partial_restart request completed [result=%d] on [pgid=%s]`	This process has completed a partial restart request. The message is being handled.	Information only. No action required.
119	`Process [pid=%d] not reading from RMI stream`	The specified process is not reading from the RMI stream.	Use "root" login to stop the process by entering the input command kill -6 process_id. and contact the next level of support for assistance.
120	`Unable to route message [type=0x%x] to process [m=0x%x, e=0x%x, i=0x%x] [error=0x%x]`	A process has failed sending an RMI message to a process that is not listed with the RMI driver. Possible reasons for this error are a process is not running or is being restarted or the LAN or ISDN machine connections are down.	Information only. No action required.

Error Message—#1133 Announcement Versions Not Unique—Resolution

Summary: The Advanced Feature Service Center (AFSC) is responsible for maintaining announcements.

1. Refer this problem to the AFSC.

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Audio Driver Failed (Access)—Resolution (Master CS-AAP Only)

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   INIT:AAP:AUDIO

   Note: This should restart the audio process.

2. Enter the following:
   OP:LOG

3. Did the log message reoccur?

   If **NO**, go to Step 22.
   If **YES**, continue.

4. Enter the following:
   RMV:AAPBD:audio0

5. Enter the following:
   LOGOUT

6. Access Display Page 106 and confirm that the status of the audio board is OOS. After determining that its status is OOS, continue.

7. Access the Craft Shell prompt and enter the following:
   RST:AAPBD:audio0

8. Reenter the input message that caused this log message.

9. Wait approximately 10 minutes and then enter the following:
   OP:LOG

10. Did the log message reoccur?

    If **NO**, go to Step 22.
    If **YES**, continue.

11. Access the EAI page by pressing the **F9** key.

12. Reboot the system by selecting option **53** and **y**.

13. Access the Craft Shell.

14. Reenter the input message that caused this log message.

15. Wait approximately 10 minutes and then enter the following:
    OP:LOG

16. Did the log message reoccur?

    If **NO**, go to Step 22.
    If **YES**, continue.

17. Go to TAP-116 and complete the steps that lead to the removal and replacement of the audio board.

18. Re-enter the input message that caused this log message.

19. At the Craft Shell, enter the following:
    OP:LOG

20. Did the log message reoccur?

    If **YES**, then go to Step 23.
    If **NO**, continue.

21. Enter the following:
    LOGOUT

22. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

23. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

CAUCS Stream Failed (Access)—Resolution (Master CS-AAP Only)

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:LOG

2. Does the ‘‘Access of CAUCS Stream Failed’’ log message have the numbers ‘‘-1’’ or ‘‘127’’ anywhere in it?

   If **YES**, then the network is down. Contact the *Datakit* VCS maintenance organization. Go to Step 27.
   If **NO**, continue.

3. Enter the following:
   LOGOUT

4. Access the remote *UNIX* system login port and log into the AAP with their assigned user login.

5. At the *UNIX* system prompt #:

   Enter: **/bin/su - root**

   Response: Password:

   Enter: *(root password)*

   Response: #

6. At the *UNIX* system prompt (#), enter the following:
   tail -f /var/pvcmuxd/log

   Note: The tail command should provide information indicating whether CAUCS Maintenance Interface (MI) or CAUCS Update Interface (CI) are reported as established.

7. Look for a statement indicating that MI (PVC9) and CI (PVC10) are established. The following screen indicates the desired information.

```
                    .
                    .
                    .
                    .
                    .
                    .
Initiating link establishment for SP0 PVC9.
Initiating link establishment for SP1 PVC9.
Initiating link establishment for SP0 PVC10.
Initiating link establishment for SP1 PVC10.
                    .
                    .
                    .
SP0 link status summary: 0 down, 10 awaiting X.25, 1 ready.
SP1 link status summary: 0 down, 10 awaiting X.25, 1 ready.
                    .
                    .
                    .
                    .
X.25 is UP for SP0 PVC9.
X.25 is UP for SP1 PVC10.
                    .
                    .
                    .
TNM link switch: link 0 now is ACTIVE.
TNM link switch: link 1 now is ACTIVE.
```

8. Monitor the tail command for several minutes.

9. Are both (MI) PVC9 and (CI) PVC10 indicated as being established?

   If **YES**, go to Step 17.
   If **NO**, continue.

10. At the *UNIX* system prompt (#), enter the following:
    pxadm -K

    Note: The purpose of this command is to kill the TNMI software.

11. At the *UNIX* system prompt (#), enter the following:
    pxadm -S

    Note: The purpose of this command is to restart the TNMI software.

12. At the *UNIX* system prompt (#), enter the following:
    tail -30 /var/pvcmuxd/log

13. Are both MI (PVC9) and CI (PVC10) indicated as being established?

    If **YES**, go to Step 17.
    If **NO**, continue.

    Note: A reasonable amount of time to wait would be 5 minutes.

14. At the *UNIX* system prompt (#), enter the following:
    rsh SP_SP0 spinit 2

15. After getting the *UNIX* system prompt (#) back, enter the following:
    rsh SP_SP1 spinit 2

    Note: The purpose of these two commands was to reinitialize the SPs.

16. At the *UNIX* system prompt (#), enter the following:
    exit

    Response: **$**

17. At the *UNIX* system prompt ($), enter the following:
    exit

    Response: login:

18. Access the Craft Shell and enter the following:
    OP:LOG

19. Monitor (up to a maximum of 10 minutes) for the reoccurrence of the log message.

20. Did the log message reoccur?

    If **NO**, go to Step 28.
    If **YES**, continue.

21. Confirm with the AFSC—is the CAUCS machine working properly?

    If **NO**, then there is nothing else that we can do but wait for it to come up. Go to Step 27.
    If **YES**, continue.

22. At the *Datakit* VCS frame, verify—is the X.25 Interface Module (XIM) working properly?

    If **NO**, then report the identified problem to the proper *Datakit* VCS maintenance organization. Go to Step 27.
    If **YES**, continue.

23. Check the cables between the AAP SPs and the *Datakit* VCS meet-me-point. Look for any connection problems (that is, unplugged, loose, or broken wires).

24. Is the cabling properly connected?

    If **NO**, repair and replace as required. Go to Step 17.
    If **YES**, continue.

25. Locate the TMS8 and verify—is it functioning properly?

    If **NO**, then report the identified problem to the proper maintenance organization. Go to Step 27.
    If **YES**, continue.

26. At the Craft Shell prompt (<), enter the following:
    LOGOUT

27. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

28. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Database [%s] Not Unique In Attribute [%s] Value [%s] on the Key [%s]—Resolution

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:AUDIT

2. Review the output and identify the key for the Type 4 audit.

3. Enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the key for the TYPE 4 audit.

4. Enter the following:
   OP:LOG

5. While reviewing the output of the **OP:LOG**, analyze the results of the Type 4 audit. SLAVE

6. Was the specified database the MACHINE, SCUEQP, SETEQP, AUDIT, FSITE, or SLAVE?

   If **NO**, go to Step 10.
   If **YES**, continue.

7. Enter the following:
   RC:*db***:UPD=*{ADD|CHG}*,KEY=***a*.....**

   where: *db* is one of the following database keys:

   - MACHINE
   - SCUEQP
   - SETEQP
   - AUDIT
   - FSITE
   - SLAVE

   Note: Refer to the 201-525-012AC, *AAP Input/Output Manual* for additional details regarding how to properly use the **RC** MML input messages. Refer to the Office Records, for that particular AAP, in order to determine the correct values for the specified database.

8. Go to Step 17.

9. Enter the following:
   LOGOUT

10. Was the problem in either the CAUCS or ANNUPD database?

    If **YES**, continue.
    If **NO**, go to Step 13.

11. Go to Step 17.

12. Contact the AFSC and have them rebuild the CAUCS or ANNUPD database, whichever is appropriate.

13. Access the remote *UNIX* system login port and log into the AAP with the assigned user login. At the *UNIX* system prompt, perform the following:

    Enter: **/bin/su - root**

    Response: Password:

    Enter: *password*

    Response: #

14. At the *UNIX* shell prompt #

    Enter: **> /usr/aap/databases/locop**

    Response: #

    Note: This will result in creating a zero length **locop** file.

15. At the *UNIX* shell prompt #

    Enter: **exit**

    Response: **$**

16. At the *UNIX* shell prompt **$**

    Enter: **exit**

    Response: login:

17. **STOP! YOU HAVE COMPLETED THIS TASK.**

Log Messages—Internal Failure Detected While Recording Announcement—Analysis and Resolution

1. Access the Craft Shell from the AAP Main Menu and enter both of the following commands:
   INIT:AAP:ISDN0
   INIT:AAP:ISDN1

2. Attempt another announcement recording. Then, at the Craft Shell prompt (<), enter the following:
   OP:LOG

   Note: Review the output log results and determine whether or not this log message has reoccurred.

3. Has this log message reoccurred?

   If **NO**, go to Step 20.
   If **YES**, continue.

4. Access the AAP Display Pages and bring up Page 106 hardware display (TOP SHELF-Right Side).

5. Determine whether or not both ISDN boards are active.

   If **YES**, go to Step 10.
   If **NO**, continue.

6. Enter the following:
   q

7. From the AAP Main Menu, access the Craft Shell and enter the following:
   RST:AAPBD:pri*x*

   where: *x* is the OOS ISDN board.

8. Attempt another announcement recording. Then, at the Craft Shell prompt (<), enter the following:
   OP:LOG

   Note: Review the log results again and determine whether or not this log message has reoccurred.

9. Has this log message reoccurred?

   If **NO**, go to Step 20.
   If **YES**, continue.

10. Enter the following:
    RMV:AAPBD:pri*x*

    where: *x* is the OOS ISDN board.

11. Enter the following:
    RST:AAPBD:pri*x*

    where: *x* is the OOS ISDN board.

12. Attempt another announcement recording. Then, at the Craft Shell prompt (<), enter the following:
    OP:LOG

    Note: Review the log results again and determine whether or not this log message has reoccurred.

13. Has this log message reoccurred?

    If **NO**, go to Step 20.
    If **YES**, continue.

14. Enter the following:
    RMV:AAPBD:pri*x*

    where: *x* is the OOS ISDN board.

15. Replace the circuit board and complete DLP-515.

16. Once the circuit board has been replaced and has passed its POST, enter the following:
    RST:AAPBD:pri*x*

    where: *x* is the OOS ISDN board.

17. Attempt another announcement recording. Then, at the Craft Shell prompt (<), enter the following:
    OP:LOG

    Note: Review the log results again and determine whether or not this log message has reoccurred.

18. Has the log message reoccurred?

    If **NO**, go to Step 20.
    If **YES**, continue.

19. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support for assistance.

20. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Error Message—Initialization of TLI Stream Failed—Resolution (CS-AAP Only)

1. Access the Master CS-AAP AAP Craft Shell and at the prompt (<), enter the following:
   OP:AAPBD

2. Is the **enet1** board listed as being "down"?

   If **NO**, go to Step 10.
   If **YES**, continue.

3. At the Craft Shell prompt (<), enter the following:
   RST:AAPBD:enet1

4. At the Craft Shell prompt (<), enter the following:
   OP:AAPBD

5. Is the status of the **enet1** board "on line"?

   If **NO**, then refer to and complete steps in TAP-110.
   If **YES**, continue.

6. At the Craft Shell prompt (<), enter the following:
   OP:LOG

7. Did the log message reoccur?

   If **NO**, go to Step 25.
   If **YES**, continue.

8. At the Craft Shell prompt (>), enter the following:
   LOGOUT

9. Access the *UNIX* system login port and log into the Master CS-AAP. At the *UNIX* system shell prompt **$**, enter the following:
   /bin/su - root

   Response: Password:

   Enter: *password*
   Response: #

10. At the Master CS-AAP *UNIX* shell prompt #

    Enter: **/usr/sbin/ping slave**
    Response:

    Note: The normal response should be ‘‘slave is alive.’’ Do not wait more than 30 seconds for the response before pressing the <**CTRL-C**> keys to escape from the command.

11. Did AAP respond with "slave is alive"?

    If **NO**, go to Step 16.
    If **YES**, continue.

12. At the *UNIX* system prompt #

    Enter: **exit**
    Response: $

    Enter: **exit**
    Response: login:

13. Access the *UNIX* system login port and log into the Slave CS-AAP. At the *UNIX* system shell prompt **$**, enter the following:
    /bin/su - root

    Response: Password:

    Enter: *password*
    Response: #

14. At the Slave CS-AAP *UNIX* system prompt #,

    Enter: **/usr/sbin/ping master**
    Response:

    Note: The normal response should be "master is alive." Do not wait more than 30 seconds for the response before pressing the <**CTRL-C**> keys to escape from the command.

15. Did the AAP respond with "master is alive"?

    If **YES**, go to Step 25.
    If **NO**, continue.

16. Check all LAN cables and look for any connection problems (that is, unplugged, loose, or broken wires).

17. Were LAN cabling problems identified?

    If **NO**, go to Step 24.
    If **YES**, continue.

18. Have the LAN cabling problems been corrected?

    If **NO**, go to Step 24.
    If **YES**, continue.

19. From the AAP Main Menu, access the Craft Shell and enter the following:
    RST:AAPBD:enet1

20. Access Display Pages and bring up Display Page 106.

    Note: Normally, Display Pages are updated every 2 minutes. If after approximately 3 minutes the ENET1 board has not changed to the ACT state—then assume it is defective.

21. Monitor the Display Page from 2 to 3 minutes—then determine whether or not the **enet1** board is listed as being ACT?

    If **YES**, go to Step 25.
    If **NO**, continue.

22. At the Craft Shell (<), enter the following:
    OP:LOG

23. Did the log message ‘‘Initialization of TLI Stream Failed’’ reoccur?

    If **NO**, go to Step 25.
    If **YES**, continue.

24. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

25. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

SCU Failed Request—Analysis and Resolution

1. Access the Craft Shell from the AAP Main Menu and enter the following:
   OP:AAPBD

2. Is either **ENET1** or **ENET0** listed as being "OOS"?

   If **NO**, then go to Step 8.
   If **YES**, continue.

3. At the Craft Shell (<), enter the following:
   RST:AAPBD:enet*x*

   where: *x* is the number (0,1) or the ENET board.

4. At the Craft Shell (<), enter the MML command:
   OP:AAPBD

5. Are both **ENET0** and **ENET1** "ACT"?

   If **NO**, then refer to and complete steps in TAP-110.
   If **YES**, continue.

6. Resend the request to the SCU that failed. Then enter the following:
   OP:LOG

7. Did the log message ‘‘SCU Failed Request’’ reoccur?

   If **NO**, go to Step 16.
   If **YES**, continue.

8. Check the LAN cables and look for any connection problems (that is, unplugged, loose, or broken wires).

9. Were LAN cabling problems identified?

   If **NO**, go to Step 14.
   If **YES**, continue.

10. Have the LAN cabling problems been corrected?

    If **NO**, go to Step 15.
    If **YES**, continue.

11. At the Craft Shell (<), enter the following:
    RST:AAPBD:enet*x*

    where: *x* is the number (0,1) or the ENET board.

12. Resend the request to the SCU that failed. Then enter the following:
    OP:LOG

13. Did the log message ‘‘SCU Failed Request’’ reoccur?

    If **NO**, go to Step 16.
    If **YES**, continue.

14. Contact the 1B switch side personnel, describe the problem, and request that they perform LAN maintenance directed toward diagnosing the LAN (TAP-135).

15. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Consult next level of support for assistance.

16. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Translate Display Page Indicator

Note: This TAP describes actions that need to be performed based on display page indicators. However, it should be noted that display page indicators are just visual summaries and more detailed information about the condition or problem can be found in the MML output line that may accompany the indicator.

The various display pages are listed in Table A along with what action should be taken when the display page indicators are lighted red.

TABLE A Display Page Indicator Translations

Display Page	Description and Action to be Taken For Display Page Indicators
10	This is a summary page. If one of the indicators is lighted red, go to the page indicated.
101	This page shows critical indicators only.
102-103	These pages are help screens.
104	This page is a hardware summary page. If indicators on this page are lighted red, see pages 105, 106, and 107 for the details.
105	This page reflects the status of the system component card cage. • If either **MEMA** or **MEMC** is lighted red, see TAP-107. • If **CPUA**, **CPUB**, or **CPUC** is lighted red, see TAP-106. • If either **IOP0** or **IOP1** is lighted red, see TAP-108.

TABLE A Display Page Indicator Translations (Contd)

Display Page	Description and Action to be Taken For Display Page Indicators
106	This page represents the I/O board controllers card cage. • If either **SP0** or **SP1** is lighted red, see TAP-138. • If either **Enet0** or **Enet1** is lighted red, see TAP-110. • If either **SCSI0** or **SCSI1** is lighted red, see TAP-109. • If **PRI0**, **PRI1**, **PRI2**, **PRI3**, or **PRI4** is lighted red, see TAP-111. • If **AUDIO0** is lighted red, see TAP-116. • If **CONSOLE** is lighted red, and there is no other pending problem, escalate to the next level of support.
107	This page represents the middle hardware shelf containing fans, disks, and tape, as well as the mirror indicator. • If **FAN A**, **FAN B**, or **FAN C** is lighted red, see TAP-125. • If any of the **DISK** indicators is lighted red, see TAP-141. • If **TAPE4** is lighted red, see TAP-142. • If **DISK MIRROR** is lighted red, it is probably because a disk is out of service or being restored (RST:AAPDB). If not, escalate to the next level of support. • If **DISK MIRROR** is lighted red, it could mean that a SCSI board is OOS, a Disk Drive is OOS, or just the Mirrors are OOS. If a SCSI board is OOS (Display Page 106), use TAP-109. If a SCSI board is not OOS and a Disk Drive is OOS (Display Page 107), use TAP-141. Otherwise, use TAP-534 to fix the Mirror problems. • If **DISK CRC** is lighted red, it could mean that the disk CRC audit has not yet been run, or that the audit has encountered a problem. If the Audit has not been run (state UNAVAIL), you can choose to wait for it to run automatically or run it manually using TAP-534. If the state is OOS, use TAP-534 to fix the Disk CRC problems.

TABLE A Display Page Indicator Translations (Contd)

Display Page	Description and Action to be Taken For Display Page Indicators
108	This page represents the hardware bottom shelf with FANs and PWR modules. • If **FAN D**, **FAN E**, or **FAN F** is lighted red, see TAP-125. • If **PWR A**, **PWR B**, **PWR C**, or **PWR D** is lighted red, see TAP-113.
109	This page summarizes the SCU status and presents the SET status. The SET status is a summary of all SCUs in that SET. Page 109 can be considered summary from an action viewpoint. If an indicator is lighted red, see pages 110-117 for the detail.
110-117	These pages contain individual indicators for each possible SCU that can be equipped. If one or more of the SCU indicators is lighted red, that means that the AAP is not communicating with that SCU. To clear this trouble, see TAP-102.

TABLE A Display Page Indicator Translations (Contd)

Display Page	Description and Action to be Taken For Display Page Indicators
118	This page is the Links display page, containing the status of the links to ISDN, TNM, the LAN to the SCU, and to CAUCS. • If one of the **ISDN** links is lighted red, see TAP-160. • If one of the **TNM** links is lighted red, see TAP-104. • If one of the **UPDATE LINKS** or **MAINT LINKS** is lighted red, see TAP-103. • If one of the **LAN LINKs** is lighted red, the AAP software has detected that all the SCUs are not responding to heartbeats over the named AAP hardware link to the LAN. Check to see if any AAP ENET boards are out of service. If so, see TAP-110. If this persists for more than 15 minutes with one LAN link out of service, and no ENET board out of service, it is probably the connection from the ENET board to the LAN. Check that the cable and transceiver are all plugged in. • If both of the **LAN LINKs** are lighted red, the AAP software has detected that all the SCUs are not responding to heartbeats over either AAP hardware link to the LAN. This could mean that all SCUs are out of service, that the LAN is inhibited at the 1B, that the LAN cable is disconnected or broken, or that both AAP LAN interface cards are broken or disabled. 1. Check to see if the *4ESS* switch side has gotten a LAN Inhibited Alarm. If so, see TAP-134. 2. Check to see if the *4ESS* switch side has gotten alarms due to SCUs being out of service. If so, wait for the SCUs to be brought back into service. If the LAN is inhibited at the switch side, TAP-134 will need to be followed. 3. Check to see if any AAP ENET boards are out of service. If so, see TAP-110 or TAP-123. 4. If the trouble still exists, use TAP-134 and TAP-135 to resolve the problem.

TABLE A Display Page Indicator Translations (Contd)

Display Page	Description and Action to be Taken For Display Page Indicators
119	This page is the Operational Software Status display page. The operational software is divided up into process groups. This indicator reports that a process group has gone out of service. The AAP software will attempt to restart it. The automatic action of restarting the subsystem will clear most problems. If this message persists for more than 30 minutes, there is some other problem. In this case, use the **INIT:AAP:APPL;** MML message to clear the problem. If this fails to clear the problem, and there are no other problem indications to track down, escalate the problem to the next level of support.
120	This page is the Audit Status display page. • If **DATABASES** is lighted red, see TAP-155. • If **PROCESS** is lighted red, use the **ANNC:AUD:KEY** MML command to run the Type 6 audit. When this completes, if it fails again, use the **OP:LOG** MML command to find the logged error message related to this audit failure. Use TAP-151 to resolve the problem related to the error. • If **INTER-SCU** is lighted red, turn this problem over to the AFSC. • If **LOG** or **TMP** is lighted red, use DLP-500 to clear.
121	This page is the system software status display page. The AAP application software "watches" several key system software components to ensure continuous operation. If one of these indicators is lighted red, it means a system process failed. The AAP software will attempt to restart the dead system process. If the indicator stays lighted red for more than 30 minutes, use the EAI page to reboot the system, using EAI options **32** then **53**.

T1 Alarm—Clear

1. Refer to DLP-501 of 201-525-018AC, *Field Site AAP Growth and Additions* for the Field Site needing assistance (specific site and worksheet information is needed). If it is the Central Site, refer to DLP-501 of 201-525-020AC, *Central Site AAP Growth and Additions*.

2. View Display Page **118** to determine which ISDN (T1) connection is failing.

3. Ensure that the ISDN software has not been stopped by viewing AAP Display Page **119**. If ISDN*x* software is OOS, enter the following message at the AAP console (Menu 1):

   INIT:AAP:ISDN*x*;

   where: *x* = ISDN Board Number

4. Ensure that the ISDN*x* board is in service by viewing AAP Display Page **106**. If it is out of service, restore it to service by entering the following message at the AAP console (Menu 1):

   RST:AAPBD:PRI*x;*

5. View the 3B-APS Display Page **1108** to ensure that the D-channel of the failing ISDN board is not Maintenance Out of Service (MOOS) but is ACT/OOS.

6. Ensure that the D-Channel nailup is intact by entering the following message at the 1B terminal:

   VER:NAILUP:TAN *xxxxxxx***!**

   (Refer to DLP 501 of 201-525-018AC, *Field Site AAP Growth and Additions* for the D-Channel Provisioning TAN *xxxxxxx* and response.)

7. Ensure that the wiring connections for the D-channel have not been disconnected or patched out (at the DSX) from the AAP all the way to the Ring Node. Refer to DLP-501 of 201-525-018AC, *Field Site AAP Growth and Additions* for the D-channel connection points.

8. Check that the associated B-channels are ACT IDLE by entering the following message at the 1B terminal:

   OP:TRKSTAT,CIN *aaaaa***:TSG,STAT ACT!**

   Where *aaaaa* is B-Channel 1 CIN of the ISDN per DLP-501 of 201-525-018AC. The response should be 22 TSNs are ACT IDLE for the primary ISDN and 23 TSNs are ACT IDLE for the secondary ISDN. Correct the problem if the response is CAD.DSA.

9. If the alarm is still not cleared, remove, then restore the ISDN board by entering the following messages at the AAP console (Menu 1):

   RMV:AAPBD:PRI*x;*

   followed by

   RST:AAPBD:PRI*x;*

   Check AAP Display Page **106** to verify that the ISDN did restore.

10. Restart the ISDN*x* software by entering the following message at the AAP console (Menu 1):

    INIT:AAP:ISDN*x*; View AAP Display Page **119** to verify that ISDN*x* software did restore.

11. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

LAN Hardware Faults (Smart Hub to CDSU and CDSU to SCU) — Diagnose and Resolve

This procedure addresses isolation of hardware faults which result in LAN-related Service Circuit Unit (SCU) interjects associated with the Custom Data Services Cabinet (CDSC). This procedure assumes that the cause of the interjects is a result of LAN hardware faults. This procedure should not be undertaken unless this determination has been made.

> ***Note:*** This procedure is used to diagnose and resolve hardware faults in the LAN that connects the Smart Hub, the Custom Data Services Units (CDSUs), and the SCU. If a problem is suspected in the LAN between the AAP and the SCU or the LAN between the AAP and Smart Hub, see TAP-135.

Summary: CDSC LAN-related interjects will be handled by fault recovery.

Typical recovery actions are:

- Remove the associated SCU from service.
- Diagnose the SCU.

The philosophy for diagnosing LAN problems involves the following resources:

- The responsible maintenance personnel must be familiar with the configuration of the CDSC LAN and how it is connected into the SCU LAN network (See Figure 16 in TAD-100).
- The receive-only printer (ROP) at the 1B console should be reviewed for messages that might indicate the cause of the LAN problem.
- The 1B software SCU Diagnostics (phase 17) should be run.

  The phase 17 diagnostic will fail in the presence of any of the following LAN related faults:

  - LAN cable problems from the SCU to the CDSU.
  - LAN cable problems between CDSUs.
  - LAN cable problems between CDSU and Smart Hub.
  - Hardware problems with MIP-0 (TN4001 circuit pack) located at EQL 048 in the SCU or MIP-0's associated Transceiver Paddle Board.
  - CDSU-0 through CDSU-4 hardware problems.

  The results are indicated by ATP or STF. When a failure results, the associated TLP list printed will be used to help isolate the fault.

1. At the 1B MTC terminal, diagnose the problem SCU by entering:

   DGN:SCS *a*,**SCU** *b*:**PH 17!**

   where *a* = SCS Member Number (0-7)
   b = Associated SCU Number (0-15)

   Note: All CDSUs assigned to the same SCU will be diagnosed. Phase 17 diagnostics will take approximately 2 minutes per CDSU.

2. Did the SCU diagnostic in Step 2 show ATP or STF?

   If **ATP**, restore the SCU to service and continue to Step 14. The problem may have been transient in nature. If the SCU will not restore, quit this procedure and go to TAP-135. which deals with the LAN on the AAP side of the Smart Hub.

   If **STF**, examine the ROP printout and determine which CDSU fails first (the CDSU at the top of TLP list). Continue to Step 3.

3. Was either the LAN cable or CDSU-0 listed first on the TLP list?

   If **YES**, this indicates that the MIP (TN4001 circuit pack) cannot communicate with any CDSU. (CDSU-0 is the first CDSU the LAN cable connects to coming from the SCU.) Go to Step 5.

   If **NO**, go to Step 4.

4. If the first CDSU on the TLP is **CDSU-1 or higher**, then isolate the CDSUs that cannot communicate with the SCU from the CDSUs that can. This is accomplished by removing the coaxial cable at the rear of the last CDSU that can communicate, that connects to the next higher CDSU. For example, if the CDSU that appears first on the TLP list is CDSU-2, this indicates that CDSU-2 cannot communicate with the SCU and that CDSU-1 can communicate with the SCU. Therefore, remove the coax cable that connects CDSU-1 to CDSU-2, at the back of CDSU-1. Go to Step 10.

5. Isolate the SCU from all CDSUs by removing the coaxial cable at the rear of CDSU-0 that connects to the SCU. (This is the coaxial cable that spans the distance from the CDSC to the SCU.)

6. Measure the DC resistance of the coax cable connecting to the SCU at the CDSC end. Measure the resistance between the center conductor and the outer shield on the BNC connector of the coax cable (Figure 1). The resistance should be between 40 and 70 Ohms.

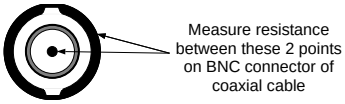


Figure 1. How to Measure DC Resistance of Coaxial Cable

7. Was the resistance measured in Step 6 correct?

   If **NO**, go to Step 12.

   If **YES**, then coaxial cabling within the CDSC may be suspect or the LAN transceiver board plugged into the backplane of SCU TN4001 circuit pack (MIP-0) at EQL 048 may be suspect. The CDSC coax cabling will be investigated first. Continue to Step 8.

8. Check the coaxial cabling in the CDSC. Measure the DC resistance between the center conductor and the outer shield on the T-connector where the coaxial cable coming from the SCU was removed in Step 5 above (Figure 1). The resistance should be between 40 and 70 Ohms.

9. Was the resistance measured in Step 8 correct?

   If **NO**, make a visual inspection:

   - Visually inspect the daisy-chained LAN coaxial cables connecting all the CDSUs together. Ensure that these cables are properly attached to the T-connectors and also that the T-connectors are properly attached to the LAN circuit pack in the CDSUs. All LAN connectors and T-connectors must not contact frame ground. (The LAN is electrically isolated from frame ground.)
   - Make sure that the coaxial cable connecting the last CDSU to the Smart Hub is properly in place. If the problem appears to be no termination by the Smart Hub (open circuit in cable to the Hub), make sure that the position on the Smart Hub to which the coaxial cable is attached is selected for internal termination (slide switch next to connector). If the slide switch is properly set, then temporarily move the coax cable to a vacant position on the Hub and repeat the resistance measurement.
   - Continue to Step 13.

   If **YES**, and the top of the TLP list does NOT indicate the LAN or CDSU-0, the LAN circuit pack in the suspect CDSU or the suspect CDSU itself may be defective. Replace the CDSU (DLP-538 in the 234-151-077AC, *Service Circuit System Maintenance* document). Then go to Step 13.

   If **YES**, and the top of TLP list DOES indicate the LAN cable or CDSU-0, then in addition to the LAN circuit pack in the CDSU being suspect, the LAN transceiver paddle board plugged on the backplane of SCU circuit pack TN4001 (MIP-0) at EQL 048 may also be suspect. Replace the paddle board. Then go to Step 13.

10. Measure the DC resistance of the coaxial cable connecting to the CDSU that cannot communicate with the SCU, (this is the coaxial cable connecting to the CDSU that appears first on the TLP list). Measure the resistance between the center conductor and the outer shield on the BNC connector of the coaxial cable (Figure 1). The resistance should be between 40 and 70 Ohms.

11. Was the resistance measured in Step 10 correct?

    If **NO**, make a visual inspection:

    - Visually inspect the daisy-chained LAN coaxial cables connecting all the CDSUs together. Ensure that these cables are properly attached to the T-connectors and also that the T-connectors are properly attached to the LAN circuit pack in the CDSUs. All LAN connectors and T-connectors must not contact frame ground. (The LAN is electrically isolated from frame ground.)
    - Make sure that the coaxial cable connecting the last CDSU to the Smart Hub is properly in place. If the problem appears to be no termination by the Smart Hub (open circuit in cable to the Hub), make sure that the position on the Smart Hub to which the coaxial cable is attached is selected for internal termination (slide switch next to connector). If the slide switch is properly set, then temporarily move the coax cable to a vacant position on the Hub and repeat the resistance measurement.
    - Continue to Step 13.

    If **YES**, the LAN circuit pack in the CDSU or the CDSU itself is suspect. Replace the CDSU (DLP-538 in the 234-151-077AC, *SCS Maintenance* document). Then go to Step 13.

12. Visually inspect the coaxial cable connecting the CDSC to the SCU. Ensure that it is properly attached to the cable converter as the coaxial cable enters into the SCU frame. Also, examine the coaxial cable converter for possible shorts to frame ground. (The LAN is electrically isolated from frame ground.)

    Visually inspect the thin type coaxial cable that connects from the coaxial converter to the MIP LAN transceiver paddle board.

    Make sure the 50-Ohm terminator is in place on the MIP LAN paddle board.

    If no problems are found, then the LAN transceiver paddle board is suspect. Replace the paddle board. Then go to Step 13.

13. At the 1B MTC terminal, diagnose the problem SCU by entering:

    DGN:SCS *a*,**SCU** *b*:**PH 17,TLP!**

    where *a* = SCS Member Number (0-7)
    b = Associated SCU Number (0-15)

    Note: All CDSUs assigned to the same SCU will be diagnosed. Phase 17 diagnostics will take approximately 2 minutes per CDSU.

    If Phase 17 diagnostics do not pass, continue to Step 15. Otherwise, go to Step 14.

14. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

15. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

Error Codes from CDSU — Analyze

Summary: This procdure is used to analyze error codes that have been sent to the Announcement Administration Processor (AAP) from the Custom Data Services Unit (CDSU) during an AAP CDSU software update. In general, if any part of the software update fails, the recommended action is to run the **/cdsu/bin/abort** script and try again. If it still fails or the abort fails, the recommended action is to reload from backup and apply all necessary BWMs. If however, it is desired to attempt to recover without reloading from backup, the following actions may be attempted.

1. Record the error code that was indicated during the CDSU software update.

2. Use Tables A, B, C, and D to define the error code that was recorded in Step 1. Then follow the action recommended in the tables to clear the trouble.

3. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE A Error Messages from Abort

ERROR MESSAGE	ACTION
`Error: Cannot Update CDSU Status`	Check permissions on the file **/cdsu/defaults/cdsu_status**.
`Error: Cannot Notify lan Process of CDSU Status`	Check to make sure the **/cdsu/logs** directory exists. If it does not, you can create the directory and retry the **/cdsu/bin/abort**. HOWEVER, if that directory does not exist, there may be other problems as well so the recommended action is to reload from backup.
`Error: In the middle of uncompressing the tar file`	The tar file may have been removed during the cleanup. The options for recovery are as follows: • Check for a tar file in **/cdsu/tmp/cdsu.tar**. If **cdsu_tar.Z** exists, then run **/cdsu/bin/abort** again and continue. • If the compressed tar file does not exist, but **/cdsu/tmp/save_tarfile** exists, move that file to **/cdsu/tmp/cdsu.tar.Z**. Run **/cdsu/bin/abort** again and continue. • If neither file exists, a new tar file can be created as follows: 1) **cd /** 2) **tar -cvf /tmp/cdsu.tar cdsu** 3) **compress /tmp/cdsu.tar** 4) **mv /tmp/cdsu.tar.Z /cdsu/tmp** 5) Run **/cdsu/bin/abort** again and continue. • Reload from backup.
`Error: Could not locate cdsu.tar or cdsu.tar.Z`	Tar file is missing - reload from backup or create new tar file as described above.
`Error: could not remove /cdsu/tmp/cdsu`	Check the permissions on the directory. Run **/cdsu/bin/abort** again.
`Error: could not remove /cdsu.old`	Try to remove **/cdsu.old** by hand. Then run **/cdsu/bin/abort** again.

TABLE A Error Messages from Abort (Contd)

ERROR MESSAGE	ACTION
`Error: Cannot Get SCU Status`	Does **/cdsu/bin/get_status** exist? If not, extract from Tarfile with the following commands: 1) **cd /cdsu/tmp**. If **cdsu.tar.Z** exists, then continue 2) **uncompress /cdsu/tmp/cdsu.tar.Z** 3) **tar -xvf cdsu.tar 'tar -tvf cdsu.tar | grep get_status'** 4) **cd /cdsu/tmp/cdsu/bin** 5) **mv get_status /cdsu/bin** 6) **cd /cdsu/tmp** 7) **rm -rf /cdsu/tmp/cdsu** 8) Run **/cdsu/bin/abort** again. Since, **get_status** was missing, there may be other problems and the recommended action is to reload from backup. If **get_status** exists, check to make sure the **/cdsu/log**s directory exists. If it does not, you can create the directory and retry the **/cdsu/bin/abort**. HOWEVER, if that directory does not exist, there may be other problems as well so the recommended action is to reload from backup.
`Error: Cannot Get CDSU Status`	The CDSU status file probably did not exist the first time abort was attempted. The abort script will have tried to create it so check for **/cdsu/defaults/cdsu_status**. If it exists, run **/cdsu/bin/abort** again and continue. If it does not exist, check permissions on **/cdsu/defaults** directory. If permissions are correct, make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and continue.
`Error: SCU is In Service`	Remove the SCU from service.
`Error: SCU in Unknown State`	Check status of SCU. Try to remove the SCU from service if it is in service. If it was in service, run **/cdsu/bin/abort** again. If this error persists, contact next level of support.

TABLE B Error Messages from Restart

ERROR MESSAGE	ACTION
`Error: File [FILENAME] Corrupted`	Run **/cdsu/bin/abort** and try again. If it still does not work, get new BWM.
`Error: Uncompress of cdsu.tar.Z Failed`	Make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and try again.
`Error: Tar Extraction of cdsu.tar Failed`	Check permissions on **/cdsu/tmp**. Make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and try again.
`Error: Could not make /cdsu/tmp/cdsu/tmp directory`	Check permissions on **/cdsu/tmp**. Make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and try again.
`Error: move of saved tar file to /cdsu/tmp/cdsu/tmp/cdsu.tar.Z failed.`	Does **/cdsu/tmp/save_tarfile** exist? If so, check permissions on **/cdsu/tmp/cdsu/tmp**. Run **/cdsu/bin/abort** and try again. If the file does not exist, make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and try again.
`Error: Checksum File Missing or Zero Length`	Run **/cdsu/bin/abort** and try again. If the problem persists, obtain new BWM.
`Error: Init Script File Missing or Zero Length`	Run **/cdsu/bin/abort** and try again. If the problem persists, obtain new BWM.
`Error: cdsu_status File Missing From Tar File`	Run **/cdsu/bin/abort** and try again. If the problem persists, obtain new BWM.
`Error: Cannot Change Permissions on cdsu Directories`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Cannot Change Permissions on cdsu Files`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Cannot Change Permission of /sbin/init`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Copy of dticfg File Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.

TABLE B Error Messages from Restart (Contd)

ERROR MESSAGE	ACTION
`Error: Copy of dtiB1.prm File Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: chmod of /etc/rc.d/dti_init Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Copy of /cdsu/rc.d/dti_init Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: chmod of /etc/rc.d/cdsu_stat_init Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Copy of /cdsu/rc.d/cdsu_stat_init Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Copy of inittab.add Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Failed to Change Permissions of /etc/conf/init.d/cdsu`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Failed to Change Permissions of /etc/inittab`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Copy of /cdsu/misc/inittab to /etc/inittab Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Failed to Change Permissions on /var/spool/cron/crontabs/root`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Copy of /cdsu/misc/crontab.root /var/spool/cron/crontabs/root Failed`	Run **/cdsu/bin/abort** and try again. If the problem persists, seek next level of assistance.
`Error: Cannot Get CDSU Status`	This situation is dangerous since the **cdsu_status** file is used to communicate errors to the AAP. Run **/cdsu/bin/abort** and try again. If the problem persists, seek the next level of assistance.

TABLE B Error Messages from Restart (Contd)

ERROR MESSAGE	ACTION
`Error: Update Not Yet Started`	Run the **/cdsu/bin/update** script.
`Error: Restart Already in Progress`	Either run **/cdsu/bin/abort** to clean up the in progress restart or wait until it finishes.
`Error: Tar File Missing`	Copy new tar file to **/cdsu/tmp/cdsu.tar.Z**. This should be part of the BWM.
`Error: Tar File is Zero Length`	Copy new tar file to **/cdsu/tmp/cdsu.tar.Z**.
`Error: unable to save tar file`	The copy of **/cdsu/tmp/cdsu.tar.Z** to **/cdsu/tmp/save_tarfile** failed. Make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and try again.
`Error: Cannot Get SCU Status`	Does **/cdsu/bin/get_status** exist? If not, extract from tar file with the following commands: 1) **cd /cdsu/tmp**. If **cdsu.tar.Z** exists, then continue. 2) **uncompress /cdsu/tmp/cdsu.tar.Z** 3) **tar -xvf cdsu.tar 'tar -tvf cdsu.tar | grep get_status'** 4) **cd /cdsu/tmp/cdsu/bin** 5) **mv get_status /cdsu/bin** 6) **cd /cdsu/tmp** 7) **rm -rf /cdsu/tmp/cdsu** 8) Run **/cdsu/bin/abort** again. Since, **get_status** was missing, there may be other problems and the recommended action is to reload from backup. If **get_status** exists, check to make sure the **/cdsu/logs** directory exists. If it does not, you can create the directory and retry the **/cdsu/bin/abort**. HOWEVER, if that directory does not exist, there may be other problems as well so the recommended action is to reload from backup.

TABLE B Error Messages from Restart (Contd)

ERROR MESSAGE	ACTION
`Error: SCU Active`	Remove the SCU from service.
`Error: SCU in Unknown State`	Check status of SCU. Try to remove the SCU from service if it is in service. If it was in service, run **/cdsu/bin/abort** again. If this error persists, seek the next level of assistance.
`Error: Cannot Move Current cdsu Directory`	Check if **/cdsu.old** exists. If it does, remove it, run **/cdsu/bin/abort** and try again. If it does not exist, make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and try again.
`Error: Cannot Move Update cdsu Directory. Return=#`	Compare the return code with the error codes in /usr/include/sys/errno.h. This should indicate why the mv command failed. Make sure there is sufficient space on the CDSU (use the **df** command, such as **df /cdsu** which indicates the amount of blocks and inodes available on the CDSU). Run **/cdsu/bin/abort** and try again.

TABLE C Error Messages from Status

ERROR MESSAGE	ACTION
`Error: Unknown State`	Do **/cdsu/defaults/cdsu_status** files exist? Run **/cdsu/bin/abort** to clean up or create file.

TABLE D Error Messages from Update

ERROR MESSAGE	ACTION
`Error: Cannot Update CDSU Status`	Check permissions on the file **/cdsu/defaults/cdsu_status**, using the **ls -l /cdsu/defaults/cdsu_status** command. The file should be readable by root.
`Error: Cannot Notify lan Process of CDSU Status`	Check to make sure the **/cdsu/logs** directory exists. If it does not, you can create the directory and retry the **/cdsu/bin/abort**. HOWEVER, if that directory does not exist, there may be other problems as well so the recommended action is to reload from backup.
`Error: Cannot Get SCU Status`	Does **/cdsu/bin/get_status** exist? If not, extract from tar file with the following commands: 1) **cd /cdsu/tmp**. If **cdsu.tar.Z** exists, then continue. 2) **uncompress /cdsu/tmp/cdsu.tar.Z** 3) **tar -xvf cdsu.tar ‘tar -tvf cdsu.tar | grep get_status‘** 4) **cd /cdsu/tmp/cdsu/bin** 5) **mv get_status /cdsu/bin** 6) **cd /cdsu/tmp** 7) **rm -rf /cdsu/tmp/cdsu** 8) Run **/cdsu/bin/abort** again. Since, **get_status** was missing, there may be other problems and the recommended action is to reload from backup. If **get_status** exists, check to make sure the **/cdsu/logs** directory exists. If it does not, you can create the directory and retry the **/cdsu/bin/abort**. HOWEVER, if that directory does not exist, there may be other problems as well so the recommended action is to reload from backup.

TABLE D Error Messages from Update (Contd)

ERROR MESSAGE	ACTION
`Error: Cannot Get CDSU Status`	Verify that **/cdsu/defaults/cdsu_status** file exists. If it does, make sure that it is readable. If it is readable, try running **/cdsu/bin/update** again.
`Error: Update Already in Progress`	Either run **/cdsu/bin/abort** to cancel the update or continue with the restart.
`Error: Restart Already in Progress`	Either run **/cdsu/bin/abort** to cancel the restart or allow the previous restart to finish before initiating another.
`Error: CDSU in Unknown State`	Run **/cdsu/bin/abort** and try again.
`Error: SCU Active`	Remove the SCU from service.
`Error: SCU in Unknown State`	Check status of SCU. Try to remove the SCU from service if it is in service. If it was in service, run **/cdsu/bin/abort** again. If this error persists, contact next level of support.

Disk Space Low and/or Totally Depleted—Clear Alarm

1. From the AAP Main Menu, access the Craft Shell and enter the following:
   OP:AUDIT

   Note: The objective is to identify the key for the TYPE 4 and TYPE 5 audit.

2. On the command line, enter the following:
   ANNC:AUD:KEY=*a*

   where:*a* is the key for the TYPE 4 audit.

3. On the command line, enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the key for the TYPE 5 audit.

4. Is the critical indicator ‘‘DISK’’ still lit?

   If **NO**, then go to Step 15.
   If **YES**, then continue.

5. On the command line, enter the following:
   OP:LOG:TIME=*b*

   where: *b* is the time that the last TYPE 5 audit was actually run.

   Note: If the TIME that you specified is not correct—then it may be necessary to reissue this input message with a different value for the TIME variable. Refer to the 201-525-012AC, *AAP Input/Output Manual* for additional details.

6. Did the LOG file provide an information statement indicating why the TYPE 5 audit failed?

   If **YES**, then use this information (as appropriate) to further correct the problem.
   If **NO**, then continue.

7. On the command line, enter the following:
   INIT:AAP:AAP

   Note: This will kill the Craft Shell process, therefore, it will be necessary to relogin and to access the Craft Shell again.

8. Access the Craft Shell from the AAP Main Menu and enter the following:
   ANNC:AUD:KEY=*a*

   where: *a* is the key for the TYPE 5 audit.

9. Is the critical indicator ‘‘DISK’’ still lit?

   If **NO**, then go to Step 15.
   If **YES**, then continue.

10. Access the EAI page (function key **F9**) and restart the *UNIX* operating system by booting from disk (Poke **53** and **y**).

11. On the command line, enter the following:
    ANNC:AUD:KEY=*a*

    where: *a* is the key for the TYPE 4 audit.

12. On the command line, enter the following:
    ANNC:AUD:KEY=*a*

    where: *a* is the key for the TYPE 5 audit.

13. Is the critical indicator ‘‘DISK’’ still lit?

    If **YES**, then contact the next level of support.
    If **NO**, then continue.

14. On the command line, enter the following:
    LOGOUT

15. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

ISDN Software Subsystem—Restart

Summary: Corrective actions for this type of alarm, depending on the frequency of occurrence, may involve a 4-step process. The first step is to restart the particular software subsystem. If the problem occurs a second time the AAP applications software should be restarted. If the alarm continues a third time the *UNIX* operating system plus AAP applications software should be restarted. If the alarm still continues— contact the next level of support.

1. Refer to historical records to determine whether this is a first occurrence for this alarm.

2. Is this a first occurrence?

   If **NO**, then go to Step 4.
   If **YES**, then continue.

3. From the AAP Main Menu, access the Craft Shell, and enter the following
   INIT:AAP:ISDN*x*

   where: *x*=ISDN to be initialized.

   Go to Step 9.

4. Is this a second occurrence?

   If **NO**, then go to Step 6.
   If **YES**, then continue.

5. From the Craft Shell, enter the following:
   INIT:AAP:AAP

   Go to Step 9.

6. Is this a third occurrence?

   If **NO**, then go to Step 8.
   If **YES**, then continue.

7. Access the EAI page (function key **F9**) and reboot *UNIX* system plus the AAP applications software (Poke **53** and **y**).

   Go to Step 9.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

BWM/SU Download—Preparation

Summary: This procedure tells how to check and, if necessary, change SCANS access information (telephone number and machine name) for the AAP.

1. For this procedure, the user must be in the Craft Shell (MML) command mode. Refer to NTP-005 or TAD-100 for additional information, if needed.

2. At the MML command prompt, enter the following command to access the AAP_SUDB database:

   OP:SD:REL=AAP_SUDB,FORM=LONG;PF

   Response:

```
AAP_ATTC 4AAP(1)4.3 WNVLILAA40T 02/09/94 11:10:12 CST
M OP:SD Complete.
AAP_SUDB
------------------------------------------------------------
| AI                          |0                             |
| CUR_PERM_TYPE               |CFT                           |
| CUR_PERM_NUM                |940024                        |
| PRE_PERM_TYPE               |CFT                           |
| PRE_PERM_NUM                |940023                        |
| CUR_APPLY_TYPE              |-                             |
| CUR_APPLY_NUM               |-1                            |
| LAST_PERM_BWM_NU            |-1                            |
| LAST_PERM_CFT_NU            |940024                        |
| SCANS_PRIMARY_NU            |2495508                       |
| SCANS_NORMAL_NU             |2495509                       |
| SCANS_MACH_NAME             |scans                         |
------------------------------------------------------------
```

3. To change the SCANS phone number or machine name enter one of the following commands as appropriate:

   For two SCANS numbers (Primary and Normal):

   UPD:SD:UPD=CHG,REL=AAP_SUDB:"SCANS_PRIMARY_NU=*nnnnnnnnnn***";IP**
   UPD:SD:UPD=CHG,REL=AAP_SUDB:"SCANS_NORMAL_NU=*nnnnnnnnnn***";IP**

   where: *nnnnnnnnnn* is the new telephone number.

   For SCANS machine name:

   UPD:SD:UPD=CHG,REL=AAP_SUDB:"SCANS_MACH_NAME=*xxxxxxxxxx***";IP**

   where: *xxxxxxxxxx* is the new machine name.

   Response:

```
AAP_ATTC 4AAP(1)4.3 WNVLILAA40T 02/09/94 11:28:10 CST
M  UPD:SD Complete
   Update succeeded
```

4. Check the AAP_SUDB database again to verify the data that was changed. Enter the following command again:

   OP:SD:REL=AAP_SUDB,FORM=LONG;PF

5. **STOP! YOU HAVE COMPLETED THIS TASK.**

LANCMD Software Subsystem—Restart

Summary: Corrective actions for this type of alarm, depending on the frequency of occurrence, may involve a 3-step process. The first step is to restart the particular software subsystem. If the problem occurs a second time, the AAP applications software should be restarted. If the alarm still continues—then the recommendation is to contact the next level of support.

1. Refer to available historical records to determine whether this is a first occurrence for this alarm.

2. Is this a first occurrence?

   If **NO**, then go to Step 4.
   If **YES**, then continue.

3. Access the Craft Shell from the AAP Main Menu and enter the following:
   INIT:AAP:LANCMD

   Go to Step 9.

4. Is this a second occurrence?

   If **NO**, then go to Step 6.
   If **YES**, then continue.

5. Access the Craft Shell again and enter:
   INIT:AAP:AAP

   Go to Step 9.

6. Is this a third occurrence?

   If **NO**, then go to Step 8.
   If **YES**, then continue.

7. Access the EAI page (**F9**) and do a ‘‘UNIX + AAP’’ Application Software reboot (Poke **53** and **y**).

   Go to Step 9.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

LANADM Software Subsystem—Restart

Summary: Corrective actions for this type of alarm, depending on the frequency of occurrence, may involve a 3-step process. The first step is to restart the particular software subsystem. If the problem occurs a second time the AAP applications software should be restarted. If the alarm still continues—then the recommendation is to contact the next level of support.

1. Refer to available historical records to determine if this is a first occurrence for this alarm.

2. Is this a first occurrence?

   If **NO**, then go to Step 4.
   If **YES**, then continue.

3. Access the Craft Shell from the AAP Main Menu and enter the following:
   INIT:AAP:LANADM

   Go to Step 9.

4. Is this a second occurrence?

   If **NO**, then go to Step 6.
   If **YES**, then continue.

5. Access the Craft Shell again and enter:
   INIT:AAP:AAP

   Go to Step 9.

6. Is this a third occurrence?

   If **NO**, then go to Step 8.
   If **YES**, then continue.

7. Access the EAI page (**F9**) and do a ‘‘UNIX + AAP’’ Application Software reboot (Poke **53** and **y**).

   Go to Step 9.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Clock—Check Output and Set

1. Update (using ed editor) the timezone label in the AAP's Timezone file for the local site by entering the following lines (each line ending with a [Enter] Key) at the AAP console.

Console	Enter
#	**ed /etc/TIMEZONE**
109	**1,$p**
#ident @(#)nsadmin: TIMEZONE 1.1 # Set timezone environment to def fault for the machine TZ=CST6CDT export TZ	**/^TZ=/c**
	TZ=*a* (see Table A)
	. (period)
	1,$p
#ident @(#)nsadmin: TIMEZONE 1.1 # Set timezone environment to def fault for the machine TZ=a (see Table A) export TZ	**w** (write)
109 (or 106)	**q** (quit)
#	

Where: TZ=*a* is the value for the local site per Table A. the local site.

TABLE A Values for TZ=*a*

TZ=*a*	Local Timezone or Special Site
EST5EDT	Eastern Time Zone
CST6CDT	Central Time Zone
MST7MDT	Mountain Time Zone
PST8PDT	Pacific Time Zone
CST6	Indianapolis (only)
MST7	Phoenix (only)

Note: The AAP will automatically change the time and notation in the Spring and Fall to account for Daylight Savings Time. However, Indianapolis and Phoenix are locations where the clocks don't actually change for Daylight Savings Time and are treated as special cases.

2. Get the time and date from the *4ESS* switch at the 1B terminal by entering:

   OP:CLK!

3. Enter the time and date at the AAP console by entering:

   date *mmddhhMMyy*

   where: mmddhhMMyy stands for numerical month (01-12), day (01-31), hour (00-23), minute (00-59), and year (93-99)
   Response: #

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Service Processor (SP)—Testing

Summary: Each Service Processor (SP) provides three main ports. These ports are accessible from the rear of the cabinet via the associated SP Patch Panel Cards (PPCs). The ports are labeled AUXILIARY (which connects the local printer), CONSOLE (which connects the local console), and MODEM (which provides remote connections to the Centralized Announcement Update Control System [CAUCS] and the Total Network Management [TNM] system via *Datakit* VCS). The functionality of the AUXILIARY and MODEM ports may be tested by configuring these ports with an external loopback connector and initiating a software test. Figure 1 depicts the SP-PPCs and loopback connector.

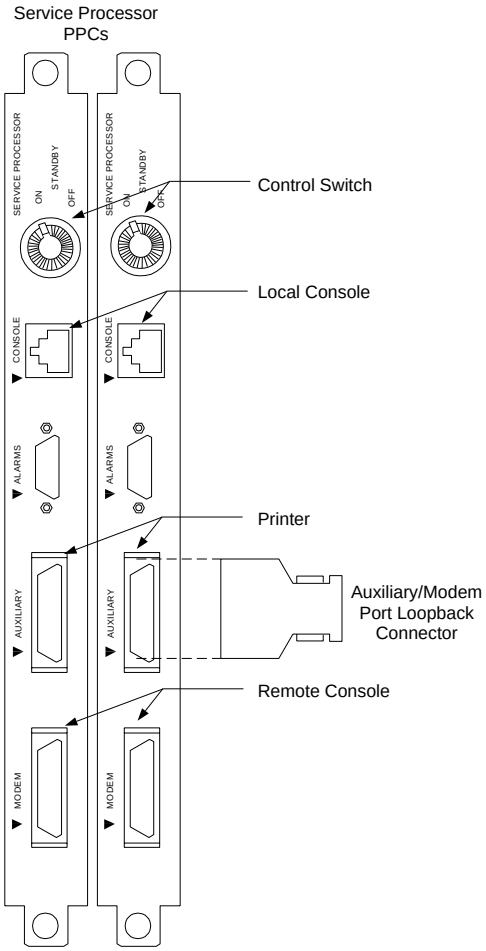


Figure 1. SP Patch Panel Cards and Loopback Connector—Rear of Cabinet

Caution: During the SP testing, one SP must remain active at all times; otherwise, communications to the AAP will be lost.

1. Log into the AAP via the root login and change directories using the following command:

   cd /usr/mds

2. Activate the SP that is not being tested by performing the following:

   a. To check the status of the SPs, enter:
      cfstatus
   b. If the SP board not being tested is not active, enter:
      cfonline sp*x*
      where: *x* identifies the SP board (0,1) to be activated.
   c. Verify that the A/B switch box is set to the SP not being tested.

3. Locate and identify the SP board to be tested. Obtain the cabinet location using the following command:

   cfstatus sp*x*

   where: *x* identifies the SP board (0,1) to be tested.

4. Disconnect the *Datakit* VCS cable from the MODEM port of the identified SP and install the loopback connector (part no. 65162) on that MODEM port.

5. Enter the following command to test the desired SP board:

   tst_sp -t 0 -a 0 -x SPRMI -n4 SP_SP*x*

   where: *x* is the SP board (0,1) being tested.

6. Did the test pass (0 Errors Detected)?

   If **YES**, remove the loopback connector, reconnect the *Datakit* VCS cable, and then go to Step 11.

   If **NO**, remove the failed SP board and install the replacement SP board (see DLP-524). Also, do a firmware download (via DLP-521) on the new SP board and then continue.

7. Enter the following command to test the desired SP board:

   tst_sp -t 0 -a 0 -x SPRMI -n4 SP_SP*x*

   where: *x* is the SP board (0,1) being tested.

8. Did the test pass (0 ERRORS Detected)?

   If **YES**, remove the loopback connector, reconnect the *Datakit* VCS cable, and then go to Step 11.

   If **NO**, put the original SP board back in the carrier and remove and replace the existing PPC with a good PPC (see DLP-525). Be sure to install the loopback connector on the modem port of the new PPC.

9. Enter the following command to test the desired SP board:

   tst_sp -t 0 -a 0 -x SPRMI -n4 SP_SP*x*

   where: *x* is the SP board (0,1) being tested.

10. Did the test pass (0 ERRORS Detected)?

    If **YES**, remove the loopback connector, reconnect the *Datakit* VCS cable, and then go to Step 11.

    If **NO**, put the original PPC back in the carrier and go to Step 13.

    Note: The indications from the preceding tests may suggest a possible backplane problem, go to Step 13.

11. Reactivate the tested SP board using the following:

    cfonline sp*x*

    where: *x* identifies the SP board (0,1) to be activated.

12. **STOP! YOU HAVE COMPLETED THIS TEST.**

13. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

BWM/SU—Download

Once the BWM/SU is listed within SCANS as ‘‘official,’’ it becomes available to all FS-AAPs. The following procedure describes the process for distributing and downloading a BWM/SU via the SCANS/AAP interface.

1. The remote maintenance centers are informed of the availability of a BWM/SU via electronic mail or routine logins to SCANS.

2. For each AAP that requires the BWM/SU, the following substeps must be performed to cause the AAP to begin polling SCANS for the BWM/SU:

   a. Log into the AAP Craft Shell.
   b. Execute the following MML command:

      IN:REMOTE:START

   c. After a 10-minute delay, the AAP will start polling SCANS for the BWM/SU.

      Note: The AAP calls SCAN in this case.

   d. The AAP also responds with a 16-character, transaction identification (TID) number for the BWM/SU.

3. Log into SCANS and request a download of the BWM/SU for each identified AAP. The SCANS will use the TID and the machine login ID to initiate the BWM/SU download.

4. After the 10-minute delay (Step 2), the AAP will poll SCANS for the BWM/SU using the same login ID and TID, as the password, over the SCANS to AAP interface. This polling will be repeated until it is successful or canceled.

5. Was the polling successful?

   If **YES**, SCANS will then send the BWM/SU to the AAP.
   If **NO**, then go to Step 9.

6. When fully downloaded, all files for a specified BWM/SU will reside in the **/etc/bwm/BWM***yy-nnnn* directory.

   where: **BWM***yy-nnnn* is the naming convention for an ‘‘official’’ BWM/SU. There are no restrictions on what files or further subdirectories can be assigned below the **/etc/bwm/BWM***yy-nnnn* directory.

   Note: The prefix **BWM** at the beginning of the yy-nnnn naming convention indicates an ‘‘Official’’ BWM/SU version. If this prefix is **CFT**, this would indicate ‘‘Craft’’ version.

7. At this point, these files are available for user access to perform other BWM/SU activities (such as verify, apply, and perm). Refer to NTP-003 for more information.

8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

9. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

BWM/SU—Verify

Summary: Each Broadcast Warning Message/Software Update (BWM/SU) is appended with a check-sum. It is required that each BWM/SU be checked with the verify command before being ''applied.'' This completes other BWM-related tasks such as uncompressing the BWM files.

1. Does the BWM/SU have the status of ''**BWM**'' or ''**CFT**?''

   If **CFT**, then go to Step 4.
   If **BWM**, then continue.

2. Enter the following to verify an ''Official'' BWM/SU:

   UPD:BWM:VFY:BWM*xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the BWM.

3. Did the verify pass?

   If **NO**, remove the defective BWM/SU (refer to DLP-512), proceed to download the BWM/SU again (refer to DLP-507), and then return to Step 1 of the DLP.
   If **YES**, then go to Step 6.

4. Enter the following to verify a ''Craft'' BWM/SU:

   UPD:BWM:VFY:CFT*xx-yyyy*.

   where: *xx* is the last two digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT.

5. Did the verify complete successfully?

   If **NO**, remove the defective BWM/SU (refer to DLP-512), proceed to download the BWM/SU again (refer to DLP-507), and then return to Step 1 of the DLP.
   If **YES**, then go to Step 6.

6. **STOP! YOU HAVE COMPLETED THIS TASK.**

BWM/SU Status Report for the AAP—Generate

Summary: This section tells how to generate a BWM/SU status report in order to monitor the Broadcast Warning Messages/Software Updates (BWMs/SUs) that have been downloaded to an AAP. This report lists the BWM/SUs by ID and status (that is, those pending, applied, and ‘‘permed’’).

1. To get the BWM/SU Status Report, access the Craft Shell interface and enter the following command:

   IN:REMOTE:REPORT.

   Response:

```
IN:REMOTE:REPORT In_Progress
IN:REMOTE:REPORT output, Part 1 of 2
Status of UUCP BWM download
---------------------------
<Status>
<Output>
ENTRIES IN THE /etc/bwm DIRECTORY
---------------------------------
/etc/bwm/<update>
Currently perm’d and currently applied BWMs
-------------------------------------------
Currently perm’d BWM is:  <update>
Currently applied BWM is:  <update>
```

2. **STOP! YOU HAVE COMPLETED THIS TASK.**

BWM/SU—Apply

Summary: When a Broadcast Warning Message/Software Update (BWM/SU) is applied, it is placed in a temporary state which makes it available for AAP use, even though it is not yet in a permanent state.

WARNING: Refer to the SCANS file for specific instructions before applying this BWM/SU.

1. Has BWM/SU been verified?

   If **YES**, then continue.
   If **NO**, go to DLP-508.

2. Is the BWM/SU being applied higher in number than ‘‘currently applied?’’

   If **YES**, then continue.
   If **NO**, then go to Step 5.

3. Does the BWM/SU have ‘‘CFT’’ or ‘‘BWM’’ status?

   If **CFT**, then enter: **UPD:BWM:APPLY:CFT***xx-yyyy*.
   If **BWM**, then enter: **UPD:BWM:APPLY:BWM***xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

4. Did the BWM/SU apply complete successfully?

   If **YES**, go to Step 7.
   If **NO**, follow the specified action in any associated failure message or go to Step 8.

5. Does the BWM/SU that is to be applied have ‘‘CFT’’ status?

   If **YES**, then enter: **UPD:BWM:APPLY:CFT***xx-yyyy***:NIO**.
   If **NO**, then enter: **UPD:BWM:APPLY:BWM***xx-yyyy***:NIO**.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

   Caution: It should also be noted that the use of the Not In Order (NIO) option could cause overwriting of data associated with other BWMs/SUs. There is NO AUTOMATIC PROTECTION against corrupting or destroying other data when using the* NIO *option.

6. Did the BWM/SU apply complete successfully?

   If **YES**, go to Step 7.
   If **NO**, follow the specified action in any associated failure message or go to Step 8.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

BWM/SU—Back-Out

Summary: If either a temporary or the last permanent BWM/SU is determined to be inappropriate or defective, it can be ‘‘backed-out’’ and the original data can be restored.

1. Do you wish to back-out of a BWM/SU with ‘‘BWM’’ status?

   If **YES**, then go to Step 6.
   If **NO**, then continue.

2. Has the BWM/SU been ‘‘permed?’’

   If **YES**, then go to Step 4.
   If **NO**, then continue.

3. Enter the following command and then go to Step 11:
   UPD:BWM:BKOUT:CFT*xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

   Did BKOUT complete successfully?

   If **YES**, go to Step 11.
   If **NO**, follow the specified action in any associated failure message or go to Step 13.

4. Enter the following command: **UPD:BWM:BOLO:CFT***xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

5. Did BOLO operation pass?

   If **YES**, go to Step 11.
   If **NO**, follow the specified action in any associated failure message or go to Step 13.

6. Has the BWM/SU been ‘‘permed?’’

   If **YES**, go to Step 9.
   If **NO**, then continue.

7. Enter the following command:
   UPD:BWM:BKOUT:BWM*xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

8. Did BKOUT operation pass?

   If **YES**, go to Step 11.
   If **NO**, follow the specified action in any associated failure message or go to Step 13.

9. Enter the following command:
   UPD:BWM:BOLO:BWM*xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

10. Did BOLO operation pass?

    If **YES**, go to Step 11.
    If **NO**, follow the specified action in any associated failure message or go to Step 13.

11. Refer to SCANS files for Back-out instructions.

12. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

13. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

BWM/SU—Remove From BWM Directory

Summary: Whenever a Broadcast Warning Message/Software Update (BMW/SU) is determined to be defective, inappropriate, or no longer needed (that is, it has already been permed), that particular BWM/SU can be removed. The directory/file space can be cleaned up by removing those BWMs/SUs that are no longer needed. It is recommended that DLP-509 be performed before DLP-512.

Note: Two restrictions for removing BWM/SUs are as follows:

a. The last BWM/SU that was ‘‘permed’’ cannot be removed.
b. A BWM/SU that has been activated with the ‘‘APPLY’’ command, but not yet permed, cannot be removed.

1. Does the BWM/SU to be removed have a ‘‘BWM’’ or ‘‘CFT’’ status.

   If **CFT**, then go to Step 4.
   If **BWM**, continue.

2. Remove the ‘‘BWM’’ BWM/SU by entering the following command via the Craft Shell interface:

   UPD:BWM:RMV:BWM*xx-yyyy*.

   where: *xx* is the last 2 digits of the year
   yyyy is a unique 4-digit number associated with the BWM.

3. Are there additional BWMs/SUs to be removed?

   If **YES**, return to Step 1.
   If **NO**, then go to Step 6.

4. Remove the ‘‘CFT’’ BWM/SU by entering the following command via the Craft Shell interface:

   UPD:BWM:RMV:CFT*xx-yyyy*.

   where: *xx* is the last 2 digits of the year
   yyyy is a unique 4-digit number associated with the BWM.

5. Are there additional BWMs/SUs to be removed?

   If **YES**, return to Step 1.
   If **NO**, then continue.

6. **STOP! YOU HAVE COMPLETED THIS TASK.**

BWM/SU—Perm

Summary: Once a BWM/SU has been applied and properly tested, its status is normally changed from temporary to permanent.

1. Does the BWM/SU to be made permanent have a ‘‘BWM’’ or ‘‘CFT’’ status?

   If **CFT**, then go to Step 4.
   If **BWM**, then continue.

2. Enter the following command for a ‘‘BWM’’ BWM/SU:

   UPD:BWM:PERM:BWM*xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

3. Did the BWM/SU perm complete successfully?

   If **YES**, go to Step 6.
   If **NO**, follow the specified action in any associated failure message or go to Step 7.

4. Enter the following command for a ‘‘CFT’’ BWM/SU:

   UPD:BWM:PERM:CFT*xx-yyyy*.

   where: *xx* is the last 2 digits of the year, and *yyyy* is a unique 4-digit number associated with the CFT or BWM.

5. Did the BWM/SU perm complete successfully?

   If **YES**, go to Step 6.
   If **NO**, follow the specified action in any associated failure message or go to Step 7.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

7. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

BWM/SU—Display History Directory

Summary: Each AAP maintains a directory of all BWMs/SUs that have been received, applied, removed, and permed for that particular AAP.

1. To display the BWM/SU History Log, enter the following command:

   UPD:BWM:DISPLAY

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

ISDN B-Channels—Testing

1. Log into the AAP as root.

2. Access the Craft Shell by entering the following command line:
   /usr/aap/X/mtce/bin/runca

3. Select option **1** to enter the Craft Shell. Then enter the following command to inhibit the ISDN board to be tested:
   STOP:AAP:ISDN*n*

   where: *n* is the number of the ISDN board to be tested.

4. Exit the Craft Shell by entering:
   LOGOUT

5. Obtain the cabinet location of the ISDN board to be tested using the following command:

   cfstatus pri*n*

   where: *n* identifies the ISDN board to be tested.

6. Access the rear of the AAP cabinet and disconnect the ISDN cable on the OOS ISDN board.

7. Put the ISDN loopback connector (part no. 528-5000045 found in the OPEN-ME-FIRST box) into the T1B port of the OOS ISDN board.

8. Run diagnostics on the board by entering the following command line at the AAP console:
   /usr/mds/bin/tst_pri -b*n* **-i3 -v -c23**

   where: *n* is the board being tested.

   Response:

```
Pumping board for loop-around test, please wait ... done.
^^^Starting loop-around test.
Generating data for b channel n
/tmp/bchan0n: iteration=1 date & time
            . . .
Completed All Requested Passes, No Errors Detected.
Re-pumping bd for normal operation, please wait ... done.
#
```

Note: This process will take about 7 minutes. The reporting of each channel for the three iterations of the test can be in random order.

9. Did the board pass all tests (0 ERRORS Detected)?

   If **YES**, then go to Step 11.
   If **NO**, then continue.

10. Replace the failed ISDN board (see DLP-524).

11. Move the ISDN loopback plug to one of the T1A ports as a convenient storage place.

12. Reconnect the ISDN cable.

13. Reenter the Craft Shell and reinitialize the ISDN board using the following command:

    INIT:AAP:ISDN*n*

    where: *n* is the number of the ISDN board.

14. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

AAP Applications Software Subsystem—Restart

1. Refer to available historical records and determine whether this is a first occurrence for this alarm.

2. Is this the first occurrence of this alarm?

   If **YES**, then go to Step 4.
   If **NO**, then continue.

3. Is this the second occurrence of this alarm?

   If **YES**, then go to Step 6.
   If **NO**, then go to Step 8.

4. Access the Craft Shell command line (go to Display Page 101—Critical Indicators Only—and select the CMD mode of the MML/CMD function) and enter the following command:

   INIT:AAP:APPL

5. Access Display Page 119—Operational Software Status Summary—and check the status of the AAP software.

   Is the AAP software active (ACT)?

   If **YES**, then go to Step 9.
   If **NO**, then continue.

6. Access the EAI page and reboot *UNIX* system software and the AAP applications software by selecting Poke Command **32** (UNIX + APPL) and then Poke Command **53** and **y** (Shutdown, Boot From Disk).

7. Again, access Display Page 119 and check the status of the AAP software.

   Is the AAP software active (ACT)?

   If **YES**, then go to Step 9.
   If **NO**, then go to Step 8.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

AAPADM Software Subsystem—Restart

Summary: Corrective actions for this type of alarm, depending on the frequency of occurrence, may involve a 4-step process. The first step is to restart the particular software subsystem. If the problem occurs a second time the AAP applications software should be restarted. If the alarm continues a third time the *UNIX* operating system plus AAP applications software should be restarted. If the alarm still continues—then the recommendation is to contact the next level of support.

1. Refer to appropriate historical records and determine whether this is a first occurrence for this alarm.

2. Is this a first occurrence?

   If **NO**, then go to Step 4.
   If **YES**, then continue.

3. From the AAP Main Menu, access the Craft Shell and enter the following:
   INIT:AAP:AAPADM

   Go to Step 9.

4. Is this a second occurrence?

   If **NO**, then go to Step 6.
   If **YES**, then continue.

5. Access the Craft Shell again and enter the following on the command line:
   INIT:AAP:AAP

   Go to Step 9.

6. Is this a third occurrence?

   If **NO**, then go to Step 8.
   If **YES**, then continue.

7. Access the EAI page and reboot *UNIX* system software and the AAP applications software by selecting Poke Command **32** (UNIX + APPL) and then Poke Command **53** and **y** (Shutdown, Boot From Disk).

   Go to Step 9.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

AUDIT Software Subsystem—Restart

Summary: Corrective actions for this type of alarm, depending on the frequency of occurrence, may involve a four-step process. The first step is to restart the particular software subsystem. If the problem occurs a second time the AAP applications software should be restarted. If the alarm continues a third time the *UNIX* operating system plus AAP applications software should be restarted. If the alarm still continues—then the recommendation is to contact the next level of support.

1. Refer to appropriate historical records and determine whether this is a first occurrence for this alarm.

2. Is this a first occurrence?

   If **NO**, then go to Step 4.
   If **YES**, then continue.

3. From the AAP Main Menu, access the Craft Shell and enter the following:

   INIT:AAP:AUDIT

   Go to Step 9.

4. Is this a second occurrence?

   If **NO**, then go to Step 6.
   If **YES**, then continue.

5. Access Craft Shell again and enter the following on the command line:

   INIT:AAP:AAP

   Go to Step 9.

6. Is this a third occurrence?

   If **NO**, then go to Step 8.
   If **YES**, then continue.

7. Access the EAI page and reboot *UNIX* system software and the AAP applications software by selecting Poke Command **32** (UNIX + APPL) and then Poke Command **53** and **y** (Shutdown, Boot From Disk).

   Go to Step 9.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

CI Software Subsystem—Restart

Summary: Corrective actions for this type of alarm, depending on the frequency of occurrence, may involve a four-step process. The first step is to restart the particular software subsystem. If the problem occurs a second time the AAP applications software should be restarted. If the alarm continues a third time the *UNIX* operating system plus AAP applications software should be restarted. If the alarm still continues—then the recommendation is to contact the next level of support.

1. Refer to appropriate historical records and determine whether this is a first occurrence for this alarm.

2. Is this a first occurrence?

   If **NO**, then go to Step 4.
   If **YES**, then continue.

3. From the AAP Main Menu, access the Craft Shell and enter the following:

   INIT:AAP:CI

   Go to Step 9.

4. Is this a second occurrence?

   If **NO**, then go to Step 6.
   If **YES**, then continue.

5. Access the Craft Shell again and enter the following on the command line:

   INIT:AAP:AAP

   Go to Step 9.

6. Is this a third occurrence?

   If **NO**, then go to Step 8.
   If **YES**, then continue.

7. Access the EAI page and reboot *UNIX* system software and the AAP applications software by selecting Poke Command **32** (UNIX + APPL) and then Poke Command **53** and **y** (Shutdown, Boot From Disk).

   Go to Step 9.

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

BWMI Tape (#8) — Loading

1. Insert the (#8) Broadcast Warning Message Interface (BWMI) tape into the tape drive by pressing the tape door release button and inserting the tape lengthwise so that the SAFE switch goes in first on the right-hand side. Close the door (the LED on the tape door should light). Then enter at the AAP console:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0 all**
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	 **go**

   Response:

```
Installation of <pkgid> was successful.
#
```

   where: *pkgid* is the assigned software package identifier.

   Note: This process takes approximately 5 minutes to complete.

2. At the AAP console, check permissions, file size and checksums of this new software by entering: **pkgchk bwmtools**

   Response: #

3. Remove the tape from the tape drive and store.

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

SP Board—Update Firmware (Flash Download)

1. At the AAP console, check the run-level mode first by entering: **who -r**

   Response: `. run-level` *a date time*
   where: *a* should be S for single-user mode

2. If not in single-user mode from the previous step, reinitialize the system in single-user mode by doing the following:

   a. At the AAP console, press the **F9** key to access the EAI page.
   b. From the EAI page, reboot the AAP to run-level 1 (single-user mode) by entering the following sequence of commands: **30**; **53**; **y**

      Note: Several display messages will be displayed at this point until the system is returned to the single-user mode. This will take several minutes to accomplish.

   c. Press the **F10** function key to clear the EAI Page and access the *UNIX* system prompt.
   d. After the reboot, log in as root at the console login prompt using the following:

      `Console Login:` **root**
      `Password:` *(password)*

3. At the AAP console, make sure the console A/B switchbox is turned to SP being updated. To determine the current controller (IOP) assignment, enter:

   /etc/cfstatus console

   Response:

```
Component   State    Cabinet  IOP/Controller  DCC CRU
___________ ________ ________ _______________ _________
console     online   system   IOPx
#
```

   where: *x* is the number of the good SP.

4. If the response in Step 3 was IOP*x*, omit this step; if the response was IOP*y*, then enter at the AAP console: **/etc/cfmove console**

   where: *x* is the number of the SP not being updated.
   y is the number of the SP being updated.

   Response: **WARNING: console will be moved to other IOP at user request**

5. Change to the service processor mode at the AAP console by pressing the **Return** key, followed by a tilde (**~**) and a period (**.**)

   Response:

```
login or enter (exit) at the login prompt to
reconnect to the console.
login:
```

   Note: At this point the ROP will no longer follow the screen as only the console path remains established. ROP interaction will be reestablished prior to the next Saft Stop Point.

6. At the AAP console, update the SPC boot firmware by entering the following commands:

Console Message	Enter
`login:`	**root**
`Password:`	*root password*
`ROOT LOGIN PORT=SPON SP0:`	**chmod 100 flashdl**
`SP0:`	**flashdl -ABOOT**

   Response:

```
REQUESTING "BOOT" DOWNLOAD.
Download of new SP firmware has begun.
^.......................
Download of new SP firmware has completed.
Programming of new SP firmware has begun.
The SP will automatically reboot on completion (appr 2 minutes)
Welcome to the HELIX Service Processor
Connecting to console: enter "<CR>~." to exit
Connected ...
```

   It will take approximately 7 minutes to complete this step. Ignore any error messages. System comes up in the EAI page.

7. At the AAP console, change to service processor mode by pressing **~.** (tilde followed by a period).

   Response:

```
At the "login" prompt, Log into the SP or enter "exit" to restart the EAI.

login:
```

8. At the AAP console, update the SPC application firmware by entering the following commands:

Console Message	Enter
`login:`	**root**
`Password:`	*root password*
`ROOT LOGIN PORT=SPON SP0:`	**chmod 100 flashdl**
`SP0:`	**flashdl -AAPPL**

   Response:

```
REQUESTING "APPL" DOWNLOAD.
Download of new SP firmware has begun.
^.......................
Download of new SP firmware has completed.
Programming of new SP firmware has begun.
The SP will automatically reboot on completion (appr 2 minutes)

Welcome to the HELIX Service Processor

Connecting to console: enter "<CR>~." to exit
Connected ...
```

   It will take approximately 15 minutes to complete this step. Ignore any error messages. System comes up in the EAI page.

9. At the AAP console, change to service processor mode by pressing the **F12** key.

   Response:

```
At the "login" prompt, Log into the SP or enter "exit" to restart the EAI.

login:
```

10. At the AAP console, clear the old SPC configuration data and reset the processor by entering the following commands:

Console Message	Enter
`login:`	**root**
`Password:`	*root password*
`ROOT LOGIN PORT=SPON SP0:`	**spclobber 0** *(see note)*

Note: The zero (**0**) here specifies the SP run level; not the SP number.

Response:

```
Clobbering All BBRAM partitions and environment.
Clobbering all NVRAM partitions.
Starting SP Init: 0

HELIX Service Processor
SP0:
```

It will take approximately 5 minutes to complete this step. Ignore any error messages.

11. At the AAP console, return to the normal console interface by entering:
    console

    Response: `Connected ...`

12. At the AAP console, exit the service processor mode by pressing the **ENTER** key.

    Response: #

13. At the AAP console, load the new service processor config data by entering:
    /usr/mds/spcfg -x -s sp*a* where: *a* is the SP being updated, (0 or 1).
    Response:

```
spcfg: PROCESSING spn
spcfg: DOWNLOADING CONFIGURATION spn
Welcome to the HELIX Service Processor
Connected ...
```

    This step will take approximately 5 minutes to load the new data. The AAP console then displays the EAI page.

14. At the AAP console, press the **F10** key, and then the **ENTER** key to exit the EAI page mode.

15. To set up both AAP console paths correctly, turn the console switchbox to SPC0. At the AAP console, press the **F9** key followed by the **F10** key, and then the **ENTER** key.

16. At the AAP console, check that the system is operational by entering at the AAP console:
    cfstatus -l
    Response:

```
system
        state=online
        cabinet=system
     . . .
enet0
        state=online
        IOP/Controller = iop0
        DCC = DCC3
        IOC slot name = ioc3
        cabinet=system
        cabinet location = 164
        patch panel location = 509
     . . .
cpuA
        state=online
        DCC = SDCC0
        cabinet = system
        cabinet location = 142

(Sample format responses are above, indicating the type of
pertinent information summarized in the following table.)
```

Component	State	IOP/Controller	DCC	Location	Patch Panel
system	on-line				
sp1	on-line			152	
sp0	on-line			151	
mcb1	on-line				513
mcb0	on-line				514
console	on-line	iop0			
pri1	on-line	iop1	DCC5	167	506
pri1	on-line	iop0	DCC3	165	508
enet0	on-line	iop0	DCC3	164	509
scsi1	on-line	iop1	DCC3	163	510
disk1	on-line	iop1/scsi1		223	
scsi0	on-line	iop0	DCC2	162	511
tape4	on-line	iop0/scsi0		212	
disk0	on-line	iop0/scsi0		201	
enet1	on-line	iop1	DCC2	161	512
pwrD	on-line			304	
pwrC	on-line			303	
pwrB	on-line			302	
pwrA	on-line			301	
memC	on-line		DCC1	145	
memA	on-line		DCC0	141	
iop1	on-line		DCC0	146	513
iop0	on-line		DCC1	147	514
fanC	on-line			183	
fanB	on-line			182	
fanA	on-line			181	
fanF	on-line			403	
fanE	on-line			402	
fanD	on-line			401	
cpuC	on-line		SDCC2	144	
cpuB	on-line		SDCC1	143	
cpuA	on-line		SDCC0	142	

The format of the actual response is not as shown in the table. Make sure all boards are on-line. Specifically check states of the **console**, **sp0**, and **sp1**.

Note: The above listing is for the FS-AAP. This listing will differ slightly for the Master and Slave CS-AAPs.

17. At the AAP console, enter the following to check that the versions of the SPs match:
    /usr/mds/spflash_info

    Response:

```
INFORMATION RETRIEVED FROM UNIX FILE SYSTEM DIRECTORY=/usr/mds/sp/default
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx default
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy default
INFORMATION RETRIEVED FROM SERVICE PROCESSOR 0.
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx AFLASH1
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy BFLASH1
INFORMATION RETRIEVED FROM SERVICE PROCESSOR 1.
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx AFLASH1
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy BFLASH1
```

where: ***x.xx*** is the application firmware version. (Confirm that all three match.)
yy is the boot firmware version. (Confirm that all three match.)

18. Boot the AAP back to the multi-user mode by doing the following:

    a. At the AAP console, press the **F9** key to access the EAI page.
    b. From the EAI page, reboot the AAP to run-level 3 (multi-user mode) by entering the following sequence of commands: **32**; **53**; **y**

       Response:

```
Several display messages will be displayed at this point
until the system is returned to the multi-user mode.
This will take several minutes to accomplish.
          . . .
Console Login:
```

19. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Required Packages Tape (#3)—Loading

The (#3) Required Packages Tape contains the Service Processor firmware plus support files, the system utilities, the Maintenance and Diagnostic Software (MDS) libraries and the MDS executable files. All of these files are needed for running diagnostics.

1. At the AAP console, insert the Required Packages Tape (#3) into the tape drive, then enter:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0 all**
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	**go**

Response:

```
Installation in progress.  Do not remove the Cartridge Tape.

Processing package instance <pkgid> from /dev/rmt/ctape0
Installing xxxxxxxxxxx as <pkgid>
Installation of <pkgid> was successful.
```

where: *pkgid* is the assigned software package identifier (package instance).

This process takes approximately 15 minutes to complete.

2. At the AAP console, list all packages loaded into the system by entering: **pkginfo**

   Response:

```
system      MDS       Maint & Diag Exec/Files
system      MDSLIB    Maint/Diag Libs & includes
system      SPFW      Service Proc firmware & support files
system      SYSUTILS  Tandem System Utilities
system      base      SVR4 Base System
system      compat    BSD compatibility package
system      dfm       Built into the base, cannot be removed
utilities   dfs       DFS Utilities
application edit      Editing Package
application fmli      Form & Menu Language Interpreter
system      inet      Internet Utilities
system      nfs       Network File System Utilities
system      nsu       Networking Support Utilities
application oam       Operation, Administration & Maintenance
system      rpc       Remote Procedure Call Utilities
application scde      Standard C Development Environment
system      sys       Built into the base, cannot be removed
system      tools     Installation Tools Package
system      usrenv    Built into the Base, cannot be removed
system      volmgr    Veritas Vol Manager & Filesystem Utilities
```

   where: the second column are the <pkgids> loaded from tape.

3. Remove the tape from the tape drive and store.

4. At the AAP console, initialize the reboot by entering: **init 6**

   Response:

```
INIT: New run level: 6
The system is coming down.   Please wait.
System services are now being stopped.
Stopping process accounting
keepalive daemon stopping
The system is down.
Identified Interphase SCSI Controller in iop n, slot n
slotn: initialization succeeded
Hit space within 10 seconds to interrupt auto boot sequence:
Initiating auto boot
Hit space within 10 seconds to interrupt rcboot sequence:
Initiating rcboot

Secondary Boot Utility ...
CPU: MIPS R3000 Processor Chip Revision: n
Identified Interphase SCSI Controller in iop n, slot n
IO subsystem initialization complete.
adding daemon '/usr/sbin/xxx respawn '/etc/keepalive/xxx'
INIT: SINGLE USER MODE

Type Ctrl-d to proceed with normal startup, (or give root password
for system maintenance):
```

   Allow the two interrupt sequences to time out. (This process takes about 4 minutes to complete.

5. At the AAP console, press the **ENTER** key to continue with system maintenance as no password has yet been defined with this software.

   Response:

```
Entering System Maintenance Mode
```

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE**.

MI Software Subsystem—Restart

Summary: Corrective actions for this type of alarm, depending on the frequency of occurrence, may involve a 4-step process. The first step is to restart the particular software subsystem. If the problem occurs a second time the AAP applications software should be restarted. If the alarm continues a third time the *UNIX* operating system plus AAP applications software should be restarted. If the alarm still continues—then the recommendation is to contact the next level of support.

1. Refer to appropriate historical records and determine whether this is a first occurrence for this alarm.

2. Is this a first occurrence?

   If **NO**, then go to Step 4.
   If **YES**, then continue.

3. Access the Craft Shell by entering the following:
   INIT:AAP:MI

   Go to Step 9.

4. Is this a second occurrence?

   If **NO**, then go to Step 6.
   If **YES**, then continue.

5. Access the Craft Shell again and enter the following on the command line:
   INIT:AAP:AAP

   Go to Step 9.

6. Is this a third occurrence?

   If **NO**, then go to Step 8.
   If **YES**, then continue.

7. Access the EAI page and reboot *UNIX* system software and the AAP applications software by selecting Poke Command **32** (UNIX + APPL) and then Poke Command **53** and **y** (shutdown, boot from disk).

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next higher level of maintenance support.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Circuit Board—General Replacement Procedures

Summary: Each AAP Customer Replaceable Unit (CRU) circuit board is shipped with specific instructions for removing and installing that CRU. In addition, this section gives the general procedure for replacing an AAP circuit board. These procedures are not written for any specific maintenance group or work center. The actual work flow that occurs between local and remote groups for replacing a CRU is predetermined and, therefore, is beyond the scope of these instructions.

WARNING: The AAP system modules have components that can be damaged or destroyed by electrostatic discharge (ESD). Do not attempt to handle any circuit pack without taking the following appropriate precautions.

Precaution 1: Before removing or installing any CRU, remove all jewelry from your hands and wrists. Do not extend your hands into any open slot(s) in the cabinet.

Precaution 2: All circuit boards are shipped in antistatic envelopes for protection from static electricity. Do not remove a module from its antistatic envelop until you are ready to install it in the system. Before removing a module from the antistatic envelope, dissipate any static electrical charges from your person by touching the metal system cabinet or chassis. Handle the unwrapped module by its metal enclosure; avoid touching the internal printed wiring assembly or the connector pins.

Precaution 3: When the humidity is low, the potential of generating a damaging ESD surge to the computer equipment is significantly increased. Garments and floor coverings made of synthetic fabrics make the situation worse. Use extra care to prevent ESD damage to the equipment when the humidity is low or when you come into contact with synthetic fabrics.

Precaution 4: The use of antistatic wrist straps is required.

Precaution 5: Do not carry the circuit pack module by the extractor/latches. The extractor/latches are for disconnecting the module from the backplane during removal and for connecting and retaining the module.

To remove a failed circuit board perform the following steps:

1. Review any alarm and/or notification information to determine which circuit board has failed.

2. Open the front door to the AAP cabinet.

3. Locate the failed circuit board and verify that its status LED is turned off.

4. Remove the failed board using the following substeps and Figure 1.

    a. Unlock and open the upper and lower extractor/latches.
    b. Grasp the front of the module, and pull the module out of its slot.
    c. Use your free hand to support the bottom of the circuit pack.
    d. Once it is out of the shelf, put the old circuit pack in a safe place until it can be packaged and returned to the Central Services Organization (CSO).

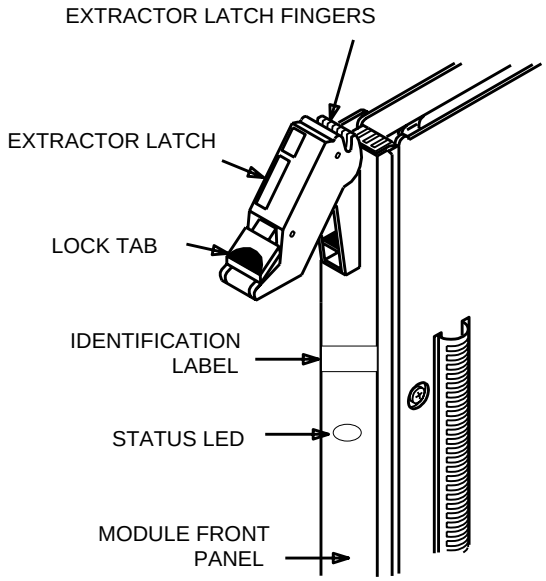


Figure 1. Circuit Board Removal/Installation

WARNING: When installing a replacement circuit board, remember to follow all recommended precautions for handling circuit modules.

5. Carefully unpack the replacement module from its shipping carton. Save the container and any packing material to return the defective module.

6. Unlock and open both extractor/latches on the replacement module (Figure 1).

7. Orient the module with the identification label at the top, and install the circuit board into its slot so that the edges of the board slide in the chassis guide rails.

8. Slide the circuit board into the slot until it engages the backplane connectors. Remember to support the bottom of the circuit board at all times.

9. Lock the circuit board in place with the extractor/latches as follows:

    a. Gently close both extractor/latches to engage their four tabs inside the chassis. Continue to press the levers closed (toward the module front panel) until they stop.
    b. Squeeze each release tab and the lever together, and gently press the latches completely closed.

10. Close the cabinet doors and inform appropriate personnel that the circuit board has been replaced.

11. If the replacement circuit board was installed in the left top shelf slots 141-147, then it will be automatically reintegrated into the system. If the circuit board was installed in the right top shelf slots 151 or 152, then its firmware will have to be updated using the ''flash download'' procedure in DLP-521. If the circuit board was installed in the right top shelf slots 153-168, then it will have to be restored via the appropriate restore board command.

    Note: The unit can be restored using either the MML command **RST:AAPBD:** *aaaa* from the AAP Craft Shell or the *UNIX* system command: **cfonline** *aaaa* from the root login (where: *aaaa* indicates the AAP board identity).

12. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Patch Panel Cards (PPC)—General Replacement Procedures

Summary: Each Announcement Administration Processor (AAP) PPC is shipped with specific instructions for removing and installing that PPC. In addition, this section gives the general procedure for replacing an AAP PPC. These procedures are not written for any specific maintenance group or work center. The actual work flow that occurs between local and remote groups for replacing a PPC is predetermined and, therefore, is beyond the scope of these instructions.

WARNING: The AAP system modules have components that can be damaged or destroyed by electrostatic discharge (ESD). Do not attempt to install any PPC without taking the following appropriate precautions.

Caution 1: Before removing or installing any PPC, remove all jewelry from your hands and wrists. Do not extend your hands into any open slot(s) in the cabinet.

Caution 2: All PPCs are shipped in antistatic envelopes for protection from static electricity. Do not remove a PPC from its antistatic envelop until you are ready to install it in the system. Before removing a PPC from the antistatic envelope, dissipate any static electrical charges from your person by touching the metal system cabinet or chassis. Handle the unwrapped PPC by its metal enclosure; avoid touching the internal printed wiring assembly or the connector pins.

Caution 3: When the humidity is low, the potential for generating a damaging ESD surge is significantly increased. Garments and floor coverings made of synthetic fabrics make the situation worse. Use extra care to prevent ESD damage to the equipment when the humidity is low or when you come into contact with synthetic fabrics.

Caution 4: The use of antistatic wrist straps is required.

Caution 5: Do not install any PPC that has damaged or bent outer covers, connectors, connector pins, or alignment pins.

WARNING: Installing a PPC with external physical damage could cause electrical short circuits or mechanical stress that could result in serious personal injury or severe damage to the AAP.

To remove a faulty or damaged PPC perform the following steps:

1. Review any alarm and/or notification information to determine which PPC has failed.

2. Open the rear door to the AAP cabinet.

3. Execute the MML input message **OP:AAPBD:***aaaa* to identify the slot location of the defective PPC (where: *aaaa* indicates the PPC identity).

4. Locate the failed PPC and verify that its status LED is turned off. See Figure 1.

5. Carefully disconnect all cables from the PPC (label each cable so that they can be reconnected properly).

6. Loosen both top and bottom thumbscrews by turning each counterclockwise.

7. Carefully remove the existing PPC.

8. Once it is out of the cabinet, put the old PPC in a safe place until it can be packaged and returned to the Central Services Organization (CSO).

   WARNING: When installing a replacement PPC, remember to follow all recommended precautions for handling the unit.

9. Carefully unpack the replacement module from its shipping carton. Save the container and any packing material to return the defective module.

10. Install the new PPC, tighten the thumbscrews, and reconnect all cables, as labeled.

11. Close the cabinet doors and inform appropriate personnel that the PPC has been replaced.

12. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

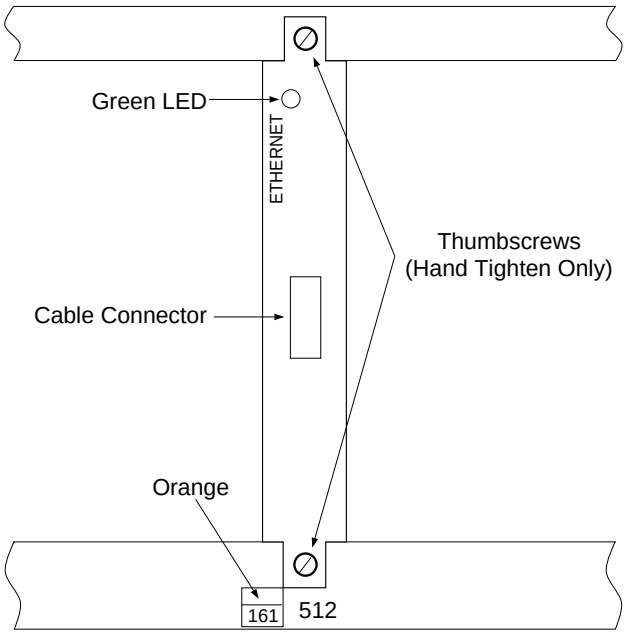


Figure 1. Rear of Circuit Pack Carrier—Patch Panel Configuration

Security Administration Utilities - DES Tape (#4)—Loading

1. Insert the (#4) Security Administration Utilities - DES tape into the tape drive and then do the following:

Console Messages	Enter
#	**pkgadd -d /dev/rmt/ctape0 crypt**
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	**go**
Installation in progress. Don't remove tape. Processing package instance <crypt> from <ctape0> Wish to rebuild kernel after <crypt> install? (y/n)	**n**

Response:

```
Installation in progress.  Do not remove the Cartridge Tape.

Processing package instance <pkgid> from /dev/rmt/ctape0
Installing T7404B12 as <pkgid>
Installation of <pkgid> was successful
```

where: *pkgid* is the assigned software package identifier (package instance).

This process takes approximately 5 minutes to complete.

2. At the AAP console, check permissions, file size and checksums of this new software by entering:

pkgchk *pkgid*

where: *pkgid* is the above software package identifier.

Errors encountered in loading a specific tape must be resolved before the tape can be loaded. If (after consulting with the next level of support) it is determined that there are too many errors to continue with the software load, the above software package should be removed from disk by entering the following command at the AAP console:

pkgrm *pkgid*

where: *pkgid* is the above software package identifier.

3. Remove the tape from the tape drive and store.

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Update Audit Database

1. At the AAP console, verify the Audit database (which defines when announcement audits are run and the Announcement range for each audit), by entering:

   OP:AUDIT

   Response:

```
OP:AUDIT   results

KEY   TYPE ANNSET FROM  TO    UCL MO DAYMO DAYWK HR MIN ENA ACT
0     0     N    1       511  0  *   *      *   0  00   0   0
1     1     N    1     65535  0  *   *      *   0  00   0   0
2     2     N    1     65535  0  *   *      *   0  00   0   0
3     3     N    1     65535  0  *   *      *   0  00   0   0
4     4     N    1         1  0  *   *      *   0  00   0   0
5     5     N    1         1  0  *   *      *   0  00   0   0
6     6     N    1         1  0  *   *      *   0  00   0   0
<
```

2. ANNSET S are now required for all SCSs, therefore the Audit databases are required to have them. At the AAP console, change the Audits 4, 5, and 6 by entering:

Console Message	Enter
<	**RC:AUDIT:UPD=CHG,KEY=4:ANNSET=S**
RC:AUDIT Completed <	**RC:AUDIT:UPD=CHG,KEY=5:ANNSET=S**
RC:AUDIT Completed <	**RC:AUDIT:UPD=CHG,KEY=6:ANNSET=S**
RC:AUDIT Completed <	

3. If there are SCUs with Type of Service Circuit 0 (N Set), change the times for running AAP Audits at the AAP console by entering:

Console Message	Enter
<	**RC:AUDIT:UPD=CHG,KEY=2:MIN=10**
RC:AUDIT Completed <	**RC:AUDIT:UPD=CHG,KEY=3:MIN=31**
RC:AUDIT Completed <	**RC:AUDIT:UPD=CHG,KEY=3:HR=1**
RC:AUDIT Completed <	**RC:AUDIT:UPD=CHG,KEY=3:DAYMO=15**
RC:AUDIT Completed <	

4. If there are no SCUs with Type of Service Circuit 0 (N Set), remove four (4) lines of the Audit database by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=DLT,KEY=0**
RC:AUDIT Completed <	**RC:AUDIT:UPD=DLT,KEY=1**
RC:AUDIT Completed <	**RC:AUDIT:UPD=DLT,KEY=2**
RC:AUDIT Completed <	**RC:AUDIT:UPD=DLT,KEY=3**
RC:AUDIT Completed <	

5. If there are SCUs with Type of Service Circuit 1 (S Set), add three (3) lines to the Audit database at the AAP console by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=ADD,KEY=11:TYPE=1,ANNSET=S,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=12:TYPE=2,ANNSET=S,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=20**
<	**RC:AUDIT:UPD=ADD,KEY=13:TYPE=3,ANNSET=S,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=8,DAYWK=ALL,HR=1,MIN=31**
<	

Note: For each line entry, there is no carriage return (ENTER key) until after the MIN value is keyed. Also, make sure that AAP accepts the line and repeats it back.

6. If there are SCUs with Type of Service Circuit 2 (*x* Set as it is not known as of publication time), add three (3) lines to the Audit database at the AAP con- sole by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=ADD,KEY=21:TYPE=1,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=22:TYPE=2,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=30**
<	**RC:AUDIT:UPD=ADD,KEY=23:TYPE=3,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=1,DAYWK=ALL,HR=1,MIN=31**
<	

where *x* is the Announcement Set defined in the TEO for Type of Service Circuit 2

Note: For each line entry, there is no carriage return (ENTER key) until after the MIN value is keyed. Also, make sure that AAP accepts the line and repeats it back.

7. If there are SCUs with Type of Service Circuit 3 (*x* Set as it is not known as of publication time), add three (3) lines to the Audit database at the AAP con- sole by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=ADD,KEY=31:TYPE=1,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=32:TYPE=2,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=40**
<	**RC:AUDIT:UPD=ADD,KEY=33:TYPE=3,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=22,DAYWK=ALL,HR=1,MIN=31**
<	

where *x* is the Announcement Set defined in the TEO for Type of Service Circuit 3

Note: For each line entry, there is no carriage return (ENTER key) until after the MIN value is keyed. Also, make sure that AAP accepts the line and repeats it back.

8. If there are SCUs with Type of Service Circuit 4 (B Set), add three (3) lines to the Audit database at the AAP con- sole by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=ADD,KEY=41:TYPE=1,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=42:TYPE=2,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=50**
<	**RC:AUDIT:UPD=ADD,KEY=43:TYPE=3,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=29,DAYWK=ALL,HR=1,MIN=31**
<	

where *x* is the Announcement Set defined in the TEO for Type of Service Circuit 4

Note: For each line entry, there is no carriage return (ENTER key) until after the MIN value is keyed. Also, make sure that AAP accepts the line and repeats it back.

9. If there are SCUs with Type of Service Circuit 5 (D Set), add three (3) lines to the Audit database at the AAP con- sole by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=ADD,KEY=51:TYPE=1,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=52:TYPE=2,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=1,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=53:TYPE=3,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=11,DAYWK=ALL,HR=1,MIN=31**
<	

where *x* is the Announcement Set defined in the TEO for Type of Service Circuit 5

Note: For each line entry, there is no carriage return (ENTER key) until after the MIN value is keyed. Also, make sure that AAP accepts the line and repeats it back.

10. If there are SCUs with Type of Service Circuit 6 (*x* Set as it is not known as of publication time), add three (3) lines to the Audit database at the AAP con- sole by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=ADD,KEY=61:TYPE=1,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=62:TYPE=2,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=1,MIN=10**
<	**RC:AUDIT:UPD=ADD,KEY=63:TYPE=3,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=18,DAYWK=ALL,HR=1,MIN 31**
<	

where *x* is the Announcement Set defined in the TEO for Type of Service Circuit 6

Note: For each line entry, there is no carriage return (ENTER key) until after the MIN value is keyed. Also, make sure that AAP accepts the line and repeats it back.

11. If there are SCUs with Type of Service Circuit 7 (*x* Set as it is not known as of publication time), add three (3) lines to the Audit database at the AAP con- sole by entering the following at the AAP console:

Console Message	Enter
<	**RC:AUDIT:UPD=ADD,KEY=71:TYPE=1,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,DAYWK=ALL,HR=0,MIN=00**
<	**RC:AUDIT:UPD=ADD,KEY=72:TYPE=2,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=ALL,=DAYWK=ALL,HR=1,MIN=20**
<	**RC:AUDIT:UPD=ADD,KEY=73:TYPE=3,ANNSET=*x*,FROM=1,TO=65535, UCL=0,MO=ALL,DAYMO=25,DAYWK=ALL,HR=1,MIN=31**
<	

where *x* is the Announcement Set defined in the TEO for Type of Service Circuit 7

Note: For each line entry, there is no carriage return (ENTER key) until after the MIN value is keyed. Also, make sure that AAP accepts the line and repeats it back.

12. At the AAP console, verify that the Audit database now contains all the proper lines and information by entering:

OP:AUDIT!

Response: *(See following page.)*

```
OP:AUDIT   results
```

(the following 3 lines are mandatory)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
4	4	S	1	1	0	*	*	*	0	00	0	0
5	5	S	1	1	0	*	*	*	0	00	0	0
6	6	S	1	1	0	*	*	*	0	00	0	0

(the next 4 lines are required if there are SCUs with Type of Service Circuit 0)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
0	0	N	1	511	0	*	*	*	0	00	0	0
1	1	N	1	65535	0	*	*	*	0	00	0	0
2	2	N	1	65535	0	*	*	*	0	10	0	0
3	3	N	1	65535	0	*	15	*	1	31	0	0

(the next 3 lines are required if there are SCUs with Type of Service Circuit 1)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
11	1	S	1	65535	0	*	*	*	0	00	0	0
12	2	S	1	65535	0	*	*	*	0	20	0	0
13	3	S	1	65535	0	*	8	*	1	31	0	0

(the next 3 lines are required if there are SCUs with Type of Service Circuit 2)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
21	1	c	1	65535	0	*	*	*	0	00	0	0
22	2	c	1	65535	0	*	*	*	0	30	0	0
23	3	c	1	65535	0	*	1	*	1	31	0	0

(the next 3 lines are required if there are SCUs with Type of Service Circuit 3)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
31	1	d	1	65535	0	*	*	*	0	00	0	0
32	2	d	1	65535	0	*	*	*	0	40	0	0
33	3	d	1	65535	0	*	22	*	1	31	0	0

(the next 3 lines are required if there are SCUs with Type of Service Circuit 4)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
41	1	e	1	65535	0	*	*	*	0	00	0	0
42	2	e	1	65535	0	*	*	*	0	50	0	0
43	3	e	1	65535	0	*	29	*	1	31	0	0

(the next 3 lines are required if there are SCUs with Type of Service Circuit 5)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
51	1	f	1	65535	0	*	*	*	0	00	0	0
52	2	f	1	65535	0	*	*	*	1	00	0	0
53	3	f	1	65535	0	*	11	*	1	31	0	0

(the next 3 lines are required if there are SCUs with Type of Service Circuit 6)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
61	1	g	1	65535	0	*	*	*	0	00	0	0
62	2	g	1	65535	0	*	*	*	1	10	0	0
63	3	g	1	65535	0	*	18	*	1	31	0	0

(the next 3 lines are required if there are SCUs with Type of Service Circuit 7)

KEY	TYPE	ANNSET	FROM	TO	UCL	MO	DAYMO	DAYWK	HR	MIN	ENA	ACT
71	1	h	1	65535	0	*	*	*	0	00	0	0
72	2	h	1	65535	0	*	*	*	1	20	0	0
73	3	h	1	65535	0	*	25	*	1	31	0	0

13. At the AAP console, assure that NONE of the Audit database lines have been enabled (for now) in the (ENA) column should be all (0) by entering:

    INH:AUDIT:KEY=ALL

    Response: (Should match Step 1 output)

14. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TNMI Tape (#6)—Loading

1. At the AAP console, check the run-level mode first by entering: **who -r**

   Response: `. run-level` *a date time*
   where: *a* should be S for single-user mode

2. If not in single-user mode from the previous step, reinitialize the system in single-user mode by entering the following at the AAP console:

Console Message	Enter
#	**init S**
`Password:`	**aap$gr0w**
#	

3. At the tape drive, insert the (#6) Total Network Management Interface (TNMI) tape into the drive, then enter at the AAP console:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0 all**

`Insert a cartridge tape into ctape0`
`Type [go] when ready,`
`or [q] to quit`
	go

   Response: `Installation of` *<pkgid>* `was successful.`
   where: *pkgid* is the assigned software package identifier.

   This process takes approximately 15 minutes to complete.

4. At the AAP console, check permissions, file size and checksums of this new software by entering: **pkgchk tnmi**

   Response: #

5. Remove the tape from the tape drive and store.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

ISDN Drivers and Utilities Tape (#7) — Loading

1. At the tape drive, insert the (#7) ISDN Drivers and Utilities Tape into the drive, then enter at the AAP console:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0 all**
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	**go**

Response:

```
Installation of <pkgid> was successful.
** IMPORTANT NOTICE **
  If installation of all pkgs is complete,
  the machine should be rebooted in order
  to ensure sane operation.  Execute the
  shutdown command w/ appropriate options
  and wait for the "Console Login:" prompt.
```

where: *pkgid* is the assigned software package identifier (package instance).

This process takes approximately 7 minutes to complete. There is also an important notice displayed that the machine should be rebooted to ensure sane operation; the reboot will be performed in the following steps.

2. Remove the tape from the tape drive and store.

3. At the AAP console, check permissions, file size and checksums of this new software by entering: **pkgchk isdn**

   Response: #

4. At the AAP console, enter the current date and time in the SPC clock:

   spdate -u

   Response: The correct time and date should appear.

5. At the AAP console, with the *UNIX*, TNMI and ISDN software successfully loaded, shut down and reinitialize the *UNIX* system operations, loading the system from disk, by entering:
   shutdown -i6 -y -g0

   Response:

```
Shutdown started.  date
Broadcast message from root (console) on NCR
THE SYSTEM IS BEING SHUT DOWN NOW ! ! !
Changing to init state 6 - please wait
#
The system is coming down.  Please wait.
xxxx services are being stopped.
killing daemon '/usr/lib/xxxx'
The system is down.
INIT: New run level: 1
This system is coming up.  Please wait.
Type Ctrl-d to proceed with normal startup,
(or give root password for system maintenance):
```

   This process takes approximately 7 minutes to complete. (Ignore the timeout response message.)

6. At the AAP console, retain the single-user mode by entering: **aap$gr0w**.

7. At the AAP console, after the system reboot from disk; check that the system contains the new software release by entering:
   uname -a

   Response:

```
Hostname: hostname 4.0  B12IPM03  CO-1300 MIPS/R3000
```

8. At the AAP console, change the AAP to run-level 1 (administration only) by entering:
   init 1

   Response:

```
INIT: New run level: 1
Change to state 1 has been completed.
```

9. With the system in run-level 1 and ISDN Interface software loaded, bring the ISDN boards on-line now since there will not be enough memory when the AAP software is loaded.

10. At the AAP console, login as root and verify the status of the ENET1 board by entering:

Console Message	Enter
Console Login	**root**
Password:	*root password*
#	**cfstatus -l enet1**

Response:

```
enet1
        state=online
        IOP/Controller = iop1
        DCC = DCC2
        cabinet location = 161
        patch panel location = 512
```

11. At the AAP console, activate the first ISDN board by entering:
    cfinstall -i iop0 -s ioc4 -c pri0

    Response:

```
Identified PRI Controller in iop 0, slot 4
LED on ISDN0 (slot 165 and patch panel 508) goes on.
```

12. At the AAP console, activate the second ISDN board by entering:
    cfinstall -i iop1 -s ioc6 -c pri1

    Response:

```
Identified PRI Controller in iop 1, slot 6
LED on ISDN1 (slot 167 and patch panel 506) goes on.
```

13. At the AAP console, verify the status of the AAP boards just activated by entering:

    cfstatus -l enet1 pri0 pri1

    Response: Data is listed and should match the information below:

Component	State	IOP/Controller	DCC	Location	Patch Panel
enet1	online	iop1	DCC2	161	512
pri0	online	iop0	DCC4	165	508
pri1	online	iop1	DCC5	167	506

14. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Announcement Administration Processor (AAP) Tape (#9) — Loading

1. At the tape drive, insert the (#9) Announcement Administration Processor (AAP) Tape into the drive. Then, at the AAP console, begin the loading and installation of the AAP Application software by entering:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0** *xxxxx*
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	**go**
Installation in progress. Do not remove tape. The current package instance id: FSAAP This machine type is: field Exit now? (y/[n])	**n**
Start to install package 4ESS Office Number?	(1-999 as defined by AFSC) (Use the AAP ID Number from Step 1 of NTP-004)
Common Language Loc'n ID CLLI Number	(10 char AAP CLLI code w/out last B or X) (See Step 1 of NTP-004)

where: *xxxxx* = FSAAP (If the AAP is a Central Site AAP, this value would be either MASTER or SLAVE)

Response:

```
## Processing package info.
Installing AAP Appl'n Softwr as <FSAAP>
Mkfs: make vxfs file system?
(DEL if wrong)
## Installing part 1
## Executing postinstall script.
Installation of <FSAAP> was successful.

** IMPORTANT NOTICE **
  If installation of all pkgs is complete,
  the machine should be rebooted in order
  to ensure sane operation.  Execute the
  shutdown command w/ appropriate options
  and wait for the "Console Login:" prompt.
Broken Pipe
#
```

This step will take approximately 20 minutes to complete.

2. Begin the load and installation of the AAP maintenance software by leaving the AAP application tape inserted into the tape drive and entering at the AAP console:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0 AAPMTCE1**
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	**go**

where: *AAPMTCE1* is the package identifier for AAP Maintenance Interface.

Response:

```
Installation in progress.  Do not remove the Cartridge Tape.
Installation of <AAPMTCE1> was successful.
Broken Pipe
#
```

This step will take approximately 10 minutes to complete.

3. Load the remainder of the AAP maintenance software by leaving the AAP application tape inserted into the tape drive and entering at the AAP console:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0 AAPMTCE2**
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	**go**

where: *AAPMTCE2* is the package identifier for the second part of AAP Maintenance Interface.

Response:

```
Installation in progress.  Do not remove the Cartridge Tape.
Installation of <AAPMTCE2> was successful.
Broken Pipe
#
```

This step will take approximately 7 minutes to complete.

4. Remove the tape from the tape drive and store.

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE**.

Logins—How to Administer

This section gives general procedures for administering logins on the AAP.

1. Access the *UNIX* system interface and log into the AAP. At the *UNIX* system shell prompt, log in as root using the following:

Console Message	Enter
$ (*shell prompt*)	**/bin/su - root**
Password:	*root password*
#	

2. List the logins currently in the AAP by entering the following:

   logins -g other

   Response:

```
  .
  .
  .
list of logins including the following:
  .
  .
  .
root
sync
install
daemon
oasys
```

   Caution: Do not delete the following logins: root, sync, install, daemon, or oasys.

3. Are you adding or removing a login?

   If **ADDING A LOGIN**, continue to Step 4.
   If **REMOVING A LOGIN**, skip to Step 6.

Adding a New Login

4. Add a new local user login into the valid AAP login list by entering the following command at the AAP console:

   useradd -d /home -s /usr/aap/X/mtce/bin/runca -u0 -o *login-name*

   where: *login-name* is the assigned login name.

   Note: A new user login cannot be one that is already in the valid AAP login list (see Step 2).

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Removing a Login

6. Remove a user login by entering the following command at the user prompt:

   userdel *login-name*

   where: *login-name* is the user login that is to be deleted.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

AAP Application Software and/or Database(s)—Restore

This section gives general procedures for doing a restore of the AAP application software and/or databases(s).

1. Access the *UNIX* system interface and log into the AAP. At the *UNIX* system shell prompt, log in as root using the following:

Console Message	Enter
$ (*shell prompt*)	**/bin/su - root**
`Password:`	*root password*
#	

2. Verify that the AAP applications backup tape (created locally) is loaded in the tape drive (tape includes AAP application software and unique databases for that site).

3. Are you performing a complete or partial restore of the AAP application software?

   If **COMPLETE**, continue to Step 4.
   If **PARTIAL**, skip to Step 8.

4. At the AAP console press the **F9** key to access the EAI page. From the EAI page, reboot the AAP to run-level 1 (single-user mode) by entering the following sequence of commands:

   30

   53

   y

5. At the AAP console, enter the following command to provide a complete restore of the AAP application software:

   /usr/aap/X/bin/aap_rst

   Response: (*block count*)

   The restore takes approximately 40 minutes to complete.

6. Return to the EAI page **F9** and reboot the AAP to run-level 3 (multi-user mode) by entering the following sequence of commands:

   32

   53

   y

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. At the AAP console, enter the following command at the root prompt: **/usr/aap/X/bin/aap_rst** "*(suffix)*".

   where: *suffix* is the path name of the file or database being restored. For example, **"mtce/db"** would be used to restore the maintenance software and associated databases or **"mtce"** would restore just the maintenance software. The suffix must be enclosed with quotation (" ") marks.

   Response: (*block count*)

   The restore time varies depending on the file or database being restored.

9. Any other files or databases to be restored?

   If **YES**, repeat Step 8.
   If **NO**, continue.

10. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

AAP Application Software and/or Databases—Backup

Summary: This section gives general procedures for doing a backup of the AAP application software and/or databases(s). The details of when to perform a backup and where to keep the backup tapes is ultimately up to the end user. However, if the backup is to be done remotely, it is recommended that the backup tape be kept in the AAP tape drive at all times. This will permit backups and/or restores of any part of the AAP application software at any time.

Note: Since there are no provisions for backing up BWM/SUs for the *UNIX* operating system, only the BWM/SUs for the AAP application software can be backed up.

1. Access the *UNIX* system prompt. At the *UNIX* system prompt, log in as root using the following:

Console Message	Enter
<	**LOGOUT**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**q**
Console Login:	**root**
Password:	**aap$gr0w**
#	

2. Ensure that a blank tape (write enabled) is loaded in the AAP tape drive.

3. Enter the following command at the *UNIX* system root prompt:

   /usr/aap/X/bin/aap_bkup

   Response: (*block count*)

   The backup takes approximately 15 to 60 minutes to complete.

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Unmirrored Disks—Analysis and Repair

Summary: There are two audits run on the AAP disks. The first is for the status of the disk mirroring, and the results show up on Display Page 107 indicator **DISK MIRROR**. The second audit is to read the disk blocks on all disks to detect disk CRC errors, and the results of this show up on Display Page 107 indicator **DISK CRC**. The problems found in these audits can be fixed by manually running the **AUD:MIRROR** command with the correct options.

1. If a SCSI board is OOS (see Display Page 106), this must be fixed first. Is a SCSI board OOS?

   If **YES**, go to **TAP-109**.
   If **NO**, then continue.

2. If a Disk Drive is OOS (Display Page 107), it must be fixed before Mirroring can be fixed. Is a Disk Drive OOS?

   If **YES**, go to **TAP-141**.
   If **NO**, continue.

3. Access Display Page 107 (Middle Shelf) and determine the status (ACT or UNAVAIL or OOS) of the **DISK CRC** indicator.

   If **ACT or UNAVAIL**, go to Step 6.
   If **OOS**, continue.

4. In the Craft Shell, enter the following:

   AUD:MIRROR:CMD=REPAIR,OPTION=FULL

   Note: This could take 2 to 5 hours to complete.

5. When the AUD:MIRROR command completes, access Display Page 107 and determine the status of the DISK CRC indicator.

   If **ACT**, continue.
   If **OOS**, go to Step 10.

6. Access Display Page 107 (Middle Shelf) and determine the status (ACT or OOS) of the **DISK MIRROR** indicator.

   If **ACT**, go to Step 9.
   If **OOS**, continue.

7. In the Craft Shell, enter the following:

   AUD:MIRROR:CMD=REPAIR

   Note: This could take 1 to 3 hours to complete.

8. When the AUD:MIRROR command completes, access Display Page 107 and determine the status of the **DISK MIRROR** indicator.

   If **ACT**, go to Step 9.
   If **OOS**, go to Step 10.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

10. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact Field Support and report the problem and the specific accompanying MML output messages.

SCS Unit Type Translator—Perform Functional Word Change

1. At the 1B Maintenance (MTC) terminal, enter the following command to bring up Recent Change Form 801.

   OP:RCFORM 801!

   Caution: Calling up a Recent Change (RC) form will cause all data on the screen to be cleared.

2. At the **RC:FUNC;CHG;OPT(TRANS)** field, enter **TST**.

3. At the **TRANSID** field, enter **UTSCS**.

4. At the **ORNU** field, enter a unique Order Number assigned to this word change.

5. At the **ENTRY** field, enter the member number of the growth member requiring Unit Type translator change.

6. At the **WORDNO** field, enter the number of the Unit Type translator word to be changed.

7. Determine the number of consecutive bits which span all bits requiring change in this Unit Type translator word (see example in Figure 1) and at the **SIZE** field, then enter this number.

8. Determine the bit position number (range 0 to 23) of the right-most bit of the consecutive bits determined in Step 7 (see example in Figure 1) and at the **DISP** field, enter this bit position number.

9. At the **BINOCT** field, enter **B**.

10. Determine the binary bits to be inserted into the Unit Type translator word to correct that word (see example in Figure 1). At the **NEWDATA** field, enter these binary bits.

    Note: The quantity of these binary bits must be equal to the number entered as **SIZE** in Step 7.

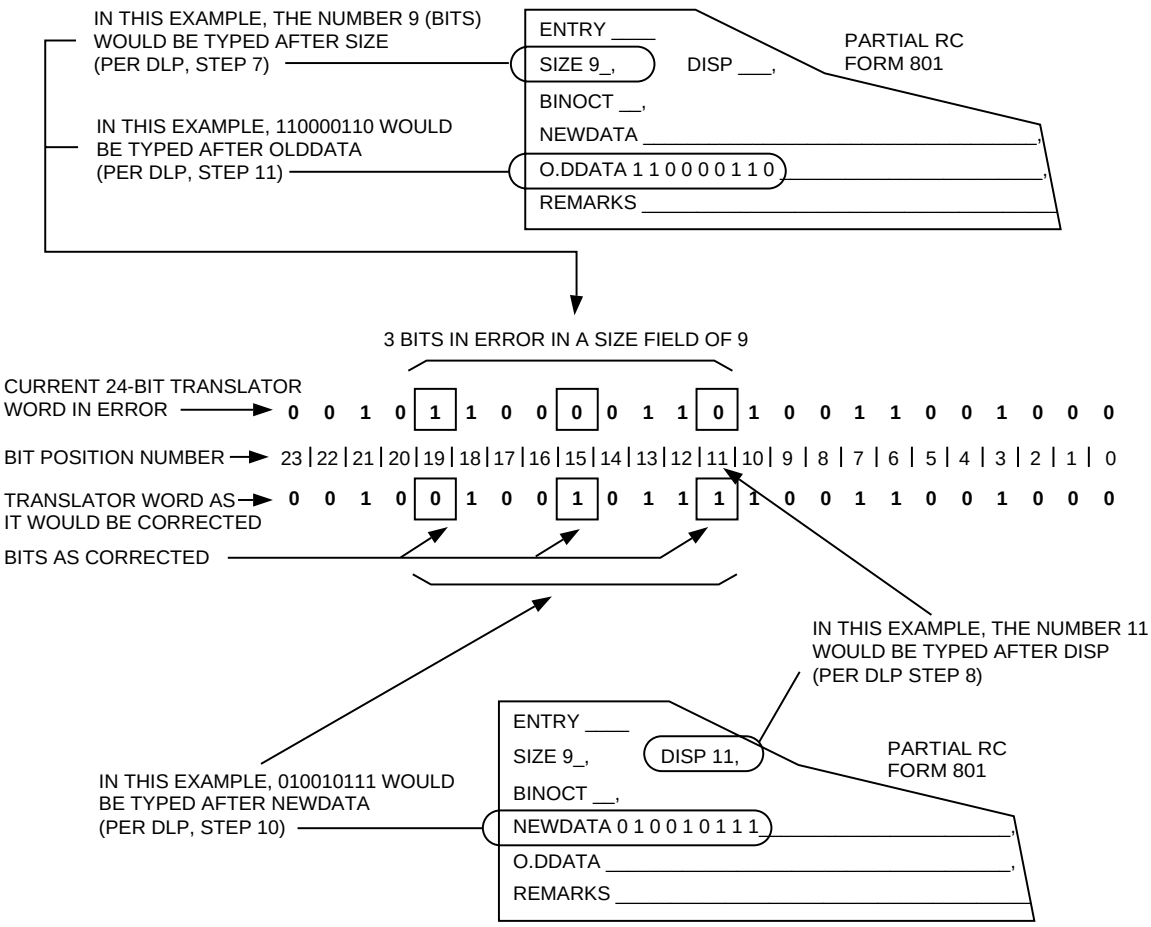


Figure 1. Functional Word Change Example

11. At the **OLDDATA** field, enter the current binary of only that portion of the Unit Type translator word requiring change (see example in Figure 1).

    Note: The quantity of binary bits to be entered as **OLDDATA** must be equal to the quantity of bits entered as **NEWDATA** in Step 10.

12. If no **REMARKS** are needed, return the cursor to the top of the form by pressing the **HOME** key.

13. Press the **SEND/ENTER** key.

    Response:

```
RC ORNU a SUCCESSFULLY TESTED
RC ORNU a SUCCESSFULLY BUFFERED
      :
      :
New entries
```

    where: *a* = RC Order Number.

    Note: All entries should be checked for accuracy. If any entries are found to be incorrect, repeat Steps 1 through 13.

14. At the 1B MTC terminal, enter the following command:

    RCACT:ORNU ***a*****!**

    where: *a* = RC Order Number.

    Response:

```
RC ORNU a ACTIVATED
      :
      :
New entries
```

15. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Verify MACHINE Database

1. At the AAP console, verify that the one-line MACHINE database contains the FS-AAP Office ID number and AAP CLLI code is correct, by entering:

   OP:MACHINE

   Response:

```
OP:MACHINE  results

KEY   OFID    CLLI     TYPE  LVL  CTYPE  CSPN
1     b        c        F   24     1    1234567890
>
```

   where *b* is Office ID (1-65535) recorded in Step 1 of NTP-004.
   c is AAP CLLI code recorded in Step 1 of NTP-004.

2. If the Office ID or AAP CLLI code is incorrect from doing Step 1, then use the following command to correct it. Otherwise, continue to the next Step.

   If the Office ID needs correction, enter:

   RC:MACHINE:UPD=CHG,KEY=1:OFID=b (1-65535)

   OR

   IF the AAP CLLI code needs correction, enter:

   RC:MACHINE:UPD=CHG,KEY=1:CLLI=c (First 10 characters only)

3. If the Office ID is corrected from doing Step 2, you will have to reboot the system, by entering the following at the AAP console:

Console Message	Enter
<	**LOGOUT**
#	**(F9) key**
(EAI Page displayed) Do you want to boot now?	**32** **53** **y**
(boot sequence starts)	**(F10) key**
(full screen will appear) NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	 **(ENTER) key**
Console Login:	**root**
Password:	**aap$gr0w**
#	**/usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu) 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	 **1**
<	**OP:MACHINE**

Response:

```
OP:MACHINE  results

KEY   OFID    CLLI     TYPE  LVL  CTYPE  CSPN
1     b        c        F   24     1    1234567890
>
```

where *b* is Office ID (1-65535) recorded in Step 1 of NTP-004.
c is AAP CLLI code recorded in Step 1 of NTP-004.

4. Verify that the **OP:MACHINE** results from the previous step are correct.

Lucent Technologies — Proprietary
Use pursuant to Company instructions

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Boot Tape (#1)—Loading

1. Log into the AAP as root (obtain # prompt).

2. At the AAP console, shut down the *UNIX* system operations by entering the following:

   shutdown -i5 -y -g5

   Response:

```
Shutdown started. date

Broadcast message from root (console) on NCR
THE SYSTEM IS BEING SHUT DOWN NOW ! ! !
Log off now or risk your files being damaged.

Changing to init state 5 - please wait
#
INIT: New run level: 5
The system is coming down.  Please wait.
xxxx services are being stopped.
killing daemon '/usr/lib/xxxx'
/sbin/spawndaemon: cannot open /dev/keepalivecfg
/sbin/spawndaemon: No such device or address
/sbin/spawndaemon: cannot communicate with keepalive
The system is down.

Cabinet configuration: CO-1300
Identified Interphase SCSI Controller in iop n, slot n

>>
```

   It takes approximately 3 minutes to get the response.

3. Load the (#1) Boot Tape into the tape drive by pressing the tape door release button and inserting the tape lengthwise so that the SAFE switch goes in first on the right-hand side. Close the door (the LED on the tape door should light). Then enter the following at the AAP console:

   saboot tape(1,4)

   Response: *(see next page)*

```
loading file tape(1,4) ...
CPU: MIPS R3000 Processor Chip Revision: n
     . . .
Non-Stop-UX SVR4.0 -- Seq: 1 -- root -- date
     . . .
Identified Interphase SCSI controller in iop x, slot x
Iopn: IOP timed out a VME controller
Jaguar Version ...
IO subsystem initialization complete.
ENTER RUN LEVEL (0-6,s or S)
```

It takes approximately 5 minutes to reach this point.

4. At the AAP console, enter the single-user environment by entering: **s**

   Response:

```
INIT: SINGLE USER MODE
Enter Ctrl-d to proceed with normal startup, (or give root password
for system maintenance):
```

5. Press **ENTER** key as no password has yet been entered.

   Response:

```
Entering System Maintenance Mode
#
```

6. Remove tape from tape drive and store.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Cartridge Tape Module Cleaning

Preventive maintenance for the cartridge tape module consists of periodic cleaning of the read/write head and taking a few precautions in storage and use of the tape cartridges.

1. To clean the read/write head, use a read/write head cleaning cartridge such as the *Tandberg* Data TDC Cleaning Cartridge Kit, 3M Data Cartridge Head Cleaning Kit, or an equivalent cleaning cartridge. These are available from computer supply vendors. Follow the instructions in the kit.

2. The interval for cleaning the read/write head depends on several factors:

   - How much cumulative time the drive moves tape across the read/write head.
   - The quality of the tape.
   - The cleanliness of the environment around the system.

   Refer to Table A and clean the cartridge tape drive read/write head at the interval that corresponds to the tape usage time; cleaning the heads more often increases reliability.

TABLE A Cartridge Tape Drive Cleaning Recommendations

Tape Movement Time	Cleaning Interval[1]
Continuous usage (8 hours/day)	Daily
Daily (not continuous)	Weekly
Weekly (periodic)	Monthly
[1] Clean the read/write head after first use of a new cartridge tape and whenever tape errors occur.	

3. Observe the following precautions for proper care of the tape cartridges:

   a. Store tape cartridges in their protective plastic containers out of direct sunlight.
   b. If tape cartridges are stored outside of the system operating environment, allow the cartridge time to acclimate to the system operating environment before using it. Allow 1 hour of acclimation time for each hour outside of the operating environment, up to a maximum of 4 hours.
   c. Perform a conditioning pass with the tape cartridge when:

      - The tape cartridge is new.
      - You plan to write data to the tape.
      - The tape cartridge has been exposed to a 30˚F (17˚C) change in temperature.
      - The tape cartridge has been used an extended period of time.

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Cabinet Cleaning and Inspection

Follow the cabinet cleaning and inspection recommendations listed below on a regular and frequent basis. The frequency depends on the overall cleanliness of the system installation site.

1. Inspect the air intake and exhaust vent areas around the system cabinet and mass storage cabinet(s) for obstructions to air flow. Air enters the intake vents located at the top front and back of the cabinet structure and in the grill work of the front and rear doors. Air exhausts out the bottom of the cabinets. Remove any obstructions to the air flow from the immediate area of the system.

2. Wipe or vacuum any dust and dirt off the cabinets with a clean, dry cloth. Do not permit dust accumulation over the air intake vents.

3. Keep the area around the system clean. Airborne dust and dirt can accelerate wear on tape drive heads and media and cause excessive data errors. Vacuum or mop the floors as required.

4. Inspect all system cables and power cords for physical damage. Ensure that all cables are placed out of personnel or equipment traffic patterns and that the cables are adequately covered and protected.

5. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

UNIX System Login—Remote Access

To access the AAP via the *UNIX* system interface (PVC8), perform the following commands:

1. At a *Datakit* VCS `DESTINATION:` prompt enter the following access path:

   mo/kscy01/kccaucs1

   Or, at your system prompt, enter the following command:

   dkcu mo/kscy01/kccaucs1

   Response:

   `kccaucs1 [CAUCS LI]`

2. When prompted for a login, enter your CAUCS system login ID and password:

   `login:` *xxxxxxx*
   `Password:` *yyyyyyyy*

   Response:

```
================================================
* * * * * * * * * * * * * * * * * * * * * * * *
================================================
  ####     ##    #    #   ####    ####
 #    #   #  #   #    #  #    #  #
 #       #    #  #    #  #        ####
 #       ######  #    #  #            #
 #    #  #    #  #    #  #    #  #    #
  ####   #    #   ####    ####    ####

================================================
* * * * * * * * * * * * * * * * * * * * * * * *
================================================

####  CAUCS Generic: 1.0    Release: 1.2   Date: 07/12/94  ####
```

3. Enter your terminal type when prompted:

   `Terminal type?` **vt100**

   Response:

   `Wed Aug 31 09:27:17 CST 1994`

4. To verify which AAP machines are connected to CAUCS via PVC8, enter the following:
   ps -ef | grep noserv
   Response (*example only*):

   Note: In the **noserv** listing, locate the entries that are specific to the FS-AAP being installed. This should be indicated by the *Datakit* VCS site identifier (*XXXX[0,1]*).

```
root 28586 26002 0 16:34:15 dkyyyt 0:00 noserv ddcp/com/pstlaap1 XXXX[0,1]
root  2871 26002 0 05:38:07 dkyyyt 0:00 noserv ddcp/com/pstlaap1 XXXX[0,1]
```

   where: *XXXX[0,1]* is the *Datakit* VCS site identifier (0 = the primary DWAN link and 1 = the secondary DWAN Link).
   yyy is the *Datakit* VCS device number.

5. To connect to the any AAP site, enter the following:
   dkcon *XXXX[0,1]*
   Response:

```
Connecting to site XXXX[0,1] (using /dev/dkyyyt).
Connecting to UNIX login: enter "<CR>~." to exit, or log off when done.
```

   where: *XXXX[0,1]* and *yyy* are the same as in Step 4.

6. Press the **Enter** key to obtain the login prompt.

7. When prompted for a login, enter the AAP callup login ID and password:
   `login:` **callup**
   `Password:` **pVc8porT**
   Response:

```
UNIX System V Release 4.0 AT&T CO-1300
xxxxxxxxx (AAP Machine Name)
Copyright (c) 1984 AT&T
All Rights Reserved
$ (console prompt)
```

8. Access the ‘‘root’’ login by entering the following: **su root**

   `Password:` *(See note.)*

   Note: Contact AAP system administrator for password information.

   Response: # *(root prompt)*

9. At the prompt, access the AAP menu by entering the following:
   /usr/aap/X/mtce/bin/runca
   Response:

```
Select function (type q to quit, m to refresh menu) ...
1) CRAFT_SHELL
2) DISPLAY_PAGES
3) AUTO_MESSAGES
4) AAP OPERATIONAL USER INTERFACE
Pick one of the above by number:
```

10. Enter selection for desired function: (**1**, **2**, **3**, **4**, **m**, or **q**).

11. To exit from the menu, enter the following: **q**

    Response: # *(root prompt)*

12. To exit from the root login prompt, enter the following: **exit**

    Response: $ (*console prompt*)

13. If using the TNM, go to Step 15. Otherwise, continue to the next step.

14. To exit from the AAP, enter the following: **exit**

    Response:

```
Connection closed....
Disconnected from UNIX login.
```

15. To return to CAUCS, enter the following: **~.** *(tilde-period)*. (See ***Note***.)

    Response

```
Connecting to UNIX login: enter "<CR>~." to exit, or log off when done.
KCCAUCS1> (CAUCS system prompt)
```

> ***Note:*** For TCC/NCC workstation users, you may have to use the sequence **~~~.** to avoid losing your working window. This should return you to your system prompt. You would also skip Step 16.

16. To exit from CAUCS, enter the following:
    exit

    Response:

    `DESTINATION:` *(If logged into Datakit* VCS.)
    —or—
    Your system prompt: *(If logged in via the* **dkcu** *command.*)

17. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

AAP Boot Trouble - Data Collection Procedure

The following procedure should be performed when booting remotely via TNM and the boot fails to return the AAP to multi-user operation. This condition is indicated by the following message:

```
Press Ctrl-d to proceed with normal startup,
(or give root password for system maintenance):
```

Note: The following procedure should be performed on each SP that is active. If both SPs are active, repeat this procedure accordingly.

1. At the TCC/NCC, access the EAI page.

2. At the EAI page, press **Ctrl-F** to display system flags.

3. Record the "FLAGS" displayed in the upper-right corner of the EAI page.

4. If the other SP is active, set the A/B Switchbox to that SP and then repeat Steps 1 through 3. Record the FLAGS displayed on that EAI page.

5. Access *UNIX* prompt (DLP-540).

6. Enter the `root password` (as indicated in the above system message).

7. At the "#" prompt, enter the following:

   rsh sp_sp0 spcmd -L > /sp0_eai.log
   rsh sp_sp1 spcmd -L > /sp1_eai.log

   rsh sp_sp0 more spevlog.a | tee /sp0_evlog
   rsh sp_sp1 more spevlog.a | tee /sp1_evlog

   where: the above " **|** " character is the symbol for a pipe operation.

   (If prompted for more data, press the **Spacebar** and **Return** keys.)

   Note: If an SP is down, you may eliminate the above command lines that are associated with that SP.

8. The boot problem should be reported to NESAC along with the FLAGS information (recorded in Step 3 and 4). NESAC should be instructed to contact the appropriate AAP Project Team Member for analysis and resolution of this problem.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Announcement Administration Processor (AAP) Appendices Tape (#10) — Loading

1. Load the (#10) Announcement Administration Processor (AAP) Appendices tape into the tape drive to copy the BWM files to the AAP.

2. Toggle the Read Only Printer (ROP) power switch off/on to initiate data path again.

3. Return to the root login and copy BWM files, at the AAP console by pressing Return and then entering:

Console Message	Enter
#	**cpio -icdmuBv < /dev/rmt/ctape0**
/etc/bwm CFT94-0xxx nnnn blocks #	

4. At the AAP console, reboot the AAP, which will come up in run-level 3 (multi-user mode), by entering the following:

   shutdown -i6 -y -g0

   Response:

```
THE SYSTEM IS BEING SHUT DOWN NOW !  !  !
<CPUx: CPU REINTEGRATION

(Some messages concluding with:)

ROLLING IN NSPS DATABASES
CREATING LEVEL n NSPS PROCESSES
COMPLETED NSPS INIT
```

   It takes approximately 7 minutes to complete the response.

5. At the AAP console, press the **ENTER** key to get the `Console Login:` prompt.

6. Return to the AAP Maintenance Interface, at the AAP console by entering:

Console Message	Enter
`Console Login:`	**root**
`Password:`	**aap$gr0w**
`#`	**/usr/aap/X/mtce/bin/runca**

`Select function (type q to quit, m to refresh menu)`
`1) CRAFT SHELLS`
`2) DISPLAY PAGES`
`3) AUTO MESSAGES`
`4) AAP OPERATIONAL USER INTERFACE`
`Pick one of the above by number`
	1

`MML INPUT WINDOW` `<`	

7. Remove tape from the tape drive and store.

8. Verify that the BWMs are in the right location, at the AAP console by entering:
   UPD:BWM:DISPLAY

   Response:

```
AAP_ATTC $AAP(1)4.4 AUCKNZ0123T date time
   . . .
Entries in the /etc/bwm directory:
-----------------------------------
CFT94 - 0107
CFT94 - 0111
CFT94 - 0140
CFT94 - 0150
CFT94 - 0155
CFT94 - 0183
CFT94 - 0187
CFT94 - 0219
BWM95 - 0001
BWM95 - 0002
BWM95 - 0003
BWM95 - 0004
BWM95 - 0005
BWM95 - 0006
BWM96 - 0001
BWM96 - 0005
BWM96 - 0006
BWM96 - 0007
BWM97 - 0001

Currently permed and currently applied BWMs
-------------------------------------------
There is nothing currently permed
There is nothing currently applied

UPD:BWM:DISPLAY Completed
<
```

Note: During this procedure, if at any time there is concern whether any prior command has been skipped, the status of BWMs can be obtained by entering: **UPD:BWM:DISPLAY;**

9. Verify, apply and perm the first BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0107**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0107**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:CFT94-0107**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 16 minutes to complete.

10. Verify, apply and perm the second BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0111**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0111**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:CFT94-0111**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 13 minutes to complete.

11. Verify, apply and perm the third BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0140**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0140**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:CFT94-0140**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 6 minutes to complete.

12. Verify, apply and perm the fourth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0150**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0150**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:CFT94-0150**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 12 minutes to complete.

13. Verify, apply and perm the fifth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0155**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0155**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:CFT94-0155**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 4 minutes to complete.

14. Verify, apply and perm the sixth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0183**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0183**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:CFT94-0183**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 17 minutes to complete.

15. Verify, apply and perm the seventh BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0187**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0187**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:CFT94-0187**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 3 minutes to complete.

16. Verify, apply and perm the eighth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:CFT94-0219**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:CFT94-0219**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:CFT94-0219**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 3 minutes to complete.

17. Verify, apply and perm the ninth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM95-0001**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM95-0001**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:BWM95-0001**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 17 minutes to complete.

18. Verify, apply and perm the tenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM95-0002**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM95-0002**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:BWM95-0002**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 5 minutes to complete.

19. Verify, apply and perm the eleventh BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM95-0003**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM95-0003**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:BWM95-0003**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 12 minutes to complete.

20. Verify, apply and perm the twelfth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM95-0004**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM95-0004**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:BWM95-0004**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 22 minutes to complete.

21. Verify, apply and perm the thirteenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM95-0005**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM95-0005**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:BWM95-0005**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 6 minutes to complete.

22. Verify, apply and perm the fourteenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM95-0006**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM95-0006**
. . . UPD:BWM:APPLY Completed . . . NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**(RETURN) key**
#	**usr/aap/X/mtce/bin/runca**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML INPUT WINDOW <	**UPD:BWM:PERM:BWM95-0006**
. . . UPD:BWM:PERM Completed <	

This step takes approximately 12 minutes to complete.

23. Verify, apply and perm the fifteenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM96-0001**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM96-0001**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:BWM96-0001**
. . . UPD:BWM:PERM Completed <	

This step takes approximately **15** minutes to complete.

24. Verify, apply and perm the sixteenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM96-0005**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM96-0005**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:BWM96-0005**
. . . UPD:BWM:PERM Completed <	

This step takes approximately **15** minutes to complete.

25. Verify, apply and perm the seventeenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM96-0006**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM96-0006**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:BWM96-0006**
. . . UPD:BWM:PERM Completed <	

This step takes approximately **15** minutes to complete.

26. Verify, apply and perm the eighteenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM96-0007**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM96-0007**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:BWM96-0007**
. . . UPD:BWM:PERM Completed <	

This step takes approximately **15** minutes to complete.

27. Verify, apply and perm the nineteenth BWM. After receiving the "Completed" message, enter the following at the AAP:

Console Message	Enter
<	**UPD:BWM:VFY:BWM97-0001**
. . . UPD:BWM:VFY Completed <	**UPD:BWM:APPLY:BWM97-0001**
. . . UPD:BWM:APPLY Completed <	**UPD:BWM:PERM:BWM97-0001**
. . . UPD:BWM:PERM Completed <	

This step takes approximately **15** minutes to complete.

28. At the AAP console, verify that the all BWMs were successfully installed by entering:

    UPD:BWM:DISPLAY

    Response:

```
AAP_ATTC $AAP(1)4.4 AUCKNZ0123T date time
   . . .
Entries in the /etc/bwm directory:
-----------------------------------
BWM97 - 0001

Currently permed and currently applied BWMs
-------------------------------------------
Currently permed is: BWM97-0001
There is nothing currently applied

UPD:BWM:DISPLAY Completed
<
```

29. Reboot the AAP from the EAI page to come up in run-level 1 (Single_ User mode), at the AAP console by entering:

Console Message	Enter
<	**L**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**q**
#	**init S**
Type Ctrl-d to proceed with normal startup (or give roor password for system maintenance):	**aap$gr0w**
#	**who -r**
. run-level S (date and time) #	

30. Store all software tapes for emergency reload possibilities.

31. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Nonstop-UK Sys-AT&T Tape (#2)—Loading

1. At the AAP console, start the installation process by entering: **sysinstall**

   Response:

```
This system is configured with 32 MB of memory. 2 system
disks and 0 data disks are required for installation.

Please place the installation tape in the tape drive.  Type (y)
when tape is positioned.  Type (n) to abort installation:
```

2. Load the (#2) Nonstop-UK Sys-AT&T tape in the tape drive, then, enter: **y**

   Response:

```
Enter the host name:
```

3. Using uppercase letters, enter the AAP ID hostname (from Step 1 of NTP-004) at the AAP console.

   Response:

```
Hostname: "hostname", Ok? (y/n)
```

4. If the hostname response is correct, enter **y** at the AAP console. Otherwise enter **n** and repeat Step 3.

   Response:

```
WARNING! Installation will erase all data on your system
disks. All data on these disks will be lost:
      scsi controller 0 disk 0
      scsi controller 1 disk 1
Do you want to proceed with the installation? (y/n)
```

5. At the AAP console, enter: **y**

   Response:

```
Do you want to physically format the target disks? (y/n)
```

6. At the AAP console, enter: **n**

   Response:

```
Creating and initializing volumes ...
Reading the installation tape ...
Copying the ram disk contents to the hard disk ...
 ................................................
Making devices in root
 ................................................
 ................................................
Installation of <xxx> was successful.
Making devices in miniroot
 ................................................
Installing the boot partition ...

Cpu flash is up to date.
```

This process takes approximately 1 hour to complete.

7. At the AAP console, shut down the system and change back to PROM monitor mode by entering:
   uadmin 2 2

   Response:

```
The system is down.

Identified Interphase SCSI Controller in iop n, slot n
slotn: initialization succeeded
>>
```

8. At the AAP console, boot the newly loaded operating system from disk by entering:
   auto

   Response:

```
Identified Interphase SCSI Controller in iop n, slot n
slotn: initialization succeeded
Secondary Boot Utility ...

CPU: MIPS R3000 Processor Chip Revision: n

NonStop-UX SVR4.0 -- Seq:  -- root -- date

Identified Interphase SCSI Controller in iop n, slot n
Jaguar Version ...
IO subsystem initialization complete.
adding daemon '/usr/sbin/xxx respawn '/etc/keepalive/xxx'

INIT: SINGLE USER MODE

Type Ctrl-d to proceed with normal startup, (or give root password
for system maintenance):
```

9. At the AAP console, press the **ENTER** key (since there is no password at this time).

   Response:

```
Entering System Mtce Mode
#
```

10. At the AAP console, check that the latest CPU firmware is loaded into the CPUs by entering: **cpudload**

    Response:

```
Cpu flash is up to date
#
```

    If the CPU firmware is not up to date, upgrade it by entering **cpudload -f -y** at the AAP console.

    Response:

```
Updating CPU flash memory by user request
Cpu flash memory update complete
```

    This may require two passes, since CPU-A may be put in the OOS state by this procedure. If so, enter **cfonline cpuA** before retrying.

11. Remove tape from tape drive and store.

12. **STOP! YOU HAVE COMPLETED THIS PROCEDURE**.

Product-Nonstop *UNIX* SVR4 Tape (#5) — Loading

1. Load the (#5) Product-Nonstop ***UNIX*** SVR4 Tape in the tape drive, then do the following:

Console Message	Enter
#	**pkgadd -d /dev/rmt/ctape0 all**
Insert a Cartridge Tape into ctape0 Type [go] when ready, or [q] to quit	**go**
Do you wish to rebuild the kernel after base installation?	**n**

Response:

```
Installation in progress.  Do not remove the Cartridge Tape.

Processing package instance <pkgid> from /dev/rmt/ctape0
Installing xxxxxxxxxxxx as <pkgid>
Installation of <pkgid> was successful.
```

where: *pkgid* is the assigned software package identifier (package instance).

This process takes approximately 10 minutes to complete.

2. At the AAP console, check that the latest CPU firmware is loaded into the CPUs by entering: **cpudload**

   Response:

```
Cpu flash is up to date
```

   If the CPU firmware is not up to date, upgrade it by entering **cpudload -f -y** at the AAP console.

   Response:

```
Updating CPU flash memory by user request
Cpu flash memory update complete
```

   This may require two passes, since CPU-A may be put in the OOS state by this procedure. If so, enter **cfonline cpuA** before retrying.

3. At the AAP console, check that the system is operational by entering at the AAP console:
   cfstatus -l
   Response:

```
system
        state=online
        cabinet=system
     . . .
enet0
        state=online
        IOP/Controller = iop0
        DCC = DCC3
        IOC slot name = ioc3
        cabinet=system
        cabinet location = 164
        patch panel location = 509
     . . .
cpuA
        state=online
        DCC = SDCC0
        cabinet = system
        cabinet location = 142

(Sample format responses are above, indicating the type of
pertinent information summarized in the following table.)
```

Component	State	IOP/Controller	DCC	Location	Patch Panel
system	on-line				
sp1	on-line			152	
sp0	on-line			151	
mcb1	on-line				513
mcb0	on-line				514
console	on-line	iop0			
enet0	on-line	iop0	DCC3	164	509
scsi1	on-line	iop1	DCC3	163	510
disk1	on-line	iop1/scsi1		223	
scsi0	on-line	iop0	DCC2	162	511
tape4	on-line	iop0/scsi0		212	
disk0	on-line	iop0/scsi0		201	
enet1	on-line	iop1	DCC2	161	512
pwrD	on-line			304	
pwrC	on-line			303	
pwrB	on-line			302	
pwrA	on-line			301	
memC	on-line		DCC1	145	
memA	on-line		DCC0	141	
iop1	on-line		DCC0	146	513
iop0	on-line		DCC1	147	514
fanC	on-line			183	
fanB	on-line			182	
fanA	on-line			181	
fanF	on-line			403	
fanE	on-line			402	
fanD	on-line			401	
cpuC	on-line		SDCC2	144	
cpuB	on-line		SDCC1	143	
cpuA	on-line		SDCC0	142	

The format of the actual response is not as shown in the table. Verify that all components are identical to the above list. If the ENET1 board is missing, continue to the next step. Otherwise, go to STEP 5.

4. If the ENET1 board was not listed in STEP 3, add the ENET1 board to the list by entering the following at the AAP console.
   cfinstall -i iop1 -s ioc0 -c enet1

```
Identified Enet Controller in iop 1, slot 0
#
```

5. Remove the tape from the tape drive and store.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE**.

Update SPs and Restart the AAP

1. At the AAP console, clear all AAP processes that could interfere with flashing the SP by entering:
   /etc/rc0.d/K25aap
   Response:

```
AAP Software now being stopped.
   .  .  .
sendpm: received. kill_request
#
```

2. At the AAP console, verify the version of the TNMI/SPboot programs, and verify the contents of SP firmware by entering:
   spflash_info
   Response:

```
INFORMATION RETRIEVED FROM UNIX FILE SYSTEM DIRECTORY=/usr/mds/sp/default
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx default
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy default
INFORMATION RETRIEVED FROM SERVICE PROCESSOR 0.
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx AFLASH1
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy BFLASH1
INFORMATION RETRIEVED FROM SERVICE PROCESSOR 1.
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx AFLASH1
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy BFLASH1
```

where: ***x.xx*** is the application firmware version.
yy is the boot firmware version.

Ensure that there are no error messages in reading SP0 or SP1. If error message(s) are displayed for either SP0 or SP1, re-seat that SP's board, verify that the SP LED is lighted, set the switchbox to that SP, and press **Enter** to get the # prompt. Then repeat the **spflash_info** command to verify that the error message(s) are no longer displayed.

Confirm that the TNMI version for SP0 and SP1 match and are at least the value of the default TNMI version. Also confirm that the boot version for SP0 and SP1 match and are at least the value for the default boot version. If the TNMI and boot versions are correct, go to Step 9. Otherwise continue to the next step.

3. At the AAP console, make sure the console switchbox is turned to **SPC1**.

4. Initiate the flashing script of the Service Processor Controller (SPC) boards by entering the following commands at the AAP Console.

Console Message	Enter
#	**mountall**
#	**cd /var/tmp**
#	**nohup /usr/aap/X/mtce/bin/pump_sp &**
UX:nohup: INFO: Sending output to nohup.out	**[Enter] key**
#	**tail -f /var/tmp/nohup.out**

Response:

```
(messages of script progress)

Allow time for PVC2 to get synchronized ...
```

Note: The `Allow time for PVC2 to get synchronized` message occurs after approximately 30-40 minutes (following a slow series of dots). When this message is received, immediately continue to the next step. There will be a maximum of three attempts to flash SPC0. If the third try is not successful, the script program will stop and a fail message is displayed.

5. When the `Allow time for PVC2 to get synchronized` message is received, set the switchbox to SPC0 **immediately**, allowing the start of SP flashes for SPC1.

   Response: many status messages and dots ending with: `SP Updates successful`

   Note: Flashing is a time-consuming process, taking perhaps 1-1/2 to 2 hours to complete.

6. Get the root prompt back by pressing the **Ctrl** and **C** keys simultaneously.

   Response: #

   Note: If "NG" is displayed in the upper left corner of the screen, press **F9**, then **F10** before pressing the **Ctrl C**.

7. At the AAP console, check the contents of SP0's firmware to verify the version of the TNMI/SPboot programs loaded by entering:
   spflash_info
   Response:

```
INFORMATION RETRIEVED FROM UNIX FILE SYSTEM DIRECTORY=/usr/mds/sp/default
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx default
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG default
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy default
INFORMATION RETRIEVED FROM SERVICE PROCESSOR 0.
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx AFLASH1
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy BFLASH1
INFORMATION RETRIEVED FROM SERVICE PROCESSOR 1.
       segname  size     slrc     lrc     date    sec  Version  area
-------------- ------ -------- -------- ------- ---- -------- -------
      SPaap1.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn TNMIx.xx AFLASH1
SPcputokmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPeventmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
 SPshellmsgs.m nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn UNIX.CFG AFLASH1
      SPboot.b nnnnnn lnlnlnln lnlnlnln nlnlnln nnnn      Ayy BFLASH1
```

where: ***x.xx*** is the application firmware version.
yy is the boot firmware version.

Confirm that the versions of SP0's SPboot.b and SPappl.b match the default conditions (the top lines). If they do not match the default conditions, return to Step 3. If they are correct, continue to the next step.

8. At the AAP console, check that the system is operational by entering: **cfstatus -l**.

   Response:

```
system
        state=online
        cabinet=system
     . . .
enet0
        state=online
        IOP/Controller = iop0
        DCC = DCC3
        IOC slot name = ioc3
        cabinet=system
        cabinet location = 164
        patch panel location = 509
      . . .
cpuA
        state=online
        DCC = SDCC0
        cabinet = system
        cabinet location = 142

(Sample format responses are above, indicating the type of
pertinent information summarized in the following table.)
```

Component	State	IOP/Controller	DCC	Location	Patch Panel
system	on-line				
sp1	on-line			152	
sp0	on-line			151	
mcb1	on-line				513
mcb0	on-line				514
console	on-line	iop0			
pri1	on-line	iop1	DCC5	167	506
pri0	on-line	iop0	DCC4	165	508
enet0	on-line	iop0	DCC3	164	509
scsi1	on-line	iop1	DCC3	163	510
disk1	on-line	iop1/scsi1		223	
scsi0	on-line	iop0	DCC2	162	511
tape4	on-line	iop0/scsi0		212	
disk0	on-line	iop0/scsi0		201	
enet1	on-line	iop1	DCC2	161	512
pwrD	on-line			304	
pwrC	on-line			303	
pwrB	on-line			302	
pwrA	on-line			301	
memC	on-line		DCC1	145	
memA	on-line		DCC0	141	
iop1	on-line		DCC0	146	513
iop0	on-line		DCC1	147	514
fanC	on-line			183	
fanB	on-line			182	
fanA	on-line			181	
fanF	on-line			403	
fanE	on-line			402	
fanD	on-line			401	
cpuC	on-line		SDCC2	144	
cpuB	on-line		SDCC1	143	
cpuA	on-line		SDCC0	142	

The format of the actual response is not as shown in the table. Make sure all boards are on-line. Specifically check states of the **console**, **sp0**, and **sp1**.

9. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

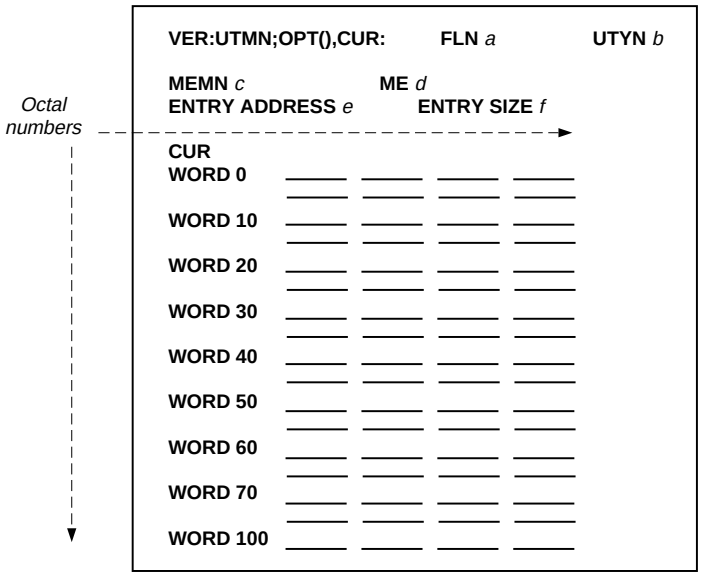
Verify Operational SCUs and Their Announcement Sets

1. At the 1B Maintenance (MTC) terminal, type the following message to get the SCS Equipage table:
   VER:UTYPE:SCS *x***!**

   where: *x* is the SCS Member Number (0-7).

   Response: (*see Figure 1 [4E20] or Figure 2 [4E21 and later])*

   Note: The words shown in Figure 1 and 2 are in **octal** format.



where:
a = Floor location number
b = Unit type name
c = Member number of growth associated complex
d = Member equipage
e = 8-digit entry address
f = 2-digit entry size

Figure 1. SCS Unit Type Translator (4E20)

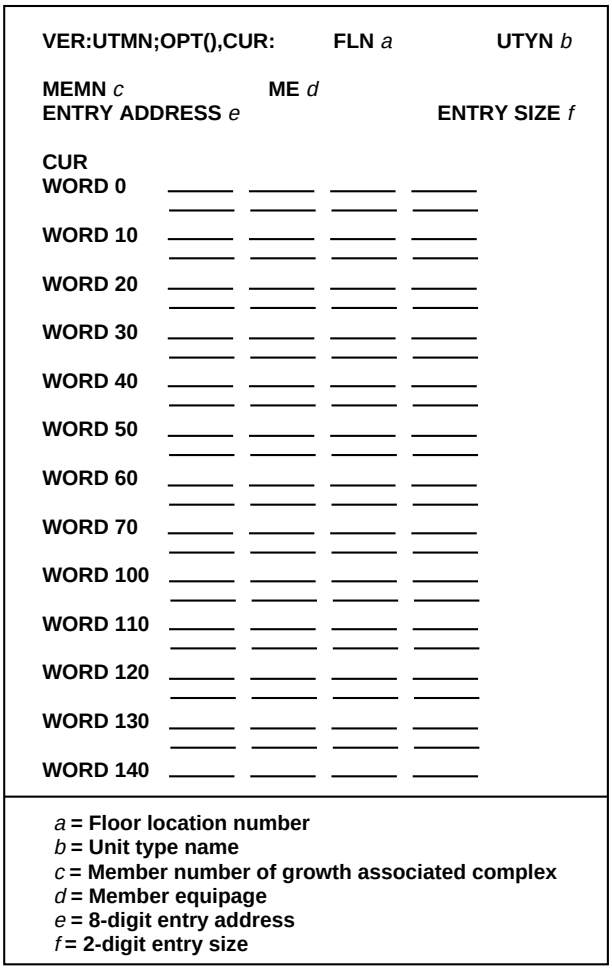


Figure 2. SCS Unit Type Translator (4E21 and later)

2. From the SCS Equipage table, check Words 0 and 12 to determine which SCUs are operational (bit values **X X** = 1 1). As per the word configuration shown in Figure 3, Word 0 represents SCUs 0-7 and Word 12 represents SCUs 8-15. Record the SCU numbers of the operational SCUs in Table A at the end of this DLP.

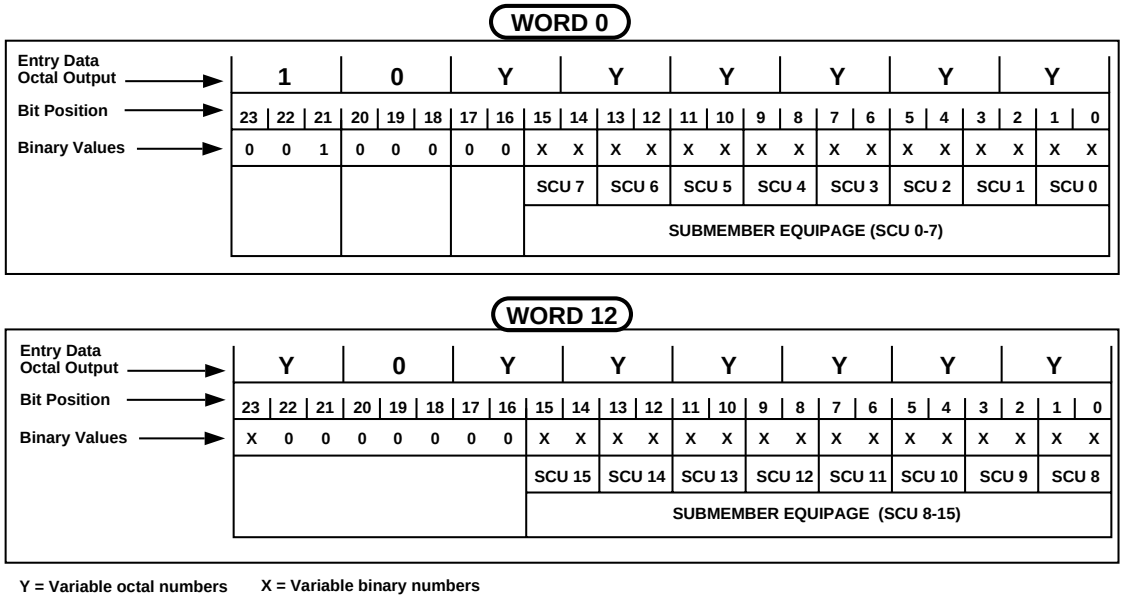


Figure 3. Configuration of Words 0 and 12 in the SCS Unit Type Translator

3. For each SCU that is operational, refer to bits 21-23 of the appropriate words (SCS Equipage table) as shown in Figure 4 to determine the service circuit type (Announcement Set). Determine the Announcement set (ANNSET) letter for each Type of Service Circuit number/value by reviewing the TEO (that is, 000 has ANNSET N and 001 has ANNSET S). Record the service circuit type and announcement set letter for each operational SCU in Table A at the end of this DLP.

   Note: There may be additional ANNSET types in the future.

4E20 UNIT TYPE TRANSLATOR WORDS:

WORD:	24	27	32	35	40	43	46	51	54	57	62	65	70	73	76	101
ASSOCIATED SCU:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

4E21 AND LATER UNIT TYPE TRANSLATOR WORDS:

WORD:	24	31	36	43	50	55	62	67	74	101	106	113	120	125	132	137
ASSOCIATED SCU:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

WORD CONFIGURATION

Entry Data Octal Output →	Y			Y			0			0			Y			Y			Y			Y		
Bit Position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Binary Values →	Z	Z	Z	W	W	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X	X	X
TYPE OF SERVICE CIRCUIT																								

Y = Variable octal numbers

ZZZ = Service Circuit Type
000 = SCU with MAS/final handling Announcement Set N
001 = SCU with NSCX Announcement Set S

Figure 4. Unit Type Translator Words Used to Determine Type of Service Circuit

4. Also, verify that each operational SCU has the correct LAN address per the appropriate words (SCS Equipage table) as shown in Figure 5. Record the LAN address of each operational SCU in Table A at the end of this DLP.

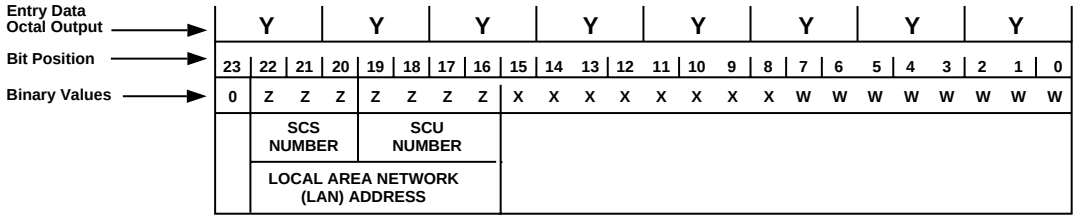
4E20 UNIT TYPE TRANSLATOR WORDS:

WORD:	26	31	34	37	42	45	50	53	56	61	64	67	72	75	100	103
ASSOCIATED SCU:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

4E21 AND LATER UNIT TYPE TRANSLATOR WORDS:

WORD:	26	33	40	45	52	57	64	71	76	103	110	115	122	127	134	141
ASSOCIATED SCU:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

WORD CONFIGURATION



Z . . . Z = LAN address as reflected in appropriate office record and shipping information

Y = Variable octal numbers

Figure 5. Unit Type Translator Words Used to Determine LAN Address

5. Repeat Steps 1 through 4 of this DLP for each SCS in the office.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

TABLE A Operational SCU Information

SCS Number	SCU Number	Service Circuit Type	Announcement Set	LAN Address

Load AAP User and Callup Logins and Passwords

Note: During the remainder of this procedure, these logins will be used to access the AAP. They may be changed/deleted after this procedure is completed.

Access Use	Login ID	Password
UNIX System (AAP console only)	root	aap$gr0w
Local AAP User Interface (ui)	aapusr	(RETURN) key
TNM's AAP User Interface	tnmusr	(RETURN) key
Remote Callup Port	callup	pVc8porT

1. At the AAP console, add the Local AAP User login into the AAP's valid login list by entering:

   useradd -d /home -s /usr/aap/X/mtce/bin/runca -u0 -o *aapusr*

   where *aapusr* is the login name for the Local AAP user.

   Response: #

2. At the AAP console, add the new password to the new Local AAP User login by entering:

Console Message	Enter
#	**passwd aapusr**
passwd: Changing Changing password for (login-id) New password:	**(ENTER) key**
Re-enter new password:	**(ENTER) key**
#	**passwd -x -1 aapusr**
#	

3. At the AAP console, add the TNM AAP User login into the AAP's valid login list by entering:

   useradd -d /home -s /usr/aap/X/mtce/bin/runca -u0 -o *tnmusr*

   where *tnmusr* is the TNM's AAP User Interface login name

   Response: #

4. At the AAP console, add the new password to the new TNM AAP User login by entering:

Console Message	Enter
#	**passwd tnmusr**
passwd: Changing Changing password for (login-id) New password:	**(ENTER) key**
Re-enter new password:	**(ENTER) key**
#	**passwd -x -1 tnmusr**
#	

5. At the AAP console, add the Remote Callup login into the valid login list, by entering:
   useradd -d /home -s /sbin/sh -u201 -o *callup*

   where *callup* is the login ID

   Response: #

6. At the AAP console, add the password to the new Remote Callup login, by entering:

Console Message	Enter
#	**passwd callup**
passwd: Changing Changing password for (login-id) New password:	**pVc8porT**
Re-enter new password:	**pVc8porT**
#	**passwd -x30 -n0 -w0 callup**
#	

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Verify Maintenance Menu CLLI Code

1. At the AAP console, access the craft shell (Maintenance process) by entering:

Console Message	Enter
#	**exit**
Login:	**aapusr**
Passwd:	**[Enter] key**
Select function (type q to quit, m to refresh menu)... 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
MML Commands <	

Note: To return to the main menu, enter LOGOUT or L. This software uses the standard MML command set for maintenance/surveillance and for BWM/SU.

2. At the AAP console, provide the proper AAP CLLI code for the Maintenance Software identifier (to TNM and TNM host) by entering:

   UPD:SD:UPD=CHG,REL=APPL_ID:"CLLI=*xxxxxxxxxxx***"**

   where *xxxxxxxxxxx* is AAP CLLI code (recorded in Step 1 of NTP-004) for your site. (Use all 11 characters).

   Response: <

   Note: The TCC will not see the AAP CLLI code at the TNM terminal until later after the AAP is rebooted.

3. At the AAP console, observe the AAP clock to verify the Maintenance CLLI code by entering:

   OP:CLK

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Send and Apply Any Further BWMs

1. At the AAP console, read the AAP's BWM Display and verify that there is nothing in the "apply" state, by entering:

   UPD:BWM:DISPLAY

   Response: (Example only)

```
BWM Log File Output

day:date:time:RMV:Type a:BWM# n
day:date:time:VER:Type a:BWM# n
day:date:time:PERM:Type a:BWM# n
day:date:time:APPLY:Type a:BWM# n:succeeded

Entries in the /etc/bwm directory:
----------------------------------
BWM95-0006
Currently permed and currently applied BWMs
-------------------------------------------
Currently permed BWM is: BWM95-0006
There is nothing currently applied

UPD:BWM:DISPLAY Completed
<
```

2. Have TCC use the **IN:REMOTE:START** command at TNM to activate the downloading of any applicable BWMs from SCANS to the AAP. This means that the TCC via TNM gets a TID password from the AAP, then the TCC calls SCANS to request the specific BWM(s) be downloaded to that AAP with that particular TID.

   Response: (There is no activity on the AAP console while this is going on)

   > ***Note:*** There's a 10-minute gap before AAP automatically calls SCANS for downloading. The call may not get through to SCANS on the first try because of traffic, but it will continue to try. Wait at least 20 minutes for process to complete.

3. Verify with the TCC that BWM(s) were marked for transfer down to the AAP.

4. Read the status of all appropriate BWMs/SUs for this FS-AAP, by entering:
   IN:REMOTE:REPORT

   Response:

```
ENTRIES IN ETC/BWM DIRECTORY:

 Type   Number  (list of all BWMs in directory to
                 be worked on)
CURRENTLY PERMED BWM IS:
 Type   Number

CURRENTLY APPLIED BWM IS:
 Type   Number

<
```

   Note: Upon a software retrofit, there should be no Perm'd and Applied BWMs to start with.

5. At the AAP console, read the AAP's BWM Display to verify that BWMs were downloaded, by entering:
   UPD:BWM:DISPLAY

   Response:

```
BWM:LOG   results

day:date:time:VER:Type a:BWM# n
day:date:time:PERM:Type a:BWM# n
day:date:time:APPLY:Type a:BWM# n:succeeded

<
```

6. Compare the previous Step 5 results with the TCC.

7. Have TCC verify, apply, and perm the test BWM in the AAP via TNM.

   Note: TCC would normally put in the BWMs/SUs.

8. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Activate Audits

1. At the AAP console, allow/enable audits in the AUDIT database to run at the specified time (midnight every night) by entering:

   ALW:AUDIT:KEY=ALL

   Response:

```
ALW:AUDIT KEY ALL  Results
(the following 3 lines are mandatory)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
    4  4     S        1     1  0   *   *     *    0  00  1   0
    5  5     S        1     1  0   *   *     *    0  00  1   0
    6  6     S        1     1  0   *   *     *    0  00  1   0
(the next 4 lines are required if there are SCUs with Type of
Service Circuit 0)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
    0  0     N        1   511  0   *   *     *    0  00  1   0
    1  1     N        1 65535  0   *   *     *    0  00  1   0
    2  2     N        1 65535  0   *   *     *    0  10  1   0
    3  3     N        1 65535  0   *  15     *    1  31  1   0
(the next 3 lines are required if there are SCUs with Type of
Service Circuit 1)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
   11  1     S        1 65535  0   *   *     *    0  00  1   0
   12  2     S        1 65535  0   *   *     *    0  20  1   0
   13  3     S        1 65535  0   *   8     *    1  31  1   0
(the next 3 lines are required if there are SCUs with Type of
Service Circuit 2)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
   21  1     c        1 65535  0   *   *     *    0  00  1   0
   22  2     c        1 65535  0   *   *     *    0  30  1   0
   23  3     c        1 65535  0   *   1     *    1  31  1   0
(the next 3 lines are required if there are SCUs with Type of
Service Circuit 3)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
   31  1     d        1 65535  0   *   *     *    0  00  1   0
   32  2     d        1 65535  0   *   *     *    0  40  1   0
   33  3     d        1 65535  0   *  22     *    1  31  1   0
(the next 3 lines are required if there are SCUs with Type of
Service Circuit 4)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
   41  1     e        1 65535  0   *   *     *    0  00  1   0
   42  2     e        1 65535  0   *   *     *    0  50  1   0
   43  3     e        1 65535  0   *  29     *    1  31  1   0
(the next 3 lines are required if there are SCUs with Type of
Service Circuit 5)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
   51  1     f        1 65535  0   *   *     *    0  00  1   0
   52  2     f        1 65535  0   *   *     *    1  00  1   0
   53  3     f        1 65535  0   *  11     *    1  31  1   0
(the next 3 lines are required if there are SCUs with Type of
Service Circuit 6)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
   61  1     g        1 65535  0   *   *     *    0  00  1   0
   62  2     g        1 65535  0   *   *     *    1  10  1   0
   63  3     g        1 65535  0   *  18     *    1  31  1   0
(the next 3 lines are required if there are SCUs with Type of
Service Circuit 7)
  KEY TYPE ANNSET  FROM    TO UCL MO DAYMO DAYWK HR MIN ENA ACT
   71  1     h        1 65535  0   *   *     *    0  00  1   0
   72  2     h        1 65535  0   *   *     *    1  20  1   0
   73  3     h        1 65535  0   *  25     *    1  31  1   0
```

2. From Step A response, verify that the ENA column in the database contains only ones (1).

3. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

CDSU BWM/SU—Verify

Summary: Each Broadcast Warning Message/Software Update (BWM/SU) is appended with a check-sum. It is required that each BWM/SU be checked with the verify command before being ''applied.'' This completes other BWM-related tasks such as uncompressing the BWM files.

1. Does the BWM/SU have the status of ''**BWM**'' or ''**CFT**?''

   If **CFT**, then go to Step 4.
   If **BWM**, then continue.

2. Enter the following to verify an ''official'' BWM/SU:

   UPD:CDSUBWM:VFY:BWM*xx-yyyy***[:SCS=***a***,SCU=***b***[,UNIT=***c***]]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:VFY Completed`

3. Did the verify pass?

   If **NO**, remove the defective BWM/SU (refer to DLP-554), proceed to download the BWM/SU again (refer to DLP-507), and then return to Step 1 of this DLP.
   If **YES**, then go to Step 6.

4. Enter the following to verify a ''craft'' BWM/SU:

   UPD:CDSUBWM:VFY:CFT*xx-yyyy***[:SCS=***a***,SCU=***b***[,UNIT=***c***]]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:VFY Completed`

5. Did the verify complete successfully?

   If **NO**, remove the defective BWM/SU (refer to DLP-554), proceed to download the BWM/SU again (refer to DLP-507), and then return to Step 1 of this DLP.
   If **YES**, then go to Step 6.

6. **STOP! YOU HAVE COMPLETED THIS TASK.**

CDSU BWM/SU—Apply

Summary: When a Broadcast Warning Message/Software Update (BWM/SU) is applied, it is placed in a temporary state which makes it available for CDSU use, even though it is not yet in a permanent state.

WARNING: Refer to the SCANS file for special instructions before applying this BWM/SU. Before applying a BWM, the SCU must be removed from service and proper notifications of SCU removal must be made.

1. Has BWM/SU been verified?

   If **YES**, then continue.
   If **NO**, go to DLP-551.

2. Is the BWM/SU being applied higher in number than ‘‘currently applied?’’

   If **YES**, then continue.
   If **NO**, then go to Step 5.

3. Does the BWM/SU have ‘‘CFT’’ or ‘‘BWM’’ status?

   If **CFT**, then enter: **UPD:CDSUBWM:APPLY:CFT***xx-yyyy***:SCS=***a***,SCU=***b***[,UNIT=***c***]**
   If **BWM**, then enter: **UPD:CDSUBWM:APPLY:BWM***xx-yyyy***:SCS=***a***,SCU=***b***[,UNIT=***c***]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the CFT or BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:APPLY Completed`

4. Did the BWM/SU apply complete successfully?

   If **YES**, go to Step 7.
   If **NO**, follow the specified action in any associated failure message or go to Step 8.

5. Does the BWM/SU that is to be applied have ‘‘CFT’’ status?

   If **YES**, then enter: **UPD:CDSUBWM:APPLY:CFT***xx-yyyy***:SCS=***a***,SCU=***b***[,UNIT=***c***]:NIO**
   If **NO**, then enter: **UPD:CDSUBWM:APPLY:BWM***xx-yyyy***:SCS=***a***,SCU=***b***[,UNIT=***c***]:NIO**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the CFT or BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:APPLY Completed`

   Caution: It should also be noted that the use of the Not In Order (NIO) option could cause overwriting of data associated with other BWMs/SUs. There is NO AUTOMATIC PROTECTION against corrupting or destroying other data when using the* NIO *option.

6. Did the BWM/SU apply complete successfully?

   If **YES**, go to Step 7.
   If **NO**, follow the specified action in any associated failure message or go to Step 8.

7. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

8. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

CDSU BWM/SU—Back-Out

Summary: If either a temporary or the last permanent BWM/SU is determined to be inappropriate or defective, it can be ‘‘backed-out’’ and the original data can be restored. Before backing out a BWM, the SCU must be removed from service and proper notifications of SCU removal must be made.

1. Do you wish to back-out of a BWM/SU with ‘‘BWM’’ status?

   If **YES**, then go to Step 7.
   If **NO**, then continue.

2. Has the BWM/SU been ‘‘permed?’’

   If **YES**, then go to Step 5.
   If **NO**, then continue.

3. Enter the following command:
   UPD:CDSUBWM:BKOUT:CFT*xx-yyyy***:SCS=***a***,SCU=***b***[,UNIT=***c***]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the CFT, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:BKOUT Completed`

4. Did BKOUT complete successfully?

   If **YES**, go to Step 12.
   If **NO**, follow the specified action in any associated failure message or go to Step 14.

5. Enter the following command:
   UPD:CDSUBWM:BOLO:CFT*xx-yyyy***:SCS=***a***,SCU=***b***[,UNIT=***c***]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the CFT, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:BOLO Completed`

6. Did BOLO complete successfully?

   If **YES**, go to Step 12.
   If **NO**, follow the specified action in any associated failure message or go to Step 14.

7. Has the BWM/SU been ‘‘permed?’’

   If **YES**, go to Step 10.
   If **NO**, then continue.

8. Enter the following command:
   UPD:CDSUBWM:BKOUT:BWM*xx-yyyy***:SCS=***a***,SCU=***b* **[,UNIT=***c***]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:BKOUT Completed`

9. Did BKOUT complete successfully?

   If **YES**, go to Step 12.
   If **NO**, follow the specified action in any associated failure message or go to Step 14.

10. Enter the following command:
    UPD:CDSUBWM:BOLO:BWM*xx-yyyy***:SCS=***a***,SCU=***b* **[,UNIT=***c***]**

    where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

    Response: `UPD:CDSUBWM:BOLO Completed`

11. Did BOLO complete successfully?

    If **YES**, go to Step 12.
    If **NO**, follow the specified action in any associated failure message or go to Step 14.

12. Refer to SCANS files for back-out instructions.

13. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

14. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

CDSU BWM/SU—Remove From BWM Directory

Summary: Whenever a Broadcast Warning Message/Software Update (BMW/SU) is determined to be defective, inappropriate, or no longer needed (that is, it has never been applied), that particular BWM/SU can be removed. The directory/file space can be cleaned up by removing those BWMs/SUs that are no longer needed.

Note: Two restrictions for removing BWM/SUs are as follows:

a. The last BWM/SU that was ‘‘permed’’ cannot be removed.
b. A BWM/SU that has been activated with the ‘‘APPLY’’ command, but not yet permed, cannot be removed.

1. Does the BWM/SU to be removed have a ‘‘BWM’’ or ‘‘CFT’’ status?

   If **CFT**, then go to Step 4.
   If **BWM**, continue.

2. Remove the ‘‘BWM’’ BWM/SU by entering the following command via the Craft Shell interface:

   UPD:CDSUBWM:RMV:BWM*xx-yyyy* **[:SCS=***a***,SCU=***b* **[,UNIT=***c***]]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:RMV Completed`

3. Are there additional BWMs/SUs to be removed?

   If **YES**, return to Step 1.
   If **NO**, then go to Step 6.

4. Remove the ‘‘CFT’’ BWM/SU by entering the following command via the Craft Shell interface:

   UPD:CDSUBWM:RMV:CFT*xx-yyyy* **[:SCS=***a***,SCU=***b* **[,UNIT=***c***]]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:RMV Completed`

5. Are there additional BWMs/SUs to be removed?

   If **YES**, return to Step 1.
   If **NO**, then continue.

6. **STOP! YOU HAVE COMPLETED THIS TASK.**

CDSU BWM/SU—Perm

Summary: Once a BWM/SU has been applied and properly tested, its status is normally changed from temporary to permanent.

1. Does the BWM/SU to be made permanent have a ‘‘BWM’’ or ‘‘CFT’’ status?

   If **CFT**, then go to Step 4.
   If **BWM**, then continue.

2. Enter the following command for a ‘‘BWM’’ BWM/SU:

   UPD:CDSUBWM:PERM:BWM*xx-yyyy***:SCS=***a***,SCU=***b* **[,UNIT=***c***]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the CFT or BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:PERM Completed`

3. Did the BWM/SU perm complete successfully?

   If **YES**, go to Step 6.
   If **NO**, follow the specified action in any associated failure message or go to Step 7.

4. Enter the following command for a ‘‘CFT’’ BWM/SU:

   UPD:CDSUBWM:PERM:CFT*xx-yyyy***:SCS=***a***,SCU=***b* **[,UNIT=***c***]**

   where: *xx* is the last 2 digits of the year, *yyyy* is a unique 4-digit number associated with the CFT or BWM, *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

   Response: `UPD:CDSUBWM:PERM Completed`

5. Did the "CFT" BWM/SU perm complete successfully?

   If **YES**, go to Step 6.
   If **NO**, follow the specified action in any associated failure message or go to Step 7.

6. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

7. **STOP! PROCEDURE CANNOT BE COMPLETED AT THIS TIME.** Contact the next level of support.

CDSU BWM/SU—Display History Directory

Summary: Each Announcement Administration Processor (AAP) maintains a history of all BWMs/SUs that have been received, applied, removed, and permed for that particular AAP.

1. To display the BWM/SU History Log, enter the following command:

   UPD:CDSUBWM:DISPLAY[:SCS=*a*,SCU=*b*[,UNIT=*c*]]

   where: *a* is the SCS number, *b* is the SCU number, and *c* is the CDSU number.

2. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

CDSU Application and Operating System Software — Backup

Summary: This section gives general procedures for doing a backup of the CDSU application and operating system files. The intent is to back up any file on the CDSU that has changed from the initial disk drive. This way, if the disk is ever lost, a new disk drive can be put into the system, or a new system can be installed as a replacement. When the restoral is complete, the new disk drive will be populated with all files that were on the CDSU when the backup was made.

The backup data from the CDSU will be stored on the AAP disk drives. This makes the data immediately accessible for restoral. Since the data on each CDSU (except for configuration) is identical, only one CDSU system needs to be backed up. A CDSU backup is normally done before applying a new CDSU BWM.

1. At the AAP console, access the *UNIX* system prompt.

2. Determine which CDSU you wish to back up (it can be active at the time).

3. At the AAP console, enter the following command at the UNIX system prompt:

   /usr/aap/X/mtce/bin/cdsu_bkup cds*xyyzz*

   where *x* = SCS member number (0-7)
   yy = SCU Submember number (00-15)
   zz = CDSU number (00-04)

   Note: The CDSU name (cds*xyyzz*)can be determined by entering the **uname -n** command at the CDSU.

   Response:
   Lots of lines with `.........`, ending with two lines of `xxxxx` blocks and then `Backup Successful`.

   This backup takes approximately 20 minutes to complete.

   Note: If the error message "`ERROR: Unexpected end-of-archive encountered.`" is received, this means that the CDSU did not respond to the AAP. The CDSU is probably down, rebooting, or non-existent. Before the backup can be done, the CDSU needs to be brought back to multiuser mode. To verify communication between the CDSU and the AAP, the **/usr/sbin/ping cds***xyyzz* command can be entered at the AAP.

4. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

CDSU Application and Operating System Software — Restore

This section gives general procedures for doing a restoral of the CDSU application and operating system files.

1. Determine which CDSU is to be restored.

2. Verify that the SCU associated with the CDSU to be restored is out of service. If not, take the SCU out of service (See DLP-510 in the 234-151-077AC, *Service Circuit System Maintenance* document).

3. At the AAP console, remove any old backup BWM on the AAP by accessing the Craft Shell (menu option 1) and entering the following command:

   UPD:CDSUBWM:RMV:BWM00-0000;

   This command may fail (`No BWM directory exist`). Ignore this failure message. This command takes approximately 10 minutes to complete. When done, a `COMPLETE` message is displayed.

4. At the AAP console, access the *UNIX* system prompt.

5. At the AAP console, enter the following command at the *UNIX* system prompt:

   /bin/su -

6. At the AAP console, enter the following command at the *UNIX* system prompt:

   /usr/aap/X/mtce/bin/cdsu_rstr

   Response:

   This will produce lots of lines with `.........`, ending with 0 blocks, then Several lines of WARNING: messages. These WARNING messages can be safely ignored. Finally, there will be lines indicating the rest of the recovery procedure:

   `UPD:CDSUBWM:VFY:BWM00-00000:SCS=`*x*`,SCU=`*y*`,UNIT=`*z*
   `UPD:CDSUBWM:APPLY:BWM00-00000:SCS=`*x*`,SCU=`*y*`,UNIT=`*z*`,RST=YES:NIO`
   `UPD:CDSUBWM:PERM:BWM00-00000:SCS=`*x*`,SCU=`*y*`,UNIT=`*z*

   where *x* = SCS member number (0-7)
   yy = SCU Submember number (00-15)
   zz = CDSU number (00-04)

   This command creates a BWM from the backup information, and takes about 75 minutes to complete.

7. At the AAP, access the craft shell (menu option 1).

8. At the AAP, verify the new backup BWM and make it available to the CDSU, by entering the following command:

   UPD:CDSUBWM:VFY:BWM00-0000:SCS=*x*,SCU=*y*,UNIT=*z*;

   where *x* = SCS member number (0-7)
   y = SCU Submember number (00-15)
   z = CDSU number (00-04)

   Response: `UPD:CDSUBWM:VFY Completed`

   This will take about 30 minutes and will produce normal VFY output (lots of it).

9. Reconfigure the CDSU (See DLP-543 in the 234-151-077AC, *Service Circuit System Maintenance* document).

10. At the AAP (while in the AAP craft shell), apply the BWM by entering the following command:

    UPD:CDSUBWM:APPLY:BWM00-0000:SCS=*x*,SCU=*y*,UNIT=*z*,RST=YES:NIO;

    where *x* = SCS member number (0-7)
    y = SCU Submember number (00-15)
    z = CDSU number (00-04)

    Response: `UPD:CDSUBWM:APPLY Completed`

    Note: the use of the **NIO** flag is necessary as this BWM is designed in number to always be out of order. Note also that the use of the **RST=YES** flag means that normal checking of whether the SCU is out of service is bypassed. This flag should only be used on a restore, and **the SCU must be out of service for the restore.** The amount of time required for this apply is dependent upon the number of files backed up, but could be 4-5 hours.

11. Reconfigure the CDSU (See DLP-543 in the 234-151-077AC, *SCS Maintenance* document).

    Note: The reason for reconfiguring the CDSU again is to reset its address information after restoral (the current address information is from the backup).

12. At the AAP (while in the AAP craft shell), PERM the BWM by entering the following command:

    UPD:CDSUBWM:PERM:BWM00-0000:SCS=*x*,SCU=*y*,UNIT=*z*;

    where *x* = SCS member number (0-7)
    y = SCU Submember number (00-15)
    z = CDSU number (00-04)

    Response: `UPD:CDSUBWM:PERM Completed`

    Note: Note, if multiple CDSUs need to be restored at once (a multiple CDSU disaster), the second (and any subsequent) restorals should be done starting with Step 8. This will save time and keep maintain the sanity of BWM files.

13. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

T108 Automatic Disconnect Timer—Modify

Summary: The AAP software maintains a timer that automatically disconnects a T108 network test call if the timer expires. Normally, the network will disconnect the call at the completion of the T108 network test. However, if the network does not disconnect the call, the automatic disconnect timer prevents a channel from being held in loopback.

1. Update (using ed editor) the automatic disconnect timer value in the AAP's ISDN Configuration file for the local site by entering the following lines (each line ending with a [Enter] Key) at the AAP console.

Console	Enter
#	**ed /etc/pri/pri_ccd.cfg**
1789 (This value may be slightly higher or lower than 1789)	**/^T108_DISC_TIME=/c**
	T108_DISC_TIME=*a* (See Note)
	. (period)
	/^T108_DISC_TIME=
T108_DISC_TIME=*a* (verifies that value was entered correctly)	**w** (write)
1789 (This value may be slightly higher or lower than 1789)	**q** (quit)
#	

Note: The variable *a* is the desired value for the T108 disconnect timer (in seconds). The default value for the T108 disconnect timer parameter is 1200 seconds (20 minutes). Any desired value (in seconds) may be entered. If a value of **0** is entered, the AAP will disconnect the call immediately after the test call is established.

2. Restart the ISDN software subsystems (so the software will recognize the parameter change). This is done by accessing the Craft Shell and entering the required **INIT:AAP:ISDN***x* commands as shown in Table A.

TABLE A Required Commands

For This Site Type:	Enter Each of These Commands:
Field Site	**INIT:AAP:ISDN0** **INIT:AAP:ISDN1**
Central Site Master	**INIT:AAP:ISDN0** **INIT:AAP:ISDN1** **INIT:AAP:ISDN2**
Central Site Slave	**INIT:AAP:ISDN0** **INIT:AAP:ISDN1** **INIT:AAP:ISDN2** **INIT:AAP:ISDN3** **INIT:AAP:ISDN4**

3. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

Replace RIOB Terminator Boards

Note: Ensure that all responsible parties and organizations are aware that this procedure is to be executed before it starts. The appropriate *4ESS* switch support organization must be contacted for instructions and/or assistance prior to removing the Announcement Administration Processor (AAP) from service.

Contact the Network Control Center (NCC) to have NCC ensure that no Software Updates (SUs) or Broadcast Warning Messages (BWMs) for SCS system files will be applied during this procedure. Also, have NCC ensure that Centralized Announcement Update Control System (CAUCS) has been inhibited from updating announcements to this *4ESS* switch office for the affected Announcement Set(s) during procedure.

Note: The starting point assumption is that the AAP is logged on as an CRAFT-user interface (menu 1).

1. At the AAP console, verify the current status and record it for later use, by entering the following:

   OP:SCUEQP

   Response:

```
OP:SCUEQP  results (Example only)

KEY ANNSET SCS SCU   LANADR    ENA    ACT
1      N    0   1  08006A190A   0      0
0      S    0   0  08006A190A   0      0

<
(End of Response)

Record:_____________________________

Record:_____________________________

Record:_____________________________

Record:_____________________________
```

2. At the AAP console, return to the main display page (10) to verify that the AAP is totally operational with only "**SYS NORMAL**" highlighted by entering:

Console Message	Enter
<	**LOGOUT**
Select function (type q to quit, m to refresh menu) 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**2**
(Display page listing - page 10) (Alarms should reset and stay reset)	**r**

3. At the 1B MTCE terminal, stop any LAN activity/reporting by the SCUs by entering:

   INH:SCS n, LAN!

   Where n is the first connected SCS on the LAN.

   Response:

```
INH:SCS n
(End of Response)
```

4. On the MCC table/terminal, Poke Command **813** (INTERRUPT INHIBITED), to show that SCS is at least part of the cause for the lamp being on.

5. At the AAP console, return to the AAP User Interface by entering:

Console Message	Enter
(Display Page)	**q**
Select function (type q to quit, m to refresh menu) 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**1**
<	

6. At the AAP console, remove the Primary Rate Interface Module by entering:

   RMV:AAPBD: pri 0!

   Response: (At the AAP console)

```
RMV:AAPBD Completed
```

   Response: (At the 3B/APS printer)

```
RING REPT CNCE
CPFLD           D aa-aa         b c
```

   Where:

   a are the D-channel numbers
   b is the board number
   c is the port number

7. At the 3B console,access Display Page 1108, to display the D-channels of the CNI Ring.

   Note: Record the CLI code for the D-channel removed in Step 6 for later reference.

8. At the AAP console, remove the Primary Rate Interface Module by entering:

   RMV:AAPBD: pri 1!

   Response: (At the AAP console)

```
RMV:AAPBD Completed
```

   Response: (At the 3B/APS printer)

```
RING REPT CNCE
CPFLD           D aa-aa         b c
```

9. At the 3B console,access Display Page 1108, to display the D-channels of the CNI Ring.

   Note: Record the CLI code for the D-channel removed in Step 8 for later reference.

10. At the AAP console, assure that the AAP LAN software will not report actions/status until all LAN connections are made by entering:

    STOP:AAP:LANCMD

    Response:

```
STOP:AAP    LANCMD Completed
>
(End of Response)
```

11. At the AAP console, access Display Page 118(Link Status Summary), to verify that all the LAN and ISDN links are OOS.

Console Message	Enter
<	**LOGOUT**
Select function (type q to quit, m to refresh menu) 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**2**
(Display page listing - page 10) (Alarms should reset and stay reset)	**r**

Note: Notify the NCC that this procedure is being initiated.

Only the NCC should execute the next two steps.

12. At the AAP remote console, have the NCC login as root.

13. At the AAP remote console, have the NCC do a graceful shutdown of the system by entering:

    shutdown -i5 -y -g0

    Response:

```
The system is coming down, please wait.

(many messages concluding with)

>>
(End of Response)
```

It takes approximately 5 minutes to complete the response.

14. Turn SPC1 power switch at patch panel (513) to OFF, then turn SPC0 power switch on patch panel (514) OFF.

    Results: All LEDs should go off.

15. Turn off the power to the AAP console and ROP.

16. At the AAP cabinet, trip the Power A circuit breaker off, then the Power B circuit breaker off.

    Caution: There are electrostatic discharge (ESD)-Sensitive boards inside this unit, take precaution to wear an ESD-Protected wrist strap when doing the following steps.

17. Remove the upper cover screws (8 hex self-tapping) and the upper cover. See (Figure 1).

    Note: All screws are to be saved for re-use. Use care to segregate the screws per each step to ensure the correct types are used again during assembly.

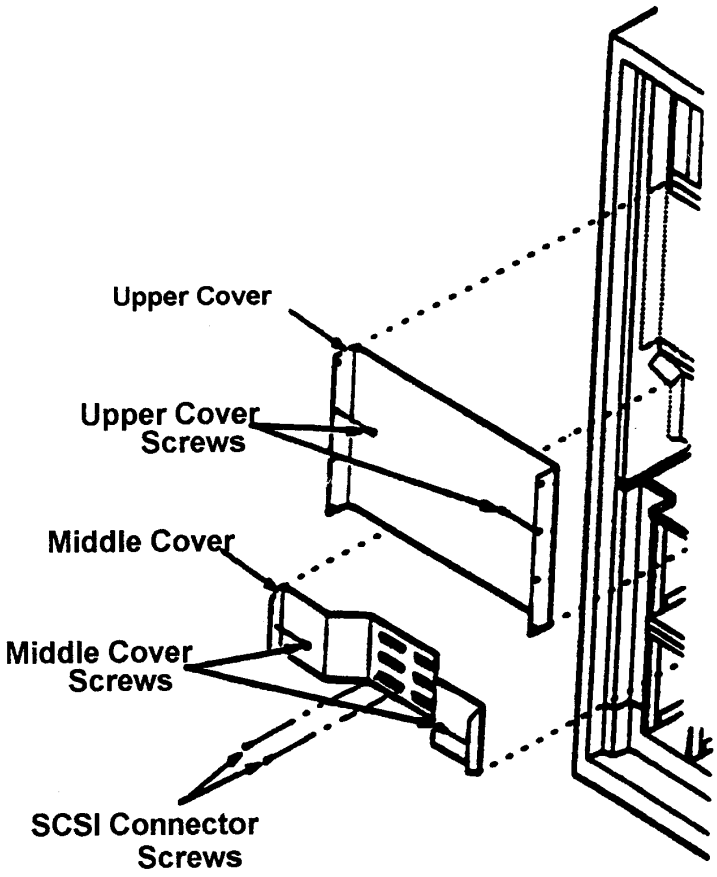


Figure 1. Middle and Upper Cover Removal/Restoral

18. Remove the (2) baffle/grille screws that hold the upper baffle to the upper air exhaust grille. See (Figure 2).

19. Loosen--But do not remove--The (2) baffle/cabinet screws that hold each side of the upper baffle to the cabinet, and remove the upper baffle.

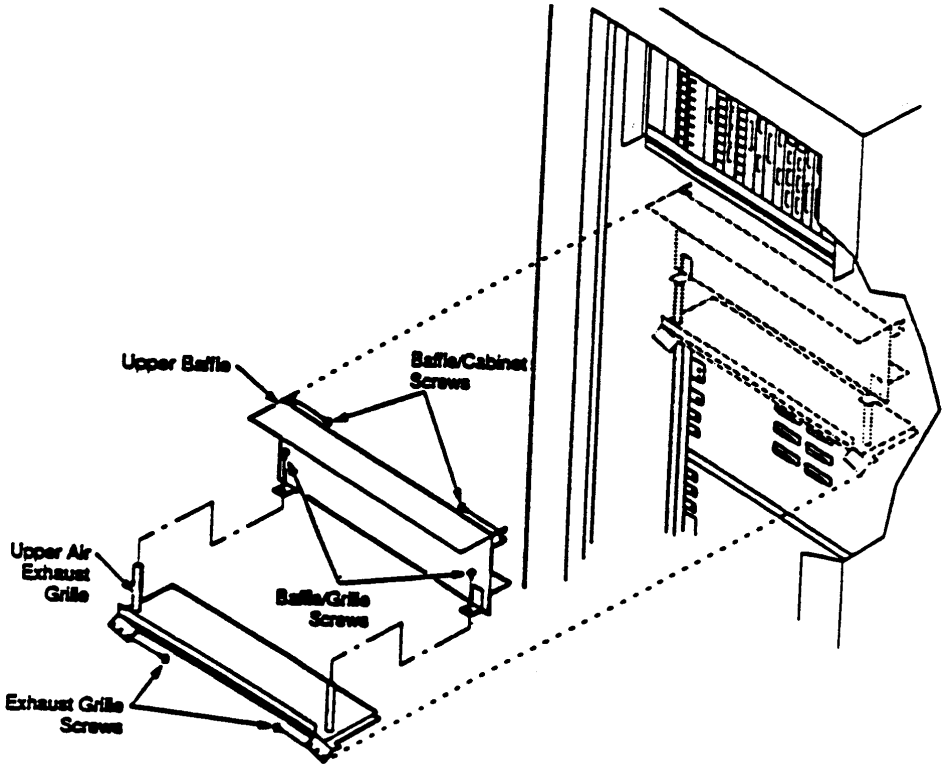


Figure 2. Upper Baffle and Air Exhaust Grill Removal/Restoral

20. Locate the (2) RIOB terminator boards that are mounted on the bottom left of the system/patch panel backplane. See (Figure 3).

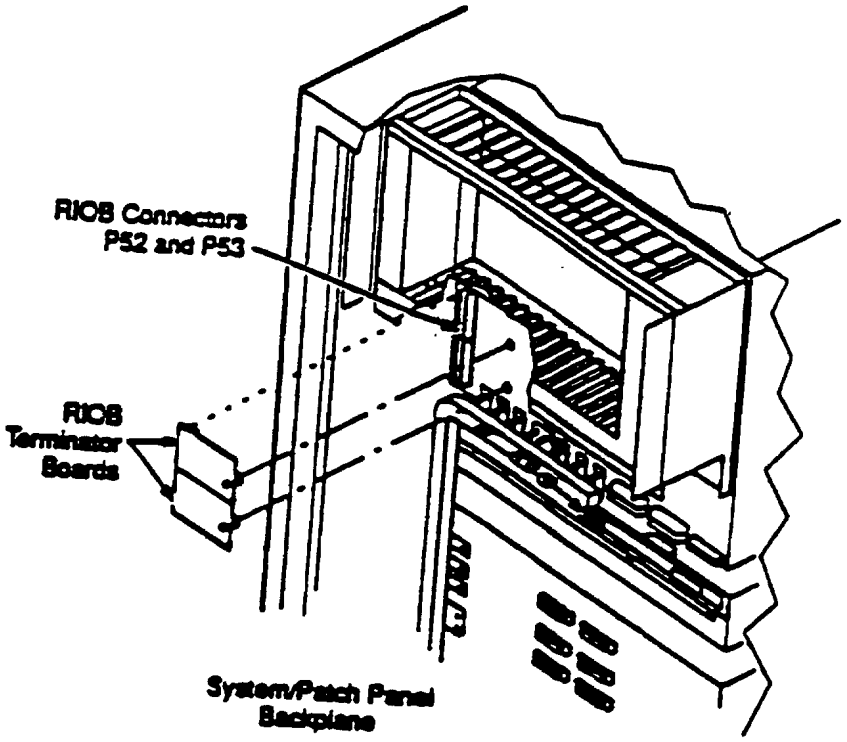


Figure 3. RIOB Terminator Boards

21. Label each board as top or bottom.

22. Grasp each board and unplug it from the backplane. The two connectors on each board hold it to the backplane; the standoff remains assembled to the board.

    WARNING: Do not loosen or remove any round-head or pan-head screws from the card cage or the backplane. These were installed with specific alignment and torque at the factory.

23. Plug each new RIOB terminator board in place on its system/patch panel backplane connector. Press the board at the connector end to seat it. See (Figure 3).

24. Set the upper baffle in place, and tighten the (2) baffle/cabinet screws that hold each side of the upper baffle to the cabinet.

25. Install and tighten the (2) baffle/grille screws that hold the upper baffle to the upper air exhaust grille. See (Figure 2).

26. Install the upper cover by installing and tightening the upper cover screws. (8 hex self-tapping). See(Figure 1).

27. **THIS IS A SAFE STOP POINT**

28. Assure that both power switches on the SPC patch panels are in the **OFF** position on SPC1 513 and SPC0 514.

29. Turn on power to the AAP console and ROP.

30. Set the AAP Power A circuit breaker.

31. Set the AAP Power B circuit breaker.

    Note: Nothing should happen as the SPCs switches control power.

32. Turn SPC0 power switch to **ON** at patch panel 514.

33. Turn SCP1 power switch to **ON** at patch panel 513.

    Note: This starts the autoboot process.

    Note: Messages will last for approximately three minutes and will go to the console login and put you in a mode 3 state.

    WARNING: LEDs go on and off during Power-On Self-Test (POST), not all at the same time, on all units except the ISDN boards, ISDN patch panels and the DCCs powering the ISDN boards and the LED for the cartridge tape door. The LEDs signify that the units are powered.

34. At the AAP console, return to the AAP User Interface, by entering:

Console Message	Enter
NSPS INITIALIZATION COMPLETE COMPLETED NSPS INIT	**return key**
(After reboot is done) (EAI screen will appear)	**(Enter key F10)**
Console Login:	**aapusr**
Password:	
Select Function	**1**

Where # is the root login shell prompt.

35. At the AAP console, obtain the status of all computer components by entering the following:

    OP:AAPBD

    Response:

```
system
        state=online
        cabinet=system
        .....

pri 0   state=online
pri 1   state=online

        state=online
        IOP/Controller=iop0
        DCC=DCC3
        IOC slot name=loc3
        cabinet=system
        cabinet location=164
        patch panel location=509
        .....
etc. etc.
(End of Response)
```

36. At the 3B console, access Display Page 1108, to display the D-Channels of the CNI Ring.

    Note: Check that ISDN D-channels for AAP are active by using information from Steps 6 and 8.

37. At the 1B terminal, verify that the ISDN0 B-Channels are active by entering:

    OP:TRKSTAT, CIN 1aaaaaaaaaaaaa:TSG,STAT ACT!

    Where aaaaaaaaaaaaa is the B-Channel's (1) CIN of ISDN from Page 1108.

    Response:

```
OP:TRKSTAT ACT , CIN 1aaaaaaaaaaaaa TSG,STAT ACT, SUM COMPLETED
TRK COUNT 23
(End of Response)
```

38. At the 1B terminal, allow LAN activity/reporting by the SCUs by entering:

    ALW:SCS n, LAN!

    Where n is the first connected SCS on the LAN.

39. At the AAP console, access Display Page 118 (Link Status Summary), to verify that all the LAN and ISDN links are returned to service by entering:

Console Message	Enter
<	**LOGOUT**
Select function (type q to quit, m to refresh menu) 1) CRAFT SHELLS 2) DISPLAY PAGES 3) AUTO MESSAGES 4) AAP OPERATIONAL USER INTERFACE Pick one of the above by number	**2**
(Display Link Status)	**118**
(Alarms should reset and stay reset)	**r**

40. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

How to Use This Document

This Task Oriented Practice (TOP) document gives you all the step-by-step instructions you need to do your job (task). These instructions are given in the order that they *must* be done. Failure to follow the instructions in the order given may cause service interruptions.

This document is divided into parts called procedures. Each procedure is given a 3-digit number. These numbers range from 001 through 893. Procedures are arranged in this document in numerical order beginning with 001.

Figure 1 is a typical IXL-001 procedure and is titled *Task Index List*. It is an alphabetical listing of the jobs that you may have to do. To use an IXL-001 procedure, just find the job you need to do in the FIND YOUR JOB IN THE LIST BELOW column. Next, follow the dotted line to the procedure number and begin the task. For example, suppose you are given the job of doing a system test. On the IXL-001 procedure, as shown in Figure 1, notice that it is listed in the THEN GO TO column as NTP-016. It could have been any other 3-digit number.

Figure 2 is an example of an NTP (Non-Trouble Procedure). Each NTP provides specific instructions for doing a job. It consists of numbered items (or steps) listed in the order that you must do them to complete your job. To use this procedure, you must start with item 1 in the DO THE ITEMS BELOW IN ORDER LISTED column and continue until all items have been done. When you get to an item that you do not know how to do, look for the procedure number for that item under the FOR DETAILS, GO TO column. This is the number of the procedure that will give you detailed, step-by-step instructions to do that item. Note that item 2 in Figure 2 uses lettered (A, B) entries. This means that there are alternate ways of doing item 2 depending on equipment options or equipment conditions. You do only the one that fits your equipment options or equipment conditions.

For example, suppose you are doing a System Test. The IXL-001 as shown in Figure 1, has directed you to NTP-016 as shown in Figure 2, and you are on item 8 ‘‘Mount Tape’’ in the DO ITEMS BELOW IN ORDER LISTED column. Mount the tape if you know how. If you do not know how to mount the tape, go to the procedure number listed in the FOR DETAILS, GO TO column for the detailed, step-by-step instructions. In this case, it happens to be DLP-500. In either case, you must continue with the next item listed in NTP-016 until you complete the job.

AT&T 123-456-789 IXL-001
Issue 2 Page 1 of 2

TASK INDEX LIST

FIND YOUR JOB IN THE LIST BELOW	THEN GO TO
Alert; External - Horn, Ringer, Etc. - Remove	NTP-028
Amplifiers; Channel - Recorded Announcement Frame - Test	NTP-009
BRDG LED - Does Not Light - Correct	TAP-117
Bridging Controller; Trunk - J1C015MB - Replace	DLP-572
Channel Amplifiers - Recorded Announcement Frame - Test	NTP-009
Extended Station Capability - Nonkey Set Only - Reported Failure	TAP-123
External Alert - Horn, Ringer, Etc. - Remove	NTP-028
Interchange Two Working Station Numbers	NTP-081
LED: BRDG - Does Not Light - Correct	TAP-117
Loudspeaker Paging - Add	NTP-059
New International Trunk, R1 Signaling - Incoming - Establish	NTP-010
New Tandem Trunk - T-Carrier and Digroup Terminal - Establish	NTP-008
Station Capability; Extended - Nonkey Set Only - Reported Failure	TAP-123
System Test - Perform	NTP-016
Trunk Bridging Controller - J1C015MB - Replace	DLP-572

Figure 1. Typical List of Jobs You May Have to Do

AT&T 123-456-789 NTP-016
Issue 2 Page 1 of 2

PERFORM SYSTEM TEST

DO THE ITEMS BELOW IN ORDER LISTED	FOR DETAILS, GO TO
1 Test Local Maintenance Terminal	DLP-531
2 Place SEC/SEB in Off-Line Mode	
A. If in On-Line Mode, Change System From On-Line to Off-Line	DLP-509
B. If Powered Down, Condition System for Off-Line Operation as Follows	
1. Power Up Minicomputer	DLP-503
2. Power Up Line Printer	DLP-503
3. Power Up Maintenance Terminal	DLP-510
. . .	
. . .	
. . .	
. . .	
. . .	
. . .	
7 Run Computer Display Terminal Test for All Positions	DLP-513
8 Mount Tape	DLP-500
9 Test Computer Display	DLP-522

Figure 2. Typical List of Specific Instructions for Doing a Job

Figure 3 is a typical page of a DLP-500 (Detailed Level Procedure - 500) that gives numbered, step-by-step instructions. To use this procedure, you must start with Step 1 and proceed as directed by the instructions until you complete this procedure. Note that Step 1 of this procedure is preceded by a statement called a SUMMARY. A summary is used as a memory jogger and briefly tells you how to do the procedure and what measurements or results you can observe. If you can do the procedure after reading the SUMMARY, go ahead and do it without reading any further.

Now, look at Step 6 of DLP-500 as shown in Figure 3. Note that following the action statement there is the sentence, "For help see DLP-563." When you see a statement like this, it means that additional step-by-step instructions for doing just that step are given in the referenced procedure. In this case, DLP-563 gives you the details on how to ensure that the write-enable ring is not installed on the file reel. If you, in this case, cannot do Step 6, then go to DLP-563. In either case, you must continue with Step 7 until you have completed the procedure. In some cases, you may be directed to a procedure where the procedure number is preceded by the letters TAP (Trouble Analysis Procedure); for example, TAP-109. This means that you have trouble in the equipment, and in this case TAP-109 will give you step-by-step instructions to fix the trouble. After you have fixed the trouble, you must return to Step 1 of the procedure that sent you to TAP-109. However, if you came directly from IXL-001 to TAP-109, then your job is completed when you have fixed the trouble.

Admonishments: Three admonishments are used in this document as follows:

DANGER: This means there is a possibility of personal injury.

Caution: This means there is a possibility of service interruption.

WARNING: This means there is a possibility of equipment damage.

Important Items: Table A lists the more important items used in this document.

AT&T 123-456-789 DLP-500
Issue 2 Page 1 of 2

MOUNT TAPE

SUMMARY: Install tape with or without write enable ring, as required. Thread tape and position tape at BOT (Beginning Of Tape) marker.

1. Get file reel and empty take-up reel.
2. Set **START/STOP** switch to **STOP**.
3. Set **ON LINE/OFF LINE** switch to **OFF LINE.**
4. Set **LOAD/BR REL** switch to center position.
5. Is data to be written on tape?
   If **yes**, then install write enable ring on file reel and go to Step **7**.
   If **no**, then do Step **6**.
6. Ensure that write enable ring is not installed on file reel. For help see DLP-563.
7. Open tape transport door.

Figure 3. Typical List of Detailed Instructions for Doing a Job

TABLE A Important Procedural Items and Definitions

Item	Definition
Acceptance (NTP-002)	Provides information and identifies jobs to be done to accept equipment after it is installed.
Maintenance Philosophy	The maintenance philosophy, when provided, gives an overview of the considerations designed into the trouble-clearing procedures.
DLP (Detailed Level Procedure)	Detailed, step-by-step instructions.
TAP (Trouble Analysis Procedure)	Step-by-step, trouble-clearing instructions to locate and/or fix troubles.
NTP (Non-Trouble-Clearing Procedure)	A list of items to perform normal work other than trouble-clearing.