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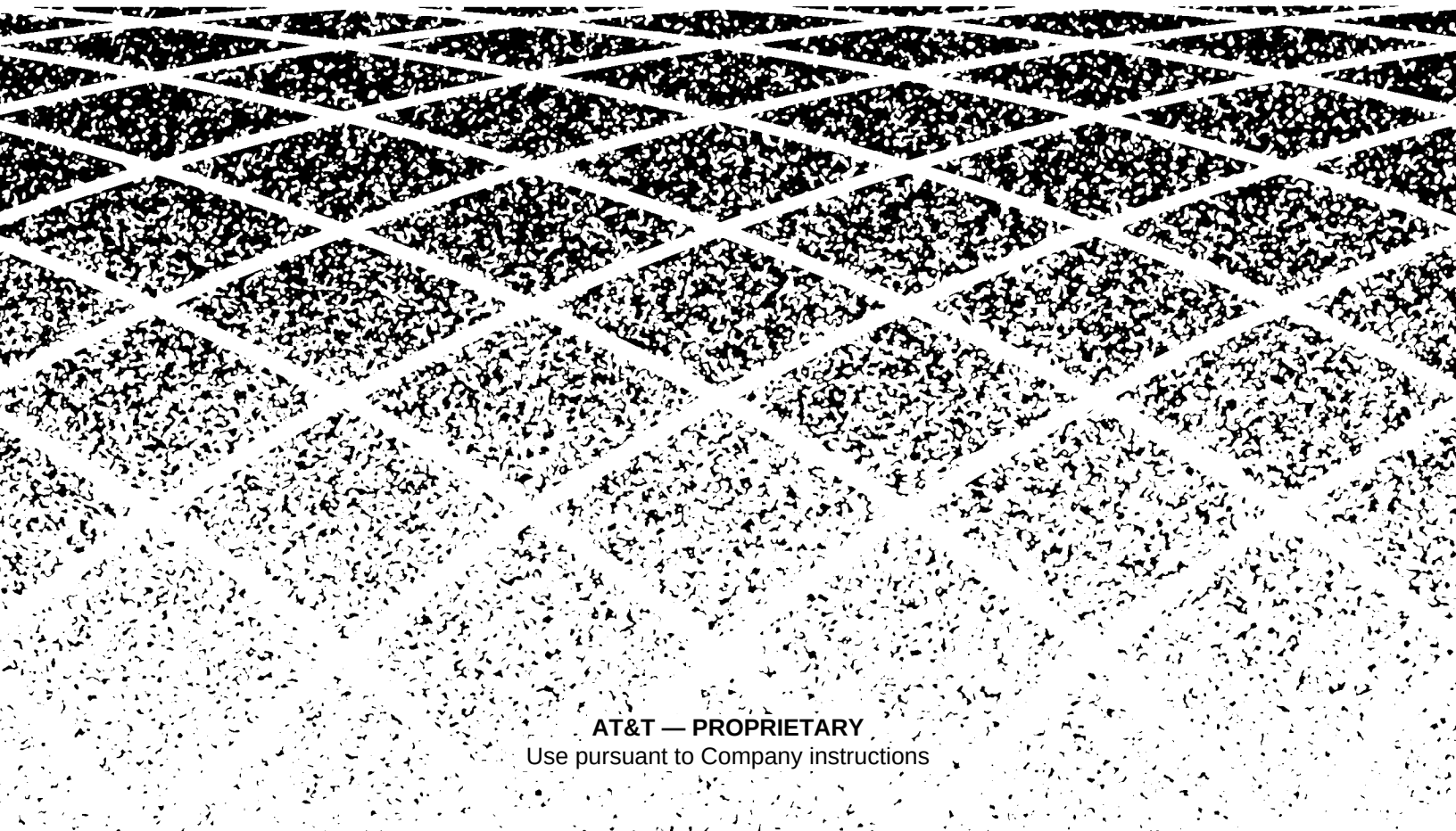
Issue 1
May 1996

4ESS™ Switch Announcement Administration Processor (AAP) Field Site and Central Site

Operations Manual



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Overview

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About This Document

This document provides detailed descriptions for each of the many tasks that the craft will need to perform in order to manage and maintain the announcements that are stored on the Service Circuit Units (SCUs). Additionally, those tasks associated with monitoring the operational status of the Announcement Administration Processor (AAP) as well as performing real-time audits are fully described. The main AAP databases are identified as well as their function and the tasks related to monitoring and maintaining those databases.

Intended Audience

This document is intended for those individuals involved in the day-to-day maintenance and service support functions associated with the AAP. Primarily, these individuals include the On-Site-Work-Force (OSWF). These individuals may also include anyone who has a login to the User Interface (UI) or Maintenance Interface (MI). Announcement administration (the recording of announcements and maintenance of those announcements) is the responsibility of the Centralized Announcement Update Control System (CAUCS). Therefore, this document provides information useful to anyone with the proper login to UI or MI whether they are at the AAP console or CAUCS console.

How This Document Is Organized

The rest of this document consists of the following:

- Chapter 2 - Architecture - Central Site Master - Provides a high-level description of the two major software components that reside on the Master AAP. These are the operating system (*UNIX** System V Release 4) and the AAP Applications Software.
- Chapter 3 - Central Site Master Tasks - Identifies the tasks associated with making and maintaining the announcement sets. These tasks are the step-by-step procedures that must be followed in order to correctly perform the specified task from the craft login.
- Chapter 4 - Architecture - Central Site Slave - Provides a high-level description of the two major software components that reside on the Slave AAP. These are the operating system (*UNIX* System V Release 4) and the AAP Applications Software.
- Chapter 5 - Central Site Slave Tasks - Identifies the tasks associated with making and maintaining the announcement sets. These tasks are the step-by-step procedures that must be followed in order to correctly perform the specified task from the craft login/User Interface.
- Chapter 6 - Architecture - Field Site - Provides a high-level description of the two major software components that reside on the Field Site AAP (FS-AAP). These are the operating system (*UNIX* System V Release 4) and the AAP Applications Software.
- Chapter 7 - Field Site Tasks - Identifies the tasks associated with making and maintaining the announcement sets. These tasks are the step-by-step procedures that must be followed in order to correctly perform the specified task from the craft login.
- Glossary - Provides a listing of the abbreviations and acronyms that are used throughout this document.
- Index - Provides a detailed index.

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Architecture—Central Site Master

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Architecture—Central Site Master

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ISAIC Architecture

The architecture for the Improved Service Announcement and Information Collection (ISAIC) system is fully described in AT&T 201-525-010AC, *ISAIC System Description*. This document assumes that the reader is thoroughly familiar with the ISAIC architecture as described in Chapter 2 of AT&T 201-525-010AC.

ISAIC Architecture Review

The Centralized Announcement Update Control System (CAUCS) functions to control the distribution of updated announcements. CAUCS receives update status reports from the Central Site (CS) Master AAP and announcement maintenance status reports from all AAPs. From the AAP perspective, the software that provides the communication for the status and maintenance reports (update and maintenance) is just one of many components within the AAP Applications Software.

New announcement updates are digitized by the Central Site Master AAP and recorded onto the St. Louis *4ESS*™ switch's Service Circuit Units (SCUs). It is the St. Louis *4ESS* switch that maintains the ''master copy'' for all announcements. Whenever a Field Site AAP (FS-AAP) has an announcement discrepancy that cannot be resolved locally—then the master copy may be used to find a resolution.

The CS-AAP (both Master and Slave) broadcasts announcement updates to the FS-AAPs via Integrated Services Digital Network-Primary Interface (ISDN-PRI) links. Within the *4ESS* switching office, the FS-AAP distributes announcement updates via a Local Area Network (LAN). Each different type of communications interface is controlled by a different software component.

Every AAP is routed to one of two Switching Control Center System (SCCS)/Total Network Management (TNM) machines. They are located in Denver and Conyers. The staff that monitors the TNM machines (computers) is referred to as the Technology Control Center (TCC)/Network Control Center (NCC). The TCC/NCC provides 24 hour per day surveillance and maintenance/monitoring for the AAPs. Again, there is a component within the AAP Applications Software that provides this communication.

Each AAP cabinet is actually a fault tolerant computer with redundant components internally and redundant communication links externally. In summary, the Master AAP provides all of the capabilities of a FS-AAP plus several additional capabilities that are exclusive to the MASTER. All AAPs are supported by a console and printer. The on-site-work-force (OSWF), when provided with the proper login, can access the User Interface (UI) and input commands to perform the tasks that are described in this document. Additionally, the Advanced Features Service Center (AFSC) can use the CAUCS Maintenance Interface (MI) to perform all announcement related tasks that are described in this document.

NOTE:
A point of clarification is that the MI and UI retain all of the same functionality--that is to say they are just different interfaces to the same Program Documentation Standards (PDS) input message set. The AFSC uses their CAUCS console to access, via the MI, a particular AAP. As a contrast, the OSWF uses the local console to access the UI PDS input message set. Additionally, the TCC/NCC may use the remote *UNIX* system login channel to access the UI PDS input message set.

AAP Software

The AAP software architecture can best be described as consisting of two major parts:

- The operating system—*UNIX* System V Release 4 with nonstop options
- The AAP Applications Software.

UNIX System V Operating System Release 4 (R4) With Nonstop Options

The *UNIX* operating system is a set of programs that controls the basic functions of the computer, acts as an interface between the console and the computer, and provides for the orderly execution of user programs (that is, the AAP Applications Software).

The operating system consists of the following four major components:

- Kernel—which is the core of the operating system. The kernel coordinates the computer's internal functions (such as, allocates the computers internal hardware resources, maintains the file system, and controls access to the computer).

  NOTE:
  Items not within, or a part of, the kernel are defined as being at user level.

- Hierarchical file system—which provides a method of handling data that makes it easy to store and access.
- The Shell—which serves as a liaison between the kernel and user commands.
- Commands—which are the names of programs that you (or the application) tell the computer to execute.

The nonstop options relate to improved reliability and the on-line detection of and recovery from hardware failures. More specifically, the nonstop options include:

- Disk Mirroring—which duplicates the contents of partitions contained on the system disks.
- Automatic restart following an over temperature/power failure condition.
- On-line recovery from hardware failures within the processor card cage and Small Computer System Interface (SCSI) disk drives by controlling the hardware state of these Customer Replaceable Units (CRUs).

NOTE:
The *UNIX* operating system kernel allows CRUs to be taken off-line and brought back on-line without halting the system. Whenever a CRU is automatically taken off-line, an entry is recorded in the system log. Refer to the Tandem documentation for additional details.

- Robustness and Recovery Enhancements—which reduce the chances that the operating system will have to halt due to an inconsistency in a particular software state.

At the time of initial installation and administration, each AAP is given a unique 8-character system name. The terms, system name and *UNIX* system name are the same and are frequently used interchangeably. The 8-character system name should not be confused with the 11-character CLLI* code.

Each AAP is administered with one or more UI-type logins for use (at the local console) by the OSWF. Additional login(s) are provided for the remote maintenance and remote administration work force (such as the [Total Network Management] TNM).

NOTE:
Although the *UNIX* operating system provides multitasking and multiuser capabilities, certain root-level administration functions may be performed only when the operating system is in single-user mode. Refer to the Tandem documentation for additional details.

AAP Applications Software

All software (AAP applications and the *UNIX* operating system) are initially loaded onto the AAP's hard disk. Subsequently, the tapes containing this software are stored for backup/emergency use.

The different AAP applications (for example, Central Site Master, Central Site Slave, and Field Site) are all loaded with the same generic release of software. However, both the Central Site Master and Central Site Slave have slightly different requirements from the Field Sites. These differences in requirements are taken care of by the AAP Applications Software installation procedures.

From a functional perspective, the AAP Applications Software performs the day-to-day operations of receiving updated announcements, distributing those announcements, as well as monitoring, maintaining, and reporting the AAP's status.

* CLLI is a trademark of Bellcore.

NOTE:
The Central Site Master differs by supporting the CAUCS update channel and the associated status databases. Furthermore, the Master maintains a database containing the primary and secondary telephone numbers for each of the Field Sites—so that it can look up their address whenever it is required to broadcast announcement updates. The Master also maintains several other databases that are not kept by the Slave or Field Site AAPs. Another difference is that the Master has unique software for the Audio board—which is not required by the other AAP applications.

Figure 2-1 depicts the software architecture for the Central Site Master AAP.

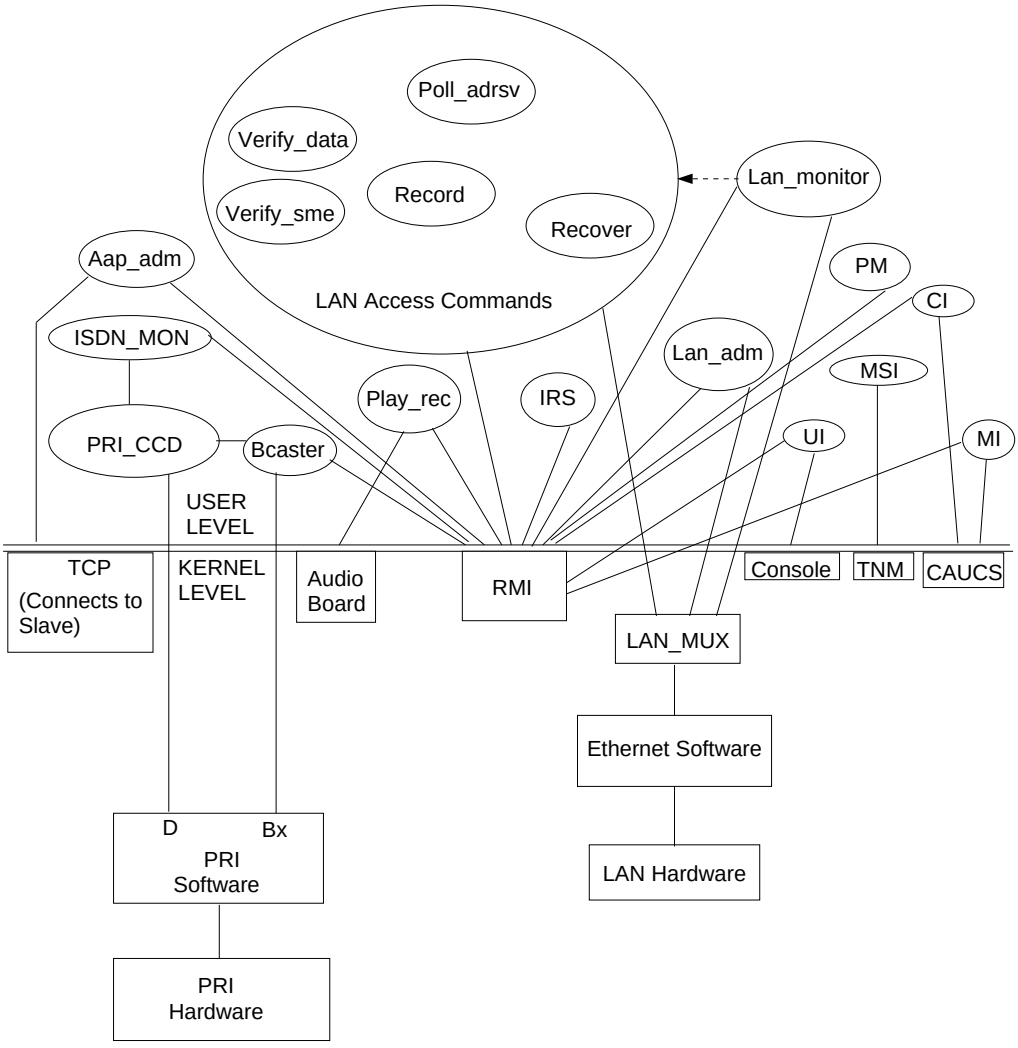

Figure 2-1. Central Site Master AAP Software Architecture

NOTE:
The AAP Applications Software includes both kernel-level and user-level programs.

AAP Applications Software Component Description

PM

The program manager (PM) is a process that runs in the background. Whenever the system is booted, the PM starts those processes that are required to make the AAP Applications Software perform its desired functions. Thereafter, the PM makes periodic checks to determine whether the processes are still running. If some are found not running, then the PM attempts to restart those processes.

Aap_adm

The AAP Administration (Aap_adm) process is started, by PM, whenever the AAP Applications Software is started. Its primary function is to start the Remote Message Interface (RMI) software. Thereafter, Aap_adm serves as a Master-to-Slave message passing facilitator and is responsible for the following:

- Logically connecting RMI drivers on the Central Site Master and Slave.
- Functioning as a temporary file deletion server at the Field Sites.

NOTE:
These files are normally the temporary files that are created during the normal course of announcement recording and verifying.

Lan_adm

The LAN Administration (Lan_adm) process is started, by PM, whenever the AAP Applications Software is initialized. Its primary function is to initialize the LAN driver and LAN_MUX driver software. Lan_adm is also responsible for reporting any LAN_MUX communication problems.

RMI

The Remote Message Interface (RMI) process is the primary interprocess communications driver. It has the following capabilities:

- To register a process. A process can register either as a local process, giving a component ID and a process ID, or as a remote process by giving the remote machine ID.
- To transfer a message. One process may send messages to another process. For example, when the Central Site Master receives an RMI message that is destined for a Field Site, RMI (Master) will look through its queues for such a registered process (Bcaster). If found, Bcaster will receive the message and pass it over an ISDN-PRI B channel to the Field Sites Network Interface (NI). The Field Site NI subsequently passes the message to its RMI.
- To close (unregister) a process.

Lan_monitor

This process is started, by the PM, whenever the system is booted. It is responsible for the following:

- Initially reading the SCUEQP database to determine the list of SCUs by set and their address.
- Keeping the SCUEQP database status indication up to date.
- Polling the SCUs.
- Logging all requests and results in the "Update File."
- Forking/executing the appropriate LAN access commands, which are identified in Figure 2-1, to perform the requested service.
- Handling incoming RMI messages that request an LAN service.
- Handling conflicting LAN requests.
- Keeping track of all existing LAN commands (both idle and active).
- On receiving an update request LAN message, replying to the SCU and using the UPDATE database to perform the requested updates.
- Adding to the UPDATE database when an SCU misses an update. At this point, Lan_monitor will remove this SCU from the ‘‘Active’’ set and spawn the Recover command.
- On request, sending the list of local updates (from the LOCOP database) back to CAUCS Interface (CI) using the RMI update messages—deleting the Local Updates database entries as it goes.

NOTE:
The Lan_monitor uses the LAN access commands. See Figure 2-1 to perform the previously identified list of functions. Additionally, it is responsible for making reports on failures that involve LAN commands. For example, if a Poll LAN command is issued and the results indicate that NO SCUs are accessible, this indicates a LAN failure. Some of the possible causes of the failure include (broken and/or defective media, failing AAP LAN interface board, the LAN driver software, or that all SCUs are down). As a means of attempting to correct this failure scenario, the software can switch from one AAP LAN board to the other. However, if a LAN failure exists after these attempts to correct the problem, then the Lan_monitor is responsible for reporting this condition as a MAJOR or CRITICAL alarm to the TNM.

IRS

The Interval Report Synthesizer (IRS) process is started, by PM, whenever the AAP Applications Software is initialized. The IRS software provides the following two basic responsibilities:

- Performs all verify operations.
- Executes the automatic periodic audits.

The IRS process opens and registers with RMI. It then reads the AUDIT database in order to determine how often to perform the individual audits.

The IRS performs the following four periodic audits on each announcement set:

1. Check that the Assignment Mapping Address tables match across all SCUs.
2. Check that the SCUs all have the same announcements equipped.
3. Do a bit-by-bit compare for every announcement across all SCUs.
4. Verify that the announcement statistics for every announcement match across all SCUs.

The results of all automatic audits are logged in the Log File. If an error result is indicated by the results of an automatic audit, this result is sent to MSI and, depending on its severity, reported to the TNM.

The IRS is also responsible for auditing the various databases for consistency/corruption, and for monitoring file system usage (for example, that the temporary file systems do not run low on space). If the system should run low on disk space (less than 25 percent remaining), the IRS will send a MAJOR alarm to the TNM.

The IRS also checks the databases for in range values (corruption) and is responsible for cleaning up any temporary files aged past their useful period. These files include:

- Files containing announcement data for RECORDs more than 1 hour old with no pointer in the UPDATE database.
- Temporary files passed between commands more than 1 hour old (for example, results from an error list).

PRI_CCD

The PRI Call Control (PRI_CCD) process is started, by the PM, whenever the AAP Applications Software is initialized. The PRI_CCD process keeps RMI updated as to the ISDN communication channels status change.

Bcaster

The Bcaster process is started, by PM, whenever the AAP Applications Software is started. Actually, PM starts a separate Bcaster process for each Field Site. Bcaster is the Central Site process that communicates with the Field Site NI over the ISDN-PRI B channel. Bcaster has the following five basic functions:

- Interfaces to the PRI_CCD process to set up and tear down connections.
- Handles the Central Site part of the network security.
- Handles the ISDN-PRI B channel connection.
- Handles remote RMI requests.
- Executes Central Site part of Remote Copy functionality.

At initialization, each Bcaster process is passed a unique ID. Subsequently, each Bcaster process updates its status (available), its process ID (PID), and its Central Site ID (Master/Slave). Whenever a connection request is made, Bcaster will use the Central Site CLLI Code database to get the two phone numbers. Next, Bcaster communicates with the PRI_CCD process and places the call to the Field Site. If the first call is not answered, the second number is tried. Bcaster returns either a success message or one of several failure messages. For the success scenario, Bcaster opens a software driver for the ISDN-PRI B channel.

After a connection is made, Bcaster does the Central Site part of exchanging the password encrypted security messages. When the password verification is complete, Bcaster opens a new communications path to RMI and registers using the new machine ID, and passes back a connection confirm message to the CI software. Subsequently, if Bcaster receives an RMI request to do a Remote Copy, it uses the ISDN protocol and NI on the Field Site to complete that task. If Bcaster receives an RMI message destined for a Field Site, it passes that message over ISDN to NI. If Bcaster receives an ISDN message of type RMI, it writes that message down to the RMI driver.

The Bcaster process is responsible for the AAP version of the sanity timer on the ISDN call. This means that after a period of ten seconds, if there has been no activity on the ISDN line (RCPs or RMI messages passed), Bcaster should take the responsibility of disconnecting the call and informing CI. This keeps the line from being held up indefinitely if CAUCS dies, forgets to tear down the call, or a CAUCS/AAP problem occurs.

ISDN_MON

The ISDN_MON process is responsible for monitoring the state of the ISDN link, the "D" signaling channel, as well as PRI_CCD. When state changes occur, ISDN_MON is responsible for communicating that information to the CI process.

The CI process uses this information to determine what ISDN boards are available for connections to the Field Site AAPs.

Play_rec

The Play Record (Play_rec) process is started, by the PM, whenever the AAP Applications Software is started. Play_rec will open and register with RMI. It then polls for RMI input messages. Play_rec interfaces with the announcement audio recording channel for the purpose of reading in audio data (recording an announcement) and writing out audio data (playing an announcement—as part of the verification process).

Whenever a Record RMI message is received, Play_rec will access the MACHINE database, obtain the Audio level, set the volume control on the audio board, detect a Dual Tone Multifrequency (DTMF) tone as the start of announcement, and digitize the audio. Play_rec stores the digital data in the named *UNIX* system file. When the ''record'' request is complete, Play_rec will return the audio board back to the idle state.

NOTE:
The Record RMI message is simply a RECORD command which includes the number of seconds of audio to record and the name of the output file to write the data.

Whenever a Play RMI message is received, Play_rec will access the MACHINE database, obtain the Audio level, set the volume control on the board, read the named *UNIX* system audio data file, write the data to the audio board data space, request that the audio board convert the digital data to audio, and ''play'' (for verification purposes) on the speaker. When the ''play'' request is completed, Play_rec will return the audio board back to the idle state.

External Interfaces

User Interface (UI).

The UI process provides the following primary functions:

- Serve as the craft administration interface for local emergency announcement updates/verification requests.
- Serve as the craft maintenance interface for local/remote AAP software maintenance and SCU announcement maintenance.

The UI includes some 60 plus input messages (commands). All UI messages use the PDS format. UI has the following craft interface responsibilities.

- Parse the input command checking for legal syntax.
- Perform Allow, Record, Verify, Assign, Replace, Poll, Delete, and Copy requests.
- For the Record and Verify commands, interact (via RMI) with the Play_rec process to play or record the announcement.
- Based on the command, request service (via RMI) of IRS, CI, ISDN_MON, PM, or Lan_monitor.
- Format and print the results.
- Set and display the audio level for the speaker (Central Site only).
- Browse the Log File and browse the Update File.

UI has the following maintenance mode responsibilities:

- Perform any craft function.
- List the contents of the following local databases:
  - UPDATE
  - MACHINE
  - SCUEQP
  - SETEQP
  - AUDIT
  - LOCOP
  - FSITE
  - CAUCS
  - SLAVE.
- Add/delete a tuple or change an attribute in:
  - MACHINE
  - SCUEQP
  - FSITE
  - ANNUPD
  - SETEQP
  - AUDIT
  - SLAVE.

- Initialize (set to zero):
  - — ANNUPD
  - — CAUCS
  - — MACHINE
  - — SCUEQP
  - — SETEQP
  - — AUDIT
  - — FSITE
  - — SLAVE.
- Enable or disable updates to an SCU, set, or all sets in the AAP.
- Enable or disable audits.
- Copy an announcement from one SCU to another.
- Delete (remove) an announcement off one SCU.
- Shut down/reboot (STOP:AAP and INIT:AAP) the AAP Applications Software.
- Access and print out measurement report data.

CI.

The CAUCS Interface (CI) is the Central Site process responsible for interfacing with CAUCS and for controlling announcement update broadcasts. Specifically, CI has the following six primary responsibilities:

- Connect the Central Site to the CAUCS.
- Decide when to bring up and tear down all ISDN data calls.
- Keep the Bcaster Status up to date with Bcaster connection information.
- Keep the CAUCS database up to date through both adding and deleting jobs.
- Control the CAUCS initiated Local Record on the Central Site.
- Control all Broadcast update activity.

The CI process is started, by the PM, whenever the AAP Applications Software is started. CI opens and registers with RMI and connects to the CAUCS. Subsequently, as Bcasters are started, they each inform CI of their presence. When ISDN_MON is started, they inform CI of their presence and CI keeps track of ISDN board status and connection status, which it outputs in response to an OP:ISDN request.

The CI software has the following three places to look for work:

- The CAUCS database—which contains jobs that CAUCS wants performed.
- RMI—which may contain messages or replies.
- CAUCS—which may request an update.

NOTE:
CI is the only process that can place jobs in the CAUCS database. Normally, the CAUCS database will be empty at start-up (unless the CI is restarted as the result of dying unexpectedly). If CI checks and finds this database empty, then it will poll the CAUCS command interface and wait for more jobs.

CI uses RMI messages to connect/disconnect the Bcasters to the Field Sites and RCP requests to the Bcasters (to do local RECORDS and VERIFYS—much like UI does on the Field Site) in order to accomplish the broadcast tasks. When CI starts a job, it sets the ‘‘in-progress’’ flag for that job entry within the CAUCS database. CI ensures that one job is completed (either successful or unsuccessful) to all sites before the next job is started.

When CI receives a broadcast job from CAUCS, CI reads the job and places it in the CAUCS database. Thereafter, if no job is in progress, CI will get the first job (by priority) from the CAUCS database making sure that all the necessary Bcasters are active and start a transmission. As CI receives status messages from each Bcaster, indicating that the job has completed, it marks the job as complete. When all Bcasters indicate that the job is complete, CI will remove the job from the CAUCS database and prompt CAUCS with a status message indicating this fact. If there are more jobs in the database, CI gets the next job and starts another transmission. If for some reason the job timer should expire, those Bcasters with jobs pending are canceled and the jobs for those Field Sites are marked as unsuccessful.

NOTE:
It is very important for individuals at the CAUCS console(s) to understand it is their responsibility to ensure that if an announcement update job fails at one Field Site, other jobs that would cause out-of-order updates should not be started.

Following a broadcast session, if the Central Site CI received an indication from Bcaster that one or more Field Sites had completed some of the local updates—then the CI will request local update status from the Field Site(s) Lan_monitor. The Central Site CI transmits these status messages, as they are received, on to CAUCS.

MSI.

The MSI process is started, by the PM, whenever the AAP Applications Software is initialized. As a timed periodic process, MSI functions to transmit a heartbeat signal (which shall serve as the system normal indication) to the TNM. Also, MSI pools the other processes for alarms and (depending on an alarm's severity) transmits alarm status to the TNM.

MI.

The Maintenance Interface (MI) process provides the AFSC with the capability to interact (remotely) with the AAP. The CAUCS console is the device that the AFSC uses to interact with the AAPs. The MI process provides all of the same capabilities (for example, the same 60 plus input messages) as UI. The AFSC will make use of these capabilities to perform their announcement maintenance duties.

Databases

The AAP Applications Software maintains several databases. Each database consists of a reserved block of memory that holds a series of records specifically related to the function of the database. Each database has a unique name (such as, FSITE, CAUCS). The database name is always in uppercase letters and its name is intended to identify the database function.

Each database will usually contain several different attributes. The database KEY is the method used to address a unique grouping of attributes. Each attribute can be assigned a range of values. A particular attribute and its associated value are referred to as a tuple. Depending on the controls associated with a particular database, a tuple may be added, changed, or deleted. The UI provides a series of input messages for performing these and other database management functions. Table 2-1 is a listing of the AAP Applications Software databases. The table also identifies each database attribute name, lists its range of values, and provides an (x) to indicate whether/how a particular tuple can be changed.

The following list further defines the purpose/function of each database:

- MACHINE—contains the associated *4ESS* switch office number, CLLI code, audio level, call type, Central Site phone number, and site type (Master, Slave, or Field).
- SCUEQP—contains the SCS number, SCU number, announcement set, LAN address, status (active or not), and manual override (enabled/disabled).
- SETEQP—contains the announcement set, set number, set Multicast Address.

- ANNUPD—contains the SCS number, SCU number, and announcement information.
- AUDIT—contains the minute, hour, day of month, month, day of week, duration, and audit to be run. All time entries can take on a numeric value or an asterisk (*). The * denotes all legal values the field can take on. The numeric value can be a list of comma-separated numeric values, an integer, or range of integers. Duration can take on the value of zero (run until complete) or an integer number of minutes to run (maximum). There are seven different types of audits. They are identified as (type 0, 1, 2, 3, 4, 5, and 6).

  NOTE:
  Additional information on each type is provided in the TASKS chapter.

- LOCOP—contains the update structure and includes a listing of all announcement related UI input messages that are input at the local console. Specifically, this database contains the, SCS number, SCU number, announcement set, type of operation, the "from" range, the "to" range, announcement length, announcement in RAM indication, disk pair, announcement mapping address, time, checksum, and user login name.
- FSITE—contains (for each FS-AAP) the office ID, primary phone number, secondary phone number, and CLLI code.
- SLAVE—contains machine ID and ISO ID.
- CAUCS—contains CAUCS jobs, type of request, in-progress tag, office selection tag, and priority tag.

NOTE:
Somewhat similar to databases, but yet different, are the ‘‘Log File’’ and ‘‘Update Files.’’ These files cannot be changed—like the databases. They can only be displayed (Browsed). The software detects abnormal process events and writes a record to the Log File. As a contrast, every locally-generated message (for example, LAN_MON messages) and announcement-related UI input messages, along with their descriptive parameters, are written to the Update File.

Table 2-1. AAP Databases for Central Site Master

Database	Attribute	Description	Value	UI Database Access ADD tuple CHG one attribute	DLT tuple	CLR database
MACHINE		Machine Information (single tuple)			x	empty
	KEY	unique database key	0-99999	x		
	OFID	office ID	1-32000	x		
	CLLI	common language location identification	maximum 10 characters	x		
	TYPE	machine type	M|S|F	x		
	LVL	audio level	0-24	x		
	CTYPE	call type	0-1	x		
	CSPN	Central Site phone number	maximum 25 digits	x		
SCUEQP		SCU Equipment Information			x	empty
	KEY	unique database key	0-99999	x		
	ANNSET	announcement set	A-Z	x		
	SCS	SCS number	0-7	x		
	SCU	SCU number	0-15	x		
	LANADR	LAN address	10 hex digits (default)	x		
	ENA	enable SCU	0|1	INH/ALW		
	ACT	SCU active	0|1			
SETEQP		Announcement Set Equipage Information			x	initial value
	KEY	unique database key	0-99999	x		
	ANNSET	announcement set	A-Z	x		
	SETADR	announcement set multicast address	10 hex digits (default)	x		
	SETNUM	announcement set number	0-254	x		
ANNUPD		Announcement Update Information			x	empty
	KEY	unique database key	0-99999			
	ANNSET	announcement set	A-Z			
	SCS	SCS number	0-7			
	SCU	SCU number	0-15			
	TYPE	announcement update type	RCD|ASN|RMV|RPLC			
	ANNFROM	from announcement range	1-65535			
	ANNTO	to announcement range	1-65535			
	ANNVER	announcement version	4 characters			
	LENSCU	announcement length (in SCU seconds)	0-255			
	CHKSUM	checksum	8 hex digits	not displayed		
	RAM	announcement in announcement memory	0|1			
	DISK	disk pair	0-3			
	AA	announcement mapping address	1-511			
	FILE	audio data filename	maximum 100 characters	not displayed		
AUDIT		Audit Information			x	initial value
	KEY	unique database key	0-99999	x		
	TYPE	audit type	0-6	x		
	ANNSET	announcement set	A-Z	x		
	FROM	from announcement ID or mapping address range	1-65535	x		
	TO	to announcement ID or mapping address range	1-65535	x		
	UCL	unconditional audit	0|1	x		
	MO	month	1-12 or *	x		
	DAYMO	day of the month	1-31 or *	x		
	DAYWK	day of the week	0-6 or *	x		
	HR	hour	0-23 or *	x		
	MIN	minutes	0-59 or *	x		
	ENA	enable audit	0|1	INH/ALW		
	ACT	audit active	0|1			

Table 2-1. AAP Databases for Central Site Master (Contd)

Database	Attribute	Description	Value	UI Database Access ADD tuple CHG one attribute	DLT tuple	CLR database
LOCOP		Local Operations Information				
	KEY	unique database key	0-99999	not displayed		
	ANNSET	announcement set	A-Z			
	SCS	SCS number	0-7			
	SCU	SCU number	0-15			
	TYPE	local operation type	RCD|ASN|RMV|RPLC			
	ANNFROM	from announcement range	1-65535			
	ANNTO	to announcement range	1-65535			
	ANNVER	announcement version	4 characters			
	LENSCU	announcement length (in SCU seconds)	0-255			
	RAM	announcement in announcement memory	0|1			
	DISK	disk pair	0-3			
	AA	announcement mapping address	1-511			
	TIME	date and time	mh/dy/yr hh:mm:ss			
	CHKSUM	checksum	8 hex digits	not displayed		
	UTIME	seconds since 1/1/70	maximum 10 digits	not displayed		
	UNAME	user login name	text string	not displayed		
FSITE		Field Site Information			x	empty
	KEY	unique database key	0-99999	x		
	OFID	office ID	1-32000	x		
	PRIPN	primary phone number	maximum 25 digits	x		
	SECPN	secondary phone number	maximum 25 digits	x		
	CLLI	common language location identification	maximum 10 characters	x		
SLAVE		Slave Information (single tuple)			x	initial value
	KEY	unique database key	0-99999	x		
	CSID	Central Site office ID	1-32000	x		
	ISOID	ISO ID	16 hex digits	x		
CAUCS		CAUCS Information				empty
	KEY	unique database key	1010-99999			
	TYPE	type of request	1-9, 11, 12			
	ID	tag to identify message	1010-99999	not displayed		
	ANNSET	announcement set	A-Z	not displayed		
	ANNFROM	from announcement number range	1-65535	not displayed		
	ANNTO	to announcement number range	1-65535	not displayed		
	ANNNEW	new announcement number	1-65535	not displayed		
	ANNVER	announcement version	4 characters	not displayed		
	DISK	disk pair	0-3	not displayed		
	RAM	announcement in announcement memory	0|1	not displayed		
	LEN	announcement length (in regular seconds)	0-261	not displayed		
	LENSCU	announcement length (in SCU seconds)	0-255	not displayed		
	AAFROM	from announcement mapping address range	1-511	not displayed		
	AATO	to announcement mapping address range	1-511	not displayed		
	ITAG	in-progress tag	0|1			
	PTAG	priority tag	1-99			
	OFTAG	office selection tag	A|C|E|L|X			
	FS1	*4ESS* switch Field Site #1	1-32000	not displayed		
	FS2	*4ESS* switch Field Site #2	1-32000	not displayed		
	...	...	...	...		
	...	FS3-FS154 not shown	...	...		
	...	...	...	...		
	FS155	*4ESS* Switch Field Site #155	1-32000	not displayed		
	FS156	*4ESS* Switch Field Site #156	1-32000	not displayed		

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Central Site Master Tasks

3

Login/Logout Procedures

Logging into the AAP User Interface (UI)

The Technology Control Center (TCC)/Network Control Center (NCC) has control of who is assigned a UI type login. Anyone with a UI type login has full access to all of the AAP's PDS input messages. These messages are listed alphabetically in AT&T 201-525-012AC, ***4ESS***™ *Switch, AAP Input/Output Manual*.

At the AAP console login prompt, enter your assigned UI login. Subsequently, when requested, enter your secret password. At the UI prompt (>), you can, as needed and as appropriate, perform the tasks listed within this document.

Logging out of UI

From the UI prompt (>), type
EXIT and press return.

Using the Browse Feature

The two files (Log File and Update File) are generally used in conjunction. The Log File is simply a chronological listing of abnormal system events that have been detected by the Applications Software. The Update Log is a chronological listing of announcement update activities.

NOTE:
Actually, the Log File consists of two separate 5-megabyte files. One file is always "active" while the other file retains "old" data. Whenever the active file becomes full, the old file is cleared and the two files rotate their functionality. This sequence simply repeats as often as necessary.

NOTE:
The Update File actually consists of a separate file for each day of the week. The files are identified by the single values, 0 through 6, which corresponds to the days, Sunday through Saturday.

The Log File may be used, on an occasional basis, to monitor system activities and verify that there are no persistent problems. For resolving trouble reports, it is typically necessary to display the Log File in order to determine the time stamp for when a particular error occurred. Subsequently, the Update File can be displayed with the same identified time stamp and used to identify the user ID and process that generated the error.

The default display for both the Log and Update files is the last 10 lines of the file. As an option, a range of lines from 1 to 1000 can be displayed. If the date is specified, the time is the default time (00:00); unless a time is specified.

Browse the Log File

1 At the AAP console, type
OP:LOG:DATE 010693,TIME 0240,LIMIT 7!

The following screen is an example of the output format.

```
M 34 OP:LOG DATE 010693 TIME 0240 LIMIT 7   PF

     10/06/93 02:41:32 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|2478|14|timeout occurred while waiting for respo
                           nse from SCU
     10/06/93 02:41:37 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/appl
                           .C|361|55|restart attempt on process [11222] complet
                           ed [0]
     10/06/93 02:41:37 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|2478|14|timeout occurred while waiting for respo
                           nse from SCU
     10/06/93 02:41:46 CST Lan_monitor|../../../src/cmd/lan_monitor/com/lan_cmd
                           .c|911|45|kill request sent to process [m=0x0, e=0xa
                           , i=0x2bc4]
     10/06/93 02:41:46 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|336|19|kill request received
     10/06/93 02:41:51 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/pid_
                           queue.C|401|51|unexpected death of process [11228] [
                           256]
     10/06/93 02:41:54 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/proc
                           _grp.C|285|53|restart process group due to restart o
                           f dead process [ISDN0]

M 34 OP:LOG DATE 010693 TIME 0240 LIMIT 7   Completed
     01/06/93 08:59:01 CST #144
```

NOTE:
For more information on UI commands refer to AT&T 201-525-012AC, *AAP Input/Output Manual*. For more information on the Error Log, refer to AT&T 201-525-016AC, *AAP Maintenance, Diagnostics, and Trouble Clearing*.

2 Do you wish to display another date or another time period?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Browse the Update File

1 At the AAP console, type
OP:UPD:DAYWK 3,TIME 0240,LIMIT 7! completed

The following screen is an example of the output format.

```
M 23 OP:UPD:DAYWK 3,TIME 02:40,LIMIT 7  PF

       10/24/93 08:27:04 CST UIstart2|ekelby|MTCR?!|0
       10/24/93 08:27:04 CST UIend2|ekelby|MTCR?!|0
       10/24/93 08:27:50 CST UIstart3|ekelby|MTCRCD:ANNSET N ANN 19 ANNVER "ABCD"
                             FILE "annc1" |0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 3 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 2 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 0 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST UIend3|ekelby|MTCRCD:ANNSET N ANN 19 ANNVER "ABCD" F
                             ILE "annc1" |0
       10/24/93 08:28:26 CST UIstart4|ekelby|OP:LOG LIMIT 100 |0
       10/24/93 08:28:48 CST UIend4|ekelby|OP:LOG LIMIT 100 |0


M 23 OP:UPD DAYWK 3 TIME 0240 LIMIT 7  Completed
     10/24/93 18:12:22 CST  #384
```

2 Do you wish to display another day of the week or another time period?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Recording Announcements

Recording Announcements at the Central Site *4ESS* Switch SCUs from the Central Site AAP Console

1 At the "main" AAP console, type **VER:MODE3,ANNSET** *a*:**ANN** *f*! to determine whether the announcement number to be recorded is being used. Only those numbers that are being used are displayed.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID (single value 1-65535 or range).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

2 Is the announcement number **BEING USED**?

NOTE:
An error code is returned if the announcement number is not active.

If **YES**, then continue with Step 3.
If **NO**, then go to Step 4.

3 To record to an active announcement number, that announcement must first be removed. Removing an active announcement number can cause an announcement to be unavailable when a call needs to access that announcement. In order to prevent this, active announcement updates must first be recorded to an inactive temporary announcement number. When an acceptable recording is created, the active announcement number's contents are replaced with the inactive temporary announcement number's contents and the temporary announcement number's contents are deleted.

4 Is it desirable for the announcement to be held in the SCUs RAM?

NOTE:
Those announcements that are used frequently may be held in the SCUs RAM, thus allowing the network to be more responsive (that is, play the announcement with less delay). Each SCU's announcement memory (RAM) provides the capacity to record up to 1024-seconds of announcements. The recommendation is that all announcements of 1-second or less should be maintained in RAM (that is, recorded with the option RAM specified). Furthermore, those announcements that involve the concatenation of numbers should be recorded in RAM.

If **YES**, then continue with Step 5.
If **NO**, then go to Step 7.

5 At the "main" AAP console, type
RCD:ANNSET *a*,**RAM:ANN** *e*,**ANNVER** *"f"*,**LEN** *g*! to record the announcement and have it stored in the SCUs announcement RAM.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

RAM = If entered, the announcement will be maintained in the SCU announcement memory as well as on disk. When not specified, the announcement will be maintained only on the SCUs disk.

e = Desired Announcement ID.

f = Announcement version is four alphanumeric characters. These four characters must be contained within quotes and cannot be the string "NONE."

g = Length of announcement in seconds (0-261). Zero is a half-second announcement.

6 Proceed to Step 8.

7 At the "main" AAP console, type
RCD:ANNSET *a*:**ANN** *e*,**ANNVER** *"f"*,**LEN** *g*,! to record the announcement and have it stored in the SCUs disk.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

e = Desired Announcement ID.

f = Announcement version is four uppercase characters. Cannot be the string "NONE." These four characters must be contained within quotes and cannot be the string "NONE."

g = Length of announcement in seconds (0-261). Zero is a half-second announcement.

8 Wait for the message `Ready to Record` to appear on the AAP console before continuing.

9 Play the tape recording of the announcement.

NOTE:
The announcement on tape must be prepared with a 500-ms DTMF digit preceding the announcement; this is for triggering the audio board to begin recording.

Response = When the trailing edge of the DTMF tone on the tape is played, the audio board will start and record for the number of seconds specified. The AAP will record whatever is input from the tape player. On completion of the specified announcement length, the AAP console will respond with a completed output message and the Cyclic Redundancy Checksum (CRC) for that announcement.

NOTE:
If at any time while attempting to record an announcement, an error is committed (for example, an incorrect announcement was played) the JOB can be canceled by stopping its "sequence number." For example, enter the command **OP:JOB** in order to identify the sequence number of the RCD command, then enter the command **STOP:JOB** *xxxxx* (where *xxxxx* = the sequence number for the RCD command). Otherwise, the errored announcement can be removed with the **RMV** command—as described in Step 18.

10 At the "main" AAP console, type **VER:MODE2,ANNSET** *a*:**ANN** *f*! to verify the words and quality of the announcement via the speaker in the CAUCS patch panel.

NOTE:
The parameters entered for this verify command must identify the same announcement as previously recorded.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID (single value 1-65535).

NOTE:
Refer to the "How to Use" document for the CAUCS test panel.

11 Was the quality of the announcement acceptable in Step 10?

If **YES**, then go to Step 14.
If **NO**, then go to Step 12.

12 At the "main" AAP console, type
RMV:ANNSET *a***:ANN** *d***!** to remove the specified announcement from a specified Announcement Set.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID (single value 1-65535).

NOTE:
The purpose of this step is to remove the defective/unacceptable announcement from each SCU so that a new announcement may be rerecorded.

13 Did the **RMV** command succeed in Step 12?

If **YES**, then return to Step 3 to rerecord the announcement.
If **NO**, then contact the next level of support.

14 Was the announcement recorded to a temporary announcement number?

If **YES**, then continue with Step 15.
If **NO**, then go to Step 20.

15 At the "main" AAP console, type **RPLC:ANNSET** *a*,**ANN** *d*,**ANNVER** *"e"*:**ANN** *f*! to swap the being used announcement number's contents (*d*) with the temporary announcement number's contents (*f*).

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Active announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

e = Active announcement version number is four uppercase alphanumeric characters. Cannot be the string "NONE."

NOTE:
When replacing one announcement with another announcement, their version strings must be different.

f = Temporary announcement ID (single value 1-65535).

16 Has the ***RPLC:ANNSET-ANN COMPLETED*** message been received?

If **YES**, then go to Step 18.
If **NO**, then continue with Step 17.

17 Attempt to replace the contents of the two announcement numbers, If unsuccessful, contact the next level of support.

18 At the "main" AAP console, type
RMV:ANNSET *a***:ANN** *d***!** to remove the contents of the temporary announcement number.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID of the temporary announcement (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

19 Did the ***RMV*** succeed in Step 18?

If **YES**, then continue with Step 20.
If **NO**, then contact the next level of support.

20 Are there any more announcements to be recorded?

If **YES**, then return to Step 1.
If **NO**, then continue with Step 21.

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

Verifying Announcements

Verify That the Announcement Mapping Addresses Are Correct

1 At the AAP console, type
VER:MODE6 :AA *e!* to determine whether all SCUs (that contain announcement SET N) have the same final handling announcements.

Where *e* = Announcement Mapping Address (single value 1-511 or range).

CAUTION:
The VER:MODE1, MODE3, MODE4, and MODE6 commands only attempt to check those SCUs that are enabled within the AAPs SCUEQP database. Furthermore, if the LAN is not operational, or if a particular SCU does not respond (for whatever reason) there will not be any data (either correct or error) obtained from that SCU. Therefore, if data is not obtained from one or more SCUs, then the results may not be totally inclusive, and it is possible that an error may not be listed. In this case, the response will be a conditional success.

Results (output) from the VER:MODE6 command are listed as tabular data under the headings "ANNOUNCEMENT MAPPING ADDRESS INFORMATION - CORRECT DATA" and "ANNOUNCEMENT MAPPING ADDRESS INFORMATION - ERROR DATA." The following screen depicts the output with example data for both correct and error data.

```
M 34 VER:MODE6[ SCS b SCU c][ [DETL][UCL]] :AA e  completed
     ANNOUNCEMENT MAPPING ADDRESS INFORMATION - CORRECT DATA
     ------------------------------------------------------

     AA     ANN
      1    1001
      3    1003
      4    1004
      5    1005

     ANNOUNCEMENT MAPPING ADDRESS INFORMATION - ERROR DATA
     ----------------------------------------------------

     AA     ANN    SCS   SCU
      2    1002      0     1
           1004      1     1

    03/18/93  18:43:33  CST  #456
```

Legend:
AA = Announcement Mapping Address (1 through 511)
ANN = Announcement (1 through 65535)

Analyzing the Data

You should review the data and attempt to determine whether the data, for each AA, is accurate and whether all announcement addresses in use are listed. If there is a question regarding whether a particular AA is administered, then CAUCS maintains a database for the AAs, and this database should be used to resolve any questions.

Analyzing the Error Data

- AA 2 is identified as having errors.
- AA 2 has announcements 1002 and 1004 assigned to it. The problem is to determine which announcement is errored and assign (ASN) the correct announcement to the SCU that has the error. It may be necessary to perform a VER:MODE2 and compare the audio output (from the speaker or handset) to the typed text for the announcement.

Continuing

2 Do the results from your command list error data?

If **YES**, then continue with Step 3.
If **NO**, then go to Step 9.

3 At the console, type
VER:MODE4, ANNSET *a*:**ANN** *f*! and listen to the first announcement while comparing the audio with the text for the announcement.

Where *a* = Announcement Set (N = Common Announcements)

f = Announcement ID of the first announcement (single value 1-65535).

4 At the console, type
VER:MODE4, ANNSET *a*:**ANN** *f*! and listen to the second announcement while comparing the audio with the text for that announcement.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID of the second announcement (single value 1-65535).

NOTE:
If a problem is encountered--then the AFSC should be contacted for proper resolution.

5 At the console, type
OP:ANNUPD! to make sure that a queued JOB does not already exist that would, when executed, result in correcting the mapping error.

6 Did the OP:ANNUPD command list a queued command that would correct the error?

If **YES**, then go to Step 9.
If **NO**, then continue with Step 7.

7 At the console, type
ASN:SCS *a*,**SCU** *b*,**ANN** *c*,**AA** *d*:**ANN** *e*! to assign the correct announcement to the identified SCS/SCU.

Where *a* = SCS controlling the SCU with the error.

b = SCU with the current ANN.

c = ID of the current announcement.

d = Announcement Mapping Address.

e = ID of the new announcement.

8 At the AAP console, type
VER:MODE 6:AA *e*! and recheck that the error data has been corrected and that no additional error data is listed.

Where *e!* = Announcement Mapping Address (single value 1-511 or range)—should be the same as used in Step 1.

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

Verifying a Few Announcements

NOTE:
Depending on the number of announcements to be verified and the mode of verification used, this could result in the verification process being a time-consuming task. Therefore, in order not to make this a time-consuming task the recommendation is to limit the number of announcements to less than 20 when using VER:MODE4. Verify MODE4 performs a bit-by-bit comparison and (depending on the actual length of the announcement) can consume a significant amount of time.

1 At the console, type
VER:MODE4,ANNSET a**:ANN** *d*! to verify whether the specified announcement(s) match across all SCUs.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID (single value 1-65535 or range).

Results (output) from the VER:MODE4 command are listed as tabular data under the headings "ANNOUNCEMENT INFORMATION - CORRECT DATA" and "ANNOUNCEMENT ADDRESS INFORMATION - ERROR DATA TOTAL SCUs ATTEMPTED 3." The following screen depicts the output with example data.

```
M 45 VER:MODE4 ANNSET N ANN 1-500  PF
     TOTAL SCUs ATTEMPTED  2


     ANNOUNCEMENT INFORMATION  -  ERROR DATA
     ------------------------------------------------------
         ANN    BYTECOUNT   SCS   SCU     ERROR
         121        49152     0     1
         121        49152     0     2     LENGTH
         121        61440     0     3     CONTENT

M 45 VER:MODE4 ANNSET N ANN 1-500  Completed
     10/19/93  19:21:13 CST  #450
```

Legend:
ANNSET = Announcement Set
ANN = Announcement (1 through 65535)

2 Do the results from your command list error data?

NOTE:
The preferred method for making corrections is to remove the incorrect announcement and replace it with a correct announcement. Whether the replace function is accomplished by "copying" a correct announcement from another announcement set or actually downloading and "rerecording" the announcement is a decision determined by the AFSC. It is the AFSC who is responsible for determining which is correct, which is errored, and the "From" SCS/SCU.

If **YES**, then continue with Step 3.
If **NO**, then go to Step 9.

3 At the console, type
RMV:ANNSET *a*,**SCS** *b*,**SCU** *c*:**ANN** *d*! to remove the errored announcement.

NOTE:
It is not permitted to record or copy an announcement onto an existing announcement. The old version or errored announcement must be removed before the record or copy will execute.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

b = The SCS listed under the heading "ERROR DATA" for Step 2.

c = The SCU listed under the heading "ERROR DATA" for Step 2.

d = The announcement ID listed under the heading "ERROR DATA" for Step 2.

4 Verify that the particular announcement *d* (from within the specified announcement set *a*) no longer exists. At the console, type **VER:MODE3** *a*,**SCS** *b*, **SCU** *c*:**ANN** *d*.

NOTE:
There should not be anything listed for the announcement.

5 Did the **RMV** command succeed (meaning is the announcement not listed in Step 4)?

If **YES**, then continue with Step 6.
If **NO**, then contact the next level of support.

6 At the console, type **COPY:ANNSET** *a,***SCS** *b,***SCU** *c,***ANN** *d:***SCS** *f,***SCU** *g*,**ANN** *i,***ANNVER** *"j"***!** to copy the correct announcement to the equipment location that contained the bad announcement.

Where *a* = From Announcement Set (N = Common Announcements, S = Customized Announcements).

b = From SCS (single value 0-7).

c = From SCU (single value 0-15).

d = From Announcement ID (single value 1-65535).

f = To SCS (single value 0-7).

g = To SCU (single value 0-15).

i = To Announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

j = To Announcement Version number [four uppercase alphanumeric characters and must be surrounded by quotation marks (" ")].

NOTE:
The "to SCS & to SCU" are identified on the report under the error data heading.

7 Did the **COPY** command succeed in Step 6?

If **YES**, then continue with Step 8.
If **NO**, then contact the next level of support.

8 Are there other announcements to be verified?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 9.

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

Verifying Many Announcements

NOTE:
Depending on the number of announcements to be verified and the mode of verification used, this could result in the verification process being a time-consuming task. Therefore, the recommendation is to use VER:MODE3 whenever it is desired to verify 20 or more announcements.

1 At the console, type
VER:MODE3,ANNSET *a*:**DETL:ANN** *f*! to verify whether the specified announcements match across all SCUs.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID (single value 1-65535 or range).

```
M 55 VER:MODE3 ANNSET a:DELT:ANN f  results
     TOTAL SCUs ATTEMPTED 2

     ANNOUNCEMENT INFORMATION - CORRECT DATA
     -------------------------------------------------------

     ANN     LENSCU  DISK   RAM    ANNVER        CRC
     123          0     0     0      SR01   1234ABCD
     124        255     3     0      WARD   5678CDEF
     125         12     1     0      STRM   FEDCBA98



     ANNOUNCEMENT INFORMATION - ERROR DATA
     -------------------------------------------------------

     ANN     LENSCU  SCS  SCU  DISK  RAM  ANNVER         CRC
       2          0    0    0     0    -    SR02    ABCD1234
   65534        255    7   15     3    0    WAR1    46EDE3B8C


M 55 VER:MODE3 ANNSET a:DELT:ANN f Completed
     10/25/93  20:59:13  CST #599
```

Legend:

ANN	Announcement (1 of 65535)
LENSCU	Announcement length
SCS	Service Circuit System
SCU	Service Circuit Unit
DISK	Disk pair (single value 0-3)
ANNVER	Announcement Version (4 characters)
CRC	Announcement checksum

2 Do the results from your command list error data?

NOTE:
The Central Site (St. Louis) maintains the "master copy" for each and every announcement. Specifically, the announcements that exist on the St. Louis *4ESS* switch SCUs are the master copy. The VER:MODE3 command may detect any of several different errors. Some of these include an incorrect length, improper CRC, duplicate announcement version, and so on. Exactly how the error data is resolved will depend on the type of error, the current site hardware configuration, and decisions made by the AFSC. The AFSC is responsible for determining which announcement is correct or errored, and the "From" SCS/SCU.

If **YES**, then continue with Step 3.
If **NO**, then go to Step 8.

3 At the console, type
RMV:ANNSET *a*,**SCS** *b*,**SCU** *c*:**ANN** *d*! to remove the errored announcement.

NOTE:
It is not permitted to record or copy an announcement onto an existing announcement. The old version or errored announcement must be removed before the record or copy will execute.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

b = The SCS listed under the heading "ERROR DATA" for Step 2.

c = The SCU listed under the heading "ERROR DATA" for Step 2.

d = The announcement ID listed under the heading "ERROR DATA" for Step 2.

4 Did the **RMV** command succeed in Step 3?

If **YES**, then continue with Step 5.
If **NO**, then contact the next level of support.

5 At the console, type
COPY:ANNSET a,**SCS** b,**SCU** c,**ANN** d:**SCS** f,**SCU** g,**ANN** i,**ANNVER** "j"**!** to copy the correct announcement to the equipment location that contained the bad announcement.

Where *a* = From Announcement Set (N = Common Announcements, S = Customized Announcements).

b = From SCS (single value 0-7).

c = From SCU (single value 0-15).

d = From Announcement ID (single value 1-65535).

f = To SCS (single value 0-7).

g = To SCU (single value 0-15).

i = To Announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

j = To Announcement Version number [four uppercase alphanumeric characters and must be surrounded by quotation marks (" ")].

NOTE:
The "to SCS & to SCU" are identified on the report under the error data heading.

6 Did the **COPY** command succeed in Step 5?

If **YES**, then continue with Step 7.
If **NO**, then contact the next level of support.

7 Are there other announcements to be verified?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 8.

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

Removing (Deleting) Announcements

1 At the console, type
RMV:ANNSET *a*:**ANN** *d* to remove (delete) an announcement.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

2 Verify that the particular announcement *d* (from within the specified announcement set *a*) no longer exists. At the console, type
VER:MODE3;ANNSET *a*:**ANN** *d*.

NOTE:
There should not be anything listed for the announcement. The system will display the message "AAP System Error, 1103 Announcement does not exist."

3 Did the ***RMV*** succeed (specified announcement not listed in Step 2) in Step 1?

If **YES**, then continue with Step 4.
If **NO**, then contact the next level of support.

4 Are there any more announcements to be removed?

If **YES**, then return to Step 1.
If **NO**, then continue with Step 5.

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

Assigning Announcements

Initially (meaning that the ISAIC system is first being installed) the block of announcement numbers that range from 1000 to 1511, on set N, are reserved to accommodate the final handling announcements. Furthermore, this block (when assigned) is mapped on a one-to-one basis to Announcement Mapping Addresses 0 through 128. The block of numbers ranging from 128 through 511 are all mapped to 1128. Thereafter, it may be necessary to change the map for a variety of reasons.

NOTE:
Generally, CAUCS will coordinate, control, and administer all changes to the Announcement Mapping Addresses. However, the AAP console can also be used to administer the Announcement Mapping Addresses. Since it is required that all *4ESS* offices provide the same (identical) final handling announcements—care should be exercised and coordination maintained.

Reassign a Specific Announcement to a Specific Announcement Mapping Address

1 Perform a verify for all announcement addresses (AA). At the console, type
VER:MODE6:AA 1-511!

NOTE:
If the VER:MODE6 results include a listing of error data—then that data should be analyzed and appropriate actions taken to resolve the errors. For the case where not all SCUs have identical address maps, the solution is to identify the SCU that has the incorrect map assignment and reassign the correct announcement.

2 Is the objective to correct existing error data?

If **Yes**, then go to Step 6.
If **NO**, then it must be a reassignment for all SCUs, continue with Step 3.

3 At the console, type
ASN:ANN *c,***AA** *d***:ANN** *e***!** to assign a new/different announcement to an Announcement Mapping Address that already has an announcement assigned to it.

Where *c* = Current Announcement ID.

d = Announcement Mapping Address.

e = New Announcement ID.

4 At the console, type
VER:MODE6:AA *e***!**

Where *e* = Announcement Mapping Address.

5 Is the Announcement Mapping Address correct for all SCUs?

If **YES**, then continue with Step 7.
If **NO**, then contact the next level of support.

6 At the console, type
ASN:SCS *a,* **SCU** *b,***ANN** *c,***AA** *d***:ANN** *e*!

Where *a* = Service Circuit System.

b = Service Circuit Unit.

c = Current Announcement ID.

d = Announcement Mapping Address.

e = New Announcement ID.

7 Are there any more announcements to be assigned an Announcement Mapping Address?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 8.

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

Audits

Overview

Audits are a series of programs that check the integrity of the system operations, function to monitor system activities, and generate statistical measurements of those activities. The audits database consists of a listing of all currently defined audits. Each audit contains several fields which define the audits attributes (for example, audit type, range, time-to-run, enabled/disabled, active/inactive, and so on).

Audit Commands

There are a series of input messages that are used to display the audits database and, as necessary, manipulate an individual audit. Specifically, a listing of all audits within the database and their status can be obtained with the **OP:AUDIT** message. Individual audits are manipulated with the recent change input messages (for example, **RC:AUDIT;ADD**, **RC:AUDIT;CHG**, and **RC:AUDIT;DLT**). Furthermore, an individual audit may be run immediately with the input message **AUD:KEY** a. An individual audit may be inhibited with the input message **INH:AUDIT** a. All audits may be inhibited with the input message **INH:AUDIT**. The audit software subsystem can be stopped immediately with the input message **INIT:AAP "AUDIT"**. And, if the audit database should ever become corrupted, the input message **CLR:AUDIT** can be used to reset the database to its initial or default values.

Audits Database Description

Functionally, there are two categories of audits. These categories are referred to as external audits (which involve the SCUs) and internal audits (which only involve those systems internal to the AAP). Within these two categories, there are a total of seven specific types of audits. They are referred to as:

- External audits
  - — Type 0—checks the specified range of announcement mapping addresses.
  - — Type 1—checks whether the specified range of announcements are equipped.
  - — Type 2—generates statistics.
  - — Type 3—performs a bit-by-bit check of the audio data for the specified range of announcements.

- Internal audits
  - — Type 4—checks the validity of the databases.
  - — Type 5—checks the integrity of the file system.
  - — Type 6—monitors various process activities.

The audits database is very flexible and permits an individual audit to be scheduled (and run) any time of day. However, since the running of several audits simultaneously may negatively impact performance, the recommendation is that most audits should be scheduled only for those times of day when there is normally little announcement update activity.

From the maintenance perspective, it is generally desirable to inhibit the audits before performing maintenance on the AAP. Occasionally, as a troubleshooting strategy, it may be desirable to change the audit database and use an audit to detect whether a certain process is dead or alive.

NOTE:
The TCC/NCC and/or OSWF may each choose to add an audit, inhibit an audit, enable an audit, or run (immediately) an audit. For example, the AUDIT database may contain an audit that is normally inhibited (ENA = 0) and only intended for manual (run immediate) use. With this scenario, the message would be **ALW:AUDIT;KEY ALL!**—thus meaning ALL audits should not be input.

Display (Output) the AUDIT Database

To determine the running environment for all audits, and not just the results from a particular audit, simply display the AUDIT database. At the AAP console, type **OP:AUDIT!**

```
M 29 OP:AUDIT  PF

     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


M 29 OP:AUDIT  Completed
     03/26/93  19:59:18 CST #599
```

NOTE:
The preceding screen is intended only to indicate possible default values. Depending on the particular generic software, the actual range and scheduled start times may be different from those indicated. If it is deemed appropriate and necessary to alter a particular default value—simply use the RC input messages (add, change, or delete). The RC messages are described in the following text.

Add a New Audit to the Audits Database

1 At the AAP console, type
OP:AUDIT! to display the audits database.

NOTE:
All new audits must be identified by a key that is not currently used.

2 Analyze the existing database and determine whether an existing audit will (with appropriate changes) accomplish the desired objective. Is it still desirable to add a new audit?

If **YES**, then continue with Step 3.
If **NO**, then the assumption is that an existing audit will be changed. Go to Step 5 and continue with the "Change an Existing Audit" procedure as appropriate.

3 For example, suppose that it is desired to run the statistics audit for announcements within the range of 512-10000 beginning at 05:00 CST. At the AAP console, type the following as one line
RC:AUDIT;ADD,KEY a**:TYPE 2,ANNSET N,FROM 512,TO 10000,UCL 0,MO *,DAYMO *,DAYWK *,HR 05,MIN 00!**

Where *a* = is a unique single value number within the range of 0-99999.

NOTE:
Other similar examples could also be developed.

4 Are there other new audits to be added?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 5.

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

Change an Existing Audit in the Audits Database

1 At the AAP console, type
OP:AUDIT! to display the audits database.

2 Analyze the existing database and determine whether an existing audit will (with appropriate changes) accomplish the desired objective. Is it still desirable to change an existing audit?

If **YES**, then continue with Step 3.
If **NO**, then go to Step 4.

3 For example, suppose that it is desired to change the audit identified with a KEY of 2 to run at 15 minutes past the hour. At the AAP console, type
RC:AUDIT;CHG,KEY 2:MIN 15!

NOTE:
Other similar examples could also be developed. An important point to remember is that only one parameter can be changed at a time. When there are questions regarding correct syntax for a command—refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

4 Are there other audits to be changed?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 5.

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

Delete an Existing Audit from the Audits Database

1 At the AAP console, type
OP:AUDIT! to display the audits database.

2 Analyze the existing database and identify the audit, by its unique key, that you desire to delete. At the AAP console, type
RC:AUDIT;DLT,KEY a**!**

Where *a* = is the key of the audit to be deleted.

3 Are there other audits to be deleted?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 4.

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

Inhibit (Disable) Audits

If an external type audit is currently running at the time it is inhibited, then it will stop almost immediately. As a contrast, if an internal type audit is currently running at the time it is inhibited, then it will (in most cases) continue until it completes. Additionally, every audit within the database can be inhibited (simultaneously) with the **INH:AUDIT;KEY ALL** input message. The previously described constraints for external type and internal type still apply. A more drastic measure would be to issue the input message **INIT:AAP "AUDIT"**, which would immediately kill all currently running audit processes and subsequently reset the audit software subsystem.

1 Do you wish to inhibit all audits immediately and reset the audit software subsystem?

If **YES**, then go to Step 7 which kills all currently running audit processes and resets the audit software subsystem.
If **NO**, then continue with Step 2.

2 Do you wish to inhibit the audits database so that no additional audit process will be started?

If **YES**, then go to Step 6.
If **NO**, then continue with Step 3.

3 At the AAP console, type
OP:AUDIT! to display the audits database.

4 To inhibit a single audit—at the AAP console, type
INH:AUDIT KEY a**!**

Where *a* = the identity of the audit that is to be inhibited.

5 Are there other audits to be inhibited?

If **YES**, then go to Step 4.
If **NO**, then go to Step 8.

6 At the AAP console, type
INH:AUDIT;KEY ALL! and go to Step 8.

7 At the AAP console, type
INIT:AAP "AUDIT"! and continue with Step 8.

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

Allow (Enable) Audits

During normal operations, the "standard set" of audits should be enabled. Audits may be enabled on an individual (per key) basis. Or, all audits (the whole database) may be enabled simultaneously. The database field (ENA = 1) indicates that the particular audit is enabled while (ENA = 0) indicates the inhibited state.

CAUTION:
If the database contains audits that are intended to be run only on a manual basis such as those designed to detect a particular type of error, then the **ALW:AUDIT;KEY ALL!** *(meaning all) should not be input.*

1 At the AAP console, type
OP:AUDIT!

2 Do you wish to enable an individual audit?

If **YES**, then go to Step 4.
If **NO**, then go to Step 3.

3 Do you wish to enable all audits?

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

4 At the AAP console, type
ALW:AUDIT;KEY a**!** and go to Step 6.

5 At the AAP console, type
ALW:AUDIT;KEY ALL!, then continue with Step 6.

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

Other Database Tasks

Clear (Initialize) ANNUPD Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if ever this database is cleared, that clear operation could result in the SCUs becoming out of synchronization or even corrupted.

The reasons that would necessitate the need to clear this database are few; but, generally will involve the desire to quickly remove all updates in the queue.

1 At the AAP console, type

OP:ANNUPD!

2 Do you wish to cancel all jobs?

If **YES**, then go to Step 3.
If **NO**, then go to Step 4.

3 At the AAP console, type

CLR:ANNUPD! and continue with Step 4.

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

Clear (Initialize) CAUCS Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, all "in process" announcement updates will be terminated immediately. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:CAUCS to display the database.

2 Analyze the output and attempt to determine whether the database is corrupt. Are you absolutely certain that the database is corrupt?

If **YES**, then go to Step 3.
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:CAUCS!
The system will automatically restore operations.
Continue with Step 4.

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

Clear (Initialize) FSITE Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if ever this database is cleared, all future announcements will be impacted until this database is restored. The abnormal circumstances that might create a need to clear this database would be complete database corruption.

1 At the AAP console, type
OP:FSITE to display the database.

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change FSITE Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:FSITE!

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

Clear (Initialize) MACHINE Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, it will interrupt announcement update activities. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:MACHINE!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change the MACHINE Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:MACHINE! to restore this database to its initial or default state.

4 At the AAP console, press the F9 key to access the EAI page and select boot option **53**.

NOTE:
There will be a significant time interval (between 15 and 25 minutes) before the *UNIX* operating system and all AAP application software is fully restored.

5 At the AAP console, select menu item 4 (User Interface) and enter your login and password when prompted.

6 At the AAP console, type
OP:MACHINE!

7 Analyze this output message. Do the default states match the configuration for this AAP site?

If **YES**, then go to Step 8.
If **NO**, then appropriate changes must be made with the RC input

messages. Halt this task and go to the heading "Change the MACHINE Database."

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

Clear (Initialize) SCUEQP Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, the announcement update activities will be impacted. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:SCUEQP!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input message—then halt this task and go to the heading "Change SCUEQP Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:SCUEQP! to empty this database.

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

Clear (Initialize) SETEQP Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, the announcement update activities will be impacted. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:SETEQP!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change SETEQP Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:SETEQP! to restore this database to its initial or default state.

4 At the AAP console, type
OP:SETEQP!

5 Analyze the output message. Do the default states match the configuration for this AAP site?

If **YES**, then go to Step 6.
If **NO**, then appropriate changes must be made with the RC input messages. Halt this task and go to the heading "Change the SETEQP Database."

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

Clear (Initialize) AUDIT Database

1 At the AAP console, type
CLR:AUDIT!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change AUDIT Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:AUDIT! to restore this database to its initial or default state.

4 At the AAP console, type
OP:AUDIT!

5 Analyze the output message. Do the default states match the configuration for this AAP site?

If **YES**, then go to Step 6.
If **NO**, then appropriate changes must be made with the RC input messages. Halt this task and go to the heading "Change the AUDIT Database."

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

Clear (Initialize) SLAVE Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if ever this database is cleared, all Master-to-Slave communications will be interrupted.

1 At the AAP console, type
OP:SLAVE!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupted?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC commands—then halt this task and go to the heading "Change SLAVE Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:SLAVE! to restore this database to its initial or default state.

4 At the AAP console, type
OP:SLAVE!

5 Analyze the output message. Do the default states match the configuration for this site?

If **YES**, then go to Step 7.
If **NO**, then appropriate changes must be made with the RC input messages. Halt this task and go to the heading "Change the SLAVE Database."

6 At the AAP Master console, type
INIT:AAP "AAPADM"!

7 At the AAP Slave console, type
INIT:AAP "AAPADM"!

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

Output (Display) CAUCS Database

1 At the AAP console, type
OP:CAUCS!

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

Output (Display) FSITE Database

1 At the AAP console, type
OP:FSITE!

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

Output (Display) LOCOP Database

1 At the AAP console, type
OP:LOCOP!

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

Output (Display) MACHINE Database

1 At the AAP console, type
OP:MACHINE!

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

Output (Display) SCUEQP Database

1 At the AAP console, type
OP:SCUEQP!

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

Output (Display) SETEQP Database

1 At the AAP console, type
OP:SETEQP

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

Output (Display) AUDIT Database

1 At the AAP console, type
OP:AUDIT!

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

Output (Display) SLAVE Database

1 At the AAP console, type
OP:SLAVE!

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

Change (ADD, CHG, DLT) the AUDIT Database

1 At the AAP console, type
OP:AUDIT!

2 Do you wish to add a tuple to the database?

If **YES**, then continue.
If **NO**, then go to Step 4.
RC:AUDIT;ADD,KEY a**TYPE** b**,ANNSET** c**,FROM** d,**TO** e,**UCL** f,**MO** g,**DAYMO** h,**DAYWK** i,**HR** j,**MIN** k**!!**

Where *a* = Database Key

b = Audit type (single value 0-6).

c = Announcement Set (single value A-Z).

d = From Announcement ID range (single value 1-65535) or Announcement Mapping Address (single value 1-511).

e = To Announcement ID range (single value 1-65535) or Announcement Mapping Address (single value 1-511).

f = Unconditional Audit (0 = conditional, 1 = unconditional).

g = Month (single value 1-12 or * means every month).

h = Day of the Month (single value 1-31 or * means every day of the month).

i = Day of the Week (single value 0-6 with 0 = Sunday or * means every day of the week).

j = Hour (single value 0-23 or * for every hour).

k = Minute (single value 0-59 or * for every minute).

3 Are there other tuples to be added to this database?

If **YES**, then go to Step 2.
If **NO**, then continue.

4 Do you wish to change an attribute in the database?

If **YES**, then go to Step 5.
If **NO**, then go to Step 7.

5 For example, suppose that you wish to change the KEY 2 to Key 3.
At the AAP console, type
RC:AUDIT;CHG,KEY 2**:KEY** 3**!**

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

6 Are there other tuples to be changed within this database?

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

7 Do you wish to delete a tuple from the database?

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

8 At the AAP console, type
RC:AUDIT;DLT,KEY a**!**

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

Change (ADD, CHG, DLT) the FSITE Database

1 At the AAP console, type
OP:FSITE!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 5.

3 At the AAP console, type
RC:FSITE;ADD,KEY a**:OFID** b**,PRIPN** "c"**,SECPN** "d"**,CLLI** "e"**!**

Where *a* = Is a unique single value number within the range of 0-99999.

b = Office ID within the range of 1-32000.

c = Primary phone number (maximum of 25 digits) that are surrounded by quotation marks.

d = Secondary phone number (maximum of 25 digits) that are surrounded by quotation marks.

e = CLLI code (maximum of 10 digits) that are surrounded by quotation marks.

4 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

5 Do you wish to change an attribute in the database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 8.

6 For example, suppose that you want to change the KEY 2 to KEY 3. At the AAP console, type
RC:FSITE;CHG,KEY 2:KEY 3!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

7 Are there other tuples to be changed within this database?

If **YES**, then go to Step 6.
If **NO**, then continue with Step 10.

8 Do you wish to delete a tuple from the database?

If **YES**, then continue with Step 9.
If **NO**, then go to Step 10.

9 At the AAP console, type
RC:FSITE;DLT,KEY a**!**

Where *a* = is the tuple to be deleted.

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

Change (ADD, CHG, DLT) the MACHINE Database

1 At the AAP console, type
OP:MACHINE!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 6.

3 At the AAP console, type
RC:MACHINE;ADD, KEY a**:OFID** b**, CLLI** "c"**,TYPE** "d"**,LVL** "e"**!**

Where *a* = Is a Database key.

b = Office ID within the range of 1-32000.

c = CLLI code (maximum of 10 uppercase alphanumeric characters).

d = Machine type (single value M|S|F).

e = Audio level within the range of 0-25.

4 At the AAP console, press the F9 key to access the EAI page and select boot option **53**.

5 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

6 Do you wish to change an attribute in the database?

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

7 For example, suppose that you wish to change KEY 1 so that it has a LVL equal to 21. At the AAP console, type
RC:MACHINE;CHG,KEY 1:LVL 21!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to the AT&T 201-525-012AC, *AAP Input/Output Manual*.

NOTE:
If the OFID attribute is CHGed, the AAP will need to be rebooted. At the AAP console, press the F9 key to access the EAI page and select boot option **53**.

8 Are there other tuples to be changed within this database?

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

9 Do you wish to delete a tuple from the database?

If **YES**, then continue with Step 9.
If **NO**, then go to Step 11.

10 At the AAP console, type
RC:MACHINE;DLT,KEY a**!**

Where *a* = is the key to be deleted.

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

Change (ADD, CHG, DLT) the SCUEQP Database

1 At the AAP console, type
OP:SCUEQP!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 5.

3 At the AAP console, type
RC:SCUEQP;ADD,KEY a**:ANNSET** b**,SCS** c**,SCU** d**,LANADR** X′e**!**

Where *a* = Is a unique single value number within the range of 0-99999.

b = Is the announcement set (letter within the range A-Z).

c = SCS number (number within the range 0-7).

d = SCU number (number within the range 0-15).

e = LAN address (text string value DFLT or 10 hex digits 0-9 and A-F).

4 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

5 Do you wish to change an attribute in the database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 8.

6 For example, suppose that you wish to change the KEY 2 to KEY 3.
At the AAP console, type
RC:SCUEQP;CHG,KEY 2:KEY 3!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

7 Are there other tuples to be changed within this database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 10.

8 Do you wish to delete a tuple from the database?

If **YES**, then continue with Step 9.
If **NO**, then go to Step 10.

9 At the AAP console, type
RC:SCUEQP;DLT,KEY a**!**

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

Change (ADD, CHG, DLT) the SETEQP Database

1 At the AAP console, type
OP:SETEQP!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 5.

3 At the AAP console, type
RC:SETEQP;ADD,KEY a**:ANNSET** b**,SETADR** X′c**,SETNUM** d**!**

Where *a* = Unique single value number within the range of 0-99999.

b = Announcement set (letter within the range A-Z).

c = Announcement set multicast address (text string DFTL or 10 hex digits 0-9 and A-F).

d = Announcement set number (single value 0-254).

4 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

5 Do you wish to change an attribute in the database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 8.

6 For example, suppose that you wish to change the KEY 2 to KEY 3.
At the AAP console, type
RC:SETEQP;CHG,KEY 2:KEY 3!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

7 Are there other tuples to be changed within this database?

If **YES**, then go to Step 6.
If **NO**, then continue with Step 10.

8 Do you wish to delete a tuple from the database?

If **YES**, then continue with Step 9.
If **NO**, then go to Step 10.

9 At the AAP console, type
RC:SETEQP;DLT,KEY a**!**

Where *a* = is the tuple to be deleted.

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

Change (ADD, CHG, DLT) SLAVE Database

1 At the AAP console, type
OP:SLAVE!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 5.

3 At the AAP console, type
RC:SLAVE;ADD,KEY a**:CSID** b**,ISOID** X′c**!**

Where *a* = Is a unique single value number within the range of 0-99999.

b = Central office ID (number within the range of 1-32000).

c = ISO ID (16 hex digits).

4 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

5 Do you wish to change an attribute in the database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 8.

6 For example, suppose that you wish to change the KEY 2 to KEY 3. At the AAP console, type
RC:SLAVE;CHG,KEY 2:KEY 3!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

7 Are there other tuples to be changed within this database?

If **YES**, then go to Step 6.
If **NO**, then continue with Step 10.

8 Do you wish to delete a tuple from the database?

If **YES**, then continue with Step 9.
If **NO**, then go to Step 10.

9 At the AAP console, type
RC:SLAVE;DLT,KEY a**!**

Where *a* = is the tuple to be deleted.

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

Change (ADD, CHG, DLT) the CDSU Database

1 Log in to the AAP and access the MML craft shell interface (Menu option 1).

2 At the AAP console, display the database by entering:

OP:CDSU!

3 Do you wish to add a CDSU to the database?

If **YES**, then go to Step 4.
If **NO**, then go to Step 6.

4 Choose a KEY value not already used in the database.

5 At the AAP console, type:
UPD:CDSU:UPD=ADD:"KEY=*a***, SCS=***b***, SCU=***c***, CDSU=***d***, GEN=***e***";**

Where *a* = Key that was chosen in Step 4.

b = SCS complex to which the CDSU is attached.

c = SCU to which the CDSU is attached.

d = CDSU number on that SCU.

e = CDSU software generic number.

6 Do you wish to change an attribute in the database?

If **YES**, then go to Step 7.
If **NO**, then go to Step 9.

7 Find the entry to be changed in the database, and get its KEY value.

8 For example, suppose that you wish to change the SCS and SCU attributes. At the AAP console, type
UPD:CDSU:UPD=CHG:"KEY=*a*, SCS=*b*, SCU=*c*";

Where *a* = Key that was chosen in Step 7.

b = New SCS value.

c = New SCU value.

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

9 Do you wish to delete an attribute in the database?

If **YES**, then go to Step 10.
If **NO**, then go to Step 12.

10 Find the entry to be deleted in the database, and get its KEY value.

11 At the AAP console, type
UPD:CDSU:UPD=DLT:"KEY=*a*";

Where *a* = Key that was chosen in Step 10.

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

Display the CDSU Database

1 At the AAP console, type the following:

- To display the whole database in one table, type **OP:CDSU; or OP:CDSU:FORM=SHORT;**
- To display one entry in the database in long format, type OP:CDSU:FORM=LONG:"KEY=*a*";

  Where *a* = the KEY of the entry you wish to display.

- To display all CDSUs on one SCU, type: **OP:CDSU::"SCS=*a*,SCU=*b*";**

  Where *a* = the SCS for the CDSUs.

  b = the SCU for the CDSUs.

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

Miscellaneous Tasks

Stop an AAP Applications Software Subsystem or Process

CAUTION:
Before stopping the LANADM software, it will first be necessary to inhibit the LAN at the 1B Processor.

Complete this task whenever there is a need to stop one or more AAP Processes and not restart them.

1 **STOP:AAP "a"!**

Where *a* = Is one of the following:

AAP (all AAP Processes)
AAPADM (AAP Administration)
AUDIT
AUDIO
BCAST
CI (CAUCS Interface)
ISDN0
ISDN1
ISDN2
ISDN3
ISDN4
LANCMD (LAN Command)
LANADM (LAN Administration)
MI (Maintenance Interface).

2 Are there other software processes to be stopped?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Initialize (Restart) AAP Applications Software Subsystem

Complete this task whenever there is a need to stop and restart one or more AAP Software Subsystems. An already stopped subsystem will be restarted.

1 At the AAP console, type
INIT:AAP "a**"!**

Where *a* = Is one of the following:

AAP (all AAP Processes)
AAPADM (AAP Administration)
AUDIT
AUDIO
BCAST
CI (CAUCS Interface)
ISDN0
ISDN1
ISDN2
ISDN3
ISDN4
LANCMD (LAN Command)
LANADM (LAN Administration)
MI (Maintenance Interface).

2 Are there other software processes to be initialized?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Check SCU Announcement RAM Usage

1 At the AAP console, type
OP:DISKVER,ANNSET N! to determine how the announcement RAM is currently being used. As shown on the following screen, the output message heading "FREE RAM" and "USED RAM" indicate the number of SCU seconds FREE and USED respectively on a per SCU and disk pair basis.

NOTE:
Each SCU has its own unique/independent announcement RAM. Each RAM provides 1024 SCU announcement seconds. Generally, only short duration announcements, announcements with concatenated numbers, and announcements that are used very frequently should be loaded into announcement RAM.

```
M mm OP:DISKVER ANNSET  a[ SCS b SCU c]  results

                HARDWARE INFORMATION - ERROR DATA
               ----------------------------------
SCS  SCU  DISK PAIR  BUS DATA  FREE RAM  USED RAM  FREE DISK  USED DISK
 0    1       0         0            0      1024      93244         84
 0    1       0         1            0      1024      93244         84
 0    2       0         0          512       512     478864          0
 0    2       0         1          512       512     478864          0

                SOFTWARE INFORMATION - CORRECT DATA
               ------------------------------------
               SW VERSION                SW FILE
930A2//0  110304:9U:1>5<258.0               0
10/27/93  20:20:33  CST  #875
```

NOTE:
Problems identified in the preceding screen under the heading "HARDWARE INFORMATION - ERROR DATA" should normally be resolved via input from the AFSC. For example, if the amount of FREE RAM should go to zero (0) then there is no more room to record announcements in the SCU's announcement RAM. The AFSC should be contacted in order to resolve suspected errors with the SCU's announcement RAM.

2 Is there a problem with the amount of currently available FREE RAM?

If **YES**, then continue with Step 3.
If **NO**, then go to Step 5.

3 At the console, type
VER:MODE3, ANNSET a:ANN {f-g}**!** Review the output message and determine whether there are announcements in RAM that should not be there. Generally, these could be test announcements (that may have been left in RAM by mistake) or any other announcement that is not used frequently but has a large number in the LENSCU column.

4 Have one or more announcements been identified as being in RAM when they should actually not be in RAM?

If **YES**, refer the information that you have obtained to the AFSC. The AFSC is responsible for maintaining the announcements and ensuring that only those announcements that are absolutely necessary are maintained in RAM.
If **NO**, refer the information that you have obtained to the AFSC and let the AFSC determine whether any changes should be taken.

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

Output (Display) BCASTER Process Information

1 At the AAP console, type
OP:BCASTER!

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

Output (Display) ISDN Process Information

1 At the AAP console, type
OP:ISDN!

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

Check (Output) the SCU's Software (SW) Version

1 At the AAP console, type
OP:DISKVER,ANNSET a**,SCS** b**, SCU** c**!**

Where *a* = Announcement Set (N = Common Announcement, S = Customized Announcements).

b = Service Circuit System (single value 0-7; default all).

c = Service Circuit Unit (single value 0-15; default all).

NOTE:
Problems identified on the following screen under the heading "SOFTWARE INFORMATION - ERROR DATA" should be resolved via the 1B switch maintenance organization. For example, if the SW version should display two or more different version numbers--then, obviously the incorrect software is loaded on one or more SCUs. The 1B switch maintenance organization can determine from the office equipment records, the correct SW version. It is the switch side that should correct the error.

```
M mm  OP:DISKVER  ANNSET  a[ SCS b SCU c]  results

             HARDWARE INFORMATION - CORRECT DATA
            -----------------------------------
      DISK PAIR  FREE RAM  USED RAM  FREE DISK  USED DISK
          0           761       263      93244         84


             SOFTWARE INFORMATION - ERROR DATA
            -----------------------------------
      SCS  SCU          SW VERSION                SW FILE    BUS
       0    1    930A2//0 110304:9U:1>5<258.0         0       0
       0    2    920A2//1 107064:6U:4>1<201.0         0       0
      10/23/93  20:16:23 CST  #142
```

2 Do you wish to output the DISKVER for a different ANNSET?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Output (Display) Central Site Measurements

NOTE:
The OP:MEAS report, as shown on the following screen, contains summarized information that is of primary interest to the AFSC. Generally, if this report indicates a problem, or a possible pending problem, it will still be at a non-alarmed stage. The one exception would be whenever one or more SCUs are disabled--which is a minor alarm.

1 At the AAP console, type
OP:MEAS!

```
M mm OP:MEAS[ CLR]  results

     UPDATE ACTIVITY OVER 57623 MINUTES
     ------------------------------------------
         TOTAL UPDATES QUEUED:                0
         TOTAL UPDATES REQUESTED:          1800
         TOTAL UPDATES ATTEMPTED:          1800
         TOTAL UPDATES COMPLETED:          1800
         TOTAL SCUS DISABLED:                 0
     10/15/93 09:14:33 CST #376

     CENTRAL SITE TO FIELD SITE CONNECTION ATTEMPTS OVER 33 MINUTES
     ------------------------------------------------------------------
     FSID    TOTAL  1ST CMPLTN  PCT  2ND CMPLTN  PCT  2ND FAILS   PCT
        4      200         200  100%          0    0%         0     0%
        5      200         200  100%          0    0%         0     0%
        6      200         200  100%          0    0%         0     0%
        7      200         100   50%         80   40%        20    10%
        8      200         200  100%          0    0%         0     0%
        9      200         200  100%          0    0%         0     0%
       10      200         200  100%          0    0%         0     0%
       11      200         200  100%          0    0%         0     0%
       12      200         200  100%          0    0%         0     0%
    10/15/93 09:14:33 CST #377

    CENTRAL SITE ISDN BOARD CONNECTION ATTEMPTS OVER 33 MINUTES
    ------------------------------------------------------------------
    CSID   BOARD      TOTAL  COMPLETIONS  PCT  FAILURES  PCT
     100     0          634          534   84%      100   15%
     100     1          633          633    0%        0    0%
     100     2          533          533    0%        0    0%


    OTHER CONNECTION ATTEMPT FAILURES DUE TO RESOLVED ERRORS, 0


    10/15/93 09:14:33 CST #378
```

NOTE:

Normally, there should not be any announcements queued. Therefore, under the heading "UPDATE ACTIVITY OVER 57623 MINUTES--Total Updates Queued" should be zero (0), or a number that (over a short time interval) decreases to zero. The TOTAL UPDATES REQUESTED should be a number that increases over time. Additionally and ideally, the TOTAL UPDATES COMPLETED number should be equal to the TOTAL UPDATES ATTEMPTED number. A significant difference between these two numbers (COMPLETED vs ATTEMPTED) is an indication of a problem that should be investigated further by analyzing the CONNECTION ATTEMPTS data. The CENTRAL SITE TO FIELD SITE CONNECTION ATTEMPTS data will indicate whether a problem is specific to a particular Field Site (FSID)--and if so, whether the connection completes or fails on the second try (2nd ATTEMPT or 2nd FAILS). The CENTRAL

SITE ISDN CONNECTION ATTEMPTS data can provide an insight as to whether connection failures are related to a particular ISDN board.

NOTE:
If the OTHER CONNECTION ATTEMPT FAILURES DUE TO RESOLVED ERRORS number is other than zero (0), then the Central Site does not have enough available B-channels for the demand. This may be an indication that one or more ISDN boards is out of service (OOS) and thus needs to be investigated and restored.

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

Output (Display) the UI JOBs Pending Queue

1 **OP:JOB!**

The following screen is an example of a job queue.

```
M 48 OP:JOB! Completed
       JOB MESSAGE
       106 RCD:ANNSET N ANN 1 ANNVER "AAP1" FILE "annc1"
       107 VER:MODE2 ANNSET N ANN 1
       105 RMV:ANNSET N ANN 1
      03/19/93 08:44:17 CST #197
```

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

Stopping a UI Job

Each command that is input via the UI will result in creating a JOB. Whenever the job is placed in the queue, it is assigned a unique JOB ID. If it is determined that an error was created and that the JOB with the error should not be executed—then that JOB can be stopped.

1 At the AAP console, type
OP:JOB! to obtain a listing of JOBs on the queue.

2 At the AAP console, type
STOP:JOB a**!**

Where *a* = Is the ID of the JOB that you wish to stop.

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

Add a New SCU to an Existing SCS Cabinet

CAUTION:
Installing a new SCU requires that the switch side work activities be closely coordinated with those of the AAP side. Furthermore, these work activities must be performed in the step ordered fashion that is defined in AT&T 234-153-060AC, SCS Growth/Degrowth.

Add a New SCS Cabinet and New SCU

CAUTION:
Installing a new SCU requires that the switch side work activities be closely coordinated with those of the AAP side. Furthermore, these work activities must be performed in the step ordered fashion that is defined in AT&T 234-153-060AC, SCS Growth/Degrowth.

Remove an Existing SCU

CAUTION:
Installing a new SCU requires that the switch side work activities be closely coordinated with those of the AAP side. Furthermore, these work activities must be performed in the step ordered fashion that is defined in AT&T 234-153-060AC, SCS Growth/Degrowth.

Add an Announcement Set

It is assumed that a new announcement set will be added to the switch only when a new SCU is added. Therefore, this topic is included in AT&T 234-153-060AC, *SCS Growth/Degrowth*.

NOTE:
The AAP can support up to a maximum of 8 different announcement sets.

Intra-SCU Copy (Copy Source Disk to the Destination Disk)

It is assumed that the INTRA SCU Copy will be performed only as part of the SCS growth procedures. Therefore, this topic is included in the SCS Maintenance document, AT&T 234-151-077AC, *SCS Maintenance*.

Inter SCU Copy (Copy one SCU to Another SCU)

It is assumed that the INTER SCU Copy will only be performed as part of the SCS growth procedures. Therefore, this topic is included in the SCS Maintenance document, AT&T 234-153-077AC, *SCS Maintenance*.

Determine the IP Name of a CDSU

1 At the AAP console, type
OP:CDSU:"KEY=*a*";

Where *a* = Key number of desired CDSU.

2 Use the information from Step 1 to determine the IP Name of the CDSU.

The IP Name for a CDSU is determined by its SCS, SCU, and CDSU numbers. The name begins with the string "cds" and then appends in order: one decimal digit of SCS, two decimal digits of SCU, and two decimal digits of CDSU. For example, if you execute OP:CDSU::"KEY=5" and get an entry that says SCS is 1, SCU is 9, and CDSU is 2, then the IP Name for that CDSU would be cds10902.

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

Copy Files from the CDSU to the AAP

1 Determine the IP Name of the CDSU (*IPname* in this procedure).

2 Determine the file name of the file you wish to copy from the CDSU to the AAP (*CDSUfile* in this procedure). This should be a full path name (begins with "/") to the file on the CDSU.

3 Determine where you want to put the file on the AAP. It is suggested that you put the file on the AAP into /usr/aap/tmp.

4 Log onto the AAP as **root**.

5 Change your working directory to where the file(s) will be put on the AAP, for example:

cd /usr/aap/tmp

6 At the AAP console, type
rcp *IPname*:*CDSUfile* **/usr/aap/tmp**

This will transfer the file to the AAP and place it in the **/usr/aap/tmp** directory.

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

Log into a CDSU from the AAP

1 Determine the IP Name of the CDSU (*IPname* in this procedure).

2 Log onto the AAP as **root**.

3 At the AAP console, type
rlogin *IPname*

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

Architecture—Central Site Slave

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Architecture—Central Site Slave

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ISAIC Architecture

The architecture for the Improved Service Announcement and Information Collection (ISAIC) system is fully described in AT&T 201-525-010AC, *ISAIC System Description*. This document assumes that the reader is thoroughly familiar with the ISAIC architecture as described in Chapter 2 of AT&T 201-525-010AC, *ISAIC System Description*.

ISAIC Architecture Review

The Centralized Announcement Update Control System (CAUCS) functions to control the distribution of updated announcements. CAUCS receives update status reports from the Central Site Master AAP and announcement maintenance status reports from all AAPs. From the AAP perspective, the software that provides the communication for the status and maintenance reports (update and maintenance) is just one of many components within the AAP Applications Software.

New announcement updates are digitized by the Central Site Master AAP and recorded onto the St. Louis *4ESS*™ switch's Service Circuit Units (SCU's). It is the St. Louis *4ESS* switch that maintains the "master copy" for all announcements. Whenever a Field Site AAP (FS-AAP) has an announcement discrepancy that cannot be resolved locally—then the master copy may be used to find a resolution.

The CS-AAP (both Master and Slave) broadcasts announcement updates to the FS-AAPs via ISDN-PRI links. Within the *4ESS* switching office, the FS-AAP distributes announcement updates via a Local Area Network (LAN). Each different type of communications interface is controlled by a different software component.

Every AAP is routed to one of two SCCS/TNM machines. They are located at Denver and Conyers. The staff that monitors the TNM machines (computers) is referred to as the TCC/NCC. The TCC/NCC provides 24-hour per day surveillance and maintenance/monitoring for the AAPs. Again, there is a component within the AAP Applications Software that provides this communication.

Each AAP cabinet is actually a fault tolerant computer with redundant components internally and redundant communication links externally. In summary, the Master AAP provides all of the capabilities of a FS-AAP plus several additional capabilities that are exclusive to the MASTER. The primary function of the SLAVE AAP is to expand the number of ISDN B-channels so that the Central Site can broadcast announcement updates to more FS-AAPs than is physically possible with the Master alone. All AAPs are supported by a console and printer. The on-site-work-force (OSWF), when provided with the proper login, can access the User Interface (UI) and input commands to perform the tasks that are described in this document. Additionally, the AFSC can use the CAUCS Maintenance Interface (MI) to perform all announcement related tasks that are described in this document.

NOTE:
A point of clarification is that the MI and UI retain all of the same functionality--that is to say they are just different interfaces to the same Program Documentation Standards (PDS) input message set. The AFSC uses their CAUCS console to access, via the MI, a particular AAP. As a contrast, the OSWF uses the local console to access the UI PDS input message set. Additionally, the TCC/NCC may use the remote *UNIX* system login channel to access the UI PDS input message set.

AAP Software

The AAP software architecture can best be described as consisting of two major parts:

- The operating system—*UNIX* System V Release 4 with nonstop options
- The AAP Applications Software.

UNIX System V Operating System Release 4 (R4) With Nonstop Options

The *UNIX* operating system is a set of programs that controls the basic functions of the computer, acts as an interface between the console and the computer, and provides for the orderly execution of user programs (that is, the AAP Applications Software).

The operating system consists of the following four major components:

- Kernel—which is the core of the operating system. The kernel coordinates the computer's internal functions (such as, allocates the computer's internal hardware resources, maintains the file system, and controls access to the computer).

  NOTE:
  Items not within, or a part of, the kernel are defined as being at user level.

- Hierarchical file system—which provides a method of handling data that makes it easy to store and access.
- The Shell—which serves as a liaison between the kernel and user commands.
- Commands—which are the names of programs that you (or the application) tell the computer to execute.

The nonstop options relate to improved reliability and the on-line detection of and recovery from hardware failures. More specifically, the nonstop options include:

- Disk Mirroring—which duplicates the contents of partitions contained on the system disks.
- Automatic restart following an over temperature/power failure condition.
- On-line recovery from hardware failures within the processor card cage and SCSI disk drives by controlling the hardware state of these Customer Replaceable Units (CRUs).

NOTE:
The *UNIX* operating system kernel allows CRUs to be taken off-line and brought back on-line without halting the system. Whenever a CRU is automatically taken off-line, an entry is recorded in the system log. Refer to the Tandem documentation for additional details.

- Robustness and Recovery Enhancements—which reduce the chances that the operating system will have to halt due to an inconsistency in a particular software state.

At the time of initial installation and administration, each AAP is given a unique 8-character system name. The terms, system name and *UNIX* system name are the same and are frequently used interchangeably. The 8-character system name should not be confused with the 11-character CLLI code.

Each AAP is administered with one or more UI-type logins for use (at the local console) by the OSWF. Additional login(s) are provided for the remote maintenance and remote administration work force (such as the TNM).

NOTE:
Although the *UNIX* operating system provides multitasking and multiuser capabilities, certain root-level administration functions may be performed only when the operating system is in single-user mode. Refer to the Tandem documentation for additional details.

AAP Applications Software

All software (AAP applications and the *UNIX* operating system) are initially loaded onto the AAP's hard disk. Subsequently, the tapes containing this software are stored for backup/emergency use.

The different AAP applications (for example, Central Site Master, Central Site Slave, and Field Site) are all loaded with the same generic release of software. However, both the Central Site Master and Central Site Slave have slightly different requirements from the Field Sites. These differences in requirements are taken care of by the AAP Applications Software installation procedures.

From a functional perspective, the AAP Applications Software performs the day-to-day operations of receiving updated announcements, distributing those announcements, as well as monitoring, maintaining, and reporting the AAP's status.

NOTE:
The Central Site Slave differs from the Central Site Master by not supporting the CAUCS update channel, and it is not configured with many of the databases that are provided on the CS-AAP or FS-AAP. Another difference is that the Slave does not have any announcement recording capability.

Figure 4-1 depicts the software architecture for the Central Site Slave AAP.

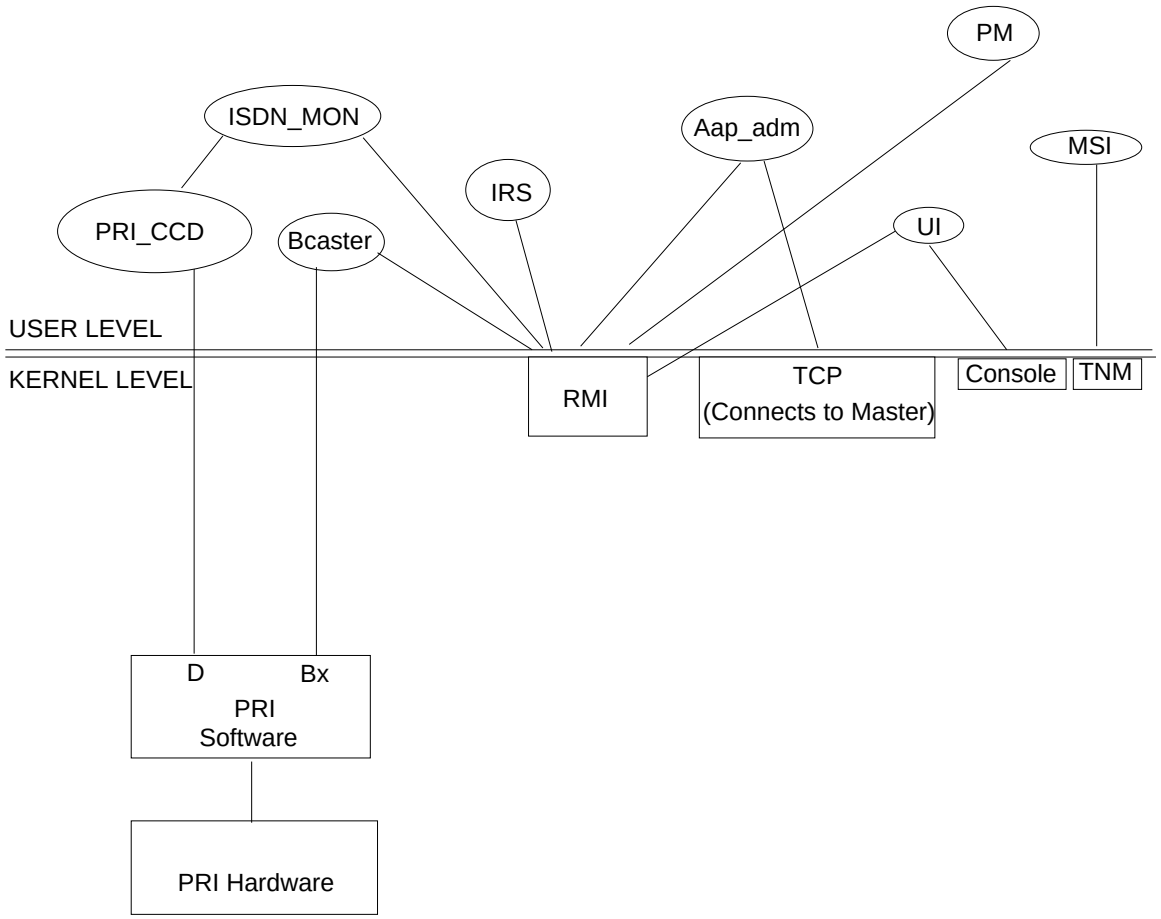

Figure 4-1. Central Site Slave AAP Software Architecture

NOTE:
The AAP Applications Software includes both kernel-level and user-level programs.

AAP Applications Software Component Description

PM

The program manager (PM) is a process that runs in the background. Whenever the system is booted, the PM starts those processes that are required to make the AAP Applications Software perform its desired functions. Thereafter, the PM makes periodic checks to determine whether the required processes are still running. If any are found to be not running, then the PM attempts to restart those processes.

Aap_adm

The AAP Administration (Aap_adm) process is started, by PM, whenever the AAP Applications Software is started. Its primary function is to start the Remote Message Interface (RMI) software. Thereafter, Aap_adm serves as a Master-to-Slave message passing facilitator and is responsible for the following:

- Logically connecting the RMI driver on the Central Site Master to the RMI driver on the Slave
- Functioning as a temporary file deletion server at the Field Sites.

NOTE:
These files are normally the temporary files that are created during the normal course of announcement recording and verifying.

RMI

The Remote Message Interface (RMI) process is the primary interprocess communications driver. It has the following capabilities:

- To register a process. A process can register either as a local process, giving a component ID and a process ID, or as a remote process by giving the remote machine ID.
- To transfer a message. One process may send messages to another process. For example, when the Central Site Master receives an RMI message that is destined for a Field Site, RMI (Master) will look through its queues for such a registered process (Bcaster). If found, Bcaster will receive the message and pass it over an ISDN-PRI B channel to the Field Sites NI. The Field Site NI subsequently passes the message to its RMI.
- To close (unregister) a process.

PRI_CCD

The PRI Call Control Daemon (PRI_CCD) process is started, by the PM, whenever the AAP Applications Software is initialized. The PRI_CCD process keeps RMI updated as the ISDN communication channels status change.

Bcaster

The Bcaster process is started, by PM, whenever the AAP Applications Software is started. Actually, PM starts a separate Bcaster process for each Field Site. Bcaster is the Central Site program that communicates with the Field Site NI over the ISDN-PRI B channel data protocol. Bcaster has the following five basic functions:

- Interfaces to the PRI_CCD process to set up and tear down connections.
- Handles the Central Site part of the network security.
- Handles the ISDN-PRI B channel connection.
- Handles remote RMI requests.
- Executes Central Site part of Remote Copy functionality.

At initialization, each Bcaster process is passed a unique ID. Subsequently, each Bcaster process updates its status (available), its process ID (PID), and its Central Site ID (Master/Slave). Whenever a connection request is made, Bcaster will use the Central Site CLLI Code database to get the two phone numbers. Next, Bcaster communicates with the PRI_CCD process and places the call to the Field Site. If the first call is not answered, the second number is tried. Bcaster returns either a success message or one of several failure messages. For the success scenario, Bcaster opens a software driver for the ISDN-PRI B channel.

After a connection is made, Bcaster does the Central Site part of exchanging the password encrypted security messages. When the password verification is complete, Bcaster opens a new communications path to RMI and registers using the new machine ID, and passes back a connection confirm message to the CI software. Subsequently, if Bcaster receives an RMI request to do a Remote Copy, it uses the ISDN protocol and NI on the Field Site to complete that task. If Bcaster receives an RMI message destined for a Field Site, it passes that message over ISDN to NI. If Bcaster receives an ISDN message of type RMI, it writes that message down to the RMI driver.

The Bcaster process is responsible for the AAP version of the sanity timer on the ISDN call. This means that after a period of t seconds, if there has been no activity on the ISDN line (RCPs or RMI messages passed), Bcaster should take the responsibility of disconnecting the call and informing CI. This keeps the line from being held up indefinitely if CAUCS dies, forgets to tear down the call, or a CAUCS/AAP problem occurs.

ISDN_MON

The ISDN_MON process is responsible for monitoring the state of the ISDN link, the "D" signaling channel, as well as PRI_CCD. When state changes occur, ISDN_MON is responsible for communicating that information to the Master via the Aap_adm, RMI, and TCP processes.

External Interfaces

User Interface (UI).

The UI program provides the following primary functions:

- Serve as the craft administration interface for local emergency announcement updates/verification requests.
- Serve as the craft maintenance interface for local/remote AAP software maintenance and SCU announcement maintenance.

The UI includes some 60 plus input messages (commands). All UI messages use the PDS format. UI has the following craft interface responsibilities:

- Parse the input command checking for legal syntax.
- Based on the command, request service (via RMI) of ISDN_MON or PM.
- Format and print the results.
- Browse the Log File and browse the Update File.

UI has the following maintenance mode responsibilities:

- Perform any craft function.
- List the contents of the following local database(s):
  - MACHINE
- Add/delete a tuple or change an attribute:
  - MACHINE
- Initialize (set to zero):
  - MACHINE
- Enable or disable updates to an SCU, SET, or all SETs in the AAP.
- Copy an announcement from one SCU to another.
- Delete (remove) an announcement off one SCU.

- Shut down/reboot (STOP:AAP and INIT:AAP) the AAP Applications Software.
- Access and print out measurement report data.

NOTE:
It is very important for individuals at the CAUCS terminals to understand that it is their responsibility to ensure that if an announcement update job fails at one Field Site, other jobs that would cause out-of-order updates should not be started.

Following a broadcast session, if the Central Site CI received an indication from Bcaster that one or more Field Sites had completed some of the local updates—then the CI will request local update status from the Field Site(s) Lan_monitor. The Central Site CI transmits these status messages, as they are received, on to CAUCS.

MSI.

The MSI process is started, by the PM, whenever the AAP Applications Software is initialized. As a timed periodic process, MSI functions to transmit a heartbeat signal (which shall serve as the system normal indication) to the TNM. Also, MSI pools the other processes for alarms and (depending on an alarms severity) transmits alarm status to the TNM.

Databases

The AAP Applications Software maintains several databases. Each database consists of a reserved block of memory that holds a series of records specifically related to the function of the database. Each database has a unique name. The database name is always in uppercase letters and its names is intended to identify the database function.

Each database will usually contain several different attributes. The database KEY is the method used to address a unique grouping of attributes. Each attribute can be assigned a range of values. A particular attribute and its associated value are referred to as a tuple. Depending on the controls associated with a particular database, a tuple may be added, changed, or deleted. The UI provides a series of input messages for performing these and other database management functions. Table 4-1 is a listing of the AAP Applications Software databases. The table also identifies each database attribute name, lists its range of values, and provides an (x) to indicate whether/how a particular tuple can be changed.

The following list further defines the purpose/function of each database:

- MACHINE—contains the associated *4ESS* switch office number, CLLI code, audio level, call type, Central Site phone number, and site type (Master, Slave, or Field).

  NOTE:
  Additional information on each type is provided in the TASKS chapter.

Somewhat similar to databases, but yet different, are the "Log File" and "Update Files." These files cannot be changed—like the databases. They can only be displayed (Browsed). The software detects abnormal process events and writes a record to the Log File. As a contrast, every locally generated message (for example, LAN_MON messages) and announcement-related UI input messages, along with their descriptive parameters, are written to the Update File.

Table 4-1. AAP Databases for Central Site Slave

Database	Attribute	Description	Value	UI Database Access ADD tuple CHG one attribute	DLT tuple	CLR database
MACHINE		Machine Information (single tuple)			x	empty
	KEY	unique database key	0-99999	x		
	OFID	office ID	1-32000	x		
	CLLI	common language location identification	maximum 10 characters	x		
	TYPE	machine type	M|S|F	x		
	LVL	audio level	0-24	x		
	CTYPE	call type	0-1	x		
	CSPN	Central Site phone number	maximum 25 digits	x		

Central Site Slave Tasks

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Central Site Slave Tasks

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Login/Logout Procedures

Logging into the AAP User Interface (UI)

The TCC/NCC has control of who is assigned a UI type login. Anyone with a UI type login has full access to all of the AAP's PDS input messages. These messages are listed alphabetically in AT&T 201-525-012AC, *AAP Input/Output Manual*.

1 At the AAP console login prompt, enter your assigned UI login. Subsequently, when requested, enter your secret password. At the UI prompt (>), you can, as needed and as appropriate, perform the tasks listed within this document.

Logging Out of UI

1 From the UI prompt (>), type **EXIT** and press return.

Using the Browse Feature

The two files (Log File and Update File) are generally used in conjunction. The Log File is simply a chronological listing of abnormal system events that have been detected by the applications software. The Update Log is a chronological listing of announcement updates that failed to complete properly.

NOTE:
Actually, the Log File consists of two separate 5-megabyte files. One file is always "active" while the other file retains "old" data. Whenever the active file becomes full, the old file is cleared and the two files rotate their functionality. This sequence simply repeats as often as necessary.

NOTE:
The Update File actually consists of a separate file for each day of the week. The files are identified by the single value 0 through 6, which corresponds to the days, Sunday through Saturday.

The Log File may be used, on an occasional basis, to monitor system activities and verify that there are no persistent problems. For resolving trouble reports, it is typically necessary to display the Log File in order to determine the time stamp for when a particular error occurred. Subsequently, the Update File can be displayed with the same identified time stamp and used to identify the user ID and process that generated the error.

The default display for both the Log and Update files is the last 10 lines of the file. As an option, a range of lines from 1 to 1000 can be displayed. Unless a particular time is specified, the display will use the default time (which is 00:00).

Browse the Log File

1 At the AAP console, type
OP:LOG:DATE 010693,TIME 0240,LIMIT 7!

The following screen is an example of the output format.

```
M 34 OP:LOG DATE 010693 TIME 02:40 LIMIT 7   PF

     10/06/93 02:41:32 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|2478|14|timeout occurred while waiting for respo
                           nse from SCU
     10/06/93 02:41:37 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/appl
                           .C|361|55|restart attempt on process [11222] complet
                           ed [0]
     10/06/93 02:41:37 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|2478|14|timeout occurred while waiting for respo
                           nse from SCU
     10/06/93 02:41:46 CST Lan_monitor|../../../src/cmd/lan_monitor/com/lan_cmd
                           .c|911|45|kill request sent to process [m=0x0, e=0xa
                           , i=0x2bc4]
     10/06/93 02:41:46 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|336|19|kill request received
     10/06/93 02:41:51 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/pid_
                           queue.C|401|51|unexpected death of process [11228] [
                           256]
     10/06/93 02:41:54 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/proc
                           _grp.C|285|53|restart process group due to restart o
                           f dead process [ISDN0]

M 34 OP:LOG DATE 100693 TIME 02:40 LIMIT 7   Completed
     01/06/93 08:59:01 CST #144
```

2 Do you wish to display another date or another time period?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Browse the Update File

1 At the AAP console, type
OP:UPD:DAYWK 3,TIME 0240,LIMIT 7!

The following screen is an example of the output format.

```
M 23 OP:UPD:DAYWK 3,TIME 02:40,LIMIT 7  PF

       10/24/93 08:27:04 CST UIstart2|ekelby|MTCR?!|0
       10/24/93 08:27:04 CST UIend2|ekelby|MTCR?!|0
       10/24/93 08:27:50 CST UIstart3|ekelby|MTCRCD:ANNSET N ANN 19 ANNVER "ABCD"
                             FILE "annc1" |0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 3 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 2 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 0 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST UIend3|ekelby|MTCRCD:ANNSET N ANN 19 ANNVER "ABCD" F
                             ILE "annc1" |0
       10/24/93 08:28:26 CST UIstart4|ekelby|OP:LOG LIMIT 100 |0
       10/24/93 08:28:48 CST UIend4|ekelby|OP:LOG LIMIT 100 |0


M 23 OP:UPD DAYWK 3 TIME 02:40 LIMIT 7  Completed
     10/24/93 18:12:22 CST  #358
```

2 Do you wish to display another day of the week or another time period?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Other Database Tasks

Clear (Initialize) MACHINE Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, it will interrupt announcement update activities. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:MACHINE!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change the MACHINE Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:MACHINE! to restore this database to its initial or default state.

4 At the AAP console, type
OP:MACHINE!

5 Analyze this output message. Do the default states match the configuration for this AAP site?

If **YES**, then go to Step 6.
If **NO**, then appropriate changes must be made with the RC input messages. Halt this task and go to the heading "Change the MACHINE Database."

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

Output (Display) MACHINE Database

1 At the AAP console, type
OP:MACHINE!

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

Change (ADD, CHG, DLT) the MACHINE Database

1 At the AAP console, type
OP:MACHINE!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 5.

3 At the AAP console, type
RC:MACHINE;ADD, KEY a**:OFID** b**, CLLI** "c"**,TYPE** d**,LVL** e**!**

Where *a* = Is a Database key.

b = Office ID within the range of 1-32000.

c = CLLI code (maximum of 10 uppercase alphanumeric characters).

d = Machine type (single value M|S|F).

e = Audio level within the range of 0-25.

4 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

5 Do you wish to CHG an attribute in the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

6 For example, suppose that you wish to change KEY 1 so that it has a LVL equal to 21. At the AAP console, type
RC:MACHINE;CHG,KEY 1:OFID `b`**, CLLI** `"c"`**,TYPE M,LVL 21!**

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

7 Are there other tuples to be changed within this database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 10.

8 Do you wish to DLT a tuple from the database?

If **YES**, then continue with Step 9.
If **NO**, then go to Step 10.

9 At the AAP console, type

RC:MACHINE;DLT,KEY `af3!`

Where *a* = Is the key to be deleted.

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

Miscellaneous Tasks

Stop an AAP Applications Software Subsystem

Complete this task whenever there is a need to stop one or more AAP Software Subsystems and not restart them.

1 **STOP:AAP** a**!**

Where *a* = Is one of the following:

AAP (all AAP Processes)
AAPADM (AAP Administration)
AUDIT
AUDIO
CI (CAUCS Interface)
ISDN0
ISDN1
ISDN2
ISDN3
ISDN4
LANCMD (LAN Command)
LANADM (LAN Administration)
MI (Maintenance Interface).

2 Are there other software subsystems to be stopped?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Initialize (Restart) AAP Applications Software Subsystem

Complete this task whenever there is a need to stop and restart one or more AAP Software Subsystems. An already stopped subsystem will be restarted.

1 At the AAP console, type
INIT:AAP "a**"!**

Where *a* = Is one of the following:

AAP (all AAP Processes)
AAPADM (AAP Administration)
AUDIT
AUDIO
CI (CAUCS Interface)
ISDN0
ISDN1
ISDN2
ISDN3
ISDN4
LANCMD (LAN Command)
LANADM (LAN Administration)
MI (Maintenance Interface).

2 Are there other software subsystems to be initialized?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Output (Display) the UI JOBs Pending Queue

1 **OP:JOB!**

The following screen is an example of a job queue.

```
M 48 OP:JOB! Completed
      JOB MESSAGE
      106 RCD:ANNSET N ANN 1 ANNVER "AAP1" FILE "annc1"
      107 VER:MODE2 ANNSET N ANN 1
      105 RMV:ANNSET N ANN 1
     10/29/93 08:44:17 CST #199
```

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

Stopping a UI Job

Each command that is input via the UI will result in creating a JOB. Whenever the job is placed in the queue, it is assigned a unique JOB ID. If it is determined that an error was created and that the JOB with the error should not be executed—then that JOB can be stopped.

1 At the AAP console, type
OP:JOB! to obtain a listing of JOBs on the queue.

2 At the AAP console, type
STOP:JOB a**!**

Where *a* = Is the ID of the JOB that you wish to stop.

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

Architecture—Field Site

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Architecture—Field Site

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ISAIC Architecture

The architecture for the Improved Service Announcement and Information Collection (ISAIC) system is fully described in AT&T 201-525-010AC, *ISAIC System Description*. This document assumes that the reader is thoroughly familiar with the ISAIC architecture as described in Chapter 2 of AT&T 201-525-010AC, *ISAIC System Description*.

ISAIC Architecture Review

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A point of clarification is that the MI and UI retain all of the same functionality--that is to say that they are just different interfaces to the same Program Documentation Standards (PDS) input message set. The AFSC uses their CAUCS console to access, via the MI, a particular AAP. As a contrast, the OSWF uses the local console to access the UI PDS input message set. Additionally, the TCC/NCC may use the remote *UNIX* system login channel to access the UI PDS input message set.

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  Items not within, or a part of, the kernel are defined as being at user level.

- Hierarchical file system—which provides a method of handling data that makes it easy to store and access.
- The Shell—which serves as a liaison between the kernel and user commands.
- Commands—which are the names of programs that you (or the application) tell the computer to execute.

The nonstop options relate to improved reliability and the on-line detection of and recovery from hardware failures. More specifically, the nonstop options include:

- Disk Mirroring—which duplicates the contents of partitions contained on the system disks.
- Disk Striping—which uses multiple disk drives as a single large disk.
- Automatic restart following an over temperature/power failure condition.
- On-line recovery from hardware failures within the processor card cage and SCSI disk drives by controlling the hardware state of these Customer Replaceable Units (CRUs).

NOTE:
The *UNIX* operating system kernel allows CRUs to be taken off-line and brought back on-line without halting the system. Whenever a CRU is automatically taken off-line, an entry is recorded in the system log.

- Robustness and Recovery Enhancements—which reduce the chances that the operating system will have to halt due to an inconsistency in a particular software state.

At the time of initial installation and administration, each AAP is given a unique 8-character system name. The terms, system name and *UNIX* system name are the same and are frequently used interchangeably. The 8-character system name should not be confused with the 11-character CLLI code.

Each AAP is administered with one or more UI-type logins for use (at the local console) by the OSWF. Additional login(s) are provided for the remote maintenance and remote administration work force (such as the TNM).

NOTE:
Although the *UNIX* operating system provides multitasking and multiuser capabilities, certain root-level administration functions may be performed only when the operating system is in single-user mode.

AAP Applications Software

All software (AAP Applications Software and the *UNIX* operating system) are initially loaded onto the AAP's hard disk. Subsequently, the tapes containing this software are stored for backup/emergency use.

The different AAP applications (for example, Central Site Master, Central Site Slave, and Field Site) are all loaded with the same generic release of software. However, both the Central Site Master and Central Site Slave have slightly different requirements from the Field Sites. These differences in requirements are taken care of by the AAP Applications Software installation procedures.

From a functional perspective, the AAP Applications Software performs the day-to-day operations of receiving updated announcements, distributing those announcements, as well as monitoring, maintaining, and reporting the AAP's status.

NOTE:
The Central Site Master differs by supporting the CAUCS update channel and the associated status databases. Furthermore, the Master maintains a database containing the primary and secondary telephone numbers for

each of the Field Sites—so that it can look up their address whenever it is required to broadcast announcement updates. The Master also maintains several other databases that are not kept by the Slave or Field Site AAPs. Another difference is that the Master has unique software for the Audio board—which is not required by the other AAP applications.

The Field Sites must provide for network security and also support the remote handset emergency update capability (nailed-up ISDN B channel). Figure 6-1 depicts the software architecture for the Field Sites.

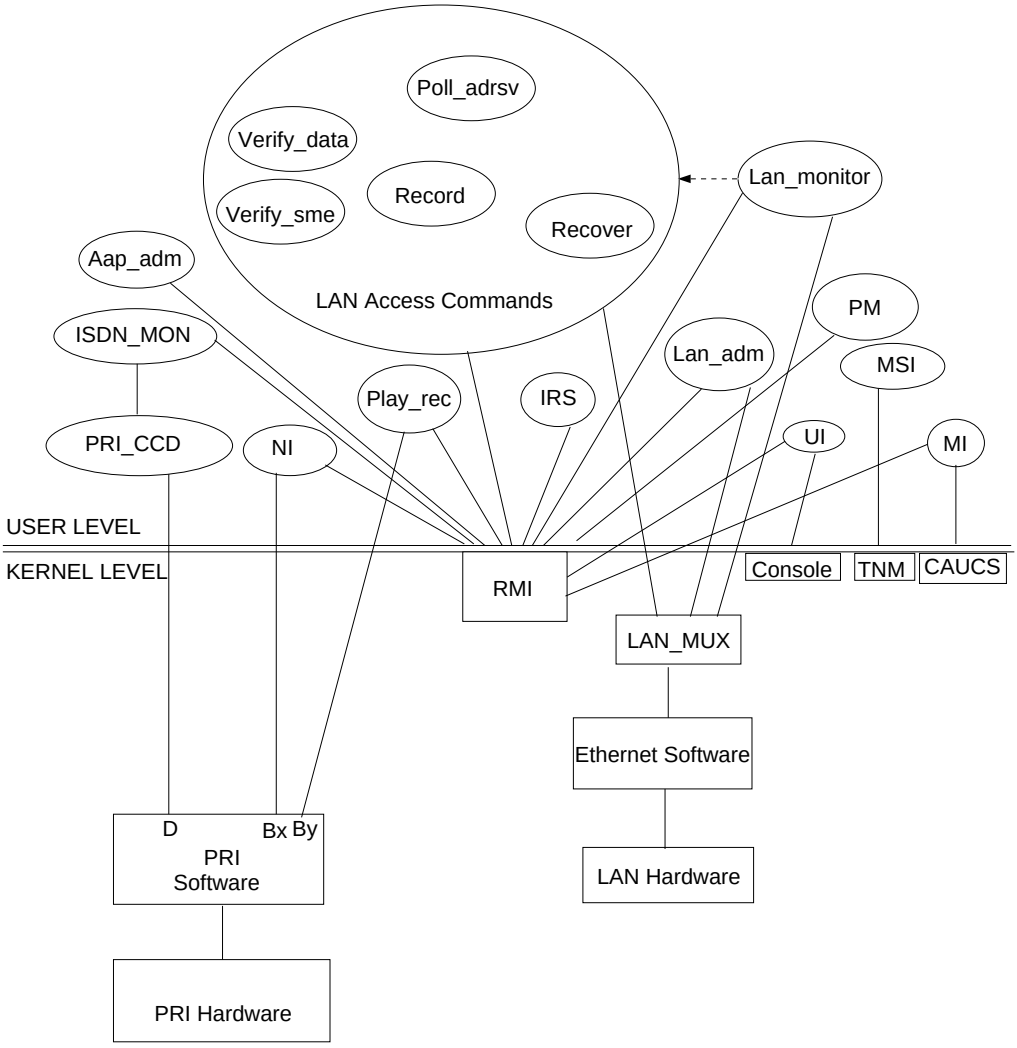

Figure 6-1. Field Site AAP Software Architecture

NOTE:
The AAP Applications Software includes both kernel-level and user-level programs.

AAP Applications Software Component Description

PM

The program manager (PM) is a process that runs in the background. Whenever the system is booted, the PM starts those processes that are required to make the AAP applications perform its desired functions. Thereafter, the PM makes periodic checks to determine whether the required processes are still running. If any are found not running, the PM attempts to restart those processes.

Aap_adm

The AAP Administration (Aap_adm) process is started, by PM, whenever the AAP Applications Software is started. Its primary function is to start the RMI software. Thereafter, Aap_adm serves as a Master-to-Slave message passing facilitator and is responsible for the following:

- Logically connecting the RMI driver on the Central Site Master to the RMI driver on the Slave
- Functioning as a temporary file deletion server at the Field Sites.

NOTE:
These files are normally the temporary files that are created during the normal course of announcement recording and verifying.

Lan_adm

The LAN Administration (Lan_adm) process is started, by PM, whenever the AAP Applications Software is initialized. Its primary function is to initialize the LAN driver and LAN_MUX driver software. Lan_adm is also responsible for reporting any LAN_MUX communication problems.

RMI

The Remote Message Interface (RMI) is the primary interprocess communications driver. It has the following capabilities:

- To register a process (as either a local process, giving a component ID and a process ID, or a remote process by giving the remote machine ID).
- To transfer a message. One process may send messages to another process. For example, when the Central Site Master receives an RMI message that is destined for a Field Site, RMI (Master) will look through its queues for such a registered process (Bcaster). If found, Bcaster will receive the message and pass it over an ISDN-PRI B channel to the Field Sites NI. The Field Site NI subsequently passes the message to its RMI.
- To close (unregister) a process.

Lan_monitor

The LAN Monitor (Lan_monitor) process is started, by the PM, whenever the system is booted. It is responsible for the following:

- Initially reading the SCU database to determine the list of SCUs by SET and their address.
- Keeping the SCU database status indication up to date.
- Polling the SCUs.
- Logging all requests and results in the ''Log File'' and (for local updates) to the ''Update File.''
- Forking/executing the appropriate LAN Access Command(s) to perform the requested service when no idle ones exist. See Figure 6-1 for further information on the LAN Access Commands.
- Handling incoming RMI messages that request an LAN service.
- Handling conflicting LAN requests.
- Keeping track of all existing LAN commands (both idle and active).
- On receiving an update request LAN message, replying to the SCU and using the UPDATE database to perform the requested updates.
- Adding to the UPDATE database when an SCU misses an update. At this point, Lan_monitor will remove this SCU from the ''Active'' set and spawn the Recover command.
- On request, sending the list of local updates (from the LOCOP database) back to CI using the RMI update messages—deleting the Local Updates database entries as it goes.

NOTE:
The Lan_monitor uses the LAN access commands. See Figures 2-1 and 2-2 to perform the previously identified list of functions. Additionally, it is responsible for making reports on failures that involve LAN commands. For example, if a Poll LAN command is issued and the results indicate that NO SCUs are accessible, this indicates a LAN failure. Some of the possible causes of the failure include (broken and/or defective media, failing AAP LAN interface board, the LAN driver software, or that all SCUs are down). As a means of attempting to correct this failure scenario, the software can switch from one AAP LAN board to the other. However, if an LAN failure exists after these attempts to correct the problem, then the Lan_monitor is responsible for reporting this condition as a MAJOR or CRITICAL alarm to the TNM.

IRS

The Interval Report Synthesizer (IRS) process is started, by PM, whenever the AAP Applications Software is initialized. The IRS software provides the following two basic responsibilities:

- Performs all verify operations.
- Executes the automatic periodic audits.

The IRS process opens and registers with RMI. It then reads the AUDIT database in order to determine how often to perform the individual audits.

The IRS performs the following four periodic audits on each announcement SET:

1. Check that the Assignment Mapping Address tables match across all SCUs.
2. Check that the SCUs all have the same announcements equipped.
3. Do a bit-by-bit compare for every announcement across all SCUs.
4. Verify that the announcement statistics for every announcement match across all SCUs.

The results of all automatic audits are logged in the Log File. If an error result is indicated by the results of an automatic audit, this result is sent to MSI and, depending on its severity, reported to the TNM.

The IRS is also responsible for auditing the various databases for consistency/corruption, and for monitoring file system usage (for example, that the temporary file systems do not run low on space). If the system should run low on space, the IRS will send a warning to the TNM.

The IRS also checks the databases for in-range values (corruption) and is responsible for cleaning up any temporary files aged past their useful period. These files include:

- Files containing announcement data for RECORDs more than 1 hour old with no pointer in the UPDATE database.
- Temporary files passed between commands more than 1 hour old (for example, results from an error lists).

PRI_CCD

The PRI Call Control (PRI_CCD) process is started, by the PM, whenever the AAP Applications Software is initialized. The PRI_CCD process keeps RMI updated as to the ISDN communication channel status change.

ISDN_MON

The ISDN_MON process is responsible for monitoring the state of the ISDN link, the "D" signaling channel, as well as PRI_CCD. When state changes occur ISDN_MON is responsible for communicating that information to the CI process on the Master AAP. The CI process (Master AAP) uses this information to determine what ISDN boards are available for connections to the Field Site AAPs.

External Interfaces

UI.

The User Interface (UI) process provides the following primary functions:

- Serve as the craft administration interface for local emergency announcement updates/verification requests.
- Serve as the craft maintenance interface for local/remote AAP software maintenance and SCU announcement maintenance.

The UI includes some 60 plus input messages (commands). All UI messages use the PDS format. UI has the following craft interface responsibilities:

- Parse the input command checking for legal syntax.
- Allow, record, verify, assign, replace, poll, delete, and copy requests.
- For the Record and Verify commands, interact (via RMI) with the Play_rec process to play or record the announcement.
- Based on the command, request service (via RMI) of IRS or Lan_monitor.
- Format and print the results.
- Set and display the audio level for the speaker (Central Site only).
- Browse the Log File and browse the Update File.

UI has the following maintenance mode responsibilities:

- Perform any craft function.
- List the contents of the following local databases:
  - — UPDATE
  - — MACHINE
  - — SCUEQP
  - — SETEQP
  - — AUDIT

  - LOCOP

- Add/delete a tuple or change an attribute in the following databases:
  - MACHINE
  - SCUEQP
  - SETEQP
  - AUDIT
- Initialize the following databases:
  - ANNUPD
  - LOCOP
  - MACHINE
  - SCUEQP
  - SETEQP
  - ANNUPD
  - AUDIT
- Enable or disable updates to an SCU, SET, or all SETs in the AAP.
- Copy an announcement from one SCU to another.
- Delete an announcement off one SCU.
- Shut down/reboot (STOP:AAP and INIT:AAP) the AAP applications.
- Access and print out measurements.

MSI.

The MSI process is started, by the PM, whenever the AAP Applications Software is initialized. As a timed periodic process, MSI functions to transmit a heartbeat signal (which shall serve as the system normal indication) to the TNM. Also, MSI pools the other processes for alarms and (depending on an alarm's severity) transmits alarm status to the TNM.

MI.

The Maintenance Interface (MI) process provides the AFSC with the capability to interact (remotely) with the AAP. The CAUCS terminal is the device that the AFSC uses to interact with the AAPs. The MI process provides all of the same capabilities (for example, the same 60 plus input messages) as UI. The AFSC will make use of these capabilities to perform their announcement maintenance duties.

NI.

The Network Interface (NI) is the ISDN-PRI B channel network interface for the Field Site AAPs. NI provides the following five basic functions:

- Perform password verification for external network security.
- Interface to the ISDN-PRI B channel connected to the Central Site.
- Provide an indication to the Central Site of local update completed.
- Perform Field Site end of Remote Copy capability.
- Handle Remote RMI messages.

The NI process is started, by the PM, whenever the Applications Software is started. NI opens and registers with RMI. It subsequently sends a message to the ISDN call control software requesting all incoming data calls. Whenever the Field Site receives an ISDN call, the call control software will open the ISDN Bx driver for the specified B channel. Thereafter, NI exchanges a set of password encrypted messages with the Central Site to ensure network security. In one of the messages, NI will pass a flag indicating the presence or absence of local update records. Any pending updates are contained in the LOCOP database.

NOTE:
The Central Site broadcasts announcement updates (via the ISDN-PRI B channel) to the Field Site AAPs. The Field Site transmits announcement update status (via the ISDN-PRI B channel) back to the Central Site AAP.

After the ISDN call is established, NI opens and registers with RMI on a separate communications path—this time as machine ‘‘Central Site.’’ This second RMI communications path is for update messages bound for the Central Site.

NI uses the poll system call to wait for messages from RMI or the ISDN channel. Two types of messages can arrive from the ISDN channel. They are the RMI and RCP. RMI messages, when received, are passed to the RMI driver. When an RCP message is received, NI processes it with the ISDN protocol messages and copies the file (in or out) as requested.

The NI process reports statistics, errors, alarms, and invalid password sequences (which relate to the ISDN board) to the MSI software.

NOTE:
Each Field Site is configured with two ISDN-PRI interfaces. Therefore, when the AAP Applications Software is started, two NI processes will be initialized. However, only one NI process is active at any particular time—since only one ISDN interface is active.

Databases

The AAP Applications Software maintains several databases. Each database consists of a reserved block of memory that holds a series of records specifically related to the function of the database. Each database has a unique name (such as, MACHINE, AUDIT). The database name is always in uppercase letters and its name is intended to identify the database function.

Each database will usually contain several different attributes. The database KEY is the method used to address a unique grouping of attributes. Each attribute can be assigned a range of values. A particular attribute and its associated value are referred to as a tuple. Depending on the controls associated with a particular database, a tuple may be added, changed, or deleted. The UI provides a series of input messages for performing these and other database management functions. Table 6-1 is a listing of the AAP Applications Software databases. The table also identifies each database attribute name, lists its range of values, and provides an (x) to indicate whether/how a particular tuple can be changed.

The following list further defines the purpose/function of each database:

- MACHINE—contains the associated *4ESS* switching office number, CLLI code, audio level, call type, Central Site phone number, and site type (Master, Slave, or Field).
- SCUEQP—contains the SCS number, SCU number, announcement SET, LAN address, status (active or not), and manual override (enabled/disabled).
- SETEQP—contains SET, SET number, SET Multicast Address.
- ANNUPD—contains SCS number, SCU number, and announcement information.
- AUDIT—contains the minute, hour, day of month, month, day of week, duration, and audit to be run. All time entries can take on a numeric value or asterick (*). The * denotes all legal values the field can take on. The numeric value can be a list of comma-separated numeric values, an integer, or range of integers. There are seven different types of audits. They are identified as (type 0, 1, 2, 3, 4, 5, and 6).

  NOTE:
  Additional information on each type is provided in the TASKS chapter.

- LOCOP—contains the update structure and includes a listing of all announcement related UI input messages that are input at the local console. Specifically, this database contains the announcement SET, SCS number, SCU number, type of operation, the "from" range, the "to"

range, announcement length, announcement in RAM indication, disk pair, mapping address, time, and user login name.

NOTE:
Somewhat similar to databases, but yet different, are the ''Log File'' and ''Update Files.'' These files cannot be changed—like the databases. They can only be displayed (Browsed). The software detects abnormal process events and writes a record to the Log File. As a contrast, every locally generated and announcement-related UI input message (along with its descriptive parameters) is written to the Update File.

Field Site Play_rec.

For the Field Site, Play_rec will interface to an ISDN-PRI B channel which is ''nailed-up'' to a D4 channel that is connected to a handset. Whenever a Record RMI message is received, Play_rec will (a) send a one-second ''beep tone'' to the B channel, (b) flush the input data from the By driver, (c) read the specified number of seconds of audio data from the B channel, (d) convert the format of the data, and (e) write that data out to the named output file. Play_rec will also echo the data back out the ''nailed-up'' B channel. Subsequently, Play_rec will then send out (over the B channel) another one-second ''beep tone'' (which serves to indicate to the craft that the announcement recording is complete) and respond to the RMI request with a RMI record-confirmation message.

NOTE:
The announcement volume (through the handset) is the same as that on a real call terminated by the SCU. To increase or decrease the audio volume, simply increase or decrease the speech volume accordingly.

Whenever a Play RMI message is received, Play_rec will (a) use software routines to convert the named audio data file to the PCM format (which is required by the ISDN B channel), (b) enable the B channel, and (c) write the data out to the ISDN B channel. Play_rec will then respond with an RMI play confirmation message and disable the ISDN B channel.

Table 6-1. AAP Database for Field Sites

Database	Attribute	Description	Value	UI Database Access ADD tuple CHG one attribute	DLT tuple	CLR database
MACHINE		Machine Information (single tuple)			x	empty
	KEY	unique database key	0-99999	x		
	OFID	office ID	1-32000	x		
	CLLI	common language location identification	maximum 10 characters	x		
	TYPE	machine type	M|S|F	x		
	LVL	audio level	0-24	x		
	CTYPE	call type	0-1	x		
	CSPN	Central Site phone number	maximum 25 digits	x		
SCUEQP		SCU Equipment Information			x	empty
	KEY	unique database key	0-99999	x		
	ANNSET	announcement set	A-Z	x		
	SCS	SCS number	0-7	x		
	SCU	SCU number	0-15	x		
	LANADR	LAN address	10 hex digits (default)	x		
	ENA	enable SCU	0|1	INH/ALW		
	ACT	SCU active	0|1			
SETEQP		Announcement Set Equipage Information			x	initial value
	KEY	unique database key	0-99999	x		
	ANNSET	announcement set	A-Z	x		
	SETADR	announcement set multicast address	10 hex digits (default)	x		
	SETNUM	announcement set number	0-254	x		
ANNUPD		Announcement Update Information			x	empty
	KEY	unique database key	0-99999			
	ANNSET	announcement set	A-Z			
	SCS	SCS number	0-7			
	SCU	SCU number	0-15			
	TYPE	announcement update type	RCD|ASN|RMV|RPLC			
	ANNFROM	from announcement range	1-65535			
	ANNTO	to announcement range	1-65535			
	ANNVER	announcement version	4 characters			
	LENSCU	announcement length (in SCU seconds)	0-255			
	CHKSUM	checksum	8 hex digits	not displayed		
	RAM	announcement in announcement memory	0|1			
	DISK	disk pair	0-3			
	AA	announcement mapping address	1-511			
	FILE	audio data filename	maximum 100 characters	not displayed		
AUDIT		Audit Information			x	initial value
	KEY	unique database key	0-99999	x		
	TYPE	audit type	0-6	x		
	ANNSET	announcement set	A-Z	x		
	FROM	from announcement ID or mapping address range	1-65535	x		
	TO	to announcement ID or mapping address range	1-65535	x		
	UCL	unconditional audit	0|1	x		
	MO	month	1-12 or *	x		
	DAYMO	day of the month	1-31 or *	x		
	DAYWK	day of the week	0-6 or *	x		
	HR	hour	0-23 or *	x		
	MIN	minutes	0-59 or *	x		
	ENA	enable audit	0|1	INH/ALW		
	ACT	audit active	0|1			
LOCOP		Local Operations Information				
	KEY	unique database key	0-99999	not displayed		
	ANNSET	announcement set	A-Z			
	SCS	SCS number	0-7			
	SCU	SCU number	0-15			
	TYPE	local operation type	RCD|ASN|RMV|RPLC			

Table 6-1. AAP Databases for Field Sites (Contd)

Database	Attribute	Description	Value	UI Database Access ADD tuple CHG one attribute	DLT tuple	CLR database
LOCOP (Contd)	ANNFROM	from announcement range	1-65535			
	ANNTO	to announcement range	1-65535			
	ANNVER	announcement version	4 characters			
	LENSCU	announcement length (in SCU seconds)	0-255			
	RAM	announcement in announcement memory	0-1			
	DISK	disk pair	0-3			
	AA	announcement mapping address	1-511			
	TIME	date and time	mh/dy/yr hh:mm:ss			
	CHKSUM	checksum	8 hex digits	not displayed		
	UTIME	seconds since 1/1/70	maximum 10 digits	not displayed		
	UNAME	user login name	text string	not displayed		

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Field Site Tasks

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Login/Logout Procedures

Logging into the AAP User Interface (UI)

The TCC/NCC has control of who is assigned a UI type login. Anyone with a UI type login has full access to all of the AAP's PDS input messages. These messages are listed alphabetically in AT&T 201-525-012AC, *AAP Input/Output Manual*.

At the AAP console login prompt, enter your assigned UI login. Subsequently, when requested, enter your secret password. At the UI prompt (>), you can, as needed and as appropriate, perform the tasks listed within this document.

Logging Out of UI

1 From the UI prompt (>), type **EXIT** and press return.

Using the Browse Feature

The two files (Log File and Update File) are generally used in conjunction. The Log File is simply a chronological listing of abnormal system events that have been detected by the Applications Software. The Update Log is a chronological listing of announcement updates that failed to complete properly.

NOTE:
Actually, the Log File consists of two separate 5-megabyte files. One file is always "active" while the other file retains "old" data. Whenever the active file becomes full, the old file is cleared and the two files rotate their functionality. This sequence simply repeats as often as necessary.

NOTE:
The Update File actually consists of a separate file for each day of week. The files are identified by the single value 0 through 6, which corresponds to the days Sunday through Saturday.

The Log File may be used, on an occasional basis, to monitor system activities and verify that there are no persistent problems. For resolving trouble reports, it is typically necessary to display the Log File in order to determine the time stamp for when a particular error occurred. Subsequently, the Update File can be displayed with the same identified time stamp and used to identify the user ID and process that generated the error.

The default display for both the Log and Update files is the last 10 lines of the file. As an option, a range of lines from 1 to 1000 can be displayed. Unless a particular time is specified, the display will use the default time (which is 00:00).

Browse the Log File

1 At the AAP console, type
OP:LOG:DATE 010693,TIME 0240,LIMIT 7!

The following screen is an example of the output format.

```
M 34 OP:LOG,DATE 100693,TIME 02:40,LIMIT 7      PF

     10/06/93 02:41:32 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|2478|14|timeout occurred while waiting for respo
                           nse from SCU
     10/06/93 02:41:37 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/appl
                           .C|361|55|restart attempt on process [11222] complet
                           ed [0]
     10/06/93 02:41:37 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|2478|14|timeout occurred while waiting for respo
                           nse from SCU
     10/06/93 02:41:46 CST Lan_monitor|../../../src/cmd/lan_monitor/com/lan_cmd
                           .c|911|45|kill request sent to process [m=0x0, e=0xa
                           , i=0x2bc4]
     10/06/93 02:41:46 CST poll_adrsv|../../../src/cmd/poll_adrsv/com/poll_adrs
                           v.c|336|19|kill request received
     10/06/93 02:41:51 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/pid_
                           queue.C|401|51|unexpected death of process [11228] [
                           256]
     10/06/93 02:41:54 CST PM|/usr/home/aapbld/FUN/aap1.fun/src/cmd/pm/com/proc
                           _grp.C|285|53|restart process group due to restart o
                           f dead process [ISDN0]

     10/06/93 08:59:01 CST #144
```

2 Do you wish to display another date or another time period?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Browse the Update File

1 At the AAP console, type
OP:UPD:DAYWK 3,TIME 0240,LIMIT 7!

The following screen is an example of the output format.

```
M 23 OP:UPD:DAYWK 3,TIME 02:40,LIMIT 7  PF

       10/24/93 08:27:04 CST UIstart2|ekelby|MTCR?!|0
       10/24/93 08:27:04 CST UIend2|ekelby|MTCR?!|0
       10/24/93 08:27:50 CST UIstart3|ekelby|MTCRCD:ANNSET N ANN 19 ANNVER "ABCD"
                             FILE "annc1" |0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 3 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 2 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST LAN|ekelby|rcd:annset N scs 0 scu 0 disk 0 ann 19 an
                             nver "ABCD" sculen 8|0
       10/24/93 08:27:52 CST UIend3|ekelby|MTCRCD:ANNSET N ANN 19 ANNVER "ABCD" F
                             ILE "annc1" |0
       10/24/93 08:28:26 CST UIstart4|ekelby|OP:LOG LIMIT 100 |0
       10/24/93 08:28:48 CST UIend4|ekelby|OP:LOG LIMIT 100 |0


M 23 OP:UPD DAYWK 3 TIME 0240 LIMIT 7  Completed
     10/24/93 18:12:22 CST  #358
```

2 Do you wish to display another day of the week or another time period?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Recording Announcements

Recording Announcements at the Field Site SCUs From the Field Site AAP Console

1 At the AAP console, type **VER:MODE3,ANNSET** *a***:ANN** *f***!** to determine whether the announcement number to be recorded is being used. Only numbers being used are displayed.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID (single value 1-65535 or range).

2 Is the announcement number **BEING USED**?

If **YES**, then continue with Step 3.
If **NO**, then go to Step 4.

3 Active announcement numbers (those being used) cannot be recorded to without first removing that announcement. Removing an active announcement number can cause an announcement to be unavailable when a call needs to access that announcement. In order to prevent this, active announcement updates must first be recorded to an inactive temporary announcement number. When an acceptable recording is created, the active announcement number's contents are replaced with the inactive temporary announcement number's contents and the temporary announcement number's contents are deleted.

4 Is it desirable for the announcement to be held in the SCU's RAM?

If **YES**, then continue with Step 5.
If **NO**, then go to Step 7.

NOTE:
Those announcements that are used frequently may be held in the SCU's RAM, thus allowing the network to be more responsive (that is, play the announcement with less delay). Each SCU's announcement memory (RAM) provides the capacity to record up to 1024-seconds of announcements. The recommendation is that all announcements of 1-second or less should be maintained in RAM (that is, recorded with the option RAM specified). Furthermore, those announcements that involve the concatenation of numbers should be recorded in RAM.

5 At the AAP console, type
RCD:ANNSET *a*,**RAM:ANN** *e*,**ANNVER** *"f"*,**LEN** *g*! to record the announcement and have it stored in the SCU's announcement RAM.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

RAM = If entered, the announcement will be maintained in the SCU announcement memory as well as on disk. When not specified, the announcement will be maintained only on the SCU's disk.

e = Desired Announcement ID.

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

f = Announcement version is four alphanumeric characters. These four characters must be contained within quotes and cannot be the string "NONE."

g = Length of announcement in seconds (0-261). Zero is a half-second announcement.

6 Proceed to Step 8.

7 At the AAP console, type
RCD:ANNSET *a*,**:ANN** *e*,**ANNVER** *"f"*,**LEN** *g*! to record the announcement and have it stored in the SCU's disk.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

e = Desired Announcement ID.

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

f = Announcement version is four uppercase alphanumeric characters that must be enclosed within quotes. Cannot be the string "NONE."

g = Length of announcement in seconds (0-261). Zero is a half-second announcement.

8 At the *4ESS* switch—take the handset that is connected to the "nailed-up" B channel, listen for the DTMF tone, then speak the desired words of the announcement.

NOTE:
Speech volume is controlled by the intensity (how loud or how soft) of the words spoken. Therefore, for a louder announcement, simply speak louder.

9 At the AAP console, type
VER:MODE2,ANNSET *a*:**ANN** *f*! to verify the words and quality of the announcement via the handset speaker.

NOTE:
The parameters, entered for this verify command, must identify the same announcement as previously recorded.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID (single value 1-65535).

NOTE:
Refer to the "How to Use" document for the CAUCS test panel.

10 Was the quality of the announcement acceptable in Step 9?

If **YES**, then go to Step 13.
If **NO**, then go to Step 11.

NOTE:
The announcement must be removed from each SCU it was recorded on before a rerecording of that announcement is possible.

11 At the AAP console, type
RMV:ANNSET *a***:ANN** *d***!** to remove the specified announcement from a specified Announcement Set.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID (single value 1-65535).

12 Did the **RMV** command succeed in Step 11?

If **YES**, then return to Step 3 to rerecord the announcement.
If **NO**, then contact the next level of support.

13 Was the announcement recorded to a temporary announcement number?

If **YES**, then continue with Step 14.
If **NO**, then go to Step 19.

14 At the AAP console, type
RPLC:ANNSET *a***,ANN** *d***,ANNVER** *"e"***:ANN** *f*! to replace the active announcement number's contents (*d*) with the temporary announcement number's contents (*f*).

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Active announcement ID (single value 1-65535).

e = Active announcement version number is four alphanumeric characters. Cannot be the string "NONE."

f = Temporary announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

15 Is the ***RPLC:ANNSET-ANN COMPLETED*** message received?

If **YES**, then go to Step 17.
If **NO**, then go to Step 16.

16 Attempt to replace the contents of the two announcement numbers again. If unsuccessful, contact the next level of support.

17 At the AAP console, type
RMV:ANNSET *a*,**:ANN** *d*! to remove the contents of the temporary announcement number.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID of the temporary announcement (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

18 Did the ***RMV*** succeed in Step 17?

If **YES**, then continue with Step 19.
If **NO**, then contact the next level of support.

19 Are there any more announcements to be recorded?

If **YES**, then return to Step 1.
If **NO**, then continue with Step 20.

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

Verifying Announcements

Verify that the Announcement Mapping Addresses Are Correct

1 At the AAP console, type
VER:MODE6 :AA e**!** to determine whether all SCUs (that contain announcement SET N), have the same final handling announcements.

Where *e* = Announcement Mapping Address (single value 1-511 or range).

CAUTION:
The VER:MODE1, MODE3, MODE4, and MODE6 commands only attempt to check those SCUs that are enabled within the AAPs SCUEQP database. Furthermore, if the LAN is not operational, or if a particular SCU does not respond (for whatever reason) there will not be any data (either correct or error) obtained from that SCU. Therefore, if data is not obtained from one or more SCUs, then the results may not be totally inclusive and it is possible that an error may not be listed.

Results (output) from the **VER:MODE6** command are listed as tabular data under the headings "ANNOUNCEMENT MAPPING ADDRESS INFORMATION - CORRECT DATA" and "ANNOUNCEMENT MAPPING ADDRESS INFORMATION - ERROR DATA." The following screen depicts the output with example data for both correct and error data.

```
M 34 VER:MODE6[ SCS b SCU c][ [DETL][UCL]] :AA e  completed
     ANNOUNCEMENT MAPPING ADDRESS INFORMATION - CORRECT DATA
     ------------------------------------------------------

     AA     ANN
      1    1001
      3    1003
      4    1004
      5    1005

     ANNOUNCEMENT MAPPING ADDRESS INFORMATION - ERROR DATA
     ----------------------------------------------------

     AA    ANN    SCS   SCU
      2   1002      0     1
          1004      1     1

     10/18/93  18:43:33 CST #456
```

Legend:
AA = Announcement Mapping Address (1 through 511)
ANN = Announcement (1 through 65535)

Analyzing the Data

You should review the data and attempt to determine whether the data, for each Announcement Address (AA), is accurate and whether all announcement addresses in use are listed. If there is a question regarding whether a particular AA is administered, then CAUCS maintains a database for the AAs, and this database should be used to resolve any questions.

Analyzing the Error Data

- AA 2 is identified as having errors.
- AA 2 has announcements 1002 and 1004 assigned to it. The problem is to determine which announcement is errored and assign (ASN) the correct announcement to SCU that has the error. It may be necessary to perform a VER:MODE2 and compare the audio output (from the speaker or handset) to typed text for the announcement.

Continuing

2 Do the results from your command list error data?

If **YES**, then continue with Step 3.
If **NO**, then go to Step 9.

3 At the console, type
VER:MODE4, ANNSET *a*:**ANN** *f*! and listen to the first announcement while comparing the audio with the text for the announcement.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID of the first announcement (single value 1-65535).

4 At the console, type
VER:MODE4, ANNSET *a*:**ANN** *f*! and listen to the second announcement while comparing the audio with the text.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements)

f = Announcement ID of the second announcement (single value 1-65535).

5 At the console, type
OP:ANNUPD! to make sure that a queued job does not already exist that would, when executed, result in correcting the mapping error.

6 Did the **OP:ANNUPD** command list a queued command that would correct the error?

If **YES**, then go to Step 9.
If **NO**, then continue with Step 7.

7 At the console, type
ASN:SCS *a*,**SCU** *b*,**ANN** *c*,**AA** *d*:**ANN** *e*! to assign the correct announcement to the identified SCS/SCU.

Where *a* = SCS controlling the SCU with the error.

b = SCU with the incorrect ANN.

c = ID of the incorrect announcement.

d = Announcement Mapping Address.

e = ID of the correct announcement.

8 At the AAP console, type
VER:MODE 6:AA e**!** and recheck that the error data has been corrected and that no additional error data is listed.

Where *e***!** = Announcement Mapping Address (single value 1-511 or range)—should be the same as used in Step 1.

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

Verifying a Few Announcements

NOTE:
Depending on the number of announcements to be verified, and the mode of verification used, this could result in the verification process being a time-consuming task. Therefore, in order not to make this a time-consuming task the recommendation is to limit the number of announcements to less than 20 when using VER:MODE4. Verify MODE4 performs a bit-by-bit comparison and (depending on the actual length of the announcement) can consume a significant amount of time.

1 At the console, type
VER:MODE4,ANNSET a**:ANN** *d***!** to verify whether the specified announcement(s) match across all SCUs.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID (single value 1-65535 or range).

Results (output) from the **VER:MODE4** command are listed as tabular data under the headings "ANNOUNCEMENT INFORMATION - CORRECT DATA" and "ANNOUNCEMENT ADDRESS INFORMATION - ERROR DATA." The following screen depicts the output with example data for both correct and error data.

```
M 45 VER:MODE4 ANNSET N ANN 1-500  PF
     TOTAL SCUs ATTEMPTED  2


     ANNOUNCEMENT INFORMATION  -  ERROR DATA
     ------------------------------------------------------
         ANN    BYTECOUNT   SCS   SCU     ERROR
         121        49152     0     0
         121        61440     0     1     LENGTH
         121        49152     0     2     CONTENT

M 45 VER:MODE4 ANNSET N ANN 1-500  Completed
     10/19/93  19:21:13 CST #450
```

Legend:
ANNSET = Announcement Set
ANN = Announcement (1 of 65535)

2 Do the results from your command list error data?

NOTE:
The preferred method for making corrections is to remove the incorrect announcement and replace it with a correct announcement. Whether the replace function is accomplished by "copying" a correct announcement from another announcement set or actually "rerecording" the announcement is a decision determined by the AFSC. It is the AFSC who is responsible for determining which is correct, which is errored, and the "From" SCS/SCU.

If **YES**, then continue with Step 3.
If **NO**, then go to Step 8.

3 At the console, type
RMV:ANNSET *a*,**SCS** *b*,**SCU** *c*:**ANN** *d*! to remove the errored announcement.

NOTE:
It is not permitted to record or copy an announcement onto an existing announcement. The old version or errored announcement must be removed before the record or copy will execute.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

b = The SCS listed under the heading "ERROR DATA" for Step 2.

c = The SCU listed under the heading "ERROR DATA" for Step 2.

d = The announcement ID listed under the heading "ERROR DATA" for Step 2.

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

4 Verify that the particular announcement *d* (from within the specified announcement set *a*) no longer exists. At the console, type **VER:MODE3** *a,SCS b, SCU c*:**ANN** *d*.

NOTE:
There should not be anything listed for the announcement.

5 Did the **RMV** command succeed (meaning is the announcement not listed in Step 4)?

If **YES**, then continue with Step 6.
If **NO**, then contact the next level of support.

6 At the console, type **COPY:ANNSET** a,**SCS** b,**SCU** c,**ANN** d:**SCS** f,**SCU** g**,ANN** i**,ANNVER** "j"**!** to copy the correct announcement to the equipment location that contains the bad announcement.

Where *a* = From Announcement Set (N = Common Announcements, S = Customized Announcements).

b = From SCS (single value 0-7).

c = From SCU (single value 0-15).

d = From Announcement ID (single value 1-65535).

f = To SCS (single value 0-7).

g = To SCU (single value 0-15).

i = To Announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

j = To Announcement Version number [four uppercase alphanumeric characters and must be surrounded by quotation marks (" ")].

NOTE:
The "to SCS & to SCU" are identified on the report under the error data heading.

7 Did the **COPY** command succeed in Step 6?

If **YES**, then continue with Step 8.
If **NO**, then contact the next level of support.

8 Are there other announcements to be verified?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 9.

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

Verifying Many Announcements

NOTE:
Depending on the number of announcements to be verified, and the mode of verification used, this could result in the verification process being a time-consuming task. Therefore, the recommendation is to use VER:MODE3 whenever it is desired to verify 20 or more announcements.

1 At the console, type
VER:MODE3,ANNSET *a:***ANN** *f*! to verify whether the specified announcements match across all SCUs.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

f = Announcement ID (single value 1-65535 or range).

```
M 55 VER:MODE3 ANNSET a[SCS b SCU c][ [DETL][UCL]] :ANN f  PF
     TOTAL SCUs ATTEMPTED 2

     ANNOUNCEMENT INFORMATION - CORRECT DATA
     -------------------------------------------------------

     ANN     LENSCU  DISK   RAM   ANNVER        CRC
     123          0     0     0     SR01   1234ABCD
     124        255     3     0     WARD   5678CDEF
     125         12     1     0     STRM   FEDCBA98



     ANNOUNCEMENT INFORMATION - ERROR DATA
     -------------------------------------------------

     ANN     LENSCU  SCS  SCU  DISK   RAM    ANNVER         CRC
       2          0    0    0     0     0      SR02    ABCD1234
   65534        255    7   15     3     0      WAR1    CDEF5678


M 55 VER:MODE3 ANNSET a[SCS b SCU c][ [DETL][UCL]] :ANN f  PF
     10/20/93  20:59:13  CST #599
```

Legend:

ANN	Announcement (1 of 65535)
LENSCU	Announcement length
SCS	Service Circuit System
SCU	Service Circuit Unit
DISK	Disk pair (single value 0-3)
ANNVER	Announcement Version (4 characters)
CRC	Announcement checksum

2 Do the results from your command list error data?

NOTE:
The Central Site (St. Louis) maintains the "master copy" for each and every announcement. Specifically, the announcements that exist on the St. Louis *4ESS* switch SCUs are the master copy. The VER:MODE3 command may detect any of several different errors. Some of these include an incorrect length, improper CRC, duplicate announcement version, and so on. Exactly how the error data is resolved will depend on the type of error, the current site hardware configuration, and decisions made by the AFSC. It is the AFSC who is responsible for determining which announcement is correct, which is errored, and the "From" SCS/SCU.

If **YES**, then continue with Step 3.
If **NO**, then go to Step 8.

3 At the console, type
RMV:ANNSET *a*,**SCS** *b*,**SCU** *c*:**ANN** *d*! to remove the errored announcement.

NOTE:
It is not permitted to record or copy an announcement onto an existing announcement. The old version or errored announcement must be removed before the record or copy will execute.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

b = The SCS listed under the heading "ERROR DATA" for Step 2.

c = The SCU listed under the heading "ERROR DATA" for Step 2.

d = The announcement ID listed under the heading "ERROR DATA" for Step 2.

4 Did the **RMV** command succeed in Step 3?

If **YES**, then continue with Step 5.
If **NO**, then contact the next level of support.

5 At the console, type
COPY:ANNSET a,**SCS** b,**SCU** c,**ANN** d:**SCS** f,**SCU** g**,ANN** i**,ANNVER** "j"! to copy the correct announcement to the equipment location that contained the bad announcement.

Where *a* = From Announcement Set (N = Common Announcements, S = Customized Announcements).

b = From SCS (single value 0-7).

c = From SCU (single value 0-15).

d = From Announcement ID (single value 1-65535).

f = To SCS (single value 0-7).

g = To SCU (single value 0-15).

i = To Announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

j = To Announcement Version number [four uppercase alphanumeric characters and must be surrounded by quotation marks (" ")].

NOTE:
The "to SCS & to SCU" are identified on the report under the error data heading.

6 Did the **COPY** command succeed in Step 5?

If **YES**, then continue with Step 7.
If **NO**, then contact the next level of support.

7 Are there other announcements to be verified?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 8.

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

Removing (Deleting) Announcements

1 At the console, type
RMV:ANNSET *a*:**ANN** *d* to remove (delete) an announcement.

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

d = Announcement ID (single value 1-65535).

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

2 Verify that the particular announcement *d* (from within the specified announcement set *a*) no longer exists. At the console, type
VER:MODE3;ANNSET *a*:**ANN** *d*.

NOTE:
There should not be anything listed for the announcement. The system will display the message "AAP System Error, 1103 Announcement does not exist."

3 Did the **RMV** succeed (specified announcement not listed in Step 2) in Step 1?

If **YES**, then continue with Step 4.
If **NO**, then contact the next level of support.

4 Are there any more announcements to be removed?

If **YES**, then return to Step 1.
If **NO**, then continue with Step 5.

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

Assigning Announcements

Initially (meaning that the ISAIC system is first being installed) the block of announcement numbers that range from 1000 to 1511, on set N, are reserved to accommodate the final handling announcements. Furthermore, this block (when assigned) is mapped on a one-to-one basis to Announcement Mapping Addresses 1 through 128. The block of numbers ranging from 128 through 511 are all mapped to 1128. Thereafter, it may be necessary to change the map for a variety of reasons.

NOTE:
Generally, CAUCS will coordinate, control, and administer all changes to the Announcement Mapping Addresses. However, the AAP console can also be used to administer the Announcement Mapping Addresses. Since it is required that all *4ESS* switching offices provide the same (identical) final handling announcements—care should be exercised and coordination maintained.

Reassign a Specific Announcement to a Specific Announcement Mapping Address

1 Perform a verify for all announcement addresses (AA). At the console, type
VER:MODE6:AA 1-511!

NOTE:
If the **VER:MODE6** results include a listing of error data—then that data should be analyzed and appropriate actions taken to resolve the errors. For the case where not all SCUs have identical address maps, the solution is to identify the SCU that has the incorrect map assignment and reassign the correct announcement.

2 Is the objective to correct existing error data?

If **YES**, then go to Step 6.
If **NO**, then it must be a reassignment for all SCUs, continue with Step 3.

3 At the console, type
ASN:ANN *c*,**AA** *d*:**ANN** *e***!** to assign a new/different announcement to an Announcement Mapping Address that already has an announcement assigned to it.

Where *c* = Current Announcement ID.

d = Announcement Mapping Address.

e = New Announcement ID.

NOTE:
Announcements within the range of 2001-20017 are reserved for internal SCU use only. Any attempt to use an announcement within this range will result in generating SCU error (65303 or 0xFF17).

4 At the console, type
VER:MODE6:AA *e***!**

Where *e* = Announcement Mapping Address.

5 Is the Announcement Mapping Address correct for all SCUs?

If **YES**, then continue with Step 7.
If **NO**, then contact the next level of support.

6 At the console, type
ASN:SCS *a,* **SCU** *b,***ANN** *c,***AA** *d* **:ANN** *e*!

Where *a* = Service Circuit System.

b = Service Circuit Unit.

c = Current Announcement ID.

d = Announcement Mapping Address.

e = New Announcement ID.

7 Are there any more announcements to be assigned an Announcement Mapping Address?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 8.

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

Audits

Overview

Audits are a series of programs that check the integrity of the system operations, function to monitor system activities, and generate statistical measurements of those activities. The audits database consists of a listing of all currently defined audits. Each audit contains several fields which define the audits attributes (for example, audit type, range, time-to-run, enabled/disabled, active/inactive, and so on).

Audit Commands

There are a series of input messages that are used to display the audits database and, as necessary, manipulate an individual audit. Specifically, a listing of all audits within the database and their status can be obtained with the **OP:AUDIT** message. Individual audits are manipulated with the recent change input messages (for example, **RC:AUDIT;ADD**, **RC:AUDIT;CHG**, and **RC:AUDIT;DLT**). Furthermore, an individual audit may be run immediately with the input message **AUD:KEY** a. An individual audit may be inhibited with the input message **INH:AUDIT** a. All audits may be inhibited with the input message **INH:AUDIT**. The audit software subsystem can be stopped immediately with the input message **INIT:AAP "AUDIT"**. And, if the audit database should ever become corrupted, the input message **CLR:AUDIT** can be used to reset the database to its initial or default values.

Audits Database Description

Functionally, there are two categories of audits. These categories are referred to as external audits (which involve the SCUs) and internal audits (which only involve those systems internal to the AAP). Within these two categories, there are a total of seven specific types of audits. They are referred to as:

- External audits
  - — Type 0—checks the specified range of announcement mapping addresses.
  - — Type 1—checks whether the specified range of announcements are equipped.
  - — Type 2—generates announcement statistics.
  - — Type 3—performs a bit-by-bit check of the audio data for the specified range of announcements.

- Internal audits
  - — Type 4—checks the validity of the databases.
  - — Type 5—checks the integrity of the file system.
  - — Type 6—monitors various process activities.

The audits database is very flexible and permits an individual audit to be scheduled (and run) any time of day. However, since the running of several audits simultaneously may negatively impact performance, the recommendation is that most audits should be scheduled only for those times of day when there is normally little announcement update activity occurring.

From the maintenance perspective, it is generally desirable to inhibit the audits before performing maintenance on the AAP. Occasionally, as a troubleshooting strategy, it may be desirable to change the audit database and use an audit to detect whether a certain process is dead or alive.

NOTE:
The TCC/NCC and/or OSWF may each choose to add an audit, inhibit an audit, enable an audit, or run (immediately) an audit. For example, the AUDITs database may contain an audit that is normally inhibited (ENA = 0) and only intended for manual (run immediate) use. With this scenario, the message **ALW:AUDIT;KEY ALL!** (specifier—thus meaning ALL audits) should not be input.

Display (Output) the AUDIT Database

To determine the running environment for all audits, and not just the results from a particular audit, simply display the AUDIT database. At the AAP console, type **OP:AUDIT!**

```
M 29 OP:AUDIT  PF

     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

M 29 OP:AUDIT  Completed
     03/26/93  19:59:18 CST #599
```

NOTE:
The preceding screen is intended only to indicate possible default values. Depending on the particular generic software, the actual range and scheduled start times may be different from those indicated. If it is deemed appropriate and necessary to alter a particular default value—simply use the RC input messages (add, change, or delete). The RC messages are described in the following text.

Add a New Audit to the Audits Database

1 At the AAP console, type
OP:AUDIT! to display the audits database.

NOTE:
All new audits must be identified by a key that is not currently used.

2 Analyze the existing database and determine whether an existing audit will (with appropriate changes) accomplish the desired objective. Is it still desirable to add a new audit?

If **YES**, then continue with Step 3.
If **NO**, then the assumption is that an existing audit will be changed. Go to Step 5 and continue with the "Change an Existing Audit in the Audits Database" procedure as appropriate.

3 For example, suppose that it is desired to run the statistics audit for announcements within the range of 512 to 10000 beginning at 05:00 CST. At the AAP console, type the following as one line
RC:AUDIT;ADD,KEY a**:TYPE 2,ANNSET N,FROM 512,TO 10000,UCL 0,MO *,DAYMO *,DAYWK *,HR 05,MIN 00!**

Where *a* = is a unique single value number within the range of 0-99999.

NOTE:
Other similar examples could also be developed.

4 Are there other new audits to be added?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 5.

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

Change an Existing Audit in the Audits Database

1 At the AAP console, type
OP:AUDIT! to display the audits database.

2 Analyze the existing database and determine whether an existing audit will (with appropriate changes) accomplish the desired objective. Is it still desirable to change an existing audit?

If **YES**, then continue with Step 3.
If **NO**, then go to Step 4.

3 For example, suppose that it is desired to change the audit identified with a KEY of 2 to run at 15 minutes past the hour. At the AAP console, type
RC:AUDIT;CHG,KEY 2:MIN 15!

NOTE:
Other similar examples could also be developed. An important point to remember is that only one parameter can be changed at a time. When there are questions regarding correct syntax for a command—refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

4 Are there other audits to be changed?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 5.

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

Delete an Existing Audit From the Audits Database

1 At the AAP console, type
OP:AUDIT! to display the audits database.

2 Analyze the existing database and identify the audit, by its unique key, that you desire to delete. At the AAP console, type
RC:AUDIT;DLT,KEY a**!**

Where *a* = is the key of the audit to be deleted.

3 Are there other audits to be deleted?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 4.

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

Inhibit (Disable) Audits

If an external type audit is currently running at the time it is inhibited, then it will stop almost immediately. As a contrast, if an internal type audit is currently running at the time it is inhibited, then it will (in most cases) continue until it completes. Additionally, every audit within the database can be inhibited (simultaneously) with the **INH:AUDIT;KEY ALL!** input message. The previously described constraints for external type and internal type still apply. A more drastic measure would be to issue the input message **INIT:AAP "AUDIT"**, which would immediately kill all currently running audit processes and subsequently reset the audit software process.

1 Do you wish to inhibit all audits immediately and reset the audit software subsystem?

If **YES**, then go to Step 7 which kills all currently running audit processes and resets the audit software subsystem.
If **NO**, then continue with Step 2.

2 Do you wish to inhibit the audits database so that no additional audit process will be started?

If **YES**, then go to Step 6.
If **NO**, then continue with Step 3.

3 At the AAP console, type
OP:AUDIT! to display the audits database.

4 To inhibit a single audit—at the AAP console, type
INH:AUDIT;KEY a**!**

Where *a* = the identity of the audit that is to be inhibited.

5 Are there other audits to be inhibited?

If **YES**, then go to Step 4.
If **NO**, then go to Step 8.

6 At the AAP console, type
INH:AUDIT! and go to Step 8.

7 At the AAP console, type

INIT:AUDIT! and continue with Step 8.

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

Allow (Enable) Audits

During normal operations, the "standard set" of audits should be enabled. Audits may be enabled on an individual (per key) basis. Or, all audits (the whole database) may be enabled simultaneously. The database field (ENA = 1) indicates that the particular audit is enabled while (ENA = 0) indicates the inhibited state.

CAUTION:
If the database contains audits that are intended to be run only on a manual basis, such as those designed to detect a particular type of error, then the **ALW:AUDIT;KEY ALL!** *(meaning all) should not be input.*

1 At the AAP console, type
OP:AUDIT!

2 Do you wish to enable an individual audit?

If **YES**, then go to Step 4.
If **NO**, then go to Step 3.

3 Do you wish to enable all audits?

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

4 At the AAP console, type
ALW:AUDIT;KEY a**!** and go to Step 6.

5 At the AAP console, type
ALW:AUDIT;KEY ALL!, then continue with Step 6.

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

Other Database Tasks

Clear (Initialize) ANNUPD Database

The reasons that would necessitate the need to clear this database are few; but, generally will involve the desire to quickly remove all updates in the queue.

1 At the AAP console, type
OP:ANNUPD!

2 Do you wish to cancel all jobs?

If **YES**, then go to Step 3.
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:ANNUPD! and continue with Step 4.

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

Clear (Initialize) MACHINE Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, it will interrupt announcement update activities. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:MACHINE!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change MACHINE Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:MACHINE! to restore this database to its initial or default state.

4 At the AAP console, press the F9 key to access the EAI pages and select boot option **53**.

NOTE:
There will be a significant time interval (between 15 and 25 minutes) before the *UNIX* operating system and all AAP applications software is fully restored.

5 At the AAP console, select menu item 4 (User Interface) and enter your login and password when prompted.

6 At the AAP console, type
OP:MACHINE!

7 Analyze this output message. Do the default states match the configuration for this AAP site?

If **YES**, then go to Step 8.
If **NO**, then appropriate changes must be made with the RC input messages. Halt this task and go to the heading "Change the MACHINE Database."

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

Clear (Initialize) SCUEQP Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, the announcement update activities will be impacted. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:SCUEQP!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input message—then halt this task and go to the heading "Change SCUEQP Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:SCUEQP! to empty this database.

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

Clear (Initialize) SETEQP Database

CAUTION:
There will not be any normal reason to clear this database. As a matter of fact, if this database is ever cleared, the announcement update activities will be impacted. The abnormal circumstances that might create a need to clear this database would be database corruption.

1 At the AAP console, type
OP:SETEQP!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change SETEQP Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:SETEQP! to restore this database to its initial or default state.

4 At the AAP console, type
OP:SETEQP!

5 Analyze the output message. Do the default states match the configuration for this AAP site?

If **YES**, then go to Step 6.
If **NO**, then appropriate changes must be made with the RC input messages. Halt this task and go to the heading "Change the SETEQP Database."

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

Clear (Initialize) AUDIT Database

1 At the AAP console, type
CLR:AUDIT!

2 Analyze the output and attempt to determine whether the database is corrupt. Minor corruption can usually be corrected with the RC input messages. Is the database corrupt?

If **YES**, and you desire to clear the database and return it to its initial value—then go to Step 3.
If **YES**, but you desire to make a correction via the RC input messages—then halt this task and go to the heading "Change AUDIT Database."
If **NO**, then go to Step 4.

3 At the AAP console, type
CLR:AUDIT! to restore this database to its initial or default state.

4 At the AAP console, type
OP:AUDIT!

5 Analyze the output message. Do the default states match the configuration for this AAP site?

If **YES**, then go to Step 6.
If **NO**, then appropriate changes must be made with the RC input messages. Halt this task and go to the heading "Change the AUDIT Database."

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

Output (Display) LOCOP Database

1 At the AAP console, type
OP:LOCOP!

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

Output (Display) MACHINE Database

1 At the AAP console, type
OP:MACHINE!

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

Output (Display) SCUEQP Database

1 At the AAP console, type
OP:SCUEQP!

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

Output (Display) SETEQP Database

1 At the AAP console, type
OP:SETEQP!

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

Output (Display) AUDIT Database

1 At the AAP console, type
OP:AUDIT!

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

Change (ADD, CHG, DLT) the AUDIT Database

1 At the AAP console, type
OP:AUDIT!

2 Do you wish to add a tuple to the database?

If **YES**, then continue.
If **NO**, then go to Step 4.
RC:AUDIT;ADD,KEY a**TYPE** b**,ANNSET** c**,FROM** d,**TO** e,**UCL** f,**MO** g,**DAYMO** h,**DAYWK** i,**HR** j,**MIN** k**!**!

Where *a* = Database KEY

b = Audit type (single value 0-6).

c = Announcement Set (single value A-Z).

d = From Announcement ID range (single value 1-65535) or Announcement Mapping Address (single value 1-511).

e = To Announcement ID range (single value 1-65535) or Announcement Mapping Address (single value 1-511).

f = Unconditional Audit (0 = conditional, 1 = unconditional).

g = Month (single value 1-12 or * means every month).

h = Day of the Month (single value 1-31 or * means every day of the month).

i = Day of the Week (single value 0-6 with 0 = Sunday or * means every day of the week).

j = Hour (single value 0-23 or * for every hour).

k = Minute (single value 0-59 or * for every minute).

3 Are there other tuples to be added to this database?

If **YES**, then go to Step 2.
If **NO**, then go to Step 8.

4 Do you wish to change an attribute in the database?

If **YES**, then go to Step 5.
If **NO**, then go to Step 7.

5 For example, suppose that you wish to change the KEY 2 to KEY 3. At the AAP console, type **RC:AUDIT;CHG,KEY** 2**:KEY** 3**!**

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

6 Are there other tuples to be changed within this database?

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

7 Do you wish to delete a tuple from the database?

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

8 At the AAP console, type
RC:AUDIT;DLT,KEY a**!**

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

Change (ADD, CHG, DLT) the MACHINE Database

1 At the AAP console, type **OP:MACHINE!**

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 6.

3 At the AAP console, type
RC:MACHINE;ADD,KEY a**:OFID** b**,I** "c"**,TYPE** d**, LVL** e**!**

Where *a* = Database KEY (single value 0-99999).

b = Office ID (single value 1-32000).

c = CLLI code.

d = Machine type (single value M|S|F; M = Master, S = Slave, F = Field).

4 At the AAP console, press the F9 key to access the EAI page and select boot option **53**.

5 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 9.

6 Do you wish to change an attribute in the database?

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

7 For example, suppose that you wish to change the KEY 2 to KEY 3. At the AAP console, type
RC:MACHINE;CHG,KEY 2:KEY 3!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

NOTE:
If the OFID attribute is CHGed, the AAP will need to be rebooted. At the AAP console, press the F9 key to access the EAI page and select boot option **53**.

8 Are there other tuples to be changed within this database?

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

9 Do you wish to delete a tuple from the database?

If **NO**, then go to Step 11.
If **YES**, then continue with Step 10.

10 At the AAP console, type
RC:MACHINE;DTL,KEY a**!**

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

Change (ADD, CHG, DLT) the SCUEQP Database

1 At the AAP console, type
OP:SCUEQP!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 6.

3 At the AAP console, type
RC:SCUEQP;ADD,KEY a**:ANNSET** b**,SCS** c**,SCU** d**,LANADR** X′e**!**

Where *a* = Is a unique single value number within the range of 0-99999.

b = Is the announcement set (letter within the range A-Z).

c = SCS number (number within the range 0-7).

d = SCU number (number within the range 0-15).

e = LAN address (text string value DFLT or 10 hex digits 0-9 and A-F).

4 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

5 Do you wish to change an attribute in the database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 8.

6 For example, suppose that you wish to change the KEY 2 to KEY 3.
At the AAP console, type
RC:SCUEQP;CHG,KEY 2:KEY 3!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

7 Are there other tuples to be changed within this database?

If **YES**, then go to Step 6.
If **No**, then continue.

8 Do you wish to delete a tuple from the database?

If **NO**, then go to Step 10.
If **YES**, then continue with Step 9.

9 At the AAP console, type
RC:SCUEQP;DTL,KEY a**!**

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

Change (ADD, CHG, DLT) the SETEQP Database

1 At the AAP console, type
OP:SETEQP!

2 Do you wish to add a tuple to the database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 5.

3 At the AAP console, type
RC:SETEQP;ADD,KEY a**:ANNSET** b**,SETADR** X'c**,SETNUM** d**!**

Where *a* = Is a unique single value number within the range of 0-99999.

b = Announcement set (single value A-Z).

c = Announcement set multicast address (text string DFLT or 10 hex digits 0-9 and A-F).

d = Announcement set number (single value 0-254).

4 Are there other tuples to be added to this database?

If **YES**, then go to Step 3.
If **NO**, then go to Step 8.

5 Do you wish to change an attribute in the database?

If **YES**, then go to Step 6.
If **NO**, then go to Step 8.

6 For example, suppose that you wish to change the KEY 2 to KEY 3.
At the AAP console, type
RC:SETEQP;CHG,KEY 2:KEY 3!

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

7 Are there other tuples to be changed within this database?

If **YES**, then go to Step 6.
If **NO**, then continue with Step 10.

8 Do you wish to delete a tuple from the database?

If **NO**, then go to Step 10.
If **YES**, then continue with Step 9.

9 At the AAP console, type
RC:SETEQP;DTL,KEY a**!**

Where *a* = Is the tuple to be deleted.

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

Change (ADD, CHG, DLT) the CDSU Database

1 Log into the AAP and access the MML craft shell interface (Menu option 1).

2 At the AAP console, display the database by entering:

OP:CDSU!

3 Do you wish to add a CDSU to the database?

If **YES**, then go to Step 4.
If **NO**, then go to Step 6.

4 Choose a KEY value not already used in the database.

5 At the AAP console, type:

UPD:CDSU:UPD=ADD:"KEY=*a***, SCS=***b***, SCU=***c***, CDSU=***d***, GEN=***e***";**

Where *a* = KEY that was chosen in Step 4.

b = SCS complex to which the CDSU is attached.

c = SCU to which the CDSU is attached.

d = CDSU number on that SCU.

e = CDSU software generic number.

6 Do you wish to change an attribute in the database?

If **YES**, then go to Step 7.
If **NO**, then go to Step 9.

7 Find the entry to be changed in the database, and get its KEY value.

8 For example, suppose that you wish to change the SCS and SCU attributes. At the AAP console, type
UPD:CDSU:UPD=CHG:"KEY=*a***, SCS=***b***, SCU=***c***";**

Where *a* = KEY that was chosen in Step 7

b = New SCS value.

c = New SCU value.

NOTE:
Other similar examples could also be developed. When there are questions regarding syntax for a command, refer to AT&T 201-525-012AC, *AAP Input/Output Manual*.

9 Do you wish to delete an attribute in the database?

If **YES**, then go to Step 10.
If **NO**, then go to Step 12.

10 Find the entry to be deleted in the database, and get its KEY value.

11 At the AAP console, type
UPD:CDSU:UPD=DLT:"KEY=*a*";

Where *a* = KEY that was chosen in Step 10.

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

Display the CDSU Database

1 At the AAP console, type the following:

- To display the whole database in one table, type
OP:CDSU; or OP:CDSU:FORM=SHORT;
- To display one entry in the database in long format, type
OP:CDSU:FORM=LONG:"KEY=*a*";

  Where *a* = the KEY of the entry you wish to display.

- To display all CDSUs on one SCU, type:
OP:CDSU::"SCS=*a*,SCU=*b*";

  Where *a* = the SCS for the CDSUs.

  b = the SCU for the CDSUs.

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

Miscellaneous Tasks

Stop an AAP Applications Software Subsystem

Complete this task whenever there is a need to stop one or more AAP Software Subsystems and not restart them.

1 **STOP:AAP "a"!**

Where *a* = Is one of the following:
AAP (all AAP Processes)
AAPADM (AAP Administration)
AUDIT
ISDN0
ISDN1
LANCMD (LAN Command)
LANADM (LAN Administration)
MI (Maintenance Interface).

2 Are there other software processes to be stopped?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Initialize (Restart) AAP Applications Software Subsystem

Complete this task whenever there is a need to stop and restart one or more AAP processes. An already stopped process will be restarted.

1 At the AAP console, type
INIT:AAP "a"!

Where *a* = Is one of the following:
AAP (all AAP Processes)
AAPADM (AAP Administration)
AUDIT
ISDN0
ISDN1
LANCMD (LAN Command)
LANADM (LAN Administration)
MI (Maintenance Interface).

2 Are there other processes to be initialized?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Check SCU Announcement RAM Usage

1 At the AAP console, type **OP:DISKVER,ANNSET N!** to determine how the announcement RAM is currently being used. The output message heading "FREE RAM" and "USED RAM" indicate the number of SCU seconds FREE and USED respectively on a per SCU and disk pair basis.

NOTE:
Each SCU has its own unique/independent announcement RAM. Each RAM provides 1024 SCU announcement seconds. Generally, only short duration announcements, announcements with concatenated numbers, and announcements that are used very frequently should be loaded into announcement RAM.

```
M mm OP:DISKVER ANNSET a[ SCS b  SCU c]  results

            HARDWARE INFORMATION - CORRECT DATA
            -----------------------------------
     DISK PAIR  FREE RAM   USED RAM  FREE DISK  USED DISK
         0           768        256      93244         84


            SOFTWARE INFORMATION - CORRECT DATA
            -----------------------------------
          SW VERSION            SW FILE
    930A2//0 110304:9U:1>5<258.0     10
    10/26/93 12:21:33  CST  #321
```

NOTE:
Problems identified under the heading "HARDWARE INFORMATION - CORRECT DATA" should normally be resolved via input from the AFSC. For example, if the amount of FREE RAM should go to zero (0) then there is no more room to record announcements in the SCU's announcement RAM. The AFSC should be contacted in order to resolve suspected errors with the SCU's announcement RAM.

2 Is there a problem with the amount of currently available FREE RAM?

If **YES**, then continue with Step 3.
If **NO**, then go to Step 5.

3 At the console, type
VER:MODE3, ANNSET a:ANN {f-g}**!** Review the output message and determine whether there are announcements in RAM that should not be there. Generally, these could be test announcements (that may have been left in RAM by mistake), or any other announcement that is not used frequently but has a large number in the LENSCU column.

4 Have one or more announcements been identified as being in RAM when they should actually not be in RAM?

If **YES**, refer the information that you have obtained to the AFSC. The AFSC is responsible for maintaining announcements and ensuring that only those announcements that are absolutely necessary are maintained in RAM.
If **NO**, refer to the information that you have obtained to the AFSC and let the AFSC determine whether any changes should be taken.

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

Check (Output) an SCU's Software (SW) Version

1 At the AAP console, type
OP:DISKVER,ANNSET *a*,**SCS** *b*,**SCU** *c*!

Where *a* = Announcement Set (N = Common Announcements, S = Customized Announcements).

b = Service Circuit System (single value 0-7; default all).

c = Service Circuit Unit (single value 0-15; default all).

```
M mm  OP:DISKVER  ANNSET  a[ SCS b SCU c]  results

            HARDWARE INFORMATION - CORRECT DATA
            ----------------------------------
   DISK PAIR   FREE RAM  USED RAM  FREE DISK  USED DISK
       0            761       263      93244         84


            SOFTWARE INFORMATION - CORRECT DATA
            ----------------------------------
          SW VERSION            SW FILE
    930A2//0 110304:9U:1>5<258.0     10
    10/27/93 10:55:16  CST #129
```

NOTE:
Problems identified under the heading "SOFTWARE INFORMATION - CORRECT DATA" should be resolved via the 1B switch maintenance organization. For example, if the SW version should display two or more different version numbers--then, obviously the incorrect software is loaded on one or more SCUs. The 1B switch maintenance organizations can determine, from the office's equipment records, the correct SW version. It is the switch side that should correct the error.

2 Do you wish to output the DISKVER for a different ANNSET?

If **YES**, then go to Step 1.
If **NO**, then continue with Step 3.

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

Output (Display) Field Site Measurements

1 At the AAP console, type
OP:MEAS!

```
M mm OP:MEAS[ CLR]  results

     UPDATE ACTIVITY OVER 57623 MINUTES
     ------------------------------------------------------------
         TOTAL UPDATES QUEUED:                0
         TOTAL UPDATES REQUESTED:         31411
         TOTAL UPDATES ATTEMPTED:         31411          100%
         TOTAL UPDATES COMPLETED:         31411          100%
         TOTAL SCUS DISABLED:                 0
     10/15/93 09:14:33 CST #376
```

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

Output (Display) the UI Jobs Pending Queue

1 At the AAP console, type
OP:JOB!

The following screen is an example of a job queue.

```
M 48 OP:JOB! Completed
       JOB MESSAGE
       106 RCD:ANNSET N ANN 1 ANNVER "AAP1" FILE "annc1"
       107 VER:MODE2 ANNSET N ANN 1
       105 RMV:ANNSET N ANN 1
     10/19/93 08:44:17 ct  #197
```

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

Stopping a UI Job

Each command that is input via the UI will result in creating a job. Whenever the job is placed in the queue, it is assigned a unique job ID. If it is determined that an error was created and that the job with the error should not be executed—then that job can be stopped.

1 At the AAP console, type
STOP:JOB! to obtain a listing of jobs on the queue.

2 At the AAP console, type
OP:JOB a**!**

Where *a* = Is the ID of the job that you wish to stop.

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

Add a New SCU to an Existing SCS Cabinet

CAUTION:
Installing a new SCU requires that the switch side work activities be closely coordinated with those of the AAP side. Furthermore, these work activities must be performed in the step ordered fashion that is defined in AT&T 234-153-060AC, SCS Growth/Degrowth.

Add a New SCS Cabinet and New SCU

CAUTION:
Installing a new SCU requires that the switch side work activities be closely coordinated with those of the AAP side. Furthermore, these work activities must be performed in the step ordered fashion that is defined in AT&T 234-153-060AC, SCS Growth/Degrowth.

Remove an Existing SCU

CAUTION:
Installing a new SCU requires that the switch side work activities be closely coordinated with those of the AAP side. Furthermore, these work activities must be performed in the step ordered fashion that is defined in AT&T 234-153-060AC, SCS Growth/Degrowth.

Add an Announcement Set

It is assumed that a new announcement set will be added to the switch only whenever a new SCU is added. Therefore, this topic is included in AT&T 234-153-060AC, *SCS Growth/Degrowth*.

NOTE:
The AAP can support up to a maximum of eight different announcement sets.

Intra-SCU Copy (Copy Source Disk to the Destination Disk)

It is assumed that the INTRA SCU Copy will be performed only as part of the SCS Growth procedures. Therefore, this topic is included in AT&T 234-153-077AC, *SCS Maintenance*.

Inter-SCU Copy (Copy One SCU to Another SCU)

It is assumed that the INTER SCU Copy will be performed only as part of the SCS Growth procedures. Therefore, this topic is included in AT&T 234-153-077AC, *SCS Maintenance*.

Determine the IP Name of a CDSU

1 At the AAP console, type
OP:CDSU:"KEY=*a*";

Where *a* = KEY number of desired CDSU.

2 Use the information from Step 1 to determine the IP Name of the CDSU.

The IP Name for a CDSU is determined by its SCS, SCU, and CDSU numbers. The name begins with the string "cds" and then appends in order: one decimal digit of SCS, two decimal digits of SCU, and two decimal digits of CDSU. For example, if you execute OP:CDSU::"KEY=5" and get an entry that says SCS is 1, SCU is 9, and CDSU is 2, then the IP Name for that CDSU would be cds10902.

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

Copy Files From the CDSU to the AAP

1 Determine the IP Name of the CDSU (*IPname* in this procedure).

2 Determine the file name of the file you wish to copy from the CDSU to the AAP (*CDSUfile* in this procedure). This should be a full path name (begins with "/") to the file on the CDSU.

3 Determine where you want to put the file on the AAP. It is suggested that you put the file on the AAP into **/usr/aap/tmp**.

4 Log onto the AAP as **root**.

5 Change your working directory to where the file(s) will be put on the AAP, for example:

cd /usr/aap/tmp

6 At the AAP console, type
rcp *IPname***:***CDSUfile* **/usr/aap/tmp**

This will transfer the file to the AAP and place it in the /usr/aap/tmp directory.

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

Log into a CDSU From the AAP

1 Determine the IP Name of the CDSU (*IPname* in this procedure).

2 Log onto the AAP as **root**.

3 At the AAP console, type
rlogin *IPname*

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

Glossary

This part defines the abbreviations and acronyms used in this document.

A

AA
Announcement Mapping Address

AAP
Announcement Administration Processor

AFSC
Advanced Feature Service Center

ALW
Allow

ASR
Automatic Speech Recognition

AUD
Audit

AUI
Announcement Update Interface

C

CAUCS
Central Announce Update Control System

CI
CAUCS Interface

CDSU
Custom Data Services Unit

CLR
Clear

CO
Central Office

CPU
Central Processor Unit

CS
Central Site

CS AAP
Central Site Announcement Administration Processor

CRU
Customer Replaceable Unit

D

DTMF
Dual-Tone Multifrequency

F

FRU
Field Replacable Unit

FS
Field Site

FS AAP
Field Site Announcement Administration Processor

FT
Fault Tolerant

I

INH
Inhibit

IRS
Interval Report Synthesizer

ISAIC
Improved Service Announcement and Information Collection

ISDN
Integrated Services Digital Network

L

LAN
Local Area Network

M

MF
Multifrequency

MI
Maintenance Interface

N

NCC
Network Control Center

NCP
Network Control Point

NI
Network Interface

O

OOS
Out Of Service

OP
Output

OSWF
On-Site Work Force

P

PDS
Program Documentation Standard

PM
Program Manager

PRI
Primary Rate Interface

PU
Peripheral Unit

R

RAM
Random Access Memory

RC
Recent Change

RCP
Remote Copy

RMI
Remote Message Interface

RMV
Remove

RSTR
Restart

S

SCC
Service Circuit Controller

SCCS
Switching Control Center System

SCS
Service Circuit System

SCSI
Small Computer System Interface

SCU
Service Circuit Unit

SP
Service Processor

T

TCC
Technology Control Center

TNM
Total Network Management

U

UI
User Interface

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