297-2041-500

DMS-100 Family

Automatic Call Distribution

Maintenance Guide

BCS36 and up Standard 04.02 December 1993

northern telecom

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Maintenance Guide

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BCS36 Standard 04.02 reissued for standard release

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BCS36 Preliminary 04.01

- deleted information about Meridian Automatic Call Distribution with CompuCALL Option. This information is now located in the CompuCALL suite of documents.
- added new registers, ACDICQD and ACDREQD, to operational measurement (OM) ACDGRP for the Add OM Peg for ACD Queued Calls PRSDOC
- changed steps 7 and 8 of procedure 10-1 and step 7 of procedure 10-2

March 1993

BCS35 Standard 03.01

- added new log RMAN138; modified existing log LMAN100
- added LOADMGMT command CHANGE ACTIVATE
- added sections on messages exchanged between the DMS-100 and the downstream processor (DSP)

July 1992

BCS34 Standard 02.01

- added new registers from the switch computer application interface (SCAI) three-way call for Meridian ACD with CompuCALL Option feature
- added new OM groups from the Network Automatic Call Distribution (NACD) OM enhancements feature
- added expanded use for existing ACD OM ACDDFLCT
- made editorial changes

October 1991

BCS33 Standard 01.01 first release of this document

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About this document

This document describes advanced and high-level maintenance procedures associated with Automatic Call Distribution (ACD) systems distributed from the DMS-100 office. Where appropriate, maintenance procedures are differentiated for Base ACD, Automatic Call Distribution Management Information System (ACDMIS), and Network Automatic Call Distribution (NACD). The intended users of this document are the operating company supervisors and managers who support first-line maintenance personnel.

When to use this document

Northern Telecom (NT) software releases are referred to as batch change supplements (BCS) and are identified by a number, for example, BCS29. This document is written for DMS-100 Family offices that have BCS36 and up.

More than one version of this document may exist. The version and issue are indicated throughout the document, for example, 01.01. The first two digits increase by one each time the document content is changed to support new BCS-related developments. For example, the first release of a document is 01.01, and the next release of the document in a subsequent BCS is 02.01. The second two digits increase by one each time a document is revised and rereleased for the same BCS.

To determine which version of this document applies to the BCS in your office, check the release information in *DMS-100 Family Guide to Northern Telecom Publications*, 297-1001-001.

How to identify the software in your office

The *Office Feature Record (D190)* identifies the current BCS level and the NT feature packages in your switch. You can list a specific feature package or patch on the MAP (maintenance and administration position) terminal by typing

>PATCHER;INFORM LIST identifier

and pressing the Enter key.

where
identifier is the number of the feature package or patch ID

You can identify your current BCS level and print a list of all the feature packages and patches in your switch by performing the following steps. First, direct the terminal response to the desired printer by typing

>SEND printer_id

and pressing the Enter key.

where
printer_id is the number of the printer where you want to print the data

Then, print the desired information by typing

>PATCHER;INFORM LIST;LEAVE

and pressing the Enter key.

Finally, redirect the display back to the terminal by typing

>SEND PREVIOUS

and pressing the Enter key.

How Automatic Call Distribution documentation is organized

This document is part of Automatic Call Distribution documentation that supports the Northern Telecom line of Automatic Call Distribution products. Automatic Call Distribution documentation is a subset of the DMS-100 Family library.

The DMS-100 Family library is structured in numbered layers, and each layer is associated with an NT product. To understand Automatic Call Distribution products, you need documents from the following layers:

- DMS-100 Family basic documents in the 297-1001 layer
- Automatic Call Distribution documents in the 297-2041 layer

Automatic Call Distribution documents and other documents that contain related information are listed in “Finding ACD information” in *Automatic Call Distribution Product Guide,* 297-2041-010.

References in this document

The following documents are referred to in this document.

Number	Title
297-1001-001	*DMS-100 Family Guide to Northern Telecom Publications*
297-1001-500	*Index to Maintenance Procedures Documents*
297-1001-580	*Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures*
297-1001-583	*Lines, Trunks, and Peripherals External Subsystems Alarm and Performance Monitoring Procedures*
297-1001-814	*Operational Measurements Reference Guide*
297-1001-820	*Nonmenu Commands Reference Manual*
297-1001-840	*Log Report Manual*
297-2041-010	*Automatic Call Distribution Product Guide*
297-2041-350	*Automatic Call Distribution Translations Guide*
297-2041-503	*Automatic Call Distribution Trouble Locating and Clearing Procedures*
TAM-1001-011	*Data Structures Reference Manual*
	Memotech NT/800 Asynchronous Communication Processor System Reference Manual
	Memotech NT/830 Asynchronous Communication Processor System Reference Manual
NTMX9542	*RT-100 Installation and Maintenance Guide*
A0382599	*RT-1000 Release 30.1 Installation Guide*
NACDMIS302	*RT-1000 Upgrade Installation Guide*

How commands, parameters, and responses are represented

Commands, parameters, and responses in this document conform to the following conventions.

Input prompt (>)

An input prompt (>) indicates that the information that follows it is a command:

```
>BSY
```

Commands and fixed parameters

Commands and fixed parameters that are entered at a MAP terminal are shown in uppercase letters:

>BSY LINK

Variables

Variables are shown in lowercase letters:

>BSY LINK ps_link

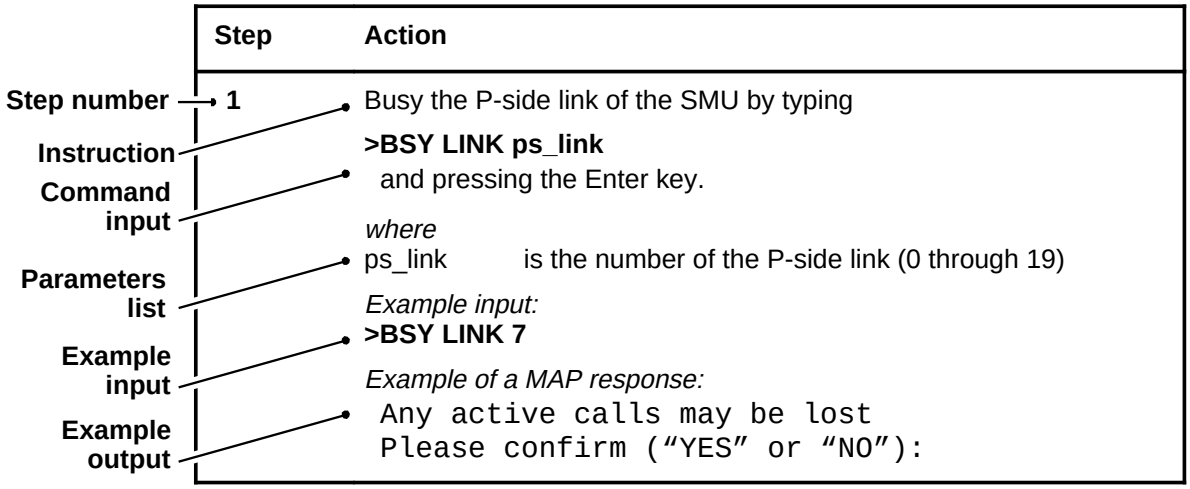
The letters or numbers that the variable represents must be entered. Each variable is explained in a list that follows the command string.

Responses

Responses correspond to the MAP display and are shown in a different type:

```
Any active calls may be lost
Please confirm (“YES” or “NO”):
```

The following example illustrates the command syntax used in this document.



Maintenance overview

This chapter provides the basic maintenance strategy of Automatic Call Distribution (ACD), including Base ACD, Automatic Call Distribution Management Information System (ACDMIS), and Network Automatic Call Distribution (NACD). The information in this chapter is of a background nature. It provides operating company maintenance personnel with the information necessary to make logical deductions while troubleshooting ACD.

Functional description

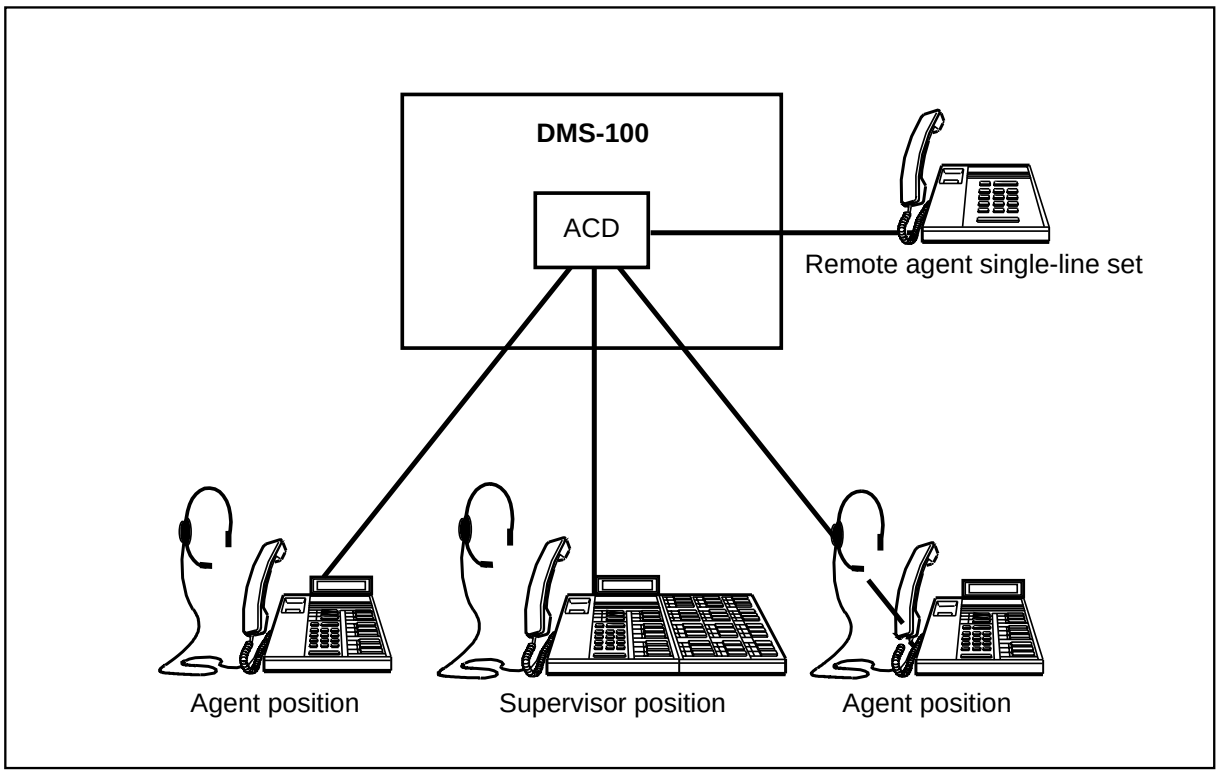
This section provides descriptive information on the configuration of Base ACD, ACDMIS, and NACD. Its intent is to give maintenance personnel an idea of how the different components of ACD interact.

Base ACD

Base ACD is a set of feature packages that provides the capability of distributing a large number of incoming calls placed to one or more central directory numbers among a fixed group of agent positions. The result is a call management system suitable for service industries where a large number of incoming calls are answered by a group of agents.

Figure 1-1 illustrates a sample configuration for Base ACD.

Figure 1-1
Sample Base ACD configuration



ACDMIS

ACDMIS produces real-time information. ACDMIS is run on stand-alone microprocessor hardware known as a downstream processor (DSP). The DSP is connected to the DMS-100 Centrex switch by a data link.

ACDMIS can be configured as a single-user or supervisor system or as a multiple-user or supervisor system.

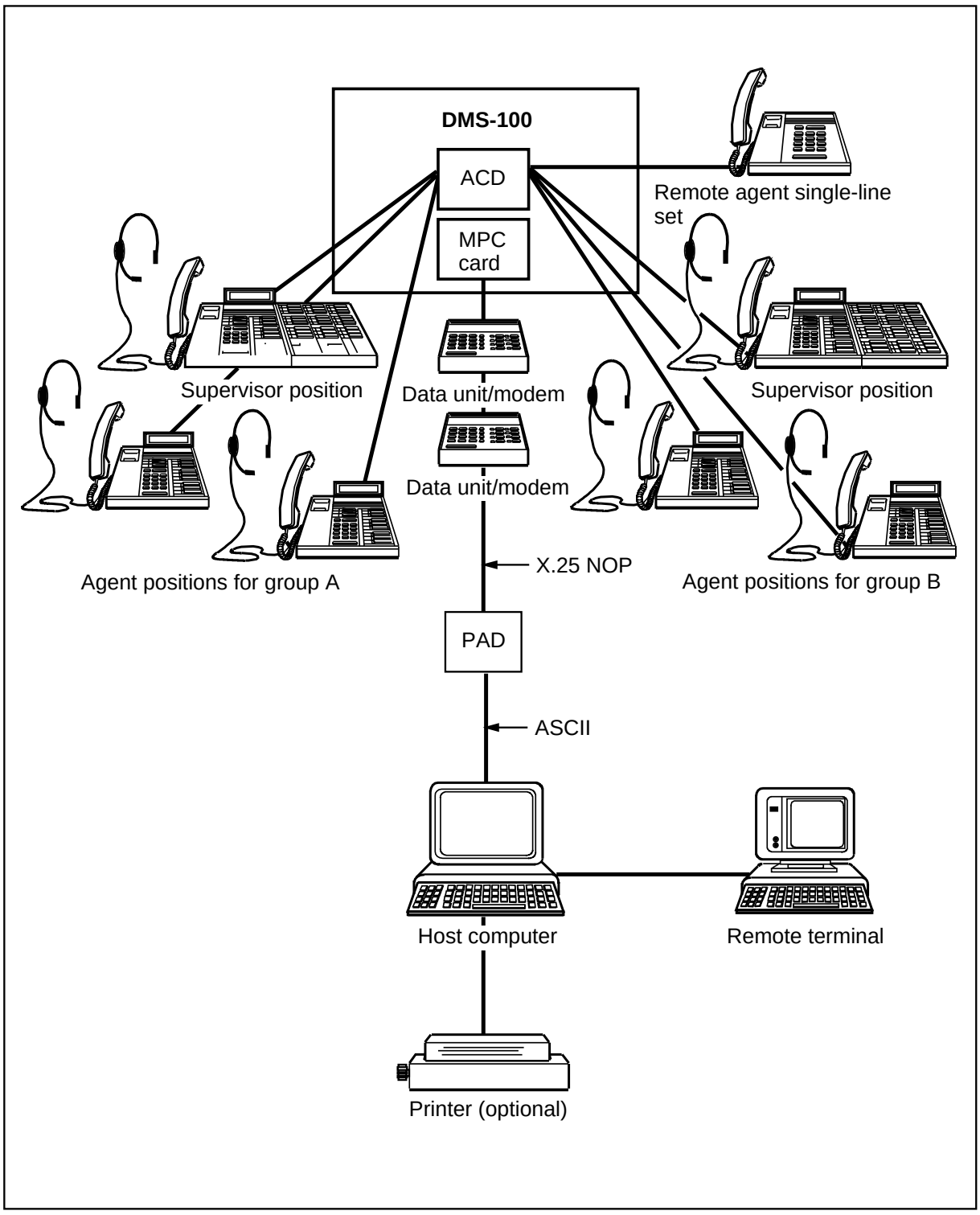
Single-user/supervisor system

Several ACD groups are connected to the DMS-100 located at the central office (CO). As calls are queued, answered, or released, event messages are generated by the DMS switch and transmitted through the data link to the DSP. All ACD group activity is monitored by the user/supervisor from the DSP. Reports are printed from the report printer, and an optional light emitting diode (LED) display, or banner board, is available. A supervisor can use the LED to communicate with all agents at a single location while they remain at their positions and without interrupting calls. Typical LED messages concern potential problems or status updates. Both the report printer and LED are connected to the DSP.

If required, the supervisor can reconfigure group and agent parameters by entering remote load management commands from the DSP. These commands are sent back upstream through the data link to the DMS switch.

Figure 1-2 illustrates an ACDMIS sample configuration for use by a single supervisor.

Figure 1-2
Sample single-user/supervisor ACDMIS configuration



Multiple-user/supervisor system

Several ACD groups are connected to the DMS-100 switch located at the CO. As calls are queued, answered, or released, event messages are generated by the DMS switch and transmitted through the data link to the DSP.

Up to 11 remote terminals can be connected to the DSP, which acts as a supervisor terminal. Each supervisor position operates over the same data link that serves the DSP.

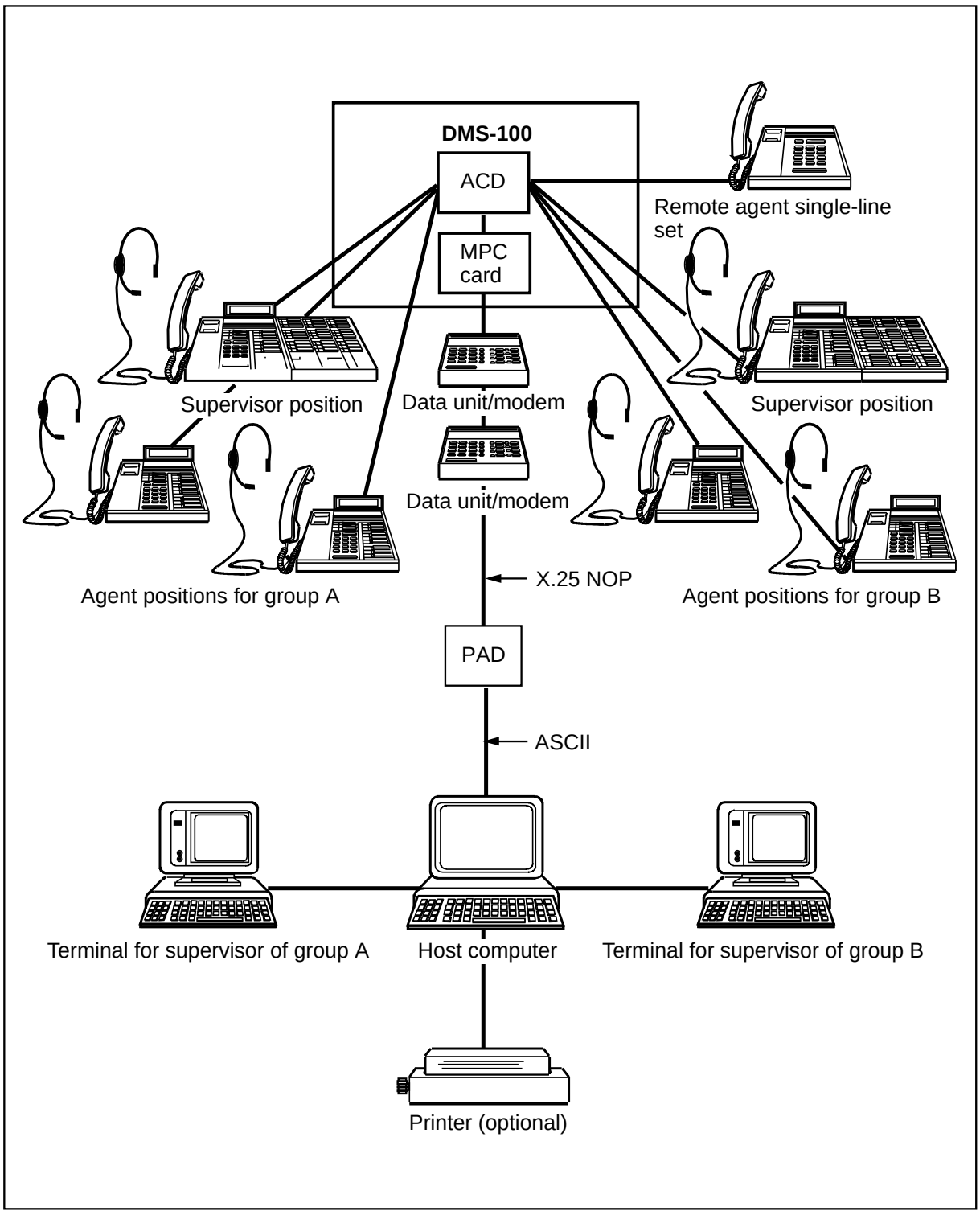
ACD group activity can be monitored from the DSP and from the supervisor terminals. Optional printers can be connected to the DSP and to each supervisor terminal. Up to ten optional LED displays can also be connected to a multiple-user or supervisor system.

If required, any supervisor can reconfigure group and agent parameters by entering remote load management commands from a terminal. These commands are sent back upstream through the data link to the DMS switch.

Note that more than one ACDMIS application exists. The information presented in this section and the following figure represent only one example of an ACDMIS application.

Figure 1-3 illustrates an ACDMIS sample configuration for use by more than one user or supervisor.

Figure 1-3
Sample multiple-user/supervisor ACDMIS configuration



NACD

NACD is a feature package that adds power and control to ACD. With NACD, a user's ACD groups can reside on more than one DMS-100 switch. Calls are passed to the group or presented to the queue that will answer them most quickly within user-defined guidelines of speed versus cost.

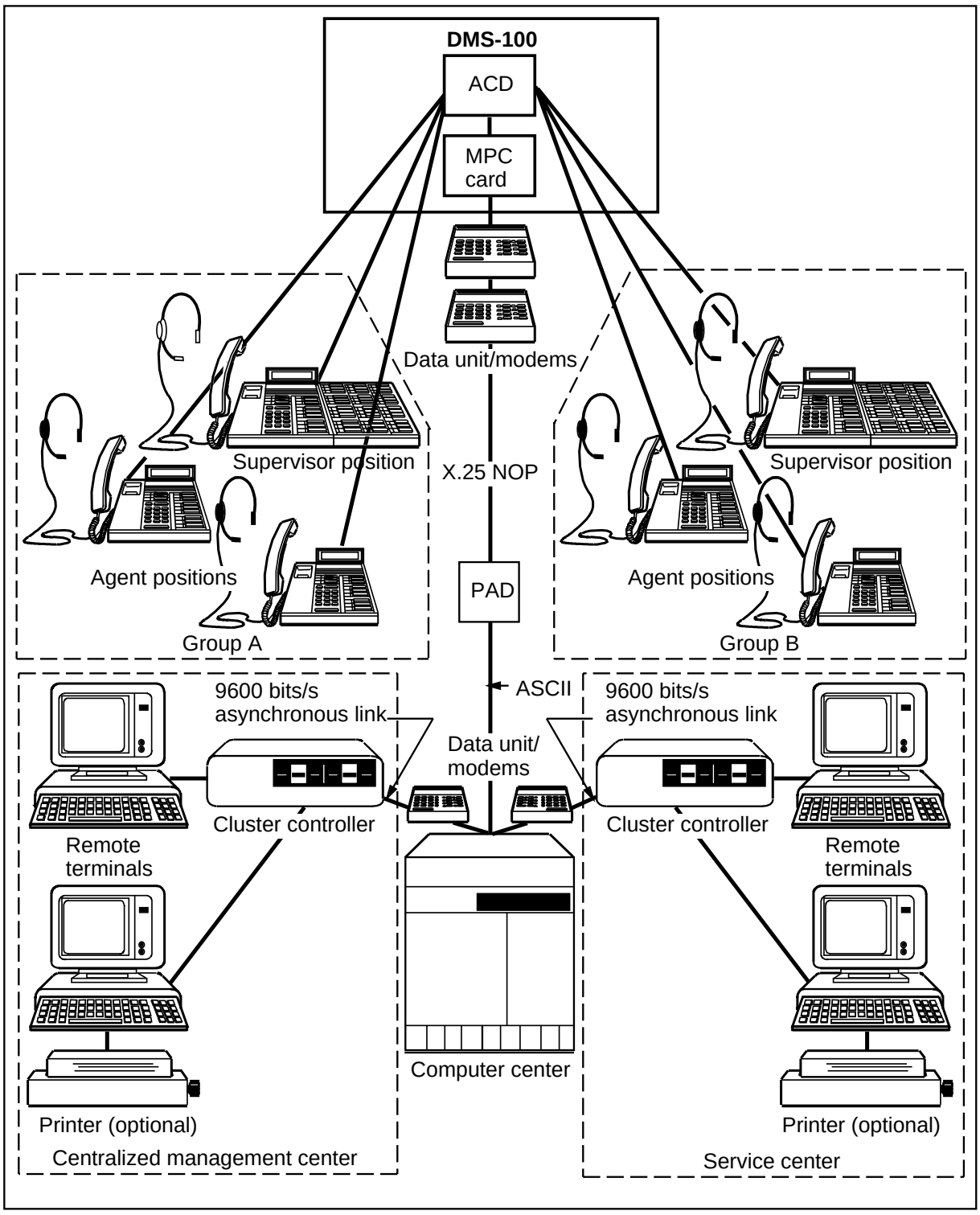
An NACD system can be configured as a single-node system or as a multinode system.

Single-node configurations

NACD can be implemented in a single-node configuration for users whose agents and callers are all in close proximity, but whose needs exceed the capabilities provided by the Base ACD software. With NACD, up to 48 ACD groups (of up to 256 agents each) can be networked to create a supergroup with a datafill maximum of 4000 agents. If there is a low call volume, a single network operations protocol (NOP) link between the DMS-100 switch and the DSP handles all the call processing messages generated by each of the ACD groups.

Figure 1-4 illustrates a sample configuration for single-node NACD.

Figure 1-4
Sample single-node NACD configuration

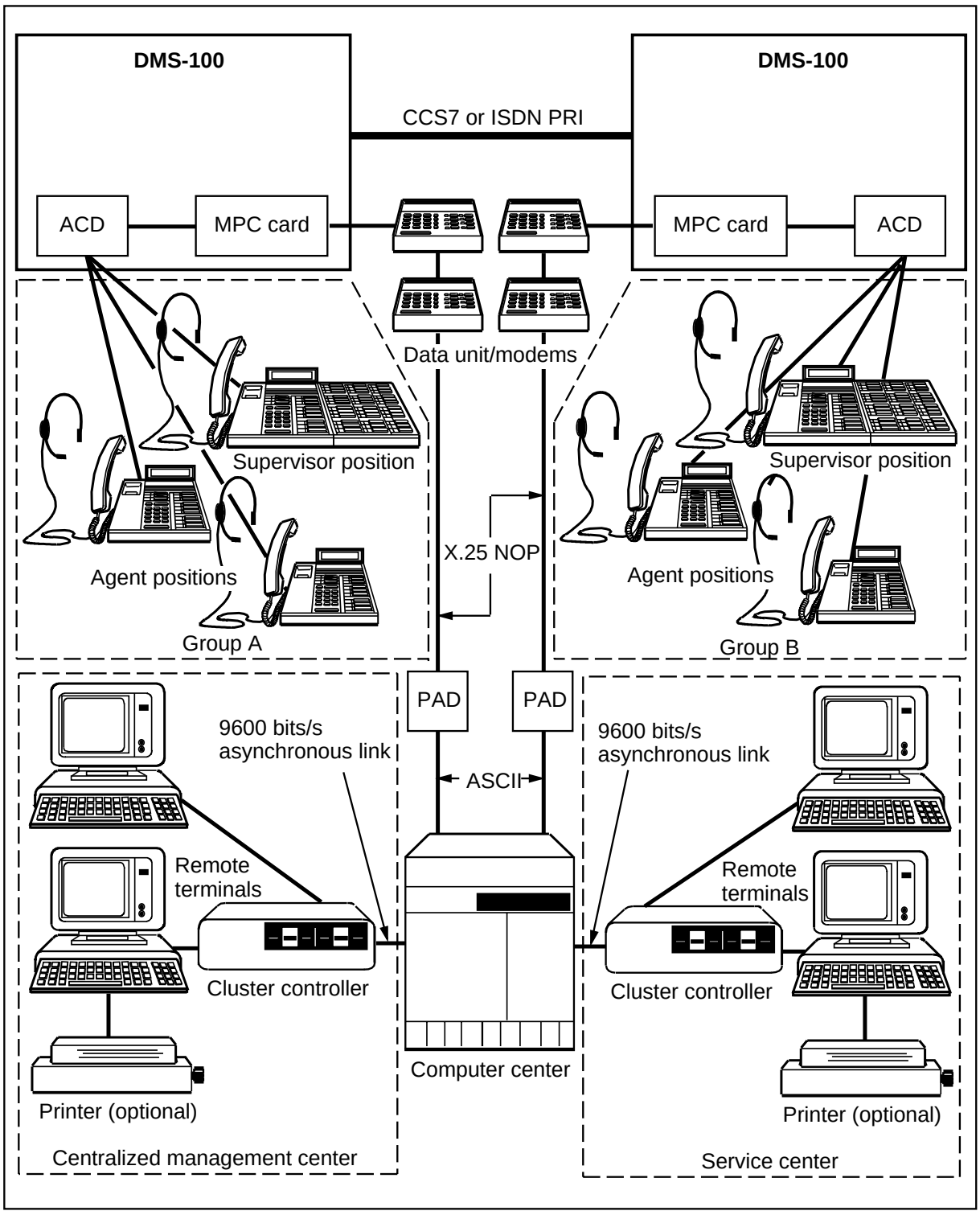


Multinode configurations

With multinode configurations, supergroups can be created that will allow over 12 000 agents, who may be in separate locations. Although the agents are served by different DMS-100 switches, they can be treated as a single, large group or as separate groups providing overflow coverage for one another. Each time a group receives a call, the serving DMS-100 switch evaluates the status of all groups in the network to determine which group can answer the most quickly, while minimizing the transmission costs of routing the call between switches.

Figure 1-5 illustrates a sample configuration for multinode NACD.

Figure 1-5
Sample multinode NACD configuration



Fault conditions

There are no fault conditions associated specifically with ACD.

Automatic maintenance

There is no automatic maintenance designed specifically for ACD; however, automatic maintenance on related components can affect the functioning of ACD. Automatic line tests (ALT) and automatic multiprotocol controller (MPC) card tests are two examples of automatic maintenance that relate to ACDMIS and NACD.

Escalation to manual maintenance

Because ACD is primarily a software product, there is little manual maintenance that can be performed. Any manual maintenance would be performed on components that affect ACD and not on ACD itself.

For example, there are two alarms associated with ACDMIS and NACD: MPC alarm and NOP alarm. (There are no alarms associated with Base ACD.) The MPC alarm usually indicates a problem with the MPC card or its links. The NOP alarm usually indicates a problem with remote operations, software resources, or data transmission.

Neither of these alarms is exclusive to ACD because other systems also use the MPC card and NOP; however, clearing these alarms is essential to the transmission of ACD data. There are instances, such as a wrong datafill, where the link will be up in the presence of a NOP alarm. From the switch side, the only concern is the condition of the MPC link. If the MPC link is up, the switch will communicate ACD data.

Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for MPC alarm clearing procedures. Refer to “Advanced troubleshooting procedures” in this document for NOP alarm clearing procedures.

Despite the lack of ACD-specific alarms, there are three direct indicators of an ACD trouble. They are user complaints, logs, and operational measurements. Logs may be accessed through the LOGUTIL command; operational measurements may be accessed through the OMSHOW command. Maintenance personnel should use these indicators to prevent ACD troubles from escalating, as well as to track ACD troubles.

Preventive maintenance strategies

This chapter provides the overall preventive maintenance measures for Automatic Call Distribution (ACD).

Description of routine maintenance procedures

While there are no routine maintenance procedures designed specifically for ACD, there are procedures that can have an impact on the proper functioning of ACD. Any recommended periodic tests of multiprotocol controller (MPC) links should be performed for their impact on Automatic Call Distribution Management Information System (ACDMIS), and Network Automatic Call Distribution (NACD). Be sure that all line tests specifically include ACD line testing.

When troubleshooting a problem, it may also be helpful for central office (CO) maintenance personnel to check that routine maintenance tests have been performed at the customer premises. An example is the ACD station ringer test (SRT), which can be run from the customer premises to test the hardware of an ACD set.

Routine maintenance schedules

There are no routine maintenance schedules assigned specifically to ACD.

ACD related logs

This chapter provides table listings of the logs that may be associated with Automatic Call Distribution (ACD). These table listings include the possible causes of, as well as possible appropriate responses to, the generation of logs. Separate tables are provided for Base ACD, Automatic Call Distribution Management Information System (ACDMIS), and Network Automatic Call Distribution (NACD).

Refer to *Log Report Manual*, 297-1001-840, for further detailed information concerning ACD logs. Note that the *Log Report Manual* does not contain detailed information on logs whose response column in the following tables states "for informational purposes only."

Refer to table 3-1 for the logs associated with Base ACD.

Table 3-1
ACD related logs (Base ACD)

Log name	Causes	Response
ACD100	Records historical information about each activation of the ACD Emergency Key feature.	The action to be taken is determined by the user's operational policies.
ACD110	Records when an agent is deactivated because that agent was lost from queue. Also records when a link between two queues has been corrupted. Available queues include the idle agent, busy agent, and not ready agent queues.	No action is required; this log is for informational purposes only.
ACD120	Records when an agent is logged out because that agent allowed a call to exceed the ACD group's ringing threshold. The associated operational measurement (OM) Group_Register is ACDGRP_ACDDFLCT.	Verify that the agent's set is wired to the correct line card.

-continued-

Table 3-1
ACD related logs (Base ACD) (continued)

Log name	Causes	Response
ACD121	Records when an agent lost from queue is returned to the queue to which that agent belongs.	No action is required; this log is for informational purposes only.
ACD130	Records when an agent is placed in a queue to which that agent does not belong. The queue is shut until the lost agent plus any agents that were placed in the queue after the lost agent are removed.	No action required; this log is for informational purposes only.
AUD545	Records when an ACD_OVFLINQ_EXTENSION block is found in an invalid state.	Collect occurrences for this log over a period of time long enough to base possible action.
DFIL151	Records when table ACDGRP is datafilled incorrectly. The flexible charging system (FCS) customer station option has not been assigned to the ACD group, when the incoming initial address message (IAM) message has the terminating judge indicator bit set to 1 in the network function indicator parameter of the IAM message.	Add the option FCS to the OPTION field of table ACDGRP for the indicated ACD group (ACDNAME).
LINE205	Records when the agent repeatedly presses the function keys of the keyset.	No action is required; this log is for informational purposes only.
LMAN100	Records when a load management CHANGE command is issued from the MAP (maintenance and administration position) terminal. The text associated with the log identifies the type of change and any relevant information pertaining to the change.	No action is required; this log is for informational purposes only.
RMAN110	Records when the downstream processor (DSP) generates a CHANGE QTHRESHOLD command.	No action is required; this log is for informational purposes only.
RMAN111	Records when the DSP generates a CHANGE ACDDISP ACDDNNAME command.	No action is required; this log is for informational purposes only.
RMAN112	Records when the DSP generates a CHANGE ACDDISP DISPDIGS command.	No action is required; this log is for informational purposes only.

-continued-

Table 3-1
ACD related logs (Base ACD) (continued)

Log name	Causes	Response
RMAN124	Records when the DSP generates a CHANGE CTQSIZE remote command.	No action is required; this log is for informational purposes only.
RMAN125	Records when the DSP generates a CHANGE NSAUDGRP remote command.	No action is required; this log is for informational purposes only.
RMAN131	Records when the DSP generates a CHANGE FIAUDGRP remote command.	No action is required; this log is for informational purposes only.
RMAN132	Records when the DSP generates a CHANGE FOAUDGRP remote command.	No action is required; this log is for informational purposes only.
RMAN133	Records when the DSP generates a CHANGE PRIOPRO remote command.	No action is required; this log is for informational purposes only.
RMAN134	Records when the DSP generates a CHANGE WRPTIME remote command.	No action is required; this log is for informational purposes only.
RMAN135	Records when the DSP generates a CHANGE MSQSTYPE remote command .	No action is required; this log is for informational purposes only.
RMAN136	Records when the DSP generates a CHANGE TMDTHRTE remote command.	No action is required; this log is for informational purposes only.
RMAN137	Records when the DSP generates a CHANGE TMDTHTIME remote command.	No action is required; this log is for informational purposes only.
RMAN138	Records when the CHANGE ACTIVATE command is issued remotely through a Management Information System (MIS).	No action is required; this log is for informational purposes only.
SLNK102	Generated for each data link device whenever data transfer is started using the DEVSTART command in the LNKUTIL command interpreter (CI) increment.	No action is required; this log is for informational purposes only.
SLNK103	Generated for each data link device whenever data transfer is stopped using the DEVSTOP command in the LNKUTIL CI increment.	No action is required; this log is for informational purposes only.

End

Refer to table 3-2 for the logs associated with ACDMIS. See table 3-1 for Base ACD logs that also apply to ACDMIS.

Table 3-2
ACD related logs (ACDMIS)

Log name	Causes	Response
MIS100	Indicates that the DMS switch successfully executed a DSPASSOCIATEPOOL remote operation for a session.	No action is required; this log is for informational purposes only.
MIS110	Indicates that a session was taken down, either normally or abnormally.	No action is required; this log is for informational purposes only.
MPC101	Generated because of a software problem that prevents the multiprotocol controller (MPC) card from operating normally.	There are numerous reasons for the generation of MPC101. Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures*, 297-1001-580, for a list of the specific causes and related actions.
MPC102	Generated because of a problem in the controller software subsystem that could prevent normal operation of the MPC card X.25 protocol support functions. Specifically, this log often indicates a problem in one of the following areas: download file, MPCSUB, X25SUB, or the central control software interface.	There are numerous reasons for the generation of MPC102. Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures*, 297-1001-580, for a list of the specific causes and related actions.
MPC103	Generated because the MPC card has entered the system busy (SysB) state and one or more traps have occurred in the MPC software.	Save all MPC103 log reports and all other MPC reports generated during the previous hour for possible action. If no errors exist, contact the next level of maintenance.
MPC104	Indicates that an audit encountered trouble that could prevent normal operation of MPC functions. This log is generated for one of the following seven reasons:	
	▪ The audit process attempted output to an invalid MPC.	Check MPC datafill against actual MPC assignments to ensure that datafill errors do not exist. Correct any errors found. If no errors exist, contact the next level of maintenance.

-continued-

Table 3-2
ACD related logs (ACDMIS) (continued)

Log name	Causes	Response
	▪ The audit process attempted output to a not ready MPC.	If log regenerated within 10 minutes, MPC may be inoperative. Attempt manually busy (ManB) and return to service (RTS). If failure, contact support group. Check other log messages. If MPC is in-service (MPC104 is generated because MPC is being used by another application), no action is required. If MPC is offline, repair or replace. If MPC cannot be repaired or replaced, contact the next level of maintenance.
	▪ A faulty board was detected by the audit process.	Replace MPC circuit pack. Check MPC log buffer for additional log reports for suspect MPC. If found, use information in other reports to clear fault. If not found, contact the next level of maintenance.
	▪ The audit process received a return code indicating bad MPC output.	Save MPC104 log report for operating company or Northern Telecom (NT) software support personnel and contact the next level of maintenance.
	▪ The echo message for the OM polling message did not have the correct designations.	If the condition persists, contact the next level of maintenance. The header in the echo from the board should always match the message sent by the central control. The board will be system busied if a mismatch occurs. No manual action is required.
	▪ The software load on the board did not recognize the message being sent to poll OMs as a valid message.	Check to see if the peripheral load is current with the central control load, which is doing OM polling. While the board is in-service, a QMPC command issued at the MPC MAP level will show the last file downloaded to the board. The identifying character XI must follow the MPC designation in the load file name. Previous loads (for example, XH, XG) are not equipped to handle OM polling. Subsequent loads will all be compatible with the OM operation. Download the board with an OM-compatible load if possible.

-continued-

Table 3-2
ACD related logs (ACDMIS) (continued)

Log name	Causes	Response
	▪ An inconsistency was detected in the download checksum calculation.	Check to see if this problem consistently persists on a particular board. If this is the case, ManB the board, reload it, and RTS. If the problem persists, contact the next level of maintenance. A peripheral software error or hardware problem is indicated.
MPC105	Indicates a configuration was changed using the SETPARM command.	No action is required; this log is for informational purposes only.
MPC106	Indicates the MPCGDADY encountered trouble when creating a requested child process. This can occur during a DMS restart (that is, cold, warm, or reload) when the REVIVE command is used or when a process is trapped. This log is generated for one of the following reasons:	These logs should be saved if they require analysis by NT support personnel.
	▪ MPCGDADY: could not recreate process.	Attempt to revive process by entering the REVIVE PROCNAME process_name option of the REVIVE command. If MPC106 is generated again with a message indicating process is not revived, contact the next level of maintenance. Note attendant MPC101 log.
	▪ MPCGDADY: error reading process death time.	Contact the next level of maintenance. Note attendant MPC101 log. Process names are provided in the MPC106 log.
	▪ MPCGDADY: process died twice in 30 seconds.	Attempt to revive process by entering the REVIVE PROCNAME option or by entering the REVIVE PROCESSID option of the REVIVE command. If MPC106 is generated again with a message indicating process is not revived, or if condition reoccurs in the next minute after REVIVE, contact the next level of maintenance. An MPC101 log provides an SOS return code.
	▪ MPCGDADY: could not destroy process.	Contact the next level of maintenance.
	▪ MPCGDADY: could not revive process.	Contact the next level of maintenance.

-continued-

Table 3-2
ACD related logs (ACDMIS) (continued)

Log name	Causes	Response
	▪ MPCGDADY: could not stop process.	Contact the next level of maintenance.
	▪ MPCGDADY: SDADY process revived from command description.	No action is required; this log is for informational purposes only.
MPC201	Indicates use of an MPC card, link, and channel for a First Application Software Testing utility application.	This log can be expected to appear each time an MPC number, link number, and conversation number are datafilled or removed. It is usually preceded by MPC logs concerning BX.25 or hardware. Its appearances should be monitored for repeated MARKED DOWN (resource loss) messages.
MPC229	A flag error involving the input or output from an application, the allocation of resources for an application, or system difficulties has occurred.	No action is required; this log is for informational purposes only.
MPC299	Generated to flag errors during operation of an application datafilled in table MPCFASTA. These errors often involve the input or output from an application or the allocation of resources for an application. In many cases, these errors are self-correcting. Other occurrences involve system difficulties. The RETURNCODE is significant in these cases and should be retained for reference.	There are numerous reasons for the generation of MPC299. Refer to *Log Report Manual*, 297-1001-840, for a list of the specific causes and related actions. Save the MPC299 reports should there be a need to contact the next level of maintenance.
MPC901	Indicates a tuple has been removed from table MPC, and the MPC card has entered the unequipped (UNEQ) state.	No action is required; this log is for informational purposes only.
MPC902	Indicates a tuple has been added to table MPC or an MPC card has entered the offline (OFFL) state.	No action is required; this log is for informational purposes only.
MPC903	Indicates an MPC card has entered the ManB state.	No action is required; this log is for informational purposes only.

-continued-

Table 3-2
ACD related logs (ACDMIS) (continued)

Log name	Causes	Response
MPC904	Indicates the system detects a serious fault with an MPC card and the affected MPC has entered the SysB state.	Attempt to return to service manually. If MPC cannot be returned to service, perform diagnostic and corrective maintenance procedures as outlined in *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures*, 297-1001-580. If the MPC still cannot be returned to service after diagnostic and corrective maintenance procedures have been performed, record the frequency and type of logs generated and contact the next level of maintenance.
MPC905	Generated because an RTS attempt has been made from the MPC level of the MAP, or the system has returned the MPC card to service and the card is in an OK state.	If MPC is returned to service from SysB, review MPC log reports and perform diagnostics and corrective maintenance procedures as outlined in *Index to Maintenance Procedures Documents*, 297-1001-500. Record frequency and type of logs generated for use by the next level of maintenance if SysB logs continue. Contact the next level of maintenance if diagnostic and corrective maintenance procedures are not effective.
MPC906	Indicates the Central Control Input/Output subsystem detected a minor incoming message overload (ICMO) condition.	If this log is generated frequently, the indicated MPC card should be taken out of service.
MPC907	Indicates an ICMO condition is no longer affecting a link.	No action is required; this log is for informational purposes only.
MPC908	Indicates a link state has occurred.	No action is required; this log is for informational purposes only.
NOP100	Generated because the remote operations parameters have not been formatted correctly.	Save this report and contact the next level of maintenance.
NOP101	Generated because remote operations have been received in incorrect order.	Save this report and contact the next level of maintenance.
NOP102	Generated because there are insufficient software resources available for the Network Operating System on the DMS switch.	Save this report and contact the next level of maintenance.

-continued-

Table 3-2
ACD related logs (ACDMIS) (continued)

Log name	Causes	Response
NOP103	Generated because a hardware, software, or communication problem occurred during data transmission.	Save this report and contact the next level of maintenance.
RO101	Indicates a remote login was attempted.	No action is required; this log is for informational purposes only.
RO102	Indicates a remote logout was attempted.	No action is required; this log is for informational purposes only.
RO103	Indicates a remote operation cannot be encoded or decoded (translated) by the DMS. The associated Groups_Registers are ROAPPL_ROAPIC and ROAPPL_ROAPOG.	No action is required; this log is for informational purposes only.
RO104	Indicates a session has terminated abnormally by the remote system or application, or by remote operation service itself. The associated Group_Register is ROMISC_ROMTERM.	No action is required; this log is for informational purposes only.
RMAN100	Records when the DSP generates a REASSIGN (AGENTS) command.	No action is required; this log is for informational purposes only.
RMAN101	Records when the DSP generates a REASSIGN (ACDDN) command.	No action is required; this log is for informational purposes only.
RMAN102	Records when the DSP generates a CHANGE MAXWAIT command.	No action is required; this log is for informational purposes only.
RMAN103	Records when the DSP generates a CHANGE MAXCQSIZE command.	No action is required; this log is for informational purposes only.
RMAN104	Records when the DSP generates a CHANGE THROUTE command.	No action is required; this log is for informational purposes only.
RMAN105	Records when the DSP generates a CHANGE NSROUTE command.	No action is required; this log is for informational purposes only.
RMAN106	Records when the DSP generates a CHANGE OVFLROUTE command.	No action is required; this log is for informational purposes only.
RMAN107	Records when the DSP generates a CHANGE ACDDNPRI command.	No action is required; this log is for informational purposes only.

-continued-

Table 3-2
ACD related logs (ACDMIS) (continued)

Log name	Causes	Response
RMAN108	Records when the DSP generates a CHANGE AUDIO command.	No action is required; this log is for informational purposes only.
RMAN109	Records when the DSP generates a CHANGE RANTH command.	No action is required; this log is for informational purposes only.

End

Refer to table 3-3 for the logs associated with NACD. See table 3-1 for Base ACD logs that also apply to NACD. If ACDMIS is part of your ACD configuration, see table 3-2 for ACDMIS logs that apply to NACD.

Table 3-3
ACD related logs (NACD)

Log name	Causes	Response
MSRT100	Generated each time a facility (FAC) or facility reject (FAC REJ) originating, terminating, or tandem message is sent and the send fails. This send could fail because of one of the following reasons:	
	▪ No network identifier datafilled in table MSGRTE.	Datafill table MSGRTE to include the required digits. Refer to *Automatic Call Distribution Translations Guide*, 297-2041-350.
	▪ Digits not found in table MSGRTE.	Datafill table MSGRTE to include the required digits. Refer to *Automatic Call Distribution Translations Guide*, 297-2041-350.
	▪ Unequipped application-feature not supported.	No action is required; this log is for informational purposes only.
	▪ No first-part message was found for two-part messaging.	No action is required; this log is for informational purposes only.
	▪ Two second-part messages were found for two-part messaging.	No action is required; this log is for informational purposes only.
MSRT101	Indicates the D-channel was not datafilled in table MSGRTE.	Correct the datafill in table MSGRTE. Refer to *Automatic Call Distribution Translations Guide*, 297-2041-350.
RMAN113	Records when the DSP generates a CHANGE SUBPOOL command.	No action is required; this log is for informational purposes only.

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Table 3-3
ACD related logs (NACD) (continued)

Log name	Causes	Response
RMAN114	Records when the DSP generates a CHANGE PRIOPRO command.	No action is required; this log is for informational purposes only.
RMAN115	Records when the DSP generates a CHANGE TMDELOFL command.	No action is required; this log is for informational purposes only.
RMAN116	Records when the DSP generates a CHANGE OFLTYPE command.	No action is required; this log is for informational purposes only.
RMAN117	Records when the DSP generates a CHANGE SERVICE command.	No action is required; this log is for informational purposes only.
RMAN118	Records when the DSP generates a CHANGE MAXVQSIZE command.	No action is required; this log is for informational purposes only.
RMAN119	Records when the DSP generates a CHANGE CIFROUTE command.	No action is required; this log is for informational purposes only.
RMAN120	Records when the DSP generates a CHANGE QTHRESHOLD command.	No action is required; this log is for informational purposes only.
RMAN121	Records when the DSP generates a CHANGE WAITTHRESHOLD command.	No action is required; this log is for informational purposes only.
RMAN122	Records when the DSP generates a CHANGE PWF command.	No action is required; this log is for informational purposes only.
RMAN123	Records when the DSP generates a CHANGE RI command.	No action is required; this log is for informational purposes only.
TCAP100	Generated by the common channel signaling (CCS) subsystem in the following situations:	
	▪ If Unidirectional or Query package is received, a TCAP100 log is generated to print the content of the business services database (BSDB) message.	No action is required; this log is for informational purposes only.
	▪ If the BSDB response message contains an invalid responding transaction ID, a TCAP100 log is generated to print the content of the BSDB message.	No action is required; this log is for informational purposes only.
	▪ For any response message, return error, or reject component received, a TCAP100 log is generated to print the return error or reject message.	No action is required; this log is for informational purposes only.

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Table 3-3
ACD related logs (NACD) (continued)

Log name	Causes	Response
	▪ For any return error, reject, or report error sent by private virtual network (PVN), a TCAP100 log is generated to print the error message.	No action is required; this log is for informational purposes only.
TCAP101	Generated by the CCS subsystem in the following situations:	
	▪ If Unidirectional or Query package is received, a TCAP101 log is generated to print the content of the BSDB message.	No action is required; this log is for informational purposes only.
	▪ If the BSDB response message contains an invalid responding transaction ID, a TCAP101 log is generated to print the content of the BSDB message.	No action is required; this log is for informational purposes only.
	▪ For any response message, return error, or reject component received, a TCAP101 log is generated to print the return error or reject message.	No action is required; this log is for informational purposes only.
	▪ For any return error, reject, or report error sent by PVN, a TCAP101 log is generated to print the error message.	No action is required; this log is for informational purposes only.
TCAP102	Generated by the CCS subsystem when the transaction capability application part (TCAP) fails to send a reject component in response to a protocol error. The log identifies the signaling connection control point subsystem and the transaction ID for which the reject was being sent.	No action is required; this log is for informational purposes only.
TCAP199	Miscellaneous error conditions during system testing.	No action is required; this log is for informational purposes only.
TCAP200	Send failed for one of the following two reasons when an attempt was made to send an originating TCAP message by way of table MSGRTE:	

-continued-

Table 3-3
ACD related logs (NACD) (continued)

Log name	Causes	Response
	▪ No route datafilled in table MSGRTE.	Datafill table MSGRTE to include the required route. Refer to *Automatic Call Distribution Translations Guide*, 297-2041-350.
	▪ The route found was local.	Correct the datafill in table MSGRTE. Refer to *Automatic Call Distribution Translations Guide*, 297-2041-350.
	End	

ACD related operational measurements

This chapter provides table listings of the operational measurements (OM) that may be associated with Automatic Call Distribution (ACD). These table listings include the possible causes that generate these OMs. Separate tables are provided for Base ACD, Automatic Call Distribution Management Information System (ACDMIS), and Network Automatic Call Distribution (NACD). Refer to *Operational Measurements Reference Guide*, 297-1001-814, for further detailed information concerning OMs.

Refer to table 4-1 for the OMs associated with Base ACD.

Table 4-1
ACD operational measurements (Base ACD)

OM group name	OM register name	Causes
ACDGRP	ACDABNDN	Records each time a call is abandoned by the caller, either while in the queue waiting for attachment to an ACD agent or after attachment to an ACD agent, but before the agent has answered. An abandonment by the caller after the ACD agent has answered is disregarded.
	ACDANSR	Records the number of ACD calls answered.
	ACDBLOCK	Records each time an incoming call is blocked as a result of either the inability of the system to provide the correct treatment or the failure to make a network connection between the incoming call and the agent.
	ACDCIF	Records the number of calls that are routed to a controlled interflow route.
	ACDCPK	Records the number of calls parked by ACD agents.

-continued-

Table 4-1
ACD operational measurements (Base ACD) (continued)

OM group name	OM register name	Causes
ACDGRP (continued)	ACDDFLCT	Records each time a call attempting to reach an ACD agent is deflected by the system as a result of either the incoming call overflow or the maximum wait time values specified in table ACDGRP. Also incremented for all threshold calls. If the calls are not deflected because of violation of the "last rerouted Automatic Call Distribution directory number (ACDDN)" rule, this value is recorded in the register for the first ACD group only. The associated log is ACD120.
	ACDICQD	Records each time a call arrives from outside the ACD system. The call is placed in the incoming call queue of an ACD group, because no agents are available to take the call. ACDICQD is pegged when a call physically overflows from another group and is placed in the incoming call queue of the overflow group.
	ACDNS	Records the number of calls received during night service. Increases each time a call attempts to reach an ACD group that has night service activated. The calls are forwarded to the route specified in table ACDGRP. If the reroute fails because of violation of the *last rerouted ACDDN rule*, this value is recorded in the register for the first ACD group only.
	ACDOFFR	Records the number of incoming calls offered to an ACD group. It does not indicate calls offered during night service. Each ACD group can have up to 17 ACDDNs (table DNROUTE) through which calls enter the ACD group's call queue. ACDOFFR reflects the combined traffic of all ACDDNs in the given ACD group.
	ACDREQD	Records the number of calls already within the ACD system that were requeued at the head of the overflow out queue for a particular ACD group.
	ACDTMANS	Records the number of ACD calls that overflowed to and were answered by another group because the call exceeded the wait time established for the time delay overflow feature.

-continued-

Table 4-1
ACD operational measurements (Base ACD) (continued)

OM group name	OM register name	Causes
ACDGRP (continued)	ACDTMINF	Records the number of ACD calls that overflowed from the ACD call queue and were presented to this group from another group.
	ACDTMOFL	Records the number of ACD calls that overflowed to another group because the call exceeded the wait time established for the time delay overflow feature.
	ACDUSAG2	Serves as an extension register to ensure that the ACDUSAGE register has sufficient size so that it will not overflow for its update period.
	ACDUSAGE	Records the number of sampled agent lines in the talking state. Each agent line associated with the ACD group is sampled on a 100 seconds scanning interval.
	ACDXFER	Records the number of ACD calls transferred between ACD agents.
FCS	ADCANSR	Records the number of calls that are answered, that is, flexible charging system (FCS) calls to FCS agents.
	FCSCNAC	Records the number of calls that are not accepted, that is, non-FCS calls to FCS agents.
	FCSDNTR	Records the number of calls that are denied, that is, FCS calls to non-FCS agents.
FTRQ	FTRQHI	Records the maximum number of feature queue blocks of one type that are in simultaneous use during the current transfer period. This data may be used to verify and adjust the provisioning of feature queue blocks.
	FTRQOVFL	Records the number of times a request for a feature queue block failed because none was available.
	FTRQSEIZ	Records the number of times a request for a feature queue block was successful.

End

Refer to table 4-2 for the OMs associated with ACDMIS. See table 4-1 for Base OMs that also apply to ACDMIS.

Table 4-2
ACD operational measurements (ACDMIS)

OM group name	OM register name	Causes
ACDMISPL	MISLOST	Records the number of valid event messages that failed to enter the outgoing message buffer because the buffer was full. Lost messages are discarded; however, this count is very low, if not 0.
	MISQUSAG	Records the number of messages in the outgoing message buffer waiting to be transmitted. Because all messages are dispatched as soon as they enter the outgoing message buffer, this register usually has a value of 0.
	MISTRANS	Records the number of valid outgoing messages that are successfully transferred to the downstream processor (DSP). This register counts each call event, return result, or initialization message that is transmitted.
ROAPPL	ROAPCON	Records the number of outgoing call attempts, whether successful or not.
	ROAPCONF	Records the number of times an outgoing call attempt fails because of remote application association.
	ROAPFLOG	Records the number of times an application fails to log on.
	ROAPIC	Records the number of times the remote operations (RO) service receives an incoming RO that cannot be decoded from a remote system.
	ROAPLOGA	Records the number of times an application attempts to log on.
	ROAPOG	Records the number of times the RO service fails to encode outgoing data.
	ROAPUSE	Records the duration of active sessions.
ROMISC	ROCON	Records the number of all outgoing logon attempts on an office-wide basis.
	ROCONF	Records the number of times an outgoing logon fails.
	ROMFLOG	Records the number of times a logon attempt fails before application logon occurs.
	ROMLOGA	Records the number of times a remote system attempts to log on and set up a switched virtual circuit connection with the RO service.
	ROMTERM	Records the number of times a session is terminated without the approved logoff procedure.
VFGIWUSE	VFGIWATT	Records the total number of inward wide area telephone service (INWATS) call attempts to a particular virtual facility group (VFG).

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Table 4-2
ACD operational measurements (ACDMIS) (continued)

OM group name	OM register name	Causes
VFGIWUSE (continued)	VFGIWOVF	Records the total number of INWATS call attempts that are blocked because of the unavailability of a particular VFG.
	VFGIWTRU	Records the INWATS usage count of a particular VFG that is busy on calls. The scan rate is 10 seconds.

End

Refer to table 4-3 for the OMs associated with NACD. See tables 4-1 for Base ACD OMs that also apply to NACD. If ACDMIS is part of your ACD configuration, see table 4-2 for ACDMIS OMs that apply to NACD.

Table 4-3
ACD operational measurements (NACD)

OM group name	OM register name	Causes
NACDGRP1	IMINFLCL	Records the number of calls that arrive at an NACD group from a local NACD group as a result of immediate overflow.
	IMINFQED	Records the number of calls that arrive at an NACD group from a local or remote source group as a result of immediate overflow and get queued.
	IMINFREM	Records the number of calls that arrive at an NACD group from a remote NACD group as a result of immediate overflow.
	IMMTMOFL	Records the number of calls that arrive at an NACD group when an immediate overflow call is queued and attempts to overflow after the time delay overflow timer expires.
	IMOFLLCL	Records the number of incoming calls to an NACD group that are immediately overflowed to a local overflow group because queue or wait threshold is exceeded.
	IMOFLREM	Records the number of incoming calls to an NACD group where an attempt is made to immediately overflow the call to a remote overflow group because queue or wait threshold is exceeded.
	LOGQFULL	Records the number of failures to queue calls logically because the logical queue is full.
	LOGQLCL	Records the number of calls that are logically queued at an NACD group while remaining physically queued at a local source group.

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Table 4-3
ACD operational measurements (NACD) (continued)

OM group name	OM register name	Causes
NACDGRP1 (continued)	NOOFLGRP	Records the number of failed attempts to find a best overflow group to overflow a new incoming call or a queued call waiting for more than the time delay overflow time.
	PHYQLOGQ	Records the number of calls physically queued at the NACD group and also logically queued at a local overflow group.
	TFAILLCL	Records the number of failed attempts to time overflow a call from an NACD group to a local overflow group.
	TFAILREM	Records the number of failed attempts to time overflow a call from an NACD group (source group) to a remote overflow group.
	TMANSLCL	Records the number of logically queued calls at an NACD group that are answered by a local source group.
	TMANSREM	Records the number of logically queued calls at an NACD group that are answered by a remote source group.
	TMINFLCL	Records the number of calls that arrive at an NACD group from a local source group as a result of time delay overflow.
	TMINFREM	Records the number of calls that arrive at an NACD group from a remote source group as a result of time delay overflow.
	TMOFLLCL	Records the number of queued calls at an NACD group that are time overflowed successfully to a local overflow group because the queued calls have been waiting in the call queue longer than the time delay overflow time.
	TMOFLREM	Records the number of queued calls at an NACD group that are time overflowed successfully to a remote overflow group because the queued calls have been waiting in the call queue longer than the time delay overflow time.
	USRABNDN	Records the number of logically queued calls at an NACD group that are abandoned by a user or caller.
NACDGRP2	ACKRECD	Records the number of NACD acknowledge request messages received by an NACD group in response to an NACD reroute request.
	ACKSENT	Records the number of NACD acknowledge request messages sent from the group.
	CANCRECD	Records the number of NACD cancel request messages received by an NACD group.
	CANCSENT	Records the number of NACD cancel request messages sent from an NACD group to cancel an NACD reroute request.

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Table 4-3
ACD operational measurements (NACD) (continued)

OM group name	OM register name	Causes
NACDGRP2 (continued)	CCREPLYR	Records the number of NACD cancel request reply messages received by an NACD group.
	CCREPLYS	Records the number of NACD cancel request reply messages sent from an NACD group.
	FREERECD	Records the number of NACD agent free messages received by the group.
	FREESENT	Records the number of NACD agent free messages sent from an NACD group to indicate that the group has reserved a free agent.
	QRYRECD	Records the number of NACD reroute request messages received by an NACD group.
	QRYSENT	Records the number of NACD reroute request messages sent from an NACD group.
	REJRECD	Records the number of NACD reject request messages received by an NACD group.
	REJSENT	Records the number of NACD reject request messages sent from an NACD group to reject an NACD reroute request.
	RESENDTO	Records the number of NACD reroute request messages resent where no response to the request has been received within the transaction capability application part (TCAP) T1 duration.
	RESRVDTO	Records the number of times a T2 timer expires.
	RIRECD	Records the number of NACD status update/exchange messages containing a particular NACD group's resource index (RI) received by the group.
	RIRECD2	Serves as an extension register for REREСD.
	RIREPLYR	Records the number of NACD status reply messages containing a particular group's RI received by the NACD group.
	RIREPLYS	Records the number of NACD status reply messages sent from the group to return its RI to the group that previously sent an NACD status exchange message.
	RISENT	Records the number of NACD status update/exchange messages sent from the NACD group to broadcast its RI to the remote network groups.
	RISENT2	Serves as an extension register for RISENT.
	SCREPLYR	Records the number of NACD service complete reply messages received by an NACD group.

-continued-

Table 4-3
ACD operational measurements (NACD) (continued)

OM group name	OM register name	Causes
NACDGRP2 (continued)	SCREPLYS	Records the number of NACD service complete reply messages sent from an NACD group to acknowledge receipt of the NACD service complete message.
	SRVCOMPR	Records the number of NACD service complete messages received by an NACD group.
	SRVCOMPS	Records the number of NACD service complete messages sent from an NACD group to indicate that a call has been successfully time overflowed to a remote group and that the TCAP transaction can be closed.
	T4TMEOUT	Records the number of times a TCAP T4 timer expires.
	TTCAPIN	Records the number of incoming TCAP messages that are received by an NACD group.
	TTCAPIN2	Serves as an extension register for TTCAPIN.
	TTCAPOU2	Serves as an extension register for TTCAPOUT.
	TTCAPOUT	Records the number of outgoing TCAP messages originating from an NACD group.

End

ACD related data structures

Table 5-1 lists in alphabetical order the main data structures for the Automatic Call Distribution (ACD) systems. For detailed information, refer to *Data Structures Reference Manual,* TAM-1001-011, a Northern Telecom (NT) proprietary document.

Table 5-1
Data structures used with ACD

Data structure	Application
acd_agent_pdata	Descriptor of the descriptor of acd_agent_prot_data_entry.
acd_agent_prot_data_entry	Contains the protected data about the ACD agent, including call process ID, ACD group, and ACD subgroup.
acd_agent_udata	Descriptor of the descriptor of acd_agent_unprot_data_entry.
acd_agent_unprot_data_entry	Contains the unprotected data about the ACD agent that is used in the Management Report System.
acd_login_table	Contains a table of login IDs.
acd_pdata	Descriptor of the descriptor of acdgrp_prot_data_entry.
acd_udata	Descriptor of the descriptor of acdgrp_unprot_data_entry.
acdgrp_prot_data_entry	Contains the protected data about the ACD group, including valid routes, member directory numbers, and terminal IDs.
acdgrp_unprot_data_entry	Contains the unprotected data about the ACD group, including agent position, number of ACD agents in service, call queue size, and call pointers.

ACD related user interface commands

This chapter includes table listings of the user interface commands (previously known as man-machine interface [MMI] commands) that are associated with Automatic Call Distribution (ACD). Both Resident and non-Resident commands are included. Each command is accompanied by a brief description. There are no unique commands for Network Automatic Call Distribution (NACD). Refer to *Nonmenu Commands Reference Manual*, 297-1001-820, for more detailed information on user interface commands.

This chapter also includes an explanation of the fields in each message exchanged between the DMS-100 switch and the downstream processor (DSP) when the Automatic Call Distribution Management Information System (ACDMIS) feature is operational.

Base ACD user interface commands

Refer to table 6-1 for a list of commands that were developed or modified for Base ACD.

Table 6-1
ACD user interface commands (Base ACD)

Command name	Description
ACDSHOW	A command interpreter (CI) command allowing the user to display night service routes, threshold routes, enhanced overflow routes, table entries in tables IBNRTE and OFRT, agent positions, directory numbers, supervisors, group names, maximum call queue sizes, and maximum ring thresholds for ACD groups and subgroups. Valid commands include ACDDNS ADMINGROUP AGTPOS AUDIOGROUP CLRROUTE COUNTS FIAUDGRP FOAUDGRP GROUPINFO GROUPNAME HELP LOADMGMT LOGINID MODE NSAUDGRP NSROUTE OVFLROUTE PASSWORD QUIT STATUS SUPERVISOR TABENTRY THRESHOLD THROUTE VALIDAUDIO VALIDROUTES ACDSHOW is executed at a MAP (maintenance and administration position) terminal.
ACDRTD	The ACD real-time display feature allows the user to print periodically a simple management report for the ACD groups. This feature is started by the CI command ACDRTD. The user can start and stop the report by issuing the command at a MAP terminal.

-continued-

Table 6-1
ACD user interface commands (Base ACD) (continued)

Command name	Description
LOADMGMT	A CI command made up of a series of commands that allows a senior supervisor to adjust the data contained in the ACD configuration. ACD load management allows for the manipulation of night service routes, threshold routes, enhanced overflow routes, maximum wait values, and maximum call queue sizes. It reassigns agents to other supervisors within the supervisor's ACD group or to other ACD groups. Valid commands include ADD ACDDISP CHANGE ACDDISP CHANGE ACDDNPRI CHANGE ACTIVATE CHANGE AUDIO CHANGE CIFROUTE CHANGE CLRROUTE CHANGE CPKRTMR CHANGE CTQSIZE CHANGE CTRTMR CHANGE DEFLOB CHANGE FIAUDGRP CHANGE FOAUDGRP CHANGE MAXCQSIZE CHANGE MAXVQSIZE CHANGE MAXWAIT CHANGE MSQSTYPE CHANGE NSAUDGRP CHANGE NSROUTE CHANGE OFLTYPE CHANGE ORGANN CHANGE OVFLROUTE CHANGE PAQSIZE CHANGE PRIOPRO CHANGE QTHRESHOLD CHANGE RANTH CHANGE RI CHANGE SERVICE CHANGE THROUTE CHANGE TMDELOFL CHANGE TMDTHRTE CHANGE TMDTHTIME CHANGE WRPTIME DELETE ACDDISP HELP QUIT REASSIGN (ACDDN) REASSIGN (AGENTS) SET PROMPT LOADMGMT is intended to be used in conjunction with the CI command ACDSHOW. ACDSHOW allows senior supervisors to display current data in the ACD configuration. It is intended that ACDSHOW and LOADMGMT be invoked at the same time, thereby making available the CI commands for both ACDSHOW and LOADMGMT.

End

ACDMIS user interface commands

Refer to table 6-2 for a list of commands that were developed or modified for ACDMIS. See table 6-1 for Base ACD user interface commands that also apply to ACDMIS.

Table 6-2
ACD user interface commands (ACDMIS)

Command name	Description
ACDPOOLS	A CI command allowing the user to display general information and current status of all or specific ACD pools. It is executed at a MAP terminal.

Messages exchanged between the DMS-100 and the DSP

The following sections explain the fields in each of the messages exchanged between the DMS-100 switch and the DSP when the ACDMIS feature is operational. The information is provided for reference only.

Message protocol

The protocol commands that the switch and the DSP use to communicate conform to the X.409 formal notation and X.410 remote operations (RO) protocols; they are referred to in this document as ACDMIS ROs.

The DMS-100 switch checks the ROs received from the DSP for adherence to the following message protocols:

- session control messages
- messages coming in to the DMS-100 switch from the DSP
- messages sent by the DMS-100 switch to the DSP

Session control messages

Prefixed with NOS, the DSP sends these messages to the DMS-100 switch to establish or take down a communication session.

The NOS logon command establishes a communication session between the switch and the DSP. The logon operation is used for security control and must be executed before the switch executes any other remote operations.

No more than ten ROs generated by the DSP and requiring a reply from the DMS-100 switch can be outstanding with no response at any time. If the DSP generates an eleventh RO that requires a reply, the switch takes down the session.

The NOS logout command takes down a communication session. After the switch executes this command, no further ACDMIS remote operations can be executed until the DSP issues another NOS logon command.

Messages coming into the switch

Prefixed with NOS, the DSP sends these messages to the DMS-100 switch. They indicate the following to the switch:

- the pool of ACD groups that the DSP wants associated with an ACDMIS data stream
- load management changes requested to pools or subpools of ACD groups
- ACDSHOW displays requested for pools or subpools of ACD groups

Messages from the switch to the DSP

Prefixed with SWITCH, the DMS-100 switch sends these messages to the DSP. They provide ACD call-related information or indicate whether the load management command was successfully executed.

Types of messages

Messages exchanged between the switch and the DSP fall into these categories:

- ACD data messages
- ACD event messages
- Remote ACDSHOW request messages
- Load management request messages
- Load management event messages

ACD data messages are ACD configuration details that pass from the call distribution control tables to ACDMIS when the data link is first established.

ACD event messages are sent from the call distribution processing to ACDMIS as calls are queued, answered, and released.

Remote ACDSHOW request messages are display request messages generated when ACDSHOW commands are entered on an ACDMIS terminal.

Load management request messages are configuration change request messages generated by inputs on the ACDMIS terminal and passed to ACD load management for implementation.

Load management event messages are sent by ACD load management to notify ACDMIS that a change has been made to the ACD configuration.

ACD data messages

ACD data messages are sent from the DMS-100 switch to the DSP when the data link is first established. The following messages are included:

- ACD agent position data messages
- ACD group data messages
- ACD subpool data messages
- ACD supplementary DN data messages

ACD agent position data messages

Information on the current ACD configuration is sent to the DSP when the DMS-100 switch initializes the data link. The messages contain the following fields:

- POSITION_AGPOSNID
- POSITION_GRP_NUMBER
- POSITION_LOGINID
- POSITION_SUPV_ID

Where:

POSITION_ AGPOSNID	is the unique four-digit agent position ID assigned when the ACD set is datafilled.
POSITION_ GRP_NUMBER	is the internal ACD group number with which the agent position is associated.
POSITION_ LOGINID	is the four-digit agent login ID used by the agent to log in to the agent position. This field has a value of 0 if the agent is not logged in.
POSITION_ SUPV_ID	is the unique four-digit position ID of the supervisor with which the agent position is associated. This field has a value of 0 if the agent position has not been associated with a supervisor position.

ACD group data messages

ACD group data messages provide information on the mapping from an internal ACD group number to an ACD group common language location identifier (CLLI) and primary Automatic Call Distribution directory number (ACDDN), as well as information on the current attributes of the ACD group. Information is sent once for each group datafilled when the DSP is initialized. The messages contain the following fields:

- AUDIO_GROUP
- EH_OVFL_GRP_ONE
- EH_OVFL_GRP_TWO
- EH_OVFL_GRP_THREE

- EH_OVFL_GRP_FOUR
- EH_OVFL_NUM_GROUPS
- GROUP_CLLI
- GROUP_NUMBER
- GROUP_PRIM_ACD_DN
- GROUP_RESERVED
- LOGINID_PARTITION
- MAXCQSIZE
- MAXWAIT
- NS_AUDIO_GROUP
- NSROUTE_INDEX
- NSROUTE_TABLE
- PRIM_ACD_DN_IDENTIFIER
- PRIM_ACD_DN_LINE_PRIORITY
- PRIM_ACD_DN_NUM_DIGS
- PRIM_ACD_DN_TRUNK_PRIORITY
- RANTH
- SUBPOOL_NUMBER
- THROUTE_INDEX
- THROUTE_TABLE

Where:

AUDIO_GROUP	specifies the audio group used to give recorded announcement, music, or both to callers in the incoming call queue (1 - 512). If no audio group is specified, this field is set to 0.
EH_OVFL_ GRP_ONE	is the group number of the first ACD group in the enhanced overflow route list (0 - 255).
EH_OVFL_ GRP_TWO	is the group number of the second ACD group in the enhanced overflow route list (0 - 255).
EH_OVFL_ GRP_THREE	is the group number of the third ACD group in the enhanced overflow route list (0 - 255).
EH_OVFL_ GRP_FOUR	is the group number of the fourth ACD group in the enhanced overflow route list (0 - 255).
EH_OVFL_ NUM_GROUPS	specifies the number of ACD groups in the enhanced overflow route list for the specified ACD group. Up to four ACD groups can be specified as overflow groups for a given ACD group, all within the same DMS-100 switch. If there are no ACD groups specified, the value of this field is 0.

GROUP_CLLI	is the CLLI used to specify the ACD group when it is datafilled. The CLLI can be a maximum of 16 ASCII characters. In cases where the CLLI is less than 16 characters, the end of this field is padded with blanks.
GROUP_ NUMBER	is the internal ACD group number with which the CLLI and primary ACDDN are associated.
GROUP_PRIM_ ACD_DN	is the primary ACDDN of the ACD group.
GROUP_ RESERVED	is a reserved field that is set to 0.
LOGINID_ PARTITION	is the partition number to which the ACD group belongs.
MAXCQSIZE	is the maximum number of calls that can be queued in the incoming call queue at any time (0 - 511).
MAXWAIT	is the maximum time in seconds that a call should have to wait in the incoming call queue before being presented to an agent (0 - 1800).
NS_AUDIO_ GROUP	specifies the audio group used to provide night service announcement to calls prior to rerouting the call to the night service route (1 - 512). If no night service audio group is specified, field is set to 0.
NSROUTE_ INDEX	specifies the location of the route list in the routing table used for night service (0 - 1023).
NSROUTE_ TABLE	specifies the routing table used for the night service route of the specified ACD group. This field can be either 0 or 1. A value of 0 indicates that table OFRT is used; a value of 1 indicates that table IBNRTE is used.
PRIM_ACD_DN_ IDENTIFIER	identifies the primary ACDDN (0 -16).
PRIM_ACD_DN_ LINE_PRIORITY	is the priority assigned to ACD calls coming in over lines that are queued in the incoming call queue (0 for high priority to 3 for low priority).
PRIM_ACD_DN_ NUM_DIGS	specifies the number of digits in the primary ACDDN of the ACD group. The primary ACDDN can be up to 10 digits. If there is no primary ACDDN associated with the ACD group, the value of this field is 0.
PRIM_ACD_DN TRUNK_ PRIORITY	assigns the priority to ACD calls coming in over trunks that are queued in the incoming call queue (0 for high priority to 3 for low priority).
RANTH	refers to the number of seconds a caller receives audible ringing before hearing a recorded announcement. This field can be set to 0 or 6 - 60. If this value is set to 0, the caller receives the announcement immediately.
SUBPOOL_ NUMBER	is the internal subpool number to which the ACD group belongs (0 - 127).

THROUTE_ INDEX	specifies the location of the route list in the routing table (0 - 1023).
THROUTE_ TABLE	specifies the routing table used for the threshold route of the ACD group. The value in this field can be 0 or 1. A value of 0 indicates that table OFRT is used. A value of 1 indicates that table IBNRTE is used.

ACD subpool data messages

ACD subpool data messages provide information on the mapping from an internal subpool number to a subpool CLLI. Information is sent once for each subpool datafilled in the DMS-100 switch for the pool associated with the DSP when the DSP is initialized. The messages contain the following fields:

- SUBPOOL_NUMBER
- SUBPOOL_NAME

Where:

SUBPOOL_ NUMBER	associates the subpool CLLI with the internal subpool number.
SUBPOOL_ NAME	is the CLLI used to uniquely specify the subpool when it is datafilled. The CLLI can be a maximum of 16 ASCII characters. When the field is less than 16 characters, the end of the field is padded with blanks.

ACD supplementary DN data messages

ACD supplementary DN data messages provide information on the mapping from an internal ACD group number to a supplementary ACDDN. Information is sent once for each supplementary ACDDN associated with an ACD group at the time the DSP is initialized. The messages contain the following fields:

- SUPPL_ACD_DN
- SUPPL_ACD_DN_GROUP
- SUPPL_ACD_DN_IDENTIFIER
- SUPPL_ACD_DN_NUM_DIGS
- SUPPL_ACD_DN_PRIORITY

Where:

SUPPL_ACD_DN	is the supplementary ACDDN of the ACD group. If the value of the SUPPL_ACD_DN_NUM_DIGS field is 0, this field has no meaning.
SUPPL_ACD_ DN_GROUP	is the internal ACD group number with which the supplementary ACDDN is associated.

SUPPL_ACD_ DN_IDENTIFIER	identifies the supplementary ACDDN (0 - 16).
SUPPL_ACD_ DN_NUM_DIGS	specifies the number of digits (0 - 10) in the supplementary ACDDN.
SUPPL_ACD_ DN_PRIORITY	is the priority assigned to supplementary ACDDN calls when they are queued in the incoming call queue (0 for high priority to 3 for low priority).

ACD event messages

ACD event messages are sent from the DMS-100 switch to the DSP as ACD calls are queued, answered, and released. They include the following:

- ACD call abandoned event messages
- ACD call answered event messages
- ACD call blocked event messages
- ACD call offered event messages
- ACD call released event messages
- ACD call transferred event messages
- ACD position event messages

ACD call abandoned event messages

When a caller goes on-hook before the ACD call is answered, the ACD call is either released from the ACD group's incoming call queue, or the agent position stops ringing. In both cases, an ACD call abandoned message is sent to the DSP. The messages contain the following fields:

- CALL_ABANDONED_SGRP_DN
- CALL_ABANDONED_SGRP_DN_COUNT
- CALL_ABANDONED_DGRP_DN
- CALL_ABANDONED_DGRP_DN_COUNT
- CALL_ABANDONED_TOD
- CALL_ABANDONED_CSTATUS
- CALL_ABANDONED_DELAY
- CALL_ABANDONED_NUMICQ_P
- CALL_ABANDONED_NUMICQ_L
- CURRENT_P_CALL_Q_WAIT_TIME
- CURRENT_L_CALL_Q_WAIT_TIME
- CALL_ABANDONED_ACD_DN
- CALL_ABANDONED_ACD_DN_COUNT
- CALL_ABANDONED_CALLING_NUMBER
- CALL_ABANDONED_CALLING_NUMBER_COUNT

Where:

CALL_ ABANDONED_ SGRP_DN	is the internal number of the source ACD group to which the call was initially presented. This number is unique for each ACD group.
CALL_ ABANDONED_ SGRP_DN_ COUNT	is the number of digits of the internal number of the source ACD group to which the call was initially presented. This number is unique for each ACD group.
CALL_ ABANDONED_ DGRP_DN	is the internal number of the ACD group that receives the call.
CALL_ ABANDONED_ DGRP_DN_ COUNT	is the number of digits of the internal number of the ACD group that is receiving the call.
CALL_ ABANDONED_ TOD	is the time of day in hours, minutes, and seconds (24-hour format) when the caller abandoned the call.
CALL_ ABANDONED_ CSTATUS	indicates the status of the abandoned call. The status is based on the following six factors: ▪ NSRAN: The call was given night service recorded announcement. ▪ CXR: The call was transferred into this group. ▪ TIME OVERFLOWED: The call was time overflowed to another ACD group. ▪ RAN: The call was given recorded announcement. ▪ BLOCKED: An attempt was made to deflect/overflow the call, but failed. ▪ L_QUEUED: The call was logically queued at this group.
CALL_ ABANDONED_ DELAY	is time in seconds that the caller waited before abandoning the call. The abandoned delay is the difference between the time the call was originally offered to the source ACD group and the time the caller abandoned the call. The abandoned delay time includes one or both of the following times: ▪ the total time the call was in the incoming call queue ▪ the total time the call rang at the agent position.
CALL_ ABANDONED_ NUMICQ_P	is the total number of calls queued in the destination ACD group's physical call queue at the time the call was abandoned.

CALL_ ABANDONED_ NUMICQ_L	is the total number of calls queued in the destination ACD group's logical call queue at the time the call was abandoned.
CURRENT_P_ CALL_Q_WAIT_ TIME	is the time in seconds, 0 - 1800, that the call at the front of the destination ACD group's incoming call queue has been waiting. This field has a value of 0 if no calls are queued.
CURRENT_L_ CALL_Q_WAIT_ TIME	is the time in seconds, 0 - 1800, that the call at the front of the destination ACD group's overflow in queue has been waiting. This field has a value of 0 if no calls are queued.
CALL_ ABANDONED_ ACD_DN	is the internal number of the ACDDN in the source ACD group to which the call was initially presented.
CALL_ ABANDONED_ ACD_DN_ COUNT	specifies the number of digits (0 - 10) in the calling number.
CALL_ ABANDONED_ CALLING_ NUMBER	is the calling party's DN.
CALL_ ABANDONED_ CALLING_ NUMBER_ COUNT	is the number of digits in the calling party's DN.

ACD call answered event messages

ACD call answered event messages provide information on ACD calls answered by an agent. The messages contain the following fields:

- CALL_ANSWERED_SGRP_DN
- CALL_ANSWERED_SGRP_DN_COUNT
- CALL_ANSWERED_DGRP_DN
- CALL_ANSWERED_DGRP_DN_COUNT
- CALL_ANSWERED_NUMICQ_P
- CALL_ANSWERED_NUMICQ_L
- CALL_ANSWERED_AGPOSNID
- CALL_ANSWERED_LOGINID
- CALL_ANSWERED_DELAY
- CALL_ANSWERED_TOD
- CALL_ANSWERED_CSTATUS
- CURRENT_P_CALL_Q_WAIT_TIME
- CURRENT_L_CALL_Q_WAIT_TIME

- CALL_ANSWERED_ACD_DN
- CALL_ANSWERED_ACD_DN_COUNT
- CALL_ANSWERED_CALLING_NUMBER
- CALL_ANSWERED_CALLING_NUMBER_COUNT

Where:

CALL_ANSWERED_SGRP_DN	is the internal number of the source ACD group to which the call was initially presented. This number is unique for each ACD group. The source ACD group is either the group that deflected the ACD call or the same group as the destination ACD group if the call was not deflected.
CALL_ANSWERED_SGRP_DN_COUNT	specifies the number of digits (0 - 10) in the primary ACDDN of the destination ACD group.
CALL_ANSWERED_DGRP_DN	is the primary ACDDN of the destination group that has answered the call.
CALL_ANSWERED_DGRP_DN_COUNT	specifies the number of digits (0 - 10) in the primary ACDDN of the destination ACD group.
CALL_ANSWERED_NUMICQ_P	is the total number of physical calls queued in the destination ACD group's incoming call queue at the time this call was answered (range: 0 - 511).
CALL_ANSWERED_NUMICQ_L	is the total number of logical calls queued in the destination ACD group's overflow in queue at the time this call was answered (range: 0 - 511).
CALL_ANSWERED_AGPOSNID	is the four-digit position ID of the agent answering the call. A 0 indicates that the event occurred on a position that was not assigned a position ID at the datafill time.
CALL_ANSWERED_LOGINID	is the four-digit agent login ID of the agent answering the call.
CALL_ANSWERED_DELAY	is the answer delay time in seconds. This is the difference between the time the call was offered to the source ACD group and the time it was answered by an agent in the destination group. The total includes both the time the call was queued and the time the call rang at an agent position.
CALL_ANSWERED_TOD	is the time of day in hours, minutes, and seconds (24-hour format) when the call was answered.

CALL_ ANSWERED_ CSTATUS	The status is based on the following five values: ▪ 1 - L_QUEUED: The call was logically queued at this group. ▪ 2 - BLOCKED: An attempt was made to deflect/ overflow the call, but failed. ▪ 3 - RAN: The call was given a recorded announcement. ▪ 4 - TIME OVERFLOWED: The call was time overflowed to another ACD group. ▪ 5 - CALL TRANSFER: The call is transferred into this group.
CURRENT_P_ CALL_Q_WAIT_ TIME	is the time in seconds, 0 - 1800, that the call at the front of the destination ACD group's incoming call queue has been waiting. This field has a value of 0 if no calls are queued.
CURRENT_L_ CALL_Q_WAIT_ TIME	is the time in seconds, 0 - 1800, that the call at the front of the destination ACD group's overflow in queue has been waiting. This field has a value of 0 if no calls are queued.
CALL_ ANSWERED_ ACD_DN	is the internal number of the ACDDN in the source ACD group to which the call was initially presented.
CALL_ ANSWERED_ ACD_DN_ COUNT	is the number of digits of the internal number of the ACDDN in the source ACD group to which the call was initially presented.
CALL_ ANSWERED_ CALLING_ NUMBER	is the calling party's directory number.
CALL_ ANSWERED_ CALLING_ NUMBER_ COUNT	specifies the number of digits (0 - 10) in the calling number.

ACD call blocked event messages

ACD call blocked event messages provide information on calls that are blocked because of insufficient resources to service the calls after they have been accepted by the destination ACD group. The messages contain the following fields:

- CALL_BLOCKED_SGRP_DN
- CALL_BLOCKED_SGRP_DN_COUNT
- CALL_BLOCKED_DGRP_DN

- CALL_BLOCKED_DGRP_DN_COUNT
- CALL_BLOCKED_TOD
- CALL_BLOCKED_ACD_DN
- CALL_BLOCKED_ACD_DN_COUNT
- CALL_BLOCKED_CALLING_NUMBER
- CALL_BLOCKED_CALLING_NUMBER_COUNT
- RESERVED

Where:

CALL_BLOCKED_SGRP_DN	is the primary ACDDN of the source ACD group to which the call was initially presented. The source group is either the same as the destination group, if the call was not deflected to the destination group or different from the destination group if the call was deflected to the destination group.
CALL_BLOCKED_SGRP_DN_COUNT	is the number of digits of the primary ACDDN of the source ACD group.
CALL_BLOCKED_DGRP_DN	is the primary ACDDN of the ACD group that has accepted the call (either physical or logical), but could not service the call because of insufficient resources.
CALL_BLOCKED_DGRP_DN_COUNT	specifies the number of digits (0 - 10) of the primary ACDDN of the destination ACD group.
CALL_BLOCKED_TOD	is the time of day in hours, minutes, and seconds (24-hour format) when the call was blocked.
CALL_BLOCKED_ACD_DN	identifies the ACDDN in the source ACD group from which the ACD call came.
CALL_BLOCKED_ACD_DN_COUNT	specifies the number of digits (0 - 10) in the call blocked ACDDN.
CALL_BLOCKED_CALLING_NUMBER	is the calling party's DN.
CALL_BLOCKED_CALLING_NUMBER_COUNT	specifies the number of digits of the number that was originally called.
RESERVED	is a reserved field set to 0.

ACD call offered event messages

ACD call offered event messages provide information on each call offered to an ACD group whether the call is presented to an available agent, placed in a queue, or deflected elsewhere. The messages contain the following fields:

- CALL_OFFERED_SGRP_DN
- CALL_OFFERED_SGRP_DN_COUNT
- CALL_OFFERED_DGRP_DN
- CALL_OFFERED_DGRP_DN_COUNT
- CALL_OFFERED_TOD
- CALL_OFFERED_CSTATUS
- CALL_OFFERED_NUMICQ_P
- CALL_OFFERED_NUMICQ_L
- CALL_OFFERED_ACD_DN
- CALL_OFFERED_ACD_DN_COUNT
- CURRENT_P_CALL_Q_WAIT_TIME
- CURRENT_L_CALL_Q_WAIT_TIME
- CALL_OFFERED_DGRP_AGPOSNID
- CALL_TRANSFER_STATUS
- CALL_OFFERED_DIFF_CUST_GROUP
- CALL_TRANSFERRING_DN
- CALL_TRANSFERRING_DN_COUNT
- CALL_TRANSFERRING_AGPOSNID
- CALL_OFFERED_CALLING_NUMBER
- CALL_OFFERED_CALLING_NUMBER_COUNT

Where:

CALL_OFFERED_ SGRP_DN	is the primary ACDDN of the source ACD group to which the call was initially presented. The internal number is unique for each ACD group.
CALL_OFFERED_ SGRP_DN_ COUNT	specifies the number of digits (0 - 10) in the primary ACDDN of the source ACD group.
CALL_OFFERED_ DGRP_DN	is the primary number of the ACD group that receives the call.
CALL_OFFERED_ DGRP_DN_ COUNT	specifies the number of digits (0 - 10) in the ACDDN of the destination ACD group.
CALL_OFFERED_ TOD	is the time of day in hours, minutes, and seconds (24-hour format) that the call was offered to the destination ACD group.

CALL_OFFERED_CSTATUS can have one of the following values to indicate the status of the call offered to the destination ACD group:

- 0 - The ACD call terminated on an agent position in the destination ACD group without being queued.
- 1 - The ACD call is being queued in the destination ACD group's incoming call queue.
- 2 - The ACD call is being deflected to the destination ACD group's overflow route because the destination ACD group's Incoming call queue size or maximum wait time has been exceeded.
- 3 - The ACD call cannot be overflowed again and is being given treatment.
- 4 - The ACD call is being deflected because the destination ACD group is in night service.
- 5 - The ACD call is being physically overflowed because the destination ACD group's queue or wait threshold has been exceeded (networked ACD).
- 6 - The ACD call is being logically queued at the destination ACD group (networked ACD).
- 7 - The ACD call is being forced to queue in the destination ACD group's incoming call queue (although the queue or wait threshold has been exceeded) because no other groups were available (networked ACD).
- 8 - The networked ACD call terminated on an agent position in the destination ACD group without being queued.
- 9 - The networked ACD call is being queued in the destination ACD group's incoming call queue.
- 10 - The ACD call is being deflected because the destination ACD group is in controlled interflow state.
- 11 - The time delay overflowed call has terminated on an agent position in the destination ACD group without being queued.
- 12 - The ACD transferred call terminated to an agent position in the group without being queued.
- 13 - The ACD transferred call is being queued at the destination ACD group.
- 14 - The ACD group is in night service; the caller is being given night service recorded announcement and will be deflected to the group's night service route.

- 15 - The ACD call is immediately deflected to the time delay threshold route of the destination ACD group because both time delay and time delay threshold timers are set to 0 and no agents are available in the destination ACD group or the destination ACD group's overflow group.
- 16 - The ACD call is being deflected to the time delay threshold route of the source ACD group. This call was queued at the source ACD group, and when time delay expired, there were no agents available at the destination group, and the time delay threshold timer for the source ACD group was set to 0.
- 17 - The ACD call is recalled from call park.
- 18 - The ACD call agent transfer is recalled.
- 19 - The ACD call is sent when the following events occur in sequence:
  - an incoming ACD call is presented to an agent
  - either an agent is forced out because the time frame has expired (field ACDRNGTH in table ACDGRP) or the agent presses the ACDNR (ACD Not Ready) key
  - no other agent is idle and the call is requeued at the head of the call queue and the ACD Call Offered message (CALL_OFFFERED_CSTATUS 19) is sent.

    The message is sent to the DSP whenever calls have been requeued because of ring timeouts and ACDNR activations. The DSP can extract the incoming call queue size from the ACD Call Offered message.

CALL_OFFERED_ NUMICQ_P	is the total number of calls physically queued in the destination ACD group's incoming call queue at the time this call was offered.
CALL_OFFERED_ NUMICQ_L	is the total number of calls logically queued in the destination ACD group's incoming call queue at the time this call was offered.
CALL_OFFERED_ ACD_DN	identifies the ACDDN of the source ACD group from which the ACD call came. The source ACD group is the ACD group within the DMS-100 switch to which the call was initially presented.
CALL_OFFERED_ ACD_DN_COUNT	specifies the number of digits (0 - 10) in the call offered ACDDN.
CURRENT_P_ CALL_Q_WAIT_ TIME	is the time that the call at the front of the destination ACD group's incoming physical call queue has been waiting (range: 0 - 1800 seconds). This field has a value of 0 if no calls are queued.

CURRENT_L_ CALL_Q_WAIT_ TIME	is the time (range: 0 - 1800 seconds) that the call at the front of the destination ACD group's overflow in queue has been waiting. This field has a value of 0 if no calls are queued.
CALL_OFFERED_ DGRP_ AGPOSNID	is the position ID of the agent receiving the call. This field is only valid for agent-to-agent transfers (call transfer status = 0). A 0 indicates that the transferred-to agent was not assigned a position ID at datafill time.
CALL_TRANSFER _STATUS	Call transfer status has the following values: ▪ 0 = Transfer IN to agent from agent. ▪ 1 = Transfer IN to group from agent. ▪ 2 = Transfer IN to group from SDN. ▪ 3 = Transfer IN to group from non-ACD.
CALL_OFFERED_ DIFF_CUST_ GROUP	Specifies whether the SGRP and DGRP are in different customer groups. A value of 0=False, 1=True.
CALL_ TRANSFERRING_ DN	is the primary ACDDN of the source ACD group of the agent that transferred the call. If this is a transfer from outside of ACD, this is the non-ACD (on this switch) that transferred the call.
CALL_ TRANSFERRING_ DN_COUNT	specifies the number of digits (0 - 10) in the call transferring DN.
CALL_ TRANSFERRING_ AGPOSNID	is the position ID of the agent that is transferring the call. A 0 indicates the transferring agent was not assigned a position ID at datafill time.
CALL_OFFERED_ CALLING_ NUMBER	The DN number of the calling party.
CALL_OFFERED_ CALLING_ NUMBER_COUNT	The number of digits (0 - 10) in the calling number.

ACD call released event messages

ACD call released event messages provide information on answered ACD calls released either by the caller or the ACD agent.

In BCS32, the field CALL_RELEASED_NRDY has been renamed as CALL_RELEASED_STATUS in order for it to include a variable wrap-up indication.

The messages contain the following fields:

- CALL_RELEASED_GRP_DN

- CALL_RELEASED_GRP_DN_COUNT
- CALL_RELEASED_AGPOSNID
- CALL_RELEASED_LOGINID
- CALL_RELEASED_TOD
- CALL_RELEASED_ONE_LOB_NUM_DIGITS
- CALL_RELEASED_ONE_LOB
- CALL_RELEASED_STATUS
- CALL_RELEASED_WALKAWAY_REASON
- CALL_RELEASED_ONE_LOB_TIMESTAMP
- CALL_RELEASED_TWO_LOB_NUM_DIGITS
- CALL_RELEASED_TWO_LOB
- CALL_RELEASED_THREE_LOB_NUM_DIGITS
- CALL_RELEASED_TWO_LOB_TIMESTAMP
- CALL_RELEASED_THREE_LOB
- CALL_RELEASED_THREE_LOB_TIMESTAMP
- CALL_RELEASED_CALLING_NUMBER
- CALL_RELEASED_CALLING_NUMBER_COUNT
- RESERVED

Where:

CALL_RELEASED_GRP_DN	is the primary ACDDN of the ACD group that released the call.
CALL_RELEASED_GRP_DN_COUNT	is the number of digits (0 - 10) of the primary ACDDN of the ACD group.
CALL_RELEASED_AGPOSNID	is the four-digit position ID of the agent releasing the call.
CALL_RELEASED_LOGINID	is the four-digit agent login ID of the agent releasing the call.
CALL_RELEASED_TOD	is the time of day in hours, minutes, and seconds (24-hour format) when the call was released.
CALL_RELEASED_ONE_LOB_NUM_DIGITS	is the number of digits entered by the agent as the line of business (LOB) code associated with this ACD call. If the agent does not enter a LOB code for this call, a value of 0 is entered in this field. Otherwise, the value of this field is 1 to 3. This is the first of three possible LOB codes per call.
CALL_RELEASED_ONE_LOB	is the one- to three-digit LOB code the agent has associated with this ACD call, first LOB.

CALL_RELEASED_STATUS	▪ A value of 0 indicates that the ACD NOT READY (ACDNR) key was not used to release the call. ▪ A value of 1 indicates that the ACDNR key was used to release the call. ▪ A value of 2 signifies the agent was placed into the variable wrap-up mode due to DWRPTIME or WRPTIME.
CALL_RELEASED_WALKAWAY_REASON	is the number of digits in the walkaway code, followed by a three-digit walkaway code. Default code is 0.
CALL_RELEASED_ONE_LOB_TIMESTAMP	is the time, in hours, minutes, and seconds (24-hour format) that the first LOB was entered.
CALL_RELEASED_TWO_LOB_NUM_DIGS	is the number of digits in the second LOB code (0 - 3). A 0 indicates this LOB is not valid.
CALL_RELEASED_TWO_LOB	is the second LOB associated with this call.
CALL_RELEASED_THREE_LOB_NUM_DIGITS	is the number of digits in the third LOB code (0 - 3). A 0 indicates this LOB is not valid.
CALL_RELEASED_TWO_LOB_TIMESTAMP	is the time, in hours, minutes, and seconds (24-hour format) that the second LOB was entered.
CALL_RELEASED_THREE_LOB	Third LOB associated with this call.
CALL_RELEASED_THREE_LOB_TIMESTAMP	is the time, in hours, minutes, and seconds (24-hour format) that the second LOB was entered.
CALL_RELEASED_CALLING_NUMBER	is the calling party's DN.
CALL_RELEASED_CALLING_NUMBER_COUNT	specifies the number of digits (0 - 10) in the calling number.
RESERVED	is a reserved field set to 0.

ACD call transferred event messages

ACD call transferred event messages provide information on call transferred activities. The messages contain the following fields:

- CALL_TRANSFER_SRC_DN
- CALL_TRANSFER_SRC_DN_COUNT
- CALL_TRANSFER_DST_DN

- CALL_TRANSFER_DST_DN_COUNT
- CALL_TRANSFER_SRC_AGPOSNID
- CALL_TRANSFER_DST_AGPOSNID
- CALL_TRANSFER_TOD
- CALL_TRANSFER_STATUS
- CALL_TRANSFER_DN_TAG
- CALL_TRANSFER_DIFF_CUST_GROUP
- CALL_TRANSFER_CALLING_NUMBER
- CALL_TRANSFER_CALLING_NUMBER_COUNT

Where:

CALL_TRANSFER_SRC_DN	is the primary ACDDN of the source ACD group of the agent that is transferring the call. If this is a transfer from outside of ACD, this is the DN (on this switch) that is transferring the call.
CALL_TRANSFER_SRC_DN_COUNT	specifies the number of digits (0 - 10) in the call transfer SRC DN.
CALL_TRANSFER_DST_DN	is the primary ACDDN of the destination group that is receiving the transferred call. If this is a transfer from outside of ACD, this is the DN (on that switch) that is receiving this transferred call.
CALL_TRANSFER_DST_DN_COUNT	specifies the number of digits (0 - 10) in the call transfer DST DN.
CALL_TRANSFER_SRC_AGPOSNID	is the position identification (0 - 9999) of the agent that is receiving the transferred call. A 0 indicates that the call transferred-to agent was not assigned a position ID at datafill time. If this is a call transferred to outside of ACD, this field is not used.
CALL_TRANSFER_DST_AGPOSNID	is the position identification (0 - 9999) of the agent that is receiving the transferred call. A 0 indicates that the transferred-to agent was not assigned a position ID at datafill time. If this is a call transferred to outside of ACD, this field is not used.
CALL_TRANSFER_TOD	is the time of day in hours, minutes, and seconds (24-hour format) when the call was transferred by the agent of the source ACD group.

CALL_TRANSFER_STATUS	Call transfer status has the following range of values: ▪ 0 = Transfer OUT from agent to agent ▪ 1 = Transfer OUT from agent to group ▪ 2 = Transfer OUT from agent to SDN ▪ 3 = Transfer OUT from agent to non-ACD ▪ 4 = Transfer OUT from SDN to group ▪ 5 = Transfer OUT from SDN to SDN ▪ 6 = Transfer OUT from SDN to non-ACD ▪ 7 = Transfer IN to SDN from agent ▪ 8 = Transfer IN to SDN from SDN ▪ 9 = Transfer IN to SDN from non-ACD
CALL_TRANSFER_DN_TAG	is the key number on the agent set that is associated with the call that is being transferred. If this is an SDN TRANSFER OUT, it is the key number of the secondary directory number (SDN) where the transfer number originated. If this is an SDN TRANSFER IN, it is the key number of the SDN where the transfer number terminated. Otherwise, this field is not used.
CALL_TRANSFER_DIFF_CUST_GROUP	indicated if this call is being transferred across customer groups. A value of 0=FALSE, 1=TRUE.
CALL_TRANSFER_CALLING_NUMBER	The DN of the calling party.
CALL_TRANSFER_CALLING_NUMBER_COUNT	The number of digits (0 - 10) of the DN of the calling party.

Agent position event messages

ACD position event messages provide information on events that occur at the agent position while an agent is logged on. The following agent events activate event messages:

- POSITION_EVENT_GROUP_DN
- POSITION_EVENT_GROUP_DN_COUNT
- POSITION_EVENT_AGPOSNID
- POSITION_EVENT_LOGINID
- POSITION_EVENT_TOD
- POSITION_EVENT_DN_TAG
- POSITION_WALKAWAY_REASON

- POSITION_EVENT_EVENTTYPE

Where:

POSITION_EVENT_GROUP_DN
is the DN of the source group to which the agent position belongs.

POSITION_EVENT_GROUP_DN_COUNT
the number of digits dialed in the internal number of the ACD group to which the agent position belongs.

POSITION_EVENT_AGPOSNID
is the position ID that is assigned to the ACD set when it is datafilled. A zero can occur when the agent position that the event occurred on was not assigned a position ID at the datafill time.

POSITION_EVENT_LOGINID
is the agent login ID used by the agent to log into an agent position. The ID number is also sent when the agent logs out.

POSITION_EVENT_TOD
is the time in hours, minutes, and seconds (24-hour format) when the event occurred.

POSITION_EVENT_DN_TAG
is the key number on the agent set on which the DN event occurred on. This field is 0 if the event is not a DN answer message, DN origination message, or DN release message.

POSITION_WALKAWAY_REASON
specifies the reason for activating the Not Ready key. Default code is 000.

POSITION_EVENT_EVENTTYPE

- **Agent login, value 00** This event message is sent after the agent has successfully completed the login procedure.
- **Agent logout, value 01** This event message is sent after the agent has successfully completed the logout procedure.
- **Activate ACD not ready, value 02** This event message is sent when the ACD Not Ready (ACDNR) key is pressed to activate the not ready feature.
- **Deactivate ACD not ready, value 03** This event message is sent when the ACDNR key is pressed to deactivate the not ready feature. This message is not sent when the ACDNR key is used to release a call.
- **Answer DN call, value 04** This event message is sent when an agent answers an incoming DN call.
- **Originate DN call, value 05** This event message is sent when an agent accesses a SDN to originate an outgoing call. This message is sent when the agent presses a SDN key, before any digits are collected.
- **Release DN call, value 06** This event message is sent when a call on an SDN key is released.

- **Activate make set busy, value 07** This event message is sent when the make set busy (Make Busy) key is pressed to activate the make set busy feature.
- **Deactivate make set busy, value 08** This event message is sent when the Make Busy key is pressed to deactivate the make set busy feature.
- **Activate emergency key, value 09** This event message is sent when the Emergency key is pressed to activate the emergency key feature.
- **Deactivate emergency key, value 10** This event message is sent when the Emergency key feature is deactivated.
- **Activate IN CALLS hold, value 11** This event message is sent when HOLD is activated on a call on the In Calls key.
- **Deactivate IN CALLS hold, value 12** This event message is sent when HOLD is deactivated on a call on the In Calls key.
- **Activate SDN hold, value 13** This event message is sent when HOLD is activated on a call on an agent's SDN key.
- **Deactivate SDN hold, value 14** This event message is sent when HOLD is deactivated on a call on an agent's SDN key.
- **Agent forced out, value 15** When an ACD agent is presented a call, a timer is started. If the agent does not answer the call within the defined time, the agent is logged off and the call is requeued or presented to another idle agent.
- **Activate CLSUP, value 16** This event message is sent when an agent activates the call supervisor (CLSUP) feature.
- **Deactivate CLSUP, value 17** This event message is sent when an agent deactivates the call supervisor (CLSUP) feature.

The following fields are included in all of the preceding messages:

- ACD_GROUP_GRP_DN
- ACD_GROUP_DN_COUNT
- ACD_EVENT_AGPOSNID
- ACD_EVENT_LOGINID
- ACD_EVENT_TOD
- ACD_EVENT_EVENTTYPE
- ACD_EVENT_EVENT_DN_TAG
- ACD_WALKAWAY_REASON

Remote ACDSHOW request messages sent from the DSP to the switch

Remote ACDSHOW request messages are sent from the DSP to the DMS-100 switch when command ACDSHOW is entered at an ACDMIS terminal.

The following messages are included:

- Conditional route
- Routes to attendant console
- Routes to customer group
- Routes to DN
- Routes to DN xxx
- Routes to table entry
- Routes to trunk group
- Routes to virtual trunk group

Because the information required to implement the commands is available, there is no need to message the DMS switch. During login, the ACDMIS is sent initialization messages and is notified of all changes and events in datafill and ACD call processing.

Conditional route

These messages provide information when the first element of the queried route table entry is conditional, and the route type is not SK. If any of the route selectors listed below is the first element in the route list for the queried table, the conditional route choice is returned to the DSP in the RouteInfo ReturnResult. The route selectors are

IBNRTE	CND, NOT
OFRT	CND, NOT

The messages contain the following fields:

- ROUTING_TABLE_INDEX
- ROUTING_TABLE_IDENTIFIER
- ROUTING_RESERVED

Where:

ROUTING_TABLE_INDEX	is the table entry to which the queried routing table routes (0 - 1023).
ROUTING_TABLE_IDENTIFIER	is the routing table that contains the table entry to which the queried routing table routes. A value of 0 indicates that the table entry is in table OFRT. A value of 1 indicates that the table entry is in table IBNRTE.
ROUTING_RESERVED	is reserved and has a value of 0.

Routes to attendant console

These messages provide information when the first element of the queried routing table routes to an attendant console. If the route selector listed below is the first element in the route list of the queried table, the RoutesToAttCon choice is returned to the DSP in the RouteInfo ReturnResult. The route selector is

IBNRTE	AC

The messages contain the following field:

CLLI	the 16-digit CLLI of the attendant console to which the routing table routes.

Routes to customer group

These messages provide information when the first element of the queried routing table routes to a specified customer group and subgroup. If the route selector listed below is the first element in the route list of the queried table, the RoutesToCustGroup choice is returned to the DSP in the RouteInfo ReturnResult. The route selector is

IBNRTE	RX

The messages contain the following field:

CLLI	the 16-digit CLLI of the virtual trunk group (VTG) in the routing table.

Routes to DN

These messages provide information when the first element of the queried routing table routes to a displayable DN. If any of the route selectors listed below is the first element in the route table queried, the RoutesToDN choice is returned to the DSP in the RouteInfo ReturnResult. The route selectors are

IBNRTE	LINE
OFRT	RT

The messages include the following fields:

- DIRECTORY_NUMBER
- DIRECTORY_NUMBER_NUM_DIGS

Where:

DIRECTORY_ NUMBER	is the DN to which the queried routing table routes.
DIRECTORY_ NUMBER_NUM_ DIGS	is the number of digits in the DN (0 - 10).

Routes to DN XXX

These messages provide information when the first element in the queried routing table routes to a DN with the same last four digits. If the route selector listed below is the first element in the routing table queried, the RoutesToDNXXX choice is returned to the DSP in the RouteInfo ReturnResult. The route selector is

OFRT	DN

The messages contain the following fields:

- SNPA_AND_NNX
- ROUTING_RESERVED

Where:

SNPA_AND_NNX	is the three-digit SNPA and three-digit NNX of the DN to which the queried routing table routes.
ROUTING_ RESERVED	is reserved and has a value of 0.

Routes to table entry

These messages provide information when the queried routing table entry routes to another routing table entry. If any of the route selectors listed below is the first element in the route list, the RoutesToTable entry is returned to the DSP in the RouteInfo ReturnResult. The route selectors are

IBNRTE	T, OW (with T)
OFRT	ST, T

The messages contain the following fields:

- ROUTING_TABLE_INDEX
- ROUTING_TABLE_IDENTIFIER
- ROUTING_RESERVED

Where:

ROUTING_TABLE_INDEX	is the table entry to which the queried routing table routes (0 - 1023).
ROUTING_TABLE_IDENTIFIER	is the routing table that contains the table entry to which the queried routing table routes. A value of 0 indicates that the table entry is in table OFRT. A value of 1 indicates that the table entry is in table IBNRTE.
ROUTING_RESERVED	is a reserved field set to 0.

Routes to trunk group

These messages provide information when the first element of the queried routing table routes to a specified trunk group. If any of the route selectors listed below is the first element in the route list of the queried table, the RoutesToTrunkGroup choice is returned to the DSP in the RouteInfo ReturnResult. The route selectors are

IBNRTE	N, OW (with S), S
OFRT	MN, N, S, TS, NQ, SQ

The messages contain the following field:

CLLI	the 16-digit CLLI of the trunk group to which the routing table routes.

Routes to virtual trunk group

These messages provide information when the first element of the queried routing table routes to a specified virtual trunk group (VTG). If any of the route selectors listed below is the first element in the route list of the queried table, the RoutesToVTG choice is returned to the DSP in the RouteInfo ReturnResult. The route selector is

IBNRTE	OW (with V), VTG

The messages contain the following field:

CLLI	the 16-digit CLLI of the VTG to which the routing table routes.

Route information unavailable

These messages are returned when route information is unavailable. If any of the route selectors listed below is the first element in the route list of the queried table, the RteInFoUnavailable choice is returned to the DSP in the RouteInfo ReturnResult. The route selectors are

IBNRTE	DN, IW, QH, CND (with SK), NOT (with SK)
OFRT	DCRT, NODE, QH, TC, CND (with SK), NOT (with SK)

No additional information is provided.

Load management request messages sent from the DSP

The load management request messages discussed in this chapter are sent from the DSP to the DMS-100 switch when a load management command is issued by the DSP. The following messages are included

- CHANGE ACDDISPDIGS request messages
- CHANGE ACDDNNAME request messages
- CHANGE ACDDNPRI request messages
- CHANGE ACTIVATE request messages
- CHANGE AUDIO request messages
- CHANGE CTQSIZE request messages
- CHANGE DEFLOB request messages
- CHANGE EHOVFL request messages
- CHANGE MAXCQSIZE request messages
- CHANGE MAXWAIT request messages
- CHANGE MSQSTHRESHOLD request messages
- CHANGE MSQSTYPE request messages
- CHANGE NSAUDIO request messages
- CHANGE NSROUTE request messages
- CHANGE NUMIDLE request messages
- CHANGE PWF request messages
- CHANGE RANTH request messages
- CHANGE RI request messages
- CHANGE THROUTE request messages
- CHANGE TIMEIDLE request messages
- CHANGE TMDTHRTE request messages
- CHANGE TMDTHTIME request messages
- CHANGE WRPTIME request messages

- REASSIGN ACDDN request messages
- REASSIGN agent position request messages

CHANGE ACDDISPDIGS request messages

These messages provide information regarding the change of the ACD display digits of an ACD group. These messages are sent from the DSP to the switch when a load management command is entered on the DSP to change the ACDDISPDIGS value. The messages contain the following fields:

- ACD_GROUP
- NEW_ACD_DISPDIGS
- DISPDIGS_RESERVED

Where:

ACD_GROUP	is the internal ACD group number of the ACD group on which the display digits value is changed (0 - 255).
NEW_ACD_ DISPDIGS	is the new display digits value of the ACD called name/called number display feature option (0 - 7).
DISPDIGS_ RESERVED	is a reserved field set to 0.

CHANGE ACDDNNAME request messages

These messages provide information regarding the change of the name associated to an ACDDN of an ACD group. The messages are generated and sent from the DSP to the switch when a load management command is entered on the DSP to change the ACDDN name. The messages contain the following fields:

- ACD_GROUP
- ACD_DN_IDENTIFIER
- NEW ACDDNNAME

Where:

ACD_GROUP	is the internal ACD group number of the ACD group that has the ACDDISP option assigned and whose ACDDN name is being changed.
ACD_DN_ IDENTIFIER	is the identifier from 0 - 16 that is used to identify the ACDDN of the ACD group.
NEW_ ACDDNNAME	is the new name for the ACD called name/called number display feature. This field can be up to 15 ASCII characters, one per byte. Where this is less than 15 characters, the end bytes of this field are padded with blanks.

CHANGE ACDDNPRI request messages

These messages provide information on the new priorities associated with a primary or supplementary ACDDN of an ACD group. These messages are sent from the DSP to the DMS-100 switch when a CHANGE ACDDNPRI command is entered on the DSP. The messages contain the following fields:

- ACD_GROUP
- ACD_DN_IDENTIFIER
- PRIMARY_OR_SUPP
- PRIORITY_ONE
- PRIORITY_TWO

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose ACDDN priorities are being changed.
ACD_DN_ IDENTIFIER	identifies the primary ACDDN (0 - 16).
PRIMARY_OR_ SUPP	can be 0 or 1. If the ACDDN is a primary ACDDN, this field has a value of 0. If the ACDDN is a supplementary ACDDN, this field has a value of 1.
PRIORITY_ONE	can be in the range of 0 - 3. If PRIMARY_OR_SUPP has a value of 0, this field contains the trunk priority that the ACDDN will be assigned. If PRIMARY_OR_SUPP has a value of 1, this field contains the priority of the supplementary ACDDN that will be assigned.
PRIORITY_TWO	can be in the range of 0 - 3. If PRIMARY_OR_SUPP has a value of 0, this field contains the trunk priority that the ACDDN is assigned. If PRIMARY_OR_SUPP has a value of 1, this field is not used.

CHANGE ACTIVATE request messages

These messages provide information on activating and deactivating login IDs within the partition designated in table ACDENLOG. The messages contain the following fields:

- ACD_GROUP_DN
- ACD_GROUP_DN_COUNT
- AGENT_LOGINID_LOW
- AGENT_LOGINID_HIGH
- ACTIVATE_STATE

Where:

ACD_GROUP_DN	is the primary ACDDN of the ACD group datafilled in the MISGROUP option for the first login ID in the range when a CHANGE ACTIVATE is to be executed.
ACD_GROUP_ DN_COUNT	specifies the number (up to 10) of digits in the primary ACDDN of the ACD group.
AGENT_LOGINID _LOW	is the lowest numbered login ID in the range from 1 to 9999.
AGENT_LOGINID _HIGH	is the highest numbered login ID in the range from 1 to 9999. (If this value equals the value of AGENT_LOGINID_LOW, then only one ID is affected.)
ACTIVATE_STATE	determines whether the specified login IDs are activated or deactivated (0 =deactivation; 1=activation).

CHANGE AUDIO request messages

These messages provide information on the new audio group to be used by the ACD group. These messages are sent from the DSP to the DMS-100 switch when a CHANGE AUDIO command is entered on the DSP. The messages contain the following fields:

- ACD_GROUP
- NEW_AUDIO_GROUP

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose AUDIO group is being changed.
NEW_AUDIO_ GROUP	specifies the new AUDIO group to be used by the ACD group.

CHANGE CTQSIZE request messages

These messages provide information regarding the change of the call transfer queue size (CTQSIZE) for an ACD group. These messages are generated and sent from the DSP to the switch when a load management command is entered on the DSP to change the value of CTQSIZE. The messages contain the following fields:

- ACD_GROUP
- ACD_GROUP_NUM_DIGS
- NEW_CTQSIZE
- RESERVED

Where:

ACD_GROUP	is the internal ACD group number of the ACD group on whose CTQSIZE value is being changed and has the ACDXFER option assigned.
ACD_GROUP_ NUM_DIGS	specifies the number of digits in the internal ACD group number of the ACD group.
NEW_CTQSIZE	specifies the new CTQSIZE value (0 - 42) to be used by the ACD group.
RESERVED	is a reserved field set to 0.

CHANGE DEFLOB request messages

These messages provide information on new default LOB requested for this group. The messages contain the following fields:

- ACD_GROUP_DN
- ACD_GROUP_DN_COUNT
- NEW_DEFLOB

Where:

ACD_GROUP_ DN	is the primary ACDDN of the ACD group associated with this request.
ACD_GROUP_ DN_COUNT	specifies the number of digits in the ACDDN of the new ACD group. The ACDDN can be up to ten digits.
NEW_DEFLOB	is the default LOB. The first three nibbles are the three-digit LOB, and the fourth nibble is the length.

CHANGE EHOVFL request messages

These messages provide information on the new enhanced overflow route list for an ACD group. These messages are sent from the DSP to the DMS-100 switch when a CHANGE EHOVFL command is entered on the DSP. The messages contain the following fields:

- ACD_GROUP
- NEW_EH_OVFL_GRP_ONE
- NEW_EH_OVFL_GRP_TWO
- NEW_EH_OVFL_GRP_THREE
- NEW_EH_OVFL_GRP_FOUR
- NEW_EH_OVFL_NUM_GROUPS
- EH_OVFL_RESERVED

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose enhanced overflow routing is being changed.
NEW_EH_OVFL_ GRP_ONE	is the group number of the first ACD group in the enhanced overflow list (0 - 255).
NEW_EH_OVFL_ GRP_TWO	is the group number of the second ACD group in the enhanced overflow list (0 - 255).
NEW_EH_OVFL_ GRP_THREE	is the group number of the third ACD group in the enhanced overflow list (0 - 255).
NEW_EH_OVFL_ GRP_FOUR	is the group number of the fourth ACD group in the enhanced overflow list (0 - 255).
NEW_EH_OVFL_ NUM_GROUPS	specifies the number of ACD groups in the enhanced overflow list for the particular ACD group specified in the ACD_GROUP field. Up to four ACD groups can be specified as overflow groups for a given ACD group, all within the same DMS-100. If there are no ACD groups specified, the value of this field is 0.
EH_OVFL_ RESERVED	is a reserved field set to 0.

CHANGE MAXCQSIZE request messages

These messages provide information on the ACD group and the new maximum call queue size (MAXCQSIZE) value. These messages are sent from the DSP to the DMS-100 when a CHANGE MAXCQSIZE command is entered on the DSP. The messages contain the following fields:

- ACD_GROUP
- NEW_MAXCQSIZE

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose MAXCQSIZE value is being changed.
NEW_ MAXCQSIZE	is the new MAXCQSIZE (0 - 511) of the ACD group.

CHANGE MAXWAIT request messages

These messages provide information on the ACD group and the new maximum wait time (MAXWAIT) value. These messages are sent from the DSP to the DMS-100 when a CHANGE MAXWAIT command is entered on the DSP. The messages contain the following fields:

- ACD_GROUP
- NEW_MAXWAIT

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose MAXWAIT value is being changed.
NEW_MAXWAIT	is the new MAXWAIT time in seconds, 0 - 1800, of the ACD group.

CHANGE MSQSTHRESHOLD request messages

These messages provide information regarding the change of the multistage queue status (MSQS) thresholds for an ACD group. These messages are sent from the DSP to the switch when a load management command is entered on the DSP to change one of the thresholds (T1, T2, T3) of an ACD group. The messages contain the following fields:

- ACD_GROUP
- NEW_T1
- NEW_T2
- NEW_T3

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose MSQS thresholds were changed (0 - 255).
NEW_T1	is the new threshold 1 value of the MSQS option (5 - 2390).
NEW_T2	is the new threshold 2 value of the MSQS option (10 - 2395).
NEW_T3	is the new threshold 3 value of the MSQS option (15 - 2400).

CHANGE MSQSTYPE request messages

These messages provide information about a change to the MSQS type. The messages are generated and sent from the DSP to the switch when a load management command is entered on the DSP to change the status type. The messages contain the following fields:

- ACD_GROUP
- ACD_GROUP_NUM_DIGS
- NEW_MSQS_TYPE
- RESERVED

Where:

ACD_GROUP	is the primary ACDDN of the ACD group whose multistage queue status is being changed.
ACD_GROUP_ NUM_DIGS	specifies the number of digits in the primary ACDDN of the ACD group.

NEW_MSQS_ TYPE	can be either 0 or 1. A value of 0 indicates if the threshold is based on call queue. A value of 1 means the threshold is based on call wait time.
RESERVED	is a reserved field set to 0.

Note: The ACD group must have MSQS datafilled in table ACDGRP in order to change the MSQSTYPE.

CHANGE NSAUDIO request messages

These messages provide information on the new night service audio (NSAUDIO) group to be used for night service announcement for an ACD group. The messages are generated and sent from the DSP to the switch when a load management command is entered on the DSP to change the audio group. The messages contain the following fields:

- ACD_DN_NUM_DIGS
- ACD_GROUP
- NEW_AUDIO_GROUP

Where:

ACD_DN_NUM_ DIGS	specifies the number of digits in the primary ACDDN of the ACD group.
ACD_GROUP	is the primary ACDDN of the ACD group whose night service audio group is being changed.
NEW_AUDIO_ GROUP	specifies the new audio group to be used for night service announcement by the ACD group.

CHANGE NSROUTE request messages

These messages provide information on the new night service route (NSROUTE) for an ACD group. These messages are sent from the DSP to the DMS-100 when a CHANGE NSROUTE command is entered on the DSP. The messages contain the following fields:

- ACD_GROUP
- NEW_NSROUTE_INDEX
- NEW_NSROUTE_TABLE
- NSROUTE_RESERVED

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose night service route is being changed.
NEW_NSROUTE_ INDEX	is the index corresponding to the given table (0 - 1023).

NEW_NSROUTE_ TABLE	can either be 0 or 1. If table OFRT is to be used for night service routing, this field has a value of 0. If table IBNRTE is to be used for night service routing, this field has a value of 1.
NSROUTE_ RESERVED	is a reserved night service routing field set to 0.

CHANGE NUMIDLE request messages

These messages provide information on the number of idle agents weighting factor to be used when calculating the resource index (RI) of this group. The messages contain the following fields:

- ACD_GROUP_DN
- ACD_GROUP_DN_COUNT
- NEW_NUMIDLE

Where:

ACD_GROUP_DN	is the primary ACDDN of the ACD group associated with this factor.
ACD_GROUP_ DN_COUNT	specifies the number of digits in the ACDDN of the new ACD group. The ACDDN can be up to ten digits.
NEW_NUMIDLE	is the value of the number of idle agents weighting factor. A higher value indicates more preference (0 to 600).

CHANGE PWF request messages

These messages request the switch to input a new preference waiting factor (PWF) value to be used by the ACD group in deciding to route calls to the destination ACD group. The message is sent to the switch when a CHANGE PWF command is entered in the DSP. The messages contain the following fields:

- SRC_ACD_GROUP_DN
- SRC_ACD_GROUP_DN_COUNT
- DEST_ACD_GROUP_DN
- DEST_ACD_GROUP_DN_COUNT
- NEW_ACD_PWF

Where:

SRC_ACD_ GROUP_DN	is the primary ACDDN of the source group whose PWF value for routing calls through to the destination ACD group is being changed.
SRC_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the primary ACDDN of the ACD group. The source group ACDDN can be up to ten digits.

DEST_ACD_ GROUP_DN	is the ACDDN of the destination group to be associated with the new PWF.
DEST_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the ACDDN of the destination ACD group. The ACDDN can be up to ten digits.
NEW_ACD_PWF	is the new PWF of the destination ACD group. This value controls the source ACD group's preference for overflowing calls to the destination ACD group (0 to 32 767).

CHANGE RANTH request messages

These messages provide information on the new recorded announcement threshold (RANTH) value to be used by the ACD group. These messages are sent from the DSP to the DMS-100 when a CHANGE RANTH command is entered on the DSP. The messages contain the following fields:

- ACD_GROUP
- NEW_RANTH
- RANTH_RESERVED

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose RANTH value is being changed.
NEW_RANTH	specifies the new RANTH value (0, 6 - 60) to be used by the ACD group.
RANTH_ RESERVED	is a reserved field set to 0.

CHANGE RI request messages

These messages allow for the modification of the RI of the destination ACD group if the ACD group does not support RI updates. The destination ACD group is always an ACD group which resides on a non-DMS switch that does not support RI updates. RI changes are not allowed for destination ACD groups that reside on DMS switches. These messages are sent from the DSP to the DMS-100 switch when a CHANGE RI command is entered on the DSP. The messages contain the following fields:

- SRC_ACD_GROUP_DN
- SRC_ACD_GROUP_DN_COUNT
- DEST_ACD_GROUP_DN
- DEST_ACD_GROUP_DN_COUNT
- NEW_ACD_RI

Where:

SRC_ACD_ GROUP_DN	is the primary ACDDN of the source group whose RI table is being changed.
SRC_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the primary ACDDN of the source ACD group.
DEST_ACD_ GROUP_DN	is the primary ACDDN of the destination group associated with the new RI value.
DEST_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the primary ACDDN of the destination ACD group.
NEW_ACD_RI	is the new RI for the destination ACD group. The range is from 0 to 65 535.

CHANGE THROUTE request messages

These messages provide information regarding the change of threshold route (THROUTE) for an ACD group. These messages are sent from the DSP to the DMS-100 switch when a CHANGE THROUTE command is entered on the DSP. The messages contain the following fields:

- ACD_GRP
- NEW_THROUTE_INDEX
- NEW_THROUTE_TABLE
- THROUTE_RESERVED

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose threshold route is being changed.
NEW_THROUTE_ INDEX	is the index corresponding to the given table (0 - 1023).
NEW_THROUTE_ TABLE	can be either 0 or 1. If table OFRT is to be used for threshold routing, this field has a value of 0. If table IBNRTE is to be used for threshold routing, this field has a value of 1.
THROUTE_ RESERVED	is reserved field set to 0.

CHANGE TIMEIDLE request messages

These messages provide information about the most idle agent weighting factor to be used when calculating the RI of this group. The messages contain the following fields:

- ACD_GROUP_DN
- ACD_GROUP_DN_COUNT
- NEW_TIMEIDLE

Where:

ACD_GROUP_DN	is the primary ACDDN of the ACD group associated with this factor.
ACD_GROUP_ DN_COUNT	specifies the number of digits in the ACDDN of the new ACD group. The ACDDN can be up to ten digits.
NEW_TIMEIDLE	is the value of the most idle agent weighting factor. A higher value indicates more preference (0 to 600).

CHANGE TMDTHRTE request messages

These messages provide information about a new time delay threshold route (TMDTHRTE) for a specified ACD group. These messages are relayed from the DSP to the DMS-100 switch when CHANGE TMDTHRTE is entered in the DSP. The messages contain the following fields:

- ACD_GRP
- ACD_GRP_NUM_DIGS
- NEW_TMDTHRTE_INDEX
- NEW_TMDTHRTE_TABLE
- RESERVED

Where:

ACD_GRP	is the primary ACDDN of the ACD group whose time delay threshold route is being replaced.
ACD_GRP_ NUM_DIGS	specifies the number of digits in the primary ACDDN of the ACD group.
NEW_TMDTHRTE _INDEX	is a number from 0 to 1023 which specifies the index in the routing table to be used.
NEW_TMDTHRTE _TABLE	can be 0 or 1. A value of 0 indicates table OFRT should be used. A value of 1 specifies table IBNRTE should be used.
RESERVED	is a reserved field set to 0.

Note: Both TMDELOFL and TMDTHRTE must be datafilled in tables ACDGRP and ACDRTE in order to change an ACD group's TMDTHRTE.

CHANGE TMDTHTIME request messages

These messages provide information about the change in an ACD group's time delay threshold time (TMDTHTIME). They are generated by the DSP every time there is a load management change to the time delay threshold time. The messages contain the following fields:

- ACD_GRP
- ACD_GRP_NUM_DIGS
- NEW_TMDTHTIME

Where:

ACD_GRP	refers to the primary ACDDN of the ACD group whose changing its time delay threshold time.
ACD_GRP_ NUM_DIGS	specifies the number of digits in the primary ACDDN of the ACD group.
NEW_ TMDTHTIME	contains a new threshold time from 0 - 1800 seconds .

Note: If TMDELOFL and TMDTHRTE are not datafilled in tables ACDGRP and ACDRTE, the ACD group cannot change its TMDTHTIME.

CHANGE WRPTIME request messages

These messages are output when the wrap-up time of an agent or an ACD group is modified. The messages contain the following fields:

- ACD_GROUP
- ACD_GROUP_NUM_DIGS
- AGENT_LOGINID
- WRPTIME

Where:

ACD_GROUP	is the primary ACDDN of the ACD group whose wrap-up time is being changed (or must match the ACD group datafilled in the MISGROUP option for the LOGINID.) The agent LOGINID can then be ignored because the DSP will assume the change is for the wrap-up time of the ACD group.
ACD_GROUP_ NUM_DIGS	specifies the number of digits in the primary ACDDN of the ACD group.
AGENT_LOGINID	refers to the login ID number for an ACD agent.
WRPTIME	specifies the new wrap-up time, from 0 to 900 seconds. (Or if set to 0, the change affects the ACD group.)

Note: DWRPTIME must be datafilled in table ACDGRP in order to change the wrap-up time of an ACD group or agent.

REASSIGN ACDDN request messages

These messages provide information on the reassignment of an ACDDN to another ACD group. These messages are sent from the DSP to the DMS-100 switch when a REASSIGN ACDDN command is entered on the DSP. The messages contain the following fields:

- OLD_ACD_GROUP
- NEW_ACD_GROUP

- OLD_ACD_DN_IDENTIFIER
- PRIMARY_IN_NEW_GROUP
- PRIORITY_ONE
- PRIORITY_TWO

Where:

OLD_ACD_ GROUP	is the internal ACD group number of the ACD group to which the ACDDN is currently assigned.
NEW_ACD_ GROUP	is the internal ACD group number of the ACD group to which the ACDDN will be reassigned.
OLD_ACD_DN_ IDENTIFIER	is the identifier (0 - 16) of the ACDDN (within the old ACD group) that is being reassigned.
PRIMARY_IN_ NEW_GROUP	can be either 0 or 1. If the ACDDN is a primary ACDDN in the new group, this field is 0. A value of 1 indicates that the ACDDN will be a supplementary DN in the new group.
PRIORITY_ONE	ranges from 0 - 3. If PRIMARY_IN_NEW_GROUP has a value of 0, this field contains the TRUNK priority that will be assigned in NEW_ACD_GROUP when the ACDDN is reassigned as primary ACDDN. If PRIMARY_IN_NEW_ GROUP has a value of 1, this field contains the priority that will be assigned in NEW_ACD_GROUP when the ACDDN is reassigned as a supplementary DN.
PRIORITY_TWO	can be in the range of 0 - 3. If PRIMARY_IN_NEW_GROUP has a value of 0, this field contains the LINE priority that the ACDDN will be assigned in the NEW_ACD_GROUP when it is reassigned as primary ACDDN. If PRIMARY_IN_NEW_GROUP has a value of 1, this field is not used.

REASSIGN agent position request messages

These messages provide information on the reassignment of an ACD agent position to a new ACD group, a new supervisor, or both. These messages are sent from the DSP to the DMS-100 switch when a REASSIGN command is entered on the DSP. The messages contain the following fields:

- NEW_ACD_GROUP
- NEW_SUPERVISOR_ID
- AGENT_POS_ID

Where:

NEW_ACD_ GROUP	is the internal ACD group number of the ACD group to which the agent position will be assigned.
NEW_ SUPERVISOR_ID	is the position ID of the supervisor assigned to the agent.
AGENT_POS_ID	is the position ID of the agent being reassigned.

Load management event messages sent to the DSP

Load management event messages are sent from the switch to the DSP when load management commands are executed. Messages are sent for any major changes within the ACD configuration. The following messages are included:

- ACDDISPDIGS change event messages
- ACDDNNAME change event messages
- ACDDNPRI change event messages
- ACTIVATE change event messages
- AUDIO group change event messages
- CTQSIZE change event messages
- DEFLOB change event messages
- EHOVFL change event messages
- MAXCQSIZE change event messages
- MAXWAIT change event messages
- MSQSTHRESHOLD change event messages
- MSQSTYPE change event messages
- NSAUDIO GROUP change event messages
- NSROUTE change event messages
- PWF change event messages
- RANTH change event messages
- REASSIGN ACDDN event messages
- REASSIGN agent position event messages
- RI change event messages
- THROUTE change event messages
- TMDTHRTE change event messages
- TMDTHTIME change event messages
- WRPTIME change event messages

ACDDISPDIGS change event messages

These messages provide information on the new display digits (DISPDIGS) value that the ACD group now has. The message is sent when the DISPDIGS value of an ACD group is changed. The messages contain the following fields:

- ACD_GROUP
- NEW_ACD_DISPDIGS
- DISPDIGS_RESERVED

Where:

ACD_GROUP	is the internal ACD group number of the ACD group on which the display digits value is changed (0 - 255).
NEW_ACD_ DISPDIGS	is the new display digits value of the ACD called name/called number display feature option (0 - 7).
DISPDIGS_ RESERVED	is a reserved field which is set to 0.

ACDDNNAME change event messages

These messages provide information on the new name for the current ACDDN of the ACD group. The messages are sent when the ACDDN name of an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- ACD_DN_IDENTIFIER
- NEW_ACDDNNAME

Where:

ACD_GRP	is the internal ACD group number of the ACD group that has the ACDDISP option assigned and whose ACDDN name is being changed.
ACD_DN_ IDENTIFIER	is the identifier from 0 - 16 that is used to identify the ACDDN in the ACD group.
NEW_ ACDDNNAME	is the new name for the ACD called name/called number display feature. This field can be up to 15 ASCII characters, one per byte. In cases where this is less than 15 characters, then the end bytes of the field are padded with blanks.

ACDDNPRI change event messages

These messages provide information on the new priorities associated with a primary or supplementary ACDDN of an ACD group. They are generated when the priority of an ACDDN is changed. The messages contain the following fields:

- ACD_GROUP
- ACD_DN_IDENTIFIER
- PRIMARY_OR_SUPP
- PRIORITY_ONE
- PRIORITY_TWO

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose ACDDN priorities are being changed.
ACD_DN_ IDENTIFIER	identifies the primary ACDDN (0 - 16).

PRIMARY_OR_ SUPP	can either be a 0 or 1. If the ACDDN is a primary ACDDN, this field has a value of 0. If the ACDDN is a supplementary ACDDN, this field has a value of 1.
PRIORITY_ONE	can range from 0 - 3. If PRIMARY_OR_SUPP has a value of 1, this field contains the TRUNK priority that the ACDDN has been assigned. If PRIMARY_OR_SUPP has a value of 1, this field contains the priority of the supplementary ACDDN.
PRIORITY_TWO	can range from 0 - 3. If PRIMARY_OR_SUPP has a value of 0, this field contains the TRUNK priority that the ACDDN has been assigned. If PRIMARY_OR_SUPP has a value of 1, this field is not used.

ACTIVATE change event messages

These messages provide information on activating and deactivating login IDs within the partition designated in table ACDENLOG. The messages contain the following fields:

- ACD_GROUP_DN
- ACD_GROUP_DN_COUNT
- AGENT_LOGINID_LOW
- AGENT_LOGINID_HIGH
- ACTIVATE_STATE

Where:

ACD_GROUP_DN	is the primary ACDDN of the ACD group datafilled in the MISGROUP option for the login IDs when an ACTIVATE command has been changed.
ACD_GROUP_ DN_COUNT	specifies the number (up to 10) of digits in the primary ACDDN of the ACD group.
AGENT_LOGINID _LOW	is the lowest numbered login ID in the range from 1 to 9999.
AGENT_LOGINID _HIGH	is the highest numbered login ID in the range from 1 to 9999. (If this value equals the value of AGENT_LOGINID_LOW, then only one ID was affected.)
ACTIVATE_STATE	determines whether the specified login IDs have been activated or deactivated (0 =deactivation; 1=activation).

Note: As a CHANGE ACTIVATE command is the first change command that affects more than one login ID a a time, several messages may be returned to the DSP (even if the CHANGE ACTIVATE command was entered from a MAP terminal). Therefore, an ACTIVATE change message must be sent for each continuous range of login IDs within the same MISGROUP in order for the DSP to identify which login IDs in the specified range were affected. If gaps exist in the requested change, a new message is generated for the next consecutive range being changed. An invalid argument of 25 appears when the ACTIVATE change command was sent remotely and not all the login IDs in the specified range were changed. ACTIVATE change messages are only sent if some of the login IDs were changed. Otherwise, the DSP must be able to identify what was changed from the returned result.

AUDIO group change event messages

These messages provide information on the new audio group that is now in use by the ACD group. They are sent when the audio group for an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- NEW_AUDIO_GROUP

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose audio group is being changed.
NEW_AUDIO_ GROUP	specifies the new audio group for the ACD group.

CTQSIZE change event messages

These messages provide information on the new call transfer queue size (CTQSIZE) that the ACD group is now using. They are sent when the CTQSIZE value of an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- ACD_GROUP_NUM_DIGS
- NEW_CTQSIZE
- RESERVED

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose CTQSIZE value is being changed and has the ACDXFER option assigned.
ACD_GROUP_ NUM_DIGS	specifies the number of digits in the internal ACD group number of the ACD group.

NEW_CTQSIZE	specifies the new CTQSIZE value (0 - 42) to be used by the ACD group.
RESERVED	is a reserved field that is set to 0.

DEFLOB change event messages

These messages provide information on the new default LOB for this group. The messages contain the following fields:

- ACD_GROUP_DN
- ACD_GROUP_DN_COUNT
- NEW_DEFLOB

Where:

ACD_GROUP_ DN	is the primary ACDDN of the ACD group associated with this request.
ACD_GROUP_ DN_COUNT	specifies the number of digits in the ACDDN of the new ACD group. The ACDDN can be up to ten digits.
NEW_DEFLOB	is the default LOB. The first 3 nibbles are the three-digit LOB and the fourth nibble is the length (length=0 indicates no default LOB).

EHOVFL change event messages

These messages provide information on the new enhanced overflow route list for an ACD group. They are sent when the enhanced overflow list for an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- NEW_EH_OVFL_GRP_ONE
- NEW_EH_OFVL_GRP_TWO
- NEW_EH_OFVL_GRP_THREE
- NEW_EH_OVFL_GRP_FOUR
- NEW_EH_OVFL_NUM_GROUPS
- EH_OVFL_RESERVED

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose enhanced overflow routing is being changed.
NEW_EH_OVFL_ GRP_ONE	is the group number of the first ACD group in the enhanced overflow route list (0 - 255).
NEW_EH_OVFL_ GRP_TWO	is the group number of the second ACD group in the enhanced overflow route list (0 - 255).
NEW_EH_OVFL_ GRP_THREE	is the group number of the third ACD group in the enhanced overflow route list (0 - 255).

NEW_EH_OVFL_ GRP_FOUR	is the group number of the fourth ACD group in the enhanced overflow route list (0 - 255).
NEW_EH_OVFL_ NUM_GROUPS	specifies the number of ACD groups in the enhanced overflow route list for the particular ACD group specified in the ACD_GROUP field. Up to four ACD groups can be specified as overflow groups for a given ACD group, all within the same DMS-100 switch. If there are no ACD groups specified, the value of this field is 0.
EH_OVFL_ RESERVED	is a reserved field with a value of 0.

MAXCQSIZE change event messages

These messages provide information on the ACD group and the new maximum call queue size (MAXCQSIZE) value. They are sent when the MAXCQSIZE of an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- NEW_MAXCQSIZE

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose MAXCQSIZE value is being changed.
NEW_ MAXCQSIZE	is the new MAXCQSIZE, 0 - 511, of the ACD group.

MAXWAIT change event messages

These messages provide information on the ACD group and the new maximum wait (MAXWAIT) value. They are sent when the MAXWAIT time of an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- NEW_MAXWAIT

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose MAXWAIT value is being changed.
NEW_MAXWAIT	is the new MAXWAIT time in seconds, 0 - 1800, of the ACD group.

MSQSTHRESHOLD change event messages

These messages provide information on the new MSQS thresholds that the ACD group is now using. They are sent when the threshold values T1, T2, and T3 of an ACD group are changed. The messages contain the following fields:

- ACD_GRP
- NEW_T1
- NEW_T2
- NEW_T3

Where:

ACD_GRP	is the internal ACD group number of the ACD group on which the MSQS thresholds were changed (0 - 255).
NEW_T1	is the new threshold 1 value of the MSQS option (5 - 2390).
NEW_T2	is the new threshold 2 value of the MSQS option (10 - 2395).
NEW_T3	is the new threshold 3 value of the MSQS option (15 - 2400).

MSQSTYPE change event messages

These messages provide information on the new MSQS types the ACD group is now using. They are sent when the queue status type is modified. The messages contain the following fields:

- ACD_GROUP
- ACD_GROUP_NUM_DIGS
- NEW_MSQS_TYPE
- RESERVED

Where:

ACD_GROUP	is the internal ACD group number of the ACD group on which the MSQS type was changed.
ACD_GROUP_ NUM_DIGS	refers to the primary ACDDN of the ACD group.
NEW_MSQS_ TYPE	can be 0 or 1. A value of 0 indicates the MSQS thresholds are based on call queue size. A value of 1 specifies the threshold is based on call wait time.
RESERVED	is a reserved field set to 0.

Note: The MSQSTYPE of an ACD group can only be changed if the ACD group has MSQS set in table ACDGRP.

NSAUDIO group change event messages

These messages provide information on the new audio group that is now in use for night service announcement by the ACD group specified. They are sent when the night service audio group is changed for the ACD group. The messages contain the following fields:

- ACD_GROUP
- ACD_DN_NUM_DIGS
- NEW_AUDIO_GROUP

Where:

ACD_GROUP	is the primary ACDDN of the ACD group whose night service audio group is being changed.
ACD_DN_NUM_ DIGS	specifies the number of digits (0 -10) in the primary ACDDN of the ACD group.
NEW_AUDIO_ GROUP	specifies the new audio group now in use for night service announcement by the ACD group.

NSROUTE change event messages

These messages provide information on the new night service route (NSROUTE) for an ACD group. They are sent when the NSROUTE for an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- NEW_NSROUTE_INDEX
- NEW_NSROUTE_TABLE
- NSROUTE_RESERVED

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose night service route is being changed.
NEW_NSROUTE_ INDEX	is the index corresponding to the given table, 0 - 1023.
NEW_NSROUTE_ TABLE	can either be 0 or 1. If table OFRT is to be used for night service routing, this field has a value of 0. If table IBNRTE is to be used for night service routing, this field has a value of 1.
NSROUTE_ RESERVED	is a reserved field with a value of 0.

PWF change event messages

These messages provide information on a new PWF value to be used by the ACD group in deciding to route calls to the destination ACD group. The messages contain the following fields:

- SRC_ACD_GROUP_DN

- SRC_ACD_GROUP_DN_COUNT
- DEST_ACD_GROUP_DN
- DEST_ACD_GROUP_DN_COUNT
- NEW_ACD_PWF

Where:

SRC_ACD_ GROUP_DN	is the primary ACDDN of the group whose PWF table is being changed.
SRC_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the primary ACDDN of the source ACD group. The ACDDN can be up to ten digits.
DEST_ACD_ GROUP_DN	is the ACDDN of the destination group to be associated with the new PWF.
DEST_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the ACDDN of the destination ACD group. The ACDDN can be up to ten digits.
NEW_ACD_PWF	is the new PWF of the destination ACD group. This value controls the source ACD group's preference for overflowing calls to the destination ACD group (range: 0 to 32 767).

RANTH change event messages

These messages provide information on the new recorded announcement threshold (RANTH) time that is now in use by the ACD group. They are sent when the RANTH value of an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- NEW_RANTH
- RANTH_RESERVED

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose RANTH value is being changed.
NEW_RANTH	specifies the new RANTH value (0, 6 - 60).
RANTH_ RESERVED	is a reserved field with a value of 0.

REASSIGN ACDDN event messages

These messages are generated when the REASSIGN command is used to change the ACD group of an ACDDN. They provide information on both the old ACD group and the new ACD group. The messages contain the following fields:

- OLD_ACD_GRP

- NEW_ACD_GROUP
- OLD_ACD_DN_IDENTIFIER
- NEW_ACD_DN_IDENTIFIER
- ACD_DN
- ACD_DN_NUM_DIGS
- PRIMARY_IN_NEW_GROUP
- PRIORITY_ONE
- PRIORITY_TWO

Where:

OLD_ACD_GRP	is the internal number of the ACD group to which the ACDDN was previously assigned.
NEW_ACD_ GROUP	is the internal number of the ACD group to which the ACDDN is now assigned.
OLD_ACD_DN_ IDENTIFIER	is the identifier, 0 - 16, of the ACDDN within the old ACD group.
NEW_ACD_DN_ IDENTIFIER	is the identifier of the ACDDN within the new ACD group.
ACD_DN	is the ACDDN that is being reassigned.
ACD_DN_NUM_ DIGS	specifies the number of digits (0 to 10) in the ACDDN.
PRIMARY_IN_ NEW_GROUP	can either be 0 or 1. If the ACDDN is a primary ACDDN in the new ACD group, this field is 0. A value of 1 indicates that the ACDDN is a supplementary DN in the new group.
PRIORITY_ONE	can be in the range of 0 - 3. If PRIMARY_IN_NEW_GROUP has a value of 0, this field contains the TRUNK priority that the ACDDN is assigned in NEW_ACD_GROUP when it is reassigned as primary ACDDN. If PRIMARY_IN_NEW_GROUP has a value of 1, this field contains the priority that the ACDDN is assigned in NEW_ACD_GROUP when it is reassigned as a supplementary DN.
PRIORITY_TWO	can be in the range of 0 - 3. If PRIMARY_IN_NEW_GROUP has a value of 0, this field contains the LINE priority that the ACDDN will be assigned in the NEW_ACD_GROUP when it is reassigned as a primary ACDDN. If PRIMARY_IN_NEW_GROUP has a value of 1, this field is not used.

REASSIGN agent position event messages

These messages provide information on the new supervisor, new ACD group, or both to which the agent is now assigned. The messages contain the following fields:

- NEW_ACD_GROUP_DN
- NEW_SUPERVISOR_ID
- AGENT_POS_ID
- POSITION_LOGIN_ID
- ACD_GROUP_DN_COUNT

Where:

NEW_ACD_ GROUP_ DN	is the primary ACDDN of the ACD group to which the agent position is now assigned.
NEW_ SUPERVISOR_ ID	is the position ID of the supervisor to which the agent is now assigned.
AGENT_ POS_ID	is the position ID of the agent being reassigned.
POSITION_ LOGIN_ID	is the agent login ID (from 1 - 9999) used by the agent to log in at the agent position being reassigned. (The ID is set to 0 when an agent is not logged into the agent position.)
ACD_GROUP_ DN_COUNT	specifies the number (up to 10) of digits in the primary ACDDN of the ACD group.

Note 1: Agents cannot be moved to supervisors that do not already have an agent assigned to them. ACD GROUPS must always have one agent in that group for load management from the menu.

Note 2: These messages may require changes if the agent moves among ACD groups in different subpools. (The field OLD_ACD_GROUP_DN would then appear if inter-pool moves are executed.)

RI change event messages

These messages provide information on the RI that is currently in use by the ACD group. When both the source and the destination ACD nodes support RI, the NEW_ACD_RI is the new RI value of the ACD groups broadcast on the network. Otherwise, when the destination ACD node does not support RI, then the New_ACD_RI is the RI manually changed through the DMS-100/SL-100 MAP position. In either case, this event message is sent for every tenth occurrence that the RI value of an ACD group is changed. The messages contain the following fields:

- SRC_ACD_GROUP_DN
- SRC_ACD_GROUP_DN_COUNT
- DEST_ACD_GROUP_DN

- DEST_ACD_GROUP_DN_COUNT
- NEW_ACD_RI

Where:

SRC_ACD_ GR0UP_DN	is the primary ACDDN group whose table is being changed.
SRC_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the primary ACDDN of the source ACD group. The ACDDN can be up to ten digits.
DEST_ACD_ GROUP_DN	is the primary ACDDN of the destination group whose RI is being changed.
DEST_ACD_ GROUP_DN_ COUNT	specifies the number of digits in the primary ACDDN of the destination ACD group. The ACDDN can be up to ten digits.
NEW_ACD_RI	is the new RI for the destination ACD group. This value is calculated on a per group basis and reflects the ACD group's ability to answer ACD calls (range: 0 to 65 535).

THROUTE change event messages

These messages provide information on the new threshold route (THROUTE) for an ACD group. They are sent when the THROUTE for an ACD group is changed. The messages contain the following fields:

- ACD_GRP
- NEW_THROUTE_INDEX
- NEW_THROUTE_TABLE
- THROUTE_RESERVED

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose threshold route is being changed.
NEW_THROUTE_ INDEX	is the index corresponding to the given table (0 - 1023).
NEW_THROUTE_ TABLE	can either be 0 or 1. If table OFRT is to be used for threshold routing, this field has a value of 0. If table IBNRTE is to be used, this field has a value of 1.
THROUTE_ RESERVED	is a reserved field with a value of 0.

TMDTHRTE change event messages

These messages relay data about the successful change of the time delay threshold route (TMDTHRTE). The messages contain the following fields:

- ACD_GRP
- ACD_GRP_NUM_DIGS

- NEW_TMDTHRTE_INDEX
- NEW_TMDTHRTE_TABLE
- RESERVED

Where:

ACD_GRP	is the internal ACD group number of the ACD group whose TMDTHRTE value is being changed.
ACD_GRP_NUM_DIGS	specifies the primary ACDDN of the ACD group changing its TMDTHRTE.
NEW_TMDTHRTE_INDEX	is the number, from 0 - 1023, that indicates the index of the routing table to be used for TMDTHRTE.
NEW_TMDTHRTE_TABLE	can be 0 or 1. A value of 0 means table OFRT is used. A value of 1 indicates table IBNRTE is to be used.
RESERVED	is a reserved field set to 0.

Note: TMDTHRTE can only be changed if TMDTHRTE and TMDELOFL are datafilled in tables ACDRTE and ACDGRP, respectively.

TMDTHTIME change event messages

These messages provide information about the successful change of an ACD group's time delay threshold time (TMDTHTIME). The messages contain the following fields:

- ACD_GROUP
- ACD_GROUP_NUM_DIGS
- NEW_TMDTHTIME

Where:

ACD_GROUP	is the internal ACD group number of the ACD group whose TMDTHTIME value is being changed.
ACD_GROUP_NUM_DIGS	specifies the primary ACDDN of the ACD group altering its TMDTHTIME.
NEW_TMDTHTIME	refers to the amount of time, from 0 - 1800 seconds, a time delay overflowed call will wait before it is routed to the time threshold route.

Note: The fields TMDTHRTE and TMDELOFL must be datafilled in tables ACDRTE and ACDGRP, respectively, in order to change the TMDTHTIME of an ACD group.

WRPTIME change event messages

These messages show a successful change in the variable wrap-up time of an agent or ACD group. The messages contain the following fields:

- ACD_GROUP_DN
- ACD_GROUP_DN_COUNT
- AGENT_LOGINID
- NEW_WRPTIME

Where:

ACD_GROUP _DN	is the primary DN of the ACD group with a default wrap-up time being changed. When changing the wrap-up time of an agent, this field changes to the primary DN of the ACD group datafilled in the MISGROUP option.
ACD_GROUP_ DN_COUNT	specifies the number (up to 10) of digits in the primary DN of the ACD group. (0 indicates the number of digits in the ACD_GROUP_DN.)
AGENT_LOGINID	is the ID number of the agent who is changing its wrap-up time. The ACD group number can then be ignored so the DSP will assume the change in wrap-up time is for the agent. (If NEW WRPTIME is associated with the ACD group, this field is set to 0).
NEW_WRPTIME	indicates the new value (0 - 900) chosen for the wrap-up time.

Note: When changing the wrap-up time of an agent, the MISGROUP option must be present in table ACDLOGIN or table ACDENLOG. (Only the DSP is notified.)

ACDMIS pool associated messages

The ACDMIS interface provides the DSP with the ability to request and assemble ACD information from the Meridian SL-100. This information can then be used for historical reports and real-time statistics. The ACDMIS subsystem generates a report in the following format each time the switch has successfully executed a DSPASSOCIATEPOOL RO for a session.

```
MIS100 AUG23 09:45:15 1234 INFO ACD MIS POOL ASSOCIATED
     SESSION ID:          nn
     ACD POOLNAME:    pool
     THROTTLE:           nnn
```

The messages contain the following fields:

- ACDMIS_POOL_ASSOCIATED
- SESSION_ID
- ACD_POOLNAME

- THROTTLE

Where:

ACDMIS_POOL_ ASSOCIATED	specifies that the switch has successfully executed a DSPASSOCIATEPOOL RO.
SESSION_ID	specifies the number of the session in use. The value ranges from 0 to 14.
ACD_ POOLNAME	specifies the pool of ACD groups associated with the data stream. ACD groups can only be associated with one data stream at a given point in time. Only one pool of ACD groups can be associated with each data stream at a given point in time.
THROTTLE	specifies the number of switch-originated ROs, Return Results and Return Errors ROs to be transmitted to the DSP. A switch Send Throttle RO is then sent to the DSP and no more ROs are transmitted until a Return Result is received from the DSP. If a value of 16-127 is specified, then throttling occurs for the duration of the session. If 0 is specified, then these ROs are not throttled.

ACD related card requirements

This chapter provides the background information, rationale, and possible implications for the card removal and replacement procedures referenced in *Automatic Call Distribution Trouble Locating and Clearing Procedures,* 297-2041-503.

Description of circuit card removal and replacement procedures

Although Automatic Call Distribution (ACD) does not have exclusive use of the multiprotocol controller (MPC) card, an MPCOS alarm may well indicate a trouble with ACD, or at least a trouble that affects ACD because of the shared MPC card. In checking the system status of the MPC card, a system busy (SysB) status may appear. One possible cause of a SysB status is a defective MPC card. In this case, the card must be replaced. See *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for MPC card replacement procedures.

Note that this description of MPC circuit card removal and replacement procedures applies to Automatic Call Distribution Management Information System (ACDMIS) and Network Automatic Call Distribution (NACD); it does not apply to Base ACD.

Description of other equipment removal and replacement procedures

The following sections contain information on equipment and software malfunctions, which although not originating at the central office (CO), may be reflected at either the CO or the customer premises.

Modem malfunction

A trouble at the customer premises may be the result of a malfunctioning modem. If the process of elimination has narrowed the trouble to the modem, consult the modem manufacturer's documentation for the correct setup, troubleshooting, and replacement procedures.

RT-100 Call Center Management System malfunction

If CO maintenance personnel are alerted to a trouble at the customer premises through a customer complaint, the process of elimination may narrow the trouble to the RT-100 Call Center Management System. To

troubleshoot the RT-100, consult the NT RT-100 documentation, particularly *RT-100 Installation and Maintenance Guide,* NTMX9542. This document covers software installation and hardware maintenance.

RT-1000 Management Information System malfunction

If CO maintenance personnel are alerted to a trouble at the customer premises through a customer complaint, the process of elimination may narrow the trouble to the RT-1000 Management Information System. To troubleshoot the release 30.1 of RT-1000, consult the NT RT-1000 documentation, particularly *RT-1000 Release 30.1 Installation Guide.* To troubleshoot the release 30.2 of RT-1000, consult the NT RT-1000 documentation, particularly *RT-1000 Upgrade Installation Guide,* NACDMIS302. These documents cover software installation, hardware maintenance, and system maintenance.

Trouble isolation and correction

This chapter provides descriptions of the procedures that are used to troubleshoot Automatic Call Distribution (ACD) fault conditions. Refer to *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, for explanatory and context-setting information, a summary flowchart, and step-action procedures on how to locate and clear ACD fault conditions. Refer also to "Advanced troubleshooting procedures" in this document.

Description of troubleshooting procedures

There are no troubleshooting procedures exclusive to ACD; however, there are procedures to uncover faults that will affect ACD.

If indicators do not point to the location of the fault, the first step is to locate the fault as being either at the central office (CO) or outside the CO-that is, at the data link or at the customer premises equipment. Subsequent steps involve narrowing the location of the trouble and correcting it.

Most ACD troubles occur outside the CO, with CO personnel being alerted to the trouble by user call-in. In some of these cases, a process of elimination must be used. CO troubles affecting ACD involve multiprotocol controller (MPC) alarms and network operations protocol (NOP) alarms.

To help locate and clear faults, follow the procedures contained in *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, for determining if the fault resides at the CO. Also be sure to check log reports and operational measurements (OM) for help in locating and clearing faults.

Locating and clearing faults

The following sections contain information on locating faults and point to sources of information for clearing those faults.

Locating a fault at the central office

To determine if a fault is located at the CO, trace through the communications interface between the DMS switch and the ACD application (Automatic Call Distribution Management Information System

[ACDMIS] or Network Automatic Call Distribution [NACD]) at the customer premises.

Problems can occur in any of the three functional components:

- DMS-100 switch
- data link
- customer premises equipment

To review what prior maintenance should have been performed, refer to *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, for the procedure to determine whether the problem has occurred at the CO or whether the fault exists outside the CO. This procedure involves checking for an input/output device (IOD) alarm, checking for a frame supervisory panel (FSP) alarm, checking the CO data unit, and checking for disconnected cables. If the problem is located at the CO, be sure that the procedures outlined in *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, have already been performed. If the problem is located outside the CO, be sure that the appropriate field service personnel have been informed that there is a problem with either the link or the customer premises equipment.

Other fault locating and clearing tools

While many of the logs associated with ACD are for informational purposes only, there are instances where a check of related logs will help in locating and clearing faults. This is especially true of MPC logs when attempting to diagnose ACDMIS problems.

For a complete list of logs related to ACD, refer to "Automatic Call Distribution related logs" in this document.

Fault isolation tests

There are no fault isolation tests associated specifically with ACD.

Diagnostic tests

There are no diagnostic tests associated specifically with ACD.

Product specific test tools

There are no product specific test tools associated specifically with ACD.

Troubleshooting chart

This chapter contains an alarm clearing table and a trouble locating table designed to provide the user with easy access to all Automatic Call Distribution (ACD) troubleshooting procedures. These tables are intended as a point of reference, leading the maintenance personnel to the documentation containing detailed actions. These tables reference troubleshooting procedures contained in both *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, and "Advanced troubleshooting procedures" in this document.

Table 9-1 provides the user with a list of alarm conditions, their possible causes, and the actions that should be taken as a result of the alarm conditions. A check for an input/output device (IOD) alarm or a frame supervisory panel (FSP) alarm is part of the larger procedure to determine if the trouble is located at the central office (CO). For the complete procedure, see *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503.

Table 9-1
ACD alarm clearing

Alarm condition	Possible cause	Action
IOD alarm: n ARG	A quantity of invalid arguments for the network operations protocol (NOP) remote operations have not been formatted correctly.	Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for the procedure to clear an ARG alarm.
IOD alarm: n MPCOS	A quantity of multiprotocol controller (MPC) cards are out of service.	Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for the procedure to clear an MPCOS alarm.

- continued -

Table 9-1
ACD alarm clearing (continued)

Alarm condition	Possible cause	Action
	The MPC card is system busy.	Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for the procedure to clear a system busy MPC card.
IOD alarm: n RES	Insufficient resources are available for the Network Operating System (NOS) on the DMS switch, or the NOS/DMS communication requires too much central processing unit (CPU) time.	Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for the procedure to clear a RES alarm.
IOD alarm: n SEQ	A quantity of incorrect operation sequences has occurred. The problem is caused by the DMS switch, by the Automatic Call Distribution Management Information System (ACDMIS), or by manual action.	Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for the procedure to clear an SEQ alarm.
IOD alarm: n SYS	A quantity of system errors has occurred in hardware, software, or communications during data transmission.	Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for the procedure to clear a SYS alarm.
IOD alarm: NOP	An undefined problem has occurred in the NOP.	Refer to *Lines, Trunks, and Peripherals IOD Alarm and Performance Monitoring Procedures,* 297-1001-580, for the procedure to clear a NOP alarm.
FSP alarm	An FSP power fault exists.	Refer to *Lines, Trunks, and Peripherals External Subsystems Alarm and Performance Monitoring Procedures*, 297-1001-583, for the procedure to clear an FSP alarm.
End		

Table 9-2 provides the user with a list of trouble conditions, their possible causes, and the actions that should be taken as a result of the trouble conditions.

Table 9-2
ACD trouble locating

Trouble condition	Possible cause	Action
User complaint	The trouble is located at the CO.	To determine if the trouble is located at the CO, perform the following procedures in the order listed below. ▪ Check for an IOD alarm. ▪ Check for an FSP alarm. ▪ Check the CO data unit. ▪ Check for disconnected cables. Taken as a unit, these four procedures provide the general location of the trouble, either at the CO or outside the CO (that is, at the data link or at the customer premises equipment). These procedures are also listed individually in this table and in table 9-1, with the "check for an IOD alarm" procedure broken into specific IOD alarms. Refer to *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, for details on the complete procedure.
	A malfunction in the CO data unit has occurred.	Refer to *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, for the self-test procedure.
	Cables are disconnected.	Refer to *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503, for cable checking procedures.
	A specific link of the MPC is system busy.	Refer to *Input/Output Devices Alarm and Performance Monitoring Procedures*, 297-1001-580, for the procedure to clear a specific link of the MPC that is system busy.
	The NT/800 Packet Assembler/Disassembler (PAD) is configured incorrectly.	Check the configuration of the NT/800 PAD. See "Advanced troubleshooting procedures" for the correct procedure.
	The NT/830 PAD is configured incorrectly.	Check the configuration of the NT/830 PAD. See "Advanced troubleshooting procedures" for the correct procedure.

-continued-

Table 9-2
ACD trouble locating (continued)

Trouble condition	Possible cause	Action
	A malfunction in the RT-100 Call Center Management System has occurred.	For recommended maintenance procedures, refer to NT documentation, *RT-100 Installation and Maintenance Guide*, NTMX9542.
	A malfunction in the RT-1000 Management Information System has occurred.	For recommended maintenance procedures pertaining to release 30.1 of RT-1000, refer to NT documentation, *RT-1000 Release 30.1 Installation Guide*. For recommended maintenance procedures pertaining to release 30.2 of RT-1000, refer to NT documentation, *RT-1000 Upgrade Installation Guide*, NACDMIS302.
End		

Advanced troubleshooting procedures

This chapter contains the advanced troubleshooting procedures that are referenced from the troubleshooting tables in the preceding chapter.

Task list

Following is a list of advanced troubleshooting procedures contained in this chapter. These procedures apply to Automatic Call Distribution Management Information System (ACDMIS) and Network Automatic Call Distribution (NACD). There are no advanced troubleshooting procedures associated specifically with Base ACD.

- configuring an NT/800 Packet Assembler/Disassembler (PAD)
- configuring an NT/830 PAD

Following is a list of characteristic problems occurring outside the central office (CO). Although these problems are not strictly the responsibility of maintenance personnel, an awareness of these problems may be helpful when fielding user calls.

- data link area
  - modems or data units not connected to multiprotocol controller (MPC)
  - modems not set back/back
  - speeds do not match from data unit to data unit or modem to modem
  - set to asynchronous or asynchronous modems used (connect light flashing)
  - PAD parameters incorrect
  - address does not match X.25 link or address set in table NOPADDR
  - PAD reset button pressed
  - wrong port connected from PAD to personal computer (PC)
  - wrong port connected from PAD to data unit or modem
- host PC area
  - no security device
  - cable to PAD disconnected
  - cable on wrong digiport

  - pool name wrong in setup
  - password wrong in setup
  - intensity too low on screen
  - power problem
- remote terminals
  - no security device
  - cable disconnected from host
  - null modem present or nonpresent (depends on type of digiport)
  - RT-100 or RT-1000 software not loaded
  - intensity too low on screen
  - connected to wrong digiport
  - digiport not configured
  - power problem
- external display
  - not connected
  - switch 5 not on in external display
  - wrong digiport configured
  - proper reset sequence not followed
  - no messages setup to be sent
- printers
  - connected to wrong port
  - not configured on remote terminals
  - not online
  - jammed
  - scheduler stopped in XENIX (need to reinitialize from menu)
  - power problem

Advanced trouble locating procedures

The following procedures are intended as a supplement or an adjunct to those procedures detailed in *Automatic Call Distribution Trouble Locating and Clearing Procedures*, 297-2041-503.

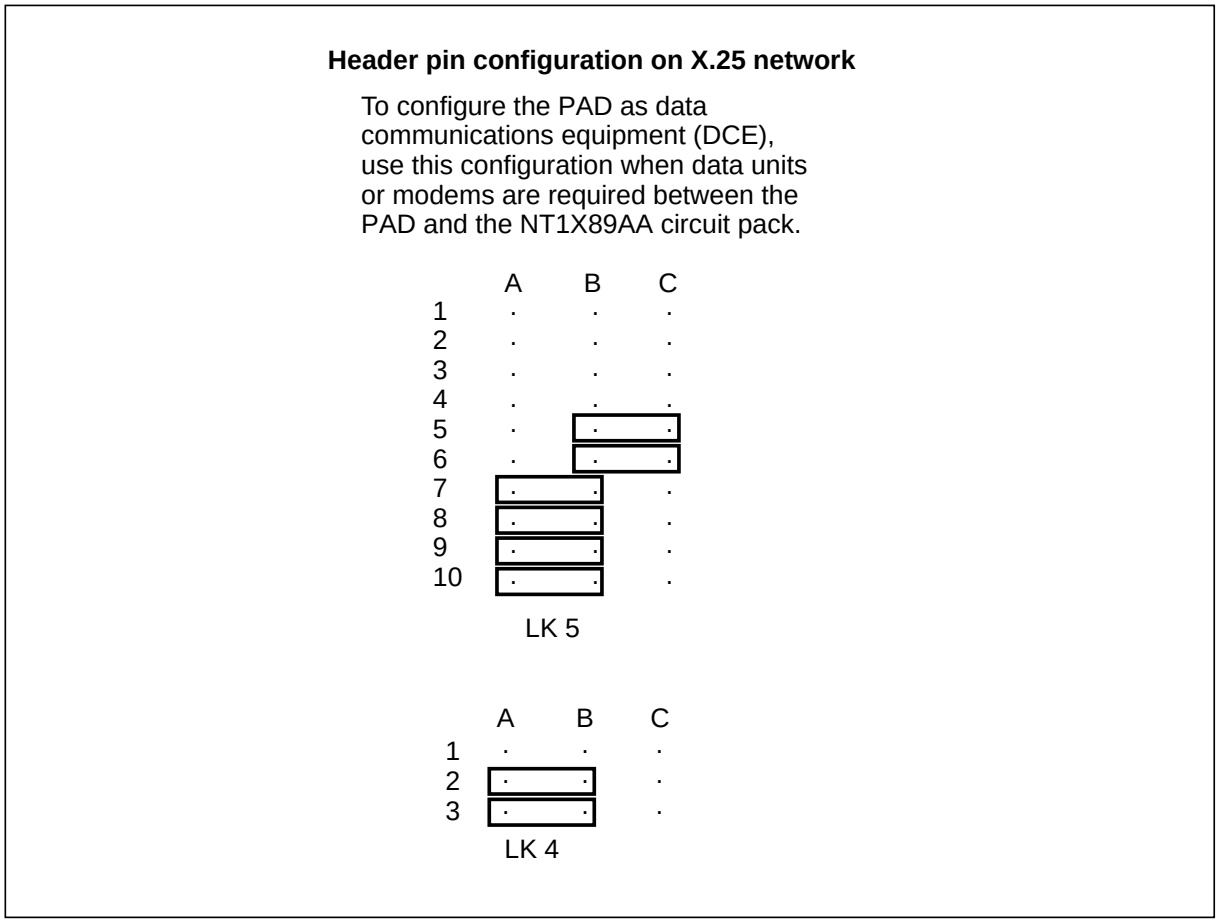
The procedures for configuring the PAD are not part of the normal maintenance performed from the CO; however, CO personnel may find themselves called upon to help troubleshoot problems in the data link, of which the PAD is a part. Note that one of the most common errors in the configuration of the PAD is that the address programmed in the PAD does not match the address in table NOPADDR. Be sure that these addresses match.

Configuring an NT/800 PAD

In the event of a customer complaint, use figure 10-1 for strapping options for the X.25 port of the NT/800 PAD and procedure 10-1 to configure the Memotech NT/800 PAD at the customer premises.

This procedure uses a sequence of command strings. Refer to *Memotech NT/800 Asynchronous Communication Processor System Reference Manual*, supplied with the PAD, for complete definitions of the various parameters that are entered for each command string.

Figure 10-1
Strapping options for the X.25 port of the NT/800 PAD



Procedure 10-1
Configuring an NT/800 PAD

Step	Action
1	Set the strapping options for the X.25 port of the NT/800 PAD as illustrated in figure 10-1.
2	To connect a VT100 or compatible terminal to the PAD with 25-to-25 pin straight cable and special Memotec T cable, a. Temporarily connect a terminal to an X.25 port on the PAD. b. Turn on the power at the PAD and terminal. c. Enter three periods (...) and press the Return or Enter key at the terminal. The service prompt will be displayed. d. The PAD assumes its default settings. These parameters can be displayed using the various display options. ***Note:*** A special Memotec T cable is required in order to program the PAD.
3	Define the call request packet by typing **>A D AD:xxxxxxxx ID:NT CH:0 UD:000000000000 PA:XYXYXY** and pressing the Enter key. The A D (add device) parameter is the remote data terminal equipment (DTE) address used by the DMS-100 to address each RT-100 system. To verify, display the command string by typing **>D D** **AD:xxxxxxxx ID:NT CH:0 UD:00000000000** and pressing the Enter key. The PAD will display the data entered. Verify the data is correct; if the data is incorrect, you must reenter the data using the AD command. ***Note:*** The eight-digit address (AD) that the call request is going to and coming from must be the same address that is datafilled in tables NOPADDR and MPCLINK.

-continued-

Procedure 10-1
Configuring an NT/800 PAD (continued)

Step	Action

4	Add the multiecho definitions by typing
	
	>A M D TR:008 SE:008, 032, 008 PA:XYXYXY
	>A M D TR:136 SE:008, 032, 008 PA:XYXYXY
	>A M D TR:008 SE:0092 PA:XYXYXY
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D M D
	and pressing the Enter key.
	
	The PAD will display
	
	`PERMANENT MULTIECHO SEQ`
	
	`TR:008 SE:008,032,008 CRT`
	`TR:136 SE:092 NON-CRT`
	
	`USR MULTIECHO SEQ`
	
	`TR:136 SE:008,032,008`

5	Add the port group by typing **>A P G AD:* GR:NT PO:02 PA:XYXYXY** and pressing the Enter key. To verify, display the command string by typing **>D P G** and pressing the Enter key. The PAD will display `GRPID:NT AD:* PORTS:02`

-continued-

Procedure 10-1
Configuring an NT/800 PAD (continued)

Step	Action

6	Set the character definition by typing
	
	>S C D ON:017 OF:019 NO:021 PO:02 EN:013 OB:000 IB:000 PA:XYXYXY
	
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D C D PO:02
	
	and pressing the Enter key.
	
	PO:02 is the port to which the American Standard Code for Information Interchange (ASCII) terminal is connected.
	
	The PAD will display
	
	`ON:017 OF:019 NOEC:021 IB:000 OB:000`
	`PO:02 END:013`

7	Define the X.25 port parameters for the PAD by typing **>S N C CH:0 LG:000 LC:05 SV:01 NS:256 SS:064 RC:20 FW:7 PW:7 T1:030 T2:015 T3:250 AV:Y EX:N PT:0100 TE:N SP:E PA:XYXYXY** and pressing the Enter key. S N C means set network configuration. To verify, display the command string by typing **>D N C** and pressing the Enter key.

-continued-

Procedure 10-1
Configuring an NT/800 PAD (continued)

Step	Action

	The PAD will display
	
	`CHAN:0`
	`LG:000  LC:005  SV:001  NS:256  SS:064`
	`RC:020  DTE:NO SP:EXTR`
	`FW:007  PW:007  T1:030  T2:015  T3:250  AV:YES`
	`EXT:NO PT:0100`
	
	Note: If the PAD connects directly to the MPC at the DMS-100 switch (that is, no data units or modems are used), enter SP:9600 instead of SP:E in the command string. When SP:9600 is used, clocking is performed by the PAD. When SP:E is used, clocking is performed by the data units or modems.

8	Assign the calling address for the call request packet by typing **>S A A PO:02 AD:xxxxxxxx CH:0 LA:Y PA:XYXYXY** and pressing the Enter key. In tables NOPADDR and MPCLINK, xxxxxxxx is the address. S A A means set address associations. To verify, display the command string by typing **>D A A PO:02** and pressing the Enter key. The PAD will display `PORT:02  LA:YES  CH:0  AD:xxxxxxxx`

-continued-

Procedure 10-1
Configuring an NT/800 PAD (continued)

Step	Action

9	Set the asynchronous parameters by typing
	
	>S A P PO:02 US:M FS:256 PC:N TP:Y DO:N CO:B DC:N PF:D0 PA:XYXYXY
	
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D A P PO:02
	
	and pressing the Enter key.
	
	The PAD will display
	
	`PORT:02 US:MODM FS:256 PCF:NO TP:YES DO:NONE`
	`CO:BOTH DC:NONE PF:D0`

10	Set the line parameters for the PAD by typing
	
	>S L P PO:02 SP:E UC:Y PR:N LE:8 ST:1 SD:N IT:000 PA:XYXYXY
	
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D L P PO:02
	
	and pressing the Enter key.
	
	The PAD will display
	
	`PORT:02 SPEED:EXTR UC:YES PR:NONE LE:8`
	`STPBIT:1 SPLIT:NO IT:0000`
	
	Note: If the PAD connects directly to the MPC at the DMS-100 switch (that is, no data units or modems are used), enter SP:9600 instead of SP:E in the command string. When SP:9600 is used, clocking is performed by the PAD. When SP:E is used, clocking is performed by the data units or modems.

-continued-

Procedure 10-1
Configuring an NT/800 PAD (continued)

Step	Action
11	Configure the user port for autoconnect by typing **>S U C PO:02 XA:N XD:000 AC:Y ID:NT IP:02 OL:02 PA:XYXYXY** and pressing the Enter key. S U C means set user configuration. This specifies that you want to configure the port used by the host computer. Note that the ID:NT (local identifier for DTE address) must be the same as the address specified previously by the add device command in Step 3. To verify, display the command string by typing **>D U C PO:02** and pressing the Enter key. The PAD will display `PORT:02 XA:NO XD:000 AUTO CONN ID:NT IP:02 OL:02`
12	Define global profiles by typing **>S A P PF:D0 PC:Y PA:XYXYXY** **SET 4:4** **SET 6:1** **S A P PC:N PF:A2 PA:XYXYXY** **S A P PF:D0 P0:02 PA:XYXYXY** and pressing the Enter key. To verify, display the command string by typing **>PAR? 4,6** and pressing the Enter key. The PAD will display `PAR 004:000,006:005`

-continued-

Procedure 10-1
Configuring an NT/800 PAD (continued)

Step	Action

13	With firmware 7.32, set the memory location of the protocol by typing
	
	>S M LO:1FB8 DA:00 PA:XYXYXY
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D M LO:1FB8 PA:XYXYXY
	and pressing the Enter key.
	
	The PAD will display
	
	`1FB8 00 -- -- -- -- -- -- -- -- --`
	`-- -- -- -- -- --`
	
	Note 1: Make sure that the first two digits following 1FB8 are 00.
	
	Note 2: With 7.25 firmware, use DA:00 for 1EE4 and DA:40 for 1EE1.

14	With firmware 7.32, set the memory location of the protocol by typing
	
	>S M LO:1FB5 DA:40 PA:XYXYXY
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D M LO:1FB5 PA:XYXYXY
	and pressing the Enter key.
	
	The PAD will display
	
	`1FB5 40 -- -- -- -- -- -- -- -- --`
	`-- -- -- -- -- --`
	
	Note: Make sure that the first two digits following 1FB5 are 40.

-continued-

Procedure 10-1
Configuring an NT/800 PAD (continued)

Step	Action
15	After entering the previous command strings, save the entries by typing **>W S PA:XYXYXY** and pressing the Enter key. W S means warm start. This instructs the PAD to initiate a warm start. If the host computer does not connect to the DMS switch, save the entries by typing **>C C ID:NT PO:02 PA:XYXYXYXY** and pressing the Enter key. ***Note:*** The PAD will not respond with a prompt. At this point, install the PAD.
	End

Configuring an NT/830 PAD

In the event of a customer complaint, use figure 10-2 for strapping options for the X.25 port of the NT/830 PAD and procedure 10-2 to configure the Memotech NT/830 PAD at the customer premises.

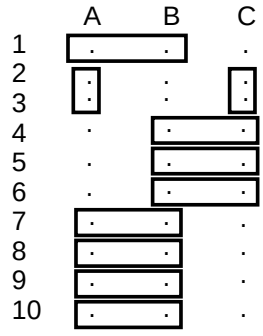
This procedure uses a sequence of command strings. Refer to *Memotech NT/830 Asynchronous Communication Processor System Reference Manual,* supplied with the PAD, for complete definitions of the various parameters that are entered for each command string.

The Memotech PAD should be a firmware release of 6.18 or higher.

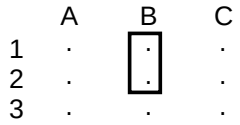
Figure 10-2
Strapping options for the X.25 port of the NT/830 PAD

Header pin configuration on X.25 network

To configure the PAD as DTE, use this configuration when there are no data units or modems between the PAD and the NT1X89AA circuit pack.

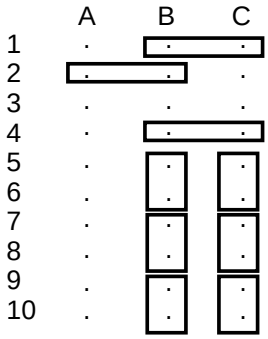


LK 12-17

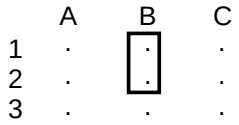


LK 18-23

To configure the PAD as data communications equipment (DCE), use this configuration when data units or modems are required between the PAD and the NT1X89AA circuit pack.



LK 12-17



LK 18-23

Procedure 10-2
Configuring an NT/830 PAD

Step	Action
1	Set the strapping options for the X.25 port of the NT/830 PAD as illustrated in figure 10-1.
2	To connect a VT100 or compatible terminal to the PAD, a. Using port 2, 4, or 5, temporarily connect a terminal to a spare ASYNC port on the PAD. b. Turn on the power at the PAD and terminal. c. Enter three periods (...) and press the Return or Enter key at the terminal. The service prompt will be displayed. d. The PAD assumes its default settings. These parameters can be displayed using the various display options.
3	Define the call request packet by typing **>A D AD:xxxxxxxx CH:1 ID:NT UD:000000000000 PA:XYXYXY** and pressing the Enter key. The A D (add device) parameter is the remote DTE address used by the DMS-100 to address each RT-100 system. To verify, display the command string by typing **>D D** **AD:xxxxxxxx ID:NT CH:1 UD:00000000000** and pressing the Enter key. The PAD will display the data entered. Verify the data is correct; if the data is incorrect, you must reenter the data using the AD command. ***Note:*** The eight-digit AD that the call request is going to and coming from must be the same address that is datafilled in tables NOPADDR and MPCLINK.

-continued-

Procedure 10-2
Configuring an NT/830 PAD (continued)

Step	Action

4	Add the multiecho definitions by typing
	
	>A M D TR:008 SE:008, 032, 008 PA:XYXYXY
	>A M D TR:136 SE:008, 032, 008 PA:XYXYXY
	>A M D TR:008 SE:0092 PA:XYXYXY
	>A M D TR:136 SE:092,013,010 PA:XYXYXY
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D M D
	and pressing the Enter key.
	
	The PAD will display
	
	`CRT MULTIECHO SEQ`
	
	`TR:008 SE:008,032,008`
	`TR:136 SE:008,032,008`
	
	`NO CRT MULTIECHO SEQ`
	
	`TR:008 SE:092`
	`TR:136 SE:092,013,010`
	
	`USR MULTIECHO SEQ`
	
	`TR:008 SE:008,032,008`
	`TR:136 SE:008,032,008`
	`TR:008 SE:092`
	`TR:136 SE:092,013,010`

-continued-

Procedure 10-2
Configuring an NT/830 PAD (continued)

Step	Action
5	Add the port group by typing **>A P G AD:* GR:NT PO:03 PA:XYXYXY** and pressing the Enter key. To verify, display the command string by typing **>D P G** and pressing the Enter key. The PAD will display `GRPID:NT AD:*  PORTS:03`

6	Set the character definition by typing
	
	>S C D ON:017 OF:019 NO:021 PO:xx EN:013 OB:000 IB:000 PA:XYXYXY
	
	and pressing the Enter key.
	
	PO:xx is the port to which the ASCII terminal is connected.
	
	To verify, display the command string by typing
	
	>D C D
	
	and pressing the Enter key.
	
	The PAD will display
	
	`ON:017 OF:019 NOEC:021 IB:000 OB:000`
	`PO:05 END:013`
	
	Note: Position and port must match. For example, use PO:05 if the ASCII terminal is connected to port 05.

-continued-

Procedure 10-2
Configuring an NT/830 PAD (continued)

Step	Action

7	Define the X.25 port parameters for the PAD by typing
	
	>S N C CH:1 LG:000 LC:05 SV:01 NS:256 SS:064 RC:20 FW:7 PW:7 T1:030 T2:0100 CA:N AV:Y AR:Y RA:Y TE:N SP:E PA:XYXYXY
	
	and pressing the Enter key.
	
	S N C means set network configuration.
	
	To verify, display the command string by typing
	
	>D N C
	
	and pressing the Enter key.
	
	The PAD will display
	
	`CHAN:1`
	`LG:000 LC:005 SV:001 NS:256 SS:064 RC:020`
	`DTE:YES SP:EXTR`
	`FW:007 PW:007 T1:030 T2:0100 CA:N AV:YES`
	`AR:YES RA:YES`
	
	Note: If the PAD connects directly to the MPC at the DMS-100 switch (that is, no data units or modems are used), enter SP:4800 instead of SP:E in the command string. When SP:4800 is used, clocking is performed by the PAD. When SP:E is used, clocking is performed by the data units or modems.

8	Assign the calling address for the call request packet by typing **>S A A PO:03 AD:xxxxxxxx CH:1 LA:Y PA:XYXYXY** and pressing the Enter key. In tables NOPADDR and MPCLINK, xxxxxxxx is the address. S A A means set address associations. To verify, display the command string by typing **>D A A PO:03** and pressing the Enter key. The PAD will display `PORT:03 LA:YES CH:1 AD:xxxxxxxx`

-continued-

Procedure 10-2
Configuring an NT/830 PAD (continued)

Step	Action
9	Set the asynchronous parameters by typing **>S A P PO:03 US:M FS:256 PC:N CO:B TP:Y DC:N ID:D0 PA:XYXYXY** and pressing the Enter key. To verify, display the command string by typing **>D A P PO:03** and pressing the Enter key. The PAD will display `PORT:03 US:MODM FS:256 PCF:NO TP:YES DO:NONE CO:BOTH DC:NONE ID:D0`
10	Set the line parameters for the PAD by typing **>S L P PO:03 SP:E PR:N LE:8 ST:1 UC:Y PA:XYXYXY** and pressing the Enter key. To verify, display the command string by typing **>D L P PO:03** and pressing the Enter key. The PAD will display `PORT:03 SPEED:EXTR UC:YES PR:NONE LE:8 STPBIT:1` ***Note:*** If the PAD connects directly to the MPC at the DMS-100 switch (that is, no data units or modems are used), enter SP:9600 instead of SP:E in the command string. When SP:9600 is used, clocking is performed by the PAD. When SP:E is used, clocking is performed by the data units or modems.

-continued-

Procedure 10-2
Configuring an NT/830 PAD (continued)

Step	Action
11	Configure the user port for autoconnect by typing **>S U C PO:03 ID:NT AC:Y XA:N PA:XYXYXY** and pressing the Enter key. S U C means set user configuration. This specifies that you want to configure the port used by the host computer. Note that the ID:NT (local identifier for DTE address) must be the same as the address specified previously by the add device command in Step 3. To verify, display the command string by typing **>D U C PO:03** and pressing the Enter key. The PAD will display `PORT:03 XA:NO XD:000 AUTO CONN ID:NT`
12	Define global profiles by typing **>S A P ID:D0 PC:Y PA:XYXYXY** **SET 4:4** **SET 6:1** **S A P PC:N ID:A2 PA:XYXYXY** **S A P ID:D0 PO:03 PA:XYXYXY** and pressing the Enter key. To verify, display the command string by typing **>PAR? 4,6** and pressing the Enter key. The PAD will display `PAR 004:000,006:005`

-continued-

Procedure 10-2
Configuring an NT/830 PAD (continued)

Step	Action

13	Set the memory location of the protocol by typing
	
	>S M LO:8001 DA:00 PA:XYXYXY
	
	and pressing the Enter key.
	
	To verify, display the command string by typing
	
	>D M LO:8001 PA:XYXYXY
	
	and pressing the Enter key.
	
	The PAD will display
	
	`8001 00 -- -- -- -- -- -- -- -- --`
	`-- -- -- -- -- --`
	
	Note: Make sure that the first two digits following 8001 are 00.

14	After entering the previous command strings, save the entries by typing **>W S PA:XYXYXY** and pressing the Enter key. W S means warm start. This instructs the PAD to initiate a warm start. If the host computer does not connect to the DMS switch, save the entries by typing **>C C ID:NT PO:02 PA:XYXYXYXY** and pressing the Enter key. ***Note:*** The PAD will not respond with a prompt. At this point, install the PAD.
	End

Powering up ACD

This section does not apply to ACD.

Powering down ACD

This section does not apply to ACD.

Common procedures

There are no common procedures referenced in this chapter.

List of terms

ACD

Automatic Call Distribution

ACDDN

Automatic Call Distribution directory number

ACDMIS

Automatic Call Distribution Management Information System

agent position

An ACD set that is a member of an ACD group and is designated to answer incoming ACD calls by having the In Calls key assigned as key number one.

ALT

Automatic line testing

American Standard Code for Information Interchange (ASCII)

Coded character set used for the interchange of information among information-processing systems, communications systems, and associated equipment. ASCII defines one format in which data is exchanged between an input/output device and the device controllers of the DMS-100 Family of switches.

ASCII

American Standard Code for Information Interchange

Automatic Call Distribution (ACD)

A set of Meridian Digital Centrex (MDC) features that assigns answering priorities to incoming calls and then queues and distributes the calls to a predetermined group of telephone sets designated as agent positions.

Automatic Call Distribution (ACD) administration group

A collection of ACD groups that are accessible to an ACD administrator.

Automatic Call Distribution (ACD) administrator

ACD personnel authorized to display and adjust ACD data for a collection of ACD groups. Also known as senior supervisor.

Automatic Call Distribution (ACD) agent queues

Grouping of agents within each ACD group. Four agent queues, made up of agent positions, are maintained according to agent status.

Automatic Call Distribution directory number (ACDDN)

A directory number used to call an ACD group. Up to 17 ACDDNs are permitted for each ACD group, with a priority assigned to each DN.

Automatic Call Distribution (ACD) group

A pool of ACD agent positions assigned to answer incoming ACD calls for up to 17 ACDDNs. A Meridian Digital Centrex (MDC) system can have up to 256 ACD groups.

Automatic Call Distribution Management Information System (ACDMIS)

A management information system that allows a downstream processor (DSP) to request and assemble ACD information.

Automatic Call Distribution (ACD) set

An electronic business set (EBS), with display, customized for ACD use by the addition of two headphone jacks used for hands-free operation. Options include add-on feature key modules.

Automatic Call Distribution (ACD) subgroup

A software-defined set of ACD agent positions within an ACD group. Up to 255 subgroups are allowed within one ACD group.

automatic line testing (ALT)

Testing of both line circuits and the attached loops. In most situations, ALT is run on a large group of lines during a low traffic period.

batch change supplement (BCS)

A DMS-100 Family software release.

BCS

Batch change supplement

BSDB

Business services database

call

In a DMS switch, any demand to set up a connection through the switch. Also used as a unit of telephone traffic.

call queue

The queue where incoming ACD calls are first placed or physically relocated.

CCITT

Consultative Committee on International Telephony and Telegraphy

CCS

Common channel signaling

CCS7

Common Channel Signaling No. 7

central office (CO)

A switching office arranged for terminating subscriber lines and provided with switching equipment and trunks for establishing connections to and from other switching offices. Also known as class 5 office; end office (EO); local office.

central processing unit (CPU)

A hardware entity, located in the central control complex frame, that contains the central data processor for the DMS-100 Family system.

CI

Command interpreter

CLLI

Common language location identifier

CO

Central office

command interpreter (CI)

A support operating system component that functions as the main interface between machine and user. Its principal roles include

- reading lines entered by a terminal user
- breaking each line into recognizable units
- analyzing the units
- recognizing command item-numbers on the input lines
- activating these commands

common channel signaling (CCS)

A signaling method in which information relating to a multiplicity of labeled messages is transmitted over a single channel using time-division multiplex (TDM) digital techniques.

Common Channel Signaling No. 7 (CCS7)

A digital, message-based network signaling standard defined by the Consultative Committee on International Telephony and Telegraphy (CCITT) that separates call signaling information from voice channels so that interoffice signaling is exchanged over a separate signaling link.

common language location identifier (CLLI)

A standard identification method for trunk groups in the form aaaa bb xx yyyy, where

- aaaa is the city code
- bb is the province or state code
- xx is the trunk group identity
- yyyy is the trunk number

Consultative Committee on International Telephony and Telegraphy (CCITT)

One of the four permanent groups within the International Telecommunication Union (ITU). The CCITT is responsible for studying technical, operating, and tariff questions. This organization also prepares recommendations relating to telephony and telegraphy, including data and program services.

CPU

Central processing unit

data communications equipment (DCE)

In a data communications system, any piece of equipment that sets up, monitors, and terminates a connection. DCE also provides the protocol conversion so that data terminal equipment (DTE) can communicate with other terminals in the data network.

data link

A full-duplex data set used to connect message desk terminal devices to the DMS-100 switch. It is also used to transmit messages between the message desk and the DMS-100 switch.

data terminal equipment (DTE)

Equipment consisting of digital end instruments that convert user information into data signals for transmission or reconvert the received data signals into user information.

DCE

Data communications equipment

Digital Multiplex System (DMS)

A central office switching system in which all external signals are converted to digital data and stored in assigned time slots. Switching is performed by reassigning the original time slots.

digital trunk controller (DTC)

A peripheral module that connects DS-30 links from the network with digital trunk circuits.

DMS

Digital Multiplex System

DMS-100 Centrex switch

A DMS-100 Family central office switch equipped with Meridian Digital Centrex (MDC) features (including ACD).

downstream processor (DSP)

A stand-alone computer that receives ACD, call-related, and agent position-related event messages generated by a DMS-100 Centrex switch. The DSP stores and processes the information to generate real-time operation displays and historical reports.

DSP

Downstream processor

DTC

Digital trunk controller

DTE

Data terminal equipment

EBS

Electronic business set

electronic business set (EBS)

A telephone set that provides subscribers with push-button access to various business features. Also known as electronic telephone set (ETS).

emergency service central office (ESCO) number

A number representing the central office at which the Enhanced 911 Emergency Service trunk group has originated.

emergency service number (ESN)

A unique combination of three digits assigned to an emergency service zone.

end office (EO)

A switching office arranged for terminating subscriber lines and provided with trunks for establishing connections to and from other switching offices.

EO

End office

ESCO

Emergency service central office (number)

ESN

Emergency service number

FCS

Flexible charging system

flexible charging system (FCS)

The flexible charging system allows for flexible charging of supplementary service features for Japan public network integrated services digital network user part (ISUP) trunks.

frame supervisory panel (FSP)

Accepts the frame battery feed and ground return from the power distribution center. The FSP distributes the battery feed, by means of subsidiary fuses and feeds, to the shelves of the frame or bay in which it is mounted. The FSP also contains alarm circuits.

FSP

Frame supervisory panel

IAM

initial address message

IBN

Integrated Business Network

ICMO

Incoming message overload

incoming message overload (ICMO)

An overload caused by a line card or business set sending messages at a high rate toward the line group controller (LGC) or line trunk controller (LTC).

initial address message (IAM)

First message in a call (connection-oriented or connection-less). It contains information required to route the call to its destination.

input/output device (IOD)

A device that allows data to be entered into a data processing system, received from the system, or both.

Integrated Business Network (IBN)

See Meridian Digital Centrex.

integrated services digital network (ISDN)

A set of standards proposed by the Consultative Committee on International Telephony and Telegraphy (CCITT) to establish compatibility between the telephone network and various data terminals and devices. ISDN is a communications network that provides access to voice, data, and imaging services from a single type of connector.

integrated services digital network user part (ISUP)

A Common Channel Signaling No. 7 (CCS7) message-based signaling protocol that acts as a transport carrier for integrated services digital network (ISDN) services. The ISUP provides the functionality within a CCS7 network for voice and data services.

International Telecommunication Union (ITU)

The specialized telecommunication agency of the United Nations, established to provide standardized communication procedures and practices, including frequency allocation and radio regulations around the world.

inward wide area telephone service (INWATS)

A telephony service that allows a subscriber to receive long distance telephone calls originating within specified service areas without a charge to the originating party. A toll free number is assigned to a certain private branch exchange (PBX) to allow for free calls.

INWATS

Inward wide area telephone service

IOD

Input/output device

ISDN

Integrated services digital network

ISUP

Integrated services digital network user part

ITU

International Telecommunication Union

LATA

Local access and transport area

LCM

Line concentrating module

LED

Light emitting diode

LGC

Line group controller

light emitting diode (LED)

A commonly used alphanumeric display unit that glows when supplied with a specified voltage.

line concentrating module (LCM)

A peripheral module that connects the line trunk controller (LTC) or line group controller (LGC) and up to 640 subscriber lines using two to six DS-30A links.

line group controller (LGC)

A peripheral module that connects DS-30 links from the network to line concentrating modules (LCM).

line of business (LOB)

An option that allows agents and supervisors to enter a three-digit code for management and tracking purposes.

line trunk controller (LTC)

A peripheral module that is a combination of the line group controller (LGC) and the digital trunk controller (DTC) and provides all of the services offered by both.

LOADMGMT

A command interpreter (CI) increment that allows an ACD administrator to make changes to the ACD setup, based on the information displayed by the ACDSHOW commands.

LOB

Line of business

local access and transport area (LATA)

A geographical area, called an exchange or exchange area in the MF5, where an operating company offers telecommunication services. LATA is used in the United States only.

LTC

Line trunk controller

maintenance and administration position (MAP)

A group of components that provides a user interface between operating company personnel and the DMS-100 Family system. A MAP consists of a visual display unit (VDU) and keyboard, a voice communications module, test facilities, and MAP furniture. MAP is a trademark of Northern Telecom.

Management Information System (MIS)

An ACD supervisory feature that generates both real-time and historical reports on agent and group performance. *See also* Automatic Call Distribution Management Information System (ACDMIS).

ManB

Manual busy

man-machine interface (MMI)

See user interface.

manual busy (ManB)

A busy state that is manually imposed on a trunk by operating a panel control or entering a command at the keyboard of a visual display unit (VDU). *See also* system busy (SysB).

MAP

Maintenance and administration position

MBS

Meridian business set

MDC

Meridian Digital Centrex

Meridian Automatic Call Distribution (ACD) with CompuCALL Option

Provides time and labor-saving enhancements for ACD call handling by linking the DMS Meridian ACD node with a user's computer.

Meridian business set (MBS)

Telephone set that provides subscribers with push-button access to various business features. This set, used by the supervisor, has one more field display than does the electronic business set (EBS).

Meridian Digital Centrex (MDC)

A special DMS business services package that uses the data-handling capabilities of DMS-100 Family offices. MDC provides a centralized telephone exchange service and was formerly known as Integrated Business Network (IBN). Meridian Digital Centrex is a trademark of Northern Telecom.

MIS

Management Information System

MMI

Man-machine interface

MPC

Multiprotocol controller

MSQS

Multistage queue status

multiprotocol controller (MPC)

A general-purpose data communications card that allows data communications between a DMS-100 Family switch and an external computer (for example, between a central office billing computer and a DMS-100 Family switch). The MPC card resides on the input/output controller shelf. MPC card protocol software is downloaded from the DMS-100 central processing unit and then used to support software routines for data packet network communication.

Multistage-Queue Status (MSQS) Display

An agent feature. This feature increases the efficiency of incoming-call handling by allowing ACD agents with display sets to determine easily and quickly the length of time calls are held in the incoming queue before being answered. Also, supervisors can use this feature to add or redistribute agents as required.

NACD

Network Automatic Call Distribution

Network Automatic Call Distribution (NACD)

A set of Meridian Digital Centrex (MDC) ACD features that allows ACD groups of the same user to be located on different DMS-100 switches.

Network Operating System (NOS)

A facility providing the DMS-100 switch with the capability of transferring data over communications links to a telephone network operating system.

network operations protocol (NOP)

A protocol that provides an interface between a DMS-100 Family switch and its remote systems, such as Automatic Call Distribution Management Information System (ACDMIS).

NOP

Network operations protocol

Northern Telecom (NT)

Part of the tricorporate structure consisting of Bell-Northern Research, Bell Canada, Northern Telecom. NT is a trademark of Northern Telecom.

NOS

Network Operating System

NPA

Numbering plan area

NT

Northern Telecom

numbering plan area (NPA)

Any of the designated geographical divisions of the continental United States, Canada, Bermuda, the Caribbean, Northwestern Mexico, and Hawaii within which no two telephones have the same seven-digit number. Each NPA is assigned a unique three-digit area code. Also known as area code.

OM

Operational measurements

on-hook

1. The condition existing in telephone operation when the receiver or handset is resting on its hookswitch. 2. One of two possible signaling states, such as tone or no-tone, or ground connection or battery connection. 3. The idle state (open loop) of a subscriber or private branch exchange (PBX) line loop.

operational measurements (OM)

The hardware and software resources of the DMS-100 Family system that control the collection and display of measurements taken on an operating system. The OM subsystem organizes the measurement data and manages

its transfer to displays and records. The OM data is used as the basis for maintenance, traffic, accounting, and provisioning decisions.

packet assembler/disassembler (PAD)

A device that enables data terminal equipment (DTE) not equipped for packet switching to access a packet-switched network. Functions of a PAD include assembling characters into packets, forwarding data packets, handling virtual call setup and clearing, and disassembling user data in packets for delivery to the start-stop DTE.

PAD

Packet assembler/disassembler

PBX

Private branch exchange

PC

Personal computer

personal computer (PC)

For ACD systems equipped with ACDMIS, a desktop computer located at the customer premises and set up to receive information from the DMS-100 switch about the status of the ACD system and its agents. Also known as the downstream processor (DSP).

plain ordinary telephone service (POTS)

Basic conventional telephone service. In the context of service screening, POTS is a pseudoservice that is derived from the combination of a bearer service of speech with no supplementary services.

POTS

Plain ordinary telephone service

preference weighting factor (PWF)

A customer-resetable value (from 0 to 100) that determines the desirability of answering a call in a specific ACD group.

PRI

Primary rate interface

primary rate interface (PRI)

An access protocol connecting an external network device, such as a private branch exchange (PBX), to an integrated services digital network (ISDN) switch. This access is provided by multiple, bidirectional, time-division multiplexed, digital channels of information. In North America, access is typically through 23 B-channels and one D-channel, often referred to as

23B+D. A PRI card provides the physical interface to the DS-1 for the MSL-1.

private branch exchange (PBX)

A private telephone exchange, either automatic or attendant operated, serving extensions in an organization and providing access to the public network.

private virtual network (PVN)

A service that uses the public and private switched network to provide private network features and capabilities.

protocol

A strict procedure required to initiate and maintain communication. Protocols may exist at many levels in one network, such as link-by-link, end-to-end, and subscriber-to-switch.

PVN

Private virtual network

PWF

Preference weighting factor

remote operations (RO) service

Handles communication between a DMS switch application and a remote system by using remote operations.

resource index (RI)

A value calculated by the DMS switch to determine the best NACD group to answer a call.

RI

Resource index

RO

Remote operations (service)

SCAI

Switch computer application interface

SCP

Service control point

SDN

Secondary directory number

secondary directory number (SDN)

An optional non-ACD directory number assigned to a feature key on an electronic business set (EBS).

service control point (SCP)

A node in a Common Channel Signaling No. 7 (CCS7) signaling network that supports application databases. The function of an SCP is to accept a query for information, retrieve the requested information from one of its application databases, and send a response message to the originator of the request.

service switching point (SSP)

A Common Channel Signaling No. 7 (CCS7) signaling node that interacts with the service control point (SCP) to implement special service code features.

SRT

Station ringer test

SSP

Service switching point

station ringer test (SRT)

Test performed on station equipment, usually a residential telephone station or a coin station, by a person at that station without the involvement of the switch operator at the central office (CO). The SRT checks digit collection, coin return, and on-hook and off-hook ground. Available on plain ordinary telephone service (POTS) sets, Meridian business sets (MBS), and ACD sets.

subgroup

In ACD, a grouping of agents. Up to 256 agent positions can be handled by a single, associated supervisor position in a subgroup.

supergroup

In ACD, a collection of groups. Up to 48 groups with 256 agents each can function as one networked supergroup.

supervisor position

An ACD set with special ACD supervisory functions and having the SUPR option assigned to key number one.

switch computer application interface (SCAI)

A software base in the DMS-100 switch that allows communication between an application on a DMS switch and a remote host application over an SCAI link.

SysB

System busy

system busy (SysB)

A busy state that is automatically imposed by equipment in response to a fault condition. *See also* manual busy (ManB).

TCAP

Transaction capability application part

TDM

Time-division multiplex

time-division multiplex (TDM)

A means of obtaining a number of channels over a single path by dividing the path into a number of time slots and assigning each channel its own intermittently repeated time slot. At the receiving end, each time-separated channel is reassembled. The system is ideally suited for the transmission of digital data and is now used for digitized speech and other signals. The time slot allocation can be repeated regularly (fixed cycle) or made according to demand (dynamic).

transaction capability application part (TCAP)

Provides a common protocol for remote operations across the Common Channel Signaling No. 7 (CCS7) network. The protocol consists of message formatting, content rules, and exchange procedures. TCAP provides the ability for the service switching point (SSP) to communicate with a service control point (SCP). TCAP is used by the integrated services digital network (ISDN) layer facility message to transport service information for transaction signaling, not associated with an active call, over primary rate interface (PRI) links.

user interface

The series of commands and responses that are used by operating company personnel to communicate with the DMS-100 Family system machines. User interface is achieved through the maintenance and administration position (MAP) terminal and other input/output devices (IOD). Formerly called man-machine interface (MMI).

VDU

Visual display unit

VFG

Virtual facility group

virtual facility group (VFG)

A software structure that emulates a trunk. For example, a VFG can be used to limit the number of calls coming into a customer group or to simulate a loop-around trunk without using physical trunk resources. This software structure also allows E911 data, such as service numbering plan area (NPA), emergency service number (ESN), or emergency service central office (ESCO) (number) digits, to be associated with an E911 call.

visual display unit (VDU)

An electronic output device that presents data to a terminal user in the form of a television picture. In a DMS switch, the VDU is one of the components of the maintenance and administration position (MAP) and, along with a keyboard, provides the main user interface in the DMS-100 Family system.

VTG

Virtual trunk group

X.25

A Consultative Committee on International Telephony and Telegraphy (CCITT)-defined, network layer protocol that is used in packet switching to establish, maintain, and clear virtual circuit connections between an integrated services digital network (ISDN) terminal and a destination in the packet switching network.

DMS-100 Family

Automatic Call Distribution

Maintenance Guide

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