Description

A system with the ACD feature is basically divided into two parts: the ACD system and the Meridian 1.

Incoming calls to the ACD portion of the system are compiled in a queue by the switch and answered by a group of assigned ACD telephones. Each ACD telephone, called an agent position, is dedicated to a particular ACD Directory Number (DN) (queue).

Each switch can serve up to 100 customers, each customer having many ACD queues. Each queue is defined by its ACD DN. The ACD DN is a unique number of up to seven digits taken from the customer's numbering plan.

Incoming calls are assigned queue positions based on priority and then first-in order. They are then distributed equally to all the active agent positions assigned to that particular queue. The system creates two queues for each ACD DN. They are as follows:

— incoming calls

— agent positions ready to receive calls

The system matches available agents with incoming calls. System and ACD limits are shown in Table 1.

Table 1
ACD DN based on machine type

Machine Type									
ST	STE	NT	RT	XT	21	21E	51/61	71	81
Maximum number ACD DNs and Control Directory Numbers (CDNs) per customer									
240	240	240	240	240	240	240	240	240	240
Maximum number of agents per system									
Note: With X11 Release 19 and later, the maximum number of agents per system has increased to 10,000. The number of agents on a system must be within the parameters set by the IDLB and IDUB prompts in LD 23.									
120	120	1200	1200	1200	120	120	1200	1200	1200
Maximum number of agents per ACD DN									
120	1200	1200	1200	1200	120	1200	1200	1200	1200

ACD agent telephone types

An ACD agent position is a telephone with an ACD DN assigned to it. Some agent positions can be designated as supervisors; the agent position status can be switched between agent and supervisor. The ACD system supports both digital and analog (500/2500 type) telephones.

analog (500/2500 type) telephones

Analog (500/2500 type) telephones can be used as ACD agent positions. This feature allows the telephone to operate both as an ACD agent position and as a standard telephone with an Individual Directory Number (IDN). The analog (500/2500 type) telephone has most of the functions of the digital telephone except for the following:

— It cannot be assigned a supervisor status.

— It cannot be a virtual agent position.

— It can have only one DN appearance, acting as both an IDN and the ACD agent position.

Analog (500/2500 type) telephones are not equipped with keys and cannot support features requiring keys or key lamps. For example, these telephones are not supported by the Message Center feature. They can be defined as Message Center ACD agents, but will not support the Message Cancellation (MCK) and Message Indication (MIK) keys. Therefore, it is strongly recommended that analog (500/2500 type) agents not be configured in an ACD Message Center. Refer to *X11 features and services* for more information on analog (500/2500 type) telephones and using SPRE codes.

QSU1

The QSU1 telephone is the basic telephone, equipped with the following standard features:

— Handset

— Push Button Dial pad

— Volume Up and Volume Down keys

— Built-in loudspeaker

— Ten programmable feature keys, eight with an associated lamp for visual indications

— Hold key

The number of programmable feature keys can be increased by adding one or more QMT1 or QMT2 add-on modules. The QMT1 has 10 buttons; the QMT2 has 20 buttons.

QSU3

The QSU3 telephone has all the features of the QSU1 plus a 16-digit display. It shows call source and other information related to both call-processing and other optional features. The QSU3 telephone should be used when the agent needs to know the source of a call or that a call has been overflowed from another queue. This telephone is also required if the agent position is to be equipped with Time and Date Display or other display features.

QSU7

This telephone type has both the digit display and two jacks (one for headset and one for handset operation), but does not have a built-in handset.

M2216ACD

The M2216ACD telephone is available in two versions. Both versions have the following features:

— fully digital

— two jacks for headset or handset operations

— 15 programmable keys; 16 programmable keys if display is not enabled

— independent volume controls

— Message Waiting indicators

— Display options

— Integrated voice-data calling available with a Meridian Programmable Data Adaptor (MPDA)

— on-hook dialing capabilities

— NT2K22 22-Key Expansion Module for expanded functions (optional)

— configured as maintenance telephones; does not support attendant services and attendant key features
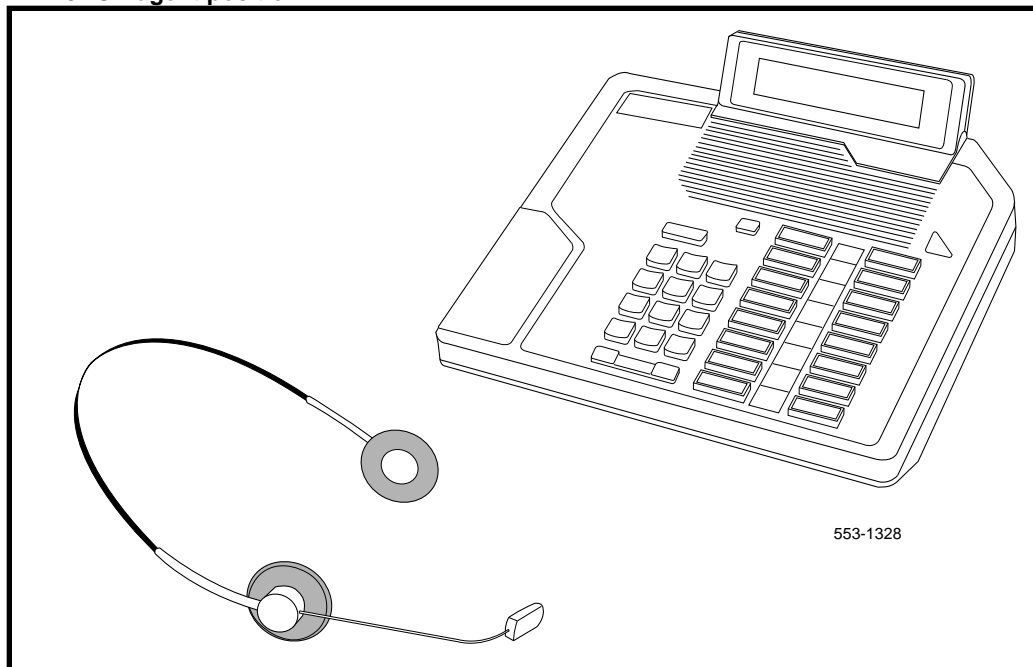
M2216ACD-1
This basic telephone has two RJ-32 jacks for headset operations.

M2216ACD-2
This telephone has one RJ-32 jack for listen-only headset operation and one PJ-327 jack for a Carbon headset.

Figure 1 illustrates the M2216ACD telephone with the headset.

Figure 1
M2216ACD agent position

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ACD display enhancement

Enhanced displays give more information to ACD agents equipped with the M2216 digital telephones.

This information shows the current status and informs the agent of any required actions. Supervisor telephones provide information for implementing the following services:

ACNT   Activity Code
AAG   Answer Agent
AMG   Answer Emergency
RAG   Call Agent
DAG   Display Agent
DWC   Display Waiting Calls
Log In Log In by Agent
MSB   Make Set Busy
OBV   Observe Agent
NSVC   Night Service
TOFQ   Time Overflow Queuing

Refer to *Meridian 1 telephones description and specifications* (553-3001-108) and the *M2216 user guide* (P0744257) for a more detailed explanation of telephone operations and examples of the display output.

Feature requirements

Displays require the following packages:

— Digit Display (DDSP) package 19

— Digital Sets (DSET) package 88

— Meridian Modular Sets (ARIE) package 170.

The system must contain the feature packages required.

Feature packages are only supported on the agent positions with the ACD system. The feature drives displays as defined in firmware. The telephone must have a Digit Display Class of Service (CLS) defined (ADD, DDS).

Feature interactions

The screen displays are event driven and each new event overwrites the previous display. The features must be enabled for the event to occur.

Calls that have not been answered by an agent terminated to the dialed DN cannot be placed on hold.

Enhanced Override

The Forced Camp-on or Priority Override feature cannot be used on sets involved in ACD calls. The Overflow (fast busy) tone is returned to sets attempting Forced Camp-on or Priority Override.

Forced Camp-on

The Forced Camp-on feature cannot be used on sets involved in ACD calls. The Overflow (fast busy) tone is returned to sets attempting Forced Camp-on.

Phantom TNs

Phantom TNs cannot be configured as ACD agents.

Priority Override

The Priority Override feature cannot be used on sets involved in ACD calls. The Overflow (fast busy) tone is returned to sets attempting Forced Camp-on or Priority Override.

Recall to Same Attendant

Recall to Same Attendant does not apply to ACD.

Ring Again on No Answer (RANA)

If an unanswered call is forwarded to another station by Automatic Call Distribution, RANA is applied to the originally-dialed station.

ACD supervisor telephone

It is recommended that the ACD supervisor use a telephone with digit display equipped with sufficient add-on modules to provide the following:

— one key/lamp pair for each ACD agent in the supervisor's group (up to 58 pairs)

— one key/lamp pair for each call queue (ACD DN) for which the supervisor's agents are responsible (up to 59 pairs)

Operation

This section describes headset operation and the incoming calls and agent queues.

Headset operation

Telephones can be equipped with a plug-in headset. QSU1 or QSU3 telephones can be modified to provide single headset jacks by using the QKN1 kit. When agent positions are equipped for headset operation, tone ringing is replaced by a 3 second buzz tone from the loudspeaker.

The ACD software program creates two queues for each ACD DN:

— one for incoming calls

— one for ACD agent positions

Incoming Calls queue

When all agents are busy, the incoming calls are placed in the appropriate incoming call queue on a priority and order-of-arrival basis. They are then presented to agents as the agents become available.

Calls in the incoming call queue can result from one of the following:

— seizing an incoming CO, FEX, or WATS trunk arranged to auto-terminate on an ACD DN rather than the attendant

— dialing the ACD DN over an incoming TIE or DID trunk

— calls directed by Incoming Digit Conversion (IDC)

— dialing the ACD DN from a telephone within the system

— attendant extending a call to the ACD DN

An individual trunk is assigned to a specific incoming call queue in service change. A trunk is assigned to only one ACD DN at a time.

Agent queue

If agents are available and there are no incoming calls waiting, the available agents are placed in the designated agent queue on a first-in, first-out basis. ACD queues can be single (See Figure 2) or multiple (Figure 3). The agent who has been idle the longest receives the first incoming call. The following rules apply to ACD agent queues:

— An agent can be assigned to only one ACD DN at a time.

— The size of the agent queue varies according to the number of agents available to receive ACD calls.

— The maximum number of agents that can be assigned to an ACD DN for efficient call processing for each switch type is listed here.
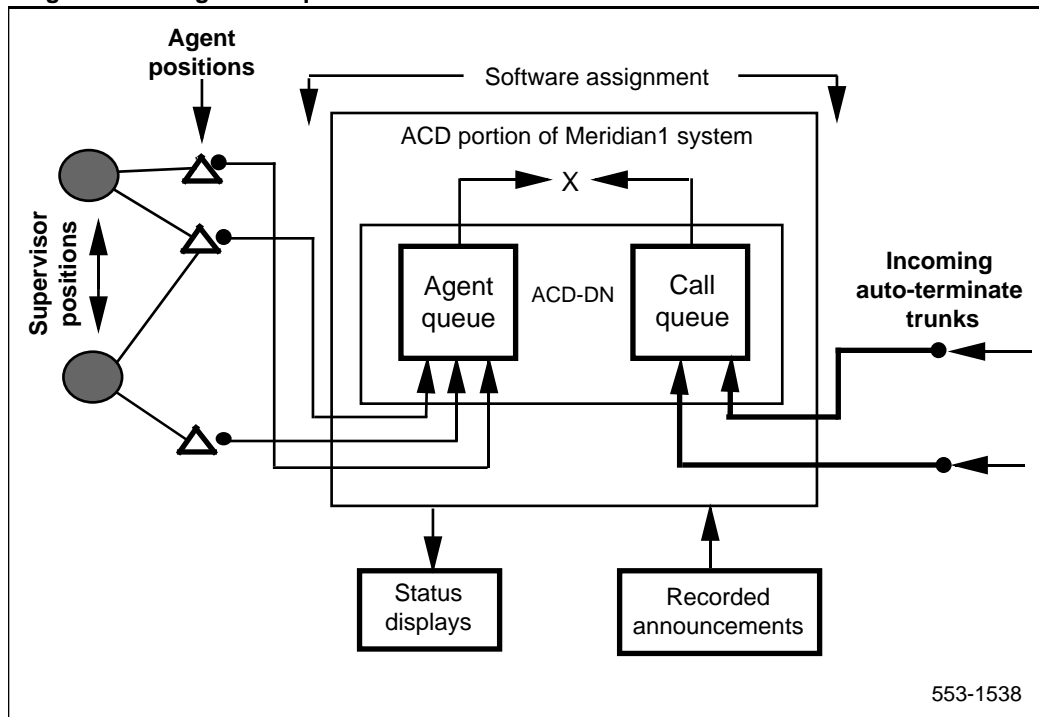
XT	1000 maximum
NT, ST	500 maximum
STE	500 maximum
RT, VLE, XL, XN	240 maximum
LE, N	120 maximum
M, S, MS	70 maximum
System option 21	500 maximum
System option 21E	500 maximum
System option 51	500 maximum
System option 61	500 maximum
System option 71	1000 maximum
System option 81	1000 maximum

— ACD DN agent positions are not restricted to a single network loop.

An agent is removed from the queue by any of the following events:

— answering an ACD call

— dialing or answering a call on any other key of the agent position

— enabling the Not Ready (NRD) key

— enabling the Make Set Busy (MSB) key

— unplugging the headset or handset when HOML = YES. See LD 23 in the *X11 input/output guide* for a complete description.

Figure 2
Diagram of a single ACD queue

Agent positions

Supervisor positions

Software assignment

ACD portion of Meridian1 system

X

Agent queue

ACD-DN

Call queue

Incoming auto-terminate trunks

Status displays

Recorded announcements

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Figure 3
Diagram of multiple ACD queues

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