9109-096-620-NA Issue 3 February 1994

SX-200® DIGITAL PABX

SX-200 LIGHT PABX

ACD TELEMARKETER® APPLICATION PACKAGE

MITEL®

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1. GENERAL

This practice describes the features, operation, and programming of the ACD TELEMARKETER® Applications Package for the SX–200® DIGITAL and *SX–200* LIGHT Private Automatic Branch Exchange (PABX).

Reason for Reissue

1.1 This practice is reissued to include revisions and additions to the information contained in the previous issue.

Intended Audience

1.2 This practice is for those involved in the marketing, installation, programming, and operation of the *SX–200* DIGITAL and *SX–200* LIGHT *ACD TELEMARKETER* feature.

Manual Structure

1.3 This practice is divided into sections with each section covering a specific area of the *ACD TELEMARKETER* feature:

- **General** describes the structure and content of the practice.
- **ACD Overview** covers basic ACD concepts.
- ***ACD TELEMARKETER* Feature** outlines the implementation of ACD in the ACD Telemarketer package, and introduces the terminology related to the feature.
- **Configuring an ACD System** describes the steps to follow when planning a new ACD installation.
- **ACD Agent Sets** describes the features and operation of the SUPERSET 4™, SUPERSET 410™ and SUPERSET 420™ telephones used by ACD agents.
- **ACD Supervisor Sets and Senior Supervisor Sets** describes the features and operation of the *SUPERSET 4* and *SUPERSET 420* telephones used by ACD supervisors and senior supervisors.
- **Reports** covers the various reports available from the *ACD TELEMARKETER* Application package, and describes how to route the reports to the system printer.
- **Monitors** describes the monitor displays, and the contents of each display.
- **Programming** covers tasks required to complete the programming forms for installing the *ACD TELEMARKETER* feature, and customizing its operation to meet the requirements of the user.

Conventions

1.4 To simplify the descriptions in this practice, the following conventions have been followed:

Key Names

Names of keys on a keyboard are shown in bold.

Example: **Return**

Data Entry

Data to be entered by the user is shown in bold uppercase.

Example: **EXIT**

Data Entry Instructions

The following conventions have been used throughout this manual when presenting data entry instructions to the user:

Type: Type the information (usually a single key) as shown without pressing the Return key.

Example: Type **A**

Enter: Type the information as shown and press the **RETURN** key.

Example: Enter **HOTEL**

Press: Press the indicated key(s) with no return.

Example: Press **<CTRL> <C>**

Associated Documents

1.5 Refer to the following practices for additional information:

- Features Description (9109–096–105–NA)
- Customer Data Entry (9109–096–210–NA)

2. ACD OVERVIEW

This section of the practice gives a general overview of Automatic Call Distribution (ACD) and describes the basic components found in ACD systems. If you are familiar with ACD concepts, turn to Section 3 of this practice for details on the implementation of the *ACD TELEMARKETER* feature for the *SX–200* DIGITAL and *SX–200* LIGHT PABX.

Automatic Call Distribution

2.1 Automatic Call Distribution (ACD) offers uniform distribution of incoming calls to station users (agents). Calls are routed to groups of agents according to the type of information or service required by the caller. The agents are trained and equipped to provide the particular information or service the caller is requesting. If calls cannot be handled immediately, the caller is usually provided with recorded announcements and/or music until an agent is available.

Most ACD systems generate one or more reports listing call handling statistics and ACD traffic levels. The system administrator uses these reports when determining optimum staffing levels, acceptable caller delay times, and use of system resources.

ACD Applications

2.2 Typical ACD applications include airline reservation offices, telephone order desks for department stores, and customer service departments of telephone or cable TV companies. In all cases, the caller is attempting to reach an individual who can supply a service, answer a question, take a reservation, or accept a purchase order.

Call Queueing

2.3 To ensure optimum use of personnel and system resources, historical calling patterns are often used to determine staffing levels for the agents. Most ACD installations set staffing at levels that ensure the average number of callers equals or exceeds the number of agents. During peak periods when all agents are busy, callers are placed in a queue to wait for the first available agent.

While a caller is waiting in the queue, the ACD system can provide recorded announcements and music at predetermined intervals. The first recording typically advises the caller that all agents are busy, and that an agent will answer as soon as possible. If an agent is unavailable after a programmed interval, additional recordings can inform the caller about call progress, or advise the caller of information that will be required when the agent answers.

If calls arrive when some of the agents are free, the system may be programmed to equalize the workload by directing the next incoming call to the agent who has been idle the longest.

Staffing an ACD System

2.4 In most ACD applications, the individual handling ACD calls is referred to as an agent. Agents are often specially trained to deal with the caller's problems or requests.

A supervisor normally oversees the ACD operation by monitoring the activity of the agents, reassigning agents to handle overload conditions, and dealing with unusual situations that may arise.

Reports

2.5 ACD systems normally provide a reporting mechanism that allows tracking of key items such as the number of calls handled during a specific time period, the length of the calls, and the number of calls abandoned (caller hangs up before an agent answers). From these reports, the supervisor can determine optimum staffing levels and track the performance of individual agents.

Monitors

2.6 While reports give a hard copy record of events over a period of time (such as a shift), a monitor gives a snapshot of conditions in the system at any instant. By monitoring the ACD system, the supervisor is aware of the current situation and can quickly reassign agents to handle overload conditions.

3. *ACD TELEMARKETER* FEATURE

ACD TELEMARKETER Overview

3.1 The *ACD TELEMARKETER* Application Package is an advanced Automatic Call Distribution (ACD) system that is fully integrated with the MITEL *SX–200 DIGITAL* and *SX–200* LIGHT PABX, and designed with the power and performance needed to ensure satisfaction in the most demanding telemarketing environments.

This section provides information on the following components of the *ACD TELEMARKETER* system:

- **ACD Path.** This innovative call routing design guides incoming calls through the system. The ACD path defines all information required for each type of call, including how the system will handle queued callers. Refer to paragraph 3.2.
- **ACD Call Flow.** Paragraph 3.3 describes the handling of a typical ACD call arriving at the system.
- **ACD Sets.** *SUPERSET 4* and *SUPERSET 420* telephones may be used in the senior supervisor, supervisor or agent positions with the *ACD TELEMARKETER* feature package. *SUPERSET 410* telephones may be used in the agent position only. Refer to paragraph 3.4 for details.
- **ACD Positions.** The *ACD TELEMARKETER* feature package structures the personnel handling ACD calls into a hierarchy of ACD positions. The ACD package supports three types of positions: senior supervisors, supervisors, and agents. Refer to paragraph 3.5 for further information.
- ***ACD TELEMARKETER* Reporting System.** The *ACD TELEMARKETER* Reporting System is a PC–based software package for collecting ACD data generated by the *SX–200* DIGITAL or *SX–200* LIGHT PABX. This reporting system produces a series of daily, weekly and monthly historical reports. Refer to paragraph 3.6 for details.
- **Recorded Announcements.** The *ACD TELEMARKETER* feature uses recorded announcements to tell callers about the progress of their call while waiting in the queue for the first available agent. Paragraph 3.7 describes recorded announcement devices (RADs) and recording groups.

ACD Path

3.2 The *ACD TELEMARKETER* feature is built around the "ACD Path", a call routing mechanism which provides all information required for handling an ACD call. Use of the ACD Path gives users unmatched flexibility during initial programming and when adding new features.

99 ACD paths may be programmed to allow customized routing for a wide variety of incoming calls. Each path is assigned a priority and is given a unique access code and descriptive path name (optional). This information determines how the system handles queued callers, system resources to be used, when the call will be answered and who will answer the call.

Upon entering the ACD system, a call is allocated a path, and assigned the parameters of that path. These parameters remain with the call for its duration.

Path Access Code

Incoming trunks carrying ACD calls are routed to a path access code. This code points the trunk to the ACD agent groups and recorded announcements appropriate for the type of call.

Path Priority

Each path is assigned a priority level in the range 1 to 99, with 1 being the highest priority. Calls arriving on high priority paths move directly to the front of the call queues for servicing before those calls which entered on a lower priority path.

Path priority can be an effective tool for reducing communications costs and improving customer service. For example, call queue time can be reduced by directing expensive incoming trunks, such as long distance collect or INWATS, to a high priority path. Customers can be assured of prompt service if their calls are routed through a high priority path.

Path Access

All devices have unrestricted access to ACD Paths except loop start CO and loop start DISA trunks. The COS Option "Loop start trunk to ACD path connect" (COS Option 812) controls ACD access for loop start trunks. By default this option is disabled, blocking loop start trunks from entering ACD.

Path Rerouting

The ACD path access code can be placed in the call rerouting table to link existing routing schemes (such as DID trunk routing points) to the ACD system. Rerouting to ACD paths is set up as follows:

- For dial–in trunks, the system uses the current routing for incoming calls, as defined in CDE Form 19, to send calls to an ACD path.
- For non–dial–in trunks, one or all of the Day/Night1/Night2 answering points is programmed as an ACD path.

Calls entering the system on different trunk types can be routed to the same ACD path.

The rerouting scheme means a trunk does not have to be dedicated to ACD. The day answering point may be an ACD path but the Night1 and Night2 answering points may be an attendant console or any other valid routing point.

Service Level

The service level for a path defines a standard time to answer that becomes the criteria for measuring path performance. Service level is programmable within the range 0 seconds to 54 minutes.

When an ACD call is answered by any group in a path, software compares the actual time to answer with the programmed Service Level. The system creates a record indicating if the time to answer was:

- less than or equal to the service level time, or
- greater than the service level time.

This information is stored for statistical analysis and can be viewed from the ACD Path Monitors and Group/Path Summary Reports.

Overflow

Higher priority paths are given special treatment when placed in overflow queues. Predictive overflow is another key element of the *ACD TELEMARKETER* feature. The system uses overflow queues to keep call queueing time to a minimum. The system performs a load calculation when each new call arrives at an agent group or when the status of an agent changes. If the system predicts that a call will not be answered before the normal overflow time, it forces an immediate overflow.

Priority calls entering an overflow queue are placed ahead of non–priority calls in the same queue. The non–priority calls maintain their position in relation to each other, but follow the priority calls.

Each path is assigned one primary agent group and up to three overflow groups. Timers programmed in CDE for each agent group determine how long a call waits on a group before overflowing. If the system predicts that a call will not be answered before the timer expires, the system forces an immediate overflow without waiting for the timer to expire.

Interflow

Unlike overflowed calls, interflowed calls are rerouted from ACD to an alternate answer point.

Each path has a programmable interflow timeout field that specifies the maximum period that an unanswered call can wait in a path before the system routes the call to an interflow point. The interflow point can be:

- a listed directory number for a station, console, nightbell, ACD path, station/set hunt Automated Attendant group, or UCD agent group,
- a logical line,
- a system abbreviated dial number.

To limit the time that a caller remains on the line waiting for an agent, the system can also be programmed to drop interflowed calls.

In addition, the customer can program the system to overflow to the interflow point as soon as the system determines that the call is unlikely to be answered at the last agent group in the path.

Calls interflowed to a system abbreviated dial are treated by the system as an external call forward. This means that the interflow requires a receiver. If a receiver is unavailable when the interflow occurs, the call is dropped. The only indication of the dropped call is a receiver unavailable peg in the traffic report. The call appears in the ACD reports as an interflowed call.

If Automatic Route Selection (ARS) is busy when a call interflows to a system abbreviated dial, the system attempts a campon to ARS.

The path from which the caller interflows is set up as the original forwarding destination for the caller. When the interflow point is an internal device, such as a *SUPERSET 4* or *SUPERSET 420* telephone, the display indicates the call is being forwarded from a path.

Music Between Recordings

Between each recording on an ACD path, the incoming caller, by default, listens to the system music source (if programmed). An alternate music source may be specified between each recording and after the last recording.

Alternate Music Source

The alternate music source is an off hook ONS port that connects to callers in a listen–only conference. The user decides what is supplied on the ONS port – silence, music, or endless loop recordings. If there is no system music and no alternate music source, the caller hears silence between RAD messages.

The device can be a telephone, a recording device, or a transfer device (8/600 ohms) that simulates an off hook and allows connection of an audio source such as a radio. The system connects callers only if the device is off hook. There are no restrictions on how paths share alternate music sources.

Note: Depending upon country of installation, the alternate music source must be either an FCC Part 68 or DOC approved voice coupler, or voice connecting arrangement to an ONS circuit.

ACD Call Flow

3.3 The following paragraphs describe the handling of a typical ACD call arriving at the system on an incoming trunk. Included is a description of what the caller hears at each stage of the call. Figure 3–1 shows the system action in determining what the caller hears while in the queue.

ACD Caller

The system considers an ACD caller anyone who is on, or has been answered by an ACD path. Once answered, the ACD caller status remains while the caller is talking to an agent, on hold by an agent, or in the process of being transferred by an agent.

After an ACD caller has been answered by an agent, the PABX reverts to normal call handling but provides additional tracking for ACD session timing, ACD hard–hold timing, and the caller's identification as an ACD caller. When an ACD caller reaches the console through either a supervised or unsupervised transfer, the ACD caller status ends. If, during a supervised transfer, the person performing the transfer remains on the line after the console answers, the ACD session is terminated.

Typical Call Handling

If multiple agents are free when an ACD call is presented to a group, the system sends the call to the longest idle agent. To select the longest idle agent, the system gives a number to the first agent finishing an ACD call. The next agent to finish an ACD call is given the next higher number, and so on. When a call arrives at the group, the system sends the call to the agent with the lowest number. The number does not change if the agent makes a non–ACD call.

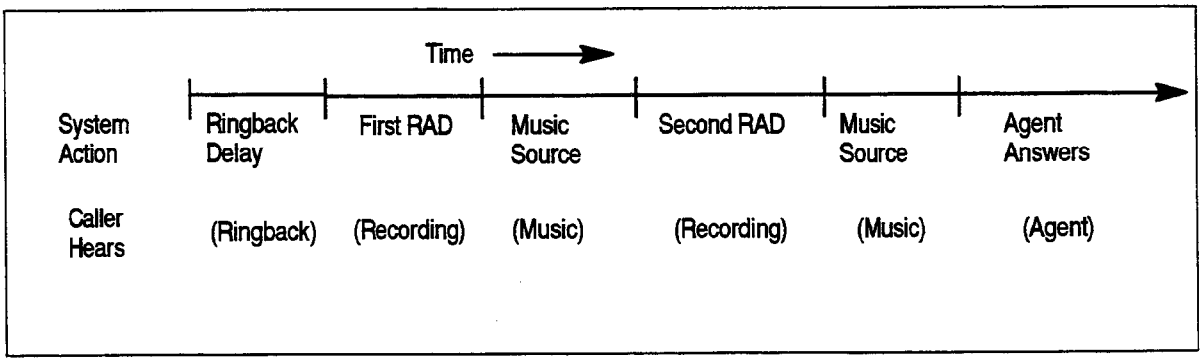


Figure 3–1 ACD Call Progress – All Agents Busy

1. ACD Call arrives at the path specified as the answer point for the trunk.
   - As shown in Figure 3–1 the caller hears ringback until the Ringback Delay timer expires. This timer ensures the caller hears at least one ringback before an agent answers.
2. The incoming call queues on the primary agent group for the path.
   - If agent is available, call rings agent, (See Note).
   - If multiple agents are available, the call rings the longest idle agent; if not, caller waits for first recorded announcement.

Note: Once the agent set begins ringing, the call must be answered. If the called agent fails to answer within the period programmed for the Forward Timer in the agent's COS, the system forces the agent's set into Make Busy and routes the call to another agent in the group. This operation is transparent to the caller.

3. System connects caller to the first available RAD in the first recording group defined for the path.
   - Caller listens to first recording. Call remains queued on first agent group.
4. When RAD message ends, system connects call to music–on–hold (MOH) source or to first alternate source as defined for the path.
   - Caller hears music or alternate source.
5. After time interval programmed in the path for Recording 2 starts, system connects call to first available RAD in second recording group defined for the path.
   - Caller listens to second recording. Call remains queued on first agent group.
6. System connects call to MOH source or to second alternate source as defined for the path.
   - Caller hears music or alternate source.
   - Caller continues listening to music and recorded announcements until an agent is available. Timing is set in CDE .
   - Up to four recordings can be programmed for each path.
7. If the call remains queued against the first agent group for a period exceeding the overflow time programmed for the group, the system adds the first overflow group defined for the path.
   - Caller is now queued on two groups.
   - Caller continues listening to music and recorded announcements until an agent is available.
   - Caller retains position in queue for primary agent group
   - Path priority determines position of call in overflow group.

The system can add up to three overflow groups if a call remains unanswered. Overflow times are programmed individually for each agent group. Figure 3–2 shows how overflow groups are added as the caller waits in the queue.

8. The system performs a load calculation when each new call arrives at an agent group, or when the status of an agent changes. If the system predicts that a call will not be answered before the overflow timer expires, the system forces an immediate overflow. This predictive overflow is always enabled.

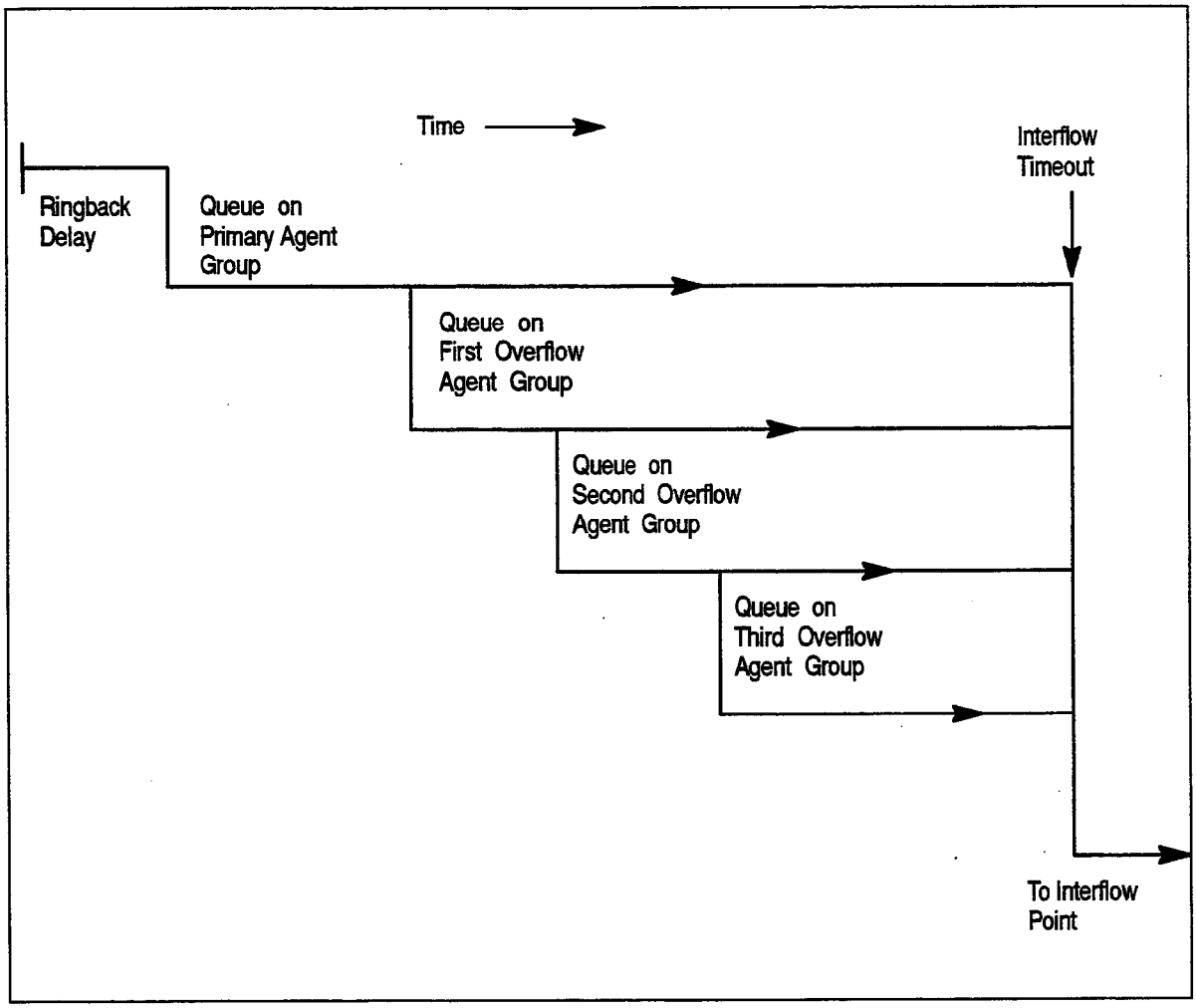


Figure 3–2 Overflow/Interflow

9. As shown in Figure 3–2 if the call remains unanswered for a period exceeding the Interflow Timeout programmed for the path, the system routes the call to the interflow point which can be an internal or external destination. The call is handled as a call reroute.

ACD Sets

3.4 The *SUPERSET 4, SUPERSET 410* and *SUPERSET 420* telephones (Figure 3–3 to Figure 3–5) used by ACD positions provide call status and progress information about agent groups and individual agents. A supervisor's set (*SUPERSET 4* or *SUPERSET 420*) provides agent reports and queue status reports for the supervisor's agent groups. An agent's set (*SUPERSET 4, SUPERSET 410* or *SUPERSET 420*) provides queue information for the agent's group.

SUPERSET 4, SUPERSET 410 and *SUPERSET 420* telephones used with the *ACD TELEMARKETER* Feature Package offer:

- Single key feature activation
- Supervisor monitoring of agent calls with or without agent notification
- Agent help requests during a conversation – transparent to ACD callers (not applicable to *SUPERSET 410* telephones)
- Handset/handsfree/headset operation. (COS Option number 612 must be enabled in the user's COS prior to operation. The telephone handset should remain offhook when headsets are in use).
- LCDs load status information
- Auto answer
- Time and date display (*SUPERSET 4* and *SUPERSET 420* telephones)
- Path name display when calls are presented to the agent (not applicable to *SUPERSET 410* telephones)
- Make Busy keys to temporarily block ACD calls from agents sets
- A programmable name for every ACD entity: paths, RADs, groups, agents and supervisors
- A programmed set of speedcall keys (via CDE programming)

Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS) are available with LIGHTWARE™ 15 Enhanced software through COS options programmed during Customer Data Entry (CDE). ANI provides the telephone number of the calling party; DNIS provides the telephone number dialed by the calling party. Refer to Practice 9109–096–105–NA, Features Description, for details.

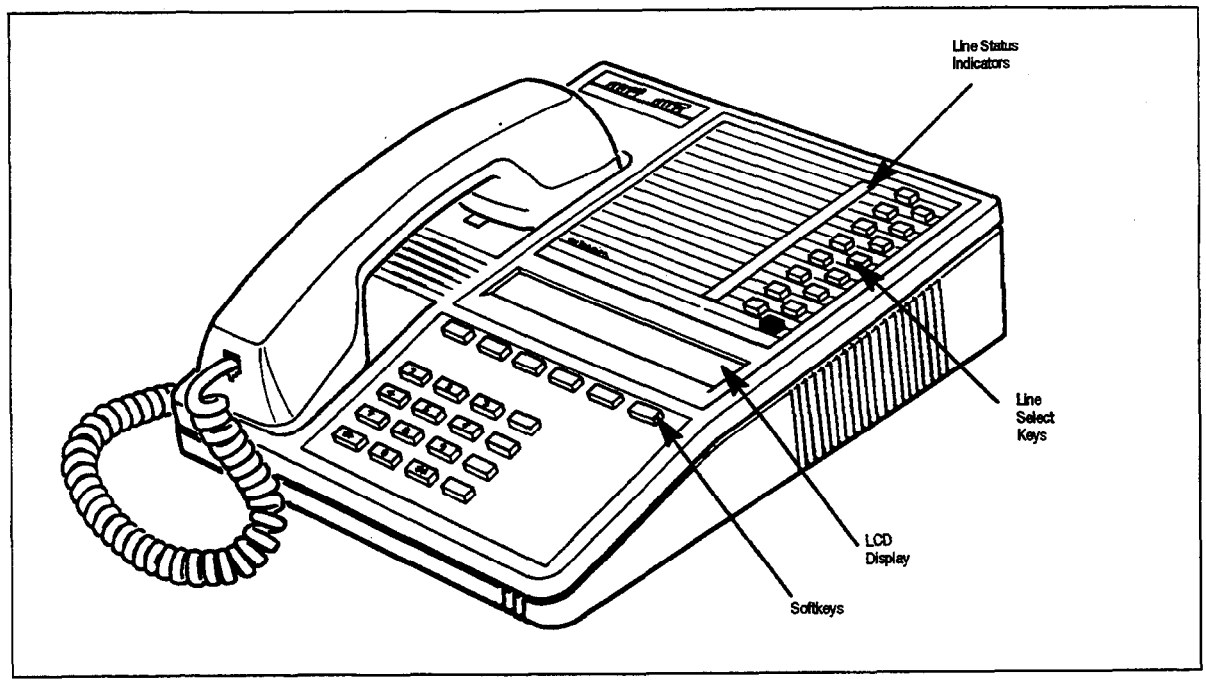


Figure 3–3 *SUPERSET 4* Telephone

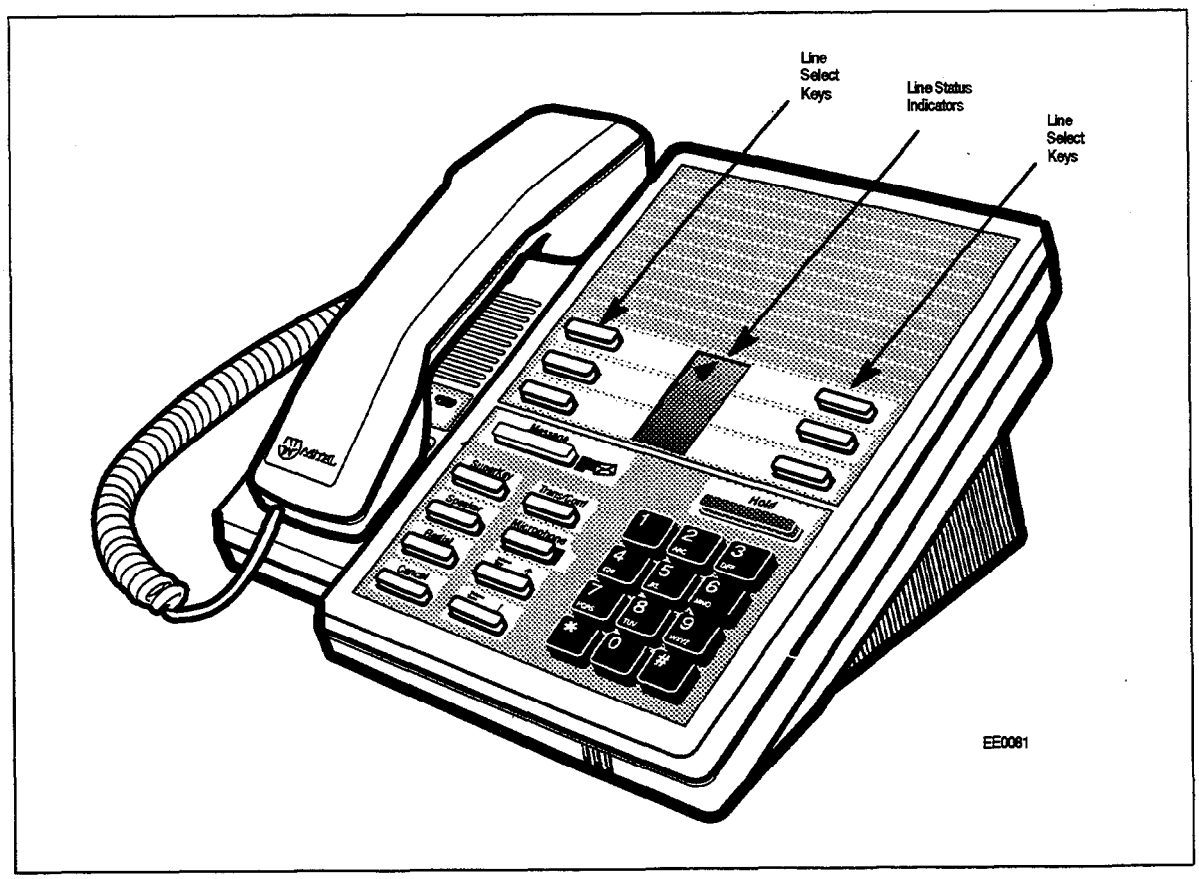


Figure 3–4 *SUPERSET 410* Telephone

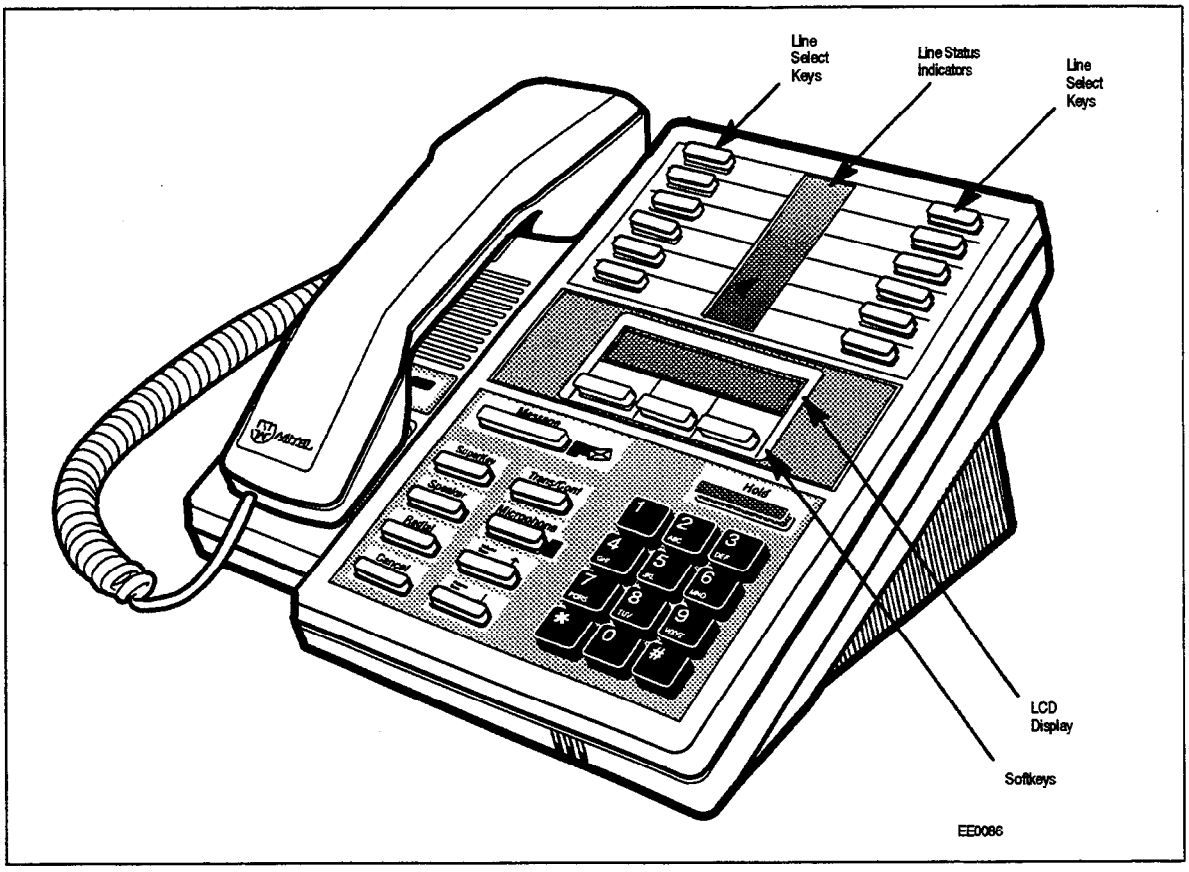


Figure 3–5 *SUPERSET 420* Telephone

ACD Positions

3.5 The ACD *TELEMARKETER* feature package supports three types of positions: senior supervisors, supervisors, and agents. Figure 3–6 shows an example of the ACD hierarchy.

ACD calls entering the system normally terminate on agent positions (*SUPERSET 4, SUPERSET 410* or *SUPERSET 420* telephones). Agents handling similar types of calls are arranged in agent groups. Supervisors and senior supervisors (*SUPERSET 4* or *SUPERSET 420* telephones) monitor agent and system performance, but do not handle ACD calls.

As shown in Figure 3–6 every supervisor, senior supervisor, and agent has an ID number. This is a 1– to 5–digit number assigned during customer data entry. Before they can receive ACD calls, the agent or supervisor must log in to the system by dialing an access code followed by the appropriate ID number. Agent groups and the three ACD positions are described below.

The PABX treats the ID number assigned to each position as an access code. This number can be directly dialed by other devices in the system as normal extension numbers.

Note: An ACD agent is considered not available for an ACD call if the agent is on its prime key or any other line key appearing at the telephone.

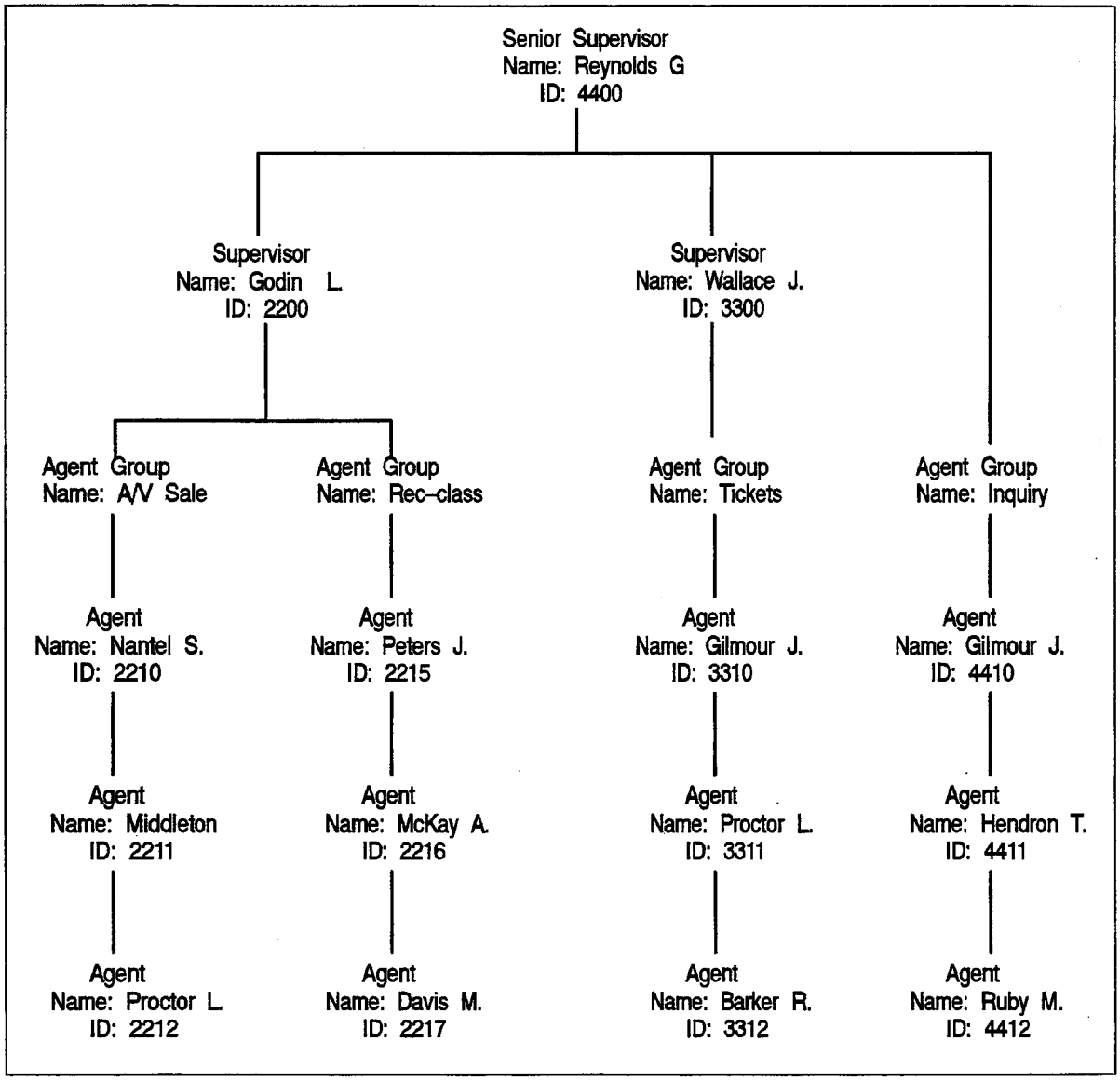


Figure 3–6 Hierarchy of ACD Positions

Agent Group

An agent group consists of one or more persons, called agents, that handle incoming ACD traffic. Each agent group must contain at least one member; the maximum number of agents in a group is 100. The ACD system accepts up to 50 agent groups.

As shown in Figure 3–6 each agent group must be set up to report to either a supervisor or a senior supervisor (never both). Supervision requirements are determined by the customer and are usually dictated by the size of the group.

Agent groups are created through Customer Data Entry (CDE) by entering in the ACD agent groups form (Form 39) an agent group number in the range 1 through 50. An optional name can also be given to the group to assist in identifying the group's function. Members are added to the group though CDE by entering a 1– to 5–digit ID number and an optional name for each agent.

Each agent group has timers that govern events such as:

- the time granted to an agent for completing paperwork after an ACD call,
- the length of time a call will remain unanswered in the group before overflowing, and
- turning on and off visual indicators that show calls have been unanswered for a time exceeding a programmed threshold level.

Refer to the programming section of this practice for details about creating agent groups and the fields on the agent groups form.

Agent

The *ACD TELEMARKETER* feature terminates ACD calls at agent positions. In most ACD installations, all callers routed to an agent are requesting similar information or seeking a similar service. Agents can then be trained and equipped to provide the information or service requested by the caller.

The system routes calls to an agent only after the agent logs in to the ACD system. Once the agent has logged in, the system recognizes the agent as being a member of a specific agent group.

The *SUPERSET 4*, *SUPERSET 410* and *SUPERSET 420* telephones used by the agent are each equipped with a feature key to temporarily block ACD calls from ringing the set. Other feature keys provide information about the current status of the agent group.

In many cases, an agent must be given the flexibility of moving between agent groups. If, for example, the ACD agent group handling long distance trunks is suddenly overloaded and calls are overflowing to an alternate group, significant financial gain could result by reassigning Agents to the busy groups until the traffic subsides.

Since the ACD system uses the ID number to determine the members of an agent group, providing the agents more than one ID number allows the agents to be members of more than one group. To move between groups, the agent logs in using the ID appropriate to the group. Only the ID number must be unique; an agent name can appear in any number of groups.

Supervisor

The supervisor ACD position is for individuals who 'supervise' the agent groups. Each supervisor is responsible for at least one agent group and reports to a senior supervisor. Supervisors do not answer ACD calls. The *SUPERSET 4* or *SUPERSET 420* telephone used by the supervisor is equipped with special feature keys that allow the supervisor to view agent activities individually or as a group.

Senior Supervisor

The senior supervisor oversees the supervisors and is, therefore, the highest level in the hierarchy of ACD positions. In smaller installations, however, where a supervisor is not required between the agent group and the senior supervisor, agent groups may report directly to the senior supervisor. The senior supervisor does not answer ACD calls. The *SUPERSET 4* or *SUPERSET 420* telephone used by the senior supervisor is equipped with special feature keys, similar to the supervisor set, with emphasis on queue activity.

ACD TELEMARKETER Reporting System

3.6 The *ACD TELEMARKETER* Reporting System runs on an IBM AT or compatible connected to the *SX–200* DIGITAL PABX or *SX–200* LIGHT PABX through an RS–232C interface. The system is easy to learn, using menu driven displays with full–color graphics. On–line help is available for all commands and applications.

During initial installation, the user creates a reporting system database containing all agent, path, and trunk information. Once operational, the PC collects data from the SMDR information generated by the PABX, analyses the information using the reporting system database, and generates a series of detailed reports covering agents, groups, paths and trunks.

Daily reports can be printed automatically at predetermined times. Weekly and monthly summaries can also be printed upon request. Printed reports record times to the second for all categories, thus highlighting call handling efficiency and agent performance problems.

Daily reports generated from this database include:

- ACD Agent Daily Activity Report listing hourly totals by agent ID
- Agent Group Daily Activity Report with hourly totals handled by each agent group
- Trunk Daily Activity Report with hourly totals of calls handled by individual trunks
- Path Activity Report with detailed statistics for all ACD calls

Weekly and Monthly Summary Reports include:

- Agent Activity Summary Report with daily totals by ID and agent name
- Agent Group Summary Report listing daily totals by agent group
- Trunk Summary Report with daily totals of calls carried by a particular trunk
- Path Activity Report listing daily totals by path

Recorded Announcements

3.7 A recorded announcement device (RAD) is a digital or endless–loop tape unit that can store one or more pre–recorded messages. The required RADs are designed for connection to ONS circuits and appear as a standard telephone to the PABX. The

RAD's message is played when the unit is triggered by ringing current. In the *ACD TELEMARKETER* feature, the recorded messages are given while callers are waiting in the queue for a free agent.

The *SX–200* DIGITAL and *SX–200* LIGHT systems support both intelligent and dumb RADs. An intelligent device hangs up when the message is finished. A dumb device provides a fixed–length recording (such as a tape) and the system must hang up on the device to prevent callers from listening to a long period of silence at the end of the message.

Recording Groups

The recorded announcement feature is implemented using one or more RADs programmed into a specialized hunt group called a recording group. Each RAD in the group contains the same announcement.

Recording groups are formed using hunt groups of regular ONS ports and are defined during CDE in Form 17, Hunt Groups. Refer to the programming section of this Practice for details.

Recording Group Operation

When a call rings a recording group, the first available idle RAD answers the call and connects its recording. If all RADs in a recording group are busy, the caller camps onto the group to wait for a free recording. When a recording becomes available, the system connects all waiting callers to a listen–only conference with the recording. (The listen–only conference does not use any PABX conference resources.) When the recording finishes, the callers are removed from the conference and are connected to music or silence as defined in the ACD Path programming form (Form 41).

Notes: 1. The system does not use a special CODEC gain setting for listening to a recording. The gain is the same as for ringback, or set to no gain.

2. A RAD is always rung with the standard ringing cadence.

3. Callers are never connected after the RAD starts its message.

RAD Failure

The ACD system handles four types of RAD failures:

Failure to Answer: The system considers the RAD to have failed if it does not answer within the fixed interval of 30 seconds. The system clears ringing, puts the RAD into Do Not Disturb (DND), turns on the console alarm icon, and creates a maintenance log entry as shown in the following example:

```
1989–FEB–15 12:47:04   Recording dev test   failed at  01 01 01 00
    Failure to answer   Alarm code = 123
```

Failure to Hang Up: The system detects failure to hang up when the system ends the recording. The hangup time is set by COS option 404 – Recording Failure to Hangup Timer, which has a range of 1 through 255 seconds. The timer starts after the PABX hangs–up on the RAD. The RAD must clear down within the programmed interval. Otherwise, the PABX puts the RAD into DND, turns on the console alarm icon, and creates an entry in the maintenance log as shown in the following example:

```
1989–FEB–15 12:47:04   Recording dev test   failed at  01 01 01 00
  Fail to hang–up.  Alarm code = 123
```

False Origination: If a RAD generates a false origination, the system puts the RAD into a suspended state. After the suspended timer expires, the RAD is placed into a lockout state. If the RAD goes on hook while in either suspended state or lockout state, the RAD is returned to idle and is immediately available to the system.

Card Failure: If the system detects a card failure, such as the card being unplugged or the Bay going down, the RAD is placed into a busy–out state. Any callers listening to the RAD are handled as though the RAD had gone on hook. The RAD is not placed in DND unless it was ringing at the time (which is treated as a ring–no–answer). When returned to service, the RAD is in idle state.

Removing DND from RAD

The system places a RAD into DND whenever the RAD fails to answer or fails to hang up. DND can be removed from a RAD by accessing the attendant console stations feature, dialing the RAD, and pressing the DND softkey. DND can also be cleared from the maintenance terminal by using the Clear Features key.

Removing DND from a RAD generates the following maintenance log entry:

```
1989–FEB–15 12:47:04  Ons Card     passed at 01 01 01 00  ext 1101
 Recording device test Alarm code 123
```

4. CONFIGURING AN ACD SYSTEM

The communications manager planning the installation of an *ACD TELEMARKETER* system may find that the information in this section of the practice can help in determining the final system configuration. Since thorough planning can ensure maximum performance from the ACD system, the following guidelines have been developed to help define the customer requirements.

Incoming Calls

4.1 As the most critical element of an ACD system is the timely handling of incoming calls, the communications manager must first consider the level of traffic that the system will be receiving and determine the types of calls and any trunking details that could influence the importance of the call. For example, long distance charges can be kept to a minimum by assigning these calls to high priority paths. The following questions serve as examples of those areas to be addressed when categorizing the ACD callers:

- Are service departments involved?
- What traffic is anticipated for each department?
- What priority is given to service calls?
- Do any service departments require a customer complaint area?
- Is there local service only or service to out–of–town clients?
- Will there be revenue generating calls? Unless the company holds a monopoly on service, these callers should be highlighted for priority paths. Are there general information calls?
- Will agents receive long distance calls....collect?
- Does the company offer INWATS, foreign exchange, or any specialized trunking?

Grouping the Agents

4.2 Using the caller information collected above, begin grouping the agents. Use the following questions and comments as a guide:

- Are any agents capable of handling various types of calls? For example, will any agents be common to more than one service department?
- Which type of calls will this group specialize in? List the types of calls this group could handle as an overflow point.
- Which groups will require a wrap up time?

Recorded Announcement Planning

4.3 Used properly, recorded announcements are a valuable tool in the *ACD TELEMARKETER* system. The following suggestions can help you gain the most from the recordings:

- Supply a company introduction to the caller. "Thank you for calling .....", followed by reassurance that the first available agent will answer the call.
- Consider the advertising potential while the caller is waiting for service. Use the recorded announcements to promote new products, specials, or services.
- Refer to the list of callers as a guide when defining the RADs. As out of town callers would be frustrated by local promotions, tailor your recorded message to the caller's needs.
- Is there any information the agent will require from the caller? Recordings can be used to eliminate time wasted with an agent if callers have prior notice of any information they should have ready, such as account numbers, credit cards, or postal codes.

In addition, the Automated Attendant feature can be used to pre–screen ACD calls into the system. Refer to Practice 9109–096–625–NA, Automated Attendant Application Package.

Planner Sheets

4.4 The agent group planner and the path planner sheets illustrated on the following pages can aid the ACD system designer in laying out the agent groups and the routing for incoming ACD calls. The planner sheets identify all major elements that must be addressed while setting up the system.

The agent group planner is completed first, and identifies the various agent groups that are required for the system. After setting up the agent groups, one path planner is completed for each path to show the ACD call handling including the primary agent group, recorded announcements, overflow groups and interflow conditions.

Agent Group Planner

4.5 The agent group planner shown in Figure 4–1 serves as an aid in planning the distribution of work load between agent groups. After doing the initial sizing to determine the number of agent groups required to handle the calls, use this planner to assign the parameters to each group. This information will be used later during the CDE programming of the system.

The agent planner form contains space for eight agent groups. The fields shown in the box for each group are described below.

AGENT GROUP PLANNER

ACD TELEMARKETER®

INSTRUCTIONS

Use this planner as an aid in distributing the work–load of the agent groups. Complete this form before the Path Planner. Once completed, transfer the Agent Group Number to the appropriate group (Primary, 1st, 2nd, or 3rd) on Line 3 of the Path Planner.

1. Overflow timer default is 9 minutes (maximum 54 minutes). This is the maximum time a call can be queued on the group before overflowing. Prediction may allow the overflow before the timer expires. 1st threshold default is 3 minutes (maximum 54 minutes), 2nd threshold default is 6 minutes (maximum 54 minutes). These are indications for the agents (queue status) of how long the calls have been waiting to be answered. Afterwork timer default is 0 minutes (maximum 15 minutes). This is the amount of time an agent has after completing a call before receiving the next call.

2. Use this box to indicate how many paths the Agent Group is involved in. (P=primary, 1=1st. overflow group, 2=2nd overflow group, 3=3rd overflow group). Transfer the Agent Group Number to the Path Planner (one for each Path indicated in the box).

①	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____
	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___
②	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)
①	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____
	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___
②	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)

Figure 4–1 Agent Group Planner

Agent Group

The top field in each box, labeled Agent Group #, specifies the number of the agent group. This information will be used later when assigning primary and overflow agent groups to the ACD paths.

Name

The Name field specifies the name of the agent group. During CDE, transfer this information from the agent group planner sheet to the Name field on the ACD Agent Groups form (Form 39).

Overflow Time

The overflow time specifies the maximum length of time a waiting ACD call remains at this group before overflowing. The timer range is 0 seconds to 54 minutes. The use of this field is optional.

The system performs a load calculation when each new call arrives at an agent group, or when the status of an agent changes. If the system predicts that a call will not be answered before the timer expires, the system forces an immediate overflow.

During CDE, transfer this information from the agent group planner sheet to the Overflow Timer field on the ACD Agent Groups Subform (Subform 39).

1st Threshold

The 1st Threshold field specifies the time period for the first call waiting threshold. If calls are waiting beyond this time period, the LCD symbol beside the Queue Status key on the SUPERSET™ telephones changes (see Figure 5–4 and Figure 5–5). During CDE, transfer this information from the agent group planner sheet to the First Status Threshold field on the ACD Agent Groups Subform (Subform 39).

2nd Threshold

The 2nd Threshold field specifies the time period for the second call waiting threshold. If calls are waiting beyond this second time period, the LCD symbol beside the Queue Status key on the *SUPERSET* telephones changes again (see Figure 5–4 and Figure 5–5). During CDE, transfer this information from the agent group planner sheet to the Second Status Threshold field on the ACD Agent Groups Subform (Subform 39).

After Work

The After Work field specifies the time allocated to an agent for completing paperwork following an ACD call. During this time, the agent will not receive ACD calls. The timer range is 0 seconds to 15 minutes. This time is included as part of each call in reports and statistics.

During CDE, transfer this information from the path planner sheet to the Afterwork Timer field on the ACD Agent Groups Subform (Subform 39).

Paths Using This Group

This box allows the system planner to note the paths using this group. Use this as a reference when transferring agent group information to the path planner sheets.

Path Planner

4.6 The path planner sheet illustrated in Figure 4–2 is used in conjunction with the agent group planner when laying out the routing for incoming ACD calls. The planner identifies all major elements that must be addressed while setting up the system.

Once the path planner has been completed to the ACD system designer's satisfaction, the information is transferred to the CDE forms for system programming.

The CDE forms pertaining to the *ACD TELEMARKETER* feature are described in Section 11 of this practice. For a description of all system CDE forms, refer to Customer Data Entry, Practice 9109–096–210–NA. Appendix B of this practice contains additional blank copies of the Path Planner. Figure 4–2 shows a blank path planner sheet. The following subsections describe the fields on this sheet. Examples later in this section illustrate the use of a Path Planner and trace calls through completed path planners. Unless mentioned otherwise, all fields on the path planner have corresponding fields on one of the CDE forms used in programming the system.

Purpose of This Path

The Purpose of this Path field allows the designer to summarize in a few words the intention of this path. The information in this field is for information only and is not programmed on any form during CDE.

Name

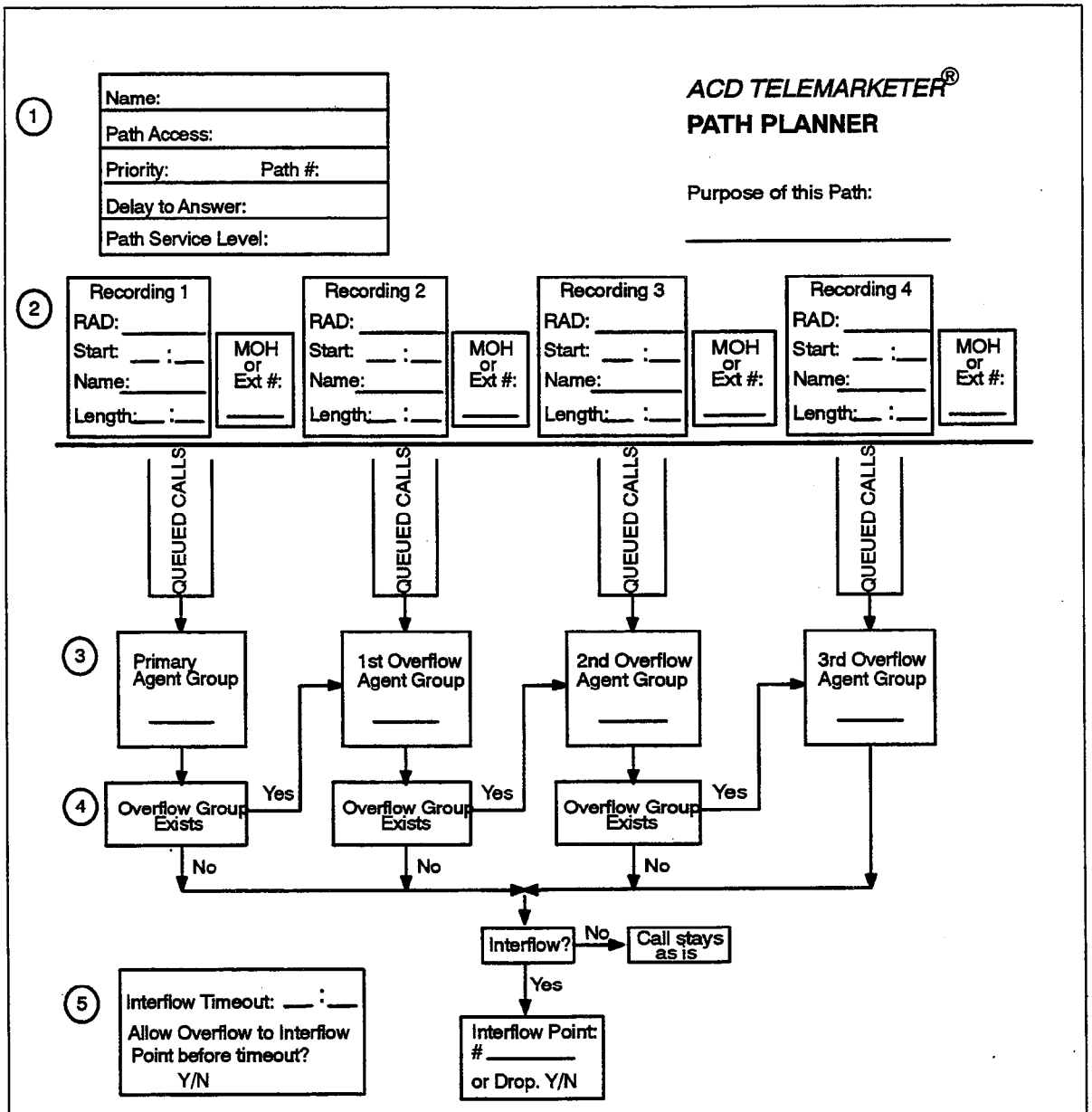
The Name field contains a descriptive name identifying the function of the path. This name appears in the ACD path monitor displays and on the agent's *SUPERSET 4* or *SUPERSET 420* telephone when the set is presented with a call. This allows agents handling calls for more than one path to answer the caller with an appropriate greeting.

During CDE, transfer this information from the path planner sheet to the ACD Path field on the ACD Path form (Form 41).

Path Access Code

The Path Access Code field identifies the path to the rest of the system. The path access code can be a destination in the Non–Dial–In Trunks form and in the Call Rerouting Table. The path access code can also be attached to a Dial–In Trunk, or it can be entered in another path planner as an interflow point and programmed as a forwarding destination for a *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* station.

During CDE, transfer the information in this field of the path planner sheet to the "Access Code for This ACD Path" field on the ACD Path form (Form 41).



INSTRUCTIONS:

1. Complete a Path Planner for each path.
2. Caller can listen to RADs with the option of Music on Hold (MOH) or an alternate music source/recording between the RADs. (RAD = Hunt Group Access Code)
3. Copy the appropriate Agent Group Number from the Agent Group Planner.
4. The Primary Agent Group must be programmed. The path has the option of three Overflow Groups and Interflow out of the Path. If next Overflow Group is not programmed the call either interflows out of the path or remains as is until the call is answered or the caller hangs up.
5. Default Interflow Timeout is 54 minutes. The call interflows (if enabled) or drops when the timer expires or when prediction indicates that the call will not be answered within the timer interval. Interflow time starts when the call enters the path.

Figure 4–2 Path Planner

Priority

The Priority field sets the relative priority for all calls arriving on this path. The priority remains with the call for its duration, regardless of the overflow handling programmed for the path. Priorities range from 1 through 99, with 1 being highest.

During CDE, transfer this information from the path planner sheet to the Priority field on the ACD Path form (Form 41).

Path Number

The Path Number field identifies the path number in the range 1 through 99. This number is used to sort the paths on the Path Summary display.

During CDE, transfer this information from the path planner sheet to the ACD Path field on the ACD Path form (Form 41).

Delay to Answer

The Delay to Answer field contains the value of the Delay for Ringback timer. This value should be set high enough to ensure the caller hears ringback from the CO or PABX before the agent answers. In some situations, caller confusion may arise if the agent answers the call before the caller hears ringback. This field can be set to any value from 1 second through 54 minutes. The system default is 3 seconds.

During CDE, transfer this information from the path planner sheet to the Delay For Ringback field on the ACD Path form (Form 41).

Recording 1

The Recording 1 box contains the following three fields to capture the parameters for the first recording group:

RAD: The RAD field contains the access code of the RAD group containing Recording 1. During CDE, transfer this information from the path planner sheet to the Recording 1: Access Code field on the ACD Path form (Form 41).

Start: The Start field specifies the time between the end of the Delay for Ringback timer and the start of the first recording. During CDE, transfer this information from the Path Planner sheet to the "Recording 1: Start Time" field on the ACD Path form (Form 41).

Name: The Name field specifies the name of the RAD Group for Recording 1. During CDE, transfer this information from the Path Planner sheet to the Name field on the Hunt Group form.

MOH or Ext

The MOH or Ext # field allows the designer to specify what callers hear after Recording 1 is finished. The designer can give callers music on hold (MOH) from the system music source, or an alternate music source from an ONS port. Circle MOH to indicate music from the system music source, or enter the ONS port directory number supplying the alternate music. If no music is connected, the caller hears silence.

During CDE, if an alternate music source has been selected, transfer this information from the path planner sheet to the "Recording 1: Music Source Following" field on the ACD Path form (Form 41). If MOH has been selected, no CDE action is required as the system connects to the default music source.

Recording 2 through 4

Use the boxes labeled Recording 2 through 4 to specify the parameters for the additional recordings supplied to the caller while waiting for an agent. The MOH or Alternate fields can also be used to specify different music sources following each recording.

During CDE, transfer the information from these fields as described under Recording 1.

Queued Calls

The Queued Calls above each agent group block represent the calls queued against the agent group. No information is required in this block and there are no corresponding entries on CDE forms.

Primary Agent Group

Transfer the number from the agent group planner of the agent group designated as Primary for this path.

Overflow Group Exists

For the box labeled Overflow Group Exists, circle Yes if the first overflow group is to be assigned to this path, or No if no overflow group is assigned. If Yes was selected, repeat the planning steps above for each of the overflow groups.

Interflow

Beside the box labeled Interflow, circle Yes if an interflow point is to be assigned to this path. Circle No if no interflow is to be assigned.

Interflow Point

The Interflow Point # field specifies the access code for the interflow device. This can be a listed directory number for a station, console, nightbell, ACD path, station/set hunt group, UCD agent group, or system speedcall number.

If "Select Drop" is left blank, the system drops the call rather than allow the call to interflow. If interflow is allowed for this path, enter the directory number of the interflow point.

During CDE, transfer this information from the Path Planner sheet to the Interflow Point Access Code field on the ACD Path form.

Interflow Timeout

The Interflow Timeout field specifies the waiting time for an ACD call before the system routes the call to an interflow point outside the ACD system. The timer range is 1 second to 54 minutes.

During CDE, transfer this information from the path planner sheet to the Interflow Timeout field on the ACD Path form (Form 41).

Allow Overflow to Interflow

The Allow Overflow to Interflow Point Before Timeout field specifies whether the system can force calls to the interflow point as soon as the system determines that the call is unlikely to be answered, without waiting for the Interflow Timeout timer to expire.

During CDE, transfer this information from the path planner sheet to the Allow Overflow to Interflow Point Before Timeout field on the ACD Path form (Form 41).

5. ACD AGENT SETS

This section describes the *ACD TELEMARKETER* features on *SUPERSET 4*, *SUPERSET 410* and *SUPERSET 420* telephones used by ACD agents. Descriptions of the following features are provided:

- ACD agent login and logout
- Agent functions
- Special feature keys, set displays and/or indicators

The information in this section is aimed at those planning an ACD installation, setting up an ACD system, and operating the sets in an existing system.

ACD Agent Login/Logout

5.1 All ACD positions are linked to software, not hardware, so the system recognizes a login from any *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone within the PABX, and immediately transforms the set to the user's preprogrammed specifications. The system routes calls to an agent only after the agent logs in to the ACD system.

When a position logs in, the set's name, COS, speedcall and feature keys are replaced by those assigned to the position in CDE. Call forwarding, DND, redial, reminders, callbacks or messaging are not affected by position login.

While agents are logged in to the ACD system, they can't program their personal keys (*SUPERSET 410* and *SUPERSET 420* telephones) or line select keys (*SUPERSET 4* telephones).

Login

To login, the agent dials an access code followed by the ID number assigned through CDE. Dial tone indicates a successful login. In addition, the status indicator beside the Make Busy key turns on solid and ACD LOGIN appears briefly on display sets.

Login Conditions

The following conditions must be met before an ACD position can login:

- The position must not be logged in already.
- The position must be logging in to a *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone.
- The position will be unable to login when there are key definitions in the position's ACD Keys Template for keys which are not physically present on the set (keys 7 to 15 on a *SUPERSET 410* and keys 13 to 15 *SUPERSET 420* sets). An "INVALID KEY" message will appear on the *SUPERSET 420* in this case.

- The position must have an ACD template enabled in its Class of Service (COS).
- The *SUPERSET 4* telephone must have no appearances of its prime line anywhere in the system, nor can this set have a *SUPERSET DSS* module associated with it.

Logout

To logout, the agent dials the login/logout access code. ACD LOGOUT appears briefly on display sets. Dial tone indicates a successful logout. To login to another group, the agent dials the access code again followed by the ID number for the second group.

Logout Conditions

An agent can't log out while on an ACD call. If an agent on an ACD call (in progress or on softhold) attempts to logout, the agent receives reorder tone.

If a position is logged in at a *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* set and the user changes the set at that extension to an illegal ACD device, the position will be automatically logged out.

ACD Agent Functions

5.2 Each logged in agent uses a *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone that is normally programmed with one line select key or personal key assigned as a Make Busy key, and a second as a Queue Status key. *SUPERSET 4* and *SUPERSET 420* agents also have access to a HELP softkey. The following subsections describe the functions of these keys and their operation.

Make Busy Key

Purpose

5.3 Every agent set should be preprogrammed with one line select key (*SUPERSET 4*) or personal key (*SUPERSET 410* and *SUPERSET 420*) allocated as a Make Busy feature key.

Activating the Make Busy feature prevents ACD calls from ringing the set. Normal operation of the set is not affected and calls in progress are not disrupted. An agent can press the Make Busy key when the set is idle or during a call. If the agent press the Make Busy key during a call, the set is automatically placed in Make Busy state when the agent goes on hook. The set remains in the Make Busy state until canceled by the agent.

Operation

Press the Make Busy feature key. To cancel Make Busy, press the Make Busy key again. When calls ringing the set are not answered within the period specified by the Call Forward No Answer Timer in the agent's COS, the system places the set in Make Busy, and causes the LCD beside the Make Busy key to flash to advise the agent of the Make Busy state (see below). The agent must press the Make Busy key to cancel the Make Busy state.

Make Busy LCD Indicators

The LCD indicator beside the Make Busy key will flash when the set is in the Make Busy state. The LCD indicator remains on solid when the set is not in Make Busy mode. Figure 5–1 and Figure 5–2 show the LCD indicators associated with the Make Busy key.

Key	Status	LCD Symbol
Make Busy	In Make Busy	 Fast Flash (150 msec on/150 off)
	Not in Make Busy	

Figure 5–1 Make Busy LCD Indicator: *SUPERSET 4*

Key	Status	LCD Symbol
Make Busy	In Make Busy	 Fast Flash (150 msec on/150 off)
	Not in Make Busy	 Solid Triangle

Figure 5–2 Make Busy LCD Indicator: *SUPERSET 410* and *SUPERSET 420*

Queue Status Key

Purpose

5.4 The Queue Status key and the LCD beside the key show the agent the current status of the call waiting queue and the load condition of the queue.

The following operational information applies only to the *SUPERSET 4* and *SUPERSET 420* telephone sets. Pressing the Queue Status key has no effect on the *SUPERSET 410* telephone. Note, however, that the LCD Indicators described below apply to all three telephone sets.

Operation

When the Queue Status key is pressed, the main display on the set shows the queue number, the number of ACD calls waiting in the queue, and the longest call waiting time. Figure 5–3 shows a typical display on a *SUPERSET 4* telephone. In this example, group number 1 is displayed, showing 10 calls in the queue waiting to be answered. The oldest call has been waiting for 3 minutes and 16 seconds. A similar display will appear on the *SUPERSET 420* telephone set.

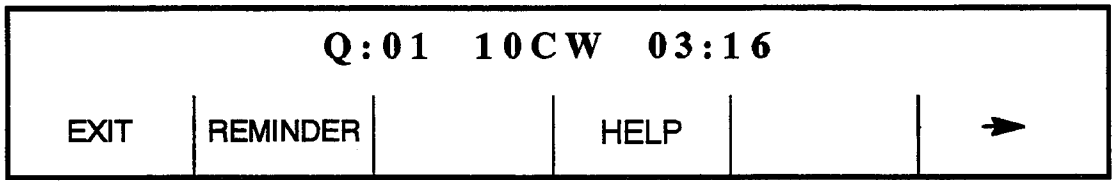


Figure 5–3 Sample Queue Status Display: *SUPERSET 4*

At this point, the agent can press the EXIT softkey (*SUPERSET 4*) or the SuperKey (*SUPERSET 420*) to terminate the Queue Status display. A REMINDER (*SUPERSET 4*) or NAME (*SUPERSET 420*) softkey will appear if the group was assigned a name during CDE. Pressing this softkey displays the group name.

While on an ACD call, the HELP softkey is available to agents using *SUPERSET 4* and *SUPERSET 420* telephone sets. Paragraph 5.5 describes the HELP function.

Queue Status LCD Indicators

The LCD beside the Queue Status key on the *SUPERSET 4*, *SUPERSET 410* and *SUPERSET 420* telephones indicates the load condition of the agent queue. The LCD is off when there are no calls waiting for an idle agent. When ACD calls are waiting to be answered, the LCD lights to indicate the queue status based on predefined threshold levels defined for the agent's group.

The LCD is updated periodically to indicate when a call remains waiting in the queue beyond an assigned threshold time. Two status threshold times are programmed in CDE for each agent group. As the timers expire, the LCD is updated to inform the agent of the workload. Figure 5–4 and Figure 5–5 show the LCD indicators associated with the Queue Status key.

Key	Status	LCD Symbol
Queue Status	No Calls Waiting	
	Calls Waiting Before First Threshold Period	
	Calls Waiting Between First and Second Threshold Periods	
	Calls Waiting Longer Than Second Threshold Period	 Pulsed Flash (600 msec on/150 off)
	Calls Have Overflowed	 Fast Flash (150 msec on/150 off)

Figure 5–4 Queue Status LCD Status Indicators: *SUPERSET 4* Telephone

Key	Status	LCD Symbol
Queue Status	No Calls in Queue	
	Calls Waiting Before First Threshold Period	 Solid Triangle
	Calls Waiting Between First and Second Threshold Periods	 Slow Flash (750 msec on/750 off)
	Calls Waiting Longer Than Second Threshold Period	 Pulsed Flash (600 msec on/150 off)
	Calls Have Overflowed	 Fast Flash (150 msec on/150 off)

Figure 5–5 Queue Status LCD Status Indicators: *SUPERSET 410* and *SUPERSET 420* Telephones

HELP Softkey

Purpose

5.5 During an ACD call *SUPERSET 4* and *SUPERSET 420* agent sets display the HELP prompt. Help allows the agent, while involved in an ACD call, to request that a supervisor monitor the call. The agent may also tape the call by pressing the HELP softkey and dialing the directory number of a recording device. This recording device must be a member of a hunt group.

The HELP function is not available on the *SUPERSET 410* telephone.

Operation

To request help while involved in an ACD call, the agent presses the HELP softkey. The display changes to CALL SUPERVISOR (or CALL SENIOR S. if the agent is reporting directly to a senior supervisor).

Three choices are then presented to the agent. To complete the help request call to the supervisor, the agent may press the YES softkey. If the agent decides to terminate the help request, the EXIT softkey (*SUPERSET 4*) or SuperKey (*SUPERSET 420*) is pressed.

When the NO softkey is pressed, an ENTER NUMBER prompt appears. This allows the agent to select another help destination by either dialling a valid destination number or by pressing a programmed speed call. A valid destination number in this case is the ID for the supervisor or senior supervisor, or an access code for a recording hunt group.

Once a valid number has been entered, the agent presses the CALL softkey to complete the call. HELP REQUESTED appears on the agent set when the destination begins ringing.

When the help request is answered, the agent set display changes to 'XXXXX MONITORING' (*SUPERSET 4*) or 'XXXXX INTRUDING' (*SUPERSET 420*), where 'XXXXX' is the helper's extension number. If the destination is unavailable, the agent set displays DESTINATION BUSY. The ENTER NUMBER prompt is shown again to enable the Agent to redirect the request.

The person or recording device responding to the help call is automatically placed in a "listen only" state. A supervisor or senior supervisor may break into the conversation by pressing the CONF (*SUPERSET 4*) or TRANS/CONF (*SUPERSET 420*) key.

After Work Timer

Purpose

5.6 When an agent completes an ACD call, a programmable "After Work Time" period is allotted during which the agent can complete work generated by the ACD call.

Agents using *SUPERSET 4* or *SUPERSET 420* telephones can cancel the "After Work Timer" should their work be completed before the timer expires. Cancelling the timer allows the agent to take the next ACD call.

Displays are provided on *SUPERSET 4* and *SUPERSET 420* telephones to indicate that the After Work Timer is running. The *SUPERSET 410* does not provide an After Work Timer display and an agent using this set is unable to cancel the work timer.

Operation

To cancel the After Work Timer, press the OFF softkey (*SUPERSET 4*) or the RESUME softkey (*SUPERSET 420*).

Auto Answer

5.7 The agent's set can be programmed with a COS option to auto–answer when a call arrives at the set. Auto Answer can be forced to be turned on when the agent logs in. The auto–answer process is described below:

1. Call arrives at free agent.
2. The agent's *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone gives a burst of ringing.
3. The agent's *SUPERSET* telephone answers the call and the two parties are connected.
4. At the completion of the call, the external party hangs up.
5. Agent's *SUPERSET* telephone gives a hang up tone (Miscellaneous Tone). See Note below.
6. The After Work Timer starts.
7. When After Work Timer expires, a new call is waiting.
8. Agent's *SUPERSET* telephone gives a burst of ringing, and the sequence repeats for all new calls.

Note: Agents occasionally mistake the hang–up tone, which indicates the end of a call, for a burst of ringing indicating a new call. This can lead to confusion since the agent is actually on the After Work Timer rather than answering a new call.

6. ACD SUPERVISOR AND SENIOR SUPERVISOR SETS

This section describes the *ACD TELEMARKETER* features on *SUPERSET 4* and *SUPERSET 420* telephones used by ACD supervisors and senior supervisors. *SUPERSET 410* telephones cannot be used in the supervisor or senior supervisor positions. Descriptions of the following features are provided:

- Senior supervisor and supervisor login and logout
- Senior supervisor and supervisor functions
- Feature keys, reports, set displays and/or indicators
- Call monitoring
- Help calls

The number of agents involved determines whether there is a need for both supervisors and senior supervisors to oversee ACD operations.

The information in this section is aimed at those planning an ACD installation, setting up an ACD system, and operating the sets in an existing system.

ACD Supervisor and Senior Supervisor Login/Logout

6.1 The system recognizes a supervisor only after the supervisor logs in to the ACD system. Once logged in, the set takes on the properties assigned to the supervisor through CDE.

When a position logs in, the set's name, COS, speedcall and feature keys are replaced by those assigned to the position in CDE. Call forwarding, DND, redial, reminders, callbacks or messaging are not affected by position login.

While supervisors are logged in to the ACD system, they can't program their personal keys (*SUPERSET 420* telephones) or line select keys (*SUPERSET 4* telephones).

Login

To login, the supervisor dials an access code followed by the ID number assigned through the ACD Supervisor Form in CDE. ACD LOGIN appears briefly in the display and the supervisor hears dial tone.

Login Conditions

The following conditions must be met before an ACD position can login:

- The position must not be logged in already.
- The position must be logging in to a *SUPERSET 4* or *SUPERSET 420* telephone.

- A *SUPERSET 420* telephone user will be unable to login when there are key definitions in the position's ACD Keys Template for keys which are not physically present on the set (keys 13 to 15). An "INVALID KEY" message will appear on the *SUPERSET 420* in this case.
- The position must have an ACD template enabled in its Class of Service (COS).
- The *SUPERSET 4* telephone must have no appearances of its prime line anywhere in the system, nor can this set have a *SUPERSET DSS* module associated with it.

Logout

To log out, dial the access code again. ACD LOGOUT appears briefly in the display and the supervisor hears dial tone. Press HANGUP or dial.

If a position is logged in at a *SUPERSET 4* or *SUPERSET 420* set and the user changes the set at that extension to an illegal ACD device, the position will be automatically logged out.

ACD Supervisor Functions

6.2 The ACD supervisor position is reserved for the individual responsible for the supervision of one or more agent groups.

Supervisors are unable to answer ACD calls. Instead, they are assigned pre–programmed keys which allow them to display status reports for agent queues and individual agents, establish a call monitor on an agent, or respond to a help request from an agent.

The way in which a supervisor obtains status reports for agent queues and individual agents differs slightly depending on whether the supervisor is responsible for one or more than one agent group.

Two scenarios are described in the following sections: supervisors with only one agent group (starting at paragraph 6.4), and supervisors with more than one agent group (starting at paragraph 6.8).

ACD Senior Supervisor Functions

6.3 The ACD senior supervisor is responsible for one or more supervisors in addition to supervising agent groups.

Senior supervisors are unable to answer ACD calls. Instead, they are assigned pre–programmed keys which allow them to display status reports for agent queues and individual agents, establish a call monitor on an agent, or respond to a help request from an agent.

Senior supervisors obtain status reports for agent queues and individual agents in much the same way as supervisors with more than one agent group. The information provided in paragraph 6.8 onward applies to both groups.

Supervisor Set With One Agent Group: Overview

6.4 The supervisor responsible for only one agent group will use the Queue Status, Agent Status, and Shift feature keys. The supervisor's *SUPERSET 4* or *SUPERSET 420* telephone requires only one Queue Status key. The remaining feature keys can be assigned as Agent Status keys.

The Queue Status key provides ACD call queue information. The Agent Status key provides status reports for individual agents. The Shift key allows more than one agent to be assigned to a single Agent Status key. These keys are described in more detail below.

Queue Status Key: Supervisor Set With One Agent Group

Purpose

6.5 The Queue Status key and the LCD beside the key serve two functions in showing the supervisor the current status of the call waiting queue and the load condition of the queue.

Operation

The Queue Status key is pressed to display a summary of queue activity.

The set displays the agent group number, the number of ACD calls in the queue waiting to be answered, and the length of time the oldest call has been waiting.

Figure 6–1 shows a typical queue status display on a *SUPERSET 420* telephone. The display indicates that queue number 1 has 4 calls waiting to be answered. The longest waiting call has been in the queue for 2 minutes and 4 seconds. A similar display will appear on the *SUPERSET 4* telephone.

Figure 6–1 Queue Status Display: *SUPERSET 420*

At this point, the supervisor can press the EXIT softkey (*SUPERSET 4*) or the SuperKey (*SUPERSET 420*) to terminate the Queue Status display.

A REMINDER (*SUPERSET 4*) or NAME (*SUPERSET 420*) softkey will appear if the group was assigned a name during CDE. Pressing this softkey displays the group name.

Arrow softkeys (➔ , ⬅) on the *SUPERSET 4* allow the supervisor to scroll forward or backward to the next report. The same functionality is supplied by the Volume ↓ key and the Volume ↑ key on the *SUPERSET 420* telephone.

A HELP softkey displays a prompt PRESS KEY 0–9. As each dial pad key is pressed, a help message is displayed on the set to remind the user which report is associated with that dial pad key. Table 6–1 lists the supervisor queue status reports and the key that displays each report.

A CANCEL softkey appears after the HELP softkey is pressed. Pressing CANCEL returns the supervisor set to the queue status mode.

Table 6–1 Supervisor and Senior Supervisor Reports – Queue Status

Key Number	Sample Set Display	Meaning
0	21 2 10 2 8 (See Note, below).	Condensed queue status report: –ACD calls answered –Number of abandoned ACD calls –Number of logged in agents –Number of times agents made busy –Number of non–ACD calls handled by the group.
1	WAIT TIME 10:23	The average waiting time, in minutes and seconds, of logged in Agents in an Agent Group.
2	# ACD CALLS 21	Number of ACD calls the group has answered.
3	ACD CALL 02:23	Average duration of ACD calls.
4	# NON ACD 8	Number of non–ACD calls made/answered by the group .
5	NON ACD 01:23	Average duration of non–ACD calls.
6	# MADE BUSY 2	Number of times agents made busy.
7	AVG BUSY 01:03	Average duration of make busy.
8	# ON HOLD 2	Number of ACD calls put on hard hold.
9	AVG HOLD 00:55	Average duration of ACD calls on hard hold.

Note: A senior supervisor pressing the 0 Key will receive a different report (an example of which is shown below).
AGT LOGIN 6
This report indicates the number of ACD agents logged in.

Queue Status LCD Indicators

The LCD beside the Queue Status key continuously shows the load condition of the agent group reporting to the supervisor. The LCD is off if there are no calls waiting for an idle agent. When ACD calls are waiting to be answered, the LCD lights to indicate the queue status based on predefined threshold levels defined for the group.

The LCD is updated periodically to show when a call remains waiting in the queue beyond an assigned threshold time. Two status threshold times are programmed in CDE for each agent group. As the timers expire, the LCD is updated to inform the agent of the workload. Figure 6–2 and Figure 6–3 show the LCD symbols for queue status on the *SUPERSET 4* and *SUPERSET 420* telephones.

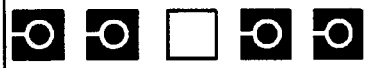
Key	Status	LCD Symbol
Queue Status	No Calls Waiting	
	Calls Waiting Before First Threshold Period	
	Calls Waiting Between First and Second Threshold Periods	
	Calls Waiting Longer Than Second Threshold Period	 Pulsed Flash (600 msec on/150 off)
	Calls Have Overflowed	 Fast Flash (500 msec on/500 off)

Figure 6–2 LCD Queue Status Indicators on *SUPERSET 4* Telephone

Key	Status	LCD Symbol
Queue Status	No Calls in Queue	
	Calls Waiting Before First Threshold Period	 Solid Triangle
	Calls Waiting Between First and Second Threshold Periods	 Slow Flash (750 msec on/750 off)
	Calls Waiting Longer Than Second Threshold Period	 Pulsed Flash (600 msec on/150 off)
	Calls Have Overflowed	 Fast Flash (150 msec on/150 off)

Figure 6–3 LCD Queue Status Indicators on *SUPERSET 420* Telephone

Agent Status Key: Supervisor Set With One Agent Group

Purpose

6.6 The Agent Status key and the LCD beside the key serve two functions in showing the supervisor the current status of an individual agent, and reporting on the performance of the agent.

Operation

Pressing the Agent Status key starts the report displays, beginning with the current state of the first agent in the group. An agent can be in any one of the following states:

LOG OUT
WAITING
ACD CALL
ACD WORK
NON ACD or DND
ACD HOLD
MAKE BUSY

Pressing subsequent keys allows the supervisor to identify the name of the agent and to obtain further agent status information. Ten categories of agent reports are available to the ACD supervisor.

It is not necessary to exit one Agent Status display before moving on to check the status of the next agent. Pressing the Agent Status key while already in agent status mode allows the supervisor to start the report display for the next agent.

Figure 6–4 shows a sample display when the Agent Status key is pressed on *SUPERSET 4* telephone. A similar display appears on the *SUPERSET 420.*

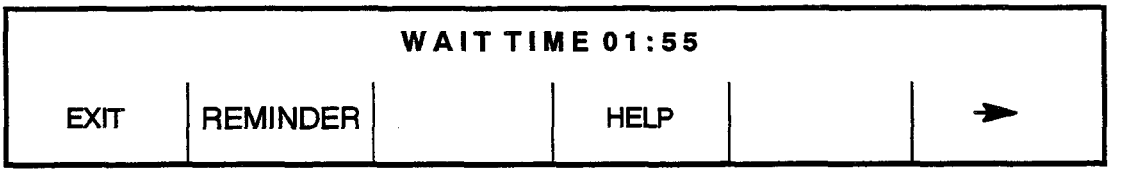


Figure 6–4 Agent Status Display: *SUPERSET 4*

The supervisor is then presented with a number of options. Pressing the EXIT softkey (*SUPERSET 4*) or the SuperKey (*SUPERSET 420*) terminates the Agent Status display.

Pressing the REMINDER (*SUPERSET 4*) or NAME (*SUPERSET 420*) softkey identifies the agent associated with the displayed agent status. Additionally, when these softkeys are pressed, the CALL softkey is displayed. This key allows the supervisor to call the agent without dialing the Agent ID number or extension number.

Arrow softkeys (➔ , ⬅) on the *SUPERSET 4* allow the supervisor to scroll forward or backward to the next agent report. The Volume ↓ key and the Volume ↑ key provide the same feature on the *SUPERSET 420* telephone.

The FWD or BACK softkeys allow the supervisor to move on to the next or previous agent in the group.

To access the HELP softkey the user must press an Agent Status key and then dial 0 on the dial pad. The HELP softkey prompts the user to 'PRESS KEY 0–9'. Pressing a dial pad key displays a help message to remind the user which report is associated with the dial pad key. See Table 6–2 for a list of dial pad keys and examples and explanations of the agent reports available.

Table 6–2 Senior Supervisor and Supervisor Reports – Agent Status

Key Number	Sample Set Display	Meaning
0	398 BOB	Agent identification number and name.
1	WAIT TIME 01:55	Average waiting time for the agent.
2	# ACD CALL 25	Number of ACD calls answered by the agent.
3	ACD CALL 02:25	Average duration of ACD calls.
4	# NON ACD 2	Number of non–ACD calls made/answered by the agent .
5	NON ACD 01:46	Average duration of non–ACD calls.
6	# MADE BUSY 2	Number of times the agent made busy.
7	AVG BUSY 02:58	Average duration of make busy state.
8	# ON HOLD 2	Number of ACD calls put on hard hold.
9	AVG HOLD 00:47	Average duration of ACD calls on hard hold.

Agent Status LCD Indicators

The LCD beside the Agent Status key continuously shows the call–status of the agent assigned to the key. The LCD is off when the agent is logged out. The display changes to reflect changes in the status of the ACD agent. Figure 6–5 and Figure 6–6 describe the agent status LCD indicators on a *SUPERSET 4* and *SUPERSET 420* telephone.

Key	Status	LCD Symbol
Agent Status	Agent Logged Out	
	Agent Logged In – No Calls Waiting	
	Agent In Make Busy Status	 Flashing
	Agent on ACD Call	
	Agent on Non–ACD Call or DND	
	ACD Call on Hold	 Flashing
	After–Call Work Timer	 Flashing

Figure 6–5 LCD Agent Status Indicators: *SUPERSET 4*

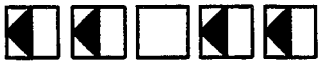
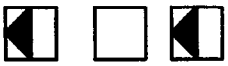
Key	Status	LCD Symbol
Agent Status	Agent Logged Out	
	Agent Logged In – No Calls Waiting	 Pulsed flash (600 msec on/150 off)
	Agent Set In Make Busy Status	 Fast flash (150 msec on/ 150 off)
	Agent on ACD Call	
	Agent on Non–ACD Call or DND	 Slow flash (750 msec on/ 750 off)
	ACD Call on Hold	
	After–Call Work Timer	

Figure 6–6 LCD Agent Status Indicators: *SUPERSET 420*

Shift Key: Supervisor Set With One Agent Group

Purpose

6.7 If an ACD supervisor has more agents than available keys, the system provides a Shift key. The Shift key allows the supervisor's set to accommodate more than one agent on a single Agent Status key.

Operation

If there are three agents in a group and two Agent Status keys information for agents one and two is displayed by Agent Status keys one and two respectively.

Reports for the third agent are viewed on the first Agent Status key and are accessed by pressing the Shift key followed by the Agent Status key. At this point, the name and ID of Agent 03 is displayed and the LCD indicator shows the status of the third agent.

Figure 6–7 provides an example of a configuration with three Agent Status keys and seven agents. Pressing Agent Status key 1 displays the status of Agent 1. Pressing the Shift key at this point displays Agent 4. Agents 2 and 3 are associated with Agent Status keys 2 and 3 respectively.

KEY NAME	Agent Status Key #1 display	Agent Status Key #2 display	Agent Status Key #3 display
Agent Status	Agent 1	Agent 2	Agent 3
Shift	Agent 4	Agent 5	Agent 6
Shift	Agent 7	none	none
Shift	Agent 1	Agent 2	Agent 3

Figure 6–7 Using the Shift Key to Check Agent Status

Senior Supervisors and Supervisors With More than One Agent Group: Overview

6.8 Senior supervisors and supervisors who are responsible for more than one agent group use one Queue Status key for each agent group, the Shift key and the READ (*SUPERSET 4*) or AGENT (*SUPERSET 420*) softkey. Senior supervisors and supervisors who are responsible for more than one agent group can't have Agent Status keys programmed on their sets.

Each Queue Status key provides information about one of the agent groups. The Shift key allows the senior supervisor or supervisor's telephone set to accommodate more than one agent group on a single Queue Status key. The READ or AGENT softkey provides individual agent status information. These keys are described in more detail below.

Queue Status Key: Senior Supervisors and Supervisors With More than One Agent Group

Purpose

6.9 The Queue Status key and the LCD display beside the key (Figure 6–2 and Figure 6–3) provide the senior supervisor or supervisor with queue and load condition information for one agent group.

Additionally, the READ or AGENT softkey, which appears after the Queue Status key has been pressed, provides reports on individual agents within the displayed group.

Operation

Press the Queue Status key of the desired agent group. The set displays the agent group number, the number of ACD calls in the queue waiting to be answered, and the length of time the oldest call has been waiting.

Figure 6–8 shows a typical queue status display on a *SUPERSET 4* telephone. The display indicates that queue number 5 has 10 calls waiting to be answered. The longest waiting call has been in the queue for 2 minutes and 4 seconds. A similar display will appear on the *SUPERSET 420* telephone.

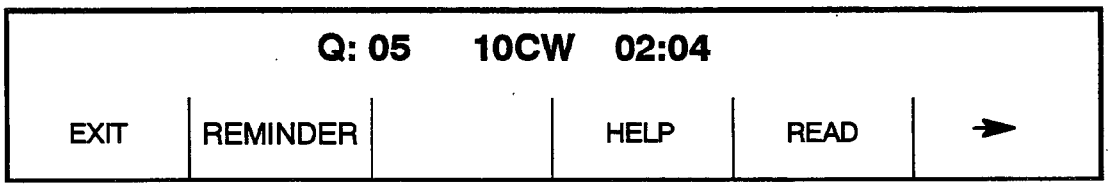


Figure 6–8 Queue Status Display: *SUPERSET 4*

At this point, there are several options available to the senior supervisor or supervisor. Pressing the EXIT softkey (*SUPERSET 4*) or SuperKey (*SUPERSET 420*) will terminate the Queue Status display.

The REMINDER (*SUPERSET 4*) or NAME (*SUPERSET 420*) softkey will display the name of the agent group, if a name was assigned during CDE.

Pressing the HELP softkey displays the prompt PRESS KEY 0–9. As each dial pad key is pressed, a help message is displayed on the set to remind the user which report is associated with that dial pad key. Table 6–1 lists the queue status reports and the key that displays each report.

Arrow softkeys (→ , ←) on the *SUPERSET 4* allow the senior supervisor or supervisor to scroll forward or backward to the next agent report. The Volume ↓ key and the Volume ↑ key provide the same feature on the *SUPERSET 420* telephone.

READ or AGENT Softkey

The READ (*SUPERSET 4*) or AGENT (*SUPERSET 420*) softkey also appears after the Queue Status key has been pressed. This softkey provides access to a variety of reports for individual agents within the displayed group.

The identification of the first agent in the group is displayed initially. From this point, the senior supervisor or supervisor can scroll backward or forward through agent reports, call the agent by pressing the CALL softkey, request help on agent reports (see Table 6–2), move onto the next or previous agent in the group (FWD and BACK softkeys) or CANCEL the agent reports and return to Queue Status mode.

Shift Key: Senior Supervisors and Supervisors With More than One Agent Group

Purpose

6.10 The Shift feature key is assigned during Customer Data Entry. It is required when the number of agent groups a senior supervisor or supervisor controls is greater than the number of Queue Status keys on the supervisory set.

The Shift key allows one Queue Status key to address more than one agent group. This key has no effect if the number of Queue Status keys programmed is greater than the number of agent groups.

Operation

If there are three agent groups and two Queue Status keys, information for agent groups one and two is displayed by Queue Status keys one and two respectively.

Reports for the third agent group are viewed on the first Queue Status key and accessed by pressing the Shift key and then the Queue Status key. At this point the name and ID of Agent Group 3 is displayed and the LCD indicator reflects the status of the third agent group.

The example in Figure 6–9 shows a configuration with three Queue Status keys and seven agent groups. Pressing the Queue Status key 1 displays the status of Agent Group 1. Pressing the Shift key at this point displays Agent Group 4.

KEY NAME	Queue Status Key #1 display	Queue Status Key #2 display	Queue Status Key #3 display
Queue Status	Agent Group 1	Agent Group 2	Agent Group 3
Shift	Agent Group 4	Agent Group 5	Agent Group 6
Shift	Agent Group 7	none	none
Shift	Agent Group 1	Agent Group 2	Agent Group 3

Figure 6–9 Shift Key Operation

Call Monitoring

Purpose

6.11 The Call Monitoring feature allows the senior supervisor or supervisor to listen–in on an agent's conversation. During a call monitor, the system gives the supervisory set a one–way audio path, thus preventing the agent and the caller from hearing the supervisor.

Restrictions

The monitoring can be performed on any line and on any agent conversation that can be overridden. Monitoring is not permitted, for example, on 5–party calls, held calls and conferences. Keyline privacy is ignored for the call monitor.

Programming

To enable monitoring:

- assign an ACD Silent Monitoring access code in the Feature Access Code CDE form
- enable System Option 42, ACD Silent Monitoring

If agents are to be notified when a monitor is in progress, enable System Option 43, ACD Silent Monitoring Beeps. When the monitoring starts, the agent hears beeps and the set displays the extension number of the monitoring set followed by "MONITORING" (*SUPERSET 4*) or "INTRUDING" (*SUPERSET 420*).

Operation

The senior supervisor or supervisor initiates a call monitor by dialing the ACD Monitor access code, followed by the agent's ID code.

- If the agent set is idle, the supervisory set indicates this.
- If the agent is in a call and call monitor begins, the supervisory set displays the extension number of the agent's set.
- An agent may be monitored by only one supervisor at a time. A senior supervisor or supervisor attempting to monitor an agent who is already being monitored receives busy tone and the the normal busy display.

- An illegal user attempting to set up a monitor causes an ACCESS DENIED message to appear on the set.
- An attempt to monitor an agent who is not logged in results in a set displaying that the number is invalid.
- Attempting to monitor an agent who has Do Not Disturb activated and is idle results in the supervisory set displaying that the set has Do Not Disturb activated.

At any time while monitoring, the senior supervisor or supervisor may enter the conversation by pressing the CONF softkey (*SUPERSET 4*) or the TRANS/CONF key (*SUPERSET 420*). The monitoring session is ended by pressing the HANG UP softkey (*SUPERSET 4*) or the CANCEL key (*SUPERSET 420*). If the agent interrupts the conversation by placing the caller on hold, or terminating or transferring the call, the supervisory set displays "DISCONNECTED" and the system gives re–order tone. The supervisory set responds in the same manner if the ACD caller terminates the call.

Help Call Feature

6.12 The Help Call feature is initiated by an agent who needs assistance from a supervisor. A supervisor or senior supervisor receiving a help request gets an audible and visual indication on the *SUPERSET 4* or *SUPERSET 420* telephone.

Operation

When an agent initiates a help request, the supervisory set rings and the display changes to 'HELP' followed by the agent's name and ID number. When the senior supervisor or supervisor lifts the handset, a monitor begins. To form a conference with the agent and ACD caller, the supervisor/senior supervisor must press the CONF softkey (*SUPERSET 4*) or the TRANS/CONF key (*SUPERSET 420*).

If a help request is sent to a busy supervisory set, the set rings and displays 'HELP' with the agent's name and ID. The supervisory set however, can only handle the request after the current call is terminated.

If auto answer is enabled at a supervisory telephone, it will be ignored. The telephone will ring until the handset is lifted.

7. REPORTS

The *ACD TELEMARKETER* package generates a series of printer directed reports listing call and performance information for agents, paths, and groups. The Agent Shift Summary Record covers the agent's logon period and is automatically printed when an agent logs off. The Path and Group Summary reports present information collected over a pre–defined period.

The reporting parameters may be selected through the maintenance terminal or the console. Refer to Report Commands (paragraph 7.5) for descriptions of the parameters and how they are selected.

Agent Shift Summary Record

7.1 An Agent Shift Summary Record prints automatically whenever an agent logs out. Once enabled, this report requires no predefined time parameters. Refer to the SET Command section of paragraph 7.5 for instructions on enabling the Agent Shift Summary Record.

Figure 7–1 and Figure 7–2 provide examples of Agent Shift Summary Records. The fields in the record are defined in Table 7–1.

DATE	GRP	AGENT	EXTN	LOGIN	SHIFT	CALLS	TIME	EXT–OUT	TIME	MAKEBUSY	TIME
01/27/93	0018	00349	01432	13:28	06:35	0485	03:34:51	0016	01:25:26	1	00:15:02

Figure 7–1 Agent Shift Record – Example 1

The display in Figure 7–1 shows that on January 27, 1993, agent 349 of agent group 18 at extension 1432 logged on at 13:28:16 for a period of 6 hours and 35 minutes.

The agent answered 485 ACD calls which lasted a total of 3 hours, 34 minutes and 51 seconds.

Sixteen non–ACD external outgoing calls lasting a total of 1 hour, 25 minutes and 26 seconds were made by this agent during the shift. The agent's extension was in Make Busy state once for 15 minutes and 2 seconds.

DATE	GRP	AGENT	EXTN	LOGIN	SHIFT	CALLS	TIME	EXT–OUT	TIME	MAKEBUSY	TIME
11/12/92	0001	24157	05211	08:26	07:45	0036	07:01:23	0008	00:31:52	3	00:35:10

Figure 7–2 Agent Shift Records – Example 2

The example in Figure 7–2 shows that on November 12, 1992, agent 24157 of agent group 1 at extension 5211 logged on at 08:26:54 for a period of 7 hours and 45 minutes.

The agent answered 36 ACD calls which lasted a total of 7 hours, 1 minute and 23 seconds.

Eight non–ACD external outgoing calls with a total duration of 31 minutes and 52 seconds were placed by the agent during the shift. The agent's extension was in Make Busy state three times and spent a total of 35 minutes and 10 seconds in Make Busy.

Table 7–1 Agent Shift Summary Record Fields

Softkey Label	Function
DATE	Month/day/year (mm/dd/yy).
GROUP	Agent group (4 digits).
AGENT	Agent ID (5 digits).
EXTN	Extension number (5 digits).
LOGIN	Login time (hh:mm:ss).
SHIFT	Agents' shift length (hh:mm:ss).
CALLS	Number of ACD calls answered by the agent (4 digits).
TIME	Total time spent by the agent on ACD calls (hh:mm:ss).
EXT–OUT	Number of non–ACD external outgoing calls made (4 digits).
TIME	Total time the agent spent on non– ACD external outgoing calls (hh:mm:ss).
MAKE BUSY	Total number of times that the agent went Make Busy.
TIME	Total time the agent's extension was in Make Busy.

Path Summary Report

7.2 A Path Summary Report is printed only for programmed entities. This report includes:

- total counts for traffic entering the path during the specified time period
- the number of those calls that were answered, abandoned, and interflowed.

Figure 7–3 provides an example of a Path Summary Report. Fields in the report are defined in Table 7–2.

Period: 7–JAN–93 8:30 to 4:30

PATH	ENTERED	ANSWERED	ABANDONED	INTERFLOWED	SERVICE
23	1732	1578 000:15	0020 003:08	0134 003:27	0

Figure 7–3 Sample Path Summary Report

The example in Figure 7–3 shows that path number 23 received 1732 calls and of these, 1578 were answered within an average of 15 seconds.

Twenty calls were abandoned after waiting an average of three minutes and eight seconds. The 134 calls that interflowed out of the path did so after an average time of three minutes and 27 seconds. No calls were answered within the Path Service Level time.

Table 7–2 Path Summary Report Fields

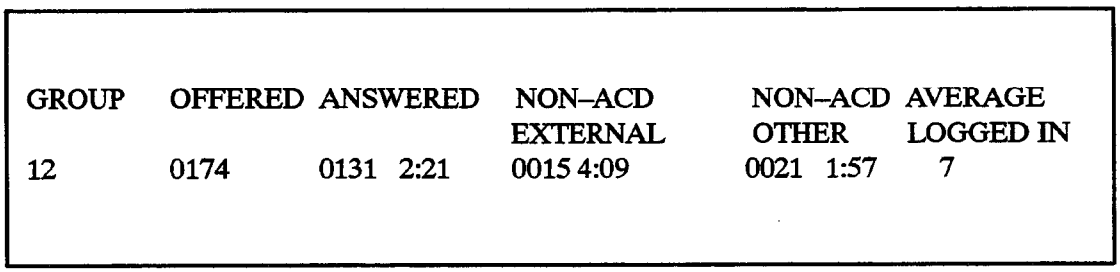
Softkey Label	Function
PATH	Path number.
ENTERED	Total number of calls entering this path.
ANSWERED	Total number of calls entering this path which were answered and the average time to answer.
ABANDONED	Number of calls which entered this path that were abandoned and average time the caller waited before abandoning.
INTERFLOWED	Number of calls which interflowed out of this path and the average time before interflowing.
SERVICE	Number of callers that were answered within the path service level in this time frame .

Group Summary Report

7.3 A summary record for the Group Reports is printed for programmed entities only. The information in the Group Summary Report is categorized as:

- offered,
- answered,
- non–ACD external calls,
- non–ACD other calls, and
- the average number of agents logged in during the period.

Figure 7–4 provides an example of a Group Summary Report. Table 7–3 defines the fields in this report.



GROUP	OFFERED	ANSWERED	NON–ACD EXTERNAL	NON–ACD OTHER	AVERAGE LOGGED IN
12	0174	0131 2:21	0015 4:09	0021 1:57	7

Figure 7–4 Sample Group Summary Report

The example above shows that agent group number 12 was offered 174 calls, 131 of which the group handled. Each agent spent an average of two minutes and 21 seconds speaking to the caller.

The 15 non–ACD external calls placed by the group had an average duration of four minutes and nine seconds. Other non–ACD calls, a total of 21, lasted an average of one minute and 57 seconds. An average of seven agents were logged in for this report period.

Table 7–3 Group Summary Report Fields

Softkey Label	Function
GROUP	Group number being summarized.
OFFERED	Total number of calls offered to the group during the reporting period from all paths.
ANSWERED	Total number of ACD calls that were answered by this group and the average length of time agents spent talking to the caller.

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Table 7–3 Group Summary Report Fields (continued)

Softkey Label	Function
NON–ACD EXTERNAL	Total number of external calls made by this group and the average time of these calls.
NON–ACD OTHER	Total number of calls, other than non–ACD external calls and ACD calls, made and received by the group and the average time of these calls.
AVERAGE LOGGED IN	Average number of agents logged in during the period. The number logged in is calculated every time that the queue status keys are updated, and these counts are then averaged.

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Printing Reports

7.4 Before the reports can be printed, the printer assignment must be completed as follows:

CDE Form 34, Directed IO

- assign the ACD AGT SUM and ACD GRP SUM printouts.

Refer to Customer Data Entry, Practice 9109–096–210–NA, for programming details.

Report Commands

7.5 Either the maintenance terminal or console can be used to enter the softkey commands and parameters needed to start the ACD Reports. Refer to RS–232 Maintenance Terminal, Practice 9109–096–351–NA, for instructions on using the terminal. The following subsections describe the report commands.

Accessing Reports

To access the reports, login to maintenance at the console or maintenance terminal using the correct USERNAME and PASSWORD. Figure 7–5a displays the softkey labels that appear after maintenance login.

To access the ACD Reports subform, press the ACD_REPORTS softkey. The softkey labels at this level are shown in Figure 7–5b. The SET softkey sets up the various parameters for the summary reports. The SHOW softkey shows the current setup of the ACD printouts. QUIT exits the user from the ACD Report mode. These softkey commands are described in more detail below.

1–SYSTEM	2–	3–DIAGNOSTICS	4–	5–TRAFFIC_MEAS
6–QUIT	7–LOGS	8–ACD_REPORTS	9–REPORTS	0–

a) Softkey Labels After Maintenance Login

1–SET	2–SHOW	3–	4–	5–
6–QUIT	7–	8–	9–	0–

b) Softkey Labels, ACD Reports Subform

Figure 7–5 Accessing Reports: Softkey Labels

SET Command

Use the SET command to enter or change any ACD Report parameters. After pressing the SET softkey, the prompts change as shown in Figure 7–6:

1–AGENT_SHIFT	2–PERIOD	3–DURATION	4–AUTOPRINT	5–CANCEL
6–	7–START_TIME	8–GRP_SUMMARY	9–	0–

Figure 7–6 Softkey Labels, SET Softkey Subform

Use the softkeys to enter the required data and to exit from the ACD REPORT function. The softkey functions are described in Table 7–4:

Table 7–4 SET Softkey Subform Functions

Softkey Label	Function
AGENT_SHIFT	Enables/disables printing of the agent shift summary reports. Enabled by default.
PERIOD	Sets the length of each reporting period from 10 minutes to 1 hour in 10 minute intervals. The default is 10 minutes.
DURATION	Sets the number of reporting periods. The duration must be a minimum of one period. The product of the duration multiplied by the period must be less than or equal to 24 hours. The default duration is 6 periods.
AUTOPRINT	Enables/disables printing of an intermediate report at the end of each reporting period. Enabled by default.
CANCEL	Terminates the SET command.
START_TIME	Sets the time of day, at 10 minute intervals, when the shift data collection starts. The start time must be defined before the group summary reports can be enabled. The default start time is 08:00.
GRP_SUMMARY	Enables/disables printing of the group summary reports. Disabled by default. A start time must be defined before the report is enabled.

Notes: 1. The DURATION, PERIOD, GRP_SUMMARY, and the START_TIME cannot be changed once the report is running. Stop the report before attempting to change these parameters.

2. The start time is used to clear the shift buffers, even if no printouts are enabled. See ACD MONITORS section.

SHOW Command

Use the SHOW command to display the status of the ACD reports. After pressing the SHOW softkey, the labels change as shown in Figure 7–7:

1–	2–	3–STATUS	4–	5–CANCEL
6–	7–	8–	9–	0–

Figure 7–7 Softkey Labels, SHOW Softkey Subform

Use the softkeys to enter the required data. The SHOW subform softkey functions are described in Table 7–5:

Table 7–5 SHOW Softkey Subform Functions

Softkey Label	Function
STATUS	The STATUS softkey displays the following information in the screen window: GROUP SUMMARY : ON/OFF STATUS : Active/Inactive AUTO PRINT : ON/OFF START TIME : hh:mm PERIOD : nn minutes DURATION : nn periods AGENT SHIFT : ON/OFF
CANCEL	Cancels the show command.

QUIT Command

This softkey command allows the user to exit from the ACD REPORT mode at the console or terminal.

8. ACD MONITORS

The ACD Monitors act as a "window" to the ACD system by giving ACD supervisors an event–display that is updated after the completion of each ACD activity. This section describes the purpose and content of each monitor and defines the monitor fields and the keys available in each display.

Four Types of Monitors

8.1 The monitors allow access to four areas of the *ACD TELEMARKETER* system. The supervisor may view current information for:

System Activity

The System Activity monitor displays the current status of the ACD system. The display shows the number of agents logged in, the number of calls in the system, and general statistics on agent performance. Refer to paragraph 8.3 for further details.

Paths

The Path Summary monitors are a series of displays for individual paths. Displays include the CDE programmed parameters of the path, the current activity on the path, and a brief statistical analysis for the path. See paragraph 8.4.

Agent Groups

The Agent Groups Summary monitors are a series of displays for individual agent groups. Displays include the CDE programmed data for each agent group, the current activity of the group, and a brief current and historical analysis of statistical data for the group. Refer to paragraph 8.5.

Agents

The Agent Information monitors are a series of displays for individual ACD agents. Displays include CDE programmed data for each agent in the system, the current activity of the agents, and a brief current and historical analysis of statistical data for the agents. More details are provided in paragraph 8.6.

Hierarchy of Monitor Displays

The monitor data is presented in a series of displays on a standard VT100 compatible terminal. Most displays show a summary of performance over the last hour of operation, or from the beginning of an agent's shift. The monitors are arranged in a hierarchy as shown in Figure 8–1.

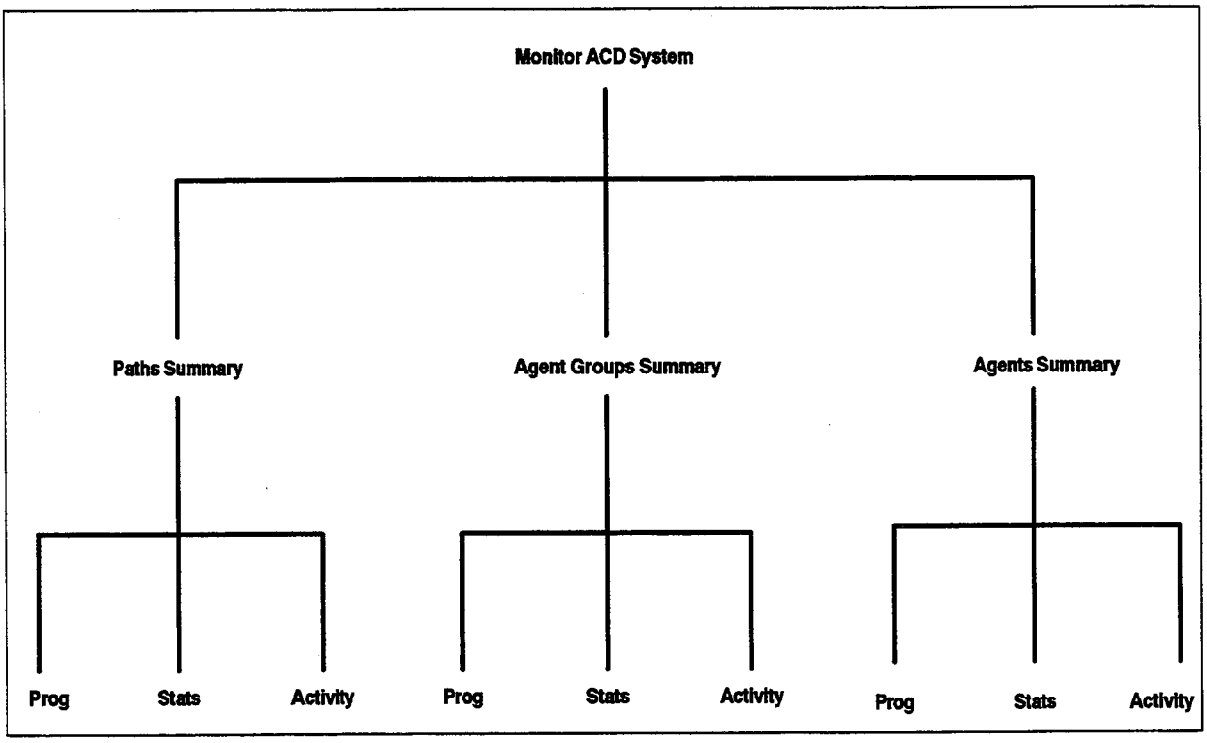

Figure 8–1 Monitor Hierarchy

Accessing Monitors

Restrictions

8.2 The monitors are accessed through a VT100–type terminal connected to a dataset. The dataset connects each Data Terminal (DTE) to a DNIC circuit on the PABX. The DTE connected to the dataset must be an ASCII data device using an RS–232C interface.

As many as four users can access the monitors simultaneously. While most displays are updated every 5 to 10 seconds, the update rate will vary depending on the number of users currently requesting monitor displays.

Entering Monitor Mode

Perform the following steps to gain access to the monitors through a VT100–type terminal:

1. Press <**Return**> key. The system responds with

   Welcome to Mitel SX–200 DIGITAL Data Switching [1].

2. To request the monitors, enter: MONITOR ACD or M ACD. The display shows call progress as follows:

1 – VT100 compatible
2 – IBM PC
select terminal type: 1
enter password: 1000[2].

3. If the limitation of four simultaneous monitors has been exceeded, the system response following the MONITOR ACD request changes to:

Ringing
System Busy, Try Again Later

Notes: 1. The system response is a programmable herald that is selected during the programming of the Data Transceiver's Class Of Service. Refer to Practice 9109–096–210–NA, Customer Data Entry, for details.

2. The default password is 1000; however, the password is programmable. Contact your communications manager if the password needs to be changed. New passwords are assigned by accessing CDE Form 28 from a maintenance terminal or console. The level of access for monitors is softkey number 2, SUPERVISOR.

Once logged in to the system, the user is presented with the SYSTEM ACTIVITY screen, described in detail in paragraph 8.3.

Monitoring System Activity

System Activity Monitor Display

8.3 After selecting MONITOR ACD, the supervisor is presented with the SYSTEM ACTIVITY monitor (Figure 8–2). This display contains a summary of the entire ACD system showing all current call activity and agent activity as well as a summary of system performance over the past hour.

The fields in the System Activity Monitor display are described in Table 8–2.

13:23 23–APR–92 **SYSTEM ACTIVITY** MITEL ACD TELEMARKETER

CALLER ACTIVITY		AGENT ACTIVITY		SUMMARY – LAST HOUR		
CALLERS	14	**ON ACD**	11	**ENTERED**	257	
CALLS WTG	3	**READY**	1	**TIMEtoANS**	00:54	
LONGEST WTG	00:56			**SVC LEVEL<**	200	78%
				SVC LEVEL >	54	22%
				ANS by AGT	254	03:02
UNDER 1ST	28 %	**MAKE BUSY**	2	**ANS by AGT**	99 %	
BETWEEN	56 %	**DND**	–			
AFTER 2ND	16 %					
		ON non ACD	–	**ON non ACD**	4	01:23
ON RECORDING	2					
HELD CALLS	–	**LOGGED ON**	14	**ABANDONED**	3	01:35
		LOGGED OFF	63			

1– PATHS	2– AGENT GROUPS	3– AGENTS	4– LANGUAGE	5–
6– QUIT	7– PRINT	8–	9–	0–

Figure 8–2 System Activity Monitor Display

System Activity Monitor Softkeys

The System Activity monitor display is accompanied by softkeys used to enter the second level in the monitor hierarchy. The softkeys presented with this display provide access to detailed displays of performance of specific paths, agent groups or agents. Table 8–1 explains the various softkeys and their purpose.

Table 8–1 System Activity Monitor Softkeys

Softkey Label	Function
PATHS	Prompts the user to specify a path ID. Displays the Path Monitors for the selected Path. Refer to paragraph 8.4 for details.
AGENT GROUPS	Prompts user to specify an Agent group number. Displays the Agent Group monitors for the selected group. Refer to paragraph 8.5 for details.
AGENTS	AGENTS prompts for an Agent Id number. Displays the Agent Monitors showing current agent activity and last hour statistics. Refer to paragraph 8.6 for details.
LANGUAGE	LANGUAGE provides a FRANCAIS softkey; when pressed, it converts softkey prompts and the command line to French. When prompts are in French, the softkeys toggle to LANGUE and ENGLISH, to allow selection of English prompts.
QUIT	Logs the user out of the Monitor ACD application and terminates the session.
PRINT	Prints the System Activity form on the printer used for the ACD Monitor Print.

Table 8–2 Terms Used In System Activity Display

Term	Meaning
Caller Activity	
Callers	The number of callers within the ACD system. This includes callers talking to agents and callers waiting for agents, but does not include callers in the delay for ringback.
Calls Wtg	The number of callers queued up waiting for an agent to become available. Includes listening to silence, music, alternate music, or a recorded announcement.
Longst Wtg	The duration, in minutes and seconds, of the call that has been waiting longest in the queues.
Under 1st	The percentage of callers in the system that have been waiting less than the first threshold time programmed for the primary group of the path.
Between	The percentage of callers in the system that have been waiting longer than the first threshold time but less than the second threshold time programmed for the primary group of the path.
After 2nd	The percentage of callers in the system that have been waiting longer than the second threshold time programmed for the primary group of the path.
On Recrdng	The number of calls waiting in the queues that are listening to a recorded announcement.
Held Calls	Indicates the number of ACD callers that have been placed on hold.

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Table 8–2 Terms Used In System Activity Display (continued)

Term	Meaning
Agent Activity	
On Acd	The number of agents currently on ACD calls.
Ready	The number of agents currently ready. Those agents are not on any type of call and are available to receive ACD calls.
Make Busy	The number of logged in agents that are in MAKE BUSY. These agents receive no ACD calls.
DND	The number of logged in agents that have DO NOT DISTURB activated. These agents receive no ACD or non–ACD calls.
On Non Acd	The number of agents currently involved in incoming non–ACD calls or agent originated calls.
Logged On	The number of agents currently logged into ACD.
Logged Off	The number of agents currently NOT logged in to the ACD system.
Summary – Last Hour	
Entered	The total number of ACD calls that have entered a path in the ACD system over the past hour.
Time To Ans	The average time before a call is answered by an agent.
SVC Level	The summary, from all paths in the system, of the path service level statistics.The first field shows the number of calls answered within the paths' service time; the second is the percentage of calls answered outside of the service time.
Ans By Agt	The number of calls received over the past hour that have been answered by an agent and the average duration of the calls.
Ans By Agt	The percentage of all ACD calls that entered over the past hour that were answered by an agent.
On Non Acd	The number of calls over the past hour that were either incoming non–ACD calls answered by an agent or agent originated calls, and the average duration of these calls.
Abandoned	The number of callers who abandoned before being answered by an agent and the average time a caller waited before abandoning.

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Monitoring Paths

Accessing the Path Summary Display

8.4 To access the Path Summary display, the user presses the PATHS softkey at the system level. The system responds by asking for a path access code. After the user enters a valid path access code, the screen changes to the Path Summary display shown in Figure 8–3.

13:23 23–APR–93 **PATH SUMMARY** MITEL ACD TELEMARKETER

PATH NUM	PATH NAME	ACCESS CODE	NUM CALLS WTG	CONN TO AGTS	SUMMARY – LAST HOUR							
					ENTERED	ANSWERED		ABANDONED		INTERFLOWED		
1	TV SALES	666	4	7	122	101	00:54	19	15%	01:49	9	01:58
2	REC SALES	667	–	2	34	34	00:14	–	–	:	–	:
3	NEWS MAG	668	23	11	439	202	01:34	31	7%	02:13	4	02:12
4	SERVICE	669	1	2	13	13	00:40	–	–	:	–	:
5	SUBSCRIPT	662	–	–	5	–	–	5	100%	1:01	–	:

1– PROGRAMMING	2– STATISTICS	3– ACTIVITY	4–	5– CANCEL
6–	7– PRINT	8– PAGE UP	9– PAGE_DOWN	0–

Figure 8–3 Path Summary Display

Path Summary Display

The system displays path information on four forms. Entry into the Path monitor sub–level begins with the Path Summary display (Figure 8–3) showing activity on the requested path.

The chosen path is the top entry on the display. If the user presses the RETURN key without first entering a path number, the lowest number path is displayed.

Entering an illegal number, such as an unprogrammed or out–of–range path, results in an error message on the work–line, and the system offers the CANCEL softkey. The RETURN hard–key also cancels the error message.

Table 8–3 describes the fields in the Path Summary Display.

Table 8–3 Terms Used In Path Summary Display

Term	Meaning
Current Information	
Path Num	The path number. Paths are displayed in ascending order by path numbers (range = 1 – 50).
Path Name	The name of the path as programmed in CDE.
Access Code	The access code of the path (1 – 5 digits).
Num Calls Wtg	The number of ACD calls which originated on this path that are currently queued against any of the groups programmed in the path.
Conn To Agts	The number of callers from this path currently talking to agents of any of the groups programmed in this path.
Summary – Last Hour	
Entered	The number of calls that entered this path. See Note below.
Answered	The first entry is the number of calls answered by all groups in the path. The second entry is the average time to answer for those calls.
Abandoned	The first entry is the number of callers who abandoned while waiting for a group in this path.The second entry is the percentage of the calls offered that this represents, and the third is the average time a caller waited before abandoning.
Interflowed	The first entry is the number of callers who interflowed out of this path. The second entry is the average time to interflow for those calls.

Note: The Entered field on the Path Summary shows the number of times a call entered the path. In cases where a path interflows to itself or to another path, each call that interflows increments the entered count. Therefore, one call into the system may have 'entered' many times.

Path Summary Softkeys

From this point, softkeys allow the supervisor to access detailed information in three categories: CDE programmed data, statistics gathered on the path over the past hour, and current path activity.

The softkeys for the Path Summary monitor are described in Table 8–4. The displays that result from pressing the PROGRAMMING, STATISTICS and ACTIVITY softkeys are discussed in the following paragraphs.

Table 8–4 Path Summary Display Softkeys

Softkey Label	Function
PROGRAMMING	Displays the Path Programmed Data form that shows information programmed in CDE for the path currently bracketed by the work–line arrows. The Path Programmed Data form is described on page 620 8–10.
STATISTICS	Accesses the Path Statistics form that contains a statistical overview of activity on the path at the present moment, as well as a summary of statistics collected over the past hour.
ACTIVITY	Accesses the Path Activity display that contains a frequently updated view of current traffic on the selected path including callers waiting and idle agents. The Path Activity form is described on page 620 8–15.
CANCEL	Returns the user to the System level display. Paragraph 8.3 describes the System level form.
PRINT	Prints the Path Summary form on the printer used for the ACD Monitor Print directed printout.
PAGE UP	If there are more path summary lines than can fit on the screen, this key accesses paths with lower Path numbers than the first path on the screen. This key only appears when an upward scroll can occur.
PAGE DOWN	If there are more path summary lines than can fit on the screen, this key accesses paths with higher Path numbers than the first path on the screen. This key only appears when a downward scroll can occur.

Path Programmed Data Display

Pressing the PROGRAMMING softkey in the Path Summary window displays the Path Programmed Data form (Figure 8–4). This display contains the data entered during CDE for the selected path.

The fields in this display are described in Table 8–5.

14:26 23–APR–92 **PATH PROGRAMMED DATA** MITEL ACD TELEMARKETER

PRIMARY : 1 TV SALES **OVERFLOW 1** : 13 COOKBOOK **OVERFLOW 2** : 4 RECORDS **OVERFLOW 3** : 7 BULLET 1 **INTERFLOW** : 8834 **I/F ENABLD** : yes **O/F to I/F** : yes **I/F TIME** : 03:30 **SVC TIME** : 00:13 **ANS DELAY** : 00:12 **PRIORITY** : 20	**RAD 1 ID** : 1123 ALL AGTS BSY **MUSIC** : system **START** : 00:12 **RAD 2 ID** : 1124 STILL BSY **MUSIC** : 1170 **START** : 00:45 **RAD 3 ID** : 1126 PLS HOLD ON **MUSIC** : 1170 **START** : 01:30 **RAD 4 ID** : 1124 STILL BUSY **MUSIC** : 1170 **START** : 02:15

PATH 1 666 TV SALES

1–	2–	3–	4–	5– CANCEL
6–	7–	8– PREVIOUS	9– NEXT	0– RETURN

Figure 8–4 Path Programmed Data Display

Table 8–5 Terms Used In Path Programmed Data Display

Term	Meaning
Primary	Number and name of the primary agent group for the path.
Overflow 1	Number and name of the first overflow group for the path.
Overflow 2	Number and name of the second overflow group for the path.
Overflow 3	Number and name of the third overflow group for the path.
Interflow	Access code of the interflow point.

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Table 8–5 Terms Used In Path Programmed Data Display (continued)

Term	Meaning
I/F Enabld	Yes in this field indicates interflow is activated.
O/F to I/F	Yes in this field indicates the call can flow from the last programmed overflow to the Interflow point before the Interflow Timeout occurs. This applies only if the flag I/F ENABLD is 'YES'.
I/F Time	The time, in minutes and seconds, before the call interflows out of the ACD system. Applies only if the flag I/F ENABLD is 'YES'.
SVC Time	The time, in minutes and seconds, that defines the service level for this path. The time to answer of all calls answered on this path is compared to this time and the results are shown as the service level data in the monitors.
Ans Delay	The time, in minutes and seconds, that the caller is allowed to hear ringback before the ACD system attempts to answer the call.
Priority	The priority of the ACD call. The highest priority is 1 and the lowest is 99.
RADs 1 through 4	
ID	The access code and name of the Recorded Announcement Device (RAD) hunt group.
Music	The access code of the music source to be used after the recording has been heard. If no access code has been programmed then 'system' music is displayed. When no system music is available, this field is blank.
Start	The time, in minutes and seconds, that a caller is connected to the specified recording after entering this path.

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Table 8–6 describes the softkeys presented with the Path Programmed Data display.

Table 8–6 Path Programmed Data Softkeys

Softkey Label	Function
CANCEL	Returns the user to the System level display. See paragraph 8.3 for details of the System level.
PREVIOUS	This softkey is present if paths exist that have lower access codes than the path being displayed. Pressing this key displays the programmed data for the next lower ACD Path.

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Table 8–6 Path Programmed Data Softkeys (continued)

Softkey Label	Function
NEXT	This softkey is present if paths exist that have higher access codes than the path being displayed. Pressing this key displays the programmed data for the next higher ACD Path.
RETURN	The RETURN key (either hard–key or softkey) returns the user to the PATH SUMMARY form. See paragraph 8.4 for details of the Path Summary form.

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Path Statistics Display

Pressing the STATISTICS softkey in the Path Summary window displays the Path Statistics display (Figure 8–5). This display provides a statistical overview of the path's performance for the current instant, as well as a summary of activity over the past hour. Table 8–7 describes the fields in this display.

14:26 23–APR–89 **PATH STATISTICS** MITEL ACD TELEMARKETER

	GRP NUM	GROUP NAME	NUM AGT /REC	NUM CALLS WTG	CONN AGT /REC	SUMMARY – LAST HOUR OFFERED	ANSWERED	OVERFLOWED
PRIMARY :	1	A/V SALE	7	4	7	122 98 %	97 78 %	53 43 %
OVERFLOW 1:	13	COOKBOOK	3	6	2	53 43 %	17 14 %	26 21 %
OVERFLOW 2:	4	RECORDS	8	2	5	26 21 %	6 5 %	9 7 %
OVERFLOW 3:	7	BULLET 1	6	–	–	9 7 %	1 1 %	na
RECORDING 1:	2	TV REC 1	3	2	7	**SVC LEVEL<:**	90 79 %	
RECORDING 2:	17	GENERAL	3	–	2	**SVC LEVEL >:**	31 20 %	
RECORDING 3:	9	TV REC 3	2	–	1			
RECORDING 4:	9	TV REC 3	2	–	1			

PATH 1 666 TV SALES

1–	2–	3–	4–	5– CANCEL
6–	7– PRINT	8– PREVIOUS	9– NEXT	0– RETURN

Figure 8–5 Path Statistics Display

Table 8–7 Terms Used In Path Statistics Display	
Term	**Meaning**
Programmed Information And Current Summary	
Group Num	The agent group number or recording group number, as assigned during CDE.
Group Name	The name of the agent group or recording group, as assigned during CDE.
Num Agt/Rec	The number of logged in agents in the group. If a recording group, the number of RAD ports assigned to the group.
Num Calls Wtg	The number of calls from this path waiting for the agent group or recording group.
Conn Agt/Rec	The number of callers from this path currently talking to agents in the group, or listening to RADs.
Summary – Last Hour	
Offered	The number of ACD calls offered to the group from this path, and the percentage of the total calls offered on the path that this represents.
Answered	The number of ACD calls answered by agents in the group from this path only, and the percentage of the total calls answered on the path that this represents.
Overflowed	The number of calls that overflowed from the group to the next overflow point on this path, and the percentage of calls offered to the group which overflowed. Calls which overflowed to interflow are not counted.
SVC Level<	The number of ACD calls answered on the path within the path's service time, and the percentage of calls answered that this represents.
SVC Level>	The number of ACD calls answered on the path outside the path's service time and the percentage of calls answered that this represents.

Table 8–8 describes the softkeys that are presented with the Path Statistics Display.

Table 8–8 Path Statistics Display Softkeys

Softkey Label	Function
CANCEL	Returns the user to the System level. Details of the System level are in paragraph 8.3.
PRINT	Prints the Path Statistics at the printer used for the ACD Summary Reports directed printout.
PREVIOUS	This softkey is present if paths exist that have lower access codes than the path being displayed. Pressing this key displays the statistics for the next lower ACD Path.
NEXT	This softkey is present if paths exist that have higher access codes than the path being displayed. Pressing this key displays the statistics for the next higher ACD Path.
RETURN	The Return key (either hardkey or softkey) returns the user to the Path Summary form. See page 620 8–7for a description of the Path Summary form.

Path Activity Display

Pressing the ACTIVITY softkey in the Path Summary window presents the Path Activity display (Figure 8–6). This display provides a continuously updated picture of the traffic on a given path. Information relates to the callers queued for the path as well as any ready agents waiting for calls from the path.

14:26 23–APR–89 **PATH ACTIVITY** MITEL ACD TELEMARKETER

PRIMARY Caller	A/V No.	SALE Wtg	0/F1 Caller	COOKBOOK No.	Wtg	0/F2 RECORDS	0/F3 Agent	BULLET 1 Ready
T 101	6	00:03	2614	6	01:05			
T 21	4	00:24					MCGRATH M.	17:17
T 82	3	00:49					FAGAN J.L.	16:21
2614	1	01:08					DOYLEND C.	14:58
							THOMPSON B.	14:39
							CHENG J.	02:31
							LAVALLEE P.	02:28
							FARROW MOE	02:01
							CHANG BILL	01:55
							REHDER M.	01:31
							WEATHERSPOON	01:04

PATH 1 666 TV SALES

1–	2–	3–	4–	5– CANCEL
6–	7–	8– PREVIOUS	9– NEXT	0– RETURN

Figure 8–6 Path Activity Display

All queued callers that originated on the specified path are identified by trunk number or extension access code. The longest waiting caller for each group is at the bottom of the list, immediately above the horizontal line.

As the number of waiting calls increases or decreases the information is updated in that group's column, and the horizontal bar below the first call in the queue shifts up and down the screen accordingly. The screen displays up to twelve waiting calls.

When there are no calls waiting in a queue, the sub–title under the group name changes to AGENT name and READY time. As many as 12 idle agents can be listed below the horizontal bar, beginning with the longest idle agent.

Overflow groups that were programmed, but have no callers waiting and no agents logged in to a group, are identified by the group name in the column title. If an overflow group was not assigned during the customer data entry, the column is blank.

The fields in the display are defined in Table 8–9.

Table 8–10 describes the softkeys presented with the Path Activity Display.

Table 8–9 Terms Used In The Path Activity Display

Term	Meaning
Caller	The trunk number or extension access code of the caller waiting for the agent group.
No.	The queue position of the caller waiting for this group. The numbers are ordered but may not be sequential if there are callers waiting for this group who originated on another path. These other callers hold a queue position for this group but are shown on the activity display for their path.
Wtg	The time, in minutes and seconds, that the caller has been waiting in this path.
Agent	The name of a ready agent in the displayed agent group. If the agent does not have a name assigned in CDE, the agent's ID appears.
Ready	The time, in minutes and seconds, that the agent has been available and ready to accept an ACD call.

Table 8–10 Path Activity Display Softkeys

Softkey Label	Function
CANCEL	Returns the user to the System level. Details of the System level are in paragraph 8.3.
PREVIOUS	This softkey is present if paths exist that have lower access codes than the path being displayed. Pressing this key displays the activity for the next lower ACD Path.
NEXT	This softkey is present if paths exist that have higher access codes than the path being displayed. Pressing this key displays the activity for the next higher ACD Path.
RETURN	The Return key (either hardkey or softkey) returns the user to the Path Summary form. See page 620 8–7for a description of the Path Summary form.

Monitoring Groups

Overview

8.5 Four forms provide information about the agent groups programmed in the ACD system and are described as follows:

- Group Summary form displays important information about each agent group.
- Group Programmed Data form displays the data programmed in CDE for each agent group.
- Group Statistics form provides statistics gathered on the agent group over the past hour and since the beginning of the shift.
- Group Activity form shows current caller and agent activity for the group.

Accessing the Agent Group Summary Form

To access the Agent Group Summary form, the user presses the AGENT GROUPS softkey at the system level. The system responds by asking for an agent group number. After the user enters a valid agent group number, the screen changes to the display shown in Figure 8–7. The chosen group is at the top of the screen. The fields on the display are defined in Table 8–11.

Pressing the RETURN key without first entering a group number also produces the display shown in Figure 8–7. In this case, however, groups are listed in ascending order by group number.

Entering an unprogrammed or out–of–range group number results in an error message on the work–line. The CANCEL key allows deletion of the entry. Alternately, the user may press the RETURN hardkey and re–enter a group number.

10:04 23–APR–89 **GROUP SUMMARY** MITEL ACD TELEMARKETER

GRP NUM	GROUP NAME	AGENTS LOGGED ON	NUM CALLS WTG	ON ACD CALLS	SUMMARY – LAST HOUR		
					OFFERED	ANSWERED	OVERFLOWED
1	A/V SALE	7	4	7	122	97	23
4	RECORDS	8	2	5	142	138	4
7	BULLET 1	6	–	–	37	37	–
11	POP	2	1	1	13	12	–
12	JAZZ	1	–	–	3	2	–
18	COOKBOOK	3	2	3	73	43	22
35	TRINKETS	–	–	–	–	–	–
38	JOKELINE	37	101	33	835	561	274

PATH 1 666 TV SALES

1– PROGRAMMING	2– STATISTICS	3– ACTIVITY	4–	5– CANCEL
6–	7– PRINT	8– PAGE UP	9– PAGE DOWN	0–

Figure 8–7 Agent Group Summary Form

Table 8–11 Terms Used In Group Summary Display

Term	Meaning
Grp Num	The agent group's number.
Group Name	The agent group's name as programmed in CDE.
Current State	
AGENTS LOGGED ON	The number of agents in this group currently logged on.
NUM CALLS WTG	The number of ACD calls queued up, from all paths, for agents in this group.
ON ACD CALLS	The number of agents in this group currently active on ACD calls.
Summary – Last Hour	
OFFERED	The number of incoming ACD calls offered to the group from all paths.
ANSWERED	The number of incoming ACD calls answered by this group and the average duration of those calls.
OVERFLOWED	The number of calls that overflowed in any path while queued for this group as the primary group.

Agent Group Monitor Softkeys

Softkeys which appear in the Agent Group Monitor window allow the supervisor to access detailed information on CDE programmed data, statistics gathered on the agent group over the past hour, and current group activity. The softkeys for the Agent Group monitor are described in Table 8–12. The displays that result from pressing the PROGRAMMING, STATISTICS and ACTIVITY softkeys are discussed in greater detail in the following paragraphs.

Table 8–12 Group Summary Form Softkey Labels

Softkey Label	Function
PROGRAMMING	Displays the Group Programmed Data form that shows the programmed CDE entries for the agent group currently bracketed by the work line arrows.
STATISTICS	Accesses the Group Statistics form that provides a statistical overview of the group's activity at the present moment, and a summary of statistics collected over the past hour. See page 620 8–21 for details.
ACTIVITY	Accesses the Group Activity display that shows a frequently updated view of current status of the agent group. See page 620 8–23.
CANCEL	Returns the user to the System level. Details of the System level are in paragraph 8.3.
PRINT	Starts a dump of this form to the printer used for the ACD Monitor Print.
PAGE UP	Accesses groups with lower numbers if there are more agent group summary lines than fit on one screen. The key only appears when an upward scroll can occur.
PAGE DOWN	Accesses groups with higher numbers if there are more agent group summary lines than fit on one screen.The key only appears when a downward scroll can occur.

Group Programmed Data Display

Pressing the PROGRAMMING softkey in the Agent Group Monitor window displays the Group Programmed Data form (Figure 8–8). This form displays the data programmed during CDE for the agent group.

Table 8–13 describes the softkeys presented with the Group Programmed Data Display. Table 8–14 describes the fields in the display.

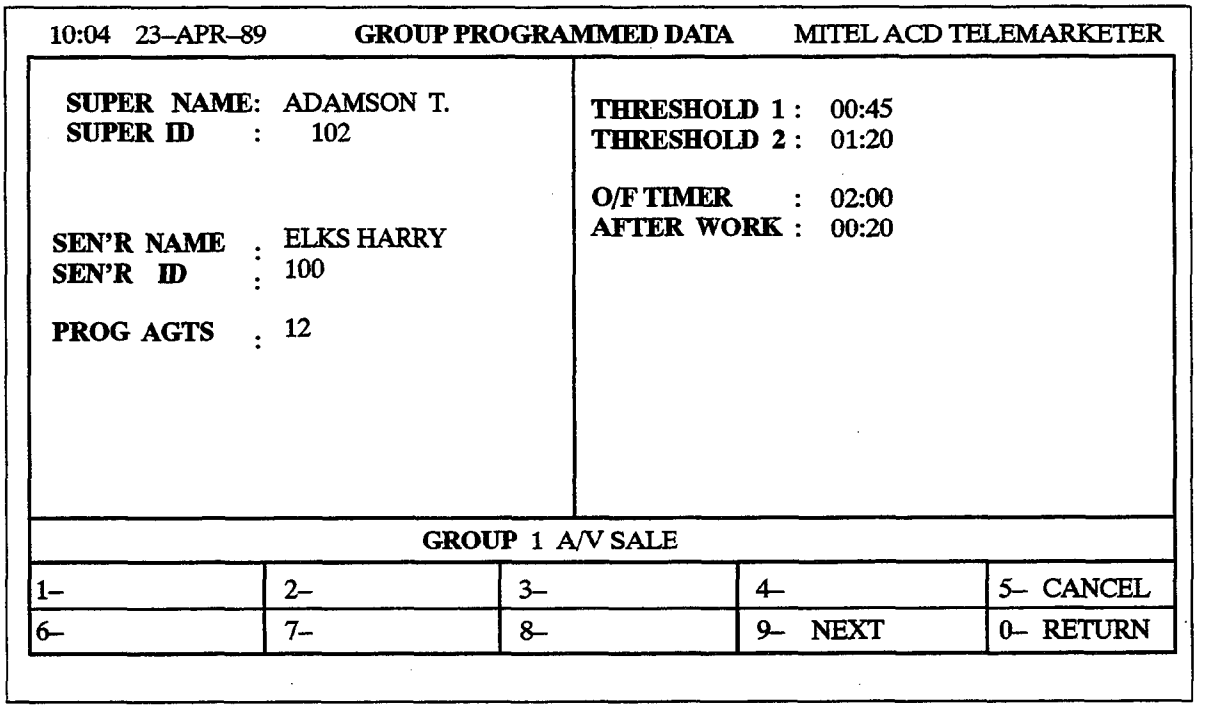

Figure 8–8 Group Programmed Data Display

Table 8–13 Group Programmed Data Softkey Labels

Softkey Label	Function
CANCEL	Returns the user to the System level. Details of the System level are in paragraph 8.3.
PREVIOUS	This softkey is present if groups exist that have lower access codes than the group being displayed. Pressing this key displays the activity for the next lower ACD Group.
NEXT	This softkey is present if groups exist that have higher access codes than the group being displayed. Pressing this key displays the activity for the next higher ACD Group.
RETURN	The RETURN key (either hardkey or softkey) returns the user to the Group Summary form. Refer to paragraph 8.5 for details.

Table 8–14 Terms Used In Group Programmed Data Display

Term	Meaning
Super Name	The name of the group's supervisor, as programmed in CDE.
Super ID	The ID number of the group's supervisor, as programmed in CDE.
Sen'r Name	The name of the group's senior supervisor, as programmed in CDE.
Sen'r ID	The ID number of the group's senior supervisor, as programmed in CDE.
Prog Agts	The number of agents programmed as members of this group.
Threshld 1	The first threshold time for a call waiting for the group. This time is used to indicate the overall caller load on the group. The flashing icons on agent and supervisory sets are updated to reflect the status using this time.
Threshld 2	The second threshold time for a call waiting for the group. This time is used to indicate the caller load on the group. The flashing icons on agent and supervisory sets are updated to reflect the status using this time.
O/F Timer	The setting of the 'overflow' timer for the group.
After Work	The setting of the after work timer for the group.

Group Statistics Display

Pressing the STATISTICS softkey in the Agent Group Monitor window displays the Group Statistics form (Figure 8–9). This display provides a summary of statistics collected over the past hour and shift totals for the group.

14:26 23–APR–89 GROUP STATISTICS MITEL ACD TELEMARKETER

LAST HOUR			SHIFT TOTAL from 08:00		
ANS by GRP	43	03:11	ANS by GRP	397	02:58
OFFERED	63		OFFERED	487	
OVERFLOWED	17		OVER-	83	
LOGINS	–		FLOWED	13	
AVG AGENTS	3.4		LOGINS	6.8	
MAKE BUSY	12	00:49	AVG AGENTS	62	01:46
OUTGOING	–	:	MAKE BUSY	3	02:01
NON ACD	1	01:43	OUTGOING	2	02:12
			NON ACD		

GROUP 1 A/V SALE

1–	2–	3–	4–	5– CANCEL
6–	7– PRINT	8– PREVIOUS	9– NEXT	0– RETURN

Figure 8–9 Group Statistics Display

Table 8–15 describes the softkeys presented with the Group Statistics display. Table 8–16 describes the fields in the display.

Table 8–15 Group Statistics Display Softkey Labels

Softkey Label	Function
CANCEL	Returns the user to the System level. Details of the System level are in paragraph 8.3.
PRINT	Starts a dump of this form to the printer used for the ACD Monitor Print.
PREVIOUS	This softkey is present if groups exist that have lower access codes than the group being displayed. Pressing this key displays the statistics for the next lower ACD Group.
NEXT	This softkey is present if groups exist that have higher access codes than the group being displayed. Pressing this key displays the statistics for the next higher ACD Group.
RETURN	The RETURN key (either hardkey or softkey) returns the user to the Group Summary form. Refer to page 620 8–17 for details

Table 8–16 Terms Used in Group Statistics Display

Term	Meaning
Ans By Grp	The number of ACD calls answered by the group both over the time interval and the average duration of those calls.
Offered	The number of ACD calls offered to the group over the time interval from all paths.
Overflowed	The number of calls that have overflowed from this group over the time interval when this group is the primary group of a path.
Logins	The number of logins which occurred in this group over the time interval.
Avg Agents	The average number of agents logged in over the time interval. The calculation is an average of counts taken every time the queue status indicators are updated.
Make Busy	The number of times members of this group went into Make Busy during the interval, and the average duration of the Make Busy states.
Outgoing	The number, and average duration, of external outgoing calls made by the agents in this group over the time interval.
Non ACD	The number, and average duration, of internal calls made and non–ACD calls received by group members over the time interval.

Note: The field definitions in Table 8–16 apply to the LAST HOUR field and the SHIFT TOTAL field. The shift start time is programmed from the System Maintenance facility via the ACD_REPORTS softkey. The group shift buffers are cleared at that time.

Group Activity Display

Pressing the ACTIVITY softkey in the Agent Group Monitor window displays the Group Activity form (Figure 8–10). This form provides a continuously updated display of the activity of callers and agents within the group.

14:26 23–APR–89 **GROUP ACTIVITY** MITEL ACD TELEMARKETER

CALLER ACTIVITY		AGENT ACTIVITY	
CALLS WTG	12	**LOGGED ON**	10
LONGST WTG	01:38	**READY**	–
UNDER 1ST	7	**AFTER WORK**	1
BETWEEN	3	**ON ACD**	7
AFTER 2ND	2	**MAKE BUSY**	1
OVER-FLOWED	6	**DND**	–
		ON non ACD	1
HELD CALLS	1		

GROUP 1 A/V SALE

1–	2–	3–	4–	5– CANCEL
6–	7–	8– PREVIOUS	9– NEXT	0– RETURN

Figure 8–10 Group Activity Display

Table 8–17 describes the softkeys presented with the Group Activity display. Table 8–18 defines the fields in the display.

Table 8–17 Group Activity Softkey Labels

Softkey Label	Function
CANCEL	Returns the user to the System level. Details of the System level are in paragraph 8.3.
PREVIOUS	This softkey is present if groups exist that have lower access codes than the group being displayed. Pressing this key displays the activity for the next lower ACD Group.
NEXT	This softkey is present if groups exist that have higher access codes than the group being displayed. Pressing this key displays the activity for the next higher ACD Group.
RETURN	The RETURN key (either hardkey or softkey) returns the user to the Group Summary form. Refer to page 620 8–17for details.

Table 8–18 Terms Used In Group Activity Display

Term	Meaning
Caller Activity	
Calls Wtg	The number of callers queued for this group from all paths.
Longst Wtg	The waiting time of the longest waiting caller queued for this group.
Under 1st	The number of callers queued for this group who have been waiting for less than the first threshold timer.
Between	The number of callers queued for this group who have been waiting for longer than the first threshold timer but less than the second threshold timer.
After 2nd	The number of callers queued for this group who have been waiting for longer than the second threshold timer.
Overflowed	The number of callers queued for this group who have overflowed to the next group in the path, if programmed to do so.
Held Calls	The number of callers on hard hold by agents in this group.
Agent Activity	
Logged On	The number of agents currently logged on in this group.
Ready	The number of agents in this group ready to take an ACD call.
After Work	The number of agents who have just completed an ACD call, and their After Work Timer is active.
On ACD	The number of agents currently on incoming ACD calls.
Make Busy	The number of agents currently in Make Busy.
DND	The number of agents with Do Not Disturb activated.
On Non ACD	The number of agents currently on non–ACD incoming calls or outgoing calls.

Monitoring Agents

Overview

8.6 The following forms provide information about the agents programmed in the ACD system who are currently logged in. The primary form within the agent sub–level is the Agent Summary. This form provides an overview of current activity as well as a synopsis of statistical data collected over the past hour.

A set of softkeys in this form provides access to additional forms which supply detailed information about the agent and the agent's performance. These softkeys are described in Table 8–19.

The additional forms are:

- Agent Programmed Data display showing all information entered during customer data entry that affects this agent.
- Agent Statistics display with details of the agent's performance over the last hour, and a comparison between the performance of this agent and the entire group.
- Agent Activity display showing the current status of any specified agent.

These forms are described in detail below.

Accessing the Agent Summary Form

After pressing the AGENTS softkey at the system level, the user is prompted to enter an agent ID number. After entering a valid agent ID, the user is presented with the screen shown in Figure 8–11.

Information about the chosen agent appears at the top. Table 8–20 defines the fields in the display.

Pressing the RETURN key without first entering an agent ID number also displays the screen shown in Figure 8–11, but in this case the agents are listed by group number and ID number from lowest to highest ID number as programmed during customer data entry.

Entering an unprogrammed or out–of–range agent number results in an error message on the work–line. The CANCEL key allows deletion of the entry. Alternately, the user may press the RETURN hardkey and re–enter an agent number.

15:23 23–APR–89 AGENT SUMMARY MITEL ACD TELEMARKETER

GRP NUM	AGENT NAME	AGENT ID	ACD STATE	SUMMARY – LAST HOUR ANSWERED	CMP to GRP AV	NONACD	MAKE BUSY
2	JACOBSON K	2390	ready	27 02:28	97 96 1	– :	3 01:28
2	OLIVETTI S	2750	acd	23 03:01	86 05 10	1 02:27	– :
2	ANDERS BOB	3215	nonacd	13 03:45	102 3	– :	5 01:13
2	KING SUSAN	3310	makeb	4 01:58	80 93	– :	– :
5	BRUCE ALAN	1540	acd	12 02:35	10 98	2 00:47	4 00:29
33	LIKOUDIS J	3250	acd	13 02:21	100 100	0 :	2 00:47
42	ISKOVITCH	4100	ready	– –	– –	– :	– :
42	CUOMO MARY	73550	makeb	11 04:27	67 132	– :	1 60:00
49	LAM JSOEPH	2210	acd	19 02:39	100 102	– :	– :

1– PROGRAMMING	2– STATISTICS	3– ACTIVITY	4–	5– CANCEL
6–	7– PRINT	8– PAGE UP	9– PAGE DOWN	0– RETURN

Figure 8–11 Agent Summary Form Display

Table 8–19 Agent Summary Form Softkey Labels

Softkey Label	Function
PROGRAMMING	Displays the Agent Programmed Data form showing the CDE information for the agent currently bracketed by the work–line arrows. Refer to page 620 8–27 for a description of the Agent Programmed Data form.
STATISTICS	Accesses the Agent Statistics form that shows a statistical overview of the agent's activity at the present moment, and a summary of statistics collected over the past hour. Page 620 8–29 describes the Statistical Overview.
ACTIVITY	Accesses the Agent Activity display containing a frequently updated view of current status of the agent and the agent's set. See page 620 8–31 for a description of this form.
CANCEL	Returns the user to the system level. Refer to paragraph 8.3 for details.
PRINT	Prints the Agent Summary form at the printer used for the ACD Monitor Print.
PAGE UP	Accesses agents with lower group numbers if there are more agent summary lines than fit on one screen. The key only appears when an upward scroll can occur.
PAGE DOWN	Accesses agents with higher group numbers if there are more agent summary lines than fit on one screen. The key only appears when a downward scroll can occur.

Table 8–20 Terms Used In Agent Summary Display

Term	Meaning
Agent Name And Current State	
Grp Num	The agent group's number.
Agent Name	The agent's name as programmed in CDE.
Agent ID	The agent's ID or access code.
ACD State	The current state of the agent as one of the following: acd — on an ACD call dnd — the agent's set has Do Not Disturb active hold — agent has an ACD caller on hold makeb — agent has entered the make busy state nonacd — agent is on a non–ACD or outgoing call ready — agent is ready to accept an ACD call afterw — agent is in afterwork timer state
Summary – Last Hour	
Answered	The number and average duration of incoming ACD calls answered by this agent.
Cmp To Grp Av	The first percentage is the ratio of the number of incoming ACD calls answered by this agent compared to the average number answered by the rest of the agents in the group over the same period. Agents logging on and off during the period affect the numbers. The second percentage is the ratio of the average call duration of incoming ACD calls answered by this agent compared to the average duration answered by the rest of the agents in the group over the same period.
Non ACD	The number and average duration of non–ACD calls received and placed by the agent.
Make Busy	The number and average duration of times the agent was in a Make Busy state.

Agent Programmed Data Form

Pressing the PROGRAMMING softkey displays the Agent Programmed Data form (Figure 8–12). This form displays the data programmed for the agent by the installer during customer data entry. The softkeys and fields on the form are described in Table 8–21 andTable 8–22.

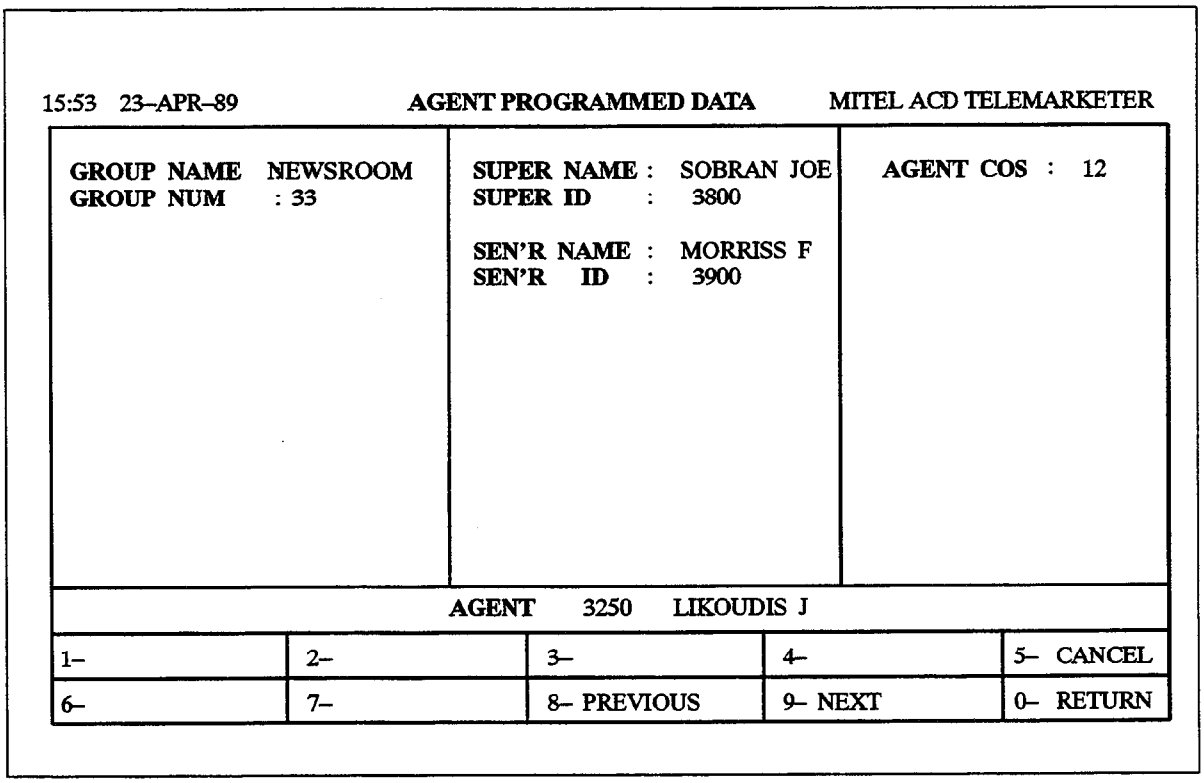

Figure 8–12 Agent Programmed Data Display

Table 8–21 Agent Programmed Data Softkey Labels

Softkey Label	Function
CANCEL	Returns the user to the System level. Refer to paragraph 8.3 for details.
PREVIOUS	Displays the previous agent, sorted by group number and agent ID. The softkey only appears when there is a preceding agent.
NEXT	Displays the next agent, sorted by group number and agent ID. The softkey only appears when there is an additional agent.
RETURN	The RETURN key (either hardkey or softkey) returns the user to the Agent Summary form described on page 620 8–25.

Table 8–22 Terms Used In Agent Programmed Data Display	
Term	**Meaning**
Group Name	The group's name as programmed in CDE.
Group Num	The group's number as programmed in CDE.
Super Name	The name of the agent's supervisor.
Super ID	The ID of the agent's supervisor.
Sen'r Name	The name of the agent's senior supervisor.
Sen'r ID	The ID of the agent's senior supervisor.
Agent COS	The Class of Service assigned to the agent. When this agent logs in, this COS is transferred to the set, overwriting the set's existing COS.

Agent Statistics Form

Pressing the STATISTICS softkey displays theAgent Statistics form (Figure 8–13). This form provides a summary of agent performance statistics collected over the past hour.

Table 8–23 describes the softkeys presented with the Agent Statistics display. Table 8–24 defines the fields on the display.

15:53 23–APR–89 AGENT STATISTICS MITEL ACD TELEMARKETER

AGENT DATA	LAST HOUR	SHIFT TOTAL
GROUP NAME : NEWSROOM GROUP NUM : 33 LOGIN TIME : 08:27 LOGIN DATE : 23–APR–89 SHIFT DUR : 07:36	ANS by AGT : 13 02:21 READY : 15 00:56 MAKE BUSY 2 00:47 OUTGOING : – : ON non ACD : – :	ANS by AGT : 49 1:46

AGENT 3250 LIKOUDIS J

1–	2–	3–	4–	5– CANCEL
6–	7– PRINT	8– PREVIOUS	9– NEXT	0– RETURN

Figure 8–13 Agent Statistics Display

Table 8–23 Agent Statistics Form Softkey Labels

Softkey Label	Function
CANCEL	Returns the user to the system level. Refer to paragraph 8.3 for details.
PRINT	Prints this form to the printer used for the ACD Monitor print.
PREVIOUS	Displays the statistics for the previous agent, sorted by group number and agent ID. The softkey only appears when there is a preceding agent.
NEXT	Displays the statistics for the next agent, sorted by group number and agent ID. The softkey only appears when there is an additional agent.
RETURN	The RETURN key (either hardkey or softkey) returns the user to the Agent Summary form described on page 620 8–25 .

Table 8–24 Terms Used In Agent Statistics Display

Term	Meaning
Agent Data	
Group Name	The group's name as programmed in CDE.
Group Num	The group's number as programmed in CDE.
Login Time	The time the agent logged into ACD.
Login Date	The date the agent logged into ACD.
Shift Dur	The duration of the agent's shift since login.
Last Hour	
Ans By Agt	The number and average duration of incoming ACD calls answered by the agent.
Ready	The number of times the agent became ready to receive an ACD call and the average duration of each ready interval.
Make Busy	The number of times the agent was in Make Busy and the average time spent in the Make Busy state over the past hour.
Outgoing	The number of external outgoing calls placed by the agent and the average duration of these calls.
On Non ACD	The number of non–ACD calls handled by the agent. Includes both incoming and outgoing external calls, and all internal calls.
Shift Total	
Ans By Agt	The number and average duration of incoming ACD calls answered by the agent since login.

Agent Activity Form

Pressing the ACTIVITY softkey displays the Agent Activity form (Figure 8–14). This form provides a continuously updated display of ACD information for the agent, plus status for the agent's set and the current call.

Table 8–25 describes the softkeys presented with the Agent Activity display. Table 8–26 defines the fields on the display.

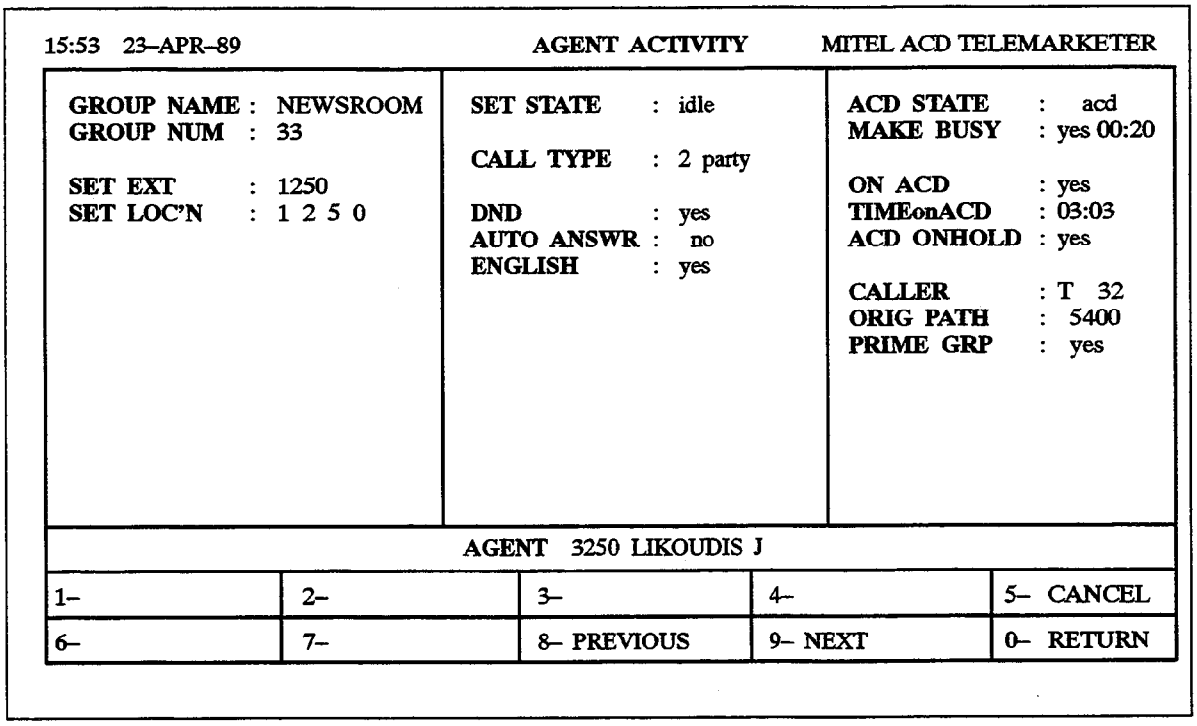

Figure 8–14 Agent Activity Display

Table 8–25 Agent Activity Form Softkey Labels

Softkey Label	Function
CANCEL	Returns the user to the system level. Refer to paragraph 8.3 for details.
PREVIOUS	Displays the statistics for the previous agent, sorted by group number and agent ID. The softkey only appears when there is a preceding agent.
NEXT	Displays the statistics for the next agent, sorted by group number and agent ID. The softkey only appears when there is an additional agent.
RETURN	The RETURN key (either hardkey or softkey) returns the user to the Agent Summary form described on page 620 8–25 .

Table 8–26 Terms Used In Agent Activity Display

Term	Meaning
Group Name	The group's eight character name as programmed in CDE.
Group Num	The group's number as programmed in CDE.
Set Ext	The extension number of the *SUPERSET* telephone where the agent is logged in.
Set Loc'n	The physical location (bay, slot, circuit, and sub circuit) of the *SUPERSET* telephone where the agent is logged in.
Set State	The software state of the set where the agent is logged in. The state will be one of the following: busy busyout campon dialing dnd held idle intoACD locked talking paging reorder ringbak ringing select suspend
Call Type	The type of call the agent is on, either two–party or conference.
DND	Indicates that the agent's set is in Do Not Disturb mode.
Auto Answr	Indicates that the set will automatically answer ACD calls to the set without agent intervention.
English	Indicates the language of the set; English or French.
ACD State	Indicates the type of activity the agent is involved in from the following list: suspnd – agent is ending a call loked – agent's set has been left off–hook acd – on an ACD call dnd – the agent's set has Do Not Disturb active hold – agent has an ACD caller on hold makeb – agent has entered the make busy state nonACD – agent is on a non–ACD call ready – agent is ready to accept an ACD call afterw – agent is in afterwork time
Make Busy	Indicates that the agent is in a Make Busy state.
On ACD	The agent is on an ACD call.
Time On ACD	The duration of the current call.
ACD On Hold	The agent has an ACD caller on hard hold.
Caller	The trunk number or extension access code of the caller waiting for the agent group. Note that callers waiting for a group may not have originated on this path.
Orig Path	Indicates the path access code where this call originated.
Prime Grp	Indicates whether this agent's group is the prime group of the caller's path.

9. PROGRAMMING

General

9.1 Customer Data Entry for the *ACD TELEMARKETER* applications package involves specifying the routing of incoming ACD calls by entering data into a network of programming forms. Information in the forms is linked through a series of indexes and pointers. The forms which make up the ACD network are:

- System Options (CDE Form 04)
- Feature Access Codes (CDE Form 02)
- ACD Agent Groups (CDE Form 39)
- Agent Group Subform (CDE Subform 39)
- ACD Keys Template (CDE Form 38)
- COS Define (CDE Form 03)
- ACD Supervisors (CDE Form 40)
- ACD Paths (CDE Form 41)
- Hunt Groups (CDE Form 17)

System Options Form

9.2 Figure 9–1 shows a portion of the System Options form containing the options related to the *ACD TELEMARKETER* feature package. Options are changed by editing the Status field.

SYSTEM OPTIONS FORM

System Options (Displaying ENABLED Fields)	STATUS	OPTION NUM
Automatic Call Distribution	Enabled	41
ACD Silent Monitoring	Enabled	42
ACD Silent Monitoring Beeps	Enabled	43
ACD Reports	Enabled	44

Figure 9–1 System Options Form (CDE Form 04)

Four fields on the System Options form control operation of the *ACD TELEMARKETER* feature. Table 9–1 defines the function of each field.

Table 9–1 System Option Form Fields

Option	Function
AUTOMATIC CALL DISTRIBUTION (Option 41)	Setting this option to ENABLED allows access to the programming forms related to ACD.
ACD SILENT MONITORING (Option 42)	Setting this option to ENABLED allows a supervisor to monitor ACD calls by dialing a programmed feature access code.
ACD SILENT MONITORING BEEPS (Option 43)	Set this option to ENABLED if agents are to be notified when monitoring is in progress.
ACD REPORTS (Option 44)	Setting this option to ENABLED changes the format of the SMDR records to that required by the *ACD TELEMARKETER* Reporting Package. For additional information refer to Practice 9109–096–221–NA, Station Message Detail Recording.

System Option 41 (Automatic Call Distribution) must be set to ENABLED before programming the remaining CDE forms related to ACD.

ACD Agent Groups Form

9.3 Figure 9–2 shows a blank ACD Agent Groups Form (CDE Form 39). All Agents must be a member of an ACD Agent Group. The system accommodates a maximum of 50 ACD agent groups. Each group must contain a minimum of one Agent. The maximum number of agents per group is 99. The ACD system supports 100 agents logged in at the same time.

The ACD system allows CDE programming of 999 ACD positions in any combination of agents, supervisors, and senior supervisors.

The agent information entered on this form is the agent name, agent ID, and COS. The agent ID is a 1–to 5–digit access code that allows the agent to log onto the ACD system. Entries in the Agent Group form are sorted by this ID number. The ID is associated with an agent, not a particular extension, so any *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone the agent uses reflects that agent's name and ID.

The ordering of agents on the form has no effect upon the agent selection algorithm.

The fields on the ACD Agent Group form contain customer–defined data. Table 9–2 defines the contents of each field.

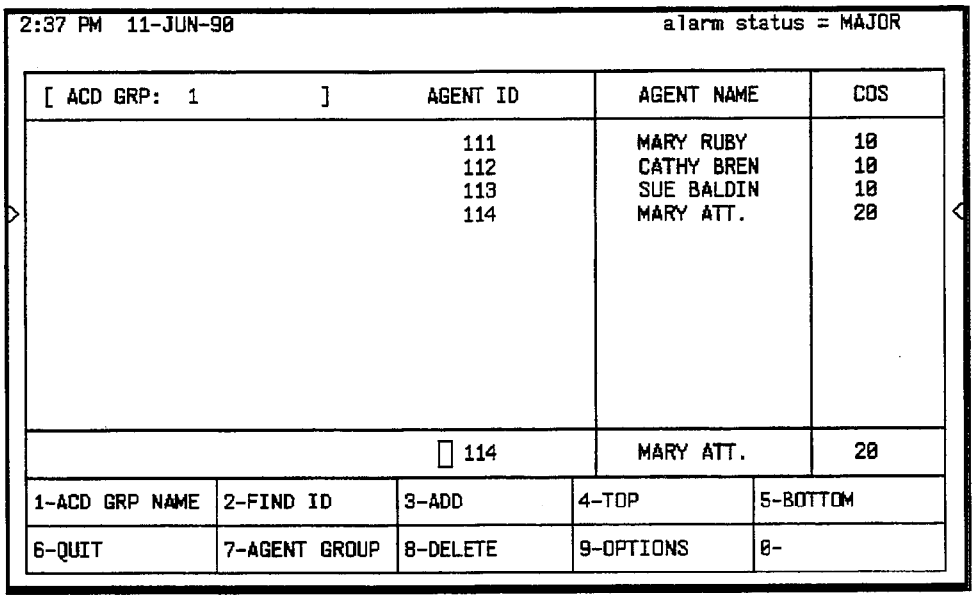

Figure 9–2 ACD Agent Groups Form (CDE Form 39)

Table 9–2 ACD Agent Group Fields

Field	Meaning
ACD GRP	A field containing the group number and the group name.
ACD GROUP NUMBER	A programmable field containing a 1– or 2–digit number in the range 1 through 50 that identifies an ACD group.
ACD GROUP NAME	An optional field that allows the customer to assign a name to the agent group. A maximum of eight characters may be entered.The agent group must contain at least one member before the ACD GRP NAME softkey is presented.
AGENT ID	A programmable field of up to five digits for assigning an identification number to an ACD agent. This access code must not conflict with any other access code in the database. An ID number can exist in only one Agent Group. Agents requiring access to more than one group must be given a different ID for each group. Entries on the ACD Agent Groups form are sorted numerically by Agent ID.
AGENT NAME	An optional field that assigns a name to an agent ID. The agent name is carried to the set where the agent logs on. The name may be up to 10 characters but can not begin with * . The same conditions apply to position names as well as to set names.
COS	A 2–digit field specifying the Class Of Service number of this agent. Range is 1 to 50.

Agent Groups Subform

9.4 The Agent Groups subform (CDE Subform 39) shown in Figure 9–3 is accessed through the OPTIONS key. This form can only be accessed if there is at least one agent in the agent group. Entries are changed by editing the status column. Four fields on the ACD Agent Group subform contain customer–defined data. The contents of each field are defined in Table 9–3.

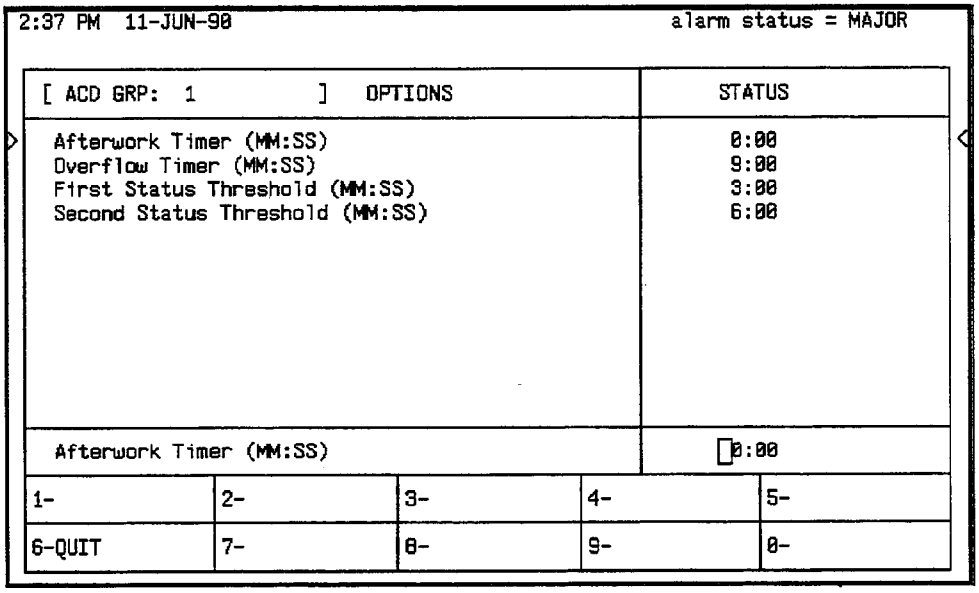

Figure 9–3 ACD Agent Groups Subform (CDE Subform 39)

Table 9–3 ACD Agent Groups Subform Fields

Field	Meaning
AFTERWORK TIMER	An optional field to give the agent a wrap–up time following ACD calls. Timer range is 0 seconds to 15 minutes. Default is 0 (no delay time before the next call is presented at the set). Campons and callbacks do not take precedence over a waiting ACD call. Refer to page 620 9–6for additional information.
OVERFLOW TIMER	An optional field used to specify the maximum time a waiting ACD call remains in this group before overflowing. The overflow destination is defined in the ACD Path Form (CDE Form 41).The value entered can range from 0 seconds to 54 minutes. Default value is 9 minutes. Refer to page 620 9–6for additional information.

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Table 9–3 ACD Agent Groups Subform Fields (continued)

Field	Meaning
FIRST STATUS THRESHOLD	The range of this timer is 0 seconds to 54 minutes (MM:SS). The field defaults to 3 minutes. The time entered in this field must be less than the time specified in the Second Status Threshold. Refer to page 620 9–6for additional information.
SECOND STATUS THRESHOLD	This timer range is 0 seconds to 54 minutes (MM:SS). The time specified must be greater than the time specified in the First Status Threshold field. The field defaults to 6 minutes. Refer to page 620 9–6for additional information.

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Afterwork Timer

In many ACD situations, the agent may require some time following an ACD call to complete paperwork before accepting the next call. This subform allows programming of a wrap–up time (Afterwork Timer). The Afterwork Timer prevents an ACD call from being presented to this set until the specified time has expired.

Overflow Timer

The Overflow Timer is programmed for each agent group in the ACD system. It specifies how long an ACD call will wait in the queue for this group before being overflowed. Overflowed calls remain in this group's queue, but are added to a queue for another agent group. This increases the chances of the call being delivered to an agent. The time selected in this form specifies the maximum time a call can wait to be answered before the call overflows. The default time is 9 minutes.

If the system predicts that a call will remain unanswered before the time out period, the system ignores the specified timer and forces an immediate overflow. The two conditions described below can cause this forced overflow:

- If the agent group form specifies an overflow time of three minutes and no agents are logged on in this group, the system ignores the timer and forces an immediate overflow to avoid an unnecessary delay to the caller.
- The second case of overflowing before the specified time out arises during an overloaded state. The system performs an algorithm for an overloaded condition each time a new caller arrives for an agent group or when the status of an agent changes. Either event causes an overflow if excess callers are waiting for the agent group.

Threshold Timers

When an ACD call is initially routed to the agent group and there are no idle agents available, any appearance of the Queue Status indicator for this group reflects a call waiting in queue. This Queue Status indicator is driven by the threshold timers assigned to this form.

The First and Second Status Threshold timers provide a visual indication on all Queue Status keys of the current work load condition for this agent group.

ACD Keys Template Form

Assigning ACD Keys

9.5 The ACD Keys Template Form (CDE Form 38) allows global programming of *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephones that require common ACD feature keys.

Global programming is still possible when these telephone sets are mixed in an ACD system, in spite of the varying number of line select keys available on the *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephones. It is up the installer to ensure that the ACD Keys Template is programmed to allow this.

When there is set mixing, the installer must assign ACD keys within keys 2 to 6 on the *SUPERSET 410* and keys 2 to 12 on the *SUPERSET 420* telephone. This assignment should be matched when programming a *SUPERSET 4* telephone. The higher number keys on the *SUPERSET 4* should be assigned to other user–programmable or line keys.

Assigning ACD keys in this way is especially important since *SUPERSET 410* or *SUPERSET 420* ACD positions will be unable to log in when ACD keys are assigned to keys not physically present on these sets.

ACD Key Configurations

Up to 3 different function key configurations may be programmed for each ACD position: agent, supervisor and senior supervisor (for a total of nine key templates). In each COS, however, only one template for one position type can be enabled.

The template assigned to a user is portable to any *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone (with the exception of the *SUPERSET 410*, which cannot be used by a supervisor or senior supervisor). When the user logs out, the previous template is restored on the set.

Note: Line appearance keys assigned in the Stations/*SUPERSET* Telephones form have priority over ACD feature keys when a position logs in.

Assigning Non–ACD Keys

Non–ACD feature keys and speed dial numbers can also be programmed in this form. Pressing the NON–ACD KEYS softkey provides access to a sub–level of softkeys through which the user can select non–ACD feature keys for the template.

Note: Line appearance keys assigned in the Stations/*SUPERSET* Telephones form have priority over non–ACD feature keys when a position logs in.

ACD Keys Template Display

When selected during CDE, the ACD Keys Template form defaults to display the first Agent Keys template. The title line contains the type of template and the template number.

AGENT [1]	KEY	TYPE	SPEED DIAL NUMBER	PRIVATE
	02	Speed Dial	95552211	
	03	Speed Dial	95552212	
	04	Speed Dial	95552213	
	05	Speed Dial	95552214	
	06	Speed Dial	95552215	
	07	Speed Dial	95552216	
	08	Speed Dial	95552217	
	09	Speed Dial	95552218	
	10	Speed Dial	95552219	
	11	Make Busy		
	12	Queue Status		
	13	Speed Dial	95552220	
	04	Speed Dial	95552213	

1–AGENT	2–SUPERVISOR	3–SENIOR	4–ACD KEYS	5–
6–QUIT	7–KEY	8–	9–NON–ACD KEYS	0–

Figure 9–4 Agent Keys Template (CDE Form 38)

Several fields on the Keys Template form contain customer–defined data. Table 9–4 defines the contents of each field.

Table 9–4 ACD Keys Template Fields

Field	Meaning
POSITION	Selectable field defining one of the following positions: Agent, Supervisor, or Senior Supervisor.
TEMPLATE NUMBER	Selectable field containing one digit in the range of 1 through 3 indicating the number of the template being programmed.
KEY	A system generated field listing set key numbers in the range of 02 to 15.

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Table 9–4 ACD Keys Template Fields (continued)

Field	Meaning
TYPE	A programmable field defining the function of the set keys. Options vary depending on the template form as follows: **Agent** – Speed Dial, Make Busy and Queue Status. **Supervisor** – Speed Dial, Queue Status, Agent Status and Shift. **Senior Supervisor** – Speed Dial, Queue Status and Shift.
SPEED DIAL NUMBER	A programmable field used to save frequently dialed numbers. This field can also be used to program feature access codes. A maximum of 25 digits may be entered in this field. This field can only be accessed if the 'Type' field for that line is 'Speed Dial'.
PRIVATE	A programmable field used to control the display of speed dial numbers on the set. When privacy is enabled the set does not display the speed call entry. If privacy is not requested, the speed dial entry appears on the set during dialing, or when a display key is requested.

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COS Define

9.6 The COS options shown in on the COS Define form in Figure 9–5 apply to the ACD feature. These ACD options are explained below. The COS options for ACD are described below in Table 9–5.

COS DEFINE FORM

[COS: 1] OPTION	(DISPLAYING ENABLED)	STATUS	OPTION NUM
Recording Failure to Hangup Timer	1–255 seconds	30	404
SUPERSET – Auto Answer		ENABLED	600
SUPERSET – Headset Operation		ENABLED	612
ACD – Agent Template (0–3, 0=disable)		0	650
ACD – Supervisor Template (0–3, 0=disable)		0	651
ACD – Senior Supervisor Template (0–3, 0=disable)		0	652
ACD – Agent Always Auto–Answer		ENABLED	653
Loop Start Trunk to ACD Path Connect		ENABLED	812

Figure 9–5 COS Define Form (CDE Form 03)

Table 9–5 COS Options Fields

Field	Meaning
Recording Failure To Hangup Timer (COS Number 404)	The values 1 – 255 are valid. Default is 30 seconds. Set this timer to a value greater than the cleardown time of the recording groups whose members have this COS. Assigning this COS timer to a recording group ensures that, in the case of the system hanging up on a RAD, that the RAD eventually goes on–hook in the specified time. If it does not, the RAD is taken out of service.
SUPERSET– Auto Answer (COS Number 600)	Set to ENABLED if the agent set is to be placed in Auto Answer mode immediately upon login. Set to DISABLED if agent is not using Auto Answer or if the agent is to manually place set in Auto Answer mode after login. Default is DISABLED.
SUPERSET– Headset Operation (COS Number 612)	Set to ENABLED if the agent's *SUPERSET* telephone is to be used with a headset rather than a handset. Set to DISABLED if the telephone is to be used only with a handset. Default is DISABLED.
ACD – Template (Agent, Supervisor, and Senior Supervisor) (COS Numbers 650 through 652)	Enter the template number of the appropriate ACD Keys Template Form. Three template configurations are available for each ACD position. By default they are disabled, but appear in the enabled list. All three COS options are mutually exclusive. For example, if an agent is selected, the supervisor or senior supervisor templates cannot be selected from the same COS.
ACD – Agent Always Auto–Answer (COS Number 653)	When enabled in the agent COS, this option causes Auto–Answer to be activated as soon as the agent logs on. Default is DISABLED.
Loop Start Trunk to ACD Path Connect (COS Number 812)	When enabled, this option allows a loop start trunk to connect to an ACD path.

ACD Supervisors

9.7 The ACD Supervisors form shown in Figure 9–6 records the ID number, name, and COS of each ACD Supervisor. System option 41, "Automatic Call Distribution" must be enabled before this, or any ACD related CDE form, can be accessed.

The senior supervisor's name is carried to the set when the supervisor logs on. The ID codes assigned in this form are used in the log on procedure and may also be used as an access code to call the user.

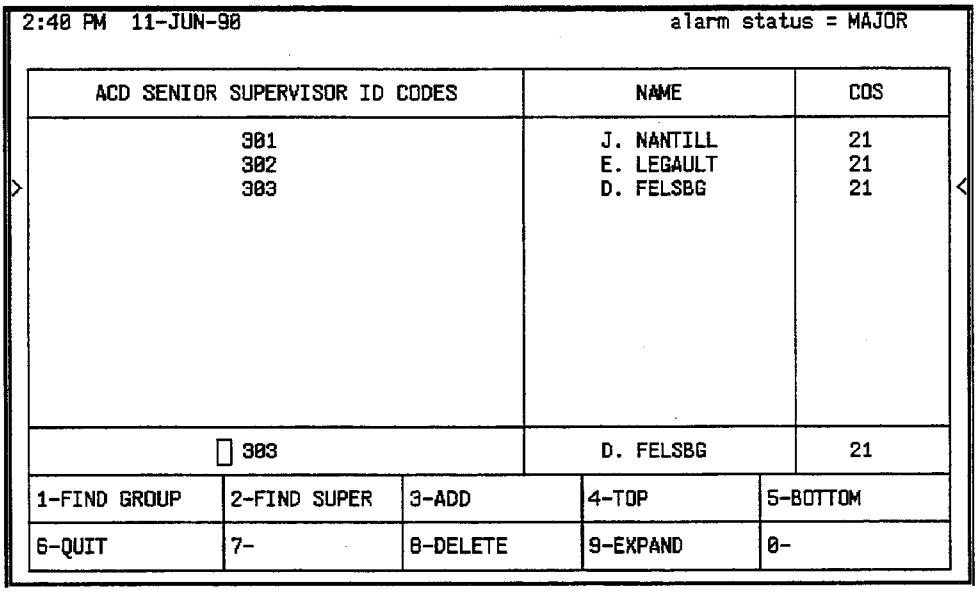

Figure 9–6 ACD Supervisor Form (CDE Form 40)

The ACD Supervisor form contains three programmable fields which must be defined by the customer. Table 9–6 defines each field.

Table 9–6 ACD Supervisor Form Fields

Field	Meaning
ID Code	A programmable field used to record senior supervisor identification numbers. Their IDs are used when logging on and as an access code to call the user. The IDs are 1–5 digit entries, and must not conflict with other access codes already assigned in the system. The form is sorted numerically by ID.
Name	An optional programmable field used to record the supervisor's name. This name appears on any *SUPERSET 4* or *SUPERSET 420* telephone the user logs onto. The same conditions apply to supervisor names as to set names.
COS	A 2–digit field specifying the Class Of Service number of this senior supervisor. The range is 1 to 50.

Pressing the EXPAND softkey displays the subform shown in Figure 9–7. This form lists all groups reporting to the supervisor.

ACD Supervisor Subform

9.8 This subform is sorted by SUPER ID. If the entry has no supervisor assigned, the field is sorted by group number. When there is more than one group assigned to the same supervisor, the entries reporting to the supervisor are sorted by group number.

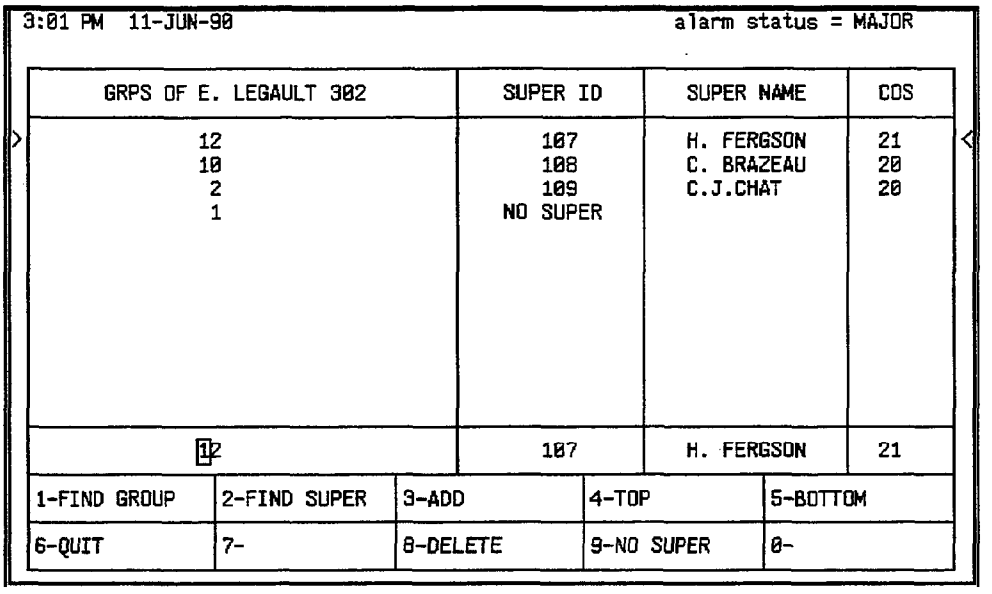

Figure 9–7 ACD Supervisor Subform (CDE Subform 40)

Table 9–7 defines the fields of the ACD Supervisor Subform.

Table 9–7 ACD Supervisor Subform Fields

Field	Meaning
Heading	A system generated field listing the senior supervisor's name and ID. The name defaults to 'SENIOR' if no name was programmed in the ACD Supervisor Form.
GRPS OF	A programmable field used to define groups reporting to the senior supervisor. If the selected group reports directly to the senior supervisor, pressing the ENTER key causes the display NO SUPER to appear in the SUPER ID field. The remaining two fields are blank.
SUPER ID	A programmable field used to assign a supervisor to the agent group .
SUPER NAME	An optional field of up to 10 characters. The entry cannot begin with * . The same conditions apply to supervisor names as to set names.
COS	A 2–digit field that specifies the Class Of Service number of this supervisor. The range is 1 to 50.

ACD Paths

9.9 The ACD path is the major element of the ACD structure. Each path contains all the information necessary to carry an incoming call through the ACD system. Paths specify the resources used, the order in which the resources are encountered, and the timing of the steps through the path. Up to 99 paths may be assigned in the system. Figure 9–8 contains the ACD Path form. Table 9–8 describes the fields on the ACD Path form.

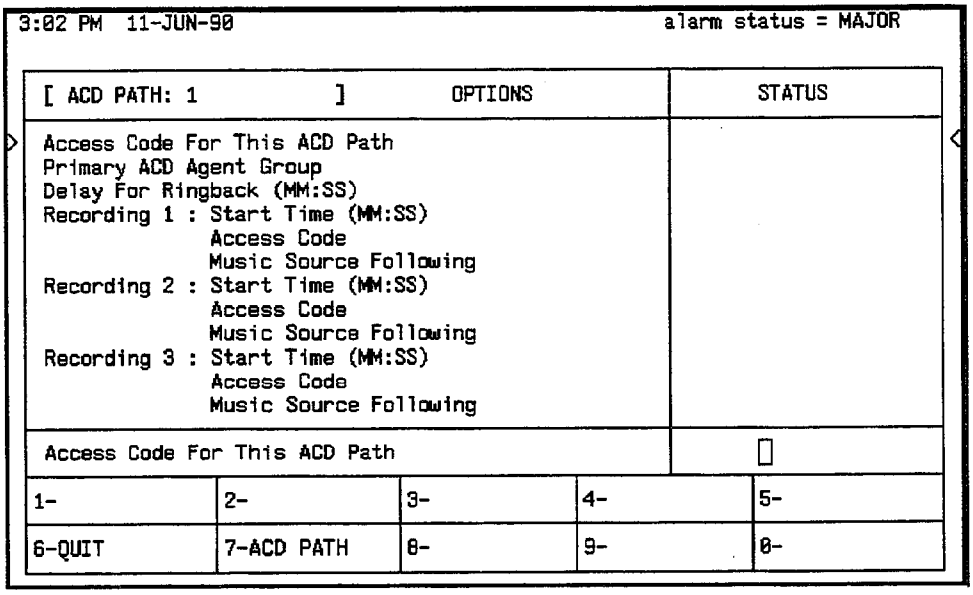

Figure 9–8 ACD Path Form (CDE Form 41)

Table 9–8 ACD Path Form Fields

Field	Meaning
ACD Path	Header field identifying the ACD path by name and number.
ACD Path Number	Programmable field containing a one or two digit number in the range of 1 to 99.
ACD Path Name	Programmable field identifying the path by name. This field can not be accessed until the path has been assigned an access code and a primary agent group. The path name can be up to 8 characters and cannot begin with *.

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Table 9–8 ACD Path Form Fields (continued)

Field	Meaning
Access Code for this ACD Path	Programmable field containing the access code for the path. This code can be used as a destination in the Non–Dial–In Trunks form (CDE Form 14) and the Call Rerouting Table (CDE Form 19), as an Automated Attendant defined destination in the Hunt Groups form (CDE Form 17), as an interflow point in another path definition, and as a call forwarding point for a *SUPERSET* telephone or station. This allows the ACD system to tie in to existing routing schemes such as the DID trunk routing points. The connection checking between a device and ACD paths only prevents access to ACD paths. No device or tenant interconnection checking is performed between the caller and any recording, music or agent devices after the caller has entered a path.
Primary ACD Agent Group	A programmable field containing a one or two digit number in the range of 1 to 50. This entry indicates which group first receives the ACD calls on this path. The agent group must be assigned in the ACD Agent Groups Form before it can be entered in this field.
Delay For Ringback	A programmable field specifying a timer value in the range of 00:01 to 54:00. The default value is 3 seconds (00:03). All other timers connected with the ACD functions start after the Delay for Ringback timer has expired.
Recording 1: Start Time	A programmable field specifying when Recording 1 begins relative to when the caller enters the ACD system. This timer is initiated after the Delay For Ringback timer has expired. The range of the Recording 1 Start Time is 00:00 to 54:00. A 3–second minimum delay exists between recordings. During this time the caller listens to the system or alternate music source.
Recording 1: Access Code	This programmable field is mandatory if a Recording Start Time has been specified.The access code entered in this field is defined in the Hunt Groups CDE form. The default value is no recordings.
Recording 1: Music Source Following	A programmable field that directs the call to the ONS port supplying music following the recording. The default music source is the system music, if provided, or silence. The entry in this field cannot have keyline or multi–call line appearances. The music source is a permanently off–hook ONS port that connects the caller in a listen–only conference. An alternate music source must be either an FCC Part 68 and DOC approved Recorded Announcement Device which is connected to an ONS circuit, or to another source that is connected through an FCC Part 68 and DOC approved "voice coupler" or "voice connecting arrangement" to an ONS circuit.
Recording 2 through 4	The recording fields must be edited in sequence. For example, Recording 3 Start Time cannot be edited unless Recording 1 and Recording 2 are both assigned.
Overflow 1 Agent Group	A programmable field specifying the ID of the agent group that receives overflow calls. ACD calls that overflow to this group also retain their position for the Primary Agent Group. The default value for this field is no overflow.

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Table 9–8 ACD Path Form Fields (continued)

Field	Meaning
Overflow 2 Agent Group	A programmable field specifying the ID of the second agent group that receives overflow calls. Callers waiting for this group remain in the queue for the primary and first overflow groups. An Overflow 1 agent group must be assigned before the Overflow 2 field can be accessed. The default value is no overflow.
Overflow 3 Agent Group	A programmable field specifying the ID of the third agent group that receives overflow calls. Callers waiting for this group remain in the queue for the primary, first and second overflow groups. The default value is NO. Overflow 1 and 2 agent groups must be assigned before the Overflow 3 field can be accessed. The default value is no overflow.
Interflow Enabled	Entering YES in this field allows the waiting ACD call to exit ACD and call a specified number. If this field is enabled the call interflows to the Interflow Point Access Code. Default for the Interflow Enabled field is NO.
Interflow Timeout	Programmable field specifying when the waiting ACD call should leave the ACD system and be routed to the interflow point. The timer range is 00:01 to 54:00. The default value of this field is the maximum time of 54 minutes. Programming a value in this field ensures that unanswered calls do not remain in the system after the caller disconnects. This can occur with loop start trunks if the CO fails to send a disconnect to the PABX. This timer also ensures that all calls are handled within a maximum time interval. Call handling may involve routing the caller elsewhere or dropping the call.
Interflow Point Access Code	Programmable field containing the directory number of the interflow device. Valid interflow points are LDNs, stations, sets, consoles, night bells, ACD paths, station/set hunt groups, UCD agent hunt groups, Automated Attendant hunt groups, system speed call numbers or DROP CALL. If an access code is programmed, the DROP CALL softkey is provided.
Allow Overflow to Interflow Point before Timeout	Entering YES in this field allows an overflow to the interflow point before the Interflow Timeout.
Priority	A programmable field used to set the priority of the ACD Path. Priority range is 1 to 99 (1 is highest priority). The field default is 99. Calls waiting for an Agent Group are serviced according to the path priority. Expensive trunks should be routed to a path with a high priority.
Service Time	A programmable field used to establish a standard time to answer that the supervisor can use to monitor the performance of agents answering calls on the path. The service time is programmable in the range 00:00 to 54:00. The path level of service is calculated by comparing the actual time to answer against the programmed service level.

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ACD Path Programming

For a path to function, the primary agent group and the path access code must be programmed. Few restrictions exist on path programming. An agent group, for example, could be the primary group of three paths and the first overflow group of two other paths. The same applies to recording groups and the alternate music sources. The result is that a path can be custom tailored to the call being handled.

Each path is given a priority ranging from 1 to 99 (1 being the highest priority). ACD calls entering a high priority path are serviced before calls that entered a path with a lower priority. This feature improves cost efficiency by routing to higher priority paths those trunks that incur additional expenses, such as long distance calls or WATS.

All devices have unrestricted access to ACD paths except Loop Start CO trunks and Loop Start DISA trunks (if located on a CO Trunk card). Loop start trunks can be prevented from entering ACD through the use of the"Loop Start Trunk to ACD Path Connect" option (COS Option 812). By default this option is disabled, so by default loop start trunks may not enter ACD.

ACD Recording Hunt Groups

9.10 Recorded announcements are given to ACD callers while waiting for an idle agent. ACD callers entering the PABX on a path hear ringback until the 'Delay for Ringback' timer specified in the Path form has expired. At this point, the system attempts to provide an agent. If all agents are busy and the caller must wait, the call is routed to a recording.

The recordings are provided by hunt groups of regular ONS ports. When a RAD answers, the system collects all callers waiting for the RAD and creates a listen–only conference. Callers select an idle RAD based on the hunting type of the group. When all of the recordings in a group are busy, the caller camps on to the recording group and waits for a free recording. All calls which are waiting are brought into a listen–only conference with the first available recording.

At the end of the recorded message, the callers are routed to the music source defined in the Path form. If no alternate music source is defined, the caller is given system music or silence.

The ONS ports cannot have keyline or multi–call line appearances. After changing the Hunt Groups form to a Recording Hunt Group, the Hunt Groups form changes to that shown in Figure 9–9. Fields described below but not shown in Figure 9–9 are accessed through the OPTIONS softkey. Table 9–9 describes the fields on the Hunt Groups form.

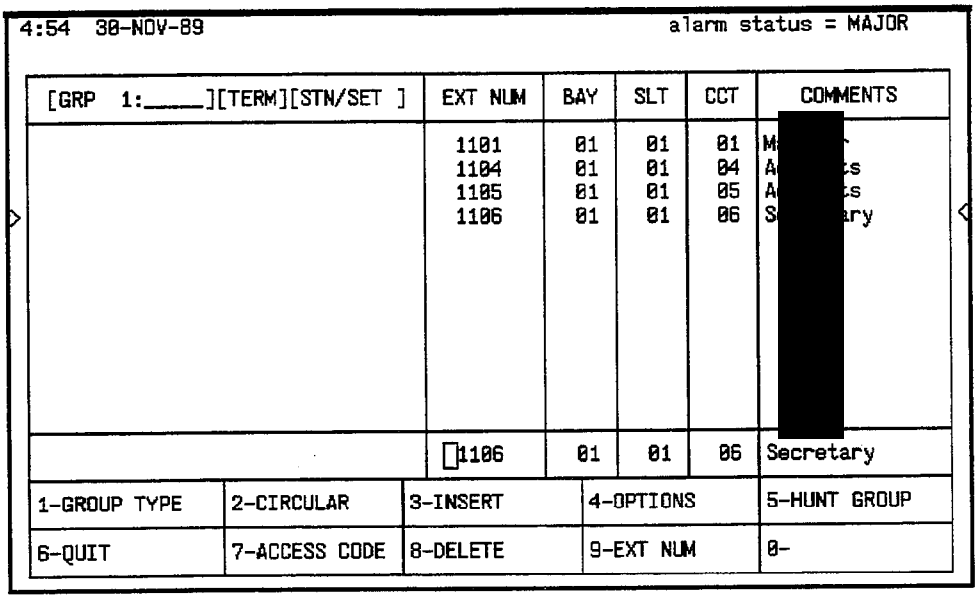

Figure 9–9 Hunt Groups Form (CDE Form 17)

Table 9–9 Hunt Groups Form Fields

Field	Meaning
HUNT GROUP NUMBER	A programmable two digit field in the range of 1 to 99. ACD only has 99 hunt groups.
ACCESS CODE	A programmable field containing the access code for the hunt group. This code must be a unique number that does not conflict with the system numbering plan. The entry in this field must be copied to the ACD Path form as an access code to the recordings
TYPE OF SEARCH	Enter one of the following to specify the desired hunting method: **CIRCULAR**: Hunting begins at the extension following the extension to which the previous call was completed, and hunts through all extensions in the hunt group in the programmed sequence. **TERMINAL:** Hunting always starts at the first extension programmed in the hunt group and terminates at the first idle extension. Figure 9–9shows an entry of TERM in this field.
GROUP TYPE	Softkey that allows the user to specify a RECORDING group type. Figure 9–9shows the entry RECORD in this field on the form.
EXTENSION NUMBER	Extension number of the ONS port(s) connected to a recording. The maximum number of entries in this field is fifty.

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Table 9–9 Hunt Groups Form Fields (continued)

Field	Meaning
BAY/SLOT/CIRCUIT	System generated field that is displayed after entering the extension number of the ONS port.
MESSAGE LENGTH	Programmable field defining the length of the recorded announcement. The range is 1 second to 4 minutes. Default entry is 10 seconds. This timer value determines whether the PABX or the RAD ends the recording. If the RAD is to hang up, set the Message Length at least 3 seconds longer than the actual recording length. This allows for timing and message delays. In addition, the flash hook time programmed into the PABX affects how soon the PABX sees the RAD going on hook after the RAD hangs up.
NAME	Programmable field that identifies the hunt group by name. This field cannot be accessed before the Hunt Group Access code has been assigned.

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Appendix A.

ACD MESSAGES

The error messages that may appear during programming of the ACD forms are listed, and explained, in the following table:

Table A–1 Programming Error Messages

Error Message	Meaning
ACD agent group XX already assigned to a supervisor	The ACD agent group which has been edited or inserted into the sub–form is already programmed under some other supervisor.
Agent group XX has already been assigned elsewhere in this path	The selected overflow agent group or primary ACD agent group is a duplicate of an agent group already specified in this path.
ACD agent group XX not assigned to a supervisor	ACD group XX, requested by the FIND GROUP key, cannot be displayed because it has not been assigned to a supervisor yet.
ACD groups under XXXXX must first be deleted	This senior supervisor cannot be deleted from the first–level form by the DELETE key because there are ACD groups defined under this senior supervisor.
ACD keys template for this COS is invalid or disabled	An attempt was made to change the COS of a logged in ACD position. The new COS has ACD keys template disabled or assigned to another ACD position.
ACD Monitor Print in progress	System found at least one printer – job has been started.
ACD position active – Cannot make template change	An attempt was made to disable or change a template COS option while the ACD position is logged in.
AGENT STATUS not allowed when multiple QUEUE STATUS keys are programmed	The user is attempting to program an agent status key when there is more than one queue status key programmed for the template. Only one is allowed if an agent status key is present.
Agent XXXXX does not exist	The ID entered for the FIND ID key does not exist in the database.
Agent XXXXX is on line and cannot be deleted	The DELETE key cannot be used on an agent who is on line.
Alternate music sources cannot have keyline or multi–call line appearances.	Music sources cannot be line appearances.
An ACD position is currently logged in at the *SUPERSET*™	The user is attempting to delete a *SUPERSET* where there is an ACD position logged in. The ACD position must log out first.

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Table A–1 Programming Error Messages (continued)

Error Message	Meaning
An agent's set's prime line cannot have any appearances on other sets	There is an ACD agent logged in at the given *SUPERSET,* therefore, line appearances of that *SUPERSET* cannot be programmed into the data base.
Attempting to remove an Agent Group that has calls waiting	This message is displayed if the Primary Agent group or the Overflow agent groups have calls waiting from the path, and the user is attempting to change or delete the agent group or the path.
Attempting to remove a Music Source that is currently in use	Someone is listening to the music source so it cannot be removed. This message can occur when attempting to change or delete a music source, deleting the recording that the music source is in, or deleting the path.
Attempting to remove a Recording that is currently in use	Someone is using the Recording hunt group so it cannot be removed. This message can occur when attempting to change or delete the recording or when deleting the path.
Beep (audible sound from terminal)	The speed dial number entered is too long (maximum 25 digits).
Beeping (repeating audible sounds from terminal)	Too many digits or characters have been entered in the selected field.
Cannot change agent information at time of reassignment	The user attempted to reassign an agent to the current ACD Group AND change agent name or COS at the same time. These two steps (reassign and changing) must be done separately.
Cannot change COS of an ACD position whose set is currently in use	The ACD position being updated is logged in and using the set. To change the COS, the ACD position must be logged off or else logged in to an idle set.
Cannot delete last agent while callers are waiting on ACD group XX	The user attempted to delete the last agent from ACD group XX, thereby deleting group XX itself. There are ACD calls waiting for group XX, so the deletion cannot be permitted at this time.
Cannot disable option when ACD programming is present	The user is attempting to disable System Option 41 (Automatic Call Distribution) when there is ACD programming present in one or all of CDE Forms 38, 39, 40 and 41.
Checking status of printer(s)	The system is checking status of printer(s) – during this time the CANCEL softkey may be pressed to return the user to the previous level.
Delete ACD Group XX from ACD SUPERVISORS form before deleting last agent	The user attempted to delete the last agent from group XX, which would have the effect of deleting group XX itself. Group XX is referenced in the ACD SUPERVISORS form, so it must be deleted from that form first. Then the user is allowed to delete the last agent, which deletes the group.

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Table A–1 Programming Error Messages (continued)

Error Message	Meaning
Delete ACD Group XX from ACD PATH YY before deleting last agent	The user attempted to delete the last agent from group XX, which would have the effect of deleting group XX itself. Group XX is referenced in the ACD PATH form, for path number YY, so it must be deleted from that form first. Then the user is allowed to delete the last agent, which deletes the group.
Extension XXXXX can't have a key template and BLF module at the same time	A key template cannot be enabled in the COS because the extension has an associated *SUPERSET DSS* Module. The two features are mutually exclusive.
First Status Threshold must be start time of previous recording	Adjust the interflow timeout as indicated.
Form access disallowed, enable Automatic Call Distribution System Option	The user is attempting to program an ACD CDE form when ACD is not enabled in the system. System Option 41 (Automatic Call Distribution) must be enabled.
Invalid Interflow Point	The access code entered for the Interflow point is non–existent or illegal. Legal points are: LDNs, stations, sets, consoles, ACD paths, station/set hunt groups, UCD agent hunt groups, nightbells, and system speedcall numbers.
Key number XX has MAKE BUSY programmed	Each agent template can only have one MAKE BUSY key programmed.
Key number XX has QUEUE STATUS programmed	An agent keys template can only have one QUEUE STATUS key programmed; or a supervisor keys template can only have one QUEUE STATUS key programmed if there is already one AGENT STATUS key programmed.
Key number XX has SHIFT programmed	Each template can only have one SHIFT key programmed.
Maximum Afterwork Timer is 15:00	The user entered a timer out of range.
Maximum Time is 54:00	The user entered a timer out of range for Start Time or one of the thresholds.
Multiple QUEUE STATUS keys not allowed with AGENT STATUS keys	The user is attempting to program more than one queue status key for a template that has an agent status key programmed. Only one is allowed if an agent status key is present.
Must delete all appearances of XX from CALL REROUTING TABLE	This ACD path cannot be deleted because its access code is defined in the CALL REROUTING table (Form 19).
Must delete all appearances of XX from answer points in NON–DIAL–IN trunks	This ACD path cannot be deleted because its access code is defined in the NON–DIAL–IN TRUNKS form (Form 14).
No printer(s) defined for ACD	No printers for ACD have been programmed in CDE Form 34.

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Table A–1 Programming Error Messages (continued)

Error Message	Meaning
ONS Port access code XXXXX does not exist	The access code entered for the Alternate Music Source Between Recordings, or Music Source Following a Recording is non–existent or illegal.
Option XXX conflicts with this option	Only one of the ACD COS options (ACD agent, ACD supervisor, ACD senior supervisor) can be enabled in the same COS.
Option 41 must be enabled	Option 41 (Automatic Call Distribution) must be enabled before this option can be enabled.
Option 44 must be disabled	The user is attempting to disable Option 41 (Automatic Call Distribution).
Printer(s) busy, try later	Printers are programmed, but the system cannot find at least one that is idle.
Recording access code XXXXX does not exist	The access code entered for a recording is non–existent or illegal. The code must be for a recording hunt group.
Start time of a recording must be < Interflow Timeout	Adjust the start time as indicated.
Start time of a recording must be < start time of the next recording	Adjust the recording start times as indicated.
Start time of recording must be > start time of the previous recording	Adjust the recording start times as indicated.
Supervisor XXXX does not exist	A supervisor with ID XXXX cannot be displayed, as requested via the FIND SUPER key, because this access code has not been assigned to a supervisor.
Template number must be in range (1–3)	The template number is out of range.
The access code XXXX is already assigned	In the paths form the error is: The access code entered for this ACD Path is already assigned elsewhere in the database. In the supervisor form the error is: The ID code which has been inserted into the main form or the subform already exists in the database. (It could exist as another supervisor, senior supervisor, agent, or any other device.) In the subform this error occurs if the user specified a different name or COS than was previously entered for this supervisor.
The agent group XX does not exist	The specified agent group does not exist in the data base.
The maximum ACD positions allowed are already assigned	The maximum number of ACD positions is 999, which includes all position types.
The *SUPERSET* has a BLF module and cannot have a COS with a key template	The COS being assigned to the set, which has a *SUPERSET DSS* Module associated with it, has a key template enabled.

Page 4 of 5

Table A–1 Programming Error Messages (continued)

Error Message	Meaning
The value XX is outside valid range for ACD agent group (1–50)	The given value is outside the valid range.
XXXXX is an ACD agent ID	The specified supervisor ID from FIND SUPER is an ACD agent.
XXXXX is an ACD supervisor	The user has entered a supervisor ID for FIND AGENT.

Appendix B.

PLANNER SHEETS

This appendix contains additional blank copies of the agent group planner and the path planner sheets. Each sheet contains instructions on its use. Turn to Section 4 of this practice for additional information on configuring an ACD system.

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AGENT GROUP PLANNER

ACD TELEMARKETER®

INSTRUCTIONS

Use this planner as an aid in distributing the work–load of the agent groups. Complete this form before the Path Planner. Once completed, transfer the Agent Group Number to the appropriate group (Primary, 1st, 2nd, or 3rd) on Line 3 of the Path Planner.

1. Overflow timer default is 9 minutes (maximum 54 minutes). This is the maximum time a call can be queued on the group before overflowing. Prediction may allow the overflow before the timer expires. 1st threshold default is 3 minutes (maximum 54 minutes), 2nd threshold default is 6 minutes (maximum 54 minutes). These are indications for the agents (queue status) of how long the calls have been waiting to be answered. Afterwork timer default is 0 minutes (maximum 15 minutes). This is the amount of time an agent has after completing a call before receiving the next call.
2. Use this box to indicate how many paths the Agent Group is involved in. (P=primary, 1=1st. overflow group, 2=2nd overflow group, 3=3rd overflow group). Transfer the Agent Group Number to the Path Planner (one for each Path indicated in the box).

①	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____
	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___
②	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)

①	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____
	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___
②	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)

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AGENT GROUP PLANNER

ACD TELEMARKETER®

INSTRUCTIONS

Use this planner as an aid in distributing the work–load of the agent groups. Complete this form before the Path Planner. Once completed, transfer the Agent Group Number to the appropriate group (Primary, 1st, 2nd, or 3rd) on Line 3 of the Path Planner.

1. Overflow timer default is 9 minutes (maximum 54 minutes). This is the maximum time a call can be queued on the group before overflowing. Prediction may allow the overflow before the timer expires. 1st threshold default is 3 minutes (maximum 54 minutes), 2nd threshold default is 6 minutes (maximum 54 minutes). These are indications for the agents (queue status) of how long the calls have been waiting to be answered. Afterwork timer default is 0 minutes (maximum 15 minutes). This is the amount of time an agent has after completing a call before receiving the next call.
2. Use this box to indicate how many paths the Agent Group is involved in. (P=primary, 1=1st. overflow group, 2=2nd overflow group, 3=3rd overflow group). Transfer the Agent Group Number to the Path Planner (one for each Path indicated in the box).

①	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____
	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___
②	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)

①	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____	Agent Group #: _____ Name: _____
	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___	Overflow Time ___ : ___ 1st Threshold ___ : ___ 2nd Threshold ___ : ___ After Work ___ : ___
②	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)	Paths using this group: Path # | Overflow # (P, 1, 2, 3)

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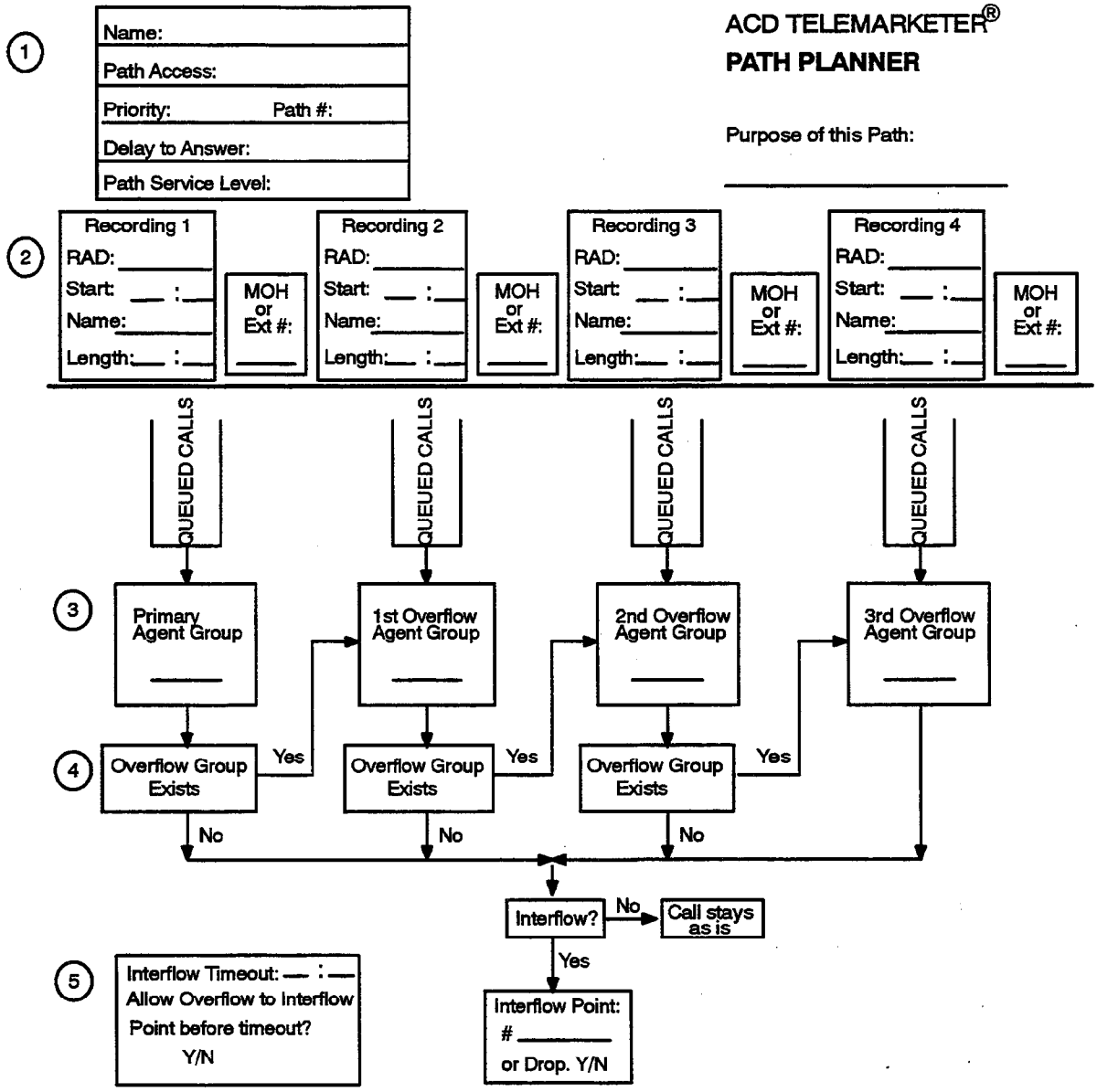

INSTRUCTIONS:

1. Complete a Path Planner for each path.
2. Caller can listen to RADs with the option of Music on Hold (MOH) or an alternate music source/recording between the RADs. (RAD = Hunt Group Access Code)
3. Copy the appropriate Agent Group Number from the Agent Group Planner.
4. The Primary Agent Group must be programmed. The path has the option of three Overflow Groups and Interflow out of the Path. If next Overflow Group is not programmed the call either interflows out of the path or remains as is until the call is answered or the caller hangs up.
5. Default Interflow Timeout is 54 minutes. The call interflows (if enabled) or drops when the timer expires or when prediction indicates that the call will not be answered within the timer interval. Interflow time starts when the call enters the path.

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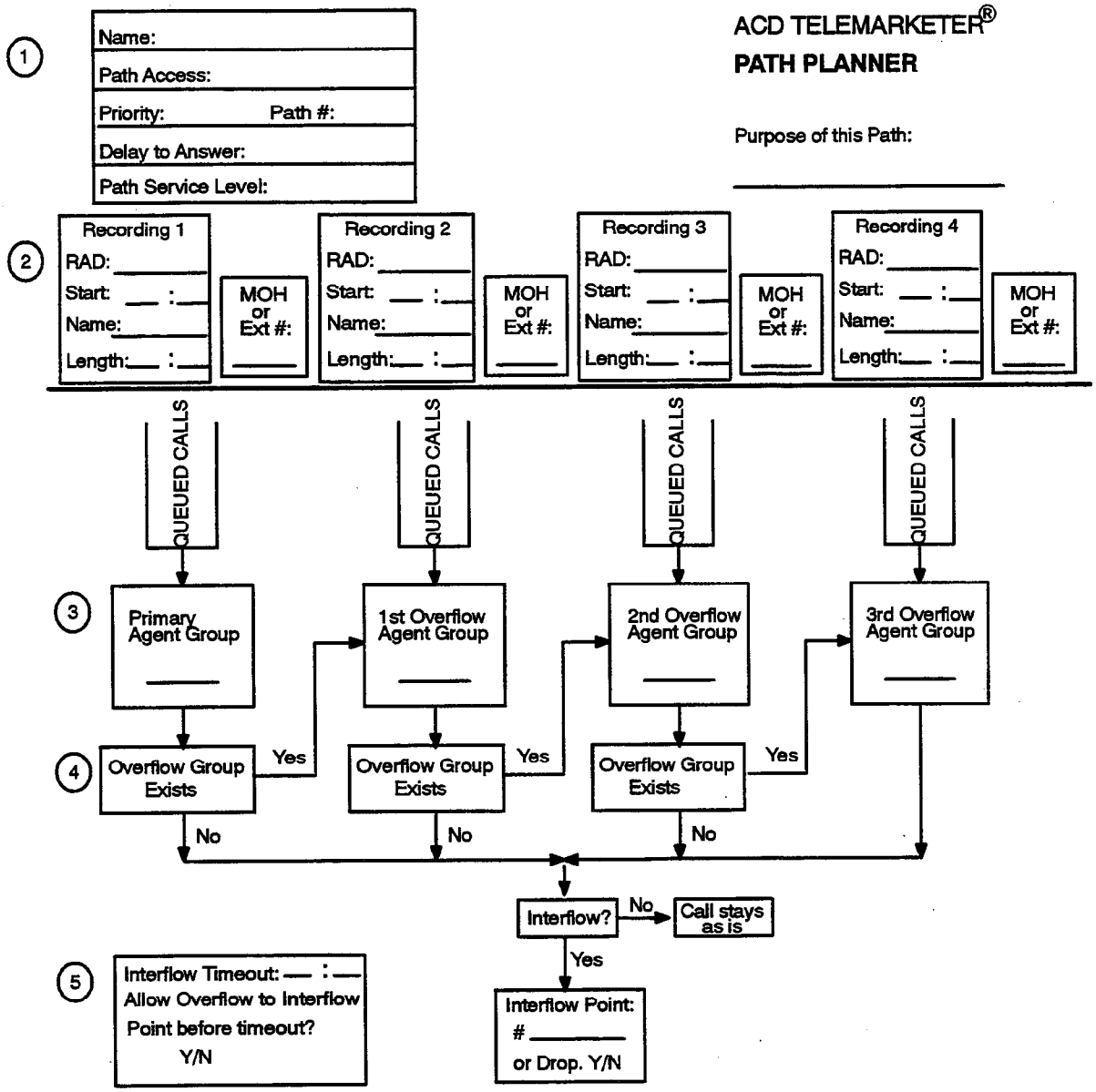
ACD TELEMARKETER®

PATH PLANNER

Purpose of this Path: _____



INSTRUCTIONS:

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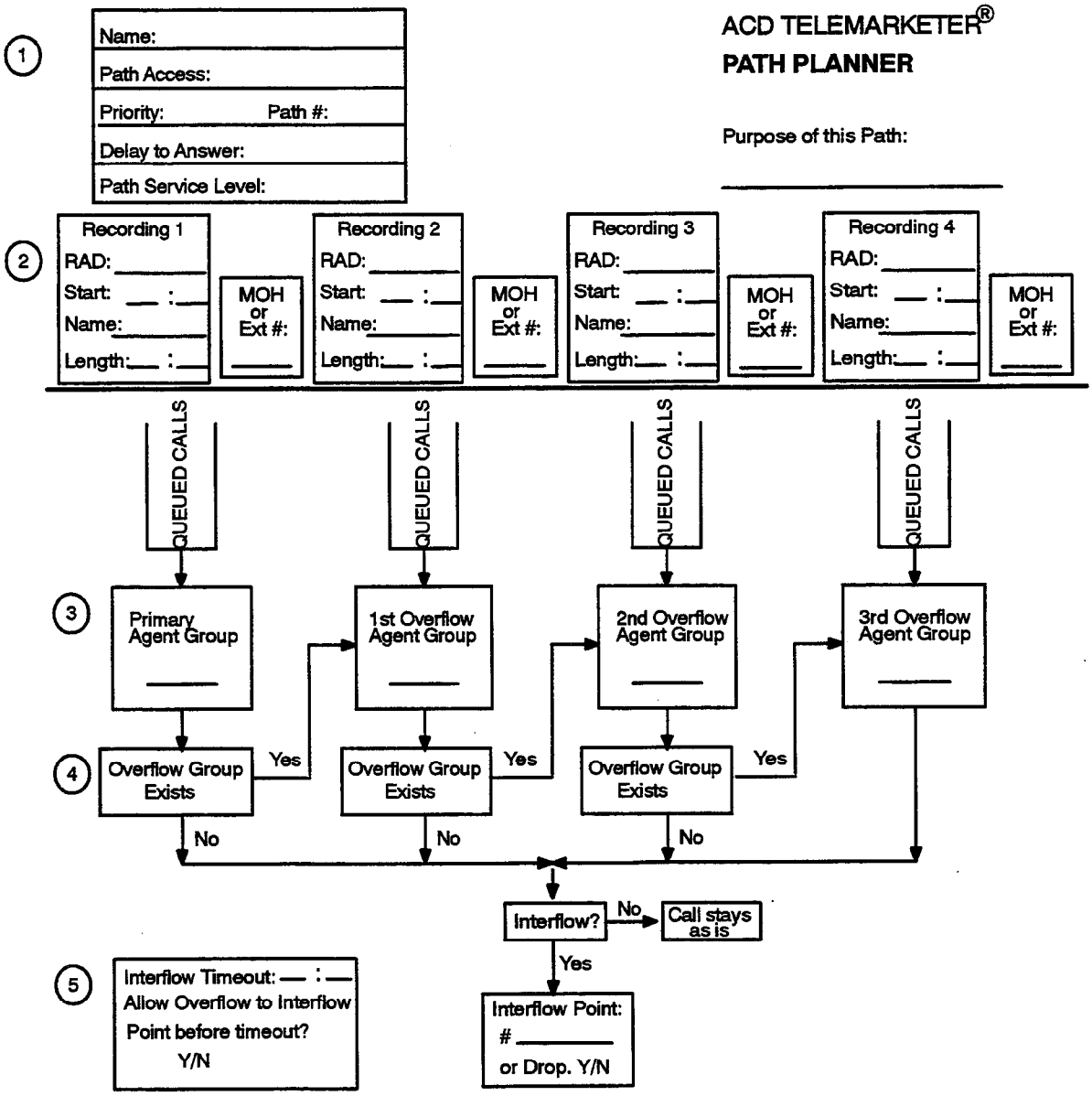
ACD TELEMARKETER®

PATH PLANNER



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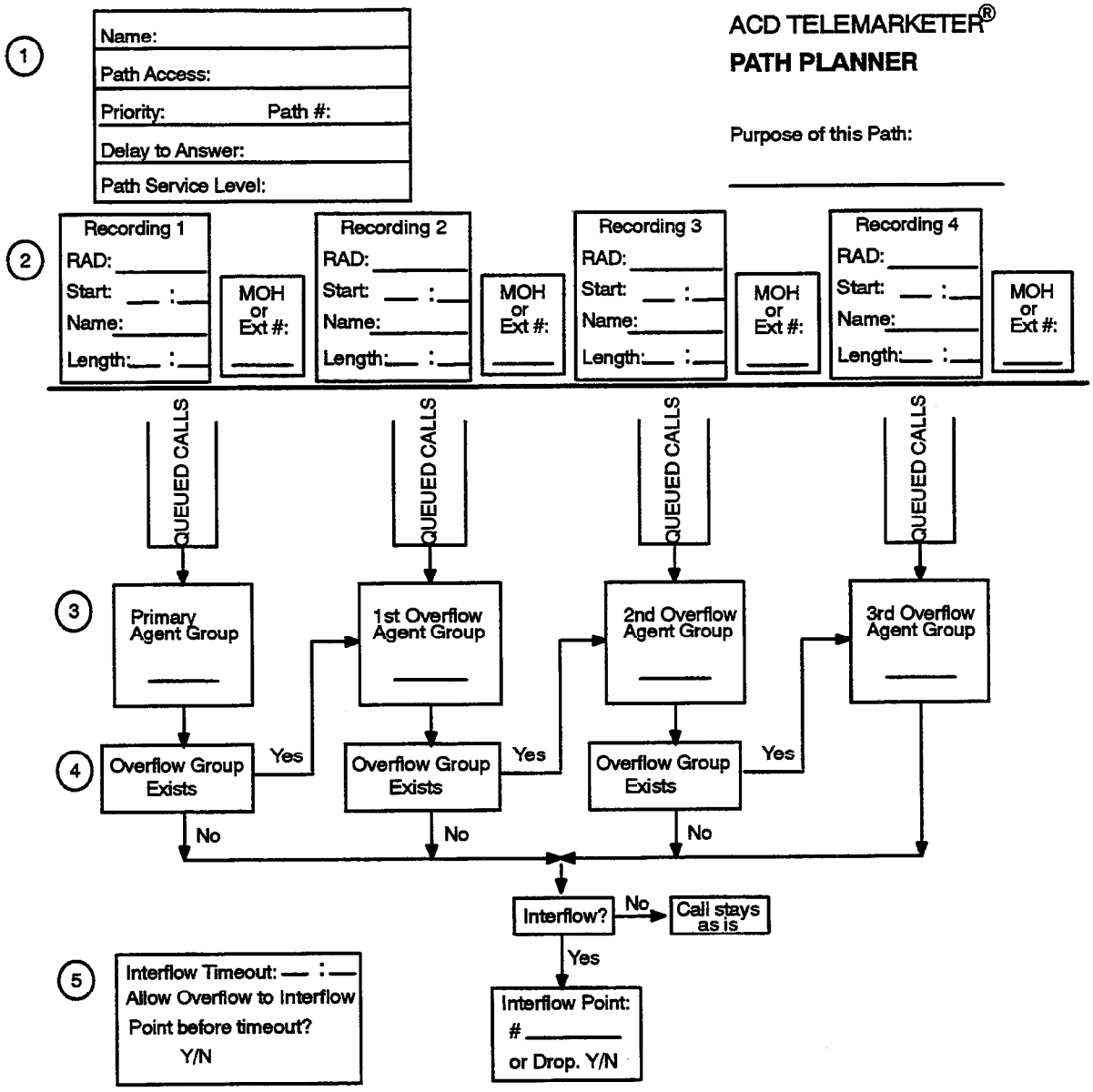

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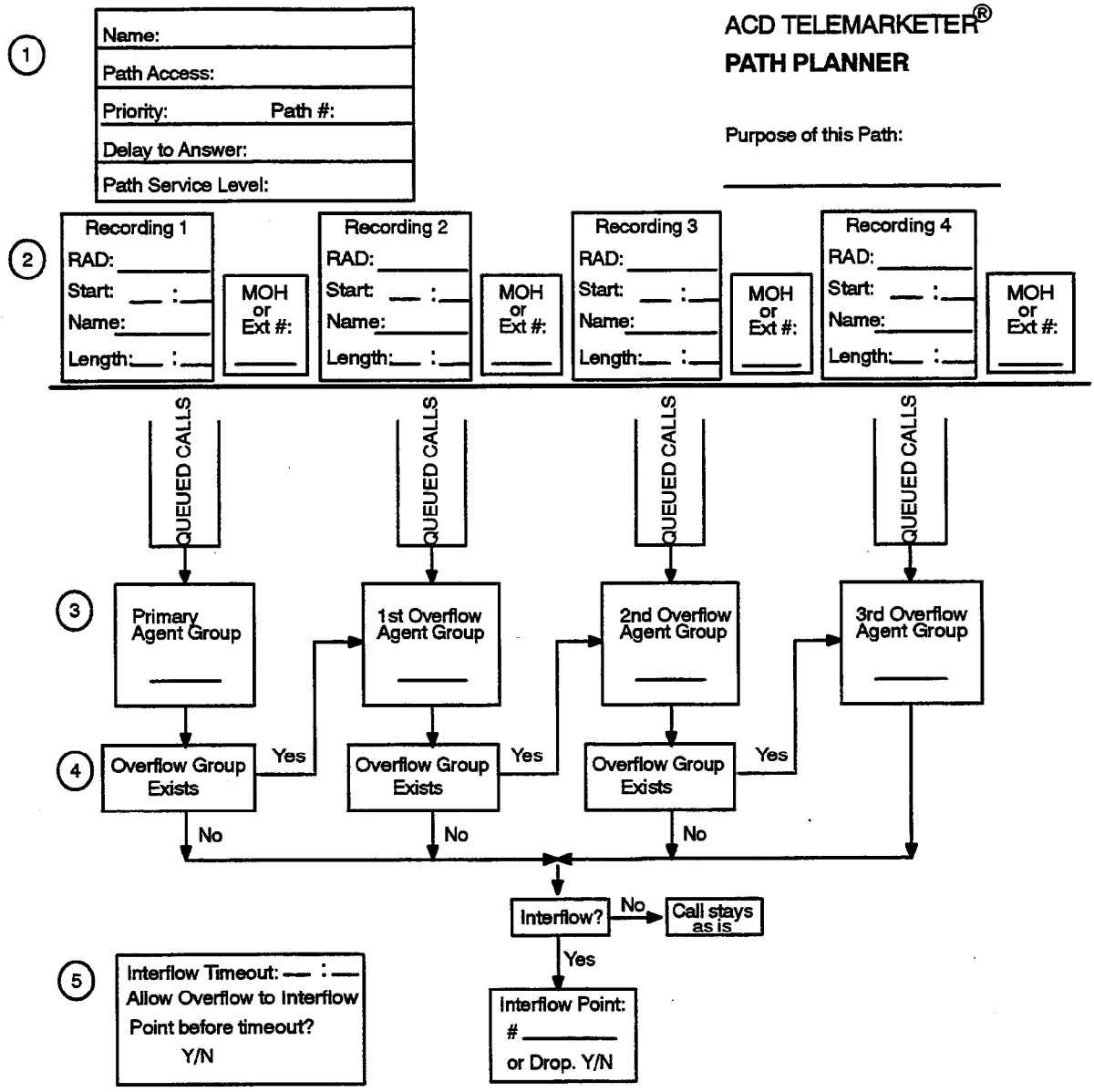

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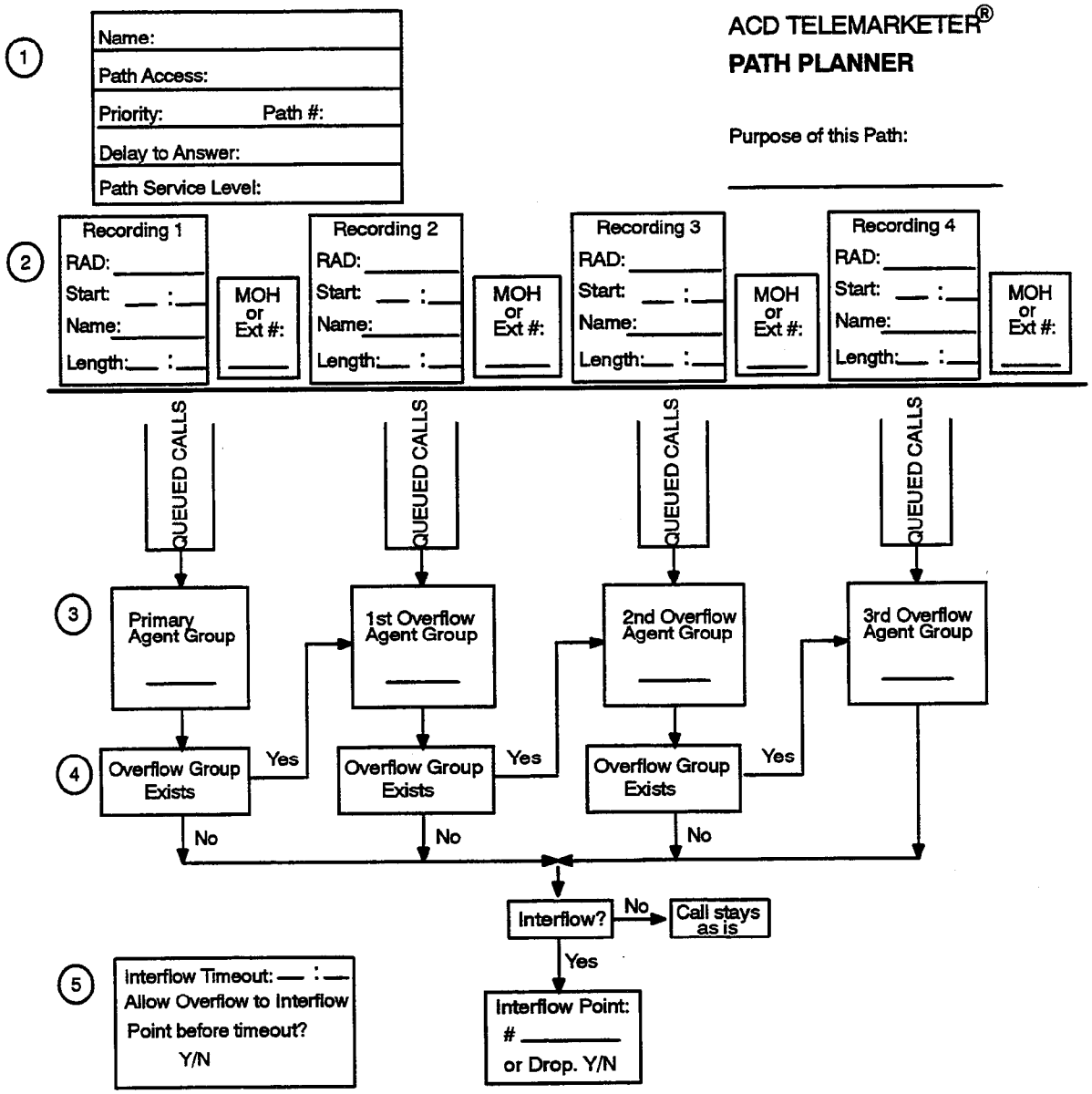

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3 *ACD TELEMARKETER* Feature

ACD TELEMARKETER Overview

3.1 The *ACD TELEMARKETER* Application Package is an advanced Automatic Call Distribution (ACD) system that is fully integrated with the MITEL *SX-200 DIGITAL* and *SX-200* LIGHT PABX, and designed with the power and performance needed to ensure satisfaction in the most demanding telemarketing environments.

This section provides information on the following components of the *ACD TELEMARKETER* system:

- **ACD Path.** This innovative call routing design guides incoming calls through the system. The ACD path defines all information required for each type of call, including how the system will handle queued callers. Refer to paragraph 3.2.
- **ACD Call Flow.** Paragraph 3.3 describes the handling of a typical ACD call arriving at the system.
- **ACD Sets.** *SUPERSET 4* and *SUPERSET 420* telephones may be used in the senior supervisor, supervisor or agent positions with the *ACD TELEMARKETER* feature package. *SUPERSET 410* telephones may be used in the agent position only. Refer to paragraph 3.4 for details.
- **ACD Positions.** The *ACD TELEMARKETER* feature package structures the personnel handling ACD calls into a hierarchy of ACD positions. The ACD package supports three types of positions: senior supervisors, supervisors, and agents. Refer to paragraph 3.5 for further information.
- ***ACD TELEMARKETER* Reporting System.** The *ACD TELEMARKETER* Reporting System is a PC-based software package for collecting ACD data generated by the *SX-200* DIGITAL or *SX-200* LIGHT PABX. This reporting system produces a series of daily, weekly and monthly historical reports. Refer to paragraph 3.6 for details.
- **Recorded Announcements.** The *ACD TELEMARKETER* feature uses recorded announcements to tell callers about the progress of their call while waiting in the queue for the first available agent. Paragraph 3.7 describes recorded announcement devices (RADs) and recording groups.

ACD Path

3.2 The *ACD TELEMARKETER* feature is built around the "ACD Path", a call routing mechanism which provides all information required for handling an ACD call. Use of the ACD Path gives users unmatched flexibility during initial programming and when adding new features.

99 ACD paths may be programmed to allow customized routing for a wide variety of incoming calls. Each path is assigned a priority and is given a unique access code and descriptive path name (optional). This information determines how the system handles

queued callers, system resources to be used, when the call will be answered and who will answer the call.

Upon entering the ACD system, a call is allocated a path, and assigned the parameters of that path. These parameters remain with the call for its duration.

Path Access Code

Incoming trunks carrying ACD calls are routed to a path access code. This code points the trunk to the ACD agent groups and recorded announcements appropriate for the type of call.

Path Priority

Each path is assigned a priority level in the range 1 to 99, with 1 being the highest priority. Calls arriving on high priority paths move directly to the front of the call queues for servicing before those calls which entered on a lower priority path.

Path priority can be an effective tool for reducing communications costs and improving customer service. For example, call queue time can be reduced by directing expensive incoming trunks, such as long distance collect or INWATS, to a high priority path. Customers can be assured of prompt service if their calls are routed through a high priority path.

Path Access

All devices have unrestricted access to ACD Paths except loop start CO and loop start DISA (Direct Inward System Access) trunks. The Class of Service (COS) Option "Loop start trunk to ACD path connect" (COS Option 812) controls ACD access for loop start trunks. By default this option is disabled, blocking loop start trunks from entering ACD.

Path Rerouting

The ACD path access code can be placed in the call rerouting table to link existing routing schemes (such as DID trunk routing points) to the ACD system. Rerouting to ACD paths is set up as follows:

- For dial-in trunks, the system uses the current routing for incoming calls, as defined in CDE Form 19, to send calls to an ACD path.
- For non-dial-in trunks, one or all of the Day/Night1/Night2 answering points is programmed as an ACD path.

Calls entering the system on different trunk types can be routed to the same ACD path.

The rerouting scheme means a trunk does not have to be dedicated to ACD. The day answering point may be an ACD path but the Night1 and Night2 answering points may be an attendant console or any other valid routing point.

Service Level

The service level for a path defines a standard time to answer that becomes the criteria for measuring path performance. Service level is programmable within the range 0 seconds to 54 minutes.

When an ACD call is answered by any group in a path, software compares the actual time to answer with the programmed Service Level. The system creates a record indicating if the time to answer was:

- less than or equal to the service level time, or
- greater than the service level time.

This information is stored for statistical analysis and can be viewed from the ACD Path Monitors and Group/Path Summary Reports.

Overflow

Higher priority paths are given special treatment when placed in overflow queues. Predictive overflow is another key element of the *ACD TELEMARKETER* feature. The system uses overflow queues to keep call queueing time to a minimum. The system performs a load calculation when each new call arrives at an agent group or when the status of an agent changes. If the system predicts that a call will not be answered before the normal overflow time, it forces an immediate overflow.

Priority calls entering an overflow queue are placed ahead of non-priority calls in the same queue. The non-priority calls maintain their position in relation to each other, but follow the priority calls.

Each path is assigned one primary agent group and up to three overflow groups. Timers programmed in CDE for each agent group determine how long a call waits on a group before overflowing. If the system predicts that a call will not be answered before the timer expires, the system forces an immediate overflow without waiting for the timer to expire.

Interflow

Unlike overflowed calls, interflowed calls are rerouted from ACD to an alternate answer point. Each path has a programmable interflow timeout field that specifies the maximum period that an unanswered call can wait in a path before the system routes the call to an interflow point. The interflow point can be:

- a listed directory number, station, console, night bell, ACD path, station/set hunt group, Automated Attendant group, or UCD agent group,
- a logical line,
- a system abbreviated dial number.

To limit the time that a caller remains waiting for an agent, the system can also be programmed to drop interflowed calls.

With software loads F41.0 and above, the system can be programmed so that any callers dialing in to an ACD path will interflow immediately when no agents are logged in. This interflow takes place regardless of the status of the "Interflow Timeout," or the

option "Allow Overflow to Interflow Point Before Timeout," or the "Interflow Point Access code" having a value of DROP CALL. "Interflow Enabled" is required for the immediate interflow to work.

A tenant number can be assigned to the ACD Path with software loads F41.0 and above. When a tenant number is assigned, then DID and TIE trunks which dial into the ACD Path directly will follow the routing for this tenant as defined in Form 19 - Call Rerouting Table.

In addition, the customer can program the system to overflow to the interflow point as soon as the system determines that the call is unlikely to be answered at the last agent group in the path.

Calls interflowed to a system abbreviated dial number are treated by the system as an external call forward. This means that the interflow requires a receiver. If a receiver is unavailable when the interflow occurs, the call is dropped. The only indication of the dropped call is a receiver unavailable peg in the traffic report. The call appears in the ACD reports as an interflowed call.

If Automatic Route Selection (ARS) is busy when a call interflows to a system abbreviated dial, the system attempts a camp-on to ARS.

The path from which the caller interflows is set up as the original forwarding destination for the caller. When the interflow point is an internal device, such as a *SUPERSET 4* or *SUPERSET 420* telephone, the display indicates the call is being forwarded from a path.

Music Between Recordings

Between each recording on an ACD path, the incoming caller, by default, listens to the system music source (if programmed). An alternate music source may be specified between each recording and after the last recording.

Alternate Music Source

The alternate music source is an off hook ONS port that connects to callers in a listen-only conference. The user decides what is supplied on the ONS port - silence, music, or endless loop recordings. If there is no system music and no alternate music source, the caller hears silence between RAD messages.

The device can be a telephone, a recording device, or a transfer device (8/600 ohms) that simulates an off hook and allows connection of an audio source such as a radio. The system connects callers only if the device is off hook. There are no restrictions on how paths share alternate music sources.

Note: Depending upon country of installation, the alternate music source must be either an FCC Part 68 or Industry Canada approved voice coupler, or voice connecting arrangement to an ONS circuit.

ACD Call Flow

3.3 The following paragraphs describe the handling of a typical ACD call arriving at the system on an incoming trunk. Included is a description of what the caller hears at each stage of the call. Figure 3-1 shows the system action in determining what the caller hears while in the queue.

ACD Caller

The system considers an ACD caller to be anyone who is on, or has been answered by, an ACD path. Once answered, the ACD caller status remains while the caller is talking to an agent, on hold by an agent, or in the process of being transferred by an agent.

After an ACD caller has been answered by an agent, the PABX reverts to normal call handling but provides additional tracking for ACD session timing, ACD hard-hold timing, and the caller's identification as an ACD caller. When an ACD caller reaches the console through either a supervised or unsupervised transfer, the ACD caller status ends. If, during a supervised transfer, the person performing the transfer remains on the line after the console answers, the ACD session is terminated.

Typical Call Handling

If multiple agents are free when an ACD call is presented to a group, the system sends the call to the longest idle agent. To select the longest idle agent, the system gives a number to the first agent finishing an ACD call. The next agent to finish an ACD call is given the next higher number, and so on. When a call arrives at the group, the system sends the call to the agent with the lowest number. The number does not change if the agent makes a non-ACD call.

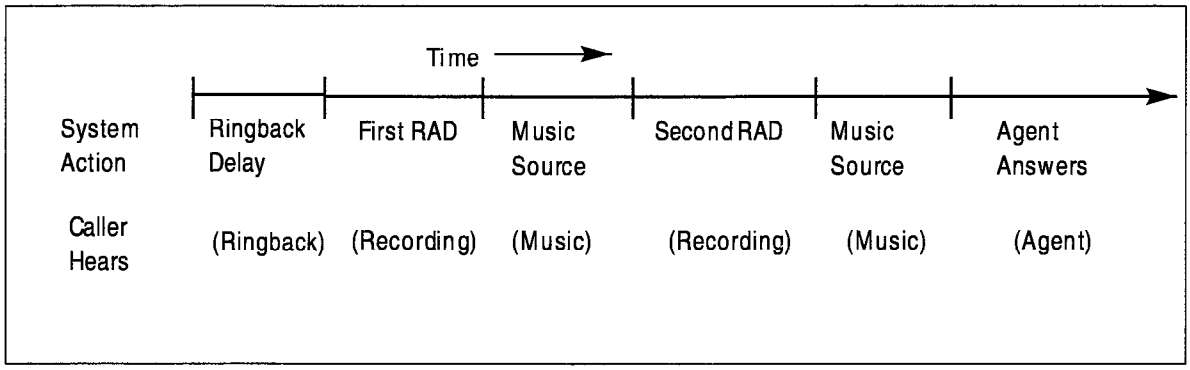

Figure 3-1 ACD Call Progress - All Agents Busy

1. ACD Call arrives at the path specified as the answer point for the trunk.
   - As shown in Figure 3-1 the caller hears ringback until the Ringback Delay timer expires. This timer ensures the caller hears at least one ringback before an agent answers.
2. The incoming call queues on the primary agent group for the path.
   - If agent is available, call rings agent (See Note).

- If multiple agents are available, the call rings the longest idle agent; if not, caller waits for first recorded announcement.

Note: Once the agent set begins ringing, the call must be answered. If the called agent fails to answer within the period programmed for the Forward Timer in the agent's COS, the system forces the agent's set into Make Busy and routes the call to another agent in the group. This operation is transparent to the caller.

3. System connects caller to the first available RAD in the first recording group defined for the path.
   - Caller listens to first recording. Call remains queued on first agent group.
4. When RAD message ends, system connects call to music-on-hold (MOH) source or to first alternate source as defined for the path.
   - Caller hears music or alternate source.
5. After time interval programmed in the path for Recording 2 starts, system connects call to first available RAD in second recording group defined for the path.
   - Caller listens to second recording. Call remains queued on first agent group.
6. System connects call to MOH source or to second alternate source as defined for the path.
   - Caller hears music or alternate source.
   - Caller continues listening to music and recorded announcements until an agent is available. Timing is set in CDE.
   - Up to four recordings can be programmed for each path.
7. If the call remains queued against the first agent group for a period exceeding the overflow time programmed for the group, the system adds the first overflow group defined for the path.
   - Caller is now queued on two groups.
   - Caller continues listening to music and recorded announcements until an agent is available.
   - Caller retains position in queue for primary agent group.
   - Path priority determines position of call in overflow group.

   The system can add up to three overflow groups if a call remains unanswered. Overflow times are programmed individually for each agent group. Figure 3-2 shows how overflow groups are added as the caller waits in the queue.
8. The system performs a load calculation when each new call arrives at an agent group, or when the status of an agent changes. If the system predicts that a call will not be answered before the overflow timer expires, the system forces an immediate overflow. This predictive overflow is always enabled.
9. As shown in Figure 3-2 if the call remains unanswered for a period exceeding the Interflow Timeout programmed for the path, the system routes the call to the interflow point which can be an internal or external destination. The call is handled as a call reroute.

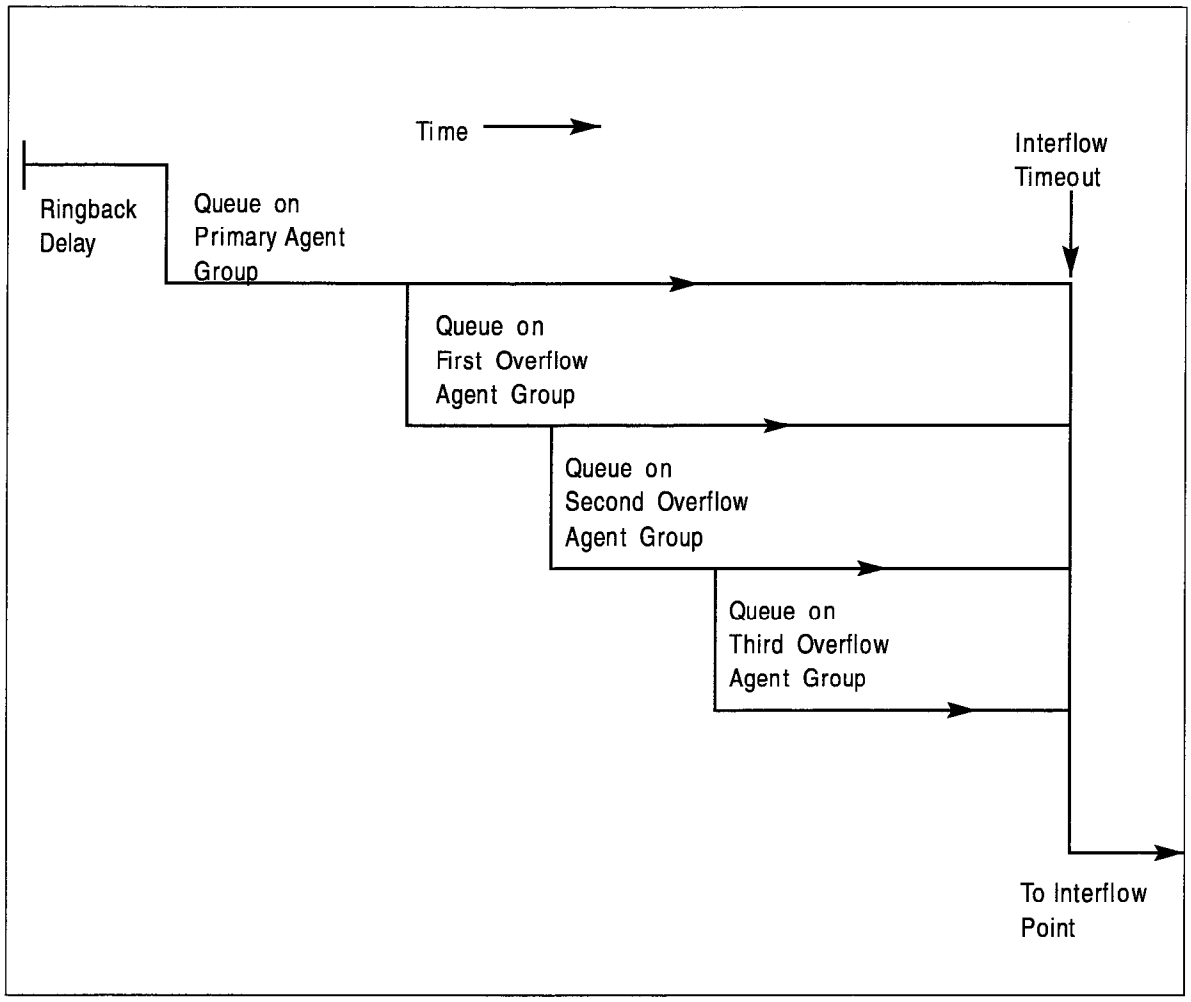

Figure 3-2 Overflow/Interflow

ACD Sets

3.4 The *SUPERSET 4, SUPERSET 410* and *SUPERSET 420* telephones (Figure 3-3 to Figure 3-5) used by ACD positions provide call status and progress information about agent groups and individual agents. A supervisor's set (*SUPERSET 4* or *SUPERSET 420*) provides agent reports and queue status reports for the supervisor's agent groups. An agent's set (*SUPERSET 4, SUPERSET 410* or *SUPERSET 420*) provides queue information for the agent's group.

SUPERSET 4, SUPERSET 410 and *SUPERSET 420* telephones used with the *ACD TELEMARKETER* Feature Package offer:

- Single key feature activation
- Supervisor monitoring of agent calls with or without agent notification
- Agent help requests during a conversation - transparent to ACD callers (not applicable to *SUPERSET 410* telephones)
- Handset/handsfree/headset operation. (COS Option number 612 must be enabled in the user's COS prior to operation. The telephone handset should remain offhook when headsets are in use)
- LCDs load status information
- Auto answer
- Time and date display (*SUPERSET 4* and *SUPERSET 420* telephones)
- Path name display when calls are presented to the agent. (Not applicable to *SUPERSET 410* telephones.) When COS Option 654 - ACD Display Path Always (available in software loads F41.0 and above) is enabled, the path name remains on the display for the duration of the call.
- Make Busy keys to temporarily block ACD calls from agents sets
- A programmable name for every ACD entity: paths, RADs, groups, agents and supervisors
- A programmed set of speedcall keys (via CDE programming)

Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS) are available with *LIGHTWARE* Enhanced software through COS options programmed during Customer Data Entry (CDE). ANI provides the telephone number of the calling party; DNIS provides the telephone number dialed by the calling party. Refer to Practice 9109-097-105-NA, Features Description, for details.

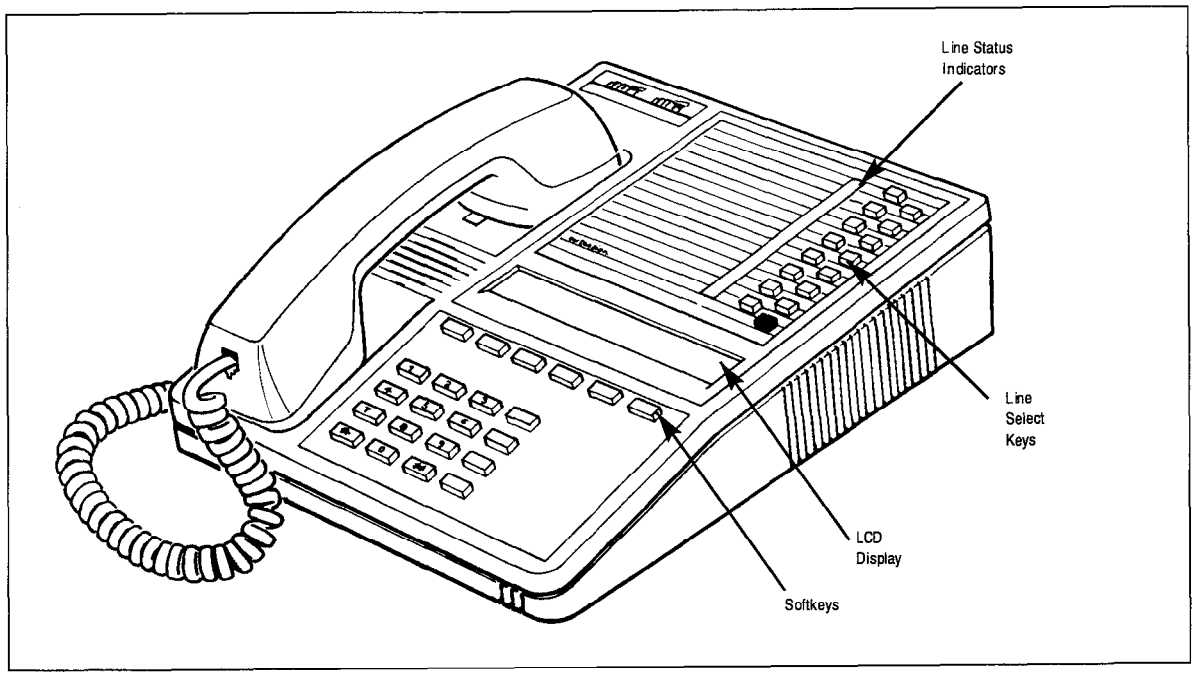

Figure 3-3 *SUPERSET 4* Telephone

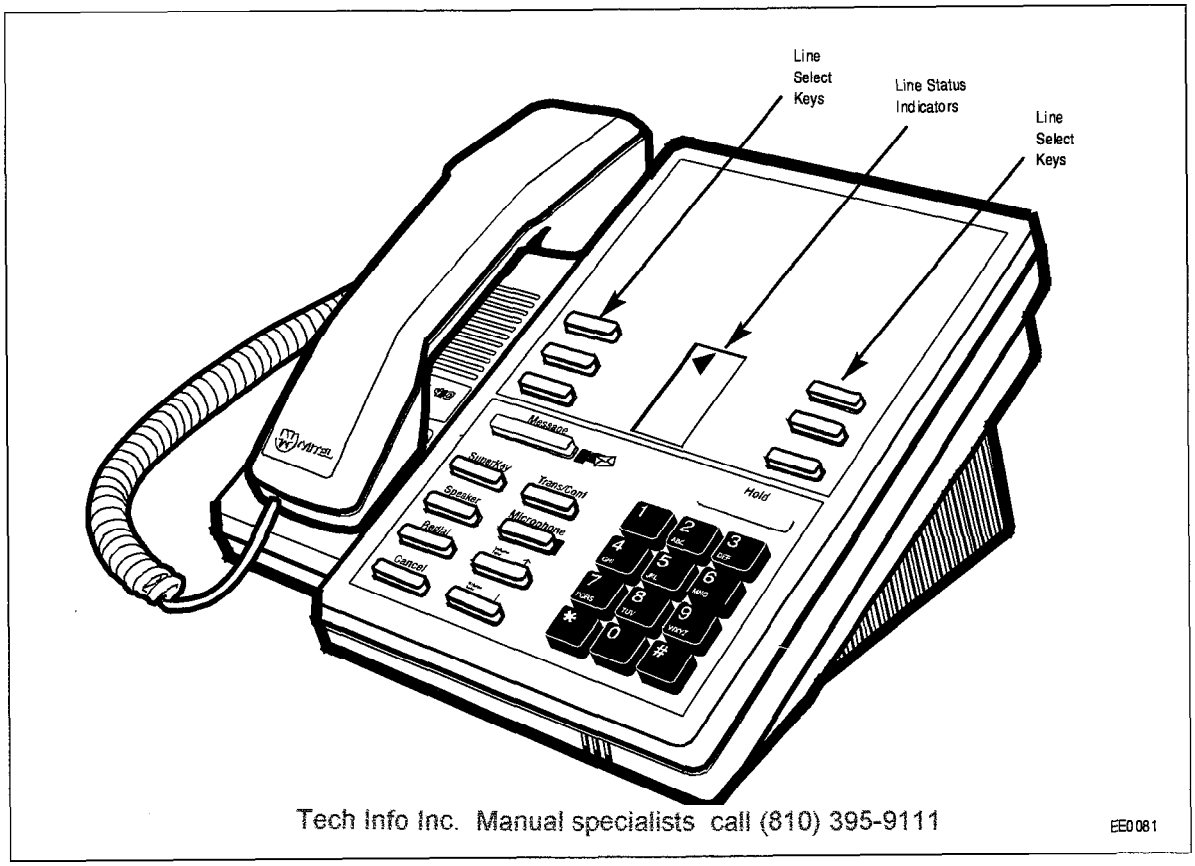

Figure 3-4 *SUPERSET 410* Telephone

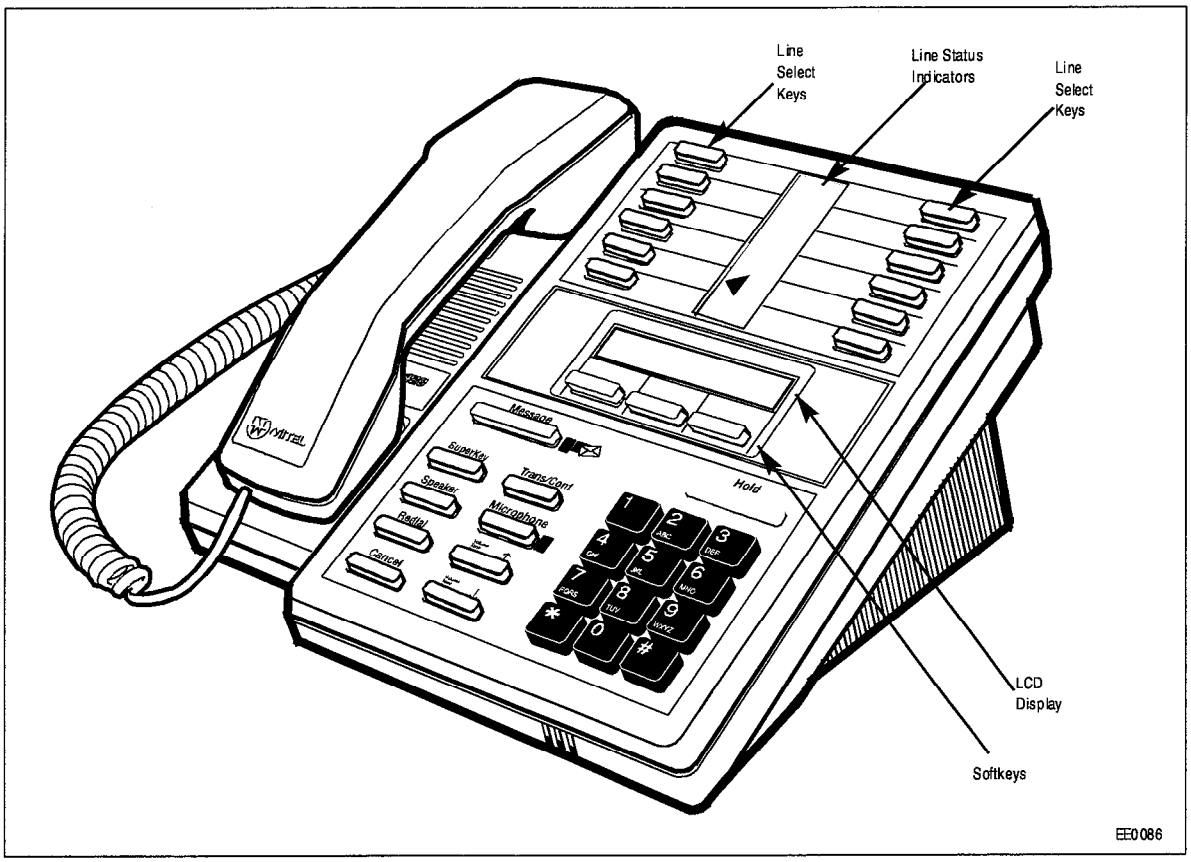

Figure 3-5 *SUPERSET 420* Telephone

ACD Positions

3.5 The *ACD TELEMARKETER* feature package supports three types of positions: senior supervisors, supervisors, and agents. Figure 3-6 shows an example of the ACD hierarchy.

ACD calls entering the system normally terminate on agent positions (*SUPERSET 4, SUPERSET 410* or *SUPERSET 420* telephones). Agents handling similar types of calls are arranged in agent groups. Supervisors and senior supervisors (*SUPERSET 4* or *SUPERSET 420* telephones) monitor agent and system performance, but do not handle ACD calls.

As shown in Figure 3-6 every supervisor, senior supervisor, and agent has an ID number. This is a 1- to 5-digit number assigned during customer data entry. Before they can receive ACD calls, the agent or supervisor must log in to the system by dialing an access code followed by the appropriate ID number. Agent groups and the three ACD positions are described below.

The PABX treats the ID number assigned to each position as an access code. This number can be directly dialed by other devices in the system as normal extension numbers.

Note: An ACD agent is considered not available for an ACD call if the agent is on its prime key or any other line key appearing at the telephone.

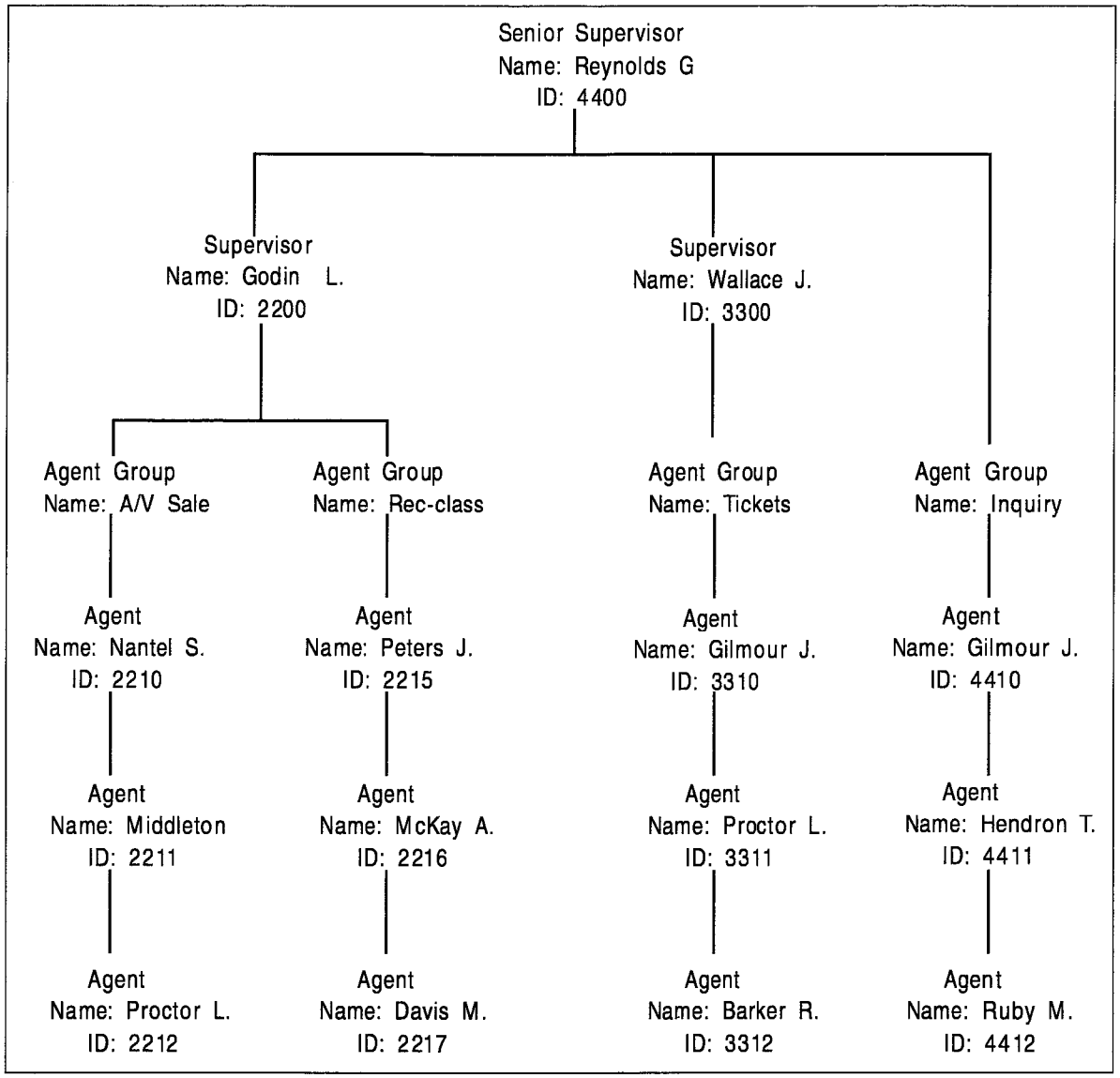

Figure 3-6 Hierarchy of ACD Positions

Agent Group

An agent group consists of one or more persons, called agents, that handle incoming ACD traffic. Each agent group must contain at least one member; the maximum number of agents in a group is 100. The ACD system accepts up to 50 agent groups.

As shown in Figure 3-6 each agent group must be set up to report to either a supervisor or a senior supervisor (never both). Supervision requirements are determined by the customer and are usually dictated by the size of the group.

Agent groups are created through Customer Data Entry (CDE) by entering in the ACD agent groups form (Form 39) an agent group number in the range 1 through 50. An optional name can also be given to the group to assist in identifying the group's function. Members are added to the group though CDE by entering a 1- to 5-digit ID number and an optional name for each agent.

Each agent group has timers that govern events such as:

- the time granted to an agent for completing paperwork after an ACD call,
- the length of time a call will remain unanswered in the group before overflowing, and
- turning on and off visual indicators that show calls have been unanswered for a time exceeding a programmed threshold level.

Refer to the programming section of this practice for details about creating agent groups and the fields on the agent groups form.

Agent

The *ACD TELEMARKETER* feature terminates ACD calls at agent positions. In most ACD installations, all callers routed to an agent are requesting similar information or seeking a similar service. Agents can then be trained and equipped to provide the information or service requested by the caller.

The system routes calls to an agent only after the agent logs in to the ACD system. Once the agent has logged in, the system recognizes the agent as being a member of a specific agent group.

The *SUPERSET 4*, *SUPERSET 410* and *SUPERSET 420* telephones used by the agent are each equipped with a feature key to temporarily block ACD calls from ringing the set. Other feature keys provide information about the current status of the agent group.

In many cases, an agent must be given the flexibility of moving between agent groups. If, for example, the ACD agent group handling long distance trunks is suddenly overloaded and calls are overflowing to an alternate group, significant financial gain could result by reassigning Agents to the busy groups until the traffic subsides.

Since the ACD system uses the ID number to determine the members of an agent group, providing the agents more than one ID number allows the agents to be members of more than one group. To move between groups, the agent logs in using the ID appropriate to the group. Only the ID number must be unique; an agent name can appear in any number of groups.

Supervisor

The supervisor ACD position is for individuals who "supervise" the agent groups. Each supervisor is responsible for at least one agent group and reports to a senior supervisor. Supervisors do not answer ACD calls. The *SUPERSET 4* or *SUPERSET 420* telephone used by the supervisor is equipped with special feature keys that allow the supervisor to view agent activities individually or as a group.

Senior Supervisor

The senior supervisor oversees the supervisors and is, therefore, the highest level in the hierarchy of ACD positions. In smaller installations, however, where a supervisor is not required between the agent group and the senior supervisor, agent groups may report directly to the senior supervisor. The senior supervisor does not answer ACD

calls. The *SUPERSET 4* or *SUPERSET 420* telephone used by the senior supervisor is equipped with special feature keys, similar to the supervisor set, with emphasis on queue activity.

ACD TELEMARKETER Reporting System

3.6 The *ACD TELEMARKETER* Reporting System runs on an IBM® PC AT or compatible connected to the *SX-200* DIGITAL PABX or *SX-200* LIGHT PABX through an RS-232C interface. The system is easy to learn, using menu driven displays with full-color graphics. On-line help is available for all commands and applications.

During initial installation, the user creates a reporting system database containing all agent, path, and trunk information. Once operational, the PC collects data from the SMDR information generated by the PABX, analyses the information using the reporting system database, and generates a series of detailed reports covering agents, groups, paths and trunks.

Daily reports can be printed automatically at predetermined times. Weekly and monthly summaries can also be printed upon request. Printed reports record times to the second for all categories, thus highlighting call handling efficiency and agent performance problems.

Daily reports generated from this database include:

- ACD Agent Daily Activity Report listing hourly totals by agent ID
- Agent Group Daily Activity Report with hourly totals handled by each agent group
- Trunk Daily Activity Report with hourly totals of calls handled by individual trunks
- Path Activity Report with detailed statistics for all ACD calls

Weekly and Monthly Summary Reports include:

- Agent Activity Summary Report with daily totals by ID and agent name
- Agent Group Summary Report listing daily totals by agent group
- Trunk Summary Report with daily totals of calls carried by a particular trunk
- Path Activity Report listing daily totals by path

Recorded Announcements

3.7 A recorded announcement device (RAD) is a digital or endless-loop tape unit that can store one or more pre-recorded messages. The required RADs are designed for connection to ONS circuits and appear as a standard telephone to the PABX. The RAD's message is played when the unit is triggered by ringing current. In the *ACD TELEMARKETER* feature, the recorded messages are given while callers are waiting in the queue for a free agent.

The *SX-200* DIGITAL and *SX-200* LIGHT systems support both intelligent and dumb RADs. An intelligent device hangs up when the message is finished. A dumb device provides a fixed-length recording (such as a tape) and the system must hang up on the device to prevent callers from listening to a long period of silence at the end of the message.

Recording Groups

The recorded announcement feature is implemented using one or more RADs programmed into a specialized hunt group called a recording group. Each RAD in the group contains the same announcement.

Recording groups are formed using hunt groups of regular ONS ports and are defined during CDE in Form 17, Hunt Groups. Refer to the programming section of this Practice for details.

Recording Group Operation

When a call rings a recording group, the first available idle RAD answers the call and connects its recording. If all RADs in a recording group are busy, the caller camps onto the group to wait for a free recording. When a recording becomes available, the system connects all waiting callers to a listen-only conference with the recording. (The listen-only conference does not use any PABX conference resources.) When the recording finishes, the callers are removed from the conference and are connected to music or silence as defined in the ACD Path programming form (Form 41).

Note:
1. The system does not use a special CODEC gain setting for listening to a recording. The gain is the same as for ringback, or set to no gain.
2. A RAD is always rung with the standard ringing cadence.
3. Callers are never connected after the RAD starts its message.

RAD Failure

The ACD system handles four types of RAD failures:

Failure to Answer: The system considers the RAD to have failed if it does not answer within the fixed interval of 30 seconds. The system clears ringing, puts the RAD into Do Not Disturb (DND), turns on the console alarm icon, and creates a maintenance log entry as shown in the following example:

```
1994-NOV-15 12:47:04   Recording dev test   failed at  01 01 01 00
    Failure to answer   Alarm code = 123
```

Failure to Hang Up: The system detects failure to hang up when the system ends the recording. The hangup time is set by COS option 404 - Recording Failure to Hangup Timer, which has a range of 1 through 255 seconds. The timer starts after the PABX hangs-up on the RAD. The RAD must clear down within the programmed interval. Otherwise, the PABX puts the RAD into DND, turns on the console alarm icon, and creates an entry in the maintenance log as shown in the following example:

```
1994-NOV-15 12:47:04   Recording dev test   failed at  01 01 01 00
    Fail to hang-up.  Alarm code = 123
```

False Origination: If a RAD generates a false origination, the system puts the RAD into a suspended state. After the suspended timer expires, the RAD is placed into a lockout state. If the RAD goes on hook while in either suspended state or lockout state, the RAD is returned to idle and is immediately available to the system.

Card Failure: If the system detects a card failure, such as the card being unplugged or the bay going down, the RAD is placed into a busy-out state. Any callers listening to the RAD are handled as though the RAD had gone on hook. The RAD is not placed in DND unless it was ringing at the time (which is treated as a ring-no-answer). When returned to service, the RAD is in idle state.

Removing DND from RAD

The system places a RAD into DND whenever the RAD fails to answer or fails to hang up. DND can be removed from a RAD by accessing the attendant console stations feature, dialing the RAD, and pressing the DND softkey. DND can also be cleared from the maintenance terminal by using the Clear Features key.

Removing DND from a RAD generates the following maintenance log entry:

```
1994-NOV-15 12:47:04  Ons Card      passed at 01 01 01 00  ext 1101
      Recording device test Alarm code 123
```

9 Programming

General

9.1 Customer Data Entry for the *ACD TELEMARKETER* applications package involves specifying the routing of incoming ACD calls by entering data into a network of programming forms. Information in the forms is linked through a series of indexes and pointers. The forms which make up the ACD network are:

- System Options (CDE Form 04)
- Feature Access Codes (CDE Form 02)
- ACD Agent Groups (CDE Form 39)
- Agent Group Subform (CDE Subform 39)
- ACD Keys Template (CDE Form 38)
- COS Define (CDE Form 03)
- ACD Supervisors (CDE Form 40)
- ACD Paths (CDE Form 41)
- Hunt Groups (CDE Form 17)
- Call Rerouting (CDE Form 19)

System Options Form

9.2 Figure 9-1 shows a portion of the System Options form containing the options related to the *ACD TELEMARKETER* feature package. Options are changed by editing the Status field.

System Options (Displaying ENABLED Fields)	STATUS	OPTION NUM
Automatic Call Distribution	Enabled	41
ACD Silent Monitoring	Enabled	42
ACD Silent Monitoring Beeps	Enabled	43
ACD Reports	Enabled	44

Figure 9-1 System Options Form (CDE Form 04)

Four fields on the System Options form control operation of the *ACD TELEMARKETER* feature. Table 9-1 defines the function of each field.

Table 9-1 System Option Form Fields

Option	Function
Automatic Call Distribution (Option 41) See Note.	Setting this option to Enabled allows access to the programming forms related to ACD.
ACD Silent Monitoring (Option 42)	Setting this option to Enabled allows a supervisor to monitor ACD calls by dialing a programmed feature access code.
ACD Silent Monitoring Beeps (Option 43)	Set this option to Enabled if agents are to be notified when monitoring is in progress.
ACD Reports (Option 44)	Setting this option to Enabled changes the format of the SMDR records to that required by the *ACD TELEMARKETER* Reporting Package. For additional information refer to Practice 9109-097-221-NA, Station Message Detail Recording.

Note: System Option 41 (Automatic Call Distribution) must be set to Enabled before programming the remaining CDE forms related to ACD.

ACD Agent Groups Form

9.3 Figure 9-2 shows a blank ACD Agent Groups Form (CDE Form 39). All Agents must be a member of an ACD Agent Group. The system accommodates a maximum of 50 ACD agent groups. Each group must contain a minimum of one Agent. The maximum number of agents per group is 99. The ACD system supports 100 agents logged in at the same time.

The ACD system allows CDE programming of 999 ACD positions in any combination of agents, supervisors, and senior supervisors.

The agent information entered on this form is the agent name, agent ID, and COS. The agent ID is a 1- to 5-digit access code that allows the agent to log onto the ACD system. Entries in the Agent Group form are sorted by this ID number. The ID is associated with an agent, not a particular extension, so any *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone the agent uses reflects that agent's name and ID.

The ordering of agents on the form has no effect upon the agent selection algorithm.

The fields on the ACD Agent Group form contain customer-defined data. Table 9-2 defines the contents of each field.

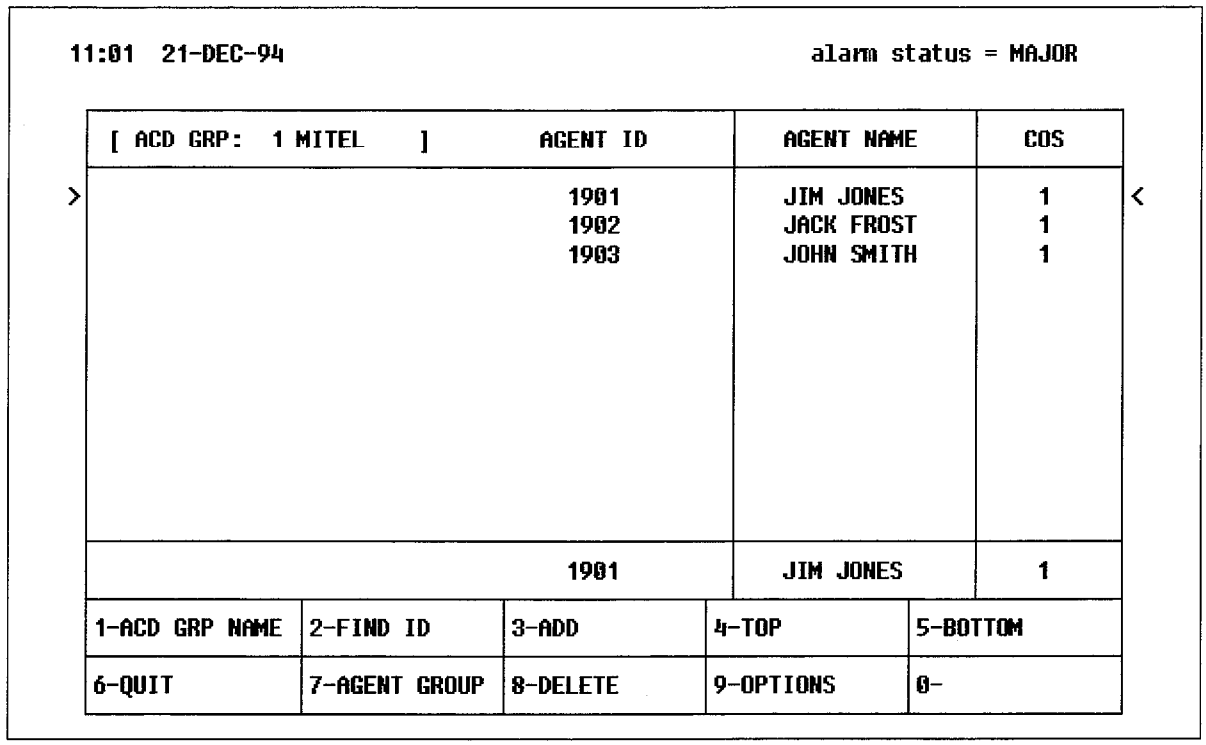

Figure 9-2 ACD Agent Groups Form (CDE Form 39)

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Table 9-2 ACD Agent Group Fields

Field	Meaning
ACD GRP	The group number and name.
ACD GROUP NUMBER	A programmable field containing a 1- or 2-digit number in the range 1 through 50 that identifies an ACD group.
ACD GROUP NAME	An optional field that allows the customer to assign a name to the agent group. A maximum of eight characters may be entered. The agent group must contain at least one member before the ACD GRP NAME softkey is presented.
AGENT ID	A programmable field of up to five digits for assigning an identification number to an ACD agent. This access code must not conflict with any other access code in the database. An ID number can exist in only one Agent Group. Agents requiring access to more than one group must be given a different ID for each group. Entries on the ACD Agent Groups form are sorted numerically by Agent ID.
AGENT NAME	An optional field that assigns a name to an agent ID. The agent name is carried to the set where the agent logs on. The name may be up to 10 characters but can not begin with an asterisk (*). The same conditions apply to position names as well as to set names.
COS	The Class of Service number of this agent. Range is 1 to 50.

Agent Groups Subform

9.4 The Agent Groups subform (CDE Subform 39) shown in Figure 9-3 is accessed through the OPTIONS key. This form can only be accessed if there is at least one agent in the agent group. Entries are changed by editing the status column. Four fields on the ACD Agent Group subform contain customer-defined data. The contents of each field are defined in Table 9-3.

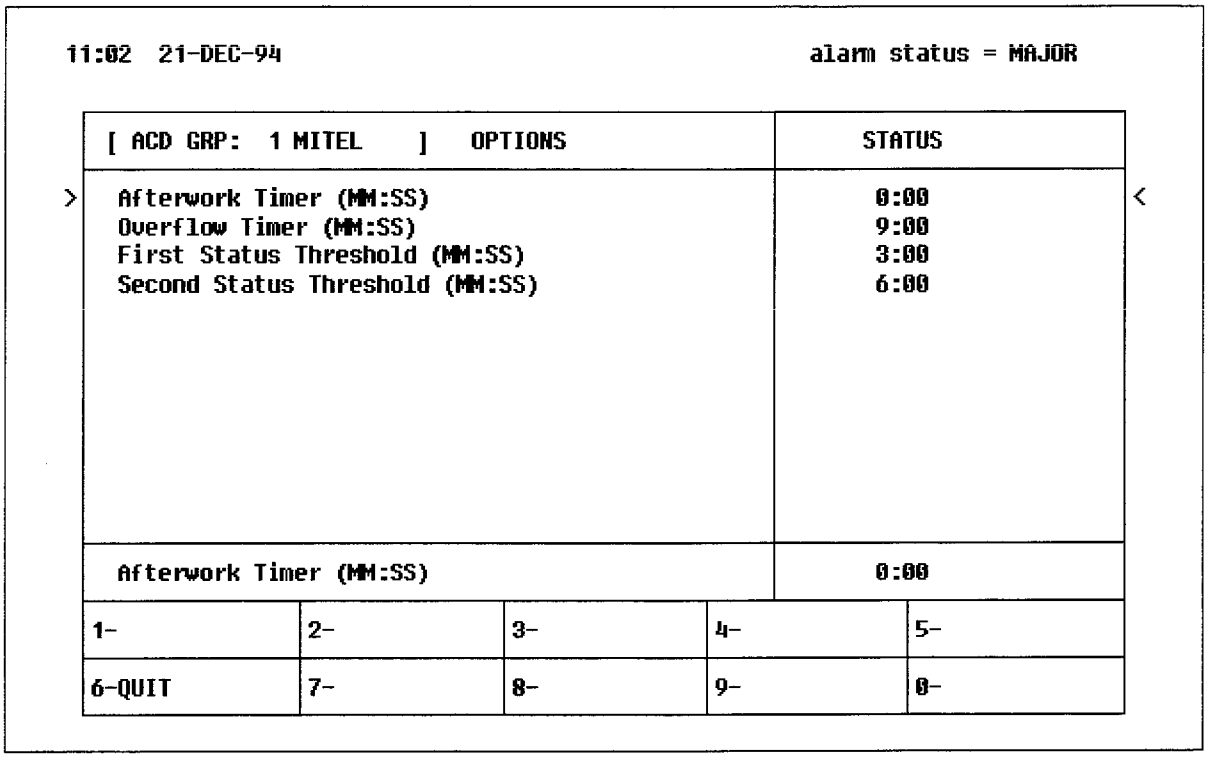

Figure 9-3 ACD Agent Groups Subform (CDE Subform 39

Table 9-3 ACD Agent Groups Subform Fields

Field	Meaning
Afterwork Timer	An optional field to give the agent a wrap-up time following ACD calls. Timer range is 0 seconds to 15 minutes. Default is 0 (no delay time before the next call is presented at the set). Campons and callbacks do not take precedence over a waiting ACD call. Refer to the following paragraphs for additional information.
Overflow Timer	An optional field used to specify the maximum time a waiting ACD call remains in this group before overflowing. The overflow destination is defined in the ACD Path Form (CDE Form 41). The value entered can range from 0 seconds to 54 minutes. Default value is 9 minutes. Refer to the following paragraphs for additional information.
First Status Threshold	This time (range is 0 seconds to 54 minutes) must be less than the time specified in the Second Status Threshold. The field defaults to 3 minutes. Refer to the following paragraphs for additional information.

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Table 9-3 ACD Agent Groups Subform Fields (continued)	
Field	**Meaning**
Second Status Threshold	This timer (range 0 seconds to 54 minutes) must be greater than the time specified in the First Status Threshold field. The field defaults to 6 minutes. Refer to the following paragraphs for additional information.
	Page 2 of 2

Afterwork Timer

In many ACD situations, the agent may require some time following an ACD call to complete paperwork before accepting the next call. This subform allows programming of a wrap-up time (Afterwork Timer). The Afterwork Timer prevents an ACD call from being presented to this set until the specified time has expired.

Overflow Timer

The Overflow Timer is programmed for each agent group in the ACD system. It specifies how long an ACD call will wait in the queue for this group before being overflowed. Overflowed calls remain in this group's queue, but are added to a queue for another agent group. This increases the chances of the call being delivered to an agent. The time selected in this form specifies the maximum time a call can wait to be answered before the call overflows. The default time is 9 minutes.

If the system predicts that a call will remain unanswered before the time out period, the system ignores the specified timer and forces an immediate overflow. The two conditions described below can cause this forced overflow:

- If the agent group form specifies an overflow time of three minutes and no agents are logged on in this group, the system ignores the timer and forces an immediate overflow to avoid an unnecessary delay to the caller.
- The second case of overflowing before the specified time out arises during an overloaded state. The system performs an algorithm for an overloaded condition each time a new caller arrives for an agent group or when the status of an agent changes. Either event causes an overflow if excess callers are waiting for the agent group.

Threshold Timers

When an ACD call is initially routed to the agent group and there are no idle agents available, any appearance of the Queue Status indicator for this group reflects a call waiting in queue. This Queue Status indicator is driven by the threshold timers assigned to this form.

The First and Second Status Threshold timers provide a visual indication on all Queue Status keys of the current work load condition for this agent group.

ACD Keys Template Form

Assigning ACD Keys

9.5 The ACD Keys Template Form (CDE Form 38) allows global programming of *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephones that require common ACD feature keys.

Global programming is still possible when these telephone sets are mixed in an ACD system, in spite of the varying number of line select keys available on the *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephones. It is up the installer to ensure that the ACD Keys Template is programmed to allow this.

When there is set mixing, the installer must assign ACD keys within keys 2 to 6 on the *SUPERSET 410* and keys two to twelve on the *SUPERSET 420* telephone. This assignment should be matched when programming a *SUPERSET 4* telephone. The higher number keys on the *SUPERSET 4* should be assigned to other user-programmable or line keys.

Assigning ACD keys in this way is especially important since *SUPERSET 410* or *SUPERSET 420* ACD positions will be unable to log in when ACD keys are assigned to keys not physically present on these sets.

ACD Key Configurations

Up to three different function key configurations may be programmed for each ACD position: agent, supervisor and senior supervisor (for a total of nine key templates). In each COS, however, only one template for one position type can be enabled.

The template assigned to a user is portable to any *SUPERSET 4*, *SUPERSET 410* or *SUPERSET 420* telephone (with the exception of the *SUPERSET 410*, which cannot be used by a supervisor or senior supervisor). When the user logs out, the previous template is restored on the set.

Note: Line appearance keys assigned in the Stations/*SUPERSET* Telephones form have priority over ACD feature keys when a position logs in.

Assigning Non-ACD Keys

Non-ACD feature keys and speed dial numbers can also be programmed in this form. Pressing the NON-ACD KEYS softkey provides access to a sub-level of softkeys through which the user can select non-ACD feature keys for the template.

Note: Line appearance keys assigned in the Stations/*SUPERSET* Telephones form have priority over non-ACD feature keys when a position logs in.

ACD Keys Template Display

When selected during CDE, the ACD Keys Template form defaults to display the first Agent Keys template. The title line contains the type of template and the template number.

AGENT [1]	KEY	TYPE	SPEED DIAL NUMBER	PRIVATE
	02	Speed Dial	95552211	
	03	Speed Dial	95552212	
	04	Speed Dial	95552213	
	05	Speed Dial	95552214	
	06	Speed Dial	95552215	
	07	Speed Dial	95552216	
	08	Speed Dial	95552217	
	09	Speed Dial	95552218	
	10	Speed Dial	95552219	
	11	Make Busy		
	12	Queue Status		
	13	Speed Dial	95552220	
	04	[ ] Speed Dial	95552213	

1-AGENT	2-SUPERVISOR	3-SENIOR	4-ACD KEYS	5-
6-QUIT	7-KEY	8-	9-NON-ACD KEYS	0-

Figure 9-4 Agent Keys Template (CDE Form 38)

Several fields on the Keys Template form contain customer-defined data. Table 9-4 defines the contents of each field.

Table 9-4 ACD Keys Template Fields

Field	Meaning
POSITION	Selectable field defining one of the following positions: Agent, Supervisor, or Senior Supervisor.
TEMPLATE NUMBER	Selectable field containing one digit in the range of 1 through 3, indicating the number of the template being programmed.
KEY	A system generated field listing set key numbers in the range of 02 to 15.
TYPE	A programmable field defining the function of the set keys. Available options are dependant upon the position selected: **Agent** - Speed Dial, Make Busy and Queue Status. **Supervisor** - Speed Dial, Queue Status, Agent Status and Shift. **Senior Supervisor** - Speed Dial, Queue Status and Shift.
SPEED DIAL NUMBER	A programmable field used to save frequently dialed numbers. This field can also be used to program feature access codes. A maximum of 25 digits may be entered in this field. This field can only be accessed if the "Type" field for that line is "Speed Dial".
PRIVATE	A programmable field used to control the display of speed dial numbers on the set. When privacy is enabled the set does not display the speed call entry. If privacy is not requested, the speed dial entry appears on the set during dialing, or when a display key is requested.

COS Define

9.6 The COS options shown in on the COS Define form in Figure 9-5 apply to the ACD feature. These ACD options are explained below. The COS options for ACD are described below in Table 9-5.

[COS: 1] OPTION	(DISPLAYING ENABLED)	STATUS	OPTION NUM
Recording Failure to Hangup Timer	1-255 seconds	30	404
SUPERSET - Auto Answer		ENABLED	600
SUPERSET - Headset Operation		ENABLED	612
ACD - Agent Template (0-3, 0=disable)		0	650
ACD - Supervisor Template (0-3, 0=disable)		0	651
ACD - Senior Supervisor Template (0-3, 0=disable)		0	652
ACD - Agent Always Auto-Answer		ENABLED	653
ACD - Display Path Always		ENABLED	654
Loop Start Trunk to ACD Path Connect		ENABLED	812

Figure 9-5 COS Define Form (CDE Form 03)

Table 9-5 COS Options Fields

Field	Meaning
Recording Failure To Hangup Timer (COS option 404)	The values 1 through 255 are valid. Default is 30 seconds. Set this timer to a value greater than the cleardown time of the recording groups whose members have this COS. Assigning this COS timer to a recording group ensures that, in the case of the system hanging up on a RAD, that the RAD eventually goes on-hook in the specified time. If it does not, the RAD is taken out of service.
SUPERSET- Auto Answer (COS option 600)	Set to ENABLED if the agent set is to be placed in Auto Answer mode immediately upon login. Set to DISABLED if agent is not using Auto Answer or if the agent is to manually place set in Auto Answer mode after login. Default is DISABLED.
SUPERSET - Headset Operation (COS option 612)	Set to ENABLED if the agent's *SUPERSET* telephone is to be used with a headset rather than a handset. Set to DISABLED if the telephone is to be used only with a handset. Default is DISABLED.
ACD - Template (Agent, Supervisor, and Senior Supervisor) (COS options 650 through 652)	Enter the template number of the appropriate ACD Keys Template Form. Three template configurations are available for each ACD position. By default they are disabled, but appear in the enabled list. All three COS options are mutually exclusive. For example, if an agent is selected, the supervisor or senior supervisor templates cannot be selected from the same COS.
ACD - Agent Always Auto- Answer (COS option 653)	When enabled in the agent COS, this option causes Auto-Answer to be activated as soon as the agent logs on. Default is DISABLED.
ACD - Display Path Always	When enabled, the ACD path name which is programmed in Form 41, is displayed on the *SUPERSET* telephone for the duration of the call. If disabled, the ACD access code is presented. Default is DISABLED. This option is available with software loads F41.0 and above.
Loop Start Trunk to ACD path connect (COS option 812)	When enabled, this option allows a loop start trunk to connect to an ACD path.

ACD Supervisors

9.7 The ACD Supervisors form shown in Figure 9-6 records the ID number, name, and COS of each ACD Supervisor. System option 41, "Automatic Call Distribution" must be enabled before this, or any ACD related CDE form, can be accessed.

The senior supervisor's name is carried to the set when the supervisor logs on. The ID codes assigned in this form are used in the log on procedure and may also be used as an access code to call the user.

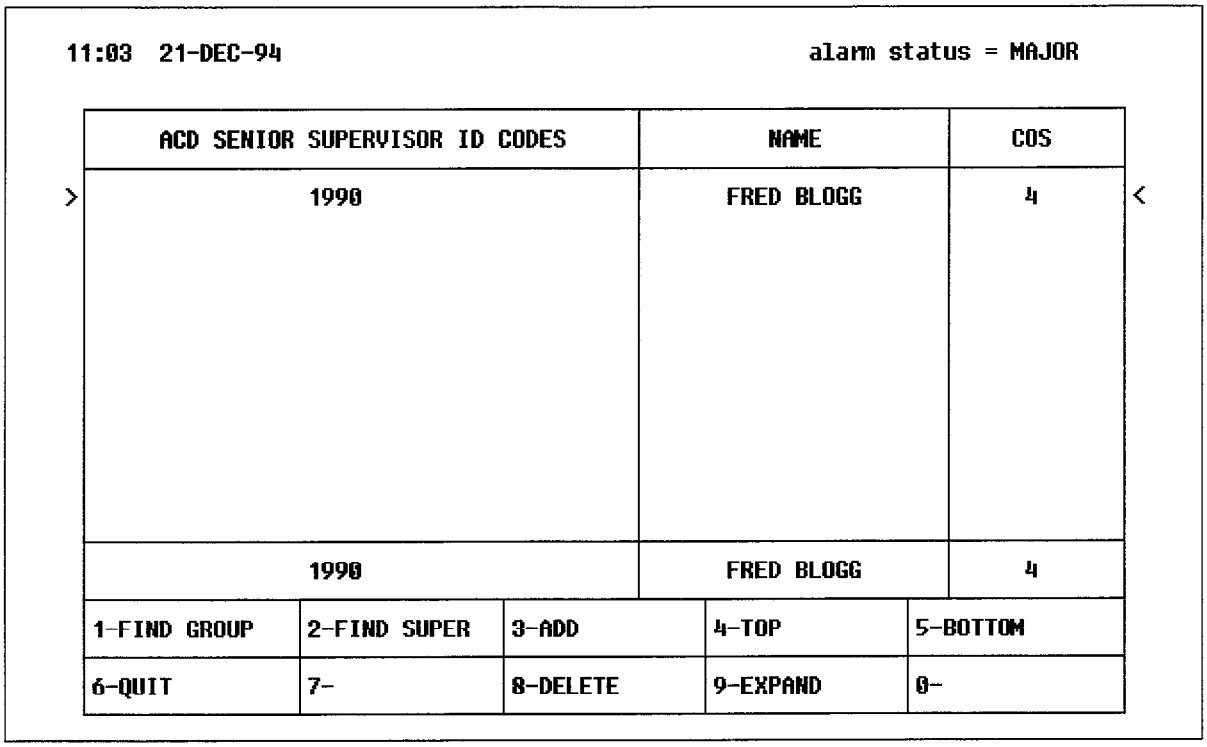

Figure 9-6 ACD Supervisor Form (CDE Form 40)

The ACD Supervisor form contains three programmable fields which must be defined by the customer. Table 9-6 defines each field.

Table 9-6 ACD Supervisor Form Fields

Field	Meaning
ID Code	A programmable field used to record senior supervisor identification numbers. Their IDs are used when logging on and as an access code to call the user. The IDs are 1-5 digit entries, and must not conflict with other access codes already assigned in the system. The form is sorted numerically by ID.
Name	An optional programmable field used to record the supervisor's name. This name appears on any *SUPERSET 4* or *SUPERSET 420* telephone the user logs onto. The same conditions apply to supervisor names as to set names.
COS	A 2-digit field specifying the Class Of Service number of this senior supervisor. The range is 1 through 50.

Pressing the EXPAND softkey displays the subform shown in Figure 9-7. This form lists all groups reporting to the supervisor.

ACD Supervisor Subform

9.8 This subform is sorted by SUPER ID. If the entry has no supervisor assigned, the field is sorted by group number. When there is more than one group assigned to the same supervisor, the entries reporting to the supervisor are sorted by group number.

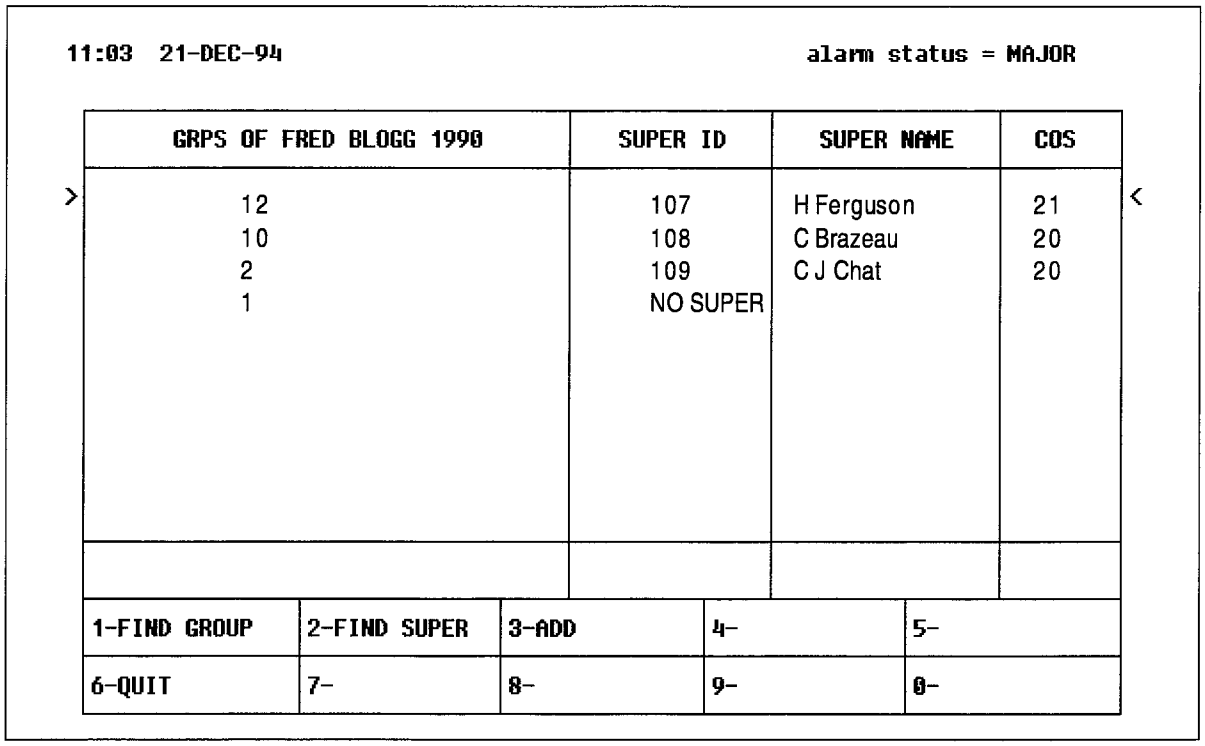

Figure 9-7 ACD Supervisor Subform (CDE Subform 40)

Table 9-7 defines the fields of the ACD Supervisor Subform.

Table 9-7 ACD Supervisor Subform Fields

Field	Meaning
Heading	A system generated field listing the senior supervisor's name and ID. The name defaults to "SENIOR" if no name was programmed in the ACD Supervisor Form.
GRPS OF	A programmable field used to define groups reporting to the senior supervisor. If the selected group reports directly to the senior supervisor, pressing the ENTER key causes the display NO SUPER to appear in the SUPER ID field. The remaining two fields are blank.
SUPER ID	A programmable field used to assign a supervisor to the agent group.
SUPER NAME	An optional field of up to ten characters. The entry cannot begin with an asterisk (*). The same conditions apply to supervisor names as to set names.
COS	A 2-digit field that specifies the Class of Service number of this supervisor. The range is 1 through 50.

ACD Paths

9.9 The ACD path is the major element of the ACD structure. Each path contains all the information necessary to carry an incoming call through the ACD system. Paths specify the resources used, the order in which the resources are encountered, and the timing of the steps through the path. Up to 99 paths may be assigned in the system. Figure 9-8 contains the ACD Path form. Table 9-8 describes the fields on the ACD Path form.

ACD Path Programming

For a path to function, the primary agent group and the path access code must be programmed. Few restrictions exist on path programming. An agent group, for example, could be the primary group of three paths and the first overflow group of two other paths. The same applies to recording groups and the alternate music sources. The result is that a path can be custom tailored to the call being handled.

Each path is given a priority ranging from 1 through 99 (priority 1 being the highest priority). ACD calls entering a high priority path are serviced before calls that entered a path with a lower priority. This feature improves cost efficiency by routing to higher priority paths those trunks that incur additional expenses, such as long distance calls or WATS.

All devices have unrestricted access to ACD paths except Loop Start CO trunks and Loop Start DISA trunks (if located on a CO Trunk card). Loop start trunks can be prevented from entering ACD through the use of the "Loop Start Trunk to ACD Path Connect" option (COS option 812). By default, this option is disabled, so by default loop start trunks may not enter ACD.

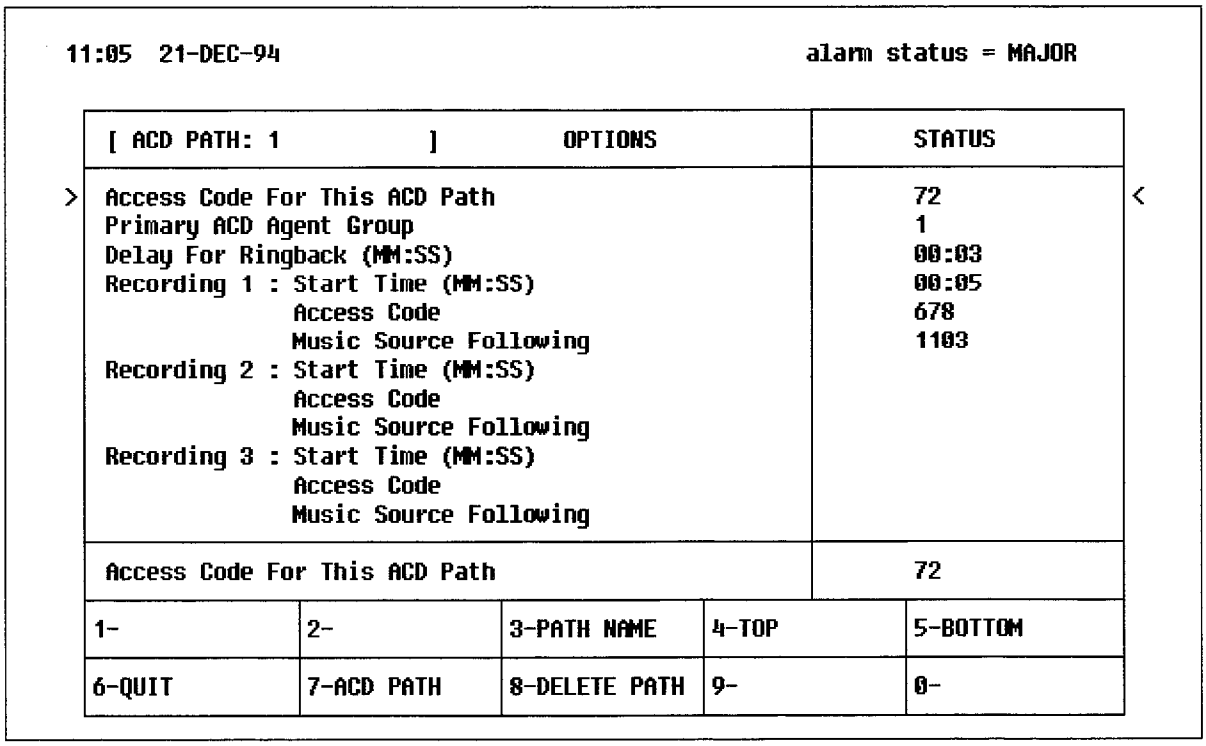

Figure 9-8 ACD Path Form (CDE Form 41)

Table 9-8 ACD Path Form Fields

Field	Meaning
ACD Path	Header field identifying the ACD path by name and number.
ACD Path Number	Programmable field containing a one or two digit number in the range of 1 through 99.
ACD Path Name	Programmable field identifying the path by name. This field can not be accessed until the path has been assigned an access code and a primary agent group. The path name can be up to 8 characters and cannot begin with an asterisk (*).
Access Code for this ACD Path	Programmable field containing the access code for the path. This code can be used as a destination in the Non-Dial-In Trunks form (CDE Form 14) and the Call Rerouting Table (CDE Form 19), as an Automated Attendant defined destination in the Hunt Groups form (CDE Form 17), as an interflow point in another path definition, and as a call forwarding point for a *SUPERSET* telephone or station. This allows the ACD system to tie in to existing routing schemes such as the DID trunk routing points. The connection checking between a device and ACD paths only prevents access to ACD paths. Prior to software load F41.0, no device or tenant interconnection checking is performed between the caller and any recording, music or agent devices after the caller has entered a path. With software loads F41.0 and above, a tenant can be assigned to a path.
Primary ACD Agent Group	A programmable field containing a one or two digit number in the range of 1 through 50. This entry indicates which group first receives the ACD calls on this path. The agent group must be assigned in the ACD Agent Groups Form before it can be entered in this field.
Delay For Ringback	A programmable field specifying a timer value in the range of 00:01 through 54:00. The default value is 3 seconds (00:03). All other timers connected with the ACD functions start after the Delay for Ringback timer has expired.
Recording 1: Start Time	A programmable field specifying when Recording 1 begins relative to when the caller enters the ACD system. This timer is initiated after the Delay For Ringback timer has expired. The range of the Recording 1 Start Time is 00:00 through 54:00. A 3-second minimum delay exists between recordings. During this time the caller listens to the system or alternate music source.
Recording 1: Access Code	This programmable field is mandatory if a Recording Start Time has been specified. The access code entered in this field is defined in the Hunt Groups CDE form. The default value is no recordings.

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Table 9-8 ACD Path Form Fields (continued)

Field	Meaning
Recording 1: Music Source Following	A programmable field that directs the call to the ONS port supplying music following the recording. The default music source is the system music, if provided, or silence. The entry in this field cannot have keyline or multi-call line appearances. The music source is a permanently off-hook ONS port that connects the caller in a listen-only conference. An alternate music source must be either an FCC Part 68 and Industry Canada approved Recorded Announcement Device which is connected to an ONS circuit, or to another source that is connected through an FCC Part 68 and Industry Canada approved "voice coupler" or "voice connecting arrangement" to an ONS circuit.
Recording 2 through 4	The recording fields must be edited in sequence. For example, Recording 3 Start Time cannot be edited unless Recording 1 and Recording 2 are both assigned.
Overflow 1 Agent Group	A programmable field specifying the ID of the agent group that receives overflow calls. ACD calls that overflow to this group also retain their position for the Primary Agent Group. The default value for this field is no overflow.
Overflow 2 Agent Group	A programmable field specifying the ID of the second agent group that receives overflow calls. Callers waiting for this group remain in the queue for the primary and first overflow groups. An Overflow 1 agent group must be assigned before the Overflow 2 field can be accessed. The default value is no overflow.
Overflow 3 Agent Group	A programmable field specifying the ID of the third agent group that receives overflow calls. Callers waiting for this group remain in the queue for the primary, first and second overflow groups. The default value is NO. Overflow 1 and Overflow 2 agent groups must be assigned before the Overflow 3 field can be accessed. The default value is no overflow.
Interflow Enabled	Entering YES in this field allows the waiting ACD call to exit ACD and call a specified number. If this field is enabled the call interflows to the Interflow Point Access Code. Default for the Interflow Enabled field is NO.
Interflow Timeout	Programmable field specifying when the waiting ACD call should leave the ACD system and be routed to the interflow point. The timer range is 00:01 through 54:00. The default value of this field is the maximum time of 54 minutes. Programming a value in this field ensures that unanswered calls do not remain in the system after the caller disconnects. This can occur with loop start trunks if the CO fails to send a disconnect to the PABX. This timer also ensures that all calls are handled within a maximum time interval. Call handling may involve routing the caller elsewhere or dropping the call.

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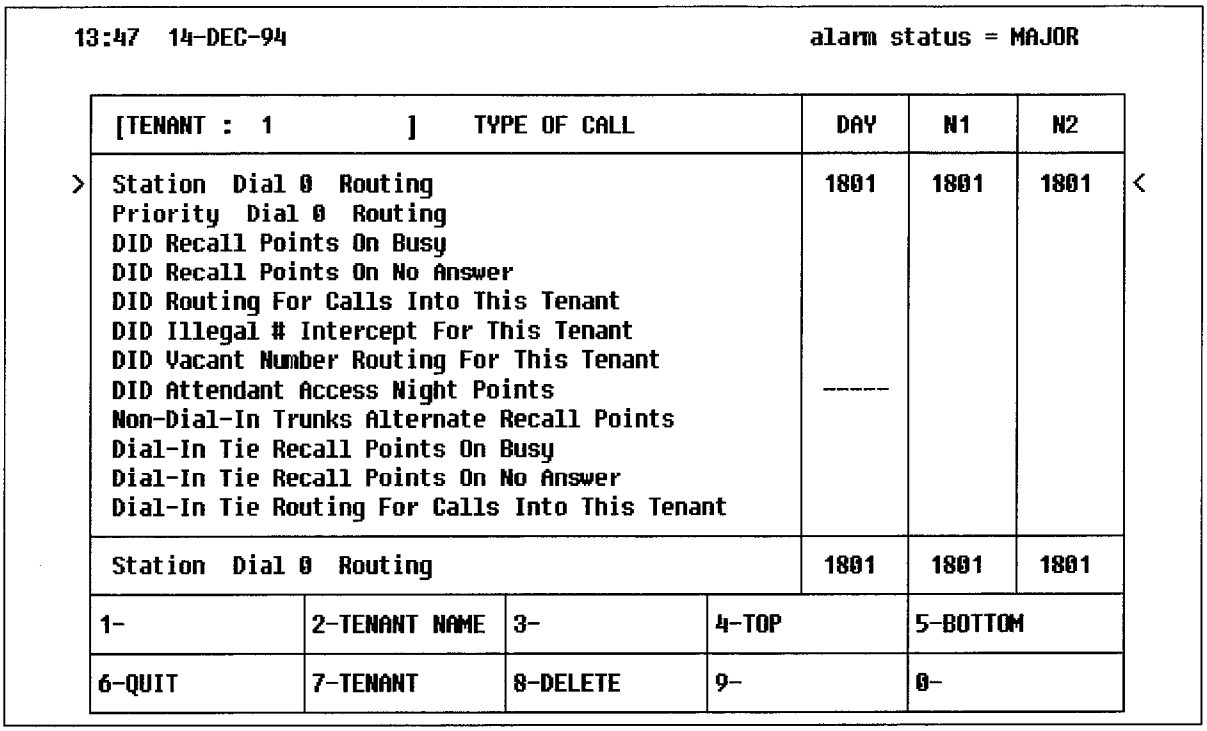
Table 9-8 ACD Path Form Fields (continued)

Field	Meaning
Interflow Point Access Code	Programmable field containing the directory number of the interflow device. Valid interflow points are LDNs, stations, sets, consoles, night bells, ACD paths, station/set hunt groups, UCD agent hunt groups, Automated Attendant hunt groups, system speed call numbers or DROP CALL. If an access code is programmed, the DROP CALL softkey is provided.
Allow Overflow to Interflow Point before Timeout	Entering YES in this field allows an overflow to the interflow point before the Interflow Timeout.
Priority	A programmable field used to set the priority of the ACD Path. Priority range is 1 through 99 (1 is the highest priority). The field default is 99. Calls waiting for an Agent Group are serviced according to the path priority. Expensive trunks should be routed to a path with a high priority.
Service Time	A programmable field used to establish a standard time to answer that the supervisor can use to monitor the performance of agents answering calls on the path. The service time is programmable in the range 00:00 through 54:00. The path level of service is calculated by comparing the actual time to answer against the programmed service level.
Immediately Interflow when no Agents Logged In	When set to YES, and "Interflow Enabled" is YES, then any callers dialing in to an ACD path will interflow immediately when no agents are logged in. This interflow takes place regardless of the status of the "Interflow Timeout," or the option "Allow Overflow to Interflow Point Before Timeout," or the "Interflow Point Access Code" having a value of DROP CALL. The default is No (immediate interflow is not desired). This field is available with software loads F41.0 and above.
Tenant	When a tenant number is assigned to the ACD Path, DID and TIE trunks which dial into the ACD path directly will follow the routing for this tenant as defined in Form 19 - Call Rerouting Table. Enter a valid number (1 to 25). The default is blank (no tenant). This field is available with software loads F41.0 and above.

Call Routing

9.10 With software loads F41.0 and above, dial-in trunks to ACD Paths may also be rerouted as defined in this form. The ACD Path is assigned a tenant number in Form 41.



13:47 14-DEC-94 alarm status = MAJOR

[TENANT : 1] TYPE OF CALL	DAY	N1	N2
Station Dial 0 Routing	1801	1801	1801
Priority Dial 0 Routing			
DID Recall Points On Busy			
DID Recall Points On No Answer			
DID Routing For Calls Into This Tenant			
DID Illegal # Intercept For This Tenant			
DID Vacant Number Routing For This Tenant			
DID Attendant Access Night Points	-----		
Non-Dial-In Trunks Alternate Recall Points			
Dial-In Tie Recall Points On Busy			
Dial-In Tie Recall Points On No Answer			
Dial-In Tie Routing For Calls Into This Tenant			
Station Dial 0 Routing	1801	1801	1801

1-	2-TENANT NAME	3-	4-TOP	5-BOTTOM
6-QUIT	7-TENANT	8-DELETE	9-	0-

Figure 9-9 Form 19 Layout

Field Descriptions

The header line displays the tenant group number being programmed.

DAY: This field designates a directory number for each type of call in day service mode.

N1: This field specifies the extension that calls are routed to during Night1 Service Mode. If this field is blank, the call reroutes to the extension specified in the DAY field.

N2: This field specifies the extension number where calls are routed to during Night2 Service Mode. If this field is blank, the call does not reroute.

Table 9-9 Call Rerouting Options

DID Routing for Calls into this Tenant - All DID calls normally routed to extensions are routed here to allow screening of DID calls. This rerouting option is based on the destination tenant.

Dial-In Tie Routing for Calls into this Tenant - All Dial-In Tie calls normally routed to extensions are routed here to allow screening of Dial-In Tie calls. This rerouting option is based on the destination tenant.

Softkeys

TENANT: This softkey selects a tenant group. Pressing the TENANT softkey displays the ENTER TENANT GROUP NUM: prompt on the command line. The selection is completed by entering a valid number (1 to 25). The system displays the selected tenant group number on the header line.

TENANT NAME: Allows a name to be programmed for the selected tenant group. The name may have a maximum of eight characters.

The standard softkeys **CANCEL**, **DELETE**, **ENTER**, **TOP**, **BOTTOM**, and **QUIT** are also provided.

ACD Recording Hunt Groups

9.11 Recorded announcements are given to ACD callers while waiting for an idle agent. ACD callers entering the PABX on a path hear ringback until the “Delay for Ringback” timer specified in the Path form has expired. At this point, the system attempts to provide an agent. If all agents are busy and the caller must wait, the call is routed to a recording.

The recordings are provided by hunt groups of regular ONS ports. When a RAD answers, the system collects all callers waiting for the RAD and creates a listen-only conference. Callers select an idle RAD based on the hunting type of the group. When all of the recordings in a group are busy, the caller camps on to the recording group and waits for a free recording. All calls which are waiting are brought into a listen-only conference with the first available recording.

At the end of the recorded message, the callers are routed to the music source defined in the Path form. If no alternate music source is defined, the caller is given system music or silence.

The ONS ports cannot have keyline or multi-call line appearances. After changing the Hunt Groups form to a Recording Hunt Group, the Hunt Groups form changes to that shown in Figure 9-10. Fields described below but not shown in Figure 9-10 are accessed through the OPTIONS softkey. Table 9-10 describes the fields on the Hunt Groups form.

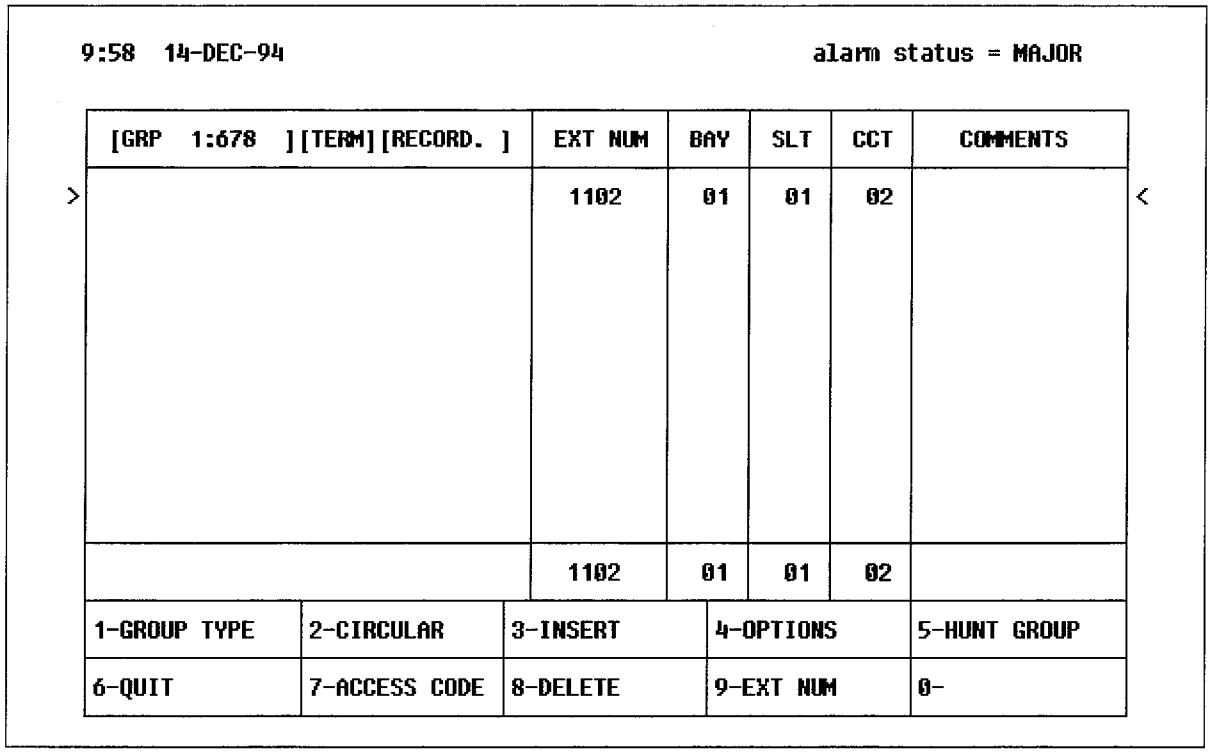


Figure 9-10 Hunt Groups Form (CDE Form 17)

Table 9-10 Hunt Groups Form Fields

Field	Meaning
Hunt Group Number	A programmable two digit field in the range of 1 through 99. ACD only has 99 hunt groups.
Access Code	A programmable field containing the access code for the hunt group. This code must be a unique number that does not conflict with the system numbering plan. The entry in this field must be copied to the ACD Path form as an access code to the recordings.
Type Of Search	Enter one of the following to specify the desired hunting method: **CIRCULAR**: Hunting begins at the extension following the extension to which the previous call was completed, and hunts through all extensions in the hunt group in the programmed sequence. **TERMINAL:** Hunting always starts at the first extension programmed in the hunt group and terminates at the first idle extension. Figure 9-10 shows an entry of TERM in this field.
Group Type	Softkey that allows the user to specify a RECORDING group type. Figure 9-10 shows the entry RECORD in this field on the form.
Extension Number	Extension number of the ONS port(s) connected to a recording. The maximum number of entries in this field is fifty.

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Table 9-10 Hunt Groups Form Fields (continued)

Field	Meaning
Bay/Slot/Circuit	System generated field that is displayed after entering the extension number of the ONS port.
Message Length	Programmable field defining the length of the recorded announcement. The range is one second to four minutes. Default entry is ten seconds. This timer value determines whether the PABX or the RAD ends the recording. If the RAD is to hang up, set the Message Length at least three seconds longer than the actual recording length. This allows for timing and message delays. In addition, the flash hook time programmed into the PABX affects how soon the PABX sees the RAD going on hook after the RAD hangs up.
Name	Programmable field that identifies the hunt group by name. This field cannot be accessed before the Hunt Group Access code has been assigned.

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