



# Automatic Call Distribution (ACD) SYSTEM MANUAL

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76-110-0430/E

Release 5

Issue 2

**UNIT@IP**

**Automatic Call Distribution (ACD)  
SYSTEM MANUAL**



Telrad Telecommunications Inc.  
Farmingdale, N.Y.

**76-110-0430/E**

**Release 5**

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# Section 1

## INTRODUCTION

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### 1.1 CONTENTS OF THIS MANUAL

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This manual describes the Automatic Call Distribution (ACD) package for the Telrad Connegy UNITE IP family of systems. It applies both to the UNITE IP system, and to the UNITE IP 400 system.

The manual describes the installation, upgrading, programming and maintenance of the ACD hardware and software. It lists and explains the main agent, supervisor and system ACD features. It also describes the environment in which ACD is used, and the tasks of the agents and supervisor operating the ACD.

The appendix to this manual contains programming forms for planning and updating the software configuration of the ACD.

---

### 1.2 PRODUCT DEFINITION

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#### 1.2.1 General

Automatic Call Distribution (ACD) optimizes the distribution of incoming calls so that incoming callers receive prompt service, and so that the burden of answering calls is distributed evenly among ACD agents.

ACD routes incoming calls to separate call queues, normally reflecting different company departments, e.g. sales, billing, customer inquiries etc. Each call queue is serviced by a group of agents whose task is to answer the calls reaching the department. In the event of a call queue being overloaded, calls can be overflowed to less busy or idle queues and agents.

ACD supervisors oversee the operation of the ACD system and agents. The supervisors can view online statistical information concerning the status of the call queues and agents.

### **1.2.2 ACD integration with Telrad Connegy's UNITE IP systems**

ACD configuration is performed via the UNITE IP system configuration programming. Agents and supervisors use regular UNITE IP telephones. The ACD package requires a special software cartridge on the Main Control card of the system. The ACD I.Q. computer (see below) connects to a UNITE IP telephone via a data adapter card.

### **1.2.3 ACD I.Q.**

ACD I.Q. is an optional, Personal computer-based reports software program which provides, online, detailed graphic and numeric call traffic information concerning the ACD. The information is based on up to two months of call traffic data which the ACD I.Q. computer stores. The reports can be displayed on screen, or sent to a printer. Reports can be generated on a per hour or per day cross-section.

ACD I.Q. enables the ACD supervisor to detect online peaks and troughs in call traffic, and to plan the most cost-efficient agent and supervisor manning levels.

For more information on ACD I.Q. refer to the UNITE IP system ACD I.Q. System manual.

### **1.2.4 ACD integration with Telrad Connegy IMAGEN**

ACD can make use of two Telrad Connegy IMAGEN facilities.

First, calls handled by agents or supervisors can be recorded into an IVM mailbox, by pressing a programmed **[RECORD]** button on the telephone set. The call is recorded in the mailbox assigned to the telephone extension.

Secondly, the Telrad Connegy IMAGEN can be used to record up to nine announcements. These announcements are played to callers waiting in queue. The announcements can be chained and repeated any number of times as part of an Announcer plan.

For more details of these facilities, refer to the Telrad Connegy IMAGEN System manual.

Announcer plans can also be constructed using analog SLT announcers.

---

## **1.3 SCOPE OF THE MANUAL**

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This manual contains all information concerning the ACD, except for agent and supervisor operating instructions.

Topics covered in this manual include:

- Descriptions of ACD system, agent and supervisor features;
- Installation instructions for installing ACD on a new UNITE IP system;
- Upgrading instructions, for installing ACD into an existing UNITE IP system;
- Programming instructions for new and upgraded systems;
- Instructions for incorporating recorded announcements using Telrad Connegy IMAGEN and SLT announcers.

---

## 1.4 STRUCTURE OF THE MANUAL

---

This manual is divided into the following sections:

***Section 1: Introduction*** This section introduces the ACD and describes the contents of the manual.

***Section 2: ACD Features*** This section lists the system, agent and supervisor features.

***Section 3: ACD System Features*** This section lists and describes the ACD system features.

***Section 4: ACD Agent Features*** This section lists and describes the ACD agent features.

***Section 5: ACD Supervisor Features*** This section lists and describes the ACD supervisor features.

***Section 6: Installation, Configuration and Upgrading of the ACD***  
This section includes instructions for installing ACD on a new UNITE IP system, and for enhancing an existing UNITE IP system with ACD.

***Section 7: ACD Programming Parameters*** This section provides a field by field description of the parameters to be programmed in the UNITE IP system configuration program, when configuring ACD.

***Appendix A: ACD Programming Forms*** Appendix A contains the programming forms required for planning and updating the ACD configuration.

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## 1.5 FOR WHOM IS THIS MANUAL INTENDED?

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This manual serves two groups of personnel:

- Marketing personnel, system administrators and ACD supervisors concerned with fully exploiting ACD features to configure a system of maximum efficiency (see Sections 1 through 5).
- Technicians installing, programming and upgrading the ACD system (see Sections 6 and onwards).

---

## 1.6 RELATED DOCUMENTATION

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The following UNITE IP systems documentation publications contain information relevant to ACD:

- **ACD Agent Guide** (Cat. No. 76-110-0425/E);
- **ACD Supervisor's User Guide** (Cat. No. 76-110-0440/E);
- **ACD I.Q. System manual** (Cat. No. 76-110-0675/E);
- **Installation manual** (Cat. No. 76-110-0410/E);
- **Administration manual** (Cat. No. 76-110-0175/E);
- **Telrad Connegy IMAGEN System manual** (Cat. No. 83-130-8050/H);
- **Software cartridge Installation Instructions** (Cat. No. 76-110-0115/E).

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## 1.7 TYPOGRAPHIC CONVENTIONS

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The following typographic conventions are used in this manual.

- Buttons on the telephone appear like this: **[HELP REQUEST]**.
- Softkeys on the supervisor's telephone appear like this: **{<MONITOR>}**.

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## 1.8 ACD FOR UNITE IP AND FOR UNITE IP 400

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The ACD packages for UNITE IP and UNITE IP 400 systems are virtually identical.

They differ only in the following specifications (see Table 1-1, below).

**Table 1-1 Comparison of UNITE IP and UNITE IP 400 specifications**

Parameter	UNITE IP	UNITE IP 400
ACD groups	16	24
Agents in system	160	300
ACD routing plans	32	48
Supervisors	8	16
Groups per supervisor	16	24
Supervisors per group	8	16

---

## 1.9 SYSTEM DEFINITION

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### 1.9.1 General

The rest of this section describes the ACD in detail. It explains and gives examples of how the ACD works, and describes the roles of the agent and supervisor.

Many of the terms used in this section are explained in more detail in Sections 3, 4 and 5.

### 1.9.2 ACD environment

ACD increases the efficiency of businesses which handle large amounts of incoming call traffic. It enables businesses to provide better and faster service, while saving resources.

The ACD package is especially effective for companies which expend significant resources on manning telephone answering positions e.g. for accepting orders (such as travel agents and warehouses), and for offices which provide information (such as train or bus time-tables).

### 1.9.3 Basic ACD principles

This section describes the basic stages a call routed via ACD goes through.

1. A call arrives at the UNITE IP system.
2. The call is routed via ACD to the requested department, according to the number dialed.
3. The incoming call enters the department call queue and is queued according to the queue priority, programmed in system programming.
4. The call is answered by the first agent servicing the department queue, who becomes available.

Figure 1-1 illustrates a sample ACD system.

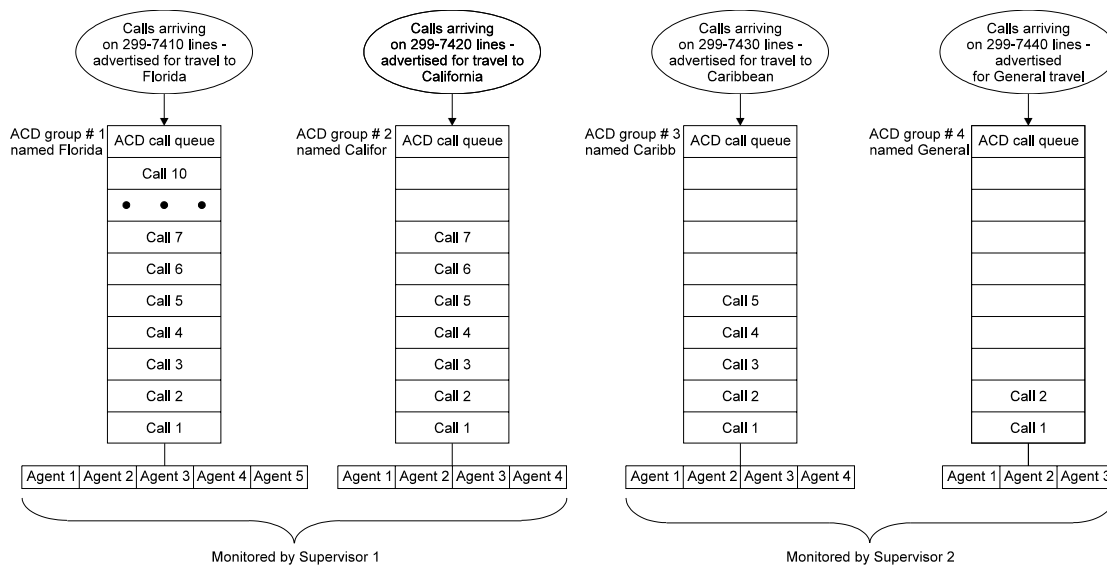


Figure 1-1 Sample ACD system

### 1.9.4 Path of an ACD call (example)

The following sections describe the route an ACD call takes, from the time it arrives at a fictitious travel agent's ACD system, until answered by the agents. This description should help illustrate the various elements in the ACD system:

- from the point of view of the caller;
- from the point of view of the ACD agent.

Figure 1-2, below, illustrates the progress of an ACD call in the system.

#### *Incoming ACD call path (caller's viewpoint)*

1. The caller dials the telephone number of the company with the ACD system; the caller hears ringback tone.
2. The call may either be routed directly to the ACD group (the caller hears ring tone), or, after a brief ringing period, it may be answered by an announcer or Voice mail system.

The recorded announcement will say something like "Hello, you have reached the Fly-with-us travel agency. Please hold. Someone will be right with you".

3. Next the caller hears either Music on Hold or a ring tone; the call may be answered by an ACD agent at any time.

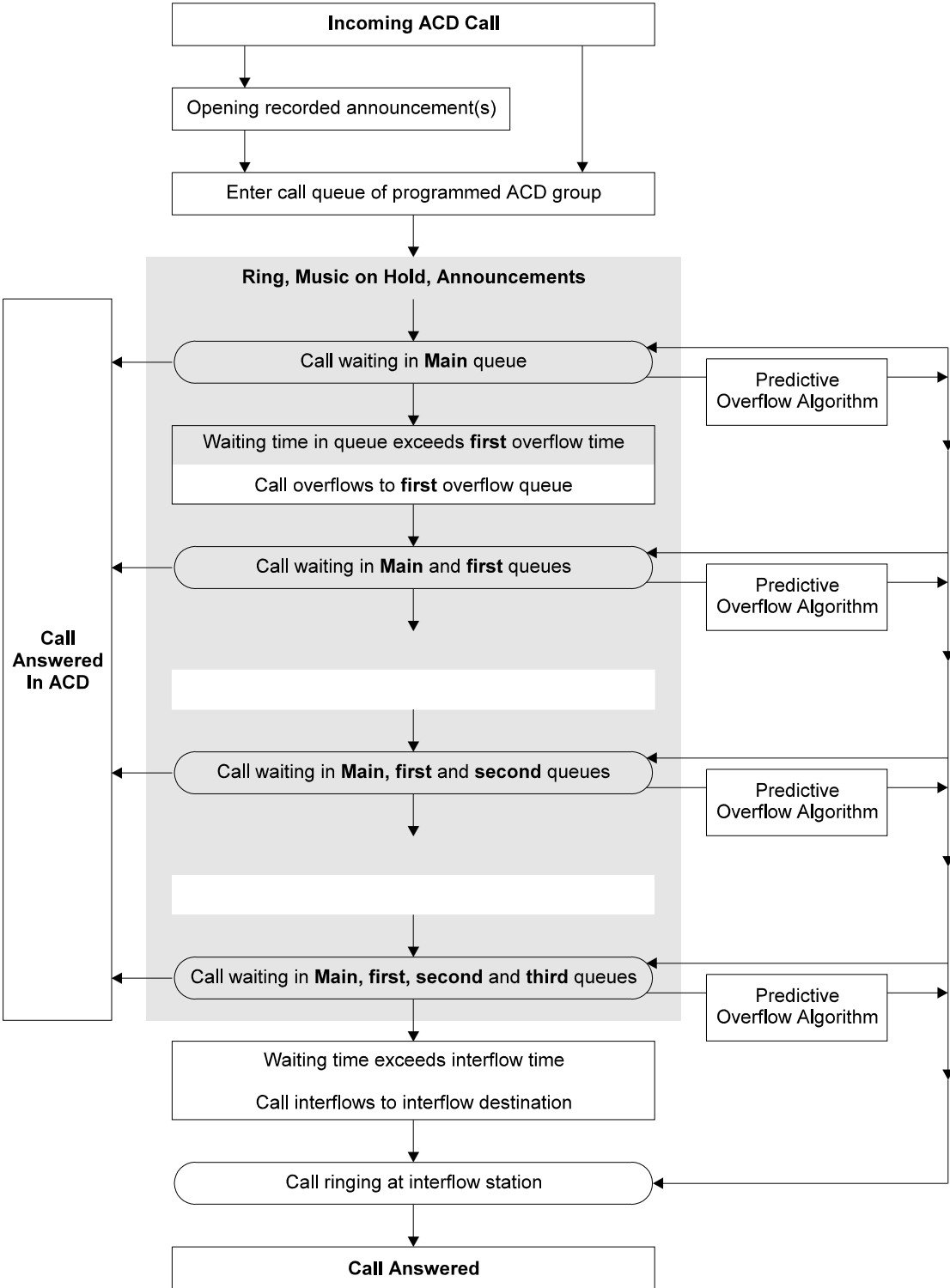


Figure 1-2 ACD call progress

4. If, after a timeout elapses, the call has not been answered, the caller may hear a new recorded announcement saying something like, "Fly-with-us Travel Agency is still busy. Please hold on for a little longer".

The caller then hears either Music on Hold or ring tone, as in Step 3, above.

5. The caller may hear the above announcement repeated, or other announcements in its place, as time elapses.
6. Without the caller being aware of it, the call may be overflowed to additional ACD queues.

If the call is not answered by any of the agents in the original and overflow ACD queues, the call may be forwarded to an interflow destination.

7. The call is answered.

The call may be answered during any of the above steps.

#### ***Incoming call path (system viewpoint)***

1. An incoming call is received; the call is routed, according to the ACD Route plan, to the ACD group where it is to be answered. This group is called the Main group.
  - The call will either ring, or be answered by an announcer. The announcement is followed by ring tone or Music on hold, and optionally, by further recorded announcements.
  - When an agent becomes available, the call will ring the agent's station.
2. If the call is not answered at the ACD Main queue within a certain timeout (if, for example, all the agents are busy), ACD can use two call routing mechanisms to increase the likelihood of the call being answered. These two mechanisms are:
  - overflow (see [Section 1.10.2](#), below)
  - interflow (see [Section 1.10.3](#), below)
3. If the call is overflowed to one or more ACD groups, the first agent to become available in either the Main group or any of the overflow groups, will receive a ring and can answer the call.

If the call is not answered within the interflow time, the call exits the ACD and is sent to the interflow destination.



---

## 1.10 HOW THE ACD DEALS WITH TRAFFIC LOADS

---

### 1.10.1 General

The ACD uses two mechanisms, overflow and interflow, for ensuring that calls entering the ACD will be answered, and employs various tools, such as the [ACD QUEUE] button LED indications, to warn the ACD agents and supervisors of extremes in call traffic.

### 1.10.2 Overflow

An overflow timeout is defined per ACD routing plan for the Main ACD group queue, and also for up to two other overflow queues. Overflow is illustrated in, [Figure 1-2](#) above, and [Figure 1-3](#), below.

If the overflow timeout of the Main queue elapses before a call on queue is answered, the call is placed in the first overflow queue while still continuing to wait in the original Main queue. If the second overflow timeout elapses, the call waits in the Main queue, and in the first and second overflow queues. If the third overflow timeout elapses, the call waits in the Main queue, and also in the first, second and third overflow queues.

As with the Main ACD queue, the system programmer can specify the priority which a call will have in each of the overflow queues.

The first agent to become available to answer the call in either the Main queue or any of the overflow queues, receives the call. When the call is answered it stops waiting in all queues.

In system programming the overflow can be assigned a predictive overflow mechanism, which estimates how long the call will wait before being answered. Based on this calculation, the ACD may send overflow ringing to the overflow queues before the overflow timeouts elapse.

### 1.10.3 Interflow

A second mechanism for ensuring that calls are answered is Interflow. Interflow is illustrated in [Figure 1-2](#), above, and [Figure 1-3](#), below.

Interflow is a sort of "no answer forward" destination for ACD calls. If a call waits in queue until after the interflow timeout elapses, or if no agents are ready in the Main ACD group and all overflow groups, the call is disconnected from the ACD environment and forwarded to a different destination (an attendant position, Incoming Call Identifier (ICI) queue or Hunt group). The call will then be answered outside the ACD.

### 1.10.4 Thresholds

The [ACD QUEUE] button LED gives an indication of the status of the ACD queue. The LED flash rate indicates whether calls are waiting in queue (i.e. not ringing agent stations), and how long calls have been waiting in queue - before a defined first threshold time, between a first and second threshold time, or beyond a second threshold time (see [Figure 1-3](#), below). The threshold times are programmed in the UNITE IP configuration program.

By watching the [ACD QUEUE] button LED, agents and supervisors can see at a glance the status of the ACD queue.

The LED color and statuses are as described in Table 1-2, below.

The threshold times are defined in system programming for each ACD group.

**Table 1-2 Threshold flash rates**

Queue status	LED status
No calls in queue	LED extinguished
Call ringing agent(s): No calls in queue At ringing agent(s) At idle agents	Green slow flash LED extinguished
Before first threshold	Green slow flash
Between first and second threshold	Red slow flash
Past second threshold	Red fast flash

Figure 1-3, below, shows the programmed overflow, interflow and threshold parameters of a sample system, based on the following programmed parameters:

- First Overflow Time: 20 seconds;
- Second Overflow Time: 20 seconds;
- Third Overflow Time: 20 seconds;
- Interflow Time: 90 seconds
- First Threshold Time: 30 seconds;
- Second Threshold Time: 70 seconds.

Note that the interflow time should be greater than the sum total of the overflow times.

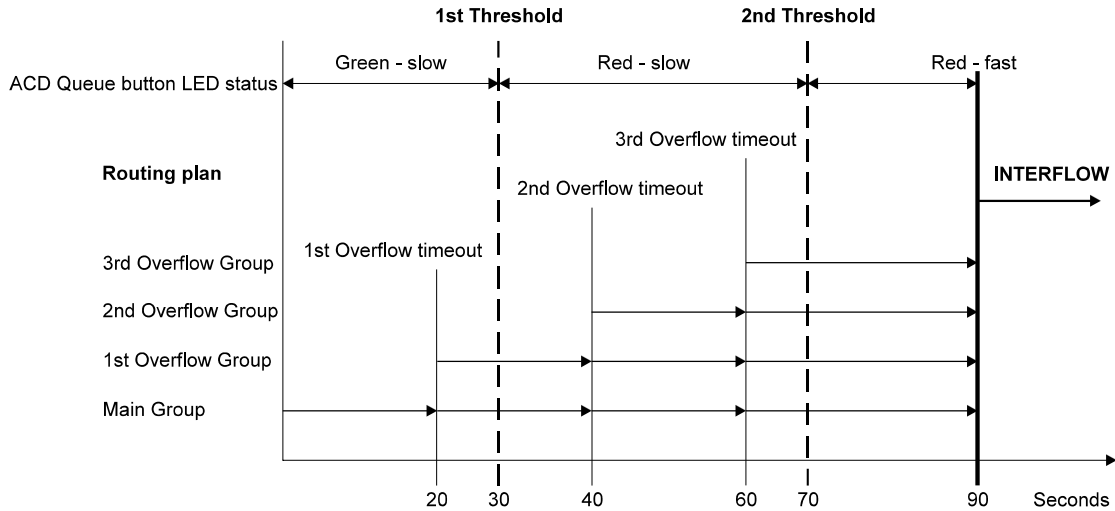


Figure 1-3 ACD overflow, interflow and threshold programming

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**1.11 THE ROLE OF THE AGENT**

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Individual agents operate within groups of agents. Each group services a single queue of calls and may be supervised by one or more supervisors. The agents work together, to answer the calls directed to their department queue.

To log in, the agent dials a Feature code or a Flexible Numbering Plan (FNP) code, followed by an agent ID code (one to four digits). Each agent also has a name (seven characters) for display purposes. Note that an agent can log in to only one group at a time.

Any UNITe IP telephone may be used as an ACD agent station. Telrad Connegy analog telephones and SLTs cannot serve as ACD stations. The recommended agent station is the Display Speakerphone set, with headset.

---

**1.12 THE ROLE OF THE SUPERVISOR**

---

The supervisor follows the call traffic and agent information which is displayed on the supervisor's telephone display. The supervisor can view a series of MAIN Screens which give an overall picture of the state of the agents and queues, and can also select detailed screens, which focus on a particular queue or agent.

The supervisor's main tasks are:

- Supervising agents, monitoring agents calls and responding to agents' requests for help;
- Supervising ACD queues and call traffic, and managing ACD resources.

The supervisor uses an Executive station with expanded display. The telephone display can be toggled between regular Display mode and Supervisor Display mode. The screens described in this manual are all from the Supervisor Display mode.

The supervisor uses the telephone's softkeys to move from screen to screen.

### 1.12.1 Agent supervision

The supervisor uses the information displayed on her telephone to supervise the work of the agents. The supervisor can listen to any agent calls, and can check the statistics provided by the ACD on the agent's work performance.

The supervisor can monitor (i.e. listen to) agents' calls. When the need arises, the supervisor can advise (i.e. provide guidance and assistance to agents faced with unfamiliar situations), and even set up three-way conference calls between the agent, the outside party and the supervisor.

The supervisor is also available to respond to agents' requests for help. For this reason, supervisors are often experienced agents.

In addition to general data appearing on the supervisor MAIN Screen, the supervisor can view two detailed agent information screens:

- AGENT STATUS Screen;
- AGENT DATA Screen.

***AGENTS STATUS Screen*** The AGENT STATUS Screen (see, Figure 1-4, below) displays the following information:

- Number of ACD calls processed by the agent since login;
- Number of ACD calls processed per hour;
- Current agent state.

Possible agent states are:

- Logged out;
- Available to receive ACD calls;
- ACD call;
- ACD ring;
- Non-ACD call;
- Not available;

- Busy wrap up;
- Not ready;
- Forced busy.

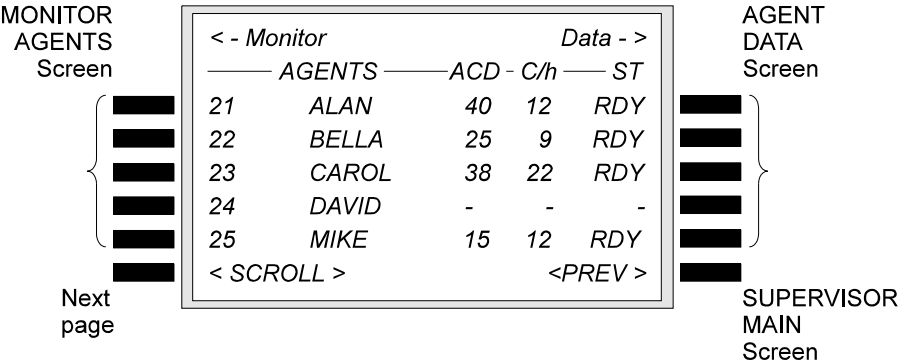


Figure 1-4 AGENTS STATUS Screen

**AGENT DATA Screen** The AGENT DATA Screen (see Figure 1-5, below) displays the following information:

- Agent name, code, DN;
- Current agent state;
- Login time and time period since login;
- Number of ACD calls since login and average call duration;
- Number of non-ACD calls since login and average call duration;
- Number of times agents station was in forced busy;
- Totals of busy wrap up time, Not available time and free time;
- Busy wrap up time, Not available time and free time, as percentages of the login period.

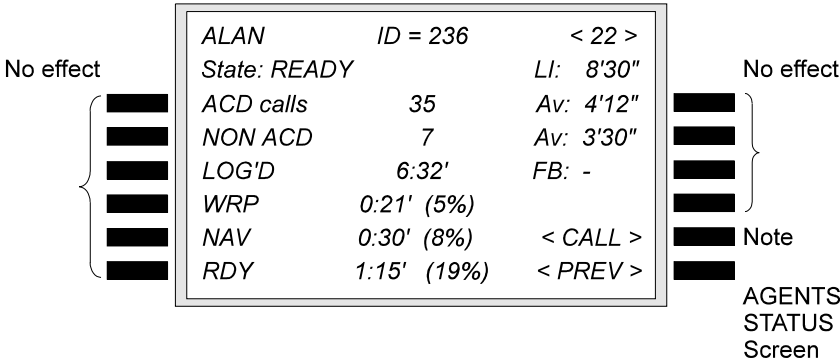


Figure 1-5 AGENT DATA Screen

The supervisor refers to these screens to view the status of the agents in the queue. By viewing the statistics displayed here, the supervisor can draw many practical conclusions such as the agent is underworked, overworked or spending too much time on private calls.

Then the supervisor might recommend that:

- less busy agents help out temporarily with the call load in busy queues;
- appropriate adjustments in the manning levels of queues be implemented;
- changes be made to overflow and interflow timeouts and programs.

### 1.12.2 ACD queue supervision

The supervisor can see, on the supervisor MAIN Screens and in a detailed QUEUES STATISTICS Screen, a wide range of detailed information concerning the operation of the ACD queue.

The information provided in the QUEUE STATISTICS Screen (see Figure 1-6, below) includes, for each queue:

- Number of calls routed to the queue;
- Number of calls answered by agents in the group;
- Number of calls routed to the queue that were abandoned (i.e. the caller hung up before being answered);
- Number of calls overflowed to other ACD groups;
- Number of routed calls which were interflowed;
- Number of calls overflowed to the ACD group;
- Average wait time of answered calls;
- Average time callers hang on before abandoning calls.

ACD Queue: SALES		GP 1	
LAST	15	MIN	STATISTICS
No effect			
Routed:	5	Ovf - In	2
Answrd:	4	aWT =	-
Aband.:	1	aAT =	-
Ovfout:	2	< CLEAR >	
Interflowed:	1	< PREV >	
No effect			

SUPERVISOR  
MAIN Screen

**Figure 1-6 QUEUE STATISTICS Screen**

The supervisor refers to this screen to view the status of the queue. By viewing the statistics displayed here, the supervisor can draw many practical conclusions.

For example, in the Marketing department queue, if the number of abandoned calls rises, the supervisor can recommend:

- Adding agents to the Marketing department queue;
- Adding agents to other queues which overflow to the Marketing department;
- Changing the ACD routing plan so that other queues do not overflow to the Marketing department queue;
- Modifying the system answering message, requesting callers to wait patiently;
- Adding a series of recorded announcements to keep up the caller's expectation of being quickly answered.

The information available to the supervisor is described in detail in the Supervisor User Guide.

### 1.12.3 Diagnosing extremes in call traffic

The supervisor can check the parameters listed below for each ACD group (viewed in the supervisor Display mode), to ensure that they remain within reasonable upper and lower limits:

- Number of waiting calls;
- Average wait time;
- Number of abandoned calls;
- Number of overflowed calls;
- Number of interflow calls;
- Level of Service.

---

## 1.13 ACD I.Q.

---

Telrad Connegy has developed a PC-based Management Information System (MIS) program called ACD I.Q. which displays online, in both graphic and numeric form, the agents and queue status. ACD I.Q. stores all the call traffic information two months back and can print both graphic and numeric reports of call traffic, agent information and queue information for any period during the previous two months.

ACD I.Q. provides the supervisor with a simple and powerful tool for monitoring system operation, over extended periods of time. The ACD I.Q. will help the supervisor to plan precisely the most cost-effective ACD configuration.

More information on ACD I.Q. can be found in the UNITE IP Product Description, System Description, and in the ACD I.Q. System manual.

---

## 1.14 Telrad Connegy IMAGEN

---

Telrad Connegy IMAGEN is Telrad Connegy's Integrated Voice Mail system. ACD makes use of the IVM feature called Recorded Announcements. The Telrad Connegy IMAGEN administrator records up to nine recorded announcements. These can be played to a caller waiting on hold in the ACD system until the call is answered.

The system supports 50 allocations of announcements. The announcements may come from the Telrad Connegy IMAGEN Recorded Announcements, or from SLT announcers. Each recorded announcement can be repeated any number of times and can be incorporated in all Announcer plans.

Figure 1-7, below, depicts a Telrad Connegy IMAGEN-based Announcer program of a fictitious travel agency.

The Telrad Connegy IMAGEN features and services are described in detail in the Telrad Connegy IMAGEN System manual and User guides.

For programming of recorded announcements in the ACD routing plan, refer to [Section 7.5.5](#), below.



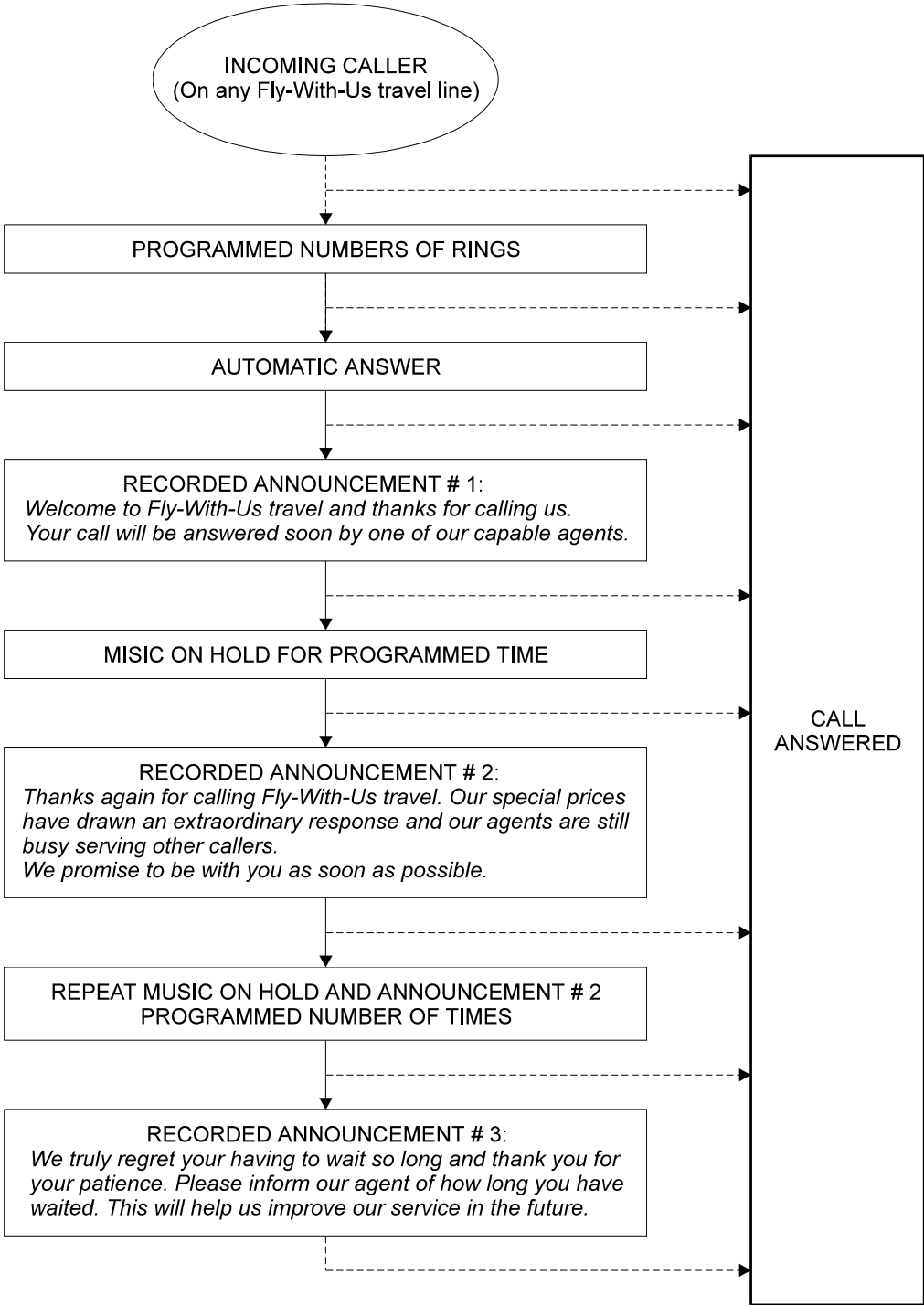


Figure 1-7 Telrad Connegy IMAGEN recorded announcement program

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# Section 2

## ACD FEATURES

---

### 2.1 GENERAL

---

This section provides an alphabetical list of ACD system, agent and supervisor features. These features are described in detail in Sections 3, 4 and 5, respectively.

---

### 2.2 LIST OF ACD FEATURES

---

#### *System features*

- ACD groups;
- ACD routing plans;
- ACD queues;
- Announcer plan;
- Call routing;
- Interflow;
- Level Of Service (LOS) time;
- MIS (Management Information System) - ACD I.Q.;
- Overflow program;
- Priority queueing;
- Ring delay to answer time;
- SLT announcer;
- Statistics time;
- Thresholds.

#### *Agent features*

- [ACD QUEUE] button;
- Busy wrap up;
- Forced busy state;
- Headset;
- Help request and Help conference;
- Login status LED;
- Not available;
- Programmable buttons;
- Record calls.

*Supervisor features*

- [ACD QUEUE] button;
- Agent status display;
- Display mode toggle;
- Monitoring and advising agents;
- Monitoring the status of queues;
- Programmable buttons;
- Softkey operation.

# Section 3

## ACD SYSTEM FEATURES

---

### 3.1 GENERAL

---

This section lists alphabetically, and describes, the ACD system features.

---

### 3.2 LIST OF SYSTEM FEATURES

---

- ACD groups;
- ACD routing plans;
- ACD queues;
- Announcer plan;
- Call routing;
- Interflow;
- Level of Service (LOS) time;
- MIS (Management Information System) - ACD I.Q.;
- Overflow program;
- Priority queueing;
- Ringback delay to answer time;
- SLT announcer;
- Statistics time;
- Thresholds.

---

### 3.3 SYSTEM FEATURE EXPLANATIONS

---

#### 3.3.1 ACD groups

In the UNITE IP up to 16 ACD groups can be defined, and up to 24 groups for UNITE IP 400.

The ACD group consists of:

- a calls waiting queue;
- a set of agents which can log in to the group and receive calls routed to the group.

Incoming calls which are routed to an ACD group, will ring at the telephones of agents servicing that group. When no agents are available to receive incoming calls, the calls wait in the group's call waiting queue.

Each group is assigned a group name (up to seven characters), and a group number. The group number is used when defining ACD routing plans. Each group can have up to 64 agents, with a total of 160 agents for the UNITE IP and 300 for the UNITE IP 400. Each group can be supervised by any or all of the supervisors (8 for UNITE IP; 16 for UNITE IP 400).

### 3.3.2 ACD routing plans

The ACD routing plan is assigned a system Directory Number (DN) which acts as an address or destination for routing ACD calls. Calls intended for the ACD are routed, in the system configuration program, to the ACD routing plan DN.

The UNITE IP system has up to 32 routing plans; UNITE IP 400 has up to 48 routing plans. Each plan can be assigned a plan name (16 ASCII characters). The plan name appears on the ACD station display for the first ten seconds of the call, and indicates to the agent which plan the incoming call was routed to.

For each ACD routing plan the following parameters are defined:

- Main group and insertion priority;
- Interflow time;
- Interflow port;
- Main overflow time;
- First, second and third overflow groups;
- First and second overflow times;
- Priority of calls in overflow groups.

### 3.3.3 ACD queues

An ACD call waiting queue holds the calls routed to an ACD group, which have not yet been dealt with by agents. Each queue is administered FIFO (First In-First Out), unless priorities have been defined, in which case calls are queued according to priority. While waiting to be attended by agents, the callers may be connected to ring tone, Music On Hold, or to one or more recorded announcements.

The [ACD QUEUE] button on the supervisor and agent stations indicates the status of the ACD queues.

### 3.3.4 Announcer plan

A caller into an ACD system can be connected to an announcer or series of recorded announcements, while waiting in queue to be answered by an ACD agent. The announcements may be messages such as *We apologize for the delay in answering your call. Our agent will be with you as soon as possible.*

Each ACD routing plan is optionally assigned an Announcer plan.

The recorded announcements may be recorded using regular SLT announcers, or using the Telrad Connegy IMAGEN Recorded Announcements (RAN) feature. The Telrad Connegy IMAGEN RAN feature can make up to nine recordings.

Several announcements can be combined into an Announcer plan, which consists of several messages with defined intervals between them. For example, after 30 seconds waiting, a call will hear RAN1; after 90 seconds waiting, the caller is connected to RAN4 etc. SLT announcers and Telrad Connegy IMAGEN recorded announcements can be freely mixed in the Announcer plan. Also, the same recorded announcement can be used in several different Announcer plans.

Announcements can be played once or repeated many times. The time delay between announcements is programmable.

In the gap between announcements you can define whether the caller hears ringback tone or music on hold. You can also have ringback tone played to the outside caller when his/her call finishes waiting in queue and starts ringing an agent telephone.

The announcement may be defined as a forced announcement, in which case, even if an ACD agent becomes available, the caller will not be forwarded to ring an ACD station until the recorded announcement has finished.

The UNITE IP supports 16 announcer plans.

The UNITE IP 400 supports 24 announcer plans.

A maximum of 50 announcement allocations to plans, are permitted.

For more details of the Telrad Connegy IMAGEN recorded announcements, refer to the Telrad Connegy IMAGEN System manual.

### 3.3.5 Call routing

Incoming calls on outside lines are routed, via the regular ring routing program, to the ACD routing plan DN. Calls may enter the ACD from trunks, trunk groups, DID lines, TIE lines or extensions (i.e regular internal calls). Calls either ring directly to the agents, or are answered automatically after a preprogrammed number of delay rings (also called delay to answer time) by an SLT announcer or by Telrad Connegy IMAGEN. If the call waits on queue beyond the first, second or third overflow times, the call will be directed also to ring at one or more overflow queues. If the call is not answered in the queues, it can be disconnected from the ACD system and routed to an interflow DN.

When a call arrives, if one or more agents are available, the call is directed to the longest idle station (Uniform Call Distribution).

### 3.3.6 Interflow

Interflow is a type of "no answer forward" destination for ACD calls. When the interflow timeout elapses, the call will stop waiting in the queues and instead will ring the programmed interflow destination. The interflow destination can be an Attendant position, an ICI queue or a Hunt group. If the interflow destination is busy, the system checks every few seconds, to see if it has become available. In the meantime, the call continues to wait in the ACD queues.

Calls also reach the interflow port when the queue enters "Interflow mode". Interflow mode is when all agents in the Main group and overflow groups are either logged out or in the Not available or forced busy state.

See also [Figure 1-2](#) and [Figure 1-3](#), above.

### 3.3.7 Level Of Service (LOS) time

The Level Of Service (LOS) is the percentage of calls that, during the statistics time, are answered by agents within the period defined as the LOS time.

Statistics time: 3 to 30 minutes (default: 15 minutes);

LOS time: 2 seconds to 59 minutes and 59 seconds (default: 20 seconds).

These timers are defined in system programming, per ACD group.

For example, if the LOS time is 20 seconds, and 8 out of 10 calls are answered by agents within 20 seconds of automatic answer or ringing, then the Level Of Service is 80%.



### 3.3.8 Overflow program

A call which is not answered within the Main overflow timeout can overflow to one, and later, after the elapse of additional timeouts, at up to two more overflow groups. See Figures 1-2 and 1-3, above. Overflow times are defined per queue and per ACD routing plan. Overflow calls wait in parallel at both the original and the overflow queues. Calls will ring at the first station which becomes available in the Main or any of the overflow groups.

The user can specify the priority with which the call will be inserted in each of the overflow queues, ranging from 1 to 99 (1 is the highest priority).

Overflow can be programmed as predictive. The ACD evaluates the wait time (i.e. how long until an agent becomes available to answer the call), and if the predicted wait time exceeds the overflow time, the call overflows to the overflow queue. If the predicted wait time exceeds the second and third overflow timeouts, the call will overflow also to the second and third overflow queues.

The predictive overflow mechanism works in three stages:

- It estimates, cyclically for each call, how long the call will wait in the queue before being answered.
- It compares the estimated wait time with the programmed overflow time.
- If the estimated overflow time is greater than the programmed overflow time, it causes the call to overflow.

The estimated time until answer is calculated as follows:

(Average duration of last 20 ACD calls x Position of call in queue) ÷ Number of active agents

For example:

- Average duration of last 20 ACD calls: 60 seconds;
- Number of active agents in queue: 4;
- First overflow time: 35 seconds;
- Second overflow time: 35 (Total = 70 seconds);
- Third overflow time: 15 (Total = 85 seconds).

Following the statistics in the example, the overflow pattern, described below, emerges:

Call No.	Predicted answer (seconds)	Overflows to queues
1	15	-
2	30	-
3	45	1
4	60	1
5	75	1 & 2
6	90	1, 2 & 3
7	105	1, 2 & 3

### 3.3.9 Priority queueing

Calls waiting in the Main queue and overflow queues can be queued according to priorities defined in system programming. For calls arriving in each ACD plan, a queue priority of 1 (highest priority) to 99 (lowest priority) is defined.

This feature can be used, for example, to provide calls which have already overflowed to overflow queues with higher priority, to ensure that the treatment of such calls not be delayed longer than necessary.

### 3.3.10 Ringback delay to answer time

This parameter can be used to ensure that an outside caller always hears ringing before being answered. During the ringback delay time, programmed in system configuration, the ACD does not send ring tone to agents or answering machines. The caller will always hear ringing for a limited period, before being answered.

### 3.3.11 SLT announcer

Analog SLT announcers can be defined in the UNITE IP system, as ports of the SLD card. These announcers can then be used in an announcer plan. The chaining of the announcers, and the number of times each announcer message is repeated, are programmed in system configuration. For more details see [Announcer plan](#), above. The UNITE IP supports up to four SLT announcers; the UNITE IP 400 supports up to eight SLT announcers.

### 3.3.12 Statistics time

Statistics provided on the supervisor station are based on a system programmable time period of from three to 30 minutes. This time is used when calculating figures such as the Level Of Service (LOS). The default statistics time is 15 minutes.

### 3.3.13 Thresholds

When calls have been waiting in queue beyond the time periods defined for these two thresholds, the [ACD QUEUE] button flashes with distinctive LED color and flash rates. Table 1-2, above, lists the [ACD QUEUE] button LED colors and flash rates.

The threshold times are defined individually for each ACD group.

Thresholds are illustrated in Figure 1-3, above.

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# Section 4

## ACD AGENT FEATURES

---

### 4.1 GENERAL

---

This section lists alphabetically and describes the ACD agent features.

---

### 4.2 LIST OF AGENT FEATURES

---

- [ACD QUEUE] button;
- Busy wrap up;
- Forced busy state;
- Headset;
- Help request and Help conference;
- Login status LED;
- Not available;
- Programmable buttons;
- Record calls.

---

### 4.3 AGENT FEATURE EXPLANATIONS

---

#### 4.3.1 [ACD QUEUE] button

The agent's [ACD QUEUE] button is used for answering calls in the queue. Its LED color and flash rate indicates the status of the queue which the agent is servicing (see [Table 1-2](#), above). Supervisors can have individual queue buttons for each queue that they supervise.

#### 4.3.2 Busy wrap up

Depending on the programming of a Busy Wrap Up timer, after an ACD call ends, the agent may:

- Immediately receive more calls;
- Not receive any calls until the **[WRAP UP]** button is pressed;
- Be allowed a programmable period of time (during which calls are not directed to the ACD agent), for wrapping up jobs and notes related to the previous call.

The state described in points 2 and 3 above is called Busy Wrap Up. When Busy Wrap Up is active, the agent is registered as "Not ready".

The agent can activate Busy Wrap Up manually by pressing the programmable **[WRAP UP]** button on the telephone set.

Pressing the **[WRAP UP]** button or the **[N. AVAIL]** (Not Available) button when Busy Wrap Up is active, cancels Busy Wrap Up. Calls will again be routed to the agent's station.

If the **[WRAP UP]** button is pressed while a call is ringing, the ringing stops and the agent enters Busy Wrap Up state. The call is returned to the ACD queue.

#### 4.3.3 Forced busy state

When an agent does not answer a call which has been ringing beyond a programmed period of time, the system automatically puts the station into forced busy state. The assumption is that the agent is not sitting at his/her station. Forced busy appears in the display and the **[WRAP UP]** button will flash quickly, with a red LED.

The station will no longer receive ACD calls. Pressing any button or going offhook will take the station out of the Forced Busy state.

#### 4.3.4 Headset

The use of a headset is strongly recommended for the ACD agent. Headset operation greatly simplifies the job of the agent and frees both hands for other tasks, such as writing notes or working on a computer. A headset button is used to perform onhook and offhook.

#### 4.3.5 Help request and Help conference

An agent can dial the supervisor or request help from a supervisor during a call, using the [HELP REQUEST] button. Press the [HELP REQUEST] button once to request help. The supervisor's [HELP ANSWER] button will start to flash. Press [HELP REQUEST] a second time to cancel the request.

If the agent is in an ACD conversation when the supervisor responds, a three way connection is established in which the supervisor listens only (i.e. monitors the call). If the supervisor wishes, she can press {<CONFERENCE>} to break into the call and make it a full three way conference, or, press {<ADVISE>} to create a conversation in which the supervisor can talk to the agent, and listen to the outside party, but the outside party cannot hear the supervisor.

#### 4.3.6 Login status LED

This button, particularly useful for agent sets without a display, indicates whether the agent is logged in (LED green) or logged out (LED extinguished).

#### 4.3.7 Not available

Not available is activated by agents wishing to take a short break. Pressing the [N. AVAIL] (Not Available) button suspends the flow of ACD calls to the station until the button is pressed again. Alternatively, answering an ACD call from the station will also cancel the Not available state.

When the [N. AVAIL] button is pressed:

- During idle: it induces the Not available state;
- During ring: it stops the ringing and induces the Not available state;
- During a call: it induces the Not available state, without disconnecting the current call.

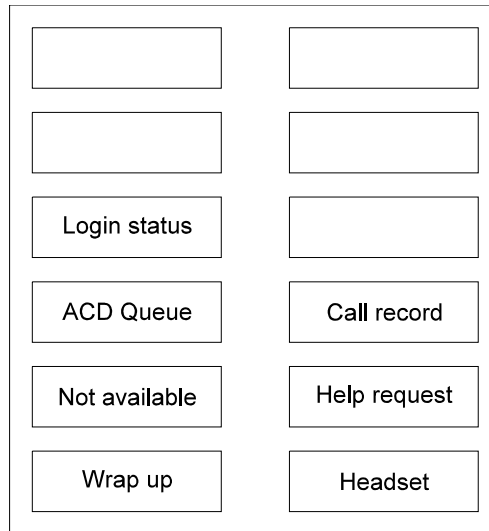
During Not available, the [N. AVAIL] button will flash slowly with a green LED.

**4.3.8 Programmable buttons**

Table 4-1 lists and describes the function of the programmable buttons that can be defined at the agent's station. It is recommended that the agent use a Display Speakerphone Set. Figure 4-1 illustrates the recommended button layout on an agent's Display Speakerphone Set telephone map.

**Table 4-A Agent programmable buttons**

Button	Description
Login status	Indicates if the station is logged in
ACD QUEUE	Indicates queue status and answers calls from the queue
Not available	Activates/deactivates Not available state
Wrap up	Activates/deactivates Busy wrap up
Call record	Records current ACD call (Telrad Connegy IMAGEN application). Call record will not record a three-way conversation.
Help request	Places a request for help to the supervisor
Headset	Used for headset operation



**Figure 4-A Recommended agent button arrangement - Speakerphone set**

**4.3.9 Record calls (Telrad Connegy IMAGEN application)**

ACD calls can be recorded in the same manner as regular calls are recorded, using the Call record feature of Telrad Connegy IMAGEN.



# Section 5

## ACD SUPERVISOR FEATURES

---

### 5.1 GENERAL

---

This section lists alphabetically and describes the ACD supervisor features.

---

### 5.2 LIST OF SUPERVISOR FEATURES

---

- [ACD QUEUE] button;
- Agent status display;
- Display mode toggle;
- Monitoring and advising agents;
- Monitoring the status of queues;
- Programmable buttons;
- Softkey operation.

---

### 5.3 SUPERVISOR FEATURE EXPLANATIONS

---

#### 5.3.1 [ACD QUEUE] button

The agent's [ACD QUEUE] button is used for answering calls from the ACD queue. The button's LED color and flash rate indicate the status of the queue which the agent is servicing (see [Table 1-2](#), above). [ACD QUEUE] buttons are also programmed on the supervisor station. The supervisor can view the queue status LED and can press the queue button to answer calls from the queue.

### 5.3.2 Agent status display

The supervisor can view the status of each agent under supervision using the agent status display screen. Possible agent statuses are:

- Logged out;
- Available to receive ACD calls;
- ACD call;
- ACD ring;
- Non-ACD call;
- Not available;
- Busy wrap up;
- Not ready;
- Forced busy.

### 5.3.3 Display mode toggle

At the press of a button the supervisor can change from the regular telephone display mode to the ACD display mode, and vice versa. This feature is useful for supervisors who fill other tasks, in addition to that of supervisor, and who regularly need to operate the phone in the usual manner. However, even while in regular display mode, the supervisor telephone continues to operate as a supervisor, and receives Help requests from agents.

### 5.3.4 Monitoring and advising agents

When in supervisor display mode, the supervisor can "monitor" (listen to) agents' calls, by selecting an agent in a queue, and pressing the **{<MONITOR>}** softkey.

In system programming it can be defined whether agents hear a tone when the supervisor starts monitoring calls, and whether the incoming caller also hears the tone. Thus agents may not be aware that their calls are being monitored.

The supervisor offers advice to agents either:

- in response to an agent's request for help, or;
- on the supervisor's initiative.

An agent requests help by pressing the **[HELP REQUEST]** button. This causes the supervisor's **[HELP ANSWER]** button to light.

Pressing the **[HELP ANSWER]** button sets up a call between the supervisor and the agent.

When the supervisor is monitoring an agent's calls, the supervisor may wish to offer advice to the agent, on his/her own initiative. To do this the supervisor presses either the **{<CONFERENCE>}** button which sets up a three-way conversation between the supervisor,

the agent and the outside party, or the {<ADVISE>} button, which establishes a three party connection in which the supervisor can hear the outside party, but the outside party cannot hear the supervisor.

**5.3.5 Monitoring the status of queues**

The supervisor has individual queue buttons for each queue under supervision. LED indications indicate the status of calls in queues (see Table 1-2, above). A general rule states that the faster the flash rate, the longer the call has been waiting, and therefore, the more urgent it is to answer the call.

**5.3.6 Programmable buttons**

Table 5-1 lists and describes the function of the buttons that can be defined at the supervisor station.

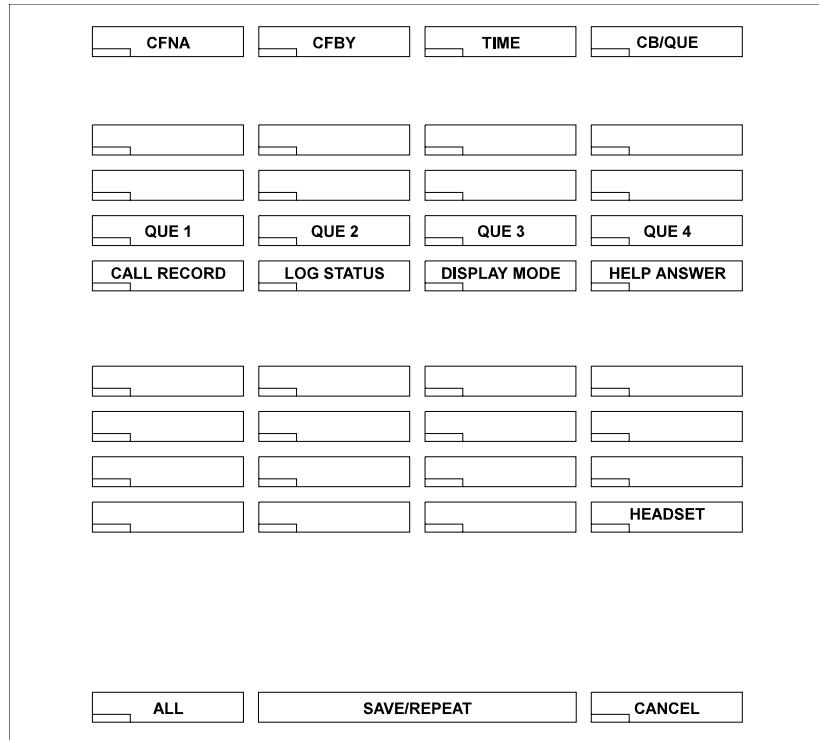
**Table 5-A Supervisor programmable buttons**

Button	Description
ACD login status	Optional. Shows ACD login status of supervisor.
Display mode	Toggles between supervisor mode and regular telephone operation.
ACD queue status	Answers calls in queue: LED flash rate indicates queue status.
Record	Records the current two-way conversation (Record will not record a three party call i.e. a monitor, advise or conference call).
Help answer	Answers agents' requests for help.
Headset	Used for headset operation (optional).

Figure 5-1, below, illustrates the recommended button layout on the supervisor's Executive station map.

**5.3.7 Softkey operation**

Since the supervisor station is an Executive station with expanded display, the supervisor benefits from the ease of softkey operation. The softkeys are used to travel from screen to screen when analyzing agent and queue status (e.g. {<MOVE>}, {<SCROLL>}, {<PREV>}, {<MORE>}), and for performing the regular supervisor duties (e.g. {<CALL>}, {<MONITOR>}).



**Figure 5-A Supervisor station recommended programmable button layout**

# Section 6

## INSTALLATION, CONFIGURATION AND UPGRADING OF THE ACD

---

### 6.1 GENERAL

---

This section describes the physical installation and software configuration of the ACD system in a UNITE IP or UNITE IP 400 exchange.

It is necessary to distinguish between two distinct installation and configuration processes:

- Installing and configuring a brand new UNITE IP system with the ACD option (see [Section 6.2](#));
- Updating an existing UNITE IP system with the ACD option (see [Section 6.3](#)).

---

### 6.2 INSTALLING AND CONFIGURING A NEW UNITE IP SYSTEM WITH ACD

---

This procedure is fully described in the UNITE IP Installation manual and UNITE IP Administration manual. Refer to the following steps as a guideline only.

1. Follow the regular installation instructions. Take care to check the label of the MPD software cartridge. It must be labeled "ACD".
2. Program the ACD parameters in the system configuration program. Refer to [Section 7](#), below.
3. Refer to the Telrad Connegy IMAGEN System manual for instructions on recording announcements, if these are included in the ACD configuration.
4. Refer to the ACD I.Q. System manual for instructions on connecting and programming ACD I.Q., if the ACD I.Q. MIS program is to be used in conjunction with the ACD.

---

**6.3 UPGRADING AND CONFIGURING AN EXISTING UNITE IP SYSTEM WITH ACD**

---

**6.3.1 General**

The following sections explain the steps performed for hardware installation and software configuration of the ACD in an existing UNITE IP system. Explanations of the system configuration programming parameters are provided in [Section 7](#).

**6.3.2 Upgrade steps (hardware and software)**

1. Plan the ACD configuration and fill out the programming forms (see [Section 7](#), below).
2. Backup the existing system configuration to diskette (see the UNITE IP Administration manual).
3. Install the new MPD Memory cartridge. Follow the instructions packed together with the box of the MPD cartridge card, or the instructions provided in the UNITE IP Installation manual.
4. Restore the configuration to the system (see the UNITE IP Administration manual).
5. Program the ACD screens and related features, in accordance with the configuration on the programming forms.
6. (Optional) If applicable, record the Telrad Connegy IMAGEN recorded announcements (1 to 9). Refer to the Telrad Connegy IMAGEN System manual;  
*or*  
If applicable, record the announcements on SLT announcers.
7. Label the buttons of the ACD agent and supervisor stations.
8. Connect ACD I.Q. (optional) (see the ACD I.Q. System manual).

# Section 7

## ACD PROGRAMMING PARAMETERS

---

### 7.1 GENERAL

---

This section contains the data for planning and programming the ACD configuration. The information in this section also appears in the DIGITAL family of systems Administration manual. Administration forms for programming the ACD parameters are appended to this manual as [Appendix A](#). These are copies of the administration forms found in the DIGITAL Administration manual, and follow the same numbering scheme.

This also includes brief instructions for programming Recorded announcements from the Telrad IMAGEN. For further details refer to the Telrad IMAGEN System manual.

Parameters located elsewhere in the configuration program which may have a bearing on the configuration of ACD are listed in [Section 7.6](#), below.

---

### 7.2 WORKING WITH THE ADMINISTRATION PROGRAM

---

When configuring the ACD, the same steps and procedures are followed as with all system programming. These are described in detail in the DIGITAL family of systems Administration manual.

---

### 7.3 STEPS FOR PLANNING THE ACD CONFIGURATION

---

First, the Customer Sales Representative discusses the ACD configuration with the customer. Next the agreed configuration is transferred onto the programming forms (see [Appendix A](#), below). After that, the ACD configuration is programmed into the DIGITAL configuration program (either offline or online). Finally, the new configuration is loaded into the system.

---

## 7.4 PROGRAMMING THE PARAMETERS

---

This section describes each screen, and each field of each screen, of the configuration program that is related to ACD. It follows the format of the comparable section of the DIGITAL Administration manual.

For each screen, this section provides:

- Screen name, definition and path;
- Explanations of screen fields or ACD features;
- Field default values;
- Field legal range of values.

Most of the data relevant to ACD is contained in the AUTOMATIC CALL DISTRIBUTION Menu and its five sub-screens described below.

---

## 7.5 THE AUTOMATIC CALL DISTRIBUTION MENU

---

The AUTOMATIC CALL DISTRIBUTION Menu appears on the MAIN Screen of the DIGITAL configuration program, and is accessed with the letter C.

The AUTOMATIC CALL DISTRIBUTION Menu provides access to the following screens:

- AP: General ACD parameters;
- GR: ACD groups;
- SV: Supervisor & ACD groups;
- PL: ACD routing plans;
- NP: Announcer plans.

Other screens accessed from various locations in the ACD sub-menu are:

- ACD ID LIST Screen (F3 from screens listed below);
- Agent List (F9 from ACD GROUPS Screen);
- Announcement program (F9 from ANNOUNCER PLAN Screen);
- Interflow and overflow programming (F9 from the ACD ROUTING PLANS Screen).

***ACD ID LIST Screen*** The ACD ID LIST Screen can be accessed from:

- General ACD parameters;
- ACD groups;
- Supervisor & ACD groups;
- ACD routing plans;
- Agent list.



The ACD ID LIST Screen lists all the ACD agents and supervisors according to their ACD ID and ACD name. For agents it also specifies the Group number; for supervisors it specifies the supervisor number in ACD group.

**7.5.1 General ACD parameters CD→AP**

This screen contains general ACD parameters.

To organize the data to be entered on this screen, use [Administration form number 68](#).

***Forced busy time*** If an agent does not answer a ringing call before this timeout elapses, the station is automatically put into a forced busy state, and calls are no longer routed to the station. Pressing any button on the station or lifting the handset cancels the forced busy state.

Legal values: 0:02 - 59:59 (minutes:seconds),  
UL (Unlimited - disables forced busy);

Default: 30 seconds.

***Monitoring notification*** This parameter determines whether a tone is heard when a supervisor starts monitoring the call of an agent. Either no tone is heard, the tone is heard only by the agent and supervisor, or the tone is heard by the agent, supervisor and the outside caller.

Legal values: NO(ne);  
AG(gent); AL(l);

Default: No(ne).

***Predictive overflow*** This parameter defines if the ACD overflow process uses the predictive overflow algorithm.

Legal values: Y, N (Yes, No);

Default: Y.

**7.5.2 ACD groups CD→GR**

This screen defines many of the ACD group parameter features. It is also used to access the ACD agent list screen (F9).

To organize the data to be entered on this screen, use Administration forms number [69](#) and [70](#).

**Group** Displays the ACD group number (up to 16 for DIGITAL KEY BX; up to 24 for DIGITAL 400). This is a display only field.

**Name** An ACD group name is assigned for each ACD queue. Agent stations display the name of the group to which the agent belongs, on the second display line. The ACD group name is also used to identify ACD groups on the display of the supervisor telephone.

Legal values: Any seven characters.

**Wrap up time** This parameter defines the duration of the pause granted to the agent after ending a call, before new calls are routed to the agent's station.

Legal values:

0:02 - 59:59 (mm:ss) Calls do not ring until the timer elapses, unless the **[WRAP UP]** button is pressed.

UL The **[WRAP UP]** button must be pressed before new calls will ring;

- Calls are presented immediately.

**Queue first threshold** This parameter defines the timeout after which the **[ACD QUEUE]** button flash rate changes from green, slow flash, to red, slow flash indicating calls are backing up in the queue.

Legal values:

Default: 0:02 - 59:59 (minutes:seconds),  
UL.

**Queue second threshold** This parameter defines the timeout after which the **[ACD QUEUE]** button flash rate changes from red, slow flash, to red fast flash, indicating calls are backing up in the queue.

Legal values: 0:02 - 59:59 (minutes:seconds),  
UL.

Default: UL.

## Section 7: ACD PROGRAMMING PARAMETERS

***Stat (Statistics) time*** This parameter sets the period of time over which the ACD statistical calculations are made.

Legal values: 3 - 30 (minutes);

Default: 15 minutes.

***LOS (Level Of Service) time*** This parameter determines the time in which calls should be answered. Calls not answered within this time will reduce the ACD Level Of Service, calculated for the statistics period.

Legal values: 0:02 - 59:59 (mm:ss),

Default: 20 seconds.

***To view the ACD ID list (CD→GR→<F3>)*** Pressing F3 from all the screens listed in [Section 7.5](#) opens the ACD ID LIST Screen. This screen is used to display ACD IDs defined in the AGENT Screen (CD→GR→<F9>) and in the supervisor screen (CD→SV).

The screen provides the following information:

- ID;
- Name;
- Type (supervisor (SV) or agent);
- Group number (to what group does the agent belong);
- Supervisor number (the supervisor serial number).

***To define agents assigned to each ACD group (CD→GR→<F9>)***

Pressing F9 from the ACD groups screen opens the AGENT LIST Screen. This screen is used for defining new agents and editing agent data.

Maximum number of agents in each group: 64;

Maximum agents in system:

- DIGITAL KEY BX: 160;
- DIGITAL 400: 300.

To organize the data to be entered on this screen, use [Administration form number 70](#).

**ID** Enter the agent ID. This agent ID code is used by the agent when logging in the ACD. The code must be unique. The same number must not be allocated to other agents or supervisors. The first digit of the agent ID cannot be a zero.

Legal values: Up to four digits (0-9).

**Name** Enter the agent name. This name is used to identify the agent on the supervisor's telephone display, and in the ACD S.T.A.R computer.

Legal values: Any seven characters.

### 7.5.3 Supervisor and ACD Groups CD→SV

This screen is used to define supervisor details and the allocation of supervisors to ACD groups.

To organize the data to be entered on this screen, use [Administration form number 71](#).

**Supervisor** This field displays the supervisor number.

For DIGITAL KEY BX: Up to eight supervisors;

For DIGITAL 400: Up to 16 supervisors.

**ID** This field defines the supervisor ID code. This code is used by the supervisor when logging into the ACD. The code must be unique. The same number must not be allocated to other agents or supervisors. The first digit of the supervisor ID cannot be a zero.

Legal values: Any four digits - 0-9, -.

**Name** This field defines the supervisor name. This name appears on the telephone display of the supervisor MAIN Screen.

Legal values: Any seven characters.

#### **ACD group**

Group 1 to 16 (DIGITAL KEY BX);

Group 1 to 24 (DIGITAL 400).

For each supervisor, enter Y(Yes) or N(No) opposite each group to determine whether the supervisor supervises, and receives help requests from that group. Each supervisor may supervise any number of ACD groups.

#### 7.5.4 ACD Routing plans CD→PL

This screen is used to define the ring routing plans of the ACD calls.

For DIGITAL KEY BX: Up to 32 routing plans;

For DIGITAL 400: Up to 48 routing plans.

To organize the data to be entered on this screen, use [Administration form number 72](#).

**DN** Enter the ACD routing plan DN.

Legal values: Up to four digits (#, \* included).

**Name** This field defines the ACD routing plan name e.g. Sales Department. This name appears for 10 seconds on the agent's telephone display after the call is answered and identifies the Main group to which the call was directed.

Legal values: Any 16 characters.

**Main group number** This field defines the ACD group to which calls directed to the ACD routing plan DN, will be routed.

Legal values: DIGITAL KEY BX: 1 - 16;  
DIGITAL 400: 1 - 24.

**Priority value** This field defines the priority which calls arriving on this ACD Routing plan DN receive in the Main queue.

Legal values: 1 (Highest) - 99 (Lowest);

Default: 1.

**Announcer plan** Enter the number of the Announcer plan applying to the ACD routing plan (see the Announcer Plan CD→NP of [Section 7.5.5](#), below).

Legal values: DIGITAL KEY BX: 1 - 16;  
DIGITAL 400: 1 - 24.

***To design the Interflow and Overflow parameters***

***(CD→PL→<F9>)*** Pressing F9 from the ACD ROUTING PLANS Screen (CD→PL) opens the Interflow and OVERFLOW PROGRAMMING Screen. This screen is used to define the interflow and overflow programs of the ACD plans.

To organize the data to be entered on this screen, use [Administration form number 73](#).

***DN*** This field displays the ACD plan DNs.

***Interflow time*** The interflow time is the timer after which calls are taken out of the ACD system and routed to an interflow port.

Legal values: 0:02 - 59:59 (mm:ss), - (no interflow).

***Interflow port*** This is an attendant position, Incoming Call Identifier (ICI) queue or hunt group to which calls are routed, after the interflow time has elapsed.

Legal values: ATT1 - ATT4, ICI11- ICI48, hunt group DN, -

***First overflow time*** This field defines how long an ACD call waits for the Main ACD group to which it was routed, before it is overflowed to the first overflow group.

Legal values: 0:02 - 59:59 (mm:ss), -

***First overflow group #*** This is the ACD group to which calls are routed, after the first overflow time has elapsed.

***First overflow priority*** This field defines the priority, in the first overflow queue, of calls overflowing from the Main ACD group. Calls are positioned in the overflow queue according to the priority level.

Legal values: 1 (Highest) - 99 (Lowest);

Default: 1.

***Second overflow time*** This field defines how long an ACD call waits in the Main and first overflow group, before it is overflowed to the second overflow ACD group.

Legal values: 0:02 - 59:59 (mm:ss), -

***Second overflow group #*** This is the ACD group to which calls are routed, after the second overflow time has elapsed.

## Section 7: ACD PROGRAMMING PARAMETERS

***Second overflow priority*** This field defines the priority, in the second overflow queue, of calls overflowing from the Main ACD group. Calls are positioned in the overflow queue according to the priority level.

Legal values: 1 (Highest) - 99 (Lowest);

Default: 1.

***Third overflow group #*** This is the ACD group to which calls are routed, after the third overflow time has elapsed.

***Third overflow time*** This field defines how long an ACD call waits in the Main and first overflow group, before it is overflowed to the second overflow ACD group.

Legal values: 0:02 - 59:59 (mm:ss), -

***Third overflow priority*** This field defines the priority, in the third overflow queue, of calls overflowing from the Main ACD group. Calls are positioned in the overflow queue according to the priority level.

Legal values: 1 (Highest) - 99 (Lowest);

Default: 1.

### 7.5.5 Announcer plans CD→NP

This screen is used to define the parameters related to the ACD Announcer Plan.

To organize the data to be entered on this screen, use [Administration form number 74](#).

***Plan*** This field displays the Plan Number.

For DIGITAL KEY BX: 1 - 16;

For DIGITAL 400: 1 - 24.

**Ringback delay** During the ringback delay time, agents do not receive ring tone. After the ringback delay time, agents and announcer machines receive ringing. This parameter can be used, for example, to ensure that an outside caller always hears ringing before being answered.

Legal values: 2 - 59 seconds, - (no delay);

Default: 3 seconds.

**Forced announcement** If forced announcement is programmed Y (Yes), then an incoming caller will always hear the complete opening announcer message, even if agents are available to answer the call. Calls cannot be seized by agents while the announcement is running.

Legal values: Y, N (Yes, No);

Default: N.

**Music source** This parameter specifies whether a call on hold in the ACD will be connected to ring tone or to Music On Hold.

Legal values: MOH (Music on Hold), RNG (Ring tone);

Default: MOH.

**Tone on station ring** When this parameter is programmed as Y (Yes) then when the agent phone starts ringing, the caller hears ring tone.

Legal values: Y, N (Yes, No);

Default: N.

***To define the announcer plan specifications (CD→NP→<F9>)***

This screen is used to define the Announcement program, consisting of one or a chain of SLT announcers and Telrad IMAGEN Recorded Announcements, for each Announcer plan (up to 16 for DIGITAL KEY BX systems and up to 24 for DIGITAL 400 systems). A total of 50 entries may be made for the system.

To organize the data to be entered on this screen, use [Administration form number 75](#).



## Section 7: ACD PROGRAMMING PARAMETERS

The maximum number of announcer messages is:

- Nine Telrad IMAGEN messages (if installed).
- DIGITAL KEY BX: four SLT announcers;  
DIGITAL 400: eight SLT announcers.

**Announcer** Enter the DN of the SLT announcer or the Telrad IMAGEN recorded announcement to be played in the announcer plan.

Legal values: Announcer DN, RAN1 - RAN9, -

**Post announcing delay** This parameter defines the interval between the recorded announcements. During this time, the caller hears either Music on Hold or ringback tone. Only the last announcement in the chain can be programmed with an unlimited post announcing delay.

Legal values: 0:02 - 59:59 (mm:ss), UL (unlimited);

Default: UL.

**Times** This parameter specifies the number of times that the announcement is repeated. Only the last announcement in the chain can be programmed with an unlimited number of times.

Legal values: 1, 99, UL (unlimited);

Default: UL.

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### 7.6 RELATED SYSTEM CONFIGURATION PARAMETERS

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This section lists the parameters in system programming which you should be aware of when you program an ACD system. Some of these may need reprogramming.

Below is a list of the screens where these parameters are programmed, the relevant programming form number, and a brief explanation of the meaning of the parameters and how they affect the ACD.

#### ***SLT announcer ports***

Path: OC→OL→<F9>

**Administration form number: 12**

This screen is used to define SLT ports on SLD and SHD cards for the use of SLT announcers.

***IVM/Serial applications***

Path: OC→IS

**Administration form number: 15**

This screen is used to define the DN of the station containing the Universal Data Interface card, to which the ACD I.Q. computer is connected.

***Music on Hold***

Path: OC→BG

**Administration form number: 21**

On this screen define the Music On Hold source.

***ACD login and logout code***

Path: SP→FN

**Administration form number: 25**

Define here the codes used by agents and supervisors for logging in and out of the ACD.

***TIE/DID group features***

Path: GR→TF

**Administration form number: 38**

For TIE/DID trunks directly routed to the ACD, in the Auto completion field, assign the ACD Plan DN.

***Trunk routing (for trunks and trunk groups)***

Path: GR→DR; GR→NR; PT→DR; PT→NR;

Administration form numbers: **41, 42, 45, 46**

On these screens, route trunks and trunk groups to the ACD routing plan DN (defined on screen (CD - PL) for day and night service.

*Programmable keys*

Path: FE→PK

Administration form numbers: 52, etc.

Assign the programmable buttons required by the ACD agents and supervisors to their telephone set button maps.

*DID routing*

Path: RD

Administration form number: 82

In the Day routing and Night routing fields, assign the ACD DN Plan to route calls arriving on this DID trunk directly to the ACD.

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**7.7 RECORDING THE ANNOUNCER MESSAGES**

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**7.7.1 General**

Announcer messages can be recorded in one of two ways:

- Using Telrad IMAGEN;
- Using regular SLT announcers.

**7.7.2 Programming announcer messages via Telrad IMAGEN**

The messages are recorded in the regular fashion under the announcer messages option of the SYSTEM GREETING Menu. The nine messages are automatically assigned the logical names RAN1 through RAN9. On the ANNOUNCEMENT PROGRAM Screen of the system programming (CD→NP→<F9>), the announcer plan is defined using these messages RAN1 to RAN9. A DIGITAL system, with both ACD and Telrad IMAGEN accesses the RAN messages from the Telrad IMAGEN and plays them to the callers waiting on hold.

The Telrad IMAGEN System manual provides details of how to record and edit the recording of the announcer messages.

**7.7.3 Programming announcer messages using SLT announcers**

Individual announcer machines must be acquired and defined for each recorded announcement (i.e. for four announcements you need four SLT announcers and four SLT ports).

The SLT announcers must be defined in the On Line Configuration (each with its own DN).

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**7.8 CONFIGURING THE ACD I.Q.**

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If your ACD system is enhanced with ACD I.Q., there are various configuration requirements that must be met, and various recommended programming practices to be followed, which will enable you to derive the maximum benefit from the ACD I.Q. and ACD systems.

For instructions concerning installing and configuring the ACD I.Q., refer to the ACD I.Q. System manual.

# Appendix A

## ACD PROGRAMMING FORMS

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### 1st.1 GENERAL

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This appendix contains the programming forms required for the ACD.

Number	Screen name	Path
68	General ACD parameters	CD→AP
69	ACD groups	CD→GR
70	Agent list	CD→GR→<F9>
71	Supervisor and ACD Groups	CD→SV
72	ACD plans	CD→PL
73	Interflow and overflow programming	CD→PL→ <F9>
74	Announcer plans	CD→NP
75	Announcement program	CD→NP→<F9>

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