DBS CALLER ID INSTALLATION AND OPERATION

Panasonic®

Please read these instructions completely before operating this unit.

Section 510
Issued April 2000
Part Number 550X03401

Warning: This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

The contents of this manual are subject to change without notice and do not constitute a commitment on the part of Panasonic Telecommunication Systems Company (PTSC). Every effort has been made to ensure the accuracy of this document. However, due to ongoing product improvements and revisions, Panasonic cannot guarantee the accuracy of printed material after the date of publication nor can it accept responsibility for errors or omissions. Panasonic will update and revise this document as needed.

The software and hardware described in this document may be used or copied only in accordance with the terms of the license pertaining to said software or hardware.

Contents

About this Manual

Chapter 1. An Introduction to Caller ID

Chapter 2. Installation and Programming

Chapter 3. Operation

This page intentionally left blank.

About This Manual

Overview

This manual provides an overview of Caller ID, along with installation, programming, and operation instructions. The following table summarizes each chapter contained in this manual.

Section	Title	Purpose
Chapter 1	Introduction to Caller ID	Provides an overview of Caller ID, plus information on pre-installation requirements.
Chapter 2	Installation and Programming	Provides step-by-step instructions on installing the Caller ID card and summarizes the programs that are essential to Caller ID operation.
Chapter 3	Operation	Describes how end users can view and access Caller ID data on their display phones.

Related Documents

For general instructions on DBS hardware installation, see *Installation (Section 300)*. For an introduction to DBS programming, see *Programming Guidance (Section 400)*.

This page intentionally left blank.

Chapter 1. An Introduction to Caller ID

This chapter provides an overview of Caller ID, plus information on pre-installation requirements.

The following table summarizes the topics contained in this chapter.

Overview

A Definition of Caller ID

Caller ID (CID), a service offered by local central offices, sends calling number information from the local CO to the DBS. Users who have display telephones can see CID information as incoming calls ring at their extension and can have access to previous calls via the call log feature.

The type of calling number information transmitted to the DBS depends on whether *single-data* or *multiple-data* format is used.

S*ingle-data* format supplies the date, time, and calling number to the DBS. *Multiple-data* format supplies the date, time, calling number, and calling name. Though the DBS receives the date and time with both formats, it does **not** transmit this information to individual key phones. The DBS has its own internal timer.

Note: Caller ID refers to calling party information transmitted through local central offices only. Calling party information transmitted from interexchange carriers (IXCs) uses a different format known as Automatic Number Identification (ANI). ANI is **not** supported by the DBS at this time. Also, single data and multiple data may be marketed by different names depending on the local operating telephone company.

How the DBS Receives and Processes Caller ID

Caller ID data is transmitted to the DBS between the first and second incoming rings.

The Caller ID card (VB-43551) and L-TRK card (VB-43511A) collect the data and distribute it to the appropriate extension via the CPC card.

Since Caller ID data is not sent to the DBS until after the first ring, the DBS waits approximately 4 seconds after the detection of the first incoming ring to allow time for collecting Caller ID data and

processing before it rings the appropriate extension and sends the Calling ID data for display.

The DBS processes Caller ID as follows:

- The CO sends a Caller ID call to the CID card/loop-start trunk.
- The CID card begins collecting the Caller ID data 30 ms after the initial incoming ring ends.
- The loop-start trunk sends a signal to the CPC card indicating that a call is coming in.
- When the CPC card receives the incoming call notification, it lights the FF key(s) for the trunk red.
- The Caller ID data is transmitted to the CPC card.
- The CPC card then transmits the Caller ID call and data to the appropriate digital extension. The FF key changes to green and the extension rings. (The trunk FF key lights red for approximately 4 seconds before the extension receives the call. This is due to the time required by the Caller ID data receiving and processing steps.)

Overview of DBS Caller ID Features

This section provides an overview of the Caller ID features provided by the DBS. A more complete description of the features and their operation is provided in "Operation" in Chapter 3. Programming procedures for these features can be found in "Installation and Programming" in Chapter 2. (Not all features require programming.)

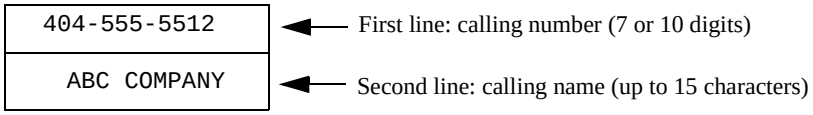
Caller ID Display

The Caller ID display shows the Caller ID number and/or name, depending on the Caller ID format used.

Once Caller ID information is received, it can be transmitted to another phone through call transfer, call forwarding, etc.

The following illustration shows how a Caller ID call appears on the phone display.

Figure 1-1. Example Caller ID display.



Flexible Display of Caller Information

With the introduction of Caller ID, the DBS provides a new timer that controls how long incoming call information is displayed.

This new timer ensures that Caller ID information is displayed long enough to provide ample viewing time without forcing the user to start the call record too late.

Caller ID Call Log

The Call Log keeps a record of Caller ID calls to individual key phones. Accessing the Call Log allows users to view Caller ID calls that have been sent to their phone.

Users can assign an FF key to flash when there are new entries in the log. When the user presses the key to access the log, the LED turns off.

Caller ID via SMDR

Caller ID information is transmitted to the SMDR port. Incoming Caller ID number and name is recorded in the dialed number field. The call type is Incoming as indicated by an “I”.

Caller ID Auto DISA

This feature provides automatic DISA dial tone based on Caller ID information (not DISA trunk type). The purpose of the automatic DISA dial tone is to provide easy access to the remote programming mode through DISA.

Pre-Installation Requirements

Hardware and Software Requirements

The following hardware and software are required for Caller ID.

Equipment	Model Number
Loop-start trunk card	VB-43511A (8 ports)
Caller ID card	VB-43551
MFR Card	VB-43431 (for Caller ID Auto DISA)
CPC Card	VB-43411 (CPC-B; must be version 6.1 or higher) or VB-43412 (CPC-A II; must be version 6.1 or higher)

Ordering Caller ID

The following guidelines describe Caller ID options that can be ordered from your local operating company or interexchange carrier.

Table 1-1. Guidelines for ordering T1 services

Item to be Ordered	**Options**
Line Type	Single-party loop start lines. (As an alternative, you may want to add Caller ID to existing single-party loop start lines.)

Item to be Ordered	**Options**
Ringing Type	Standard ringing. *Distinctive ringing may cause damage to the Caller ID Circuits*.
Caller ID	Either *single-data* or *multiple-data* format may be ordered. Single-data format supplies the date, time, and calling number to the DBS. Multiple-data format supplies the date, time, calling number, and calling name. Though the DBS receives the date and time with both formats, it does **not** transmit this information to individual key phones. **Note:** Some central offices may not offer both Caller ID formats. Make certain that the order of the information for *single-data* is date, time, and calling number and the order of information for *multiple-data* is date, time, calling number and calling name.

Chapter 2. Installation and Programming

This chapter describes installation and programming for Caller ID.

The following table summarizes the topics contained in this chapter.

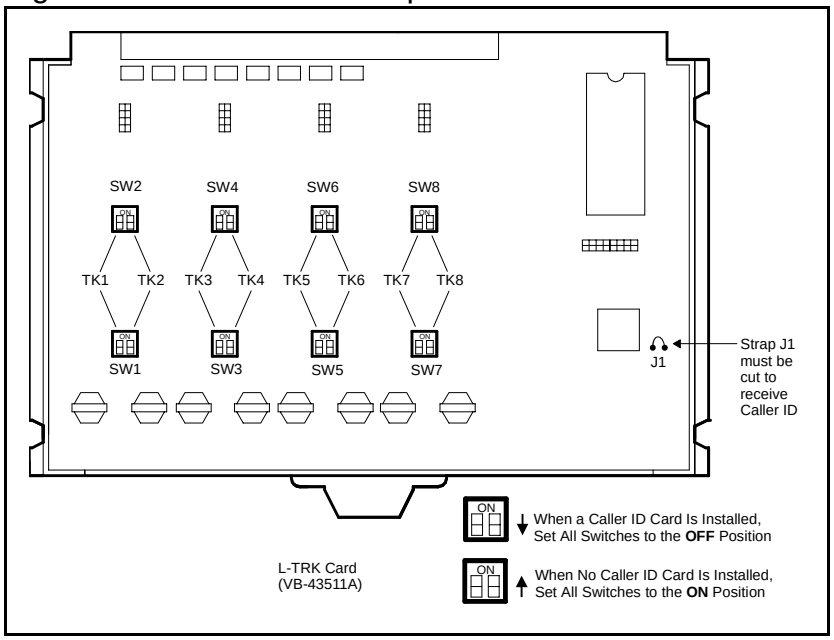
Installation

The following procedure describes the hardware setup required for Caller ID.

1. Remove the cover from the L-TRK card (VB-43511A).

2. Cut strap J1 on the L-TRK card.

Figure 2-1. L-TRK Card Strap J1 and Switch Locations

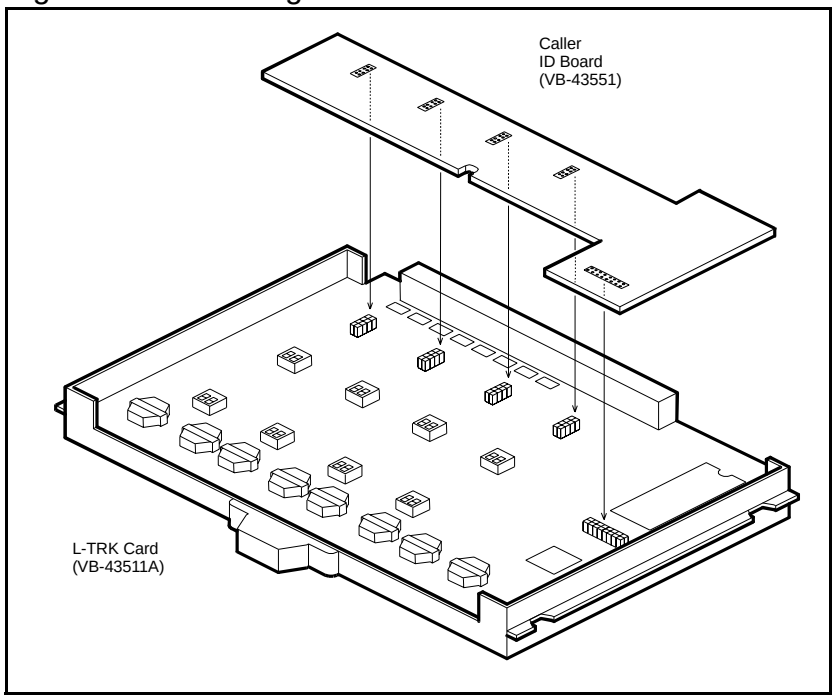


3. Set switches SW1 through SW8 on the L-TRK card (VB-43511A) to OFF.

IMPORTANT: You must correctly set the switches to prevent possible damage to the L-TRK card. Also, the Tip and Ring leads are polarity sensitive. Make sure these are wired correctly.

4. Attach the Caller ID card to the L-TRK card.

Figure 2-2. Attaching Caller ID Card to the L-TRK Card



5. Replace the cover on the L-TRK card.

Programming

The following procedures describe the programming required for Caller ID setup. In addition, these procedures can also be used to reconfigure the Caller ID feature once it is operational.

Note: In the following programming procedures, default settings appear in bold.

General Caller ID Setup

1. Assign the appropriate loop-start trunks as Caller ID trunks.

Program Name	Trunk Type
Address	FF2 (1-64)# 21# (0-4)#
Options	0=Loop start 1=Ground start 2=DID 3=T1 4=Caller ID

Note: The DBS must be powered off and on for this program to take effect.

Flexible Display of Caller ID Information

1. Determine if the Call Duration Display will be used.

   If used, the Call Duration Time will replace the Caller ID information on the display after a specified time. The specified time is

determined by Step 2 of this procedure (FF1 2# 1# 38#)2 .

Program Name	Call Duration Display
Address	FF1 2# 1# 1# (0 or 1)#
Options	0=Call duration is not displayed 1=Call duration is displayed

2. If the Call Duration Display is used, set the Call Duration Timer.

   This timer determines how long the Caller ID information will be displayed before the Call Duration Time appears. For example, if the Call Duration Timer is set to 30 seconds, Caller ID information will appear on the display for 30 seconds. At the end of 30 seconds, the Caller ID information will be replaced by the Call Duration Time.

Program Name	Call Duration Timer
Address	FF1 2# 1# 38# (0, 1, or 2)#

Options	0=5 seconds 1=16 seconds 2=30 seconds
Notes	1. Prior to CPC-A II 6.1 and CPC-B 6.1, the SMDR Display Start Timer (FF1 2# 1# 2#) determined when the call duration display and the SMDR call record began. With 6.1, the SMDR Display Start Timer only controls when the DBS begins the call record. 2. The Call Duration Timer must be set to a time equal to or greater than the SMDR Start Timer for the Call Duration Time to display. 3. The Call Duration Timer determines when the call duration display begins for all types of trunk calls, not just Caller ID calls.

Call Log Indication Key

1. Assign the Call Log Indication Key using one of the following two methods:

Note: The default FF Key assignment must be cleared before you can assign a Call Log key.

Method 1

Program Name	FF Key Assignments for Extensions

Address	FF5# (1-144)# (1-24)# CONF *6#
Note	The FF11 key is used to enter the asterisk.

or

Method 2

Programming Command	PROG FF Key *6 HOLD

Call Log

1. Assign the Call Log feature to individual key phones.

Programming Command	PROG #96 NN(N) HOLD
Options	NNN=Extension Number
Notes	1. This command must be performed at each phone to be assigned the call log feature. 2. Before entering this programming command, you must first enter the programming authorization code (#98 9999 is the default). 3. To delete a Call Log assignment, enter: PROG #96 NN(N) CONF.

Caller ID Auto DISA Programming

1. Assign up to 10 phone numbers for the CID Automatic DISA table. When one of these numbers is received by the Caller ID feature, the trunk automatically switches to DISA.

Program Name	Automatic DISA
Command	FF1 2# 8# (1-10) (Phone Number)#
Options	Up to 10 number assignments (1-10) are available.
Notes	1. Do not assign the trunk as a DISA trunk. 2. The phone number may be up to 10 digits. The number entered must exactly match the number received by Caller ID (usually 10 digits).

Chapter 3. Operation

Descriptions of DBS Caller ID Features

This section provides descriptions of Caller ID features provided by the DBS. Programming procedures for these features can be found in "Installation and Programming in Chapter 2. (Not all features require programming.)

Caller ID Display

Caller ID displays on all phones that the Caller ID trunk rings. This includes:

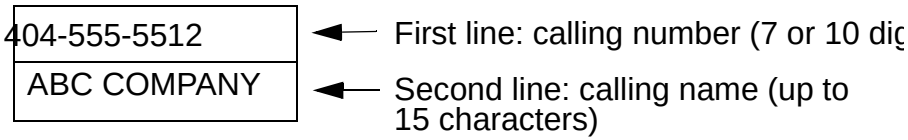
- DISA calls
- Transferred calls
- Forwarded calls
- Coverage calls
- Hold recalls (when a call is on hold, the trunk number or name displays)
- Transfer recalls
- Reversion calls to the attendant
- Calls that are picked up through BLF keys
- Calls that are picked up with direct call pickup
- Calls that are picked up with group call pick up

- Calls to a hunt group pilot number and hunt group members.

The Caller ID display shows the Caller ID name and/or number, depending on the Caller ID format used.

The following illustration shows how a Caller ID call appears on the phone display.

Figure 3-1. Example Caller ID display.



Note: Due to processing and timing limitations, some of the last characters in a name may not appear when the phone first rings. These characters are written to the display as soon as they are received at the phone. If the phone is answered before the complete name is displayed, the truncated name appears on the call log.

Flexible Display of Caller Information

Prior to Caller ID, the SMDR Display Start Timer controlled two functions:

- When incoming trunk name/number was replaced by call duration time
- When the SMDR call record began.

With the introduction of Caller ID, the SMDR Display Start Timer only controls when the SMDR call record begins. A new timer, the Call Duration Timer, controls how long incoming call information is displayed. This new timer ensures that Caller ID information is displayed long enough to provide

ample viewing time without forcing the user to start the call record too late.

For programming information on Flexible Caller Information Display, see “General Caller ID Setup” on page 2-4.

Note: The new Call Duration Timer controls all the calling information display for all trunks, not just Caller ID trunks.

Caller ID Call Log

The Call Log keeps a record of Caller ID calls to individual phones. The Call Log allows users to view Caller ID calls that have been sent to their phone.

Users can assign an FF key to flash when there are new entries in the log. When the user presses the key to access the log, the LED turns off.

Call Logs can be assigned to both attendant and non-attendant extensions. The following table shows maximums for the number of entries that can be stored for each type of extension. The table also shows the total number of entries that can be stored system wide.

Table 3-1. Call log maximums

Call Log Maximums	Maxi-mum
Maximum number of attendant extensions	4

Maximum number of non-attendant extensions	15
Maximum number of all types of extensions	19
Number of log entries that can be stored for an attendant extension. (After the call log fills with 25 entries, each additional entry overwrites the oldest log entry.)	25
Number of log entries that can be stored for a non-attendant extension. (After the call log fills with 10 entries, each additional entry overwrites the oldest log entry.)	10
Number of log entries that can be stored system wide	250

Types of Calls Included

The call log stores information for Caller ID calls that ring or are answered at a phone. If the phone does not ring (for instance when Call Forward - All Calls is active), there is no entry in the Call Log for that call.

Call Log Information

Each Call Log entry includes the following call information:

- Calling number
- Calling name (if provided)
- Time and date

- How the call was answered
- How the call was routed.

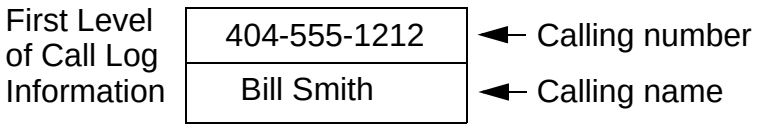
Call Log Format

The most recent entries are stored first in the Call Log. When users view the log by pressing the Call Log Key, they can select a specific entry, then scroll forward or backward through the entire contents of the log.

Log Format for the Small-Display Phone. In addition to viewing the calling number information by pressing the Call Log Key, users can view the detailed information on each entry by pressing the CONF key.

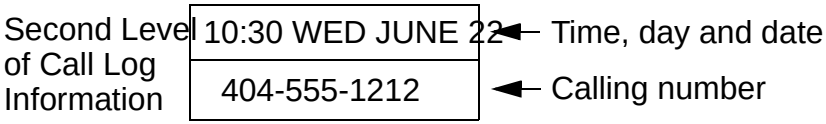
For example, when a Call Log entry is first displayed by pressing the Call Log Key, the following information is shown.

Figure 3-2. Call log format for the small-display phone--calling number and name



Pressing the CONF key displays the next level of information:

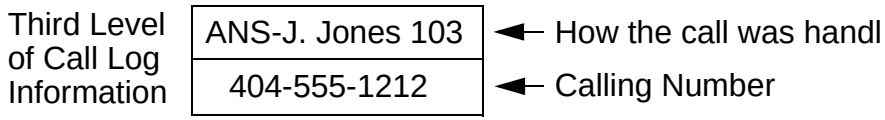
Figure 3-3. Call log format for the small-display phone--



time and date

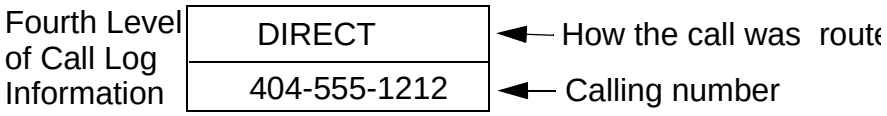
Pressing the CONF key again displays the next level of information.

Figure 3-4. Call log format for small-display phone--answer information



Pressing the CONF key again displays this information.

Figure 3-5. Call log format for small-display phone--rout-



ing information

Pressing the CONF key again returns the display to the first level of call log information.

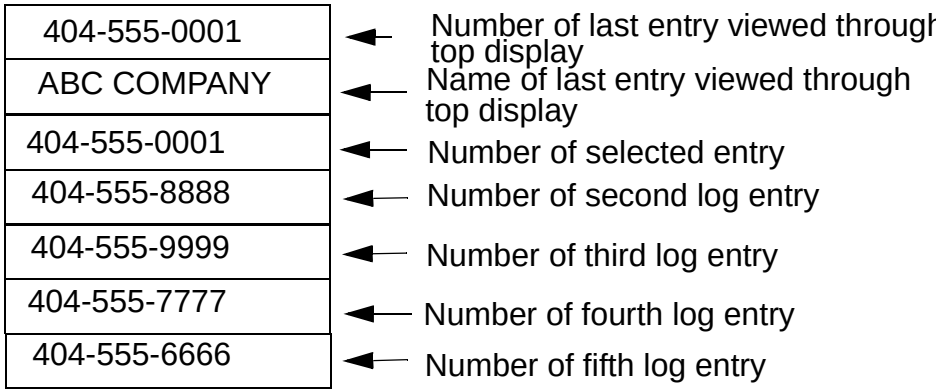
Other call log entries can be viewed by pressing the * or # keys. A “<“ appears beside the oldest entry in the log.

Exit the Call Log display by pressing the ON/OFF key.

Log Format for the Large-Display Phone. Large-display phone users can view all four levels of the Call Log on one screen.

For example, when the large-display phone user presses the Call Log Key, the following display appears:

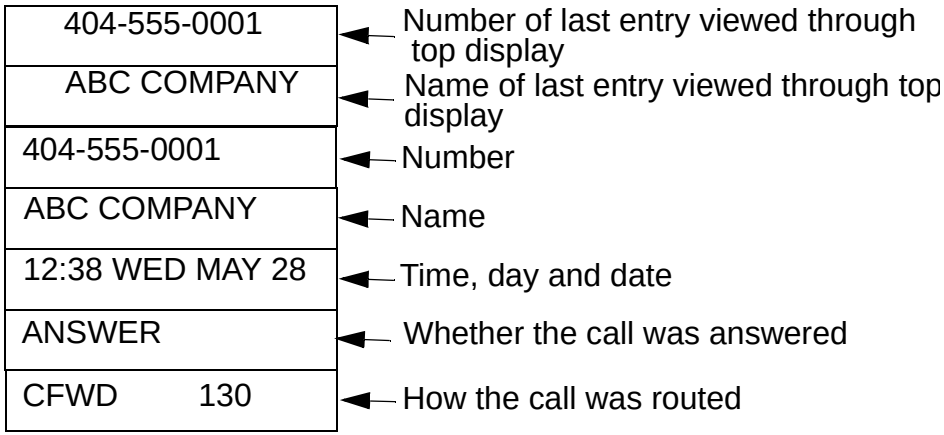
Figure 3-6. Call log format for the large-display phone--calling number



A "<" may appear to the right side of one of the entries. This indicates the oldest entry in the log.

By pressing the soft key next to the desired entry, the user can view the details of a particular call.

Figure 3-7. Call Log format for the large-display phone--detailed call information



Press any soft key to return to the calling number listing format as shown in Figure 3-6.

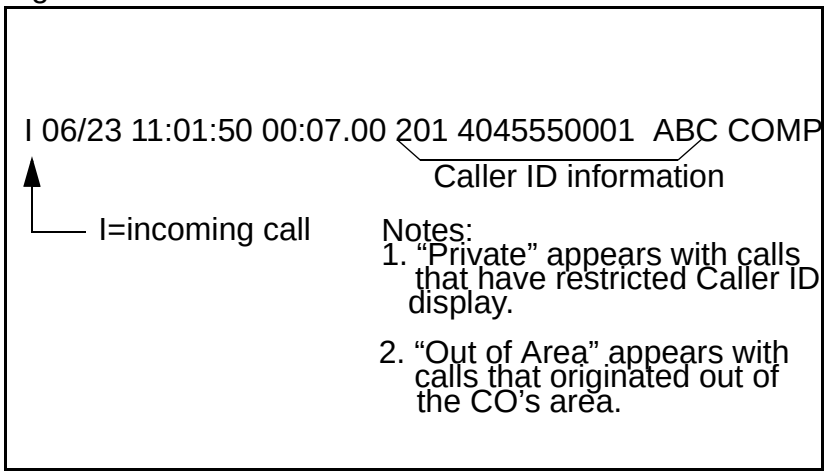
Other Call Log entries can be viewed by pressing the * or # keys. If these keys are pressed while viewing detailed information, the detailed information is displayed for the newly selected log entry.

Exit the Call Log display by pressing the ON/OFF key.

Caller ID via SMDR

In addition to displaying Caller ID information on phones, Caller ID information is recorded in the SMDR record. The following illustration shows how the CID information is displayed in an SMDR call record. In this example, note that the call is marked as “Incoming,” and the Caller ID number and name is contained in the “Dialed Digits” field.

Figure 3-8. Caller ID SMDR format



Caller ID/Auto DISA

Purpose

This feature provides automatic DISA dial tone based on Caller ID information. This allows predetermined users to access the DISA feature without requiring a trunk be left in the DISA mode.

This is especially useful for access to the remote programming mode through DISA.

To use this feature, the desired phone numbers must be programmed in the Auto DISA Table as described in “Caller ID Auto DISA Programming” on page 2-8.

When a CID call is sent to the DBS, the CID number is checked against the table. If the number is found, the caller will automatically be connected to DISA dial tone.

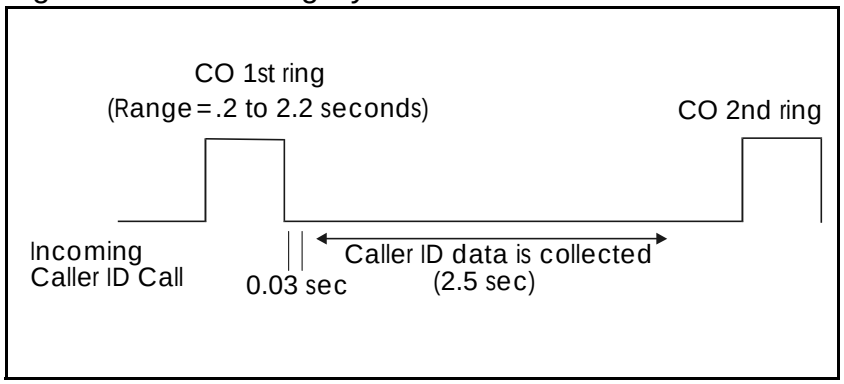
Limitations.

> IMPORTANT: This feature requires the Caller ID information be received in the order Date/ Time, Number and optionally Name.

Timing Interactions. According to network specifications, Caller ID data is transmitted to customer premise equipment between the first and second rings. Network specifications also allow the duration of the first ring to range between .2 and 2.2 seconds.

As shown in Figure 3-9 below, the DBS begins collecting Caller ID data approximately 0.03 seconds after the initial ring ends. With COs using longer initial ring cycles, the collection period may elapse before all data is collected. If all the CID data is not collected or the data does not match a number in the Caller ID DISA table, the incoming call will not be treated as a DISA call but will be treated as a regular incoming trunk call.

Figure 3-9. Initial Ring Cycle Duration and Caller ID Data



Collection

This page intentionally left blank.