



Caller ID Overview

for the

DCS & DCS COMPACT

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CALLER ID OVERVIEW

What is Caller ID?

Caller ID (CID) is the name given to a telephone company-provided feature that delivers the telephone number and sometimes the listed directory name of the phone that you are being called from. There are two types of Caller ID: the first delivers the calling party's telephone number only and the second (sometimes referred to as "Deluxe" Caller ID) delivers both the calling party's telephone number and his/her name as listed in the telephone directory. The DCS and DCS COMPACT systems can handle both types of Caller ID; in fact, in the case of number only delivery, the system can be programmed to insert a name for a specific telephone number (up to a maximum of 250 numbers).

However, even though you are paying for Caller ID service, there are some circumstances that mean you will not receive this information. The three most common reasons are listed below along with the Caller ID information that you will see on your display keyset.

PRIVATE

This display means that the person calling you does not wish his/her name or number to be revealed to you. The caller has blocked the Caller ID data either by the use of a "one time" block code for this call or by having Caller ID permanently blocked for all calls. This is similar to having an unlisted number. You can have the telephone company block PRIVATE calls by dialing a reject code on your outside lines. This will redirect PRIVATE calls to an announcement that states that you do not wish to receive calls that have had Caller ID blocked. The code to reject these calls can usually be found in the front section of the telephone directory.

OUT OF AREA

This display indicates that the person calling you is calling from an area that cannot provide Caller ID information (for example, international calls) or that he/she is calling from a type of circuit that cannot provide Caller ID information, for example, some outbound WATS lines. This display originates when Caller ID is not available across area code boundaries and means that the call is coming from outside your area code.

How Caller ID Works

PRYPHONE

This display simply indicates that the person calling you is calling from a coin-operated telephone. The telephone company sends this information in the CID NAME field because there are no directory listings for pay phones. However, the Caller ID number is delivered as usual.

The Caller ID information is sent from the Central Office on a loop start line between the first and second rings of an incoming call. In order to capture the Caller ID data, the system must delay for approximately six seconds or one ring cycle before ringing a station. This data collection period can be observed if the telephone system is programmed with direct line appearances. The LEDs on the line keys will light red for the duration of the data collection period to prevent the line from being seized and interrupting the Caller ID data before starting to flash green to indicate an incoming call.

The Caller ID data is sent as a Frequency Shift Keyed (FSK) signal. This is the same signaling format that modems use to talk to each other and is well suited to this type of operation. On a normal single line phone, this signal can be heard as a squealing or white noise on the line if the call is answered while the data is being sent. This cannot happen on the DCS or DCS COMPACT because the telephones on the system will not start to ring until the data has been collected.

The information that is sent as Caller ID is the information associated with the telephone line that is used to make the call. This may not necessarily be the name and number of the person making the call. This information consists of the telephone number with the associated area code (for example, 3054264100) and the first 15 letters of the name as listed in the telephone directory (for example, SAMSUNG TELECOM). If these numbers are dialed back as they are received, the Central Office will intercept the call and play a recording saying, "That number cannot be completed as dialed" or "you must first dial a one or zero before dialing this number." The first message will be received if the number is local and the second message indicates the call is long distance. This means that the number must first be modified before it can be dialed. To enable long distance calls to be redialed, the DCS and DCS COMPACT systems automatically insert the required "1" in front of the area code. This is why our example appears in the display as 13054264100. However, if the call is a local call, the first four digits or "1305" have to be removed. This can easily be achieved in the DCS and DCS COMPACT by using the modify

Caller ID Hardware (DCS)

digits section of the LCR feature and listing all of the local Central Office codes in the LCR tables.

Making Caller ID work on a DCS or DCS COMPACT requires the use of some special pieces of hardware and a special version of software that are installed in the system cabinet or KSU. These parts are described below.

Caller ID on the DCS is achieved with the use of Caller ID compatible trunk cards, a special EXPN-A card called the EXPN-A1 card and a special Caller ID version of Release 2 software. There are three types of Caller ID compatible trunk cards on the DCS—they are the TRK-A1 card, the TRK-B1 card and the TRK-C1 card. As you can see, the suffix “1” after the card name indicates Caller ID compatibility. Below is a brief description of these parts.

EXPN-A1 Card

The EXPN-A1 card carries the Caller ID decoder circuits that will convert the FSK information received from the Central Office into a form that can be understood by the DCS system. In addition to the Caller ID decoder circuits, the EXPN-A1 card also performs all of the same functions as the EXPN-A card such as supporting the expansion cabinets and providing additional DSP resources. This card is required even if your system does not have any expansion cabinets.

TRK-A1 Card

The TRK-A1 card fits in any universal card slot and has two Caller ID compatible loop start C.O. lines with disconnect detection and power failure transfer. In addition to this, it has all of the same accessory circuits that the TRK-A has, such as an MOH input, page output, etc.

TRK-B1 Card

The TRK-B1 card fits in any universal card slot and has four Caller ID compatible loop start C.O. lines with disconnect detection.

TRK-C1 Card

The TRK-C1 card fits in any universal card slot and has eight Caller ID compatible loop start C.O. lines with disconnect detection.

Caller ID Software

The special Caller ID version of Release 2 software for the DCS

Caller ID Hardware (DCS COMPACT)

consists of four EPROMs. Each EPROM contains four megabits of information giving a total of 16 megabits or two megabytes (2 Mb) of information. They contain the system operating program, all of the standard Release 2 DCS features and the additional Caller ID features. These features are listed and described later.

Caller ID on the DCS COMPACT is achieved with the addition of two pieces of hardware (the RAM 2 card and the MISC 2 card) and a special Caller ID version of system software. All of the Central Office (C.O.) or outside line circuits on the DCS COMPACT already have all the necessary circuitry built in to acquire the Caller ID information from the C.O. Below is a brief description of these parts.

RAM 2 Card

This card contains 512 Kbytes of Random Access Memory (RAM) and a Real Time Clock (RTC) circuit. All data relating to Caller ID are stored on this card and are protected in the event of a power loss by a nickel cadmium (NI-Cd or NICAD) battery for up to 30 days. The amount of memory in this RAM card is twice that in the RAM 1 card because some of the Caller ID features such as the abandon list, review lists and translation table are very memory intensive and require lots of RAM.

MISC 2 Card

The MISC 2 card carries the Caller ID decoder circuits that will convert the FSK information received from the Central Office into a form that can be understood by the DCS COMPACT system. In addition, the MISC 2 card also carries all of the circuitry contained on a MISC 1 card such as a second MOH input and page zone relays. This card is used instead of a MISC 1 card in a Caller ID system.

Caller ID Software

The special version of Caller ID software for the DCS COMPACT consists of four EPROMs. Each EPROM contains four megabits of information giving a total of 16 megabits or two megabytes (2 Mb) of information. They contain the system operating program, all of the standard DCS COMPACT features and the additional Caller ID features. These features are listed and described below.

- Name/Number Display
- Next Call
- Save CID Number
- Store CID Number
- CID Review List
- Investigate
- Abandon Call List (50)
- CID on SMDR

Caller ID Feature List

Caller ID Feature Descriptions

- Inquire Park/Hold
- Number to Name Translation (250)

Name/Number Display

Each display keyset user can decide if he/she wants to see the CID name or CID number in the display while a call is ringing. Regardless of which one is selected, the NND key may be pressed to view the other pieces of CID information.

Next Call

In the event that the user has a call waiting or a camped-on call at the keyset, the user can press the NEXT key to display the Caller ID information associated with this call in queue at the station. If the user has multiple calls in queue, repeatedly pressing the NEXT key will allow him/her to scroll through all of these calls. An ANS (answer) option is shown in the display to allow the user to answer the call that is currently displayed. Either the CID name or CID number will show in the display depending on the NND selection.

Save CID Number

At any time during an incoming call that provides CID information, the user may press the SAVE key. This saves the CID number in the Save Number Redial feature. Pressing the SAVE number redial key will then dial the CID number providing that the system has LCR correctly set up to modify the Caller ID number as necessary.

Store CID Number

At any time during an incoming call that provides CID information, the user may press the STORE key. This saves the CID number as a speed dial number in the user's personal speed dial list. The system must have LCR correctly set up to modify the Caller ID number to allow it to be dialed.

Inquire Park/Hold

Having been informed that an incoming call is on hold or has been parked, the user may view the Caller ID information before he/she retrieves the call. While examining the Caller ID data for this call, the user will see an option to answer the call (ANS). This will allow the user to determine who is calling and handle the call appropriately.

CID Review List

This feature allows display keyset users to review CID information for calls sent to their stations. This list can be from ten

to fifty calls on a first-in, first-out basis. The list includes calls that the user answered and calls that rang the user's station but that he/she did not answer. When reviewing this list, the user can press one button to dial the person back, clear the current entry or view the rest of the Caller ID information. The system must have LCR correctly set up to modify the Caller ID number to allow it to be dialed.

Investigate

This feature allows selected stations with a special class of service to investigate any call in progress. If CID information is available for an incoming call, the user will know to whom this station is speaking. On outgoing calls, the user can see who has been called. While investigating, the user may barge-in on the conversation, disconnect the call or hang up.

Abandon Call List (50)

The DCS and DCS COMPACT each have a system-wide abandon call list that stores CID information for the last 50 calls that rang in on any line but were not answered. The list is accessed using the system administrator's passcode. When reviewing this list, the user is provided options to CLEAR the entry or DIAL the number. The user can use the NND key to toggle between the CID name, CID number and the date and time the call came in. The system must have LCR correctly set up to modify the Caller ID number to allow it to be dialed.

CID on SMDR

The Station Message Detail Records report can be set to include CID name and number for incoming calls. In addition, the SMDR report can also record any abandoned calls like the abandon list. This format expands the print out to 113 characters. A wide carriage printer or an 80 column printer set to the condensed print option must be used.

Number to Name Translation (250)

The system provides a translation table for 250 entries. In the case of systems that are receiving number only service when the CID number is received, the table is searched. When a match is found, the system will display the corresponding name. This will allow users in areas that do not support Deluxe Caller ID to provide names for regular callers.



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