

## 1.20 Administrative Information Features

### 1.20.1 Station Message Detail Recording Feature

#### 1.20.1.1 Station Message Detail Recording (SMDR)

##### Description

Automatically logs detailed information for the PBX.

##### 1. SMDR Output Port

The Serial Interface (RS-232C) port can be used to output Station Message Detail Recording (SMDR) data to a PC, printer, etc.

##### 2. SMDR Output Data

The following data can be logged and sent to the SMDR output port:

- a) Outside (CO) line call information (incoming/outgoing)
- b) Call charge information (outgoing)

**Memory for SMDR:** A limited number of call records can be stored in the PBX. If the memory becomes full, the oldest call will be overwritten each time a call is received.

When an optional message expansion card for DISA/UCD OGMs is installed, the number of calls that can be stored increases from 64 to 10 000.

### 3. SMDR Format and Contents

#### [Example]

#### Pattern A: Without call charge information

| Date     | Time     | Ext. | CO | Dial number                      | Duration  | Code   |
|----------|----------|------|----|----------------------------------|-----------|--------|
| 12/31/05 | 12:52PM  | 103  | 05 | 12345678901234567890123456789012 | 00:00'16" | ....   |
| 12/31/05 | 12:53PM  | 103  | 02 | < incoming > 2013570846          | 00:01'43" | ....   |
| 12/31/05 | *12:54PM | 101  | 02 | < incoming > 2013570846          | 00:07'48" | ....   |
| 12/31/05 | 12:55PM  | 101B | 02 | < BV incoming > 2013570846       | 00:00'43" | ....   |
| 12/31/05 | 12:56PM  | 107B | 03 | < DIL incoming > 0921234557      | 00:01'43" | ....   |
| 12/31/05 | 1:04PM   | 103  | 06 | 092... 1438                      | 00:00'06" | 4536   |
| 12/31/05 | 1:04PM   | 102  | 05 | < DISA incoming > 2013570846     | 00:00'09" | .... 0 |
| 12/31/05 | 1:05PM   | 103  | 01 | < DISA incoming >                | 00:00'08" | .... 0 |
| 12/31/05 | 1:06PM   | 103  | 01 | 092123456789                     | 00:00'08" | ....   |
| 12/31/05 | 1:06PM   | C-05 | 02 | 0921234567                       | 00:00'17" | .... 2 |
| 12/31/05 | 1:07PM   | 103  | 01 | 0921234567                       | 00:11'00" | ..13   |
| 12/31/05 | 2:15PM   | 103  | 01 | 0921234567                       | 00:11'00" | .101   |
| 12/31/05 | 2:26PM   | 103  | 01 | F/0927654321                     | 00:03'00" | .101   |
| 12/31/05 | 2:27PM   | 116  | 05 | 9=0924567123                     | 00:13'55" | ....   |
| 12/31/05 | 3:25PM   |      | 02 | < UCD waiting >                  | 00:11'48" | ....   |

(1) (2) (3) (4) (5) (6) (7)

#### Pattern B: With call charge information

| Date     | Time     | Ext. | CO | Dial number              | Duration  | Charge   | Code   |
|----------|----------|------|----|--------------------------|-----------|----------|--------|
| 12/31/05 | 12:52PM  | 103  | 05 | 123456789012345678901234 | 00:00'16" | 0.04 EUR | ....   |
| 12/31/05 | 12:53PM  | 103  | 02 | < incoming >             | 00:01'43" |          | ....   |
| 12/31/05 | *12:54PM | 101  | 02 | < incoming >             | 00:07'48" |          | ....   |
| 12/31/05 | 12:55PM  | 101B | 02 | < BV incoming >          | 00:00'43" |          | ....   |
| 12/31/05 | 12:56PM  | 107B | 03 | < DIL incoming >         | 00:01'43" |          | ....   |
| 12/31/05 | 1:04PM   | 103  | 06 | 092... 1438              | 00:00'06" | 0.02 EUR | 4536   |
| 12/31/05 | 1:04PM   | 102  | 05 | < DISA incoming >        | 00:00'09" |          | .... 0 |
| 12/31/05 | 1:05PM   | 103  | 01 | < DISA incoming >        | 00:00'08" |          | .... 0 |
| 12/31/05 | 1:06PM   | 103  | 01 | 092123456789             | 00:00'08" | 0.02 EUR | ....   |
| 12/31/05 | 1:06PM   | C-05 | 02 | 0921234567               | 00:00'17" | 0.04 EUR | .... 2 |
| 12/31/05 | 1:07PM   | 103  | 01 | 0921234567               | 00:11'00" | 0.55 EUR | ..13   |
| 12/31/05 | 2:15PM   | 103  | 01 | 0921234567               | 00:11'00" | 0.55 EUR | .101   |
| 12/31/05 | 2:26PM   | 103  | 01 | F/0927654321             | 00:03'00" | 0.15 EUR | .101   |
| 12/31/05 | 2:27PM   | 116  | 05 | 9=0924567123             | 00:13'55" | 0.67 EUR | ....   |
| 12/31/05 | 3:25PM   |      | 02 | < UCD waiting >          | 00:11'48" |          | ....   |

(1) (2) (3) (4) (5) (6) (8) (7)

## 1.20 Administrative Information Features

### [Explanation]

The following table explains the types of data logged by SMDR. The section numbers below refer to the field indicated by the numbers above.

| Section Number | Data                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1)            | <b>Date</b>             | Shows the date (Month/Day/Year) of the call (→ Date & Time [000]). The date order varies depending on the user's country/area.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| (2)            | <b>Time</b>             | Shows the start time of a call as hour/minute/AM or PM. Also shows the following code:<br>*: Transferred call (→ 1.11.1 Call Transfer)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (3)            | <b>Ext. (Extension)</b> | Shows the number of the extension that was engaged in the call.<br>Also shows the following codes:<br><b>xxxB</b> : Call answered by the BV feature (→ 1.15.7 Built-in Voice Message (BV))<br>(xxx=Number of the extension to which the call was directed before the BV feature answered)<br>Even if a caller does not leave a voice message, for example, by going on-hook while hearing a personal/common BV outgoing message (OGM), the information is logged.<br><b>C-xx</b> : Outside-to-Outside (CO-to-CO) line call via the DISA feature (→ 1.15.6 Direct Inward System Access (DISA))<br>(xx=Outside (CO) line number that receives the DISA call) |
| (4)            | <b>CO</b>               | Shows the outside (CO) line number used for the call.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Section Number | Data        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (5)            | Dial number | <p><b>[Outside (CO) Line Call]</b></p> <p><b>Outgoing Outside (CO) Line Call</b><br/>Shows the dialled telephone number*1. Digits shown are as follows:</p> <p><b>0 through 9, *, #, - (hyphen)</b><br/> <b>F/</b>: Flash/recall signal (→ 1.10.6 Flash/Recall)<br/> <b>=</b>: Host PBX Access code marker (→ 1.5.2.8 Host PBX Access Code (Access Code to the Telephone Company from a Host PBX)) The marker is displayed between the Host PBX Access code and the dialled number when a Host PBX Access code is entered.<br/> <b>.</b> (<b>dot</b>): Secret Dialling</p> <p><b>Incoming Outside (CO) Line Call</b><br/>Shows &lt;incoming&gt; + the caller's telephone number (max. 16 digits). A caller's telephone number is displayed only when an optional Caller ID card is installed and "With CID" is selected in Caller ID SMDR Format [906]. It is also possible to show a caller's telephone number before the call is answered (→ Caller ID SMDR Printout [907]).</p> <p>Also shows the following codes:<br/> &lt;<b>DISA incoming</b>&gt;: Incoming outside (CO) line call via the DISA feature<br/> &lt;<b>BV incoming</b>&gt;: Incoming outside (CO) line call to the common message area of the BV feature<br/> &lt;<b>DIL incoming</b>&gt;: Incoming outside (CO) line call via the DIL feature (→ 1.1.1.1 Direct In Line (DIL))<br/> &lt;<b>UCD waiting</b>&gt;: Incoming outside (CO) line call via the UCD feature (→ 1.2.2 Uniform Call Distribution (UCD))<br/> When the UCD waiting call is answered, a new record is started.</p> |
| (6)            | Duration    | Shows the duration of the outside (CO) line call or the UCD call waiting time in hours/minutes/seconds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (7)            | Code        | <p>Shows the account code appended to the call (→ 1.5.2.3 Account Code Entry), the account code index number (e.g., 13), the number of the extension that used the Walking COS feature (e.g., 101), or DISA security code status (e.g., 0).</p> <p><b>0</b>: A DISA incoming call without a DISA security code<br/> <b>1 to 4</b>: A DISA incoming call with a DISA security code number<br/> Actual DISA security codes are not printed by SMDR (→ DISA Security Code [512]).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Section Number | Data   | Description                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (8)            | Charge | Shows the call charge of the outside (CO) line call (→ Call Charge Calculation [441]). Up to 3 currency characters (e.g., EUR for Euro) can be assigned through system programming (→ Currency [921]). The charge can consist of up to 7 digits (e.g., 88888.75), and the number of decimal places can be assigned through system programming (→ 1.20.2 Call Charge Calculation). |

\*1 A maximum of 32 digits can be shown when "Without Charge" is selected in Call Charge Information SMDR Format 1 [922]. If "With Charge" is selected, the maximum is 24 digits.

The following data can be controlled through system programming to adjust whether (or how) they are printed or displayed by SMDR.

#### [Programmable Items]

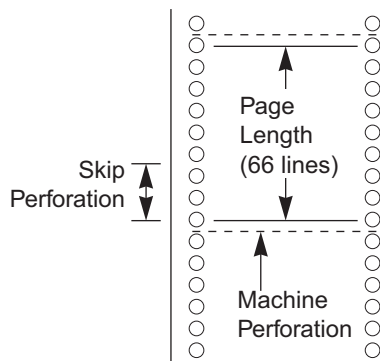
| Item                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Incoming/Outgoing outside (CO) line call</b> | Controls whether incoming/outgoing outside (CO) line calls are shown (→ Incoming/Outgoing Call Selection for Printing [802]). Even if "On" or "Toll" is selected for outgoing outside (CO) line calls or even if "On" is selected for incoming outside (CO) line calls, when "MODE 2" is selected in SMDR Mode for Printing [929], the call log information is not displayed by SMDR, but the information for each extension is displayed by Call Log Printout.<br>If "Toll" is selected for outgoing outside (CO) line calls, only calls that are checked in TRS—COS 2-5 Denied Code [302-305] and are allowed, are shown. |
| <b>Caller's identification</b>                  | Controls whether a caller's telephone number is shown (→ Caller ID SMDR Format [906]). When this is set to display telephone numbers, even if the PBX receives a caller's name by the Caller ID feature, only the telephone number is shown.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Secret Dialling</b>                          | Controls whether a secret dialling number stored in System Speed Dialling Number [001] or stored as a One-touch Dialling button is shown by SMDR (→ Secret Number SMDR Print Suppression [803]).                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Account Code</b>                             | Controls whether the account code stored in Account Code [310] or just the index of the account code is shown (→ SMDR Account Code [805]). The index of the account code is shown when "Verify-All" or "Verify-Toll" is selected in Account Code Mode [605].                                                                                                                                                                                                                                                                                                                                                                |
| <b>Call Charge</b>                              | Controls whether the charge for outside (CO) line calls is shown or not (→ Call Charge Information SMDR Format 1 [922]), or whether nonessential zeros that precede the charge are shown by SMDR (→ Call Charge Information SMDR Format 2 [923]).                                                                                                                                                                                                                                                                                                                                                                           |

| Item                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System programming items</b> | <p>Controls whether system programming items that have already been assigned are shown based on the following parameters (→ System Data Dump [804]):</p> <ul style="list-style-type: none"> <li><b>a) All para:</b> All data</li> <li><b>b) System para:</b> All data except for "CO para", "Extn. para", "DSS para" and "Speed dial"</li> <li><b>c) CO para:</b> The data assigned for each outside (CO) line</li> <li><b>d) Extn. para:</b> The data assigned for each extension</li> <li><b>e) DSS para:</b> The data assigned on the Direct Station Selection (DSS) buttons and Programmable Feature (PF) buttons on the DSS Console</li> <li><b>f) Speed dial:</b> The System Speed Dialling numbers and names in System Speed Dialling Number [001] and System Speed Dialling Name [011]</li> <li><b>g) Stop output:</b> Not shown</li> </ul> |

## Conditions

- SMDR data is not deleted even if the PBX is restarted. It is cleared when output via RS-232C to a PC, printer, etc., or by performing System Data Clear.
- **Multilingual Display by SMDR**  
It is possible to select the display language used for SMDR through system programming (→ SMDR Language [806]).
- The PBX waits for a preprogrammed length of time (→ Call Duration Counter Start [204]) after the end of seizing an outside (CO) line or dialling, before starting the call duration counter for outgoing outside (CO) line calls. When the PBX has sent out all dialled digits to the telephone company and this timer expires, the PBX begins measuring the duration of the call. A display proprietary telephone (PT) shows the elapsed time of the call. The starting time and the total duration of the call are logged by SMDR. If Reverse Signal Detection is enabled for an outside (CO) line (→ Polarity Reverse Detection [424]), the PBX will start the call duration counter immediately after the outside party answers the call.
- **For SMS users**  
When an SLT user makes an SMS centre call (→ 1.17.3 Fixed Line SMS Terminal Support), in some cases the duration of the call may not be verified with SMDR, because it takes very little time to send SMS messages. To verify the duration of these calls, it is recommended to set the start timer of call duration to "5 s" or "Instantly" through system programming (→ Call Duration Counter Start [204]).
- **SMDR Format**  
The following SMDR format parameters can be set through system programming (→ SMDR Parameter [801]) in order to match the paper size being used by the printer:
  - a) Page Length:** determines the number of lines per page.
  - b) Skip Perforation:** determines the number of lines to be skipped at the end of every page.

The page length should be at least 4 lines longer than the skip perforation length.  
The title is placed on the first 3 lines of every page.  
To enable the changes, you must turn the power switch of the PBX off and back on again after changing this setting.



- **Serial Interface (RS-232C) Parameters**

The following communication parameters can be assigned for the Serial Interface (RS-232C) port through system programming (→ SMDR RS-232C Parameter [800]):

- a) **New Line (NL) Code:** Select the code appropriate for the PC or printer. If the PC or printer automatically feeds lines with carriage return, select "CR". If not, select "CR+LF".
  - b) **Baud Rate:** Baud rate indicates the transmission speed of data from the PBX to the PC or printer.
  - c) **Word Length:** Word length indicates how many bits compose each character.
  - d) **Parity Bit:** Parity bit indicates what type of parity is used to detect errors in the string of bits composing a character. Make an appropriate selection depending on the requirements of the PC or printer.
  - e) **Stop Bit Length:** Stop bit indicates the end of a bit string that composes a character. Select an appropriate value depending on the requirements of the PC or printer.
- The codes for "**Dial number**" will be abbreviated as shown below, if all of the following conditions are met:
    - an optional Caller ID card is installed.
    - "With CID" is selected in Caller ID SMDR Format [906].
    - "With Charge" is selected in Call Charge Information SMDR Format 1 [922].

Abbreviation of codes:

<incoming> → <I>

<DISA incoming> → <DI>

<BV incoming> → <BI>

<DIL incoming> → <LI>

<UCD waiting> → <UW>

- If the charge of a call exceeds 7 digits, considering that the decimal point does not move, all numbers will be replaced by nines (e.g., 99999.99).
- Before changing the decimal point position (→ Decimal Places [190]), output or clear all SMDR data. Otherwise, the charge value for the accumulated data will be displayed incorrectly.

## Installation Manual References

- 2.3.8 Message Expansion Card for DISA/UCD OGMs (KX-TE82491)
- 2.8.1 Connecting Peripherals
- 4.1.5 System Reset with System Data Clear

## 1.20.1.2 Call Log Printout for Each Extension

### Description

Calls can also be logged according to which extension they were made from, and printed out. An extension assigned as the manager extension can use the following features through manager programming:

- a) Call Log Print Out and Clear, for Each Extension
- b) All Clear

### [Example]

The manager can print out call logs for each extension. Up to 500 outgoing outside (CO) line calls can be logged in the PBX. When an optional message expansion card for DISA/UCD OGMs is installed, the number of calls that can be stored increases to 10 000. If the memory becomes full, the oldest call will be overwritten each time a call is received.

Calls stored since the manager cleared the call log for an extension can be printed out.

| *****                |               |      |           |                          |           |          |      |  |
|----------------------|---------------|------|-----------|--------------------------|-----------|----------|------|--|
| * 103 : Tony Viola * |               |      |           |                          |           |          |      |  |
| *****                |               |      |           |                          |           |          |      |  |
| (1)                  | Starting Date | :    | Dec.29.05 | 07:00PM**                |           |          |      |  |
|                      | Present Date  | :    | Dec.31.05 | 09:00PM                  |           |          |      |  |
| Date                 | Time          | Ext. | CO        | Dial number              | Duration  | Charge   | Code |  |
| 12/31/05             | *12:52PM      | 103  | 05        | 123456789012345678901234 | 00:00'16" | 0.04 EUR | .... |  |
| 12/31/05             | 1:04PM        | 103  | 06        | 092...1438               | 00:00'06" | 0.02 EUR | 4536 |  |
| 12/31/05             | 1:06PM        | 103  | 01        | 092123456789             | 00:00'08" | 0.02 EUR | .... |  |
| 12/31/05             | 1:07PM        | 103  | 01        | 0921234567               | 00:11'00" | 0.55 EUR | ..13 |  |
| 12/31/05             | 2:15PM        | 103  | 01        | 0921234567               | 00:11'00" | 0.55 EUR | .101 |  |
| 12/31/05             | 2:26PM        | 103  | 01        | F/0927654321             | 00:03'00" | 0.15 EUR | .101 |  |
| Total                |               |      |           |                          |           | 1.33 EUR |      |  |

(1) **"Starting Date"** shows the start date (Month/Day/Year) of the call log. "\*\*\*" indicates that there may be overwritten calls that are not shown on the print out. In this case, the total of the shown call charges may be different from the actual total charge. The total charge under the line is the correct one. The date format varies depending on the user's country/area.

(2) **"Charge"** shows the call charge when Call Charge Calculation is enabled (→ Call Charge Calculation [441]) and "With Charge" is selected (→ Call Charge Information SMDR Format 1 [922]) through system programming. A call charge of up to 7 digits is shown for each call, and the Total can consist of up to a maximum of 17 digits including whole numbers (max. 10 digits), the decimal point, and a preprogrammed number of decimal digits (max. 6 digits) (→ Decimal Places [190]). If the call charge exceeds the maximum number of digits, considering that the decimal point does not move, all numbers will be replaced by nines.

### Conditions

- Call Log Printout data is not deleted even if the PBX is restarted. It is cleared through manager programming or by performing System Data Clear.
- Even if an extension user holds a call, the duration of the call will be counted. If an extension user transfers the call, the count of duration will restart at the destination extension.

- **SMDR Mode for Printing**

One of the following modes can be selected through system programming (→ SMDR Mode for Printing [929]):

- a) **MODE 1**

Outside (CO) line call information is displayed by SMDR (→ 1.20.1.1 Station Message Detail Recording (SMDR)), and call log information for each extension is displayed by Call Log Printout.

- b) **MODE 2**

Only call log information for each extension is displayed by Call Log Printout.

- It is possible to control whether a secret dialling number stored in System Speed Dialling Number [001] or stored as a One-touch Dialling button is shown by Call Log Printout (→ Secret Number SMDR Print Suppression [803]). When "No Printing" is selected, numbers dialled secretly will be shown as dots.
- It is possible to control whether "**Dial number**" is shown by Call Log Printout (→ Secret Printing [924]).
- Before changing the decimal point position (→ Decimal Places [190]), clear all Call Log Printout data. Otherwise, the charge value for the accumulated data will be displayed incorrectly.

## Installation Manual References

2.3.8 Message Expansion Card for DISA/UCD OGMs (KX-TE82491)

4.1.5 System Reset with System Data Clear

## User Manual References

3.2.2 Managing Call Logs and Call Charges