

F E A T U R E O V E R V I E W



SMDR

(Station message detail recording)

Introduction

On ESI systems, **station message detail reporting** (SMDR) closely emulates the Panasonic® DBS® 824 SMDR format — with the exception that Esi-Link location numbers are included in the SMDR record where the Panasonic “walking COS¹” code would be.

Virtually all call accounting systems marketed in North America that support Panasonic DBS SMDR will also support the ESI SMDR **tabular** record format (see “Tabular SMDR format,” *below*). Many call accounting system makers state in their literature and/or Web sites that their products are compatible with ESI systems.

SMDR may be output in one of three formats, selected in system programming: **tabular (standard)**, **CSV**, or **extended**. The tabular format is the default.

Stored SMDR

You can store **SMDR records** if using either **(a.)** a compatible ESI Communications Server equipped with the ESI Applications Services Card (ASC) or **(b.)** an IP Server 900 (which has ASC capabilities built into the main board). Either system stores up to 20,000 SMDR records, in extended format, on the optional ASC Memory Module (hard drive).

Stored SMDR records can be exported to the .CSV format through the use of *ESI Media Manager*. (Third-party software is still required to perform any call-accounting functions.) For details on *ESI Media Manager*, see the *ESI Media Manager Installation Guide* (ESI # 0450-1240).

Tabular SMDR format

ESI's tabular SMDR output format, which is compatible with the standard Panasonic® DBS® format except for the last two (ESI-exclusive) items, is as shown below:

Four-digit dial plan

```
      1           2           3           4           5           6           7           8
1234567890123456789012345678901234567890123456789012345678901234567890
T MM/DD HH:MM:SS HH:MM:SS NNNN XXXXXXXXXXXXXXXXXXXXXXXXXXXX AAAAAAAAAA EE RR LLL
```

Three-digit dial plan

```
      1           2           3           4           5           6           7           8
1234567890123456789012345678901234567890123456789012345678901234567890
T MM/DD HH:MM:SS HH:MM:SS NNN XXXXXXXXXXXXXXXXXXXXXXXXXXXX AAAAAAAAAA EE RR LL
```

(Continued)

¹ Class of Service.

The columns are:

- **Call type** — Outbound (“O”), inbound (“I”) or transferred (“T”) at column 1.
- **Date** (“MM/DD”) — Begins at column 3.
- **Start time** (“HH:MM:SS”) — Begins at column 9.
- **Duration** (“HH:MM:SS”) — Begins at column 18.
- **Extension number** (“NNNN” under the four-digit dial plan, “NNN” under the three-digit dial plan) — Begins at column 27.
- **Digits dialed** (right-justified)/**Caller ID** (left-justified) — Begins at column 32 under the four-digit dial plan or column 31 under the three-digit dial plan (28 characters).
- **Account code** (“AAAA”) — Begins at column 60. (See also “SMDR format when using account codes,” page 4.)
- **Esi-Link home location number** (“EE”)¹ — Begins at column 71.
- **Esi-Link remote location number** (“RR”)¹ — Begins at column 74.
- **CO line number** (“LLL” under the four-digit dial plan, “LL” under the three-digit dial plan) — Begins at column 77.

Each record is terminated with a line feed and carriage return character.

CSV SMDR format

The **comma-separated value (CSV)** format is readable from within *Excel*® and other spreadsheet applications.

Note: The CSV format does not support account codes (see page 4).

A CSV record is output for each completed call, and represented as follows (word-wrapped):

Format:

```
"T", "MMDDYYYY", "HHMMSS", "HHMMSS", "NNN", "XXXXXXXXXX. . .XXX", "CCCCCCCCCC. . .CCC", "EE", "RR", "LL"
```

Example A (with Esi-Link):

```
"I", "07042002", "000852", "000059", "101", "2144229700", "ESTECH SYS INC. ", "01", "04", "54"
```

Example B (no Esi-Link):

```
"O", "10312003", "221502", "020512", "190", "12125551212", "", " ", " ", "11"
```

The fields are:

- **Call type** (“T”) — Outbound (“O”), inbound (“I”) or transferred (“T”).
- **Start date** (“MMDDYYYY”) — Eight characters, zero-filled.
- **Start time** (“HHMMSS”) — Six characters, zero-filled; 24 hour clock.
- **Duration** (“HHMMSS”) — Six characters, zero-filled.
- **Extension number** (“NNN”) — Four characters, space-filled, right-justified.
- **Digits dialed/Caller ID** (“XXXXXXXX . . .XXX”) — Up to 28 characters, null-filled.
- **Caller ID name** (“CCCCCCCCCC . . .CCC”) — Up to 24 characters, null-filled.
- **Esi-Link home location number** (“EE”)¹ — Two characters (two-digit suffix).
- **Esi-Link remote location number** (“RR”)¹ — Two characters, null-filled (two-digit suffix).
- **Line number** (“LL”) — Three characters, null-filled, right-justified.

Each field is delimited with double quote marks and separated with a single comma. Null fields are still included as place holders (see Example B, *above*). Each record is terminated with a line feed and carriage return character.

¹ Used only when Esi-Link is enabled and programmed. Esi-Link SMDR records are generated at only the home location.

Extended SMDR format

Note: The extended SMDR format is available on only either **(a.)** ESI Communications Servers running system software version xx.3.0 (or higher) or **(b.)** an IP Server 900. For system software downloads, visit www.esi-estech.com/Resellers/software.

```

1           2           3           4           5           6           7           8           9           10
012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
T MM/DD HH:MM:SS HH:MM:SS NNNN VTTT ddddddddddddddddddddddd aaaaaaaaaa ddddddddddd cccccccccc
    
```

The columns are:

- **Call type** — Outbound (“O”), inbound (“I”) or transferred (“T”) at column 1.
- **Date** (“MM/DD”) — Begins at column 3.
- **Start time** (“HH:MM:SS”) — Begins at column 8. The start date and time of **(a.)** when the call was originated from or **(b.)** presented to the system or **(c.)** retrieved from hold or **(d.)** successfully transferred.
- **Duration** (“HH:MM:SS”) — Begins at column 17. The duration of the connection to the call plus, if the call was transferred or placed on hold, the duration the call was on hold until the call was retrieved from hold or the transfer was completed or the call was released (disconnected).
- **Extension number** (“NNNN”) — Begins at column 26. Includes the number of the resource that answered or originated the trunk call. Trunk numbers are prefixed with **T** (trunk-to-trunk calls only). If an incoming call isn’t answered and subsequently disconnects, this field will be blank.
- **CO trunk number** (“VTTT”) — Begins at column 31. When a voice mailbox answers a trunk call and the caller disconnects, the call record generated will populate this field with an asterisk (*). Otherwise, the field will be blank.
- **Digits dialed** — Begins at column 36 (24 characters). Outgoing and transferred outgoing calls: dialed number. Incoming and incoming transferred calls: DNIS or DID digits (DNIS takes precedence).
- **Account code** (“AAAA”) — Begins at column 61. (See also “SMDR format when using account codes,” page 4.) The account code will appear only in the call record of the station that dialed the account code.
- **Incoming Caller ID number** (“dddd”) — Begins at column 78 (10 characters).
- **Incoming Caller ID name** (“cccc”) — Begins at column 91 (12 characters).

Each record is terminated with a line feed and carriage return character.

Reporting conventions and rules

- Inbound and outbound call records are generated only for calls between a station and a CO line. ESI systems provide SMDR records only for calls answered by, or originated from, a system extension. ESI systems **don’t** provide SMDR records for the following types of calls:
 - **Incoming** calls . . .
 - To the auto attendant that don’t leave the auto attendant.¹
 - Directly to a mailbox.¹
 - Call-forwarded off-premises (using Intelligent Call Forwarding or ESI Presence Management).
 - **Outgoing** calls . . .
 - Call-forwarded off-premises (using Intelligent Call Forwarding or ESI Presence Management).
 - Sent to the auto attendant and forwarded out using go-to outdial branches.
 - Generated using message delivery notification.
- The duration of each call record represents the period of time during which the station controlled its portion of a call. A record is generated each time a station does any of the following:
 - Disconnects.
 - Places a call on hold.
 - Transfers a call.
- A single CO call could be included in multiple records if it is transferred from station to station.

¹ Supported on extended format only.

- Periods when calls are placed on hold or attempts at supervised transfers are unsuccessful are included in the station's record.
- Periods when calls are on hold, in the auto attendant, leaving/retrieving voice mail or in an ACD queue are not included in call records.
- A new record begins when a station answers an incoming call, a transferred call, or a hold recall.
- Records will be generated independently for all stations in a conference. If more than one CO line is involved in a conference, each call record generated by that conference will be associated with only the last line disconnected.
- Dialed digits don't include the line group or location number.
- Outbound calls begin a call record 10 seconds after the call has cleared toll restriction.

PC interface

- **On an IP Server 900:** Connect to the system over your LAN, using its IP address.¹
- **On an ESI Communications Server:** Use an RS-232C cable to connect a PC's serial port to the system's Maintenance/SMDR port.²

Note: SMDR data will be stored temporarily if a laptop is connected for programming (five to 15 minutes after you exit programming mode, the buffered SMDR data will resume output to the serial port).

SMDR format when using account codes

The account code will be output in the SMDR record in character positions 60 through 69, inclusive (compliant with Panasonic DBS SMDR format). A new line will be generated each time someone enters an account code (indicated below by "A").

```

      1           2           3           4           5           6           7           8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
T MM/DD HH:MM:SS HH:MM:SS NNN XXXXXXXXXXXXXXXXXXXXXXXXXXXX AAAAAAAAAA EE RR LL
    
```

Examples: One account code entered during an incoming call:

```

1234567890123456789012345678901234567890123456789012345678901234567890
I 11/23 09:22:45 00:10:15 104 2145559700 DOE AND CO.          1234500001 EE RR 07
    
```

Three different account codes entered during the same incoming call:

```

1234567890123456789012345678901234567890123456789012345678901234567890
I 11/23 09:22:45 00:10:15 104 2145552324 AAA FINANCIAL          1234500001 EE RR 07
I 11/23 09:33:00 00:27:00 104 2145552324 AAA FINANCIAL          1234500010 EE RR 07
I 11/23 10:00:00 00:56:22 104 2145552324 AAA FINANCIAL          1234500050 EE RR 07
    
```

A user should be able to tell from this SMDR report that the following charges should apply:

- Account 1234500001, for a 10-minute, 15-second call (between 9:22:45 and 9:33:00).
- Account 1234500010, for a 27-minute call (between 9:33:00 and 10:00:00).
- Account 1234500050, for a 56-minute, 22-second call (between 10:00:00 and 10:56:22).

There's no indication in the SMDR record if an incorrect account number was used.

Note: The *Es* and *Rs* starting at position 70 will be the only digits used for Esi-Link, which will display the last two digits of the cabinet numbers. For example, an Esi-Link intercom call between Cabinet 701 in Dallas and Cabinet 702 in Chicago would appear as: *01 02*.

¹ If necessary, consult the *IP Server 900 Hardware Installation Manual* (ESI # 0450-1305).
² If necessary, consult the *ESI Communications Servers Hardware Installation Manual* (ESI # 0450-1049).

Capturing SMDR data over Ethernet

The NSP (Network Services Processor) can be used to output SMDR data over an IP network; and a Telnet connection can be made to the NSP, using port xx003 (default is 59003), to capture this data. For more information, see *NSP Installation Made Simple* (ESI # 0450-0669).

Note: For more complete details on the ESI systems mentioned in this document, consult their respective documentation. ESI-trained Resellers may download product documentation from www.esi-estech.com/Resellers (password required).

TAPIT EX compatibility

Trisys, Inc., offers a call accounting application, *TAPIT EX*, that supports ESI's extended SMDR format. For more information about *TAPIT EX*, contact Trisys at 973 360-2300 or visit www.trisys.com.

About ESI

ESI (Estech Systems, Inc.) is a privately held corporation based in Plano, Texas. Founded in 1987, ESI specializes in business communications systems. ESI pioneered the all-in-one telephone and voice mail system. The original IVX, introduced in 1996, represented a radical breakthrough in system design: the inclusion of a full suite of features within a single integrated system.

Since its days as a small start-up, ESI has enjoyed exceptional stability and growth while maintaining its dedication to small-company values — including the need to take care of the most important part of the equation: your business.



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