SV8500/SV9500 LAN SMDR (TCP/IP)

Description

SMDR output formats can be divided into two types;

1. Legacy Interface format (KA, KE, KB) and
2. Flexible Interface format (KK, KL, KM).

The Legacy Interface format can be used in ICS, IMX, IPX, SV8500 and SV9500 Appliance Model via RS-232C.

The Flexible Interface format can be used in IMX, IPX, SV7000, SV8500 and SV9500, via LAN or RS-232C (IMX, IPX, SV8500 and SV9500 Appliance Model can support RS-232C connection).

Note – For LAN interface the following applies:

1. ***TCP/IP output of SMDR only supports IMX format messaging***
2. ***TCP/IP output only supports "Flexible" format*** - (KK - Outgoing, KL – Incoming, KM – Station to Station).

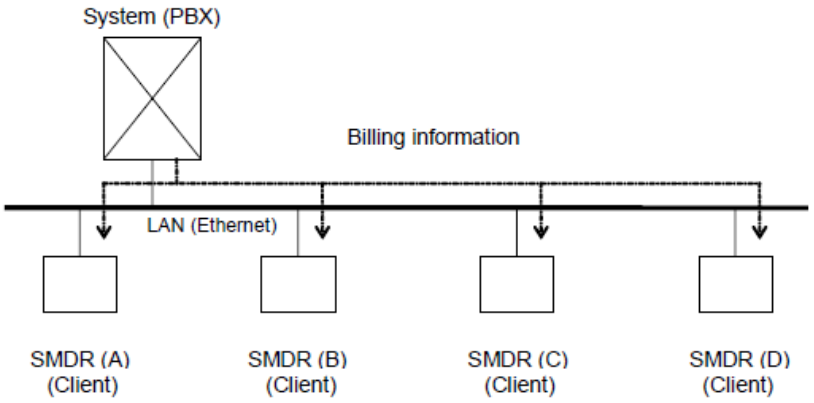
Flexible format is described in the following section of this document.

System Configuration TCP/IP

System Configuration

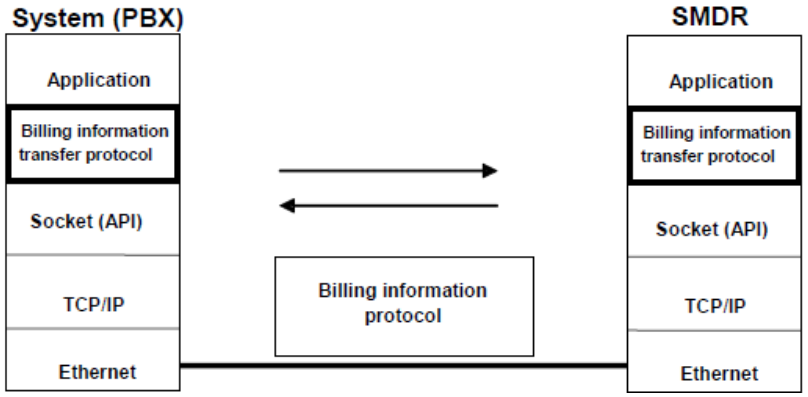
Billing information can be output via LAN (Ethernet) interface.

Figure 2.1 System Configuration



Protocol Stack

Figure 2.2 Protocol Stack



Interface Specifications

a) Transport protocol: TCP stream type protocol

b) Physical layer: Ethernet

- SV8500/SV9500 : 10Mbps/100Mbps Auto Negotiation Half Duplex/Full Duplex

c) Server/Client

Server : SV8500, SV9500
Client : SMDR

d) Software condition

-PBX Socket interface : Conforms to 4.3 BSD socket interface
-External device : Uses the library of WinSock, UNIX socket etc.

e) Application port number : **60010** (Defined at the system side)

f) Number of connections : 4 connections

g) Transmission code :

Transmission code ASCII 8 bit (no parity)
Control code SYN: 16H Indicating the beginning of the text
STX: 02H Indicating the head of a billing information record
ETX: 03H Indicating the end of a billing information record
ACK: 06H Indicating an acknowledgement
NAK: 15H Indicating a Non-acknowledgement

h) Error control Method: Horizontal parity method (Default: Odd parity)
(Possible to select either Odd parity or Even parity)

Note: The socket interface shall be used for outputting billing information to a billing output device

Capacity of Billing Buffer

In the event of a breakdown of SMDR, billing information can be backed up to billing buffer of the system (PBX).

Terms In This Specification	System	Model	Capacity of Buffer (Maximum Number of Calls)
SV7000/SV8500/ SV9500	UNIVERGE SV7000, SV8500, SV9500	-	47,000

Note: Once the buffer becomes full, new billing information cannot be stored into the buffer.

TCP/IP Procedure

Timings to Establish a Connection with a LAN, Output Billing Information, and Release the Connection

Timing to Establish a Connection
A connection is established when a connection request is received from the SMDR.

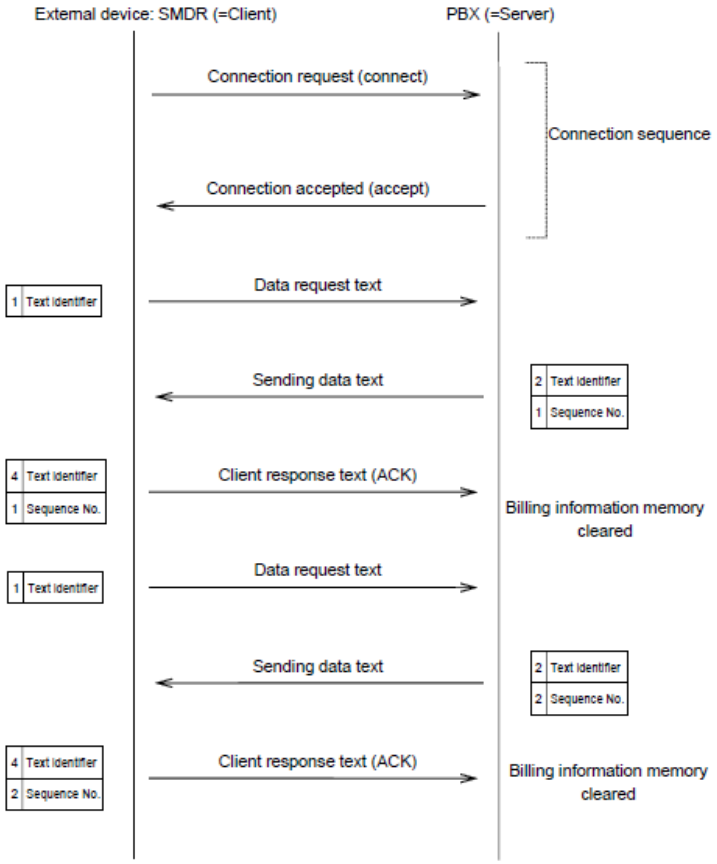
Timing to Output Billing Information
When a polling request is received from the SMDR connected to LAN, billing information is output, provided that the SMDR equipage data (system data) is in a registered state and that a billing data table is in store.

Timing to Release the Connection
The SMDR discards the socket and performs processing to release the connection when it does not receive data from the system (PBX) in a predetermined time interval.
The system (PBX) discards the socket and performs processing to release the connection when it receives connection release text from the SMDR or does not receive data from the SMDR within a given time interval.

Sequence

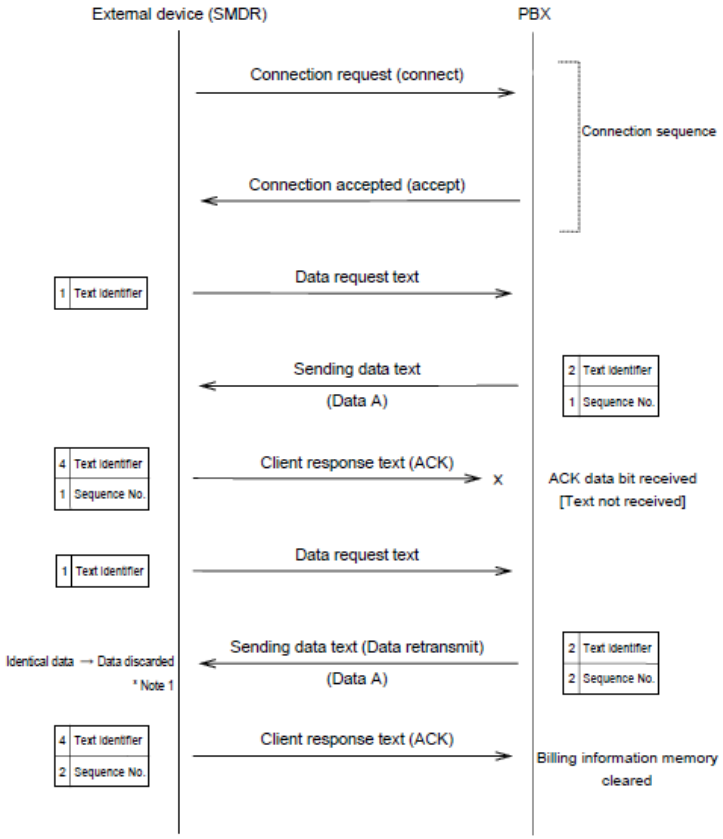
Connection Establishment/Data Reception/Connection Release Sequence (Normal Processing)

Normal processing sequence to be followed when SMDR requests the PBX to send data



Connection Establishment/Data Reception/Data Re-request (Error Processing)

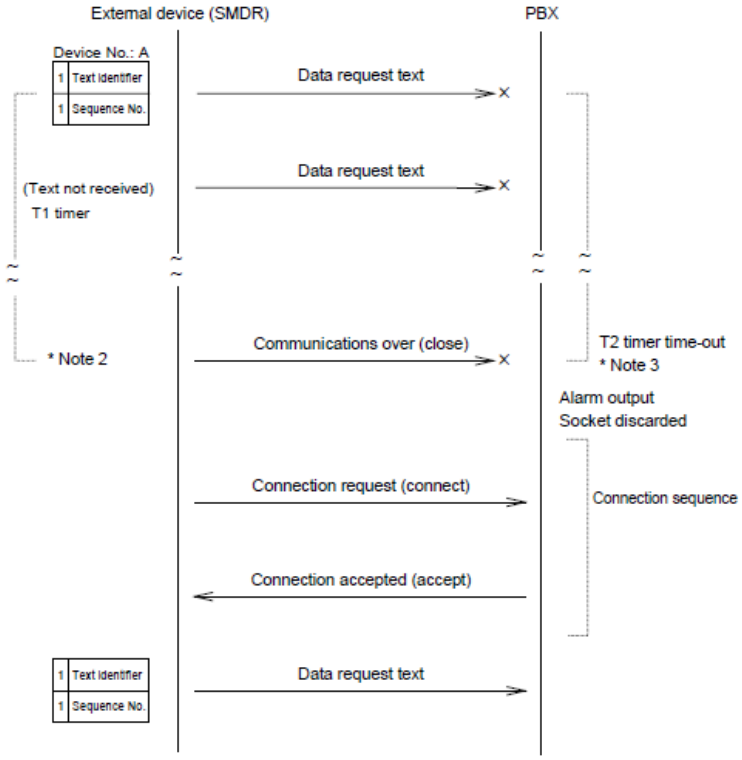
Error processing sequence to be followed when SMDR requests the PBX to send data and fails to receive data



* Note 1 : To prevent double reception of the same data, SMDR check the received data whether it is the same data to the preceding one. (Doubly received data is discarded.)

Reconnection Sequence (Part 1)

Processing sequence to be followed when SMDR and the PBX fail to communicate.



* Note 2 : If the sequence is repeated in a predetermined time, and there is still no response from the PBX, the socket will be discarded or (communications over) processing will be performed.

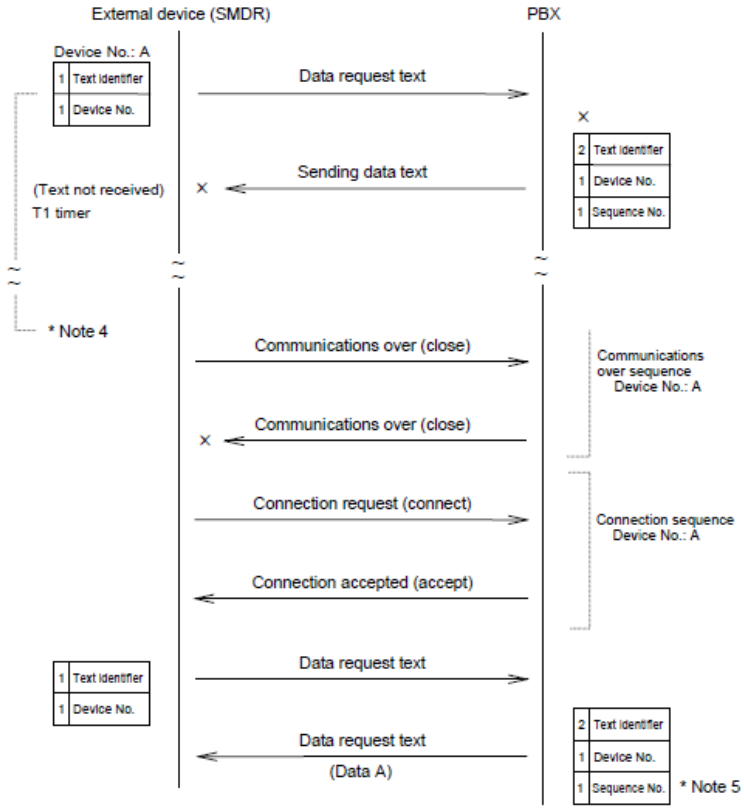
* Note 3 : The T2 timer mentioned above will be cleared when either a "status monitoring text" or "data request text" is received.

T1 Timer value until the next processing
Default value: 10 sec.
Data range: 1 sec to 30 sec.

T2 Timer value until the next processing
Default value: 10 sec.
Data range: 1 sec to 255 sec.

Reconnection Sequence (Part 2)

Processing sequence to be followed when SMDR and PBX fail to communicate. (When SMDR performs reconnect processing and the PBX retains the previous socket)

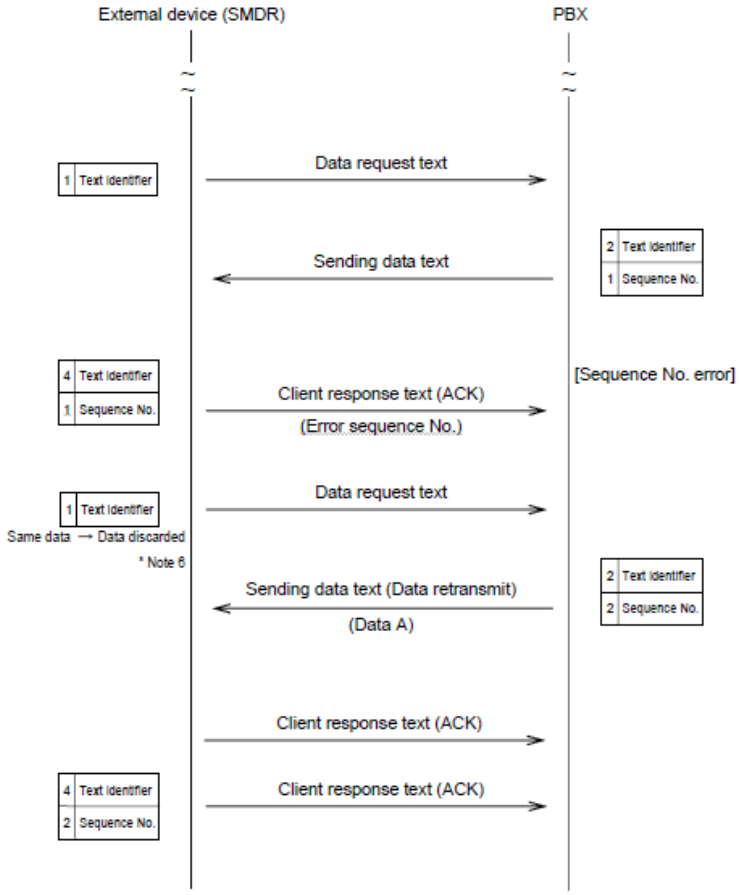


* Note 4 : If the sequence is repeated in a predetermined time, and there is still no response from the PBX, the socket will be discarded or (communications over) processing will be performed.

* Note 5 : The socket connected to the same device No. must not exist.
T1 Timer value until the next processing
Default value: 10 sec.
Data range: 1 sec. to 30 sec

Sequence Number Error Sequence

Error processing sequence to be followed when SMDR returns an error sequence number for the data it has received from the PBX.



*Note 6 : In the above sequence, SMDR will receive the same data twice. To prevent double reception of the same data, SMDR checks the received data whether it is the same data to the preceding one. (Doubly received data is discarded.)

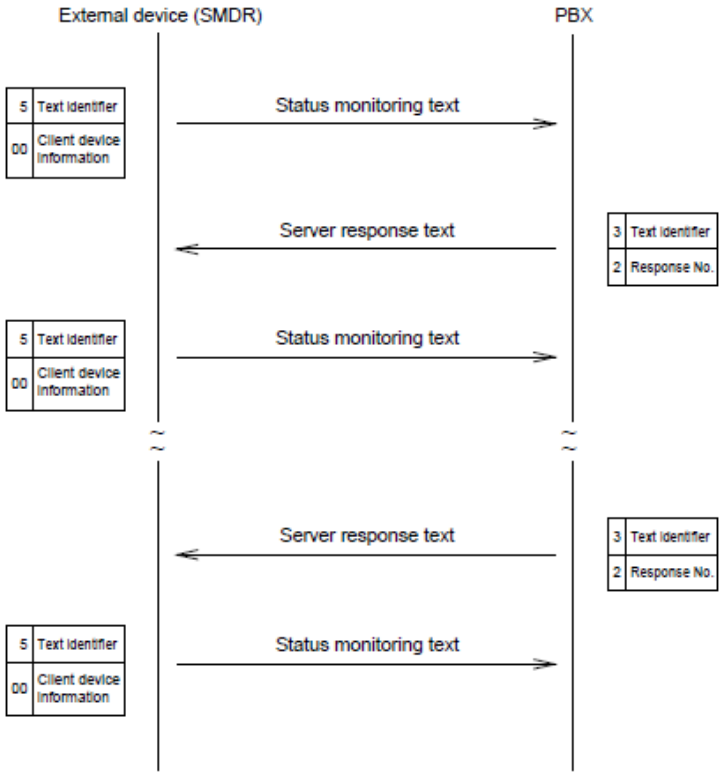
Server Sent Data Error (Data not Received by Client) Sequence

Processing sequence to be followed when the data sent by PBX to reach SMDR.

* Note 7 When the PBX repeats the processing sequence in a predetermined time consecutively, it will output an alarm.
T1 Timer value to the next processing
Default value: 10 sec.
Data range: 1 sec to 30 sec.

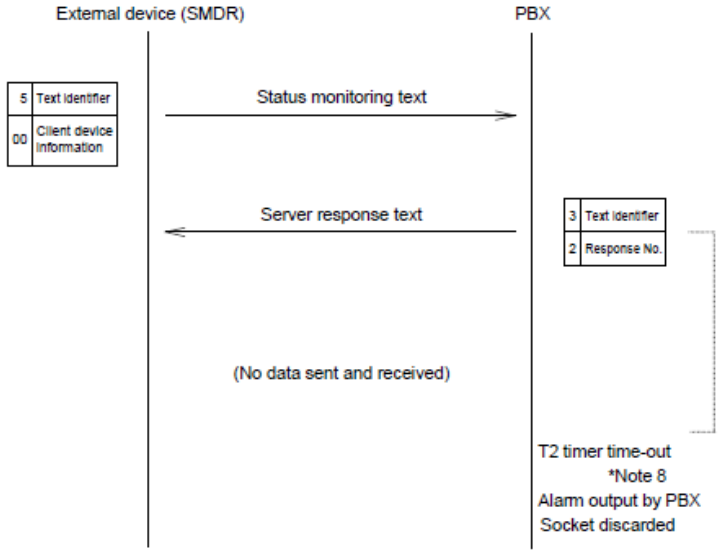
Status Monitoring Sequence (Normal Processing)

Processing sequence to be followed when SMDR does not send a "data request text" to the PBX.



Status Monitoring Sequence (When Client Error is Detected)

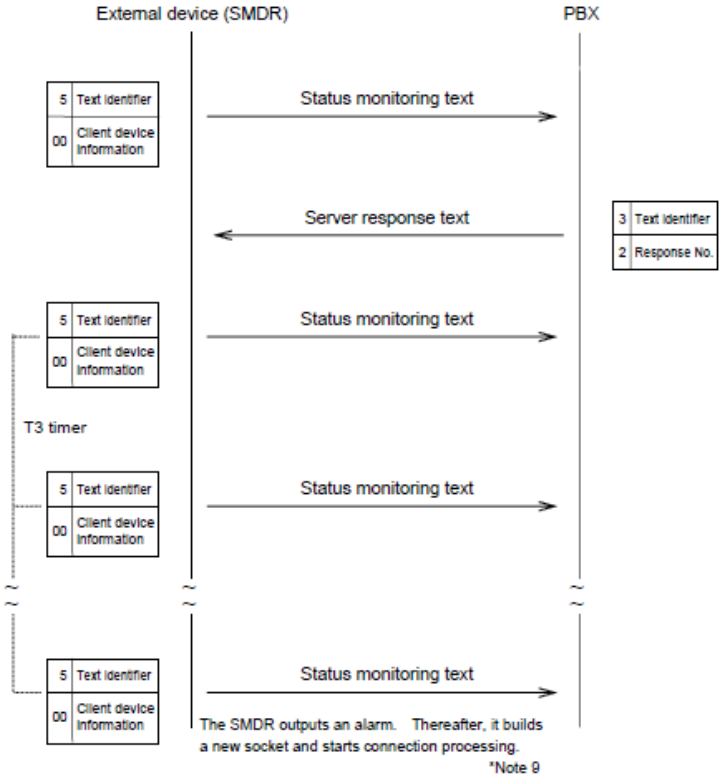
Processing sequence to be followed when the server detects SMDR error during status monitoring.



*Note 8 : The T2 described above will be cleared when either a "status monitoring text" or "data request text" is received.

Status Monitoring Sequence (When Server Error is Detected)

Processing sequence to be followed when PBX error is detected by the SNDR during status monitoring (when there is no response from the PBX at all).



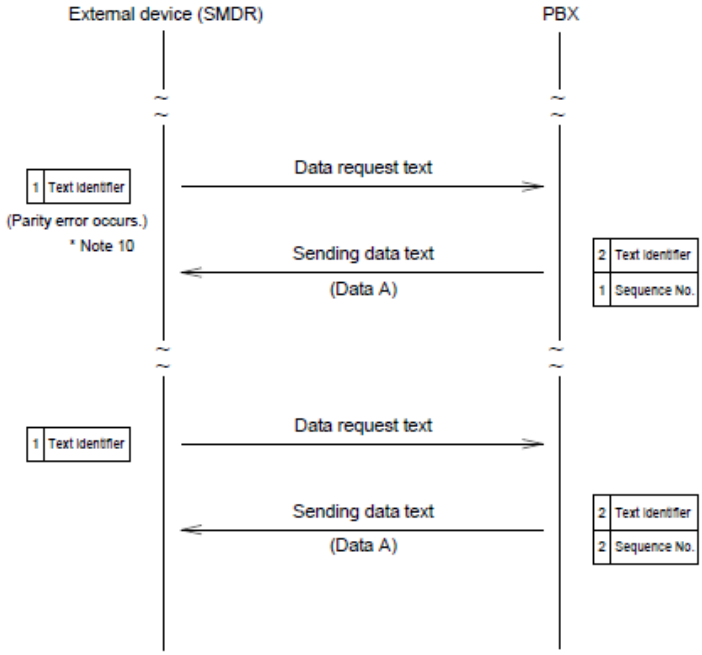
*Note 9 : When SMDR repeats the processing sequence a predetermined number of times without any response from the PBX, it will discard the existing socket and build a new socket and start connection processing.

Default value: 6 times
Data range: 1 to 15 times

T3 Timer value until the next processing
Default value: 10 sec.
Data range: 1 sec to 30 sec.

Parity Error Sequence (Client Side)

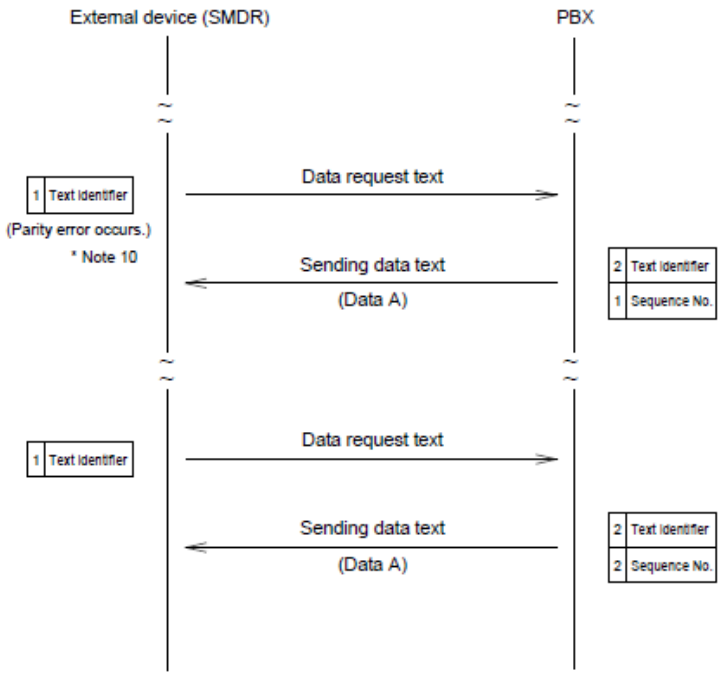
Processing sequence to be followed when a parity error occurs in the data SMDR has received from the PBX.



*Note 10 : When a parity error occurs a predetermined number of times, the SMDR will output an alarm, discard the existing socket, build a new socket and start connection processing.
Default value: 6 times
Data range: 1 to 15 times

Parity Error Sequence (Client Side)

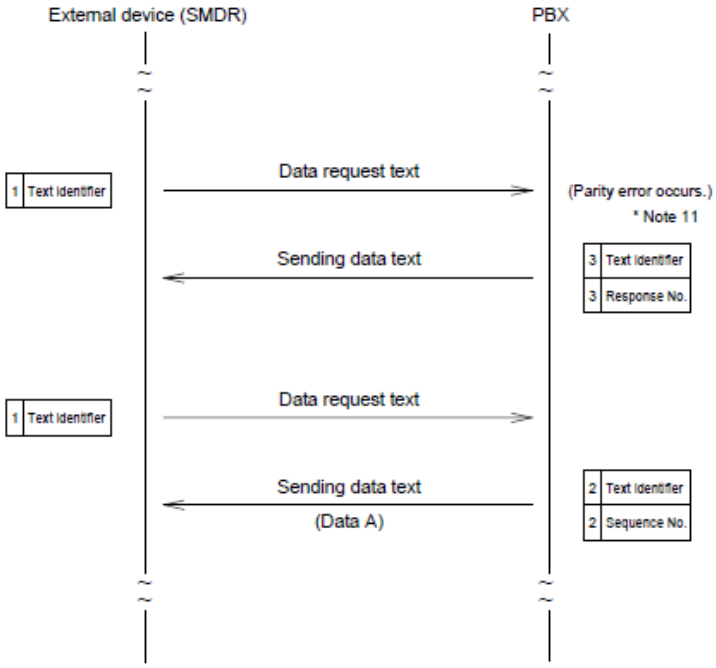
Processing sequence to be followed when a parity error occurs in the data SMDR has received from the PBX.



*Note 10 : When a parity error occurs a predetermined number of times, the SMDR will output an alarm, discard the existing socket and build a new socket and start connection processing.
Default value: 6 times
Data range: 1 to 15 times

Parity Error Sequence (Server Side)

Processing sequence to be followed when a parity error occurs in the data PBX has received from the SMDR.



* Note 11 When a parity error occurs a predetermined number of times consecutively, the SMDR will output an alarm and will have a new socket ready.

After a connection has been established with the new socket, the client will discard the old socket. When a parity error occurs at the PBX side, the SMDR will retransmit the last sent data.

Service Conditions

1. The number of billing output devices shall be 4 maximum per PBX.
2. The Flexible Interface format only shall be used for the transfer messages of the LAN interface of the SMDR.
3. Billing information cannot be output from the same PBX to both billing output devices of the LAN and RS-232C.

SMDR Data Frame

The sent/received information between SMDR and NEAX2400 is basically transferred in a block capsuled with STX (Start of Text) and ETX (End of Text) as described below.

Figure 3.1 SMDR Data Frame

STX: Start of Text

SA: System Address

UA: Unit Address

ETX: End of Text

Note: Characters used for CALL RECORD MESSAGE have to be ASCII code. For the details of ASCII code, refer to Appendix-A ASCII Code Table.

Difference between SMDR Format

Difference between Legacy Interface format and Flexible Interface format are as follows;

	System					Interface		Service		
	ICS	IMX	IPX	SV7000	SV8500/ SV9500	RS-232C	LAN	FCCS	Logical Number	MA-ID Billing
Legacy Interface format	X	X	X	-	X	X	-	-	-	-
Flexible Interface format	-	X	X	X	X	X	X	X	X	X

X: Available -: Not Available

- Legacy Interface format is available in ICS/IMX/IPX/SV8500 and SV9500 Appliance Model that connects via RS-232C interface.
- Legacy Interface format is not available in SV7000.
- SV7000 and SV9500 Prepackaged Server Model does not support RS-232C interface.
- As to Flexible Interface format, it is available in IMX/IPX/SV7000/SV8500/SV9500 with LAN interface, and billing data can be output in FCCS network service, logical number (Max. 16 digits) and MA-ID billing.

Call Record Description of Flexible Interface Format

Flexible Interface format is variable in its length, as each data type has "data type area" and "data length area".

The following table shows the data types.

Quick Reference Table of Data Types

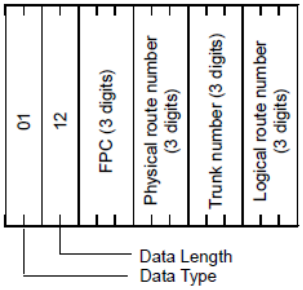
Data Type	Description	Outgoing Call	Incoming Call	Intercom Call
00	Not used	N	N	N
01	Seized trunk/Incoming trunk information	X	X	N
02	Calling party information (Physical number)	X	N	X
03	Calling party information (Logical number)	XX	N	XX
04	Called party information (Physical number)	N	X	X
05	Called party information (Logical number)	N	XX	XX
06	Call start/end time	X	X	X
07	Account code	XX	XX	XX
08	Condition B information	X	X	X
09	Alternative routing information/Incoming route number	X	X	N
10	Dialed code	X	XX	N
11	Office code information (CCIS)	XX	XX	N
12	Authorization code	XX	XX	N
13	Condition C information + Billing rate information/ call metering information	X	XX	N
14	Condition D information + Billing reporting attendant console number	XX	N	N
15	Group code	XX	N	N
16	ANI Number	XX	XX	N
17	Conversion Number	XX	N	N
18	MA-ID	X	X	X
19	Trunk Arrival/Sending Time	XX(Note)	XX	N
20-99	Not used	N	N	N

X: Mandatory XX: Optional N: Not Available

Note: This Parameter is available in SV9500 V03 or Later, not available in SV9500 V02 or Earlier.

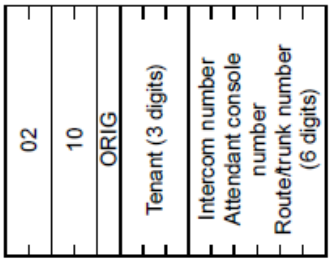
Contents of Data Type

00: Not used
01: Seized trunk/incoming trunk information * Outgoing/incoming call



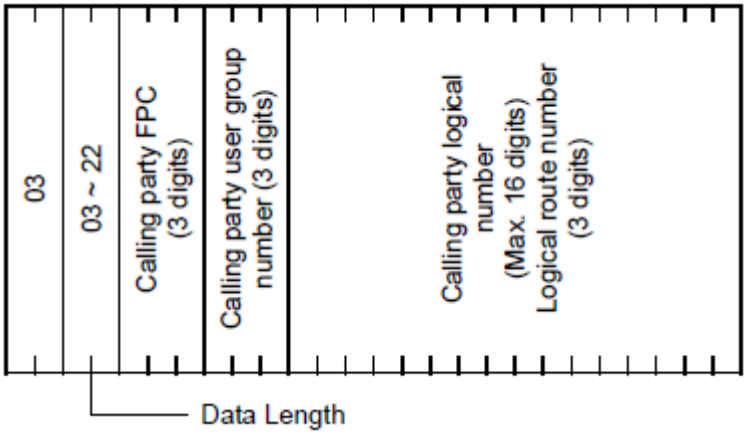
* FPC (FCCS Point Code) is an identifier of each node in FCCS network.
The value is 1~253.

02: Calling party information (Physical number) * Outgoing/intercom call

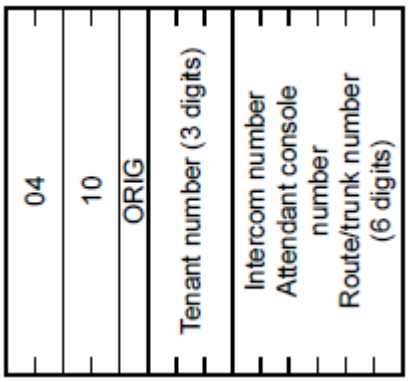


ORIG: Calling/called party information identifier
(ORIGINATING SOURCE IDENTIFICATION)
0: Denotes that the information is about an intercom line.
1: Denotes that the information is about an attendant console.
2: Denotes that the information is about a trunk.

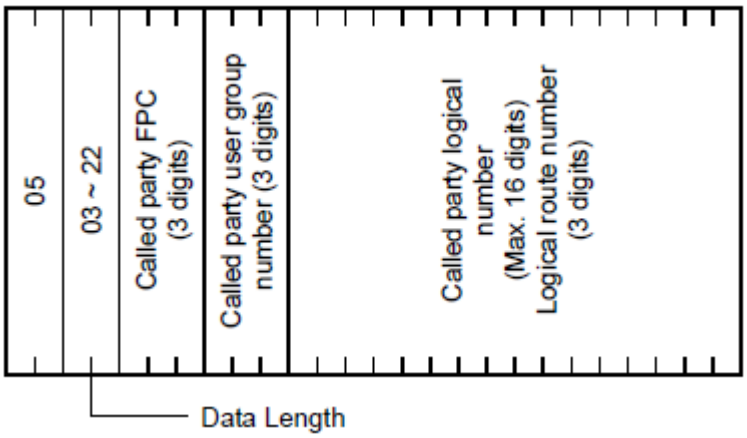
03: Calling party information (Logical number) * Outgoing/intercom call



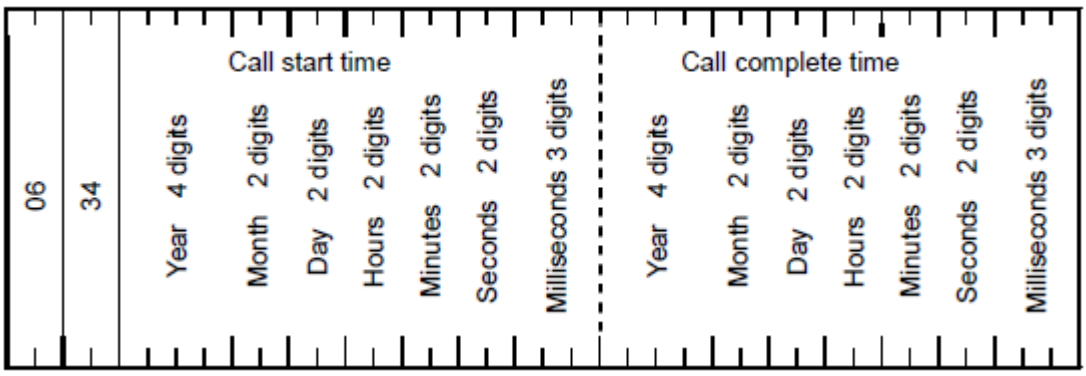
04: Called party information (Physical number) * Incoming/intercom call



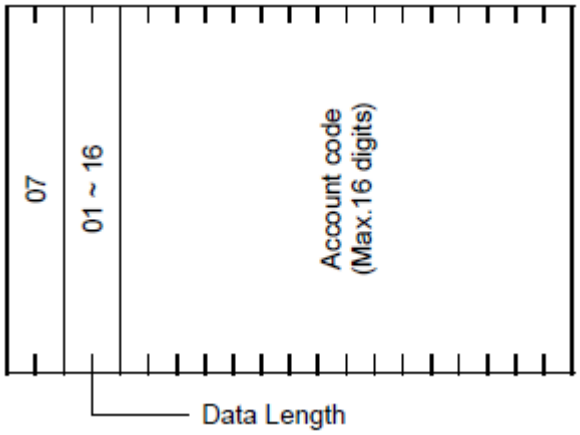
05: Called party information (Logical number) * Incoming/intercom call



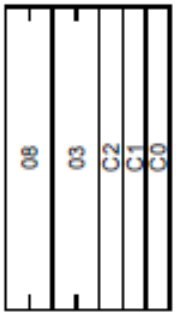
06: Call start/end time * Outgoing/incoming/intercom call



07: Account code * Outgoing/incoming/intercom call



08: Condition B information * Outgoing/incoming/intercom call

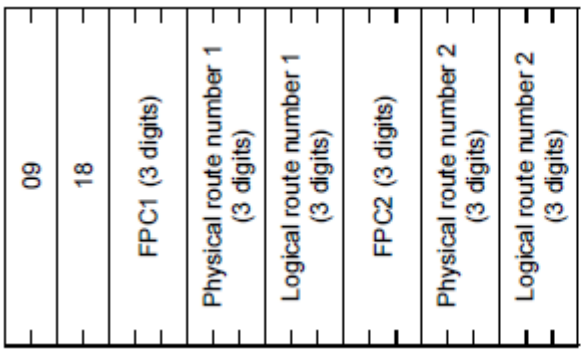


C0 = 0: Direct outgoing call (Normal connection)
1: Attendant-assisted outgoing call (Normal connection)
2: Direct outgoing call (Alternative connection)
3: Attendant-assisted outgoing call (Alternative connection)
4: Direct outgoing call (LCR connection)
5: Attendant-assisted outgoing call (LCR connection)
6. Direct outgoing call (Called party number: First 6 digits of converted number)
7: Attendant-assisted outgoing call (Called party number: First 6 digits of converted number)

C1 = 0:—
1: OG Queuing Outgoing Call
2: Accounted Code
3: OG Queuing & Accounted Code
4: Originated by Call Forwarding Out Side
5: —
6: CF-Out Side & Accounted Code

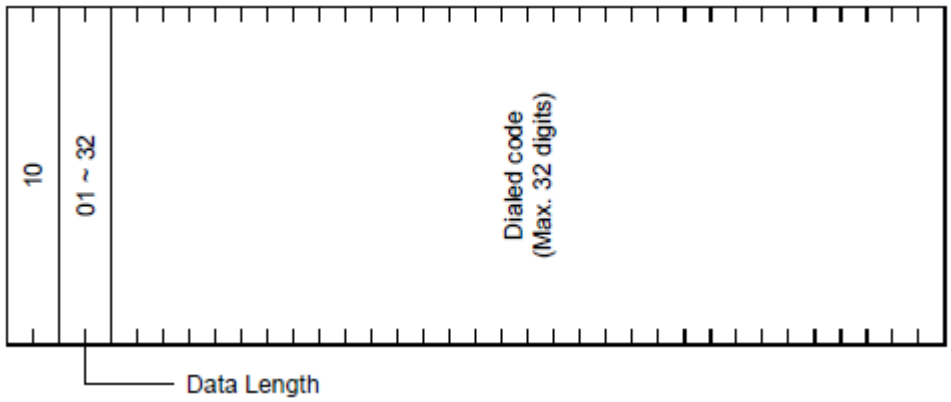
C2 = 0:—
1: Transfer
2: Continuous aggregation
3: Transfer continuous aggregation
4: Transfer final caller
5: Abandoned call(Abandoned incoming call/Abandoned outgoing call)

09: Alternative routing information/Incoming route number * Outgoing/incoming call

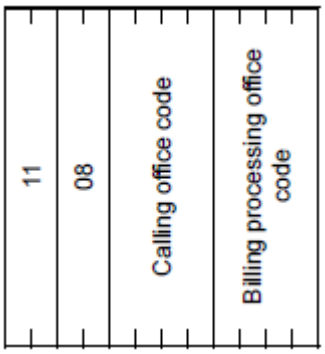


FPC1: Actually used FPC
Physical route number 1: Actually used physical route
Logical route number 1: Actually used logical route
FPC2: First selected FPC
Physical route number 2: First selected physical route
Logical route number 2: First selected logical route

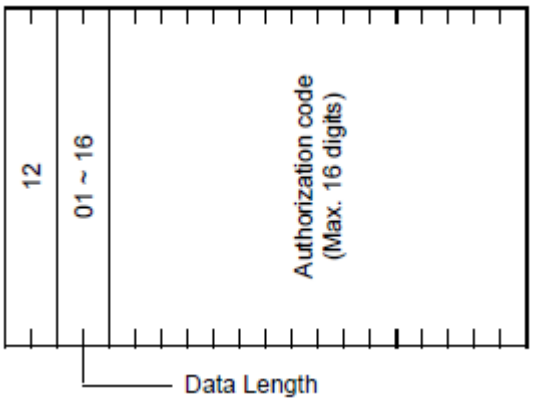
10: Dialed code * Outgoing/incoming call



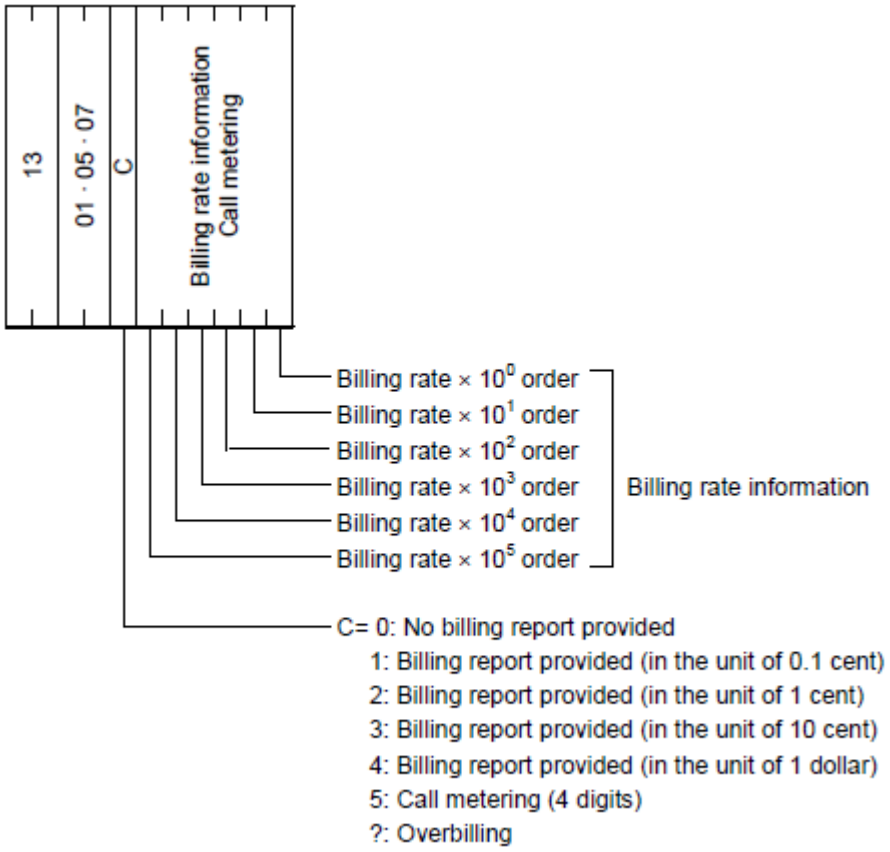
11: Office code information * Outgoing/incoming call



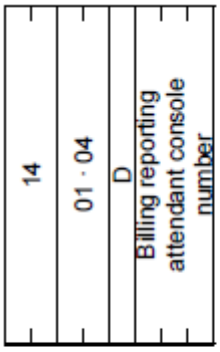
12: Authorization code * Outgoing/incoming call



13: Condition C information + Billing rate information/call metering information * Outgoing/incoming call

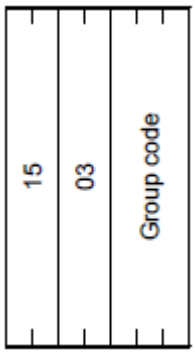


14: Condition D information + Billing reporting attendant console number * Outgoing call

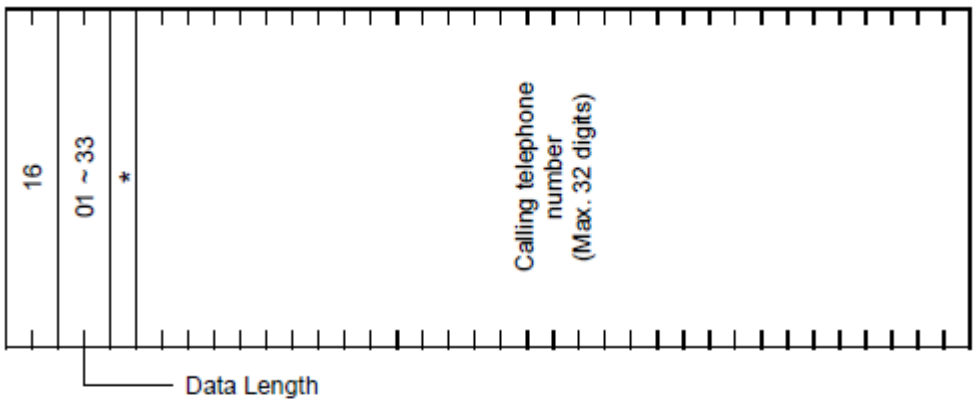


D = 0 : Attendant console billing report out of service
1 : Attendant console billing report valid

15: Group code * Outgoing call

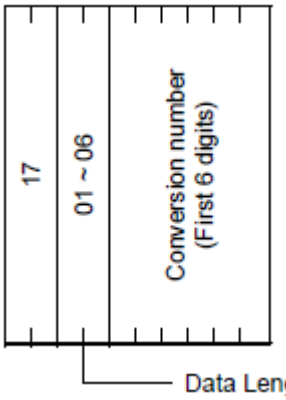


16: Calling telephone number * Outgoing/incoming call

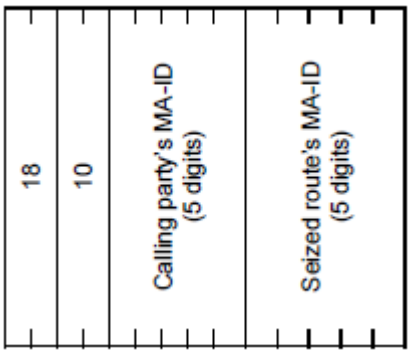


* Information element identifier =0: Not output
1: Output
2: Not informed
3: Service unavailable (Out of area)
4: Public telephone origination

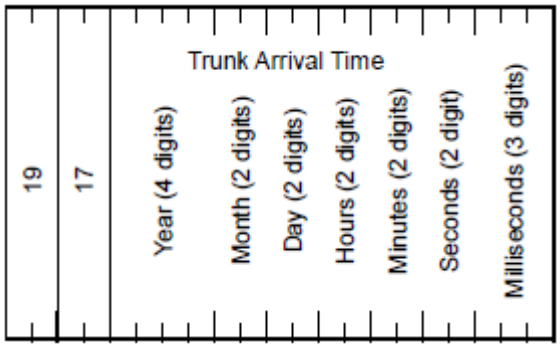
17: Conversion number * Outgoing call



18: MA-ID * Outgoing/incoming/intercom call



19: Trunk Arrival Time * Incoming call



20 ~ 99: Not used

KK - Outgoing Call Record

Character	Description	Outgoing Call Record	
STX	*Start of Text*	STX	
SA	*System Add*	SA	
UA	*Unit Add*	UA	
Call Record Message	*Entry Index*	Entry Index "K"	
	Type of Record	Type of Record "K"	
	Seized Trunk/ Incoming Trunk Information	Data Type	01
		Data Length	12
		Seized FPC	Hundreds
			Tens
			Units
		Route Number	Hundreds
			Tens
			Units
		Trunk Number	Hundreds
			Tens
			Units
		Logical Route Number	Hundreds
			Tens
			Units
	Calling Party Information (Physical Number)	Data Type	02
		Data Length	10
		ORIG (Originating Source Identification)	
		Tenant Number	Hundreds
			Tens
			Units
		Intercom Number Attendant Console Number Route/Trunk Number (6 digits)	
	Calling Party Information (Logical Number)	Data Type	03
		Data Length	03~22
		Calling Party FPC (FCCS Point Code)	Hundreds
			Tens
			Units
		Calling Party User Group Number	Hundreds
			Tens
			Units
		Calling Party Logical Number (16 digits maximum)	
		Logical Route Number	Hundreds
			Tens
			Units

Character	Description	Outgoing Call Record	
Call Record Message	*Start/End of Call Time*	Data Type	06
		Data Length	34
		Start of Call Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units
		End of Call Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units

Character	Description	Outgoing Call Record	
Call Record Message	*Account Code*	Data Type	07
		Data Length	01~16
		Account Code (16 digits maximum)	
	Condition B Information	Data Type	08
		Data Length	03
		C2	1
		C1	2
		C0	3
	Alternative Routing Information/ Incoming Route Number	Data Type	09
		Data Length	18
		FPC1	Hundreds
			Tens
			Units
		Physical Route Number 1	Hundreds
			Tens
			Units
		Logical Route Number 1	Hundreds
			Tens
			Units
		FPC 2	Hundreds
			Tens
			Units
		Physical Route Number 2	Hundreds
			Tens
			Units
		Logical Route Number 2	Hundreds
			Tens
			Units

Character	Description	Outgoing Call Record	
Call Record Message	*Dialed Code*	Data Type	10
		Data Length	01~32
		Dialed Code (32 digits maximum)	
	Office Code Information (For CCIS)	Data Type	11
		Data Length	08
		Calling Office Code (4 digits)	
		Billing Processing Office Code (4 digits)	
	Authorization Code	Data Type	12
		Data Length	01~16
		Authorization Code (16 digits maximum)	
	Condition C Information + Billing Rate Information/Call Metering Information	Data Type	13
		Data Length	01/05/07
		C	
		Billing Rate Information (Call Metering) (4 digits or 6 digits)	
	Condition D Information+ Billing Reporting Attendant Console Number	Data Type	14
		Data Length	01/04
		D	
		Billing Reporting Attendant Console Number (3 digits)	

Character	Description	Outgoing Call Record	
Call Record Message	*Group Code*	Data Type	15
		Data Length	03
		Group Code	Hundreds
			Tens
			Units
	Calling Telephone Number	Data Type	16
		Data Length	01~33
		Identifier	
		Calling Telephone Number (32 digits maximum)	
	Conversion Number	Data Type	17
		Data Length	01~06
		Conversion Number (First 6 digits)	
	MA-ID	Data Type	18
		Data Length	10
		Calling Party's MA-ID (5 digits)	
		Seized Route's MA-ID (5 digits)	

Character	Description	Outgoing Call Record	
Call Record Message	*Trunk Sending Time* (Note)	Data Type	19
		Data Length	17
		Trunk Sending Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units
ETX	*End of Text*	ETX	

Note: Trunk sending time for the abandoned outgoing trunk call is output in the case that ARTI/ARTIN CDN90(SMDS5) is set to "1" in SV9500 V03 or later.

KL - Incoming Call Record

Character	Description	Incoming Call Record	
STX	*Start of Text*	STX	
SA	*System Add*	SA	
UA	*Unit Add*	UA	
Call Record Message	*Entry Index*	Entry Index "K"	
	Type of Record	Type of Record "L"	
	Seized Trunk/ Incoming Trunk Information	Data Type	01
		Data Length	12
		Incoming FPC (3 digits)	
		Incoming Physical Route (3 digits)	
		Incoming Trunk (3 digits)	
		Incoming Logical Route (3 digits)	
	Called party Information (Physical Number)	Data Type	04
		Data Length	10
		ORIG (Originating Source Identification)	
		Tennant Number	Hundreds
			Tens
			Units
		Intercom Number Attendant Console Number Route/Trunk Number (6digits)	
	Called party Information (Logical Number)	Data Type	05
		Data Length	03~22
		Called Party FPC (FCCS Point Code)	Hundreds
			Tens
			Units
		Called Party User Group Number	Hundreds
			Tens
			Units
		Called Party Logical Number (16 digits maximum)	
		Logical Route Number	Hundreds
			Tens
			Units

Character	Description	Incoming Call Record	
Call Record Message	*Start/End of Call Time*	Data Type	06
		Data Length	34
		Start of Call Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units
		End of Call Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units

Character	Description	Incoming Call Record	
Call Record Message	*Account Code*	Data Type	07
		Data Length	01~16
		Account Code (16 digits maximum)	
	Condition B Information	Data Type	08
		Data Length	03
		C2	1
		C1	2
		C0	3
	Alternative Routing Information/ Terminating Route Number	Data Type	09
		Data Length	18
		FPC1	Hundreds
			Tens
			Units
		Physical Route Number 1	Hundreds
			Tens
			Units
		Logical Route Number 1	Hundreds
			Tens
			Units
		FPC 2	Hundreds
			Tens
			Units
		Physical Route Number 2	Hundreds
			Tens
			Units
		Logical Route Number 2	Hundreds
			Tens
			Units

	Elements	Incoming Call Record	
Call Record Message	*Dialed Code*	Data Type	10
		Data Length	01~32
		Dial Code (32 digits maximum)	
	Office Code Information (For CCIS)	Data Type	11
		Data Length	08
		Calling Party's Office Code (4 digits)	
		Billing Processing Office Code (4 digits)	
	Authorization Code	Data Type	12
		Data Length	01~16
		Authorization Code (16 digits maximum)	
	Condition C Information →Billing Rate Information/Call Metering Information	Data Type	13
		Data Length	01/05/07
		C	
		Billing Rate Information (Call Metering) (4 digits or 6 digits)	
	Calling Telephone Number	Data Type	16
		Data Length	01~33
		Identifier	
		Calling Telephone Number (32 digits maximum)	

Character	Description	Incoming Call Record	
Call Record Message	*MA-ID*	Data Type	18
		Data Length	10
		Called Party's MA-ID (5 digits)	
		Incoming Route's MA-ID (5 digits)	

Character	Description	Incoming Call Record	
Call Record Message	*Trunk Arrival Time*	Data Type	19
		Data Length	17
		Trunk Arrival Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units
ETX	*End of Text*	ETX	

KM - Station-to-Station Call Record

Character	Description	Station-to-Station Call Record	
STX	*Start of Text*	STX	
SA	*System Add*	SA	
UA	*Unit Add*	UA	
Call Record Message	*Entry Index*	Entry Index "K"	
	Type of Record	Type of Record "M"	
	Calling Party Information (Physical Number)	Data Type	02
		Data Length	10
		ORIG (Originating Source Identification)	
		Tenant Number	Hundreds
			Tens
			Units
		Intercom Number Attendant Console Number Route/Trunk Number (6 digits)	
	Calling Party Information (Logical Number)	Data Type	03
		Data Length	03~22
		Calling Party FPC (FCCS Point Code)	Hundreds
			Tens
			Units
		Calling Party User Group Number	Hundreds
			Tens
			Units
		Calling Party Logical Number (16 digits maximum)	
		Logical Route Number	Hundreds
			Tens
			Units
	Called Party Information (Physical Number)	Data Type	04
		Data Length	10
		ORIG (Originating Source Identification)	
		Tenant Number	Hundreds
			Tens
			Units
		Intercom Number Attendant Console Number Route/Trunk (6 digits) Number	
	Called Party Information (Logical Number)	Data Type	05
		Data Length	03~22
		Called Party FPC (FCCS Point Code)	Hundreds
			Tens
			Units
		Called Party User Group Number	Hundreds
			Tens
			Units
		Called Party Logical Number (16 digits maximum)	
		Logical Route Number	Hundreds
			Tens
			Units

Character	Description	Station-to-Station Call Record	
Call Record Message	*Start/End of Call Time*	Data Type	06
		Data Length	34
		Start of Call Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units
		End of Call Time (Dominical Year)	Thousands
			Hundreds
			Tens
			Units
		Month	Tens
			Units
		Day	Tens
			Units
		Hour	Tens
			Units
		Minute	Tens
			Units
		Second	Tens
			Units
		Millisecond	Hundreds
			Tens
			Units
	Account Code	Data Type	07
		Data Length	01~16
		Account Code (16 digits maximum)	

Character	Description	Station-to-Station Call Record	
Call Record Message	*Condition B Information*	Data Type	08
		Data Length	03
		C2	1
		C1	2
		C0	3
	MA-ID	Data Type	18
		Data Length	10
		Calling Party's MA-ID (5 digits)	
		Called Party's MA-ID (5 digits)	
ETX	*End of Text*	ETX	