DIGITAL CLOCK DISTRIBUTOR

500 SERIES

INPUT/OUTPUT REFERENCE GUIDE

(Release 5.01.xx)

CONTENTS PAGE

1. GENERAL

1.01 This practice provides information on the input messages (commands), response messages, and automatic messages used with Telecom Solutions' Digital Clock Distributor (DCD) 500 System. The language used in this practice is Transaction Language 1 (TL1). To use the commands in this practice, an MIS card (part number 090-45018-25) is required.

1.02 Whenever this practice is reissued, the reason for reissue will be given in this paragraph.

2. DESCRIPTION

A. Conventions

2.01 The syntax and language structure used in this document follow the specifications in Bellcore's TR-TSY-000831, Section 12.1 of OTGR Issue 2, Feb. 1988. As a subset of the ITU's MML (Man-Machine Language), the language specifies Applications Messages which allow communication between an OS (Operations System) and an NE (Network Element) such as one of the 500 series systems.

2.02 The following conventions are used in this manual to define the syntax of input and response messages:

< >	encloses parameters
[ ]	encloses optional parameters
{ }	encloses multiple parameters, one of which must be selected
|	separates parameters enclosed by the { } symbols
" "	encloses a report of an alarm or event
/* */	encloses text readable by humans
:	separates parameter blocks
...	indicates the line will repeat one or more times as required
&	indicates "and" (1&9 means 1 and 9)
&&	indicates a range (1&&9 means 1 through 9)
:	separates parameter blocks
,	separates parameters within a block
;	terminates a command and causes execution of the command
^	indicates a space in a response message (the symbol does not appear in the actual display—only a space appears)

Note: When listing parameter values that can be used in a command, a range of numbers is shown as a–b, where any number a, b, or any number between a and b can be entered. (Example: 1–12 indicates any number from 1 through 12 inclusive.)

B. Commands

2.03 A command to an NE (Network Element) consists of a command code of up to three fields separated by hyphens followed by parameter blocks separated by colons. Figure 1 shows the command format. Parameter blocks consist of one or more parameters separated by commas. The semicolon terminator causes execution.

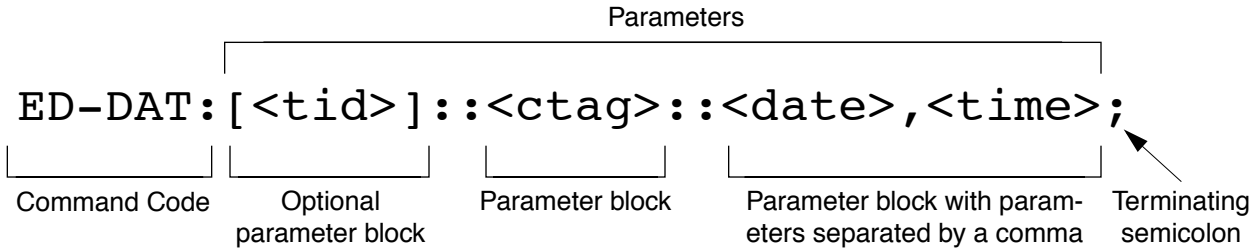
Example:

```
command-code:parameter:parameter
    ::parameter,parameter;
```

2.04 Parameter blocks may be null (contain no parameters), or contain one or more parameters. Two colons occur next to each other if a parameter block is null. (Some parameters in the complete TL1 language set are not used. These unused parameters are left null in this command set.)

2.05 Multiple parameters in a parameter block are separated by commas. Two commas occur next to each other if a parameter is null.

2.06 Entering a semicolon at the end of the command causes the command to execute.



Example of a command format

Null parameter block

```
ED-DAT:::111::1995-12-08,15-35-00;
```

Example of a command using the above format

Figure 1. Command Format

C. Parameter Definitions and Values

2.07 The TL1 commands use parameters that direct and constrain their operation. The general definitions of the parameters, are listed in Table A. The values of the parameters are listed with the command.

2.08 In this guide, uppercase letters in a command designate parameter values which must be entered as shown. Lowercase letters in a command indicate that there is a choice of values for the parameter. The values allowed for a parameter are listed with the command. When actually entering commands, the system will accept either uppercase, lowercase, or a mixture of both.

D. Responses

2.09 A response is returned by the system when it receives a command. All responses include the source identifier (<sid>), the date and time, an M to indicate it is a response to a command, and the correlation tag that was entered with the command. A response to a command may be a completed or an error response.

a. *Input/Response:* A valid command is sent to the 500 series system and a response is returned. The letter "M" is returned with the message in response to a command.
Completed response:

```
^^^<sid>^<date>^<time>
M^^<ctag>^COMPLD
;
```

Error response:

```
^^^<sid>^<date>^<time>
M^^<ctag>^DENY
^^^<errcde>
;
```

Note: Refer to Table A for possible error codes.

b. *Automatic:* This type of message is generated by the 500 series system, stored in the Event Log, and sent out via the Communications Port. There are two automatically generated message types: report alarm (REPT-ALM) and report event (REPT-EVT) messages. Refer to the actual command for message format details.

Table A. Parameter Definitions

PARAMETER	DEFINITION
aid	This parameter is the access identifier. When used in a command, the aid is the equipment that the command affects. When seen in a response, the aid is the equipment reporting the condition.
almcde	This parameter is the alarm code. It identifies the severity of the alarm. If multiple alarms are reported, the value for almcde is the highest severity of those reported. Valid values for <almcde> are: *C = critical alarm ** = major alarm * = minor alarm A = automatic message
atag	This parameter is the automatic message tag, a decimal number with a maximum of 3 characters (1 through 999). It is assigned by the system to sequence and correlate automatic messages.
baud	This parameter is the communications port baud rate; the baud rate for COM2 can only be changed via DIP switch on the MIS card; ports 1 and 3 are software-configurable only.
comtype	This parameter indicates the type of communications device used (X25 [PAD], MODEM, or [dumb] TERM)
conddescr	This parameter is the condition description. It is a text description of the alarm or condition reported by the system, enclosed within /* and */. The system returns one conddescr per response message. Valid values for <conddescr> are listed in Table E.
condeff	This parameter indicates the effect of the event on the condition of the equipment. If a standing condition is raised, it can be retrieved using the RTRV-COND-EQPT command with an <aid> of ALL. A transient condition does not change the basic state of the equipment. Valid values for <condeff> are: SC = standing condition raised CL = standing condition cleared TC = transient condition
condtype	This parameter is the condition type. When used in a command, it indicates the type of alarm condition requested. When seen in a response, it indicates the type of alarm condition being reported, which is further explained in the conddescr parameter. When seen in an automatic message, it indicates the type of alarm condition reported as either raised or cleared (see the conddescr parameter). Valid values for <condtype> are listed in Table E.
conttype	This parameter indicates the timing output source selection mode: RVRT = revertive NRVRT = nonrevertive
ctag	This parameter is the correlation tag. This parameter is used to correlate the input and response messages. The <ctag> is a maximum of 6 characters beginning with either a letter or a numeral. It is recommended that the user enter a unique <ctag> with each command to associate the response with the command.
date	This parameter is the current date in the 8-digit form yyyy-mm-dd (year, month, day).

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
echo	This parameter enables or disables the local echo function; if enabled, local echo causes each character to be echoed back to the terminal when entered.
endoftext	This parameter is the end-of-text terminator; it does not replace the TL1-specified end-of-text terminator (;).
errcde	This parameter is the error code returned by the system. It is a four-character mnemonic that identifies the reason the command was denied. Valid values for <errcde> are: ENEQ = not equipped ICNV = command not valid IDNV = data not valid IEAE = entity already exists IIAC = invalid aid IICT = invalid ctag IISP = invalid syntax or punctuation IITA = invalid tid IPMS = input parameter missing PIUC = invalid access level PIUI = invalid user identification SARB = system resources are busy SCSN = invalid sequence SDNA = duplex unit not available SROF = command execution failed
framing	This parameter specifies the framing format: CAS = channel assigned signaling CAS4 = channel assigned signaling with frame aligned sequence with cyclic redundancy check 4 CRC4 = cyclic redundancy check 4 D4 = D4 framing ESF = extended superframe FAS = frame alignment sequence (FAS/NFAS) framing
hwcontrol	This parameter allows (or inhibits) external equipment to start (CTS = high) and stop (CTS = low) output messages by manipulating the clear-to-send (CTS) lead.
integration	This parameter specifies the alarm integration time before an alarm is declared on the LPR.
keepalive	This parameter is the keepalive message. If enabled, the keepalive message is sent every 15 to 20 minutes and consists of the response to the RTRV-HDR command with a ctag of 999.
mondat	This parameter is the ending date of the requested performance-monitoring period. A maximum of 7 days of information is stored.
monmsg	This parameter determines whether a port is allowed to view data traffic associated with other ports in real-time.
montm	This parameter is the ending time of the requested performance-monitoring period.
montype	This parameter is the type of performance-monitoring register in the memory storage.
monval	This parameter is the value in the specified performance-monitoring register.
ntfcncde	This parameter is the notification code, indicating the severity of the alarm or event. When used in a command, it requests only those alarms or events of that severity level. When seen in a response, it indicates the severity of the alarm or event. Valid values for <ntfcncde> are: CR = critical alarm MJ = major alarm MN = minor alarm NA = not alarmed NR = not reported CL = cleared

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
ocrdat	This parameter is the date the event occurred.
ocrtm	This parameter is the time the event occurred.
osc1	This parameter is external clock source 1 (OSC A) to the LPR.
osc2	This parameter is external clock source 2 (OSC B) to the LPR.
ph	This parameter specifies the degree of system initialization.
pid	This parameter specifies the password identification (<pid>) which is limited to a minimum of 1 character and maximum of 10 characters. The password must contain at least one alpha character; alpha characters can be uppercase, lowercase, or a mixture of both. Any printable character can be used except: comma (,), colon (:), semicolon (;), null (), space ( ), ampersand (&), and equal sign (=).
portseverity	This parameter specifies the severity of the alarm on an output port.
priority	This parameter specifies the priority of the references available at the input. The reference with priority 1 is used first, then the priority 2 reference, and so on.
reference type	This parameter is the type of reference input signal to the DCD.
reptalm	This parameter specifies whether alarm/event messages are transmitted from a port: ALW allows alarm/event messages to be transmitted from a port, INH inhibits alarm/event messages from being transmitted from a port.
sid	This parameter is the source identifier (site ID). It identifies the system sending the response or automatic message. The sid in a response message matches the tid in the input command. The sid must be no more than 20 characters, limited to letters, numerals and hyphens, beginning with a letter. The sid is recommended to be the target's CLLI code, if available (alternatively, the office name can be used). All systems are manufactured with the sid TELECOM as the factory set value. Assign unique sids in a multi-system installation with the SET-SID command. (See the tid parameter for additional information.)
signal type	This specifies the signal type: analog or digital.
srveff	This parameter identifies how the alarm condition affects service. Valid values for <srveff> are: SA = service affecting NSA = not service affecting
state	This parameter is the maintenance state (in-service or out-of-service) of the unit. IS-NR = nonredundant card in-service normal IS-NR-ACT = redundant card in-service normal active IS-NR-STBY = redundant card in-service normal standby OOS-MT = out of service maintenance (card removed by command) OOS-MT-FLT = out of service maintenance failed OOS-MT-LOCK = out of service maintenance locked in current state (automatic switch to other state is inhibited) OOS-MT-MTCE = card not installed

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
swcontrol	This parameter allows (or inhibits) the use of key combinations to start (Control-s) and stop (Control-q) output messages.
switchto	This parameter specifies the internal synchronization source to be used by the timing output cards.
thlev	This parameter specifies threshold level of a <monval>.
tid	This parameter is the target identifier and identifies the routing information necessary for a message sent by an OS to reach a system. The tid must be a valid <sid>, the name assigned to the target system with the SET-SID command. The <sid> in the response message is the same value as the <tid>. Notes: 1. Shelf types are defined as follows: Master: the shelf that is the communications interface for the system and contains the highest-quality clocks in the system. Expansion: a shelf with no input cards, no clock cards, and is timed from the master shelf via a ribbon cable (generally collocated with the master shelf). Remote: a shelf that contains timing input cards that use timing signals from the master or an expansion shelf (generally located distant from the master shelf). 2. If the system has no remote shelf, direct a command to a particular shelf as follows: <tid> = Master shelf #1 <tid>E1 = Expansion shelf #1 <tid>E2 = Expansion shelf #2 <tid>E3 = Expansion shelf #3 3. If the system includes a remote shelf, a maximum of two expansion shelves can be collocated with the master shelf, and no expansion shelves can be timed from the remote shelf. To allow the master shelf to communicate (send commnands and receive responses) with the remote shelf, the master shelf COM3 port and the remote shelf COM3 port must be connected. Direct a command to a particular shelf as follows: <tid> = Master shelf #1 <tid>E1 = Expansion shelf #1 <tid>E2 = Expansion shelf #2 <tid>E3 = Remote shelf (E3 identifies the remote shelf even if there are no Expansion shelves). 4. The tid can be omitted if the system is being addressed locally, or if there is only one system with a single shelf that can be accessed. Otherwise, the tid must be included.
time	This parameter is the current time in the 6-digit form hh-mm-ss (hours-minutes-seconds). For example, 15-46-06 is 3:46:06 pm.
troublecode	This parameter specifies the signal condition upon failure: AIS or squelch.
type	This parameter specifies the type of reference (GPS, Cesium, etc.) the selected reference uses.
typerep	This parameter is the type of condition <condtype> or state <state>. See Tables A and D.
uap	This parameter specifies the user access level:1 through 5 (5 is the highest).

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
vldty	This parameter indicates whether or not the information collected represents a complete monitoring interval. Valid values for <vldty> are: (null) = complete NA = not available P = partial

3. SECURITY

3.01 For security information, refer to the Operations section of this manual.

3.02 The access level of each command is listed in Table B. The access levels are from 1 (lowest) to 5 (highest). Each user is assigned an access level allowing access to all commands at that level and below. A user with level 5 can access all commands. Table B. also lists the expanded name of each command.

Table B. Access Levels and Command/Message Names

ACCESS LEVEL	COMMAND/MESSAGE	EXPANDED NAME
1	ACT-USER	Activate User
1	CANC-USER	Cancel User
4	DLT-EQPT	Delete Equipment
4	DLT-PORT	Delete Port
5	DLT-USER-SECU	Delete User Security
3	ED-COM	Edit Communication
4	ED-DAT	Edit Date
3	ED-EQPT	Edit Equipment
1	ED-PID	Edit Password Identification
3	ED-PORT	Edit Port
5	ED-USER-SECU	Edit User Security
4	ENT-EQPT	Enter Equipment
4	ENT-PORT	Enter Port
5	ENT-USER-SECU	Enter User Security
3	INIT-COM	Initialize Communications
3	INIT-LOG	Initialize Log
3	INIT-REG	Initialize Register
4	INIT-SYS	Initialize System
1	OPR-ACO-ALL	Operate ACO All
3	OPR-SYNCNSW	Operate Synchronization Switch
—	REPT-ALM	Report Alarm
—	REPT-EVT	Report Event
3	RLS-SYNCNSW	Release Synchronization Switch
4	RMV-EQPT	Remove Equipment
3	RMV-PORT	Remove Port
4	RST-EQPT	Restore Equipment
3	RST-PORT	Restore Port
1	RTRV-ALM	Retrieve Alarm

Table B. Access Levels and Command/Message Names (Contd)

ACCESS LEVEL	COMMAND/MESSAGE	EXPANDED NAME
2	RTRV-ATTR-CONT	Retrieve Attribute Control
1	RTRV-ATTR-PORT	Retrieve Attribute Port
1	RTRV-COM	Retrieve Communication
1	RTRV-COND	Retrieve Condition
2	RTRV-EQPT	Retrieve Equipment
2	RTRV-GPS-STAT	Retrieve GPS Statistics
1	RTRV-HDR	Retrieve Header
1	RTRV-LOG	Retrieve Log
2	RTRV-PM-PORT	Retrieve Performance Monitoring Port
1	RTRV-PORT	Retrieve Port
1	RTRV-TH-PORT	Retrieve Threshold Port
5	RTRV-USER-SECU	Retrieve User Security
3	SET-ATTR-CONT	Set Attribute Control
4	SET-ATTR-PORT	Set Attribute Port
4	SET-SID	Set Source Identifier (System Identification)
3	SET-TH-PORT	Set Threshold Port

4. COMMANDS

4.01 The commands used with the 500 series systems are listed in this section. Each command starts on a separate page with the purpose describing what the command is and what it does. The input format shows the format of the command and the possible parameters.

4.02 Part 2D, Responses, shows the normal response. Where the response is more detailed, the response format is provided with the command including the possible parameters. An example command is also provided. Operational considerations are listed in Table C.

Table C. Operational Considerations

ITEM	CONSIDERATION
1	All systems are shipped from the factory with a <sid> of TELECOM. Use the SET-SID command to set a unique sid for each system before entering other commands. (Refer to the Card Information section of this manual for additional security factory settings.)
2	Upon initial installation of the MIS card, it is recommended that the date and time be set using the ED-DAT command to allow for proper event correlation. If the MIS card is being installed in a GPS system, the user need only supply the local time to the nearest hour (minutes and seconds will be set automatically).
3	On the shelf, clock input card slots and clock card slots are labeled A and B. In the commands and responses, these cards are designated 1 and 2. For example, input 4 of an MRC card in slot A is designated MRC-1-4 in the commands and responses.
4	PSM cards can be installed in TO slots 1 through 10. In addition, the HS1 slot can also be used for a PSM card. Therefore, the addressing range for PSM cards is 1 through 11 as defined by the number corresponding to the TO slot (1 through 10) or HS1 slot (11) where the PSM card is located.

COMMAND CODE: ACT-USER

PURPOSE

ACTIVATE USER

This command logs the user onto the system and begins a session. The user name and password are case sensitive (uppercase/lowercase) and must be entered exactly as assigned. During a session, if no activity is detected for five minutes, the user is automatically logged off.

INPUT FORMAT

```
ACT-USER:[<tid>]:<aid>:<ctag>::<pid>;
```

parameter	value	meaning
aid	user name	the user logging on
pid	password	the user's password

EXAMPLE

Input:

```
ACT-USER:SANJOSE-114:BIG:155::SQUIRT;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
;
```

This example, tagged as command 155, logs onto the designated <tid> with the username BIG and the password SQUIRT to begin a session.

COMMAND CODE: CANC-USER

PURPOSE

CANCEL USER

This command logs the user off and ends the session. After 5 minutes of inactivity, the user is automatically logged off. The user name is case sensitive (uppercase and lowercase) and must be entered exactly as assigned.

INPUT FORMAT

```
CANC-USER:[<tid>]:<aid>:<ctag>;
```

parameter	value	meaning
aid	user name	the user logging off

EXAMPLE

Input:

```
CANC-USER::BIG:155;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
;
```

This example, tagged as command 155, logs user BIG off and ends a session.

COMMAND CODE: DLT-EQPT

PURPOSE

DELETE EQUIPMENT

This command deletes equipment from the system database.

INPUT FORMAT

```
DLT-EQPT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–11 c = 1–10

parameter	value	meaning
aid	CLK-a	specified CLK card
	GTI-a	specified GTI card
	LTI-a	specified LTI card
	MRC-a	specified MRC card
	PSM-b	specified PSM card
	TO-c	specified TO card

EXAMPLE

Input:

```
DLT-EQPT::PSM-5:134;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, deletes PSM-5 from the system database.

COMMAND CODE: DLT-PORT

PURPOSE

DELETE PORT

This command deletes a port from the system database.

INPUT FORMAT

```
DLT-PORT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11
e = 1–10
f = 1–10 or ALL
g = 2–10 (must be larger than f)

parameter	value	meaning
aid	MRC-a-b[&&-c]	specified port on specified MRC card
	PSM-d-b[&&-c]	specified port on specified PSM card
	TO-e-f[&&-g]	specified port on specified TO card

EXAMPLE

Input:

```
DLT-PORT::PSM-7-3:133;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  133 COMPLD
;
```

This example, tagged as command 133, deletes port 3 of PSM-7 from the system database.

COMMAND CODE: DLT-USER-SECU

PURPOSE

DELETE USER SECURITY

This command removes a user. The user name is case sensitive (uppercase/lowercase) and must be entered exactly as assigned.

INPUT FORMAT

```
DLT-USER-SECU:[<tid>]:<aid>:<ctag>;
```

parameter	value	meaning
aid	user name	the user being deleted

EXAMPLE

Input:

```
DLT-USER-SECU::BIG:155;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
;
```

This example, tagged as command 155, removes the user BIG.

COMMAND CODE: ED-COM

PURPOSE

EDIT COMMUNICATION

This command changes the communication parameters. Communication port parameters which cannot be changed are: character bits = 8, parity = none, and start bits = 1.

INPUT FORMAT

```
ED-COM:[<tid>]:<aid>:<ctag>::[<baud>],[<monmsg>],[<keepalive>]
                          ,[<comtype>],[<endoftext>],[<echo>],[<reptalm>]
                                                ,[<hwcontrol>],[<swcontrol>];
```

parameter	value	meaning
aid	COM-1	communication port 1 (backplane D connector)
	COM-2	communication port 2 (backplane D connector or front panel RJ connector)
	COM-3	communication port 3 (backplane D connector)
baud	1200	1200 baud
	9600	9600 baud
	Note: the baud parameter must be set to null when the aid is COM-2	
monmsg	ALW	allows this port to view communication messages associated with other communication ports in real-time
	INH	inhibits this port from viewing communication messages associated with other communication ports in real-time
keepalive	ALW	allows a port to autonomously output a COMPL message every 15 to 20 minutes
	INH	inhibits a port from autonomously outputting a COMPL message every 15 to 20 minutes
comtype	X25	PAD (sets configuration for Black Box Corporation's X.25 PAD-8 only with the following settings: a. drops call if idle time is greater than 1 minute b. fixed destination id
	MODEM	modem (sets RS232 control leads to communicate with any general-purpose modem)
	TERM	dumb terminal (VT100)
	REMOTE	allows communication with a remote shelf via the specified communication port
endoftext	0–9F	this hexadecimal number specifies 1 character as an additional end-of-text identifier; this character does not replace the TL1 end-of-text terminator (;); a 0 indicates that there is no end-of-text identifier (refer to an ASCII table for the hexadecimal code for a particular character)
echo	ALW	allows local echo
	INH	inhibits local echo

COMMAND CODE: ED-COM (Contd)

INPUT FORMAT (Contd)

parameter	value	meaning
reptalm	ALW	allows alarm/event messages to be transmitted from a port
	INH	inhibits alarm/event messages from being transmitted from a port
hwcontrol	ALW	allows external equipment to stop the DCD system from sending messages by setting the clear to send (CTS) lead low, or continue messages by setting the CTS lead high
	INH	inhibits external equipment from controlling DCD system messages by manipulation of the clear to send (CTS) lead
swcontrol	ALW	allows the user to use a Control-s key combination to stop the DCD system from sending messages; also allows the user to use a Control-q key combination to cause the DCD system to continue sending messages
	INH	inhibits the use of the Control-s and Control-q key sequences to stop and start messages

EXAMPLE

Input:

```
ED-COM::COM-1:115::9600,,,MODEM,,,,,;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
;
```

This example, tagged as command 115, identifies port COM1 as set for 9600 baud, using a modem as the communications device, and using the factory settings for the remaining parameters.

COMMAND CODE: ED-DAT

PURPOSE

EDIT DATE

This command sets the system (real-time) date and time clock to the given values.

INPUT FORMAT

```
ED-DAT:[<tid>]::<ctag>::<date>,<time>;
```

Note: If connected to a GTI card, the system will adjust the minutes and seconds to coincide with UTC time. The current hour (entered with <time>) will be used so that the time is displayed in local time.

parameter	value	meaning
date	yyyy-mm-dd	year (1997–2096), month (01–12), day (01–31)
time	hh-mm-ss	hour (00–23), minute (00–59), second (00–59)

EXAMPLE

Input:

```
ED-DAT:::118::1997-12-08,16-35-00;
```

Response:

```
   SANJOSE-114 1997-12-08 16:35:03
M  118 COMPLD
;
```

This example, tagged as command 118, sets the date to December 8th, 1997, and the time to 4:35 PM.

COMMAND CODE: ED-EQPT

PURPOSE

EDIT EQUIPMENT

This command changes equipment parameters.

INPUT FORMAT

```
ED-EQPT:[<tid>]:<aid>:<ctag>::[<framing>],[<troublecode>],
              [<portseverity>],[<osc1>],[<osc2>],[<integration>];
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–10

aid	parameter	value	meaning
GTI-a	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	troublecode	INH	all outputs are squelched when card has major alarm
		ALW	AIS is sent on all outputs when card has major alarm
	portseverity	(null)	(not applicable)
	osc1	RB	oscillator 1 (OSC A) is rubidium clock
		QTZ	oscillator 1 (OSC A) is quartz clock
	osc2	RB	oscillator 2 (OSC B) is rubidium clock
		QTZ	oscillator 2 (OSC B) is quartz clock
	integration	1	see Table D
		2	see Table D
		3	see Table D
		4	see Table D

COMMAND CODE: ED-EQPT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
TO-b	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	troublecode	INH	all outputs are squelched upon card failure
		ALW	AIS is sent on all outputs upon card failure
	portseverity	MJ	port failure causes major alarm
		MN	port failure causes minor alarm
	osc1	(null)	(not applicable)
	osc2		
	integration		

EXAMPLE

Input:

```
ED-EQPT::GTI-2:134::ESF,ALW,,RB,RB,1;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, changes the parameters for GTI-2 as follows:

- framing = ESF
- trouble code = outputs AIS during major alarm
- oscillator types are both rubidium
- alarm integration time is 4 hours for a minor alarm and 24 hours for a major alarm

Table D. GTI Card Alarm Integration Times

INTEGRATION PARAMETER SETTING	GTI CARD TYPE	ALARM INTEGRATION TIME (SIGNAL DEFECT ONLY)	
		MINOR ALARM	MAJOR ALARM
1	GTI -13	4 hours	24 hours
	GTI -15	Rubidium ref: 4 hours	Rubidium ref: 24 hours
		Quartz ref: 3/4 hour	Quartz ref: 6 hours
2	GTI -13	3 hours	18 hours
	GTI -15	Rubidium ref: 8 hours	Rubidium ref: 48 hours
		Quartz ref: no minor alarm	Quartz ref: 6 hours
3	GTI -13	1 hour	6 hours
	GTI -15	Rubidium ref: no minor alarm	Rubidium ref: 24 hours
		Quartz ref: no minor alarm	Quartz ref: 1 hour
4	GTI -13	10 minutes	1 hour
	GTI -15	Rubidium ref: 1/2 hour	Rubidium ref: 1 hour
		Quartz ref: 1/2 hour	Quartz ref: 1 hour

Note: The GTI types are -13 (part # 090-42140-13) and -15 (part # 090-42140-15). The times listed are from when a SIGNAL DEFECT occurs until a minor or major alarm is declared.

COMMAND CODE: ED-PID

PURPOSE

EDIT PASSWORD IDENTIFICATION

This command changes a user's password. The user name and password are case (uppercase/lowercase) sensitive and must be entered exactly as assigned.

INPUT FORMAT

```
ED-PID:[<tid>]:<aid>:<ctag>::<pid>,<new pid>;
```

parameter	value	meaning
aid	user name	the user whose password is being changed
pid	existing password	password identification
new pid	up to 10 characters (see note below)	new password identification
Note: The password can have a minimum of 1 character and a maximum of 10 characters. At least one alpha character must be used. Alpha characters can be uppercase, lowercase, or a mixture of both. Any printable character can be used except: comma (,), colon (:), semicolon (;), null (), space ( ), ampersand (&), and equal sign (=).		

EXAMPLE

Input:

```
ED-PID::SUPER:155::ORION,CASSIOPEIA;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
;
```

This example, tagged as command 155, changes the old password of ORION to CASSIOPEIA.

COMMAND CODE: ED-PORT

PURPOSE

EDIT PORT

This command modifies the priority, reference type, and signal type mode for a port.

INPUT FORMAT

```
ED-PORT:[<tid>]:<aid>:<ctag>::[framing],[<priority>],
                              [<reference type>],[<signal type>];
```

The parameter values in the table below are as follows:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11
e = 1–10
f = 1–10 or ALL
g = 2–10 (must be larger than f)

aid	parameter	value	meaning
MRC-a-b[&&-c]	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	priority	1–4	priority of the reference, 1 is highest priority
	reference type	CESIUM	cesium reference
		GPS	global positioning system reference
		LORAN	LORAN reference
		NETWORK	network reference
	signal type	ANALOG	analog signal
		DIGITAL	digital signal

COMMAND CODE: ED-PORT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
PSM-d-b[&&-c]	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	priority	(null)	(not applicable)
	reference type		
	signal type		
TO-e-f[&&-g]	framing	(null)	(not applicable)
	priority		
	reference type		
	signal type	ANALOG	analog signal
		DIGITAL	digital signal

EXAMPLE

Input:

```
ED-PORT::MRC-2-2:154::ESF,4,NETWORK,DIGITAL;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  154 COMPLD
;
```

This example, tagged as command 154, commands port 2 of MRC 2 to be ESF framing, the fourth priority reference, and specifies that it is receiving timing from a digital network reference.

Note: If all the reference ports of an MRC card are configured for the same priority, the references will be selected based on the numerical order of the ports. The same numerical order will be listed if the settings are retrieved.

COMMAND CODE: ED-USER-SECU

PURPOSE

EDIT USER SECURITY

This command changes a user's name, password, and access level. The user name and password are case (uppercase/lowercase) sensitive and must be entered exactly as assigned.

INPUT FORMAT

```
ED-USER-SECU:[<tid>]:<aid>:<ctag>::<new uid>,<new pid>,,<uap>;
```

parameter	value	meaning
aid	user name	the user whose name, password, and access level is being changed
new uid	up to 10 alpha-numeric characters	new user name
new pid	up to 10 characters (see note below)	new password
uap	1–5	user access level (5 is reserved for system administrator)

Notes:
1. The password can have a minimum of 1 character and a maximum of 10 characters. At least one alpha character must be used. Alpha characters can be uppercase, lowercase, or a mixture of both. Any printable character can be used except: comma (,), colon (:), semicolon (;), null (), space ( ), ampersand (&), and equal sign (=).
2. Only one level 5 user is allowed in a system.

EXAMPLE

Input:

```
ED-USER-SECU::BIG:155::LITTLE,SIZE,,3;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
;
```

This example, tagged as command 155, changes the user's name from BIG to LITTLE, changes the password to SIZE, and changes the access level to 3.

COMMAND CODE: ENT-EQPT

PURPOSE

ENTER EQUIPMENT

This command enters equipment into the system database.

INPUT FORMAT

```
ENT-EQPT:[<tid>]:<aid>:<ctag>::[<framing>],[<troublecode>],
              [<portseverity>],[<osc1>],[<osc2>],[<integration>];
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–11 c = 1–10

aid	parameter	value	meaning
CLK-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
GTI-a	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	troublecode	INH	all outputs are squelched when card has major alarm
		ALW	AIS is sent on all outputs when card has major alarm
	portseverity	(null)	(not applicable)
	osc1	RB	OSC A is rubidium clock
		QTZ	OSC A is quartz clock
	osc2	RB	OSC B is rubidium clock
		QTZ	OSC B is quartz clock
	integration	1	see Table D
		2	see Table D
		3	see Table D
		4	see Table D

COMMAND CODE: ENT-EQPT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
LTI-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
MRC-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
PSM-b	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
TO-c	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	troublecode	INH	all outputs are squelched upon card failure
		ALW	AIS is sent on all outputs upon card failure
	portseverity	MJ	port failure causes major alarm
		MN	port failure causes minor alarm
	osc1	(null)	(not applicable)
	osc2		
	integration		

COMMAND CODE: ENT-EQPT (Contd)

EXAMPLE

Input:

```
ENT-EQPT::GTI-2:134::ESF,ALW,,RB,RB,1;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, enters GTI-2 into the system database with the following:

- framing = ESF
- trouble code = outputs AIS during major alarm
- oscillator types are both rubidium
- alarm integration time is 4 hours for a minor alarm and 24 hours for a major alarm

COMMAND CODE: ENT-PORT

PURPOSE

ENTER PORT

This command enters a new port including the priority, reference type, signal type, and CRC mode.

INPUT FORMAT

```
ENT-PORT:[<tid>]:<aid>:<ctag>::[framing],[<priority>],
                              [<reference type>],[<signal type>];
```

The parameter values in the table below are as follows:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11
e = 1–10
f = 1–10 or ALL
g = 2–10 (must be larger than f)

aid	parameter	value	meaning
MRC-a-b[&&-c]	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	priority	1–4	priority of the reference, 1 is highest priority
	reference type	GPS	global positioning system reference
		LORAN	LORAN reference
		CESIUM	cesium reference
		NETWORK	network reference
	signal type	ANALOG	analog signal
		DIGITAL	digital signal

COMMAND CODE: ENT-PORT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
PSM-d-b[&&-c]	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	priority	(null)	(not applicable)
	reference type		
	signal type		
TO-e-f[&&-g]	framing	(null)	(not applicable)
	priority		
	reference type		
	signal type	ANALOG	analog signal
		DIGITAL	digital signal

EXAMPLE

Input:

```
ENT-PORT::MRC-2-2:154::ESF,4,NETWORK,DIGITAL;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  154 COMPLD
;
```

This example, tagged as command 154, commands port 2 of MRC 2 to be ESF framing, the fourth priority reference, and specifies that it is receiving timing from a digital network reference.

COMMAND CODE: ENT-USER-SECU

PURPOSE

ENTER USER SECURITY

This command enters a new user including the user's name, password, and access level. Refer to Part 3, Security, for initial setup. The user name and password are case (uppercase/lowercase) sensitive, therefore use care when assigning these parameters.

INPUT FORMAT

```
ENT-USER-SECU:[<tid>]:<aid>:<ctag>::<pid>,,<uap>;
```

parameter	values	meaning
aid	up to 10 alpha-numeric characters	user name
pid	up to 10 characters (see note below)	password identification
uap	1–4	user access level (5 is reserved for system administrator)
Note: The password can have a minimum of 1 character and a maximum of 10 characters. At least one alpha character must be used. Alpha characters can be uppercase, lowercase, or a mixture of both. Any printable character can be used except: comma (,), colon (:), semicolon (;), null (), space ( ), ampersand (&), and equal sign (=).		

EXAMPLE

Input:

```
ENT-USER-SECU::BIG:155::CLOUD,,3;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
;
```

This example, tagged as command 155, changes the access level to 3 for user BIG whose password is CLOUD.

COMMAND CODE: INIT-COM

PURPOSE

INITIALIZE COMMUNICATIONS

This command causes the data terminal ready (DTR) signal to drop for 5 seconds on any of the three communication ports (1, 2, or 3).

INPUT FORMAT

```
INIT-COM:[<tid>]:<aid>:<ctag>;
```

The values in the table below are as follows:

a = 1–3 or ALL

aid	meaning
COM-a	drops the DTR lead on the specified communication port

EXAMPLE

Input:

```
INIT-COM::COM-2:110;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  110 COMPLD
;
```

This example, tagged as command 110, drops the DTR signal for 5 seconds on port 2.

COMMAND CODE: INIT-LOG

PURPOSE

INITIALIZE LOG

This command clears the system message log. It is sometimes useful to clear the message log after retrieving the messages with the RTRV-LOG command.

INPUT FORMAT

```
INIT-LOG:[<tid>]::<ctag>::LOG;
```

EXAMPLE

Input:

```
INIT-LOG:::117::LOG;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  117 COMPLD
;
```

This example, tagged as command 117, erases all information stored in the system message log.

COMMAND CODE: INIT-REG

PURPOSE

INITIALIZE REGISTER

This command resets the specified performance-monitoring storage registers (<montype>) on the specified equipment. These registers contain performance monitoring information accumulated in previous intervals.

INPUT FORMAT

```
INIT-REG:[<tid>]:<aid>:<ctag>::<montype>;
```

The parameter values in the table below are as follows:

a = 1–2 c = 1–11
b = 1–4 or ALL

aid	parameter	value	meaning
MRC-a-b	montype	BPV	bipolar violations registers
		CRC	cyclic redundancy check errors registers
		ALL	all montypes
PSM-c-b	montype	BPV	bipolar violations registers
		CRC	cyclic redundancy check errors registers
		MTIE	MTIE performance monitoring registers
		PHASE1M	phase 1-minute registers
		PHASE1S	phase 1-second registers
		SLIPS	slips registers
		TDEV	TDEV performance monitoring registers
		ALL	all montypes
ALL	montype	ALL	all montypes of all spans of all MRCs and PSMs

COMMAND CODE: INIT-REG (Contd)

EXAMPLE

Input:

```
INIT-REG::MRC-1-4:143::BPV;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  143 COMPLD
;
```

The above example, tagged as command 143, resets the current BPV performance-monitoring register to 0 on span 4 of MRC 1.

COMMAND CODE: INIT-SYS

PURPOSE

INITIALIZE SYSTEM

This command resets parameters in the MIS card to the factory settings.

INPUT FORMAT

```
INIT-SYS:[<tid>]:MIS:<ctag>::<ph>;
```

parameter	value	meaning
ph	9	resets all security information and the source ID (SID) to the factory settings (there will be only one user named “super” with a password of “sparky”, and the DCD system SID will be TELECOM); also all card information will be deleted (no cards will be entered in the database); also all communication parameters will be reset to factory settings

EXAMPLE

Input:

```
INIT-SYS::MIS:110::9;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  110 COMPLD
;
```

This example, tagged as command 110, resets all card configuration parameters to factory settings, clears all security information, and clears current MIS database.

COMMAND CODE: OPR-ACO-ALL

PURPOSE

OPERATE ALARM CUTOFF ALL

This command silences all current audible alarm signals and lights the green ACO lamp on the MIS card.

INPUT FORMAT

```
OPR-ACO-ALL:[<tid>]::<ctag>;
```

EXAMPLE

Input:

```
OPR-ACO-ALL:::111;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  111 COMPLD
;
```

This example, tagged as command 111, silences the audible alarms in the current system.

COMMAND CODE: OPR-SYNCNSW

PURPOSE

OPERATE SYNCHRONIZATION SWITCH

This command forces the timing output cards to use the specified internal synchronization source (software control). The selected source stays in effect until released by the RLS-SYNCNSW command. If the selected source fails, a phase hit will occur on the outputs. Subsequent source selection is determined by the setting of the SET-ATTR-CONT command. This command will be denied if the source being selected is not valid.

INPUT FORMAT

```
OPR-SYNCNSW:[<tid>]:TO-ALL:<ctag>::<switchto>;
```

parameter	value	meaning
switchto	CLK1	clock card 1
	CLK2	clock card 2
	IN1	system input card 1
	IN2	system input card 2

EXAMPLE

Input:

```
OPR-SYNCNSW::TO-ALL:134::CLK2;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, causes the timing output cards to use the clock 2 card as a source.

COMMAND CODE: RLS-SYNCNSW

PURPOSE

RELEASE SYNCHRONIZATION SWITCH

This command cancels the OPR-SYNCNSW command and returns to (hardware control) revertive or nonrevertive selection mode as determined by the SET-ATTR-CONT command.

INPUT FORMAT

```
RLS-SYNCNSW:[<tid>]:TO-ALL:<ctag>;
```

EXAMPLE

Input:

```
RLS-SYNCNSW::TO-ALL:134;
```

Response:

```
   SANJOSE-114 95-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, puts the system in hardware control mode.

COMMAND CODE: RMV-EQPT

PURPOSE

REMOVE EQUIPMENT

This command removes a card or port from service, and places it in a maintenance state.

INPUT FORMAT

```
RMV-EQPT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–11 c = 1–10

parameter	value	meaning
aid	CLK-a	specified CLK card
	GTI-a	specified GTI card
	LTI-a	specified LTI card
	MRC-a	specified MRC card
	PSM-b	specified PSM card
	TO-c	specified TO card

EXAMPLE

Input:

```
RMV-EQPT::PSM-5:134;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, removes PSM-5 from service.

COMMAND CODE: RMV-PORT

PURPOSE

REMOVE PORT

This command removes a port from service, and places it in a maintenance state. When used on a timing output card, this command squelches the output of the removed port.

INPUT FORMAT

```
RMV-PORT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11
e = 1–10
f = 1–10 or ALL
g = 2–10 (must be larger than f)

parameter	value	meaning
aid	MRC-a-b[&&-c]	specified port on specified MRC card
	PSM-d-b[&&-c]	specified port on specified PSM card
	TO-e-f[&&-g]	specified port on specified TO card

EXAMPLE

Input:

```
RMV-PORT::PSM-3-3:133;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  133 COMPLD
;
```

This example, tagged as command 133, removes PSM-3, span 3 from service.

COMMAND CODE: RST-EQPT

PURPOSE

RESTORE EQUIPMENT

This command restores a card or port into service from a maintenance state.

INPUT FORMAT

```
RST-EQPT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–11 c = 1–10

parameter	value	meaning
aid	CLK-a	specified CLK card
	GTI-a	specified GTI card
	LTI-a	specified LTI card
	MRC-a	specified MRC card
	PSM-b	specified PSM card
	TO-c	specified TO card

EXAMPLE

Input:

```
RST-EQPT::PSM-5:134;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, restores PSM-5 to service.

COMMAND CODE: RST-PORT

PURPOSE

RESTORE PORT

This command puts a port into service from a maintenance state. When used on a timing output card, this command enables (turns on) the output signal for the restored port.

INPUT FORMAT

```
RST-PORT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11
e = 1–10
f = 1–10 or ALL
g = 2–10 (must be larger than f)

parameter	value	meaning
aid	MRC-a-b[&&-c]	specified port on specified MRC card
	PSM-d-b[&&-c]	specified port on specified PSM card
	TO-e-f[&&-g]	specified port on specified TO card

EXAMPLE

Input:

```
RST-PORT::PSM-5-3:134;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
;
```

This example, tagged as command 134, restores span 3 of PSM-5 to service.

COMMAND CODE: RTRV-ALM

PURPOSE

RETRIEVE ALARMS

This command lists all the alarms in any card or port in a system (RTRV-ALM-ALL), specific equipment alarms (RTRV-ALM-EQPT), or specific facilities (RTRV-ALM-PORT). The optional parameters specify alarms by severity, type, or whether they affect service. If a piece of equipment is not in alarm, use the RTRV-COND command to retrieve its condition.

INPUT FORMAT

```
RTRV-ALM-{ALL|EQPT|PORT}:[<tid>]:<aid>:<ctag>;
```

The following values can be used for the variables in the table below:

a = 1–2 c = 1–4 or ALL e = 1–10 or ALL
b = 1–11 d = 1–10

command	aid
RTRV-ALM-ALL	ALL
RTRV-ALM-EQPT	CLK-a
	SHELF
	GTI-a
	LTI-a
	MRC-a
	PSM-b
	TO-d
RTRV-ALM-PORT	MRC-a-c
	PSM-b-c
	TO-d-e

COMMAND CODE: RTRV-ALM (Contd)

RESPONSE FORMAT

If there is at least one alarm to report, the format is:

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<ntfcncde>,<condtype>,<srveff>,<ocrdat>,<ocrtm>,,:
                                                  <conddescr>," ...
;
```

Refer to Table A and Table E for parameter values.

EXAMPLE

Input:

```
RTRV-ALM-PORT::MRC-1-4:145;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  145 COMPLD
   "MRC-1-4:MN,FFREQ,NSA,12-07,05:24:03,,/*FRACTIONAL FREQUENCY
                                          THRESHOLD EXCEEDED*/"
;
```

This example, tagged as command 145, retrieves alarms from port 4 of MRC 1. Alarm returned was a minor alarm, nonservice affecting alarm indicating a fractional frequency threshold was exceeded on Dec 7 at 5:24:03 AM.

COMMAND CODE: RTRV-ATTR-CONT

PURPOSE

RETRIEVE ATTRIBUTE CONTROL

This command displays the timing output source selection mode.

INPUT FORMAT

```
RTRV-ATTR-CONT:[<tid>]:SHELF:<ctag>;
```

OUTPUT FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<conttype>"
;
```

EXAMPLE

Input:

```
RTRV-ATTR-CONT::SHELF:145;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  145 COMPLD
   "SHELF:RVRT"
;
```

COMMAND CODE: RTRV-ATTR-PORT

PURPOSE

RETRIEVE ATTRIBUTE PORT

This command displays the notification code associated with a condition type. Alarms are reported automatically by the REPORT ALARM message or retrieved using the RETRIEVE ALARM command.

INPUT FORMAT

```
RTRV-ATTR-PORT:[<tid>]:<aid>:<ctag>;
```

The following values can be used for the variables in the table below:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11

aid	meaning
MRC-a-b[&&-c]	MRC card a, port b (and optionally through port c)
PSM-d-b[&&-c]	PSM card d, port b (and optionally through port c)

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<ntfcncde>,<condtype>" ...
;
```

Refer to Table A and Table E for parameter values.

COMMAND CODE: RTRV-ATTR-PORT (Contd)

EXAMPLE

```
RTRV-ATTR-PORT::MRC-1-4:153;

   SANJOSE-114 1997-02-08 15:04:14
M  153 COMPLD
   "MRC-1-4:MN,AIS"
   "MRC-1-4:MN,BPV"
   "MRC-1-4:MN,CRC"
   "MRC-1-4:MN,FFREQ"
   "MRC-1-4:MN,LOS"
   "MRC-1-4:MN,OOF"
;
```

This example, tagged as command 153, retrieves the notification code associated with all condition types on port 4 of MRC 1.

COMMAND CODE: RTRV-COM

PURPOSE

RETRIEVE COMMUNICATION

This command displays configuration information for the specified communications ports.

INPUT FORMAT

```
RTRV-COM:[<tid>]:<aid>:<ctag>;
```

parameter	value	meaning
aid	COM-1	communication port 1 (backplane D connector)
	COM-2	communication port 2 (backplane D connector or front panel RJ connector)
	COM-3	communication port 3 (backplane D connector)
	COM-ALL	all communication ports

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>" ...
   /*BAUD=<value>,MONMSG=<value>,KEEPALIVE=<value>,COMTYPE=<value>
                  ,ENDOFTEXT=<value>,ECHO=<value>,REPTALM=<value>
                       ,HWCONTROL=<value>,SWCONTROL=<value> ...*/
;
```

COMMAND CODE: RTRV-COM (Contd)

RESPONSE FORMAT (Cont)

parameter	value	meaning
baud	1200	1200 baud
	9600	9600 baud
monmsg	ALW	this port is allowed to view communication messages associated with other communication ports in real-time
	INH	this port is inhibited from viewing communication messages associated with other communication ports in real-time
keepalive	ALW	this port is allowed to autonomously output a COMPL message every 15 to 20 minutes
	INH	this port is inhibited from autonomously outputting a COMPL message every 15 to 20 minutes
comtype	X25	this port is set for PAD
	MODEM	this port is set for modem
	TERM	this port is set for dumb terminal
	REMOTE	allows communication with a remote shelf via the specified communication port
endoftext	0–9F	this is a hexadecimal number that sets an additional character as the end-of-text message. 0 indicates no end-of-text message. This character does not replace the TL1 end-of-text terminator (;)
echo	ALW	local echo is allowed on this port
	INH	local echo is inhibited on this port
reptalm	ALW	alarm/event messages are allowed to be transmitted from this port
	INH	alarm/event messages are inhibited from being transmitted from this port
hwcontrol	ALW	external equipment is allowed to stop the DCD system from sending messages by setting the clear to send (CTS) lead low, or continue messages by setting the CTS lead high
	INH	external equipment is inhibited from controlling DCD system messages by manipulation of the clear to send (CTS) lead
swcontrol	ALW	user is allowed to use a Control-s key combination to stop the DCD system from sending messages; also allows the user to use a Control-q key combination to cause the DCD system to continue sending messages
	INH	the use of the Control-s and Control-q key sequences to stop and start messages is inhibited

COMMAND CODE: RTRV-COM (Contd)

EXAMPLE

Input:

```
RTRV-COM::COM-1:115;
```

Response:

```
   SANJOSE-114 1997-12-08 16:01:04
M  115 COMPLD
   "COM-1"
   /*BAUD=9600,MONMSG=ALW,KEEPALIVE=ALW,COMTYPE=TERM,ENDOFTEXT=0
   ,ECHO=INH,REPTALM=ALW,HWCONTROL=INH,SWCONTROL=INH*/
;
```

This example, tagged as command 115, requests information for communications port 1.

COMMAND CODE: RTRV-COND

PURPOSE

RETRIEVE CONDITIONS

This command displays the current standing alarms, events, or state associated with one or more specified equipment units or facilities.

INPUT FORMAT

```
RTRV-COND-{EQPT|PORT}:[<tid>]:<aid>:<ctag>;
```

The following values can be used for the variables in the table below:

a = 1–2 c = 1–4 or ALL e = 1–10 or ALL
b = 1–11 d = 1–10

command	aid
RTRV-COND-EQPT	ALL
	CLK-a
	SHELF
	GTI-a
	LTI-a
	MRC-a
	PSM-b
	TO-d
RTRV-COND-PORT	MRC-a-c
	PSM-b-c
	TO-d-e

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<ntfcncde>,<typerep>,<srveff>,<conddescr>"...
;
```

Refer to Table A and Table E for parameter values.

COMMAND CODE: RTRV-COND (Contd)

EXAMPLE

Input:

```
RTRV-COND-PORT::MRC-1-1:113;
```

Response:

```
   SANJOSE-114 1997-02-08 15:04:14
M  113 COMPLD
   "MRC-1-1:NA,BPV,NSA,/*BPV THRESHOLD EXCEEDED*/"
;
```

This example, tagged as command 113, retrieves the status of port 1 of MRC-1.

COMMAND CODE: RTRV-EQPT

PURPOSE

RETRIEVE EQUIPMENT

This command retrieves framing, trouble code, port severity, oscillator A and B type, and the alarm integration time information (where applicable).

INPUT FORMAT

```
RTRV-EQPT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–11 c = 1–10

parameter	value	meaning
aid	ALL	all aids for this command
	CLK-a	specified CLK card
	GTI-a	specified GTI card
	LTI-a	specified LTI card
	MRC-a	specified MRC card
	PSM-b	specified PSM card
	TO-c	specified TO card

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:[<framing>],[<troublecode>],[<portseverity>],
                          [<osc1>],[<osc2>],[<integration>]" ...
;
```

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
CLK-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
GTI-a	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	troublecode	INH	all outputs are squelched when card has major alarm
		ALW	AIS is sent on all outputs when card has major alarm
	portseverity	(null)	(not applicable)
	osc1	RB	oscillator 1 (OSC A) is rubidium clock
		QTZ	oscillator 1 (OSC A) is quartz clock
	osc2	RB	oscillator 2 (OSC B) is rubidium clock
		QTZ	oscillator 2 (OSC B) is quartz clock
	integration	1	see Table D
		2	see Table D
		3	see Table D
		4	see Table D
LTI-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
MRC-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
PSM -b	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
TO-c	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	troublecode	INH	all outputs are squelched upon card failure
		ALW	AIS is sent on all outputs upon card failure
	portseverity	MJ	port failure causes major alarm
		MN	port failure causes minor alarm
	osc1	(null)	(not applicable)
	osc2		
	integration		

COMMAND CODE: RTRV-EQPT (Contd)

EXAMPLE

Input:

```
RTRV-EQPT::TO-5:134;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
   "TO-5:ESF,INH,MN,,,;
```

This example, tagged as command 134, displays port 5 of timing output card 5 as: framing = ESF, all outputs will be squelched upon card failure, and a minor alarm will be generated upon port failure.

COMMAND CODE: RTRV-GPS-STAT

PURPOSE

RETRIEVE GPS STATISTICS

This command displays the operating statistics of the GPS.

INPUT FORMAT

```
RTRV-GPS-STAT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2

aid	meaning
GTI-a	specified GTI card

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
"<aid>"
/*
UTC-TIME=a,
LOCATION=b,
SAT-IN-VIEW=c,
[SAT-d=e], ...
GTIMDEV=f,
OSC1FFREQ=g,
OSC2FFREQ=h
*/
;
```

COMMAND CODE: RTRV-GPS-STAT

RESPONSE FORMAT (Contd)

variable	meaning
a	universal coordinated time (hours:minutes:seconds)
b	format is ddmm.mmm-x-dddmm.mmm-y-aa where ddmm.mmm-x is latitude, dddmm.mmm-y is longitude, and aa is altitude (d = degrees, m = minutes, x = N or S, y = E or W, aa is in meters)
c	number of satellites in view
d	satellite number
e	format is d1-d2-sn where d1 = satellite azimuth (degrees relative to true north), d2 = elevation (degrees), and sn = signal-to-noise ratio (dB)
f	GTI modified Allen deviation
g	oscillator 1 fractional frequency
h	oscillator 2 fractional frequency

EXAMPLE

Input:

```
RTRV-GPS-STAT::GTI-1:136;
```

Response:

```
   SANJOSE-114 1997-02-08 15:04:14
M  136 COMPLD
   "GTI-1"
   /*
   UTC-TIME=02:04:14,
   LOCATION=3724.510-N-12156.866-W-111,
   SAT-IN-VIEW=4,
   SAT-2=343-71-47,
   SAT-7=189-51-46,
   SAT-15=76-14-41,
   SAT-19=117-23-43,
   GTIMDEV=30E-12,
   OSC1FFREQ=-21-E9,
   OCS2FFREQ=-3873E-12
   */
;
```

This example, tagged as command 136, requests the statistics for GTI 1.

COMMAND CODE: RTRV-HDR

PURPOSE

RETRIEVE HEADER

This command can be used to verify that the system is operating correctly. If the response is returned, the cable, MIS, and communications link are operating correctly; and the sid, date, and time can be verified.

INPUT FORMAT

```
RTRV-HDR:[<tid>]::<ctag>;
```

EXAMPLE

Input:

```
RTRV-HDR:::114;
```

Response:

```
   SANJOSE-121 1997-12-08 15:04:13
M  114 COMPLD
;
```

This example, tagged as command 114, requests the header (sid, date, and time) from the system.

COMMAND CODE: RTRV-LOG

PURPOSE

RETRIEVE LOG

This command displays all alarmed and non-alarmed events in the system message log. RTRV-LOG does not clear the messages. Up to 128 messages can be stored in the log. (See INIT-LOG to clear the system message log.)

INPUT FORMAT

```
RTRV-LOG:[<tid>]::<ctag>::LOG;
```

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "LOG"
/*
   "content of message" . . .
   */
;
```

EXAMPLE

Input:

```
RTRV-LOG:::115::LOG;
```

Response:

```
   SANJOSE-114 1997-12-08 16:11:28
M  115 COMPLD
   "LOG"
/*
   "1997-12-08 16:06:42  INIT-LOG:::1::LOG,CLR;"
   "1997-12-08 16:06:42 AMRC-2:NORMAL,CL:\/*INPUT ACTIVE\*/"
   "1997-12-08 16:07:27 *MASTER:MN,SYNC,NSA:\/*SYNC INPUT FAILED\*/"
   */
;
```

This example, tagged as command 115, displays all event information stored in the event log in the MIS card.

COMMAND CODE: RTRV-PM-PORT

PURPOSE

RETRIEVE PERFORMANCE MONITORING PORT

This command displays the current set of PM data for one or more facilities. The PM data may be used to load or verify a database, to examine events that are not reported by automatic messages, or to evaluate the system after maintenance operations. Parameters are provided to display past PM data if the MIS card is configured to store such data. PM data is retrieved from the specified time period to the current time period.

INPUT FORMAT

```
RTRV-PM-PORT:[<tid>]:<aid>:<ctag>::<montype>,,,,,[<mondat>]
                                        {[,<montm1>]|,<montm2>};
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–4 c = 1–11

aid	parameter	value	meaning
MRC-a-b	montype	ALL	all montypes for this <aid>
		BPV	bipolar violations
		CRC	cyclic redundancy check errors
	mondat	(null)	current day
	montm1	(null)	current time

COMMAND CODE: RTRV-PM-PORT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
PSM-c-b	montype	SLIPS	number of slips since the previous midnight (used with mondat and montm 1)
		BPV	bipolar violations since the previous 15-min reset (used with montm2)
		CRC	cyclic redundancy check errors since the previous 15-min reset (used with montm2)
		MTIE	if today's date is entered, the 1-second MTIE accumulated between now and the previous 24 hours; if any previous date is entered, the 1-second MTIE accumulated between midnight on that date and the previous midnight (units of measure for MTIE are nanoseconds)
		TDEV	if today's date is entered, the 1000-second TDEV accumulated between now and the previous 24 hours; if any previous date is entered, the 1000-second TDEV accumulated between midnight on that date and the previous midnight (units of measure for TDEV are nanoseconds)
		PHASE1M	1-minute raw phase accumulated between montm2 and 1 hour after montm2 (units of measure for PHASE1M are nanoseconds)
		PHASE1S	1-second raw phase accumulated between montm2 and 1 hour after montm2 (units of measure for PHASE1S are nanoseconds)
	mondat	mm-dd	mm = month, dd = day
		(null)	current day
	montm1	(null)	current time
	montm2	hh-00	hh = 00-23 (hour of the day)
		hh-15	15 minutes past hour hh
		hh-30	30 minutes past hour hh
		hh-45	45 minutes past hour hh

RESPONSE FORMAT

For BPV (CRC, SLIPS, MTIE, TDEV, and PHASE1M will appear similarly):

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<montype>,<monval>,<vldty>,,,,<mondat>,<montm>"...
;
```

Note: The <monval> units of measure for MTIE and TDEV are nanoseconds. The <monval> units of measure for PHASE1M are nanoseconds and 60 lines will be displayed.

COMMAND CODE: RTRV-PM-PORT (Contd)

RESPONSE FORMAT (Contd)

<u>For PHASE1S:</u>

```
   <sid> <date> <time>
M  <ctag> COMPLD
    "<aid>:<montype>,<monval>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
                                   <vldty>,,,,<mondat>,<montm>”
    "<aid>:<montype>,<monval>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
                                                        <vldty>”
          .          .             .
          .          .             .
          .          .             .
    "<aid>:<montype>,<monval>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ
   >,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
   <Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,<Δ>,
                                                        <vldty>”
```

Note: The units of measure for <monval> for PHASE1S are nanoseconds.

Note: For <monval> there will be 100 numbers separated by comas; the first number is the absolute phase value of the <montype> requested. Each of the following 99 numbers is the difference (Δ) from the proceeding number.

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE

For BPV (CRC and SLIPS will appear similarly):

Input:

```
RTRV-PM-PORT::PSM-1-4:141::BPV,,,,,09-06,12-45;
```

Response:

```
   TOP523 1997-09-06 13:27:09
M  141 COMPLD
   "PSM-1-4:BPV,3,,,,,1997-09-06,12:45:00"
   "PSM-1-4:BPV,0,,,,,1997-09-06,13:00:00"
   "PSM-1-4:BPV,0,,,,,1997-09-06,13:15:00"
   "PSM-1-4:BPV,2,P,,,,1997-09-06,13:30:00"
;
```

The above example, tagged as command 141, retrieves the bipolar violation performance monitoring data for port 4 of PSM-1 for 1 hour after 12:45 PM on Sept. 6, 1997. (The times shown are the beginning time of the 15-minute accumulation period, hence 12:45 indicates the interval from 12:45 to 13:00.)

Note: The first 15-minute period shows that 3 BPVs were counted, the second and third 15-minute periods show no BPVs, and the fourth 15-minute period shows 2 BPVs. Because the fourth period was not a complete 15-minute period, the data shown is only partially (P) complete.

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE (Contd)

For MTIE (TDEV will appear similarly):

Input:

```
RTRV-PM-PORT::PSM-1-4:141::MTIE,,,,,09-06,;
```

Response:

```
   TOP523 1997-09-06 13:47:09
M  141 COMPLD
   "PSM-1-4:MTIE1,305,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE2,310,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE4,320,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE10,330,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE16,340,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE20,350,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE40,400,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE64,460,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE100,550,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE128,620,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE200,800,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE400,1000,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE512,1000,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE900,1000,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE1000,1000,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE2000,1017,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE4000,1037,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE10000,1097,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE20000,1197,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE40000,1397,,,,,1997-09-06,13:45:00"
   "PSM-1-4:MTIE86400,1861,,,,,1997-09-06,13:45:00"
;
```

The above example, tagged as command 141, retrieves the MTIE performance monitoring data for port 4 of PSM-1 for 1 hour after 12:00 PM on Sept. 6, 1997.

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE

For PHASE1M:

Input:

```
RTRV-PM-PORT::PSM-1-4:141::PHASE1M,,,,,09-06,13-45;
```

Response:

```
   TOP523 1997-09-06 13:47:09
M  141 COMPLD
   "PSM-1-4:PHASE1M,1500,,,,,1997-09-06,13:45:00"
   "PSM-1-4:PHASE1M,1478,,,,,1997-09-06,13:46:00"
   "PSM-1-4:PHASE1M,1483,,,,,1997-09-06,13:47:00"
   "PSM-1-4:PHASE1M,1502,,,,,1997-09-06,13:48:00"
          .           .
          .           .
          .           .
   "PSM-1-4:PHASE1M,1509,,,,,1997-09-06,14:44:00"
```

The above example, tagged as command 141, retrieves the 1-minute raw phase performance monitoring data for port 4 of PSM-1 for a 1-hour period after 1:45 PM on Sept. 6, 1997. Note: only 1 hour of data can be retrieved at a time; to get additional hours of data, repeat the command with the appropriate <montm>.

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE

For PHASE1S:

Input:

```
RTRV-PM-PORT::PSM-1-4:141::PHASE1S,,,,,09-06,13-45;
```

Response:

```
   TOP523 1997-09-06 13:47:09
M  141 COMPLD
   "PSM-1-4:PHASE1S,7,—1,+4,—3,—4,+2,—3,+0,—4,—3,+1,—4,—2,
   —3,+4,+0,—2,+0,—3,—4,—1,—3,—4,+0,+3,—4,—1,+2,—3,+0,—2,—4,—2,
   —4,—3,—1,—2,—3,+4,—2,+0,+2,—4,—3,—4,+2,—4,—3,+0,—4,+1,—1,+4,
   —3,—2,+2,—3,+0,—4,—3,+1,—4,—2,—3,+4,+0,—2,+0,—3,—4,—1,—3,—4,
   +0,+3,—4,—1,+2,—3,+0,—2,—4,—2,—4,—3,—1,—2,—3,+4,—2,+0,+2,—4,
   —3,—4,+2,—1,—3,+0,—4,,,,,1997-09-06,13:45:00"
   "PSM-1-4:PHASE1S,10,—1,+4,—3,—4,+2,—3,+0,—4,—3,+1,—4,—2,
   —3,+4,+0,—2,+0,—3,—4,—1,—3,—4,+0,+3,—4,—1,+2,—3,+0,—2,—4,—2,
   —4,—3,—1,—2,—3,+4,—2,+0,+2,—4,—3,—4,+2,—4,—3,+0,—4,+1,—1,+4,
   —3,—2,+2,—3,+0,—4,—3,+1,—4,—2,—3,+4,+0,—2,+0,—3,—4,—1,—3,—4,
   +0,+3,—4,—1,+2,—3,+0,—2,—4,—2,—4,—3,—1,—2,—3,+4,—2,+0,+2,—4,
   —3,—4,+2,—1,—3,+0,—4,,,,,,"
   "PSM-1-4:PHASE1S,8,—1,+4,—3,—4,+2,—3,+0,—4,—3,+1,—4,—2,
   —3,+4,+0,—2,+0,—3,—4,—1,—3,—4,+0,+3,—4,—1,+2,—3,+0,—2,—4,—2,
   —4,—3,—1,—2,—3,+4,—2,+0,+2,—4,—3,—4,+2,—4,—3,+0,—4,+1,—1,+4,
   —3,—2,+2,—3,+0,—4,—3,+1,—4,—2,—3,+4,+0,—2,+0,—3,—4,—1,—3,—4,
   +0,+3,—4,—1,+2,—3,+0,—2,—4,—2,—4,—3,—1,—2,—3,+4,—2,+0,+2,—4,
   —3,—4,+2,—1,—3,+0,—4,,,,,,"
                        .                          .
                        .                          .
                        .                          .
   "PSM-1-4:PHASE1S,6,—1,+4,—3,—4,+2,—3,+0,—4,—3,+1,—4,—2,
   —3,+4,+0,—2,+0,—3,—4,—1,—3,—4,+0,+3,—4,—1,+2,—3,+0,—2,—4,—2,
   —4,—3,—1,—2,—3,+4,—2,+0,+2,—4,—3,—4,+2,—4,—3,+0,—4,+1,—1,+4,
   —3,—2,+2,—3,+0,—4,—3,+1,—4,—2,—3,+4,+0,—2,+0,—3,—4,—1,—3,—4,
   +0,+3,—4,—1,+2,—3,+0,—2,—4,—2,—4,—3,—1,—2,—3,+4,—2,+0,+2,—4,
   —3,—4,+2,—1,—3,+0,—4,,,,,,"
```

The above example, tagged as command 141, retrieves the 1-second raw phase performance monitoring data for port 4 of PSM-1 for a 1-hour period after 1:45 PM on Sept. 6, 1997. Note: only 1 hour of data can be retrieved at a time; to get additional hours of data, repeat the command with the appropriate <montm>.

COMMAND CODE: RTRV-PM-PORT (Cont)

EXAMPLE

For SLIPS:

Input:

```
RTRV-PM-PORT::PSM-1-4:141::SLIPS,,,,,09-06,;
```

Response:

```
   TOP523 1997-09-06 13:47:09
M  141 COMPLD
   "PSM-1-4:SLIPS,2,,,,,1997-09-06,13:45:00"
;
```

The above example, tagged as command 141, retrieves the number of slips accumulated between the previous midnight and 1:45 PM on Sept. 6, 1997 for port 4 of PSM-1.

COMMAND CODE: RTRV-PORT

PURPOSE

RETRIEVE PORT

This command displays the priority, reference type, and signal type for a port.

INPUT FORMAT

```
RTRV-PORT:[<tid>]:<aid>:<ctag>;
```

The parameter values in the table below are as follows:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11
e = 1–10
f = 1–10 or ALL
g = 2–10 (must be larger than f)

aid	meaning
MRC-a-b[&&-c]	specified port(s) on specified MRC card
PSM-d-b[&&-c]	specified port(s) on specified PSM card
TO-e-f[&&-g]	specified output(s) on the specified timing output card

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<framing>,<priority>,<reference type>,
                                                <signal type>" ...
;
```

aid	parameter	value	meaning
MRC-a-b	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	priority	1–4	priority of the reference, 1 is highest priority
	reference type	GPS	global positioning system reference
		LORAN	LORAN reference
		CEISIUM	cesium reference
		NETWORK	network reference
	signal type	ANALOG	analog signal
		DIGITAL	digital signal
PSM-d-b	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	priority	(null)	(not applicable)
	reference type	(null)	(not applicable)
	signal type	DIGITAL	digital signal

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT (Cont)

aid	parameter	value	meaning
TO-e-f	framing	(null)	(not applicable)
	priority		
	reference type		
	signal type	ANALOG	analog signal
		DIGITAL	digital signal

EXAMPLE

```
RTRV-PORT::MRC-1-2:154;

   SANJOSE-114 1997-02-08 15:04:14
M  154 COMPLD
   "MRC-1-2:ESF,1,GPS,DIGITAL"
;
```

This example, tagged as command 154, displays the port parameters for span 2 of MRC-1 as ESF framing, priority 1, GPS reference type, and DIGITAL signal type.

COMMAND CODE: RTRV-TH-PORT

PURPOSE

RETRIEVE THRESHOLD PORT

This command displays the threshold level for a monitored parameter. When the parameter exceeds the threshold value, an automatic message is sent. The threshold may apply to one or more units.

INPUT FORMAT

```
RTRV-TH-PORT:[<tid>]:<aid>:<ctag>::<montype>;
```

The parameter values in the table below are as follows:

a = 1–2
b = 1–4 or ALL
c = 2–4 (must be larger than b)
d = 1–11

aid	montype	meaning
MRC-a-b[&&-c]	ALL	all montypes for this <aid>
	BPV	bipolar violations
	CRC	cyclic redundancy check errors

COMMAND CODE: RTRV-TH-PORT (Contd)

INPUT FORMAT (Contd)

aid	montype	meaning
PSM-d-b[&&-c]	ALL	all montypes for this <aid>
	BPV	bipolar violations
	CRC	cyclic redundancy check errors
	MTIE1	1 second threshold
	MTIE2	2 second threshold
	MTIE4	4 second threshold
	MTIE10	10 second threshold
	MTIE16	16 second threshold
	MTIE20	20 second threshold
	MTIE40	40 second threshold
	MTIE64	64 second threshold
	MTIE100	100 second threshold
	MTIE128	128 second threshold
	MTIE200	200 second threshold
	MTIE400	400 second threshold
	MTIE512	512 second threshold
	MTIE900	900 second threshold
	MTIE1000	1000 second threshold
	MTIE2000	2000 second threshold
	MTIE4000	4000 second threshold
	MTIE10000	10000 second threshold
	MTIE20000	20000 second threshold
	MTIE40000	40000 second threshold
	MTIE86400	86400 second threshold

COMMAND CODE: RTRV-TH-PORT (Contd)

INPUT FORMAT (Contd)

aid	montype	meaning
PSM-d-b[&&-c]	TDEV1	1 second threshold
	TDEV2	2 second threshold
	TDEV3	3 second threshold
	TDEV4	4 second threshold
	TDEV5	5 second threshold
	TDEV6	6 second threshold
	TDEV7	7 second threshold
	TDEV8	8 second threshold
	TDEV9	9 second threshold
	TDEV10	10 second threshold
	TDEV16	16 second threshold
	TDEV20	20 second threshold
	TDEV30	30 second threshold
	TDEV40	40 second threshold
	TDEV50	50 second threshold
	TDEV60	60 second threshold
	TDEV64	64 second threshold
	TDEV70	70 second threshold
	TDEV80	80 second threshold
	TDEV90	90 second threshold
	TDEV100	100 second threshold
	TDEV128	128 second threshold
	TDEV200	200 second threshold
	TDEV300	300 second threshold
	TDEV400	400 second threshold
	TDEV500	500 second threshold
	TDEV600	600 second threshold
	TDEV700	700 second threshold
	TDEV800	800 second threshold
	TDEV900	900 second threshold
	TDEV1000	1000 second threshold

COMMAND CODE: RTRV-TH-PORT (Contd)

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<montype>,,,<thlev>" ...
;
```

thlev	meaning
xxxxx	threshold level in decimal numerals

Note for montype of BPV: Only in-service (restored) ports are sampled; therefore, the BPV counts displayed correspond to a particular error rate depending on the number of in-service ports. Find the BPV count in the table below that is closest to the displayed BPV count and in the column which represents the number of ports in service, then follow across to the corresponding error rate. Because the ports are sampled in turn, there is some amount of settling time for the framing circuit. This settling time causes an error of ±4% in the specified error rate. The observation interval is 15 minutes.

BPV count				
1 port in service	2 ports in service	3 ports in service	4 ports in service	Error Rate
14	7	5	4	1×10^{-8}
139	70	46	35	1×10^{-7}
1390	695	464	348	1×10^{-6}
13896	6948	4632	3474	1×10^{-5}
32767	16348	10922	8192	2.35×10^{-5}

EXAMPLE

Input:

```
RTRV-TH-PORT::MRC-1-ALL:136::BPV;
```

Response:

```
   SANJOSE-114 1997-02-08 15:04:14
M  136 COMPLD
   "MRC-1-1:BPV,,,16"
   "MRC-1-2:BPV,,,16"
   "MRC-1-3:BPV,,,16"
   "MRC-1-4:BPV,,,16"
;
```

COMMAND CODE: RTRV-USER-SECU

PURPOSE

RETRIEVE USER SECURITY

This command displays the access level for a single user or all users.

INPUT FORMAT

```
RTRV-USER-SECU:[<tid>]:<aid>:<ctag>;
```

parameter	value	meaning
aid	user name	a single user
	ALL	all users

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> RTRV
   "<aid>:,<uap>" ...
;
```

EXAMPLE

Input:

```
RTRV-USER-SECU::BIG:155;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  155 RTRV
   "BIG:,4"
;
```

parameter	meaning
uap	user access level

This example, tagged as command 155, displays the user access level of 4 for user BIG.

COMMAND CODE: SET-ATTR-CONT

PURPOSE

SET ATTRIBUTE CONTROL

This command sets the timing output source selection mode (revertive or nonrevertive) which determines how the timing output cards select which internal synchronization source to use. This applies to the four sources in the pairs shown below.

Revertive mode: The highest available source is always used.

1st choice:	clock card 1
2nd choice:	clock card 2
3rd choice:	input card 1
4th choice:	input card 2

- If any of the above sources fail, the next available source is used.
- If a higher source is fixed, the system uses that higher source.

Nonrevertive mode: Within the pairs shown below, sources are nonrevertive; between pairs, sources are revertive.

1st pair	2nd pair
clock card 1	input card 1
clock card 2	input card 2

- If clock card 1 fails, clock card 2 will be used.
- If clock card 1 is fixed, clock card 2 continues to be used (nonrevertive).
- If both clock cards fail, input card 1 is used.
- If input card 1 fails, input card 2 is used.
- If input card 1 is fixed, input card 2 continues to be used (nonrevertive).
- If either of the input cards are being used and any clock card is fixed, that clock card will be used.

INPUT FORMAT

```
SET-ATTR-CONT:[<tid>]:SHELF:<ctag>::<conttype>;
```

conttype	meaning
RVRT	revertive
NRVRT	nonrevertive

COMMAND CODE: SET-ATTR-CONT (Contd)

EXAMPLE

Input:

```
SET-ATTR-CONT::SHELF:140::RVRT;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  140 COMPLD
;
```

This example, tagged as command 140, sets the timing output source selection mode to revertive.

COMMAND CODE: SET-ATTR-PORT

PURPOSE

SET ATTRIBUTE PORT

This command sets the notification code associated with the specified event. This attribute governs whether the event is reported automatically. Alarmed events are reported automatically by the REPORT ALARM message. Non-alarmed events are reported automatically by the REPORT EVT message.

INPUT FORMAT

```
SET-ATTR-PORT:[<tid>]:<aid>:<ctag>::[<ntfcncde>],[<condtype>];
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–4 or ALL c = 1–11

aid	ntfcncde	condtype	meaning
MRC-a-b	CR, MJ, MN, NA, or NR	AIS	alarm indication signal
		BPV	bipolar violations
		CRC	cyclic redundancy check errors
		FFREQ	fractional frequency threshold exceeded
		LOS	loss of signal
		OOF	out of frame errors
		ALL	all condtypes

COMMAND CODE: SET-ATTR-PORT (Contd)

INPUT FORMAT (Contd)

aid	ntfcncde	condtype	meaning
PSM-c-b	CR, MJ, MN, NA, or NR	AIS	alarm indication signal
		BPV	bipolar violations
		CRC	cyclic redundancy check errors
		OOF	out of frame errors
		LOS	loss of signal
		ALL	all condtypes
		MTIE1	1 second threshold
		MTIE2	2 second threshold
		MTIE4	4 second threshold
		MTIE10	10 second threshold
		MTIE16	16 second threshold
		MTIE20	20 second threshold
		MTIE40	40 second threshold
		MTIE64	64 second threshold
		MTIE100	100 second threshold
		MTIE128	128 second threshold
		MTIE200	200 second threshold
		MTIE400	400 second threshold
		MTIE512	512 second threshold
		MTIE900	900 second threshold
		MTIE1000	1000 second threshold
		MTIE2000	2000 second threshold
		MTIE4000	4000 second threshold
		MTIE3600	3600 second threshold
		MTIE10000	10000 second threshold
		MTIE20000	20000 second threshold
		MTIE40000	40000 second threshold
		MTIE86400	86400 second threshold

COMMAND CODE: SET-ATTR-PORT (Contd)

INPUT FORMAT (Contd)

aid	ntfcncde	condtype	meaning
PSM-c-b (contd)	CR, MJ, MN, NA, or NR	TDEV1	1 second threshold
		TDEV2	2 second threshold
		TDEV3	3 second threshold
		TDEV4	4 second threshold
		TDEV5	5 second threshold
		TDEV6	6 second threshold
		TDEV7	7 second threshold
		TDEV8	8 second threshold
		TDEV9	9 second threshold
		TDEV10	10 second threshold
		TDEV16	16 second threshold
		TDEV20	20 second threshold
		TDEV30	30 second threshold
		TDEV40	40 second threshold
		TDEV50	50 second threshold
		TDEV60	60 second threshold
		TDEV64	64 second threshold
		TDEV70	70 second threshold
		TDEV80	80 second threshold
		TDEV90	90 second threshold
		TDEV100	100 second threshold
		TDEV128	128 second threshold
		TDEV200	200 second threshold
		TDEV300	300 second threshold
		TDEV400	400 second threshold
		TDEV500	500 second threshold
		TDEV600	600 second threshold
		TDEV700	700 second threshold
		TDEV800	800 second threshold
		TDEV900	900 second threshold
		TDEV1000	1000 second threshold

COMMAND CODE: SET-ATTR-PORT (Contd)

EXAMPLE

Input:

```
SET-ATTR-PORT::MRC-1-4:137::MJ,AIS;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  137 COMPLD
;
```

This example, tagged as command 137, sets the alarm indication signal to a major alarm on span 4 of MRC 1.

COMMAND CODE: SET-SID

PURPOSE

SET SOURCE IDENTIFIER

This command sets the system identification, or source identifier. The <tid> in an input command is the <sid> of the target system. The <sid> is included in every response sent by the system.

Note: Responses and autonomous messages from expansion shelves are automatically appended with the appropriate expansion or remote shelf designation. See sid and tid in Table A.

INPUT FORMAT

```
SET-SID:[<tid>]::<ctag>::<sid>;
```

EXAMPLE

Input:

```
SET-SID:::119::SANJOSE-114;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  119 COMPLD
;
```

This example, tagged as command 119, sets the sid as SANJOSE-114.

COMMAND CODE: SET-TH-PORT

PURPOSE

SET THRESHOLD PORT

This command sets the threshold level for a monitored parameter. When the parameter exceeds the threshold value, an automatic message is sent. The threshold may apply to one or more units. One command is required for each threshold setting.

INPUT FORMAT

```
SET-TH-PORT:[<tid>]:<aid>:<ctag>::<montype>,<thlev>;
```

The parameter values in the table below are as follows:

a = 1–2 b = 1–4 or ALL c = 1–11

aid	montype	thlev	meaning
MRC-a-b	BPV	0–32767	bipolar violations (see note below)
	CRC		cyclic redundancy check errors

Note for BPVs: Only in-service (restored) ports are sampled; therefore, the BPV counts entered to obtain a desired error rate depends on the number of in-service ports. Enter a BPV count from the table below based on the desired error rate and the number of ports in service as the <thlev> parameter in the command.

Error Rate	BPV count			
	1 port in service	2 ports in service	3 ports in service	4 ports in service
1×10^{-8}	14	7	5	4
1×10^{-7}	139	70	46	35
1×10^{-6}	1390	695	464	348
1×10^{-5}	13896	6948	4632	3474
2.35×10^{-5}	32767	16348	10922	8192

Because the ports are sampled in turn, there is some amount of settling time for the framing circuit. This settling time causes an error of ±4% in the specified error rate. The observation interval is 15 minutes.

COMMAND CODE: SET-TH-PORT (Contd)

INPUT FORMAT (Contd)

aid	montype	thlev	meaning
PSM-c-b	BPV	0–32767	bipolar violations (see note below)
	CRC		cyclic redundancy check errors
	MTIE1		1 second threshold
	MTIE2		2 second threshold
	MTIE4		4 second threshold
	MTIE10		10 second threshold
	MTIE16		16 second threshold
	MTIE20		20 second threshold
	MTIE40		40 second threshold
	MTIE64		64 second threshold
	MTIE100		100 second threshold
	MTIE128		128 second threshold
	MTIE200		200 second threshold
	MTIE400		400 second threshold
	MTIE512		512 second threshold
	MTIE900		900 second threshold
	MTIE1000		1000 second threshold
	MTIE2000		2000 second threshold
	MTIE4000		4000 second threshold
	MTIE10000		10000 second threshold
	MTIE20000		20000 second threshold
	MTIE40000		40000 second threshold
	MTIE86400		86400 second threshold

COMMAND CODE: SET-TH-PORT (Contd)

INPUT FORMAT (Contd)

aid	montype	thlev	meaning
PSM-c-b (contd)	TDEV1	0–32767	1 second threshold
	TDEV2		2 second threshold
	TDEV3		3 second threshold
	TDEV4		4 second threshold
	TDEV5		5 second threshold
	TDEV6		6 second threshold
	TDEV7		7 second threshold
	TDEV8		8 second threshold
	TDEV9		9 second threshold
	TDEV10		10 second threshold
	TDEV16		16 second threshold
	TDEV20		20 second threshold
	TDEV30		30 second threshold
	TDEV40		40 second threshold
	TDEV50		50 second threshold
	TDEV60		60 second threshold
	TDEV64		64 second threshold
	TDEV70		70 second threshold
	TDEV80		80 second threshold
	TDEV90		90 second threshold
	TDEV100		100 second threshold
	TDEV128		128 second threshold
	TDEV200		200 second threshold
	TDEV300		300 second threshold
	TDEV400		400 second threshold
	TDEV500		500 second threshold
	TDEV600		600 second threshold
	TDEV700		700 second threshold
	TDEV800		800 second threshold
	TDEV900		900 second threshold
	TDEV1000		1000 second threshold

COMMAND CODE: SET-TH-PORT (Contd)

EXAMPLE

Input:

```
SET-TH-PORT::MRC-1-3:135::OOF,20;
```

Response:

```
   SANJOSE-114 1997-12-08 15:04:13
M  135 COMPLD
;
```

This example, tagged as command 135, sets the out of frame errors of span 3 of MRC-1 to 20.

5. MESSAGES

5.01 The autonomous messages that can be issued are listed in this section. Each message starts on a separate page with the purpose describing what the message displays.

5.02 The message format shows how the message is formatted and explains the parameters. An example message is provided.

COMMAND CODE: REPT ALM

PURPOSE

REPORT ALARM

This message reports the occurrence of alarms, including the access identifier, the severity of the alarm, the type of condition, whether it affects service, when it occurred, and a short description of the alarm.

MESSAGE FORMAT

```
   <sid> <date> <time>
<almcde> <atag>
REPT ALM {EQPT|PORT}
   "<aid>:<ntfcncde>,<condtype>,<srveff>,<ocrdat>,<ocrtm>:
                                                  <conddescr>" ...
;
```

Refer to Table A and Table E for parameter values.

EXAMPLE

```
   SANJOSE-114 1997-12-08 15:41:32
*  14
REPT ALM EQPT
   "CLK-1:MN,HOLDOVER,NSA:/*CLOCK IN HOLDOVER*/"
;
```

This example, tagged as automatic message 14, shows that clock 1 has a minor alarm, the clock is in holdover, and service is not affected.

COMMAND CODE: REPT EVT

PURPOSE

REPORT EVENT

This message reports the occurrence of nonalarmed events, including the access identifier, the severity of the alarm, the type of condition, whether it affects service, and a short description of the alarm.

MESSAGE FORMAT

```
   <sid> <date> <time>
A  <atag>
REPT EVT {EQPT|PORT}
   "<aid>:<condtype>,<condeff>,<ocrdat>,<ocrtm>:<conddescr>" ...
;
```

Refer to Table A and Table E for parameter values.

EXAMPLE

```
   SANJOSE-114 1997-12-08 15:41:32
A  2
REPT EVT PORT
   "MRC-1-4:LOS,SC,12-06,04-22-45:/*REFERENCE INPUT SIGNAL
                                                    LOSS*/"
;
```

This example, tagged as automatic message 2, shows that a standing condition has been raised because of a loss of an external input to port 4 of MRC 1 which occurred on Dec 6 at 4:22:45 AM.

Table E. Alarm/Event Summary

aid	condtype	conddescr
CLK-x	ACTIVE	CLOCK IS SUPPLYING SIGNAL TO OUTPUT CARDS
	DRIFT	INPUT IS DRIFTING
	FREERUN	CLOCK IN FREERUN
	HOLDOVER	CLOCK IN HOLDOVER
	INACTIVE	CLOCK IS NOT SUPPLYING SIGNAL TO OUTPUT CARD
	INPUT-FAIL-a	TIMING SIGNAL FROM INPUT CARD LOSS
	LOCKED	CLOCK LOCKED TO INPUT SIGNAL
	MATCH	CARD INFORMATION DOES NOT MATCH DATABASE
	NOT-LOCKED	CLOCK NOT CONVERGED ON REFERENCE INPUT
	TOLERANCE	SYSTEM INPUT TO CLOCK OUT OF TOLERANCE
	UNEQUIPPED	CARD IS MISSING
GTI-x	ACQUIRE	GTI ACQUIRED
	COMM-LOSS	COMMUNICATION LOSS
	CONVERGING	TIMING SIGNAL NOT YET STABLE (SKY PROBLEM)
	FAIL	CARD FAULT:REFERENCE PLL OUT OF LOCK
	FAIL	CARD FAIL:PRIMARY REFERENCE PLL OUT OF LOCK
	FAIL	CARD FAIL:OSCILLATOR PLL OUT OF LOCK
	FREQ-TOL	GPS FREQUENCY OUT OF TOLERANCE
	FUSE-x	LPR FUSE HAS BLOWN OR POWER FAIL
	GTI-LOCK	GTI IS LOCKED
	GTR-COMM-LOS	GTR COMMUNICATIONS FAIL
	GTR-FAIL	GTR FAIL:ANTENNA CURRENT FAIL
	GTR-FAIL	GTR FAIL:GTR PLL OUT OF LOCK
	GTR-FAIL	GTR FAIL:NOT LOCKED TO UTC TIME
	GTR-FAIL	GTR FAIL:FLASH MEMORY FAIL
	GTR-FAIL	GTR FAIL:RAM MEMORY FAIL
	GTR-LOCK	GTR IS LOCKED
	GTR-NOT-LOCKED	GTR UNLOCK
	GTR-PWR-FLT	GTR POWER FAULT
	GTR-SIG-LOS	SIGNAL FROM THE GTR HAS BEEN LOST
	LOS	OUTPUT FROM THE GTR HAS BEEN LOST
	MATCH	CARD INFORMATION DOES NOT MATCH DATABASE
	NO-INPUTS	ALL INPUTS TO THE GTI HAVE BEEN LOST
	OSC-x-LOS	LOCAL OSCILLATOR SIGNAL LOSS
	OSC-x-TOL	OSCILLATOR OUT OF FREQUENCY TOLERANCE

Table E. Alarm/Event Summary (Contd)

aid	condtype	conddescr
GTI-x (Contd)	SATELLITE	INSUFFICIENT SATELLITES
	SEARCH	GTI IN SEARCH MODE
	SIGNAL-DEFECT	GTR LOCATION, SKY PROBLEM OR GND/OSCILLATOR NOISE
	TRACK	GTI TRACKING
	UNEQUIPPED	CARD IS MISSING
LTI-x	ANTENNA	CURRENT TO ANTENNA IS OUT OF TOLERANCE
	FAIL	LTI FAIL:TRANSFER OSC PLL OUT OF LOCK
	FAIL	LTI FAIL:SYNTHESIZER PLL OUT OF LOCK
	FAIL	LTI FAIL:PRIMARY REFERENCE PLL OUT OF LOCK
	FAIL	LTI FAIL:LOSS OF COMM TO DSP OR DSP FAIL
	FAIL	LTI FAIL:LOSS OF SIGNAL TO DSP OR DSP FAIL
	FUSE-x	LPR FUSE HAS BLOWN OR POWER FAIL
	LOS	OUTPUT FROM THE LTI HAS BEEN LOST
	MATCH	CARD INFORMATION DOES NOT MATCH DATABASE
	NO-INPUTS	ALL INPUTS TO THE LTI HAVE BEEN LOST
	OSC-x-LOS	LOSS OF LOCAL OSCILLATOR SIGNAL
	OSC-LOS	LOSS OF BOTH LOCAL OSCILLATOR SIGNALS
	SEARCH	LTI IS IN SEARCH MODE
	UNEQUIPPED	CARD IS MISSING
MIS	RESET	MIS HAS RESET
MRC-x	ACTIVE	CARD IS SUPPLYING A SIGNAL TO THE CLOCK(S)
	ALL-REF	LOSS OF ALL EXTERNAL INPUT REFERENCES
	CLOCK-z	LOSS OF INPUT FROM THE CLOCK
	FAIL	CARD FAILED
	FAIL	CARD FAIL:CLOCK SYNTHESIZER FAILURE
	FAIL	CARD FAIL: FRAMER FAILURE
	FFREQ-z	CLOCK DISQUALIFIED:FREQ THRESHOLD EXCEEDED
	INACTIVE	CARD IS NOT SUPPLYING A SIGNAL TO THE CLOCK(S)
	MATCH	CARD INFORMATION DOES NOT MATCH DATABASE
	UNEQUIPPED	CARD IS MISSING

Table E. Alarm/Event Summary (Contd)

aid	condtype	conddescr
MRC-x-y	AIS	ALARM INDICATION SIGNAL RECEIVED
	BPV	BPV DETECTED
	CRC	CRC DETECTED
	FFREQ	REF INPUT FRACTIONAL FREQ THRESHOLD EXCEEDED
	LOS	REFERENCE INPUT SIGNAL HAS BEEN LOST
	OOF	OOF DETECTED
	SWITCH	INPUT TIMING SIGNAL SWITCHED
PSM-x	CLOCK-z	LOSS OF INPUT FROM THE CLOCK
	FAIL	CARD FAILED
	FAIL	CARD FAIL: FRAMER FAILURE
	MATCH	CARD INFORMATION DOES NOT MATCH DATABASE
	UNEQUIPPED	CARD IS MISSING
PSM-x-y	AIS	ALARM INDICATION SIGNAL RECEIVED
	BPV	BPV DETECTED
	CRC	CRC DETECTED
	LOS	REFERENCE INPUT SIGNAL HAS BEEN LOST
	MTIEx	x SECOND THRESHOLD EXCEEDED
	OOF	OOF DETECTED
	TDEVx	x SECOND THRESHOLD EXCEEDED
SHELF	FUSE-x	FUSE BLOWN OR POWER FAIL
	GP	SHELF INPUT ALARM
	GP	SHELF MAJOR
	GP	SHELF MINOR
	GP	EXPANSION MINOR
	GP	EXPANSION MAJOR
	OVERRIDE	TIMING OUTPUT SOURCE SELECTED BY COMMAND

Table E. Alarm/Event Summary (Contd)

aid	condtype	conddescr
TO-x	CLOCK-y	TIMING SIGNAL FROM CLOCK CARD DISQUALIFIED
	FAIL	CARD FAIL:A/D FAILURE
	FAIL	CARD FAIL:INTERNAL FAILURE
	FAIL	CARD FAIL:REFERENCE VOLTAGE FAILURE
	FAIL	CARD FAIL:PLL OUT OF LOCK
	INPUT-x	TIMING SIGNAL FROM INPUT CARD DISQUALIFIED
	MATCH	PROTECTION CARD CONFIGURATION MISMATCH OR PAIRED CARD MISSING
	MATCH	CARD INFORMATION DOES NOT MATCH DATABASE
	SOURCE-CLKx	OUTPUT CARD IS USING CLK x
	SOURCE-INPUTx	OUTPUT CARD IS USING INPUT x
	SWITCH	INPUT SWITCHED
	SWITCH	FAILURE TO SWITCH TO CLK x
	SWITCH	FAILURE TO SWITCH TO INPUT x
	SWITCH	OUTPUT CARD PROTECTION SWITCH
	UNEQUIPPED	CARD IS MISSING
TO-x-y	PORT	OUTPUT PORT HAS FAILED