Symmetricom

DIGITAL CLOCK DISTRIBUTOR

500 SERIES

INPUT/OUTPUT REFERENCE GUIDE

RELEASE 5.05.xx

1. GENERAL

1.01 This section provides information on the input messages (commands), response messages, and automatic messages used with an MIS card which is part of Symmetricom's Digital Clock Distributor (DCD) 500 System. Specifically, this section provides information about software release 5.05.xx when installed in an MIS card with a part number of 090-44018-05 or 090-45018-05. The language used for the commands in this section is Transaction Language 1 (TL1).

1.02 This section has been reissued to add a caution to the SET-DA-EQPT command concerning the <holdoff> parameter. The caution has been marked with a change bar.

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2. DESCRIPTION

A. Conventions

2.01 The syntax and language structure used in this section 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 Man-Machine Language (MML), the language specifies Applications Messages which allow communication between an Operations System (OS) and a Network Element (NE) such as one of the 500 series systems.

2.02 The following conventions are used in the input and response messages:

< > enclose a parameter

[ ] enclose an optional parameter

{ } enclose multiple parameters, one of which must be selected (or in a response, one of which will appear)

| separates parameters enclosed by the { } symbols

" " enclose a report of an alarm, event, AID or log

/* */ enclose response text; may include spaces, carriage returns, line feeds and other characters and symbols which, as pertains to the TL1 language, are to be ignored

: separates parameter blocks

, separates parameters within a block

& indicates "and" (1&9 means 1 and 9)

&& indicate a range (1&&9 means 1 through 9)

. . . indicates the line may repeat one or more times

;   terminates a command and causes execution

>   indicates a message continuation (message blocks are limited to 4096 bytes)

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:parame-
    ter ::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.

Parameters

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

Command Code   Optional parameter block   Parameter block   Parameter block with parameters separated by a comma   Terminating semicolon
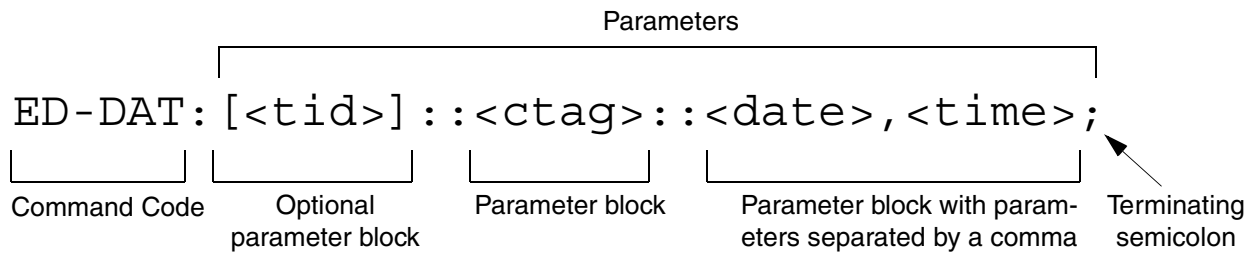
Example of a command format

Null parameter block

```
ED-DAT:::111::1995-12-08,15-35-00;
```
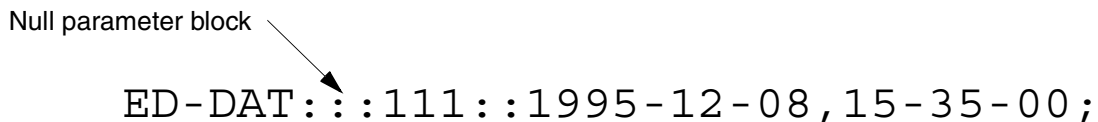
Example of a command using the above format

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, but within a parameter block, upper and lower-er case cannot be mixed.

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
;
```

Note: If the command was a query, additional information will be displayed before the semi-colon.

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 which is the equipment that the command affects. When seen in a response, the <aid> is the equipment reporting the condition.
	
	Note: 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 composite clock timing signals from the master or an expansion shelf (generally located distant from the master shelf); communication port COM3 on the remote shelf must be connected to communication port COM3 on the master shelf.
	
	Without Remote Shelf: direct a command to a particular shelf as follows:
	      <aid> = Master shelf
	      E1-<aid> = Expansion shelf #1
	      E2-<aid> = Expansion shelf #2
	      E3-<aid> = Expansion shelf #3
	
	With 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 commands 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:
	      <aid> = Master shelf
	      E1-<aid> = Expansion shelf #1
	      E2-<aid> = Expansion shelf #2
	      E3-<aid> = Remote shelf (E3 identifies the remote shelf even if there are no Expansion shelves).

almcde	This parameter is the alarm code which 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 = event

atag	This parameter is the automatic message tag which is 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 jumper straps on the MIS card; ports 1 and 3 are software-configurable only.
clklevel	This parameter is the clock quality level assigned to the clocks in the shelf.
compri	This parameter is the priority of communication ports. Refer to the ED-COM command for valid values.

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
comtype	This parameter indicates the type of communication device used (X25, MODEM, TERM1, TERM2, or remote). Refer to the ED-COM command for an explanation of device types.
conddescr	This parameter is the condition description which 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 F.
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 SHELF. 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 F.
conttype	This parameter is the control type. Refer to the SET-ATTR-CONT command for additional information. With an <aid> of DCIM-ALL, this parameter indicates the input protection mode: NO = no protection: each DCIM card is stand-alone with 2 inputs 1+1 = 1-plus-1 protection: the 2 DCIM cards operate as 1 card with 4 inputs With an <aid> of MIS, this parameter indicates the SSM mode (applies to master and all expansions shelves): NO = SSM is not supported SSME = SSM supported for DCIM-EA, EA10-M, and EA20-M cards only SSMT = SSM supported for DCIM-T and TOTA-M cards only With an <aid> of TO (timing output card), this parameter indicates the output protection mode (applies to TO-EA5, EA10, and EA20 cards): NO = no protection 1-1 = 1-for-1 protection 1+1 = 1-plus-1 protection With an <aid> of SHELF, this parameter indicates the timing output source selection mode (applies to master and all expansions shelves): RVRT = revertive NRVRT = nonrevertive

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
ctag	This parameter is the correlation tag which 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).
dn	This parameter is the remote PAD address (32 numeric characters max).
dur	This parameter is the amount of time (in minutes) after which the user will be logged off if there is no activity.
durmsg	This parameter is the persistence delay which is the amount of time between when a SSM changes state on a DCIM input and when the new SSM state is reported to the MIS card.
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 which identifies the reason the command was denied. Valid values for <errcde> are: ENEQ = not equipped PIUC = invalid access level ENPS = invalid protection switch PIUI = invalid user identification ICNV = command not valid PLNA = user not logged on IDNV = data not valid SARB = system resources are busy IEAE = entity already exists SCSN = invalid sequence IIAC = invalid aid SDNA = duplex unit not available IICT = invalid ctag SPFA = protection card switch failure IISP = invalid syntax or punctuation SROF = command execution failed IITA = invalid tid SWFA = working card switch failure IPMS = input parameter missing
framing	This parameter is the framing format. Refer to the ED-PORT command for an explanation of framing types.
holdoff	This parameter is the amount of time from when a transmission impairment is detected on an input source until that input is disqualified. The transmission impairments used are: OOF, LOS, AIS, BPV threshold violation, and CRC threshold violation.
hldovrmsg	This parameter is the amount of time from when the clocks go into holdover until the holdover SSM is sent to the timing output cards.
hwcontrol	This parameter controls whether external equipment can start (CTS = high) and stop (CTS = low) output messages by manipulating the clear-to-send (CTS) lead.
integration	This parameter is the alarm integration time before an alarm is declared on the LPR.
keepalive	This parameter is the keepalive message which consists of the response to the RTRV-HDR command with a ctag of 999. If enabled, the keepalive message is sent every 15 to 20 min.
modetype	This parameter specifies the message type used to report autonomous port-alarm messages (REPT-ALM-PORT or REPT-ALM-EQPT).

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
mondat	This parameter is the beginning date of the requested performance-monitoring period.
monmsg	This parameter specifies whether a port is allowed to view data traffic associated with other ports in real-time.
montm	This parameter is the beginning 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.
nswmsg	This parameter is the nonswitching message delay, which pertains to changes in signal quality that do not involve switches or rearrangements. This is the amount of time from when a signal quality level change is reported (following the persistence delay) until the new signal quality level SSM is sent to the timing output cards.
ntfcncde	This parameter is the notification code which indicates 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 NA = not alarmed MJ = major alarm NR = not reported MN = minor alarm CL = cleared Note: The Shelf, and MRC and PSM cards support critical, major, and minor alarms. Clock, LTI, GTI, and timing output cards support major and minor alarms only.
ocrdat	This parameter is the date an event occurred.
ocrtm	This parameter is the time an event occurred.
osc1	This parameter is external clock source 1 (OSC A) to an LPR shelf, or the type of clock in the first clock slot with an MRC card.
osc2	This parameter is external clock source 2 (OSC B) to an LPR shelf, or the type of clock in the second clock slot with an MRC card.
ph	This parameter specifies the degree of system initialization.
pid	This parameter is 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; and the first character must be an alpha character. 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 input references. The reference with priority 1 is used first, then the priority 2 reference, and so on.
reference condition	This parameter specifies whether the specified input reference can be used.
reference type	This parameter is the type of reference input signal to the DCD.

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
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.
rstdur	This parameter is the amount of time from when an input source becomes free of transmission impairments until that input is requalified for use. The <rstdur> parameter applies only to inputs which have been disqualified due to transmission impairments. The transmission impairments used are: OOF, LOS, AIS, BPV threshold violation, and CRC threshold violation.

shelf	This parameter directs the command to a particular shelf. Valid values for <shelf> are:
	
	      (null) = master shelf
	      E1 = expansion shelf 1
	      E2 = expansion shelf 2
	      E3 = expansion shelf 3

sid	This parameter is the source identifier (site ID). It identifies the system sending the response or automatic message. The sid is recommended to be the target's CLLI code, if available (alternatively, the office name can be used). The SET-SID command can be used to assign unique sids in a multi-system installation. The sid is case sensitive.
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

ssm-state	This parameter is the SSM message (<ssmmsg>) when the clocks are not in holdover or the SSM trouble code (<ssmtc>) when the clocks are in holdover.
ssmmsg	This parameter is the SSM message.
ssmsa4	These parameters are for the spare additional (Sa) bits in an E1 signal. Sa bits 4 through 8 can be individually enabled or disabled for SSM messages.
ssmsa5	
ssmsa6	
ssmsa7	
ssmsa8	
ssmtc	This parameter is the SSM trouble code which controls the state of the output signal of output cards. The trouble code is invoked whenever all provisioned active clocks go into holdover. The trouble code can be set for squelch, AIS signal, or clock quality level messages.
swcontrol	This parameter specifies whether key combinations can be used 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.
switchfrom	This parameter specifies whether the specified timing output card switches to a mate card in an adjacent slot (1 for 1 protection) or to a card in an HS slot (1 for N protection).

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
swmsg	This parameter is the switching message delay, which pertains to changes in signal quality that involve switches or rearrangements. This is the amount of time from when a signal quality level change is reported (following the persistence delay) until the new signal quality level SSM is sent to 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>.
	
	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 composite clock timing signals from the master or an expansion shelf (generally located distant from the master shelf).
	
	The <tid> can be omitted only if one of the following is true:
	  • Connection is made directly to the master shelf.
	  • There is only one system.
	
	Note: Expansion and remote shelves are not addressed through the <tid> parameter. Refer to the <aid> parameter in this table.

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>. See Tables A and D.
uap	This parameter specifies the user access level:1 through 5 (5 is the highest).
uid	This parameter is the user identification. The first character must be an alpha character and a maximum of 10 characters can be used.

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

3. SECURITY

3.01 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 allow-ing 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. (For additional security information, refer to the Operations section of this manual.)

Table B. Command/Message Names and Access Levels

COMMAND/MESSAGE	EXPANDED NAME	ACCESS LEVEL
ACT-USER	Activate User	1
ALW-SWDX-EQPT	Allow Switch Duplex Equipment	4
CANC-USER	Cancel User	1
CONN-COM	Connect Communication	4
CPY-MEM	Copy Memory	4
DISC-COM	Disconnect Communication	4
DLT-EQPT	Delete Equipment	4
DLT-INVENTORY	Delete Inventory	4
DLT-PORT	Delete Port	4
DLT-USER-SECU	Delete User Security	5
ED-COM	Edit Communication	3
ED-DAT	Edit Date	4
ED-EQPT	Edit Equipment	3
ED-INVENTORY	Edit Inventory	3
ED-PID	Edit Password Identification	1
ED-PORT	Edit Port	3
ED-SSM-EQPT	Edit Synchronization Status Message Equipment	4
ED-SSM-PORT	Edit Synchronization Status Message Port	3
ED-USER-SECU	Edit User Security	5
ENT-EQPT	Enter Equipment	4
ENT-INVENTORY	Enter Inventory	3
ENT-PORT	Enter Port	4
ENT-USER-SECU	Enter User Security	5
INIT-COM	Initialize Communications	3
INIT-LOG	Initialize Log	3

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

COMMAND/MESSAGE	EXPANDED NAME	ACCESS LEVEL
INIT-REG	Initialize Register	3
INIT-SYS	Initialize System	5
OPR-ACO-ALL	Operate ACO All	1
OPR-PROTNSW	Operate Protection Switch	2
OPR-SWDX-PORT	Operate Switch Duplex Port	3
OPR-SYNCNSW	Operate Synchronization Switch	4
REPT-ALM	Report Alarm	(Autonomous)
REPT-EVT	Report Event	(Autonomous)
RLS-PROTNSW	Release Protection Switch	2
RLS-SWDX-PORT	Release Switch Duplex Port	3
RLS-SYNCNSW	Release Synchronization Switch	4
RMV-EQPT	Remove Equipment	4
RMV-PORT	Remove Port	3
RST-EQPT	Restore Equipment	4
RST-PORT	Restore Port	3
RTRV-ALM	Retrieve Alarm	1
RTRV-ATTR-CONT	Retrieve Attribute Control	2
RTRV-ATTR-PORT	Retrieve Attribute Port	1
RTRV-COM	Retrieve Communication	1
RTRV-COM-CONN	Retrieve Communication Connection	1
RTRV-COND	Retrieve Condition	1
RTRV-DA-EQPT	Retrieve Delay Activation Equipment	1
RTRV-EQPT	Retrieve Equipment	2
RTRV-GPS-STAT	Retrieve GPS Statistics	2
RTRV-HDR	Retrieve Header	1
RTRV-INVENTORY	Retrieve Inventory	2
RTRV-LOG	Retrieve Log	1
RTRV-MSG-EQPT	Retrieve Message Equipment	1
RTRV-MSG-PORT	Retrieve Message Port	1
RTRV-PM-PORT	Retrieve Performance Monitoring Port	2
RTRV-PORT	Retrieve Port	1

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

COMMAND/MESSAGE	EXPANDED NAME	ACCESS LEVEL
RTRV-REPTMODE-PORT	Retrieve Report Mode Port	1
RTRV-SSM-EQPT	Retrieve Synchronization Status Message Equipment	1
RTRV-SSM-PORT	Retrieve Synchronization Status Message Port	1
RTRV-TH-MSG	Retrieve Threshold Message	1
RTRV-TH-PORT	Retrieve Threshold Port	1
RTRV-USER-SECU	Retrieve User Security	5
SET-ATTR-CONT	Set Attribute Control	3
SET-ATTR-PORT	Set Attribute Port	4
SET-DA-EQPT	Set Delay Activation Equipment	4
SET-REPTMODE-PORT	Set Report Mode Port	4
SET-SID	Set Source Identifier (System Identification)	4
SET-TH-MSG	Set Threshold Message	4
SET-TH-PORT	Set Threshold Port	3

4. VERSION 5 VS. NON-VERSION 5 CARDS

4.01 Version 5 cards are those cards which can do the following:

- Report configuration information and be configured via commands

- Report status information

- Report inventory information

4.02 Table C lists the Version 5 cards; all other cards are non-Version 5 cards. Non-Version 5 cards do not contain inventory information and must be manually entered using the ENT-INVENTORY command.

4.03 Some non-Version 5 cards are incompatible with Version 5 cards. Refer to the manual that came with the equipment.

Table C. Version 5 Cards

CARD	PART NUMBER
INPUT CARDS	
DCIM-EA	090-45010-59
DCIM-EA/C	090-44010-59
DCIM-T	090-45010-50
MRC-EA	090-45010-56 090-45010-57
MRC-EA/C	090-44010-56 090-44010-57
MRC-T	090-45010-53 090-45010-58
MRC-T/C	090-44010-58
MONITOR CARDS	
PSM-E	090-45025-52
PSM-E/C	090-44025-52
PSM-EA	090-45025-54
PSM-EA/C	090-44025-54
PSM-T	090-45025-51

Table C. Version 5 Cards (Contd)

CARD	PART NUMBER
TIMING OUTPUT CARDS	
EA10	090-45029-52
EA10/C	090-44029-52
EA10M	090-45029-54
EA10M/C	090-44029-54
EA20	090-45029-53
EA20/C	090-44029-53
EA20M	090-45029-54
EA20M/C	090-44029-54
TO-EA5	090-45029-51
TO-EA5/C	090-44029-51
TO-EAN	090-45029-56
TOTA-5	090-45012-52
TOTA-M	090-45012-53
PROTECTION CARDS	
MCA-5M	090-45015-55
LPR SHELF CARDS	
GTI	090-42140-13, software revision E or higher 090-42140-14, software revision E or higher 090-42140-15, software revision B or higher 090-42140-16 090-42140-17 090-42140-18 090-44140-14, software revision E or higher 090-44140-16 090-44140-18

5.   COMMANDS

5.01 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.

5.02 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 D.

Table D. Operational Considerations

ITEM	CONSIDERATION
1	All systems are shipped from the factory with a <sid> of TELECOM. In multi-system installations, 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 11. The addressing for the PSM cards is defined by the TO slot 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. After a period of inactivity (set in the ED-COM command), the user is automatically logged off.

INPUT FORMAT

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

parameter	value	meaning
uid	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: ALW-SWDX-EQPT

PURPOSE

ALLOW SWITCH DUPLEX EQUIPMENT

This command transfers the source active status between two DCIM cards. The DCIM cards must be set for stand-alone operation (not 1+1) via the SET-ATTR-CONT command. In addition, the shelf must be equipped with ST3 clock cards.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2

aid	meaning
DCIM-a	specified DCIM card

EXAMPLE

Input:

```
ALW-SWDX-EQPT::DCIM-1:134;
```

Response:

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

This example, tagged as command 134, causes the source active status to switch to the other DCIM card.

COMMAND CODE: CANC-USER

PURPOSE

CANCEL USER

This command logs the user off and ends the session. After a period of inactivity (set in the ED-COM command), the user is automatically logged off. The user name is case sensitive (uppercase and lower-case) and must be entered exactly as assigned.

INPUT FORMAT

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

parameter	value	meaning
uid	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: CONN-COM

PURPOSE

CONNECT COMMUNICATION

This command initiates a connection sequence on the specified communication port. This command must be entered on a communication port other than the one specified in the command where the PAD is located.

INPUT FORMAT

        CONN-COM:[<tid>]:<aid>:<ctag>::[comtype];

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)
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 Hayes-compatible modem with autodial)

EXAMPLE

Input:

        CONN-COM::COM-1:134::X25;

Response:

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

This example, tagged as command 134, requests a connection on communication port 1 using PAD as the communication device.

COMMAND CODE: CPY-MEM

PURPOSE

COPY MEMORY

This command copies card programs from an external device (e.g. PC, network, etc) to the DCD shelf. This command can also be used to copy card programs and/or database information between cards in the shelf.

For a procedure for copying a program file from an external source to the MIS card, refer to the Operations section of this manual.

INPUT FORMAT

```
CPY-MEM:[<tid>]:[<shelf>]:<ctag>::,FROM-<fromdev>,,TO-<todev>:
                                                    <memclass>;
```

parameter	value	meaning
shelf	(null)	master shelf
	E1	expansion shelf 1
	E2	expansion shelf 2
	E3	expansion shelf 3 (or remote shelf if equipped with a remote shelf instead of an expansion shelf 3)

COMMAND CODE: CPY-MEM (Contd)

INPUT FORMAT (Contd)

The parameter values in the table below are as follows:

a = 1–2 or ALL   b = 1–11 or ALL   c = 1–12 (1–10 for TOTA-5 & TOTA-M) or ALL

fromdev	todev	meaning
ALL	MIS	from all DCIM, GTI, MRC, PSM, and TO cards to MIS card
DCIM-a	MIS	from specified card(s) to MIS card
GTI-a		
MCA		
MRC-a		
PSM-b		
TO-c		
MIS	ALL	to all DCIM, GTI, MCA, MRC, PSM, and TO cards from MIS card
	DCIM-a	to specified card(s) from MIS card
	GTI-a	
	MCA	
	MRC-a	
	PSM-b	
	TO-c	

fromdev	todev	meaning
EXT	MIS	from external source to MIS card in master shelf
	EXP-1	from external source to MIS card in expansion shelf 1
	EXP-2	from external source to MIS card in expansion shelf 2
	EXP-3	from external source to MIS card in expansion shelf 3
	INPUT-1	from external source to input card 1 in master shelf
	INPUT-2	from external source to input card 2 in master shelf

parameter	value	meaning
memclass	PGM	program that runs the card (used with <fromdev> = EXT only)
	DATA	card configuration data (not allowed with <fromdev> = EXT)

Note: After copying to the GTI card (or ALL), use the RTRV-COND-EQPT command to ensure that the GTI is in service. If the GTI is not in service, repeat the COPY command. When copying from the GTI card (or ALL) to the MIS card, the COPY command may be denied with an error code of SROF. If this occurs, repeat the COPY command.

COMMAND CODE: CPY-MEM (Contd)

EXAMPLE

Input:

```
CPY-MEM:::134:,FROM-EXT,,TO-MIS:PGM;
```

Response:

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

This example, tagged as command 134, copies the MIS card program from an external computer to the MIS card in the master shelf.

COMMAND CODE: DISC-COM

PURPOSE

DISCONNET COMMUNICATION

This command initiates a disconnection sequence on the specified communication port. This command must be entered on a communication port other than the one specified in the command (where the PAD is located).

INPUT FORMAT

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

aid	meaning
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)

EXAMPLE

Input:

```
DISC-COM::COM-1:144;
```

Response:

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

This example, tagged as command 144, disconnects communication port 1.

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   = 1–12 (1–10 for TOTA-5 & TOTA-M)

aid	meaning
CLK-a	specified CLK card
DCIM-a	specified DCIM card
GTI-a	specified GTI card
LTI-a	specified LTI card
MCA	specified MCA card
MRC-a	specified MRC card
PSM-b	specified PSM card
TO-c	specified timing output 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-INVENTORY

PURPOSE

DELETE INVENTORY

This command deletes a nonstandard card from the database. (Standard cards are removed from the database by the DLT-EQPT command.)

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2   b   = 1–12

aid	meaning
CLOCK-a	the nonstandard card in the specified slot
INPUT-a	
OUTPUT-b	
PROT	
PRS-a	

EXAMPLE

Input:

```
DLT-INVENTORY::OUTPUT-3:114;
```

Response:

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

This example, tagged as command 114, deletes from the database the card in timing output slot 3.

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   e   = 1–11
b   = 1–2 or ALL   f   = 1–12 (1–10 for TOTA-5 & TOTA-M)
c   = 1–4 or ALL   g   = 1–10 (1–20 for EA20) or ALL
d   = 2–4 (c > b)   h   = 2–10 (2–20 for EA20) (h > g)

aid	meaning
DCIM-a-b	specified port on specified DCIM card
MRC-a-c[&&-d]	specified port on specified MRC card
PSM-e-c[&&-d]	specified port on specified PSM card
TO-f-g[&&-h]	specified port on specified timing output 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>]:<uid>:<ctag>;
```

parameter	value	meaning
uid	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 communication parameters. Communication port parameters which cannot be changed are: character bits = 8, parity = none, and start bits = 1. When changing communication parameters, the associated hardware (modem, pad, or terminal) must be connected. After changing a parameter with this command, wait at least 10 seconds before entering another command.

INPUT FORMAT

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

Notes:
1. Any parameter left blank causes no change to that parameter.
2. Before changing the <comtype>, the cable on the communication port specified in the <aid> must be disconnected. If the cable is not disconnected and an attempt is made to change only the <comtype> parameter, an SROF error message will be returned. If the cable is not disconnected and an attempt is made to change <comtype> plus other parameters, a completed response will be returned to show that all parameters other than <comtype> were changed.

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 COMPLD message every 15 to 20 minutes
	INH	inhibits a port from autonomously outputting a COMPLD message every 15 to 20 minutes

COMMAND CODE: ED-COM (Contd)

INPUT FORMAT (Contd)

parameter	value	meaning

comtype	X25	for use with X.25 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
		Note: If the <comtype> is set to X25 and TimeScan NMS or TMN is used, refer to the PAD manual and the X.3 Standard to set the following parameters in the PAD Profile: disable ECHO, enable MESSAGES, and disable SERVICE SIGNALS.

	MODEM	for use with modem with autodial (sets RS232 control leads to communicate with any Hayes-compatible modem that has autodial)
	TERM1	for use with dumb terminal (VT100 with no DSR/DTR support and message buffering disabled) (the autologoff feature will not function on a port with a comtype of TERM1)
	TERM2	for use with dumb terminal (VT100 with DSR/DTR support and message buffering enabled) or modem without autodial
	REMOTE	allows communication with a remote shelf via the specified communication port
endoftext	00–9F	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 00 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
compri	INH	communication through a port with this designation is inhibited (INH is not allowed on COM2)
	ALW0	allows normal communication; autonomous messages are not sent out a port with this priority level
	ALW1	allows normal communication; autonomous messages are always sent out this port regardless of the priorities of the other ports (this is the highest port priority)
	ALW2	allows normal communication; autonomous messages are sent out this port only if there are no ports with a priority level of ALW1 (this is the second-highest port priority)
	ALW3	allows normal communication; autonomous messages are sent out this port only if there are no ports with a priority level of ALW1 or ALW2 (this is the lowest port priority)
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

COMMAND CODE: ED-COM (Contd)

INPUT FORMAT (Contd)

parameter	value	meaning
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
	Note: If the <comtype> is set to X25 and TimeScan NMS or TMN is used: set <swcontrol> to ALW, and also enable software flow control in the PAD.	
dur	1–45	specifies the time (in minutes) after which the user will be logged off if there is no activity (the autologoff feature will not function on a port with a comtype of TERM1)
dn	Up to 32 numeric charac- ters	specifies the remote PAD address

EXAMPLE

Input:

```
ED-COM::COM-1:115::9600,,,X25,,,,,,30,12345;
```

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 an X.25 PAD as the communications device, and using the factory settings for the other parameters except: 30 minutes is set as the time after which the user will be logged off if there is no activity, and 12345 is set as the PAD address.

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 local time is displayed.

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.

Note: This command will be denied when attempting to set the <clklevel> with an aid of CLK unless one of the following has been completed:

- the ENT-EQPT command has been used to enter the DCIM card(s)
- the SET-ATTR-CONT command has been used to set the <conttype> for the MIS card to other than OFF

INPUT FORMAT

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

Any parameter left blank causes no change to that parameter. The parameter values in the table below are as follows:

a = 1–2   b = 1–11   c = 12 (1–10 for TOTA-5 & TOTA-M)

aid	parameter	value	meaning
CLK-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
	clklevel	ST2	the clock is an ST2
		ST2E	the clock is an ST2E
		ST3	the clock is an ST3
		ST3E	the clock is an ST3E
		TNC	the clock is a TNC
		TNCE	the clock is a TNCE
	alarmlead	(null)	(not applicable)
	signaltype		

COMMAND CODE: ED-EQPT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
GTI-a	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	troublecode	ALW	AIS is sent on all outputs when card has major alarm
		INH	all outputs are squelched when card has major alarm
	portseverity	(null)	(not applicable)
	osc1	QTZ	oscillator 1 (OSC A) is quartz clock
		RB	oscillator 1 (OSC A) is rubidium clock
	osc2	QTZ	oscillator 2 (OSC B) is quartz clock
		RB	oscillator 2 (OSC B) is rubidium clock
	integration	1	see Table E
		2	see Table E
		3	see Table E
		4	see Table E
	clklevel	(null)	(not applicable)
	alarmlead		
	signaltype	ANALOG	output signal is analog
		DIGITAL	output signal is digital
MCA	framing	(null)	(not applicable)
	troublecode		
	portseverity	MJ	a port failure causes a major alarm
		MN	a port failure causes a minor alarm
	osc1	(null)	(not applicable)
	osc2		
	integration		
	clklevel		
	alarmlead	ALW	a protection switch activates the shelf alarm lead
		INH	a protection switch does not activate the shelf alarm lead
	signaltype	(null)	(not applicable)

COMMAND CODE: ED-EQPT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
MRC-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1	NONE	oscillator 1 (OSCA) is not equipped
		QTZ	oscillator 1 (OSCA) is quartz clock
		RB	oscillator 1 (OSCA) is rubidium clock
	osc2	NONE	oscillator 1 (OSCA) is not equipped
		QTZ	oscillator 1 (OSCA) is quartz clock
		RB	oscillator 1 (OSCA) is rubidium clock
	integration	(null)	(not applicable)
	clklevel		
	alarmlead		
	signaltype		
TO-c	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	troublecode	INH	all outputs are squelched upon card failure
		ALW	AIS is sent on all outputs upon card failure
		Note: If any port on the TO card is set for ANALOG, the troublecode must be set to INH.	
	portseverity	MJ	port failure causes major alarm
		MN	port failure causes minor alarm
	osc1	(null)	(not applicable)
	osc2		
	integration		
	clklevel		
	alarmlead		
	signaltype		

COMMAND CODE: ED-EQPT (Contd)

EXAMPLE

Input:

```
ED-EQPT::GTI-2:134::FAS,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 = FAS
- 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 E. GTI Card Alarm Integration Times

INTEGRATION PARAMETER SETTING	GTI CARD TYPE	ALARM INTEGRATION TIME (SIGNAL DEFECT ONLY)	
		MINOR ALARM	MAJOR ALARM
1	GTI -13 & -14	4 hours	24 hours
	GTI -15, -16, -17, & -18	Rubidium ref: 4 hours	Rubidium ref: 24 hours
		Quartz ref: 3/4 hour	Quartz ref: 6 hours
2	GTI -13 & -14	3 hours	18 hours
	GTI -15, -16, -17, & -18	Rubidium ref: 8 hours	Rubidium ref: 48 hours
		Quartz ref: no minor alarm	Quartz ref: 6 hours
3	GTI -13 & -14	1 hour	6 hours
	GTI -15, -16, -17, & -18	Rubidium ref: no minor alarm	Rubidium ref: 24 hours
		Quartz ref: no minor alarm	Quartz ref: 1 hour
4	GTI -13 & -14	10 minutes	1 hour
	GTI -15, -16, -17, & -18	Rubidium ref: 1/2 hour	Rubidium ref: 1 hour
		Quartz ref: 1/2 hour	Quartz ref: 1 hour

Notes:
1. The GTI types are as follows:

type	part #
GTI -13	090-42140-13
GTI -14	090-42140-14 & 090-44140-14
GTI -15	090-42140-15
GTI -16	090-42140-16 & 090-44140-16
GTI -17	090-42140-17
GTI -18	090-42140-18 & 090-44140-18

2. The times listed are from when a SIGNAL DEFECT occurs until a minor or major alarm is declared.

COMMAND CODE: ED-INVENTORY

PURPOSE

EDIT INVENTORY

This command is for nonstandard cards only. This command is used to change the card name, part number, CLEI code, serial number, hardware revision, or software revision in the system database for nonstandard cards. Nonstandard cards are all cards not listed in Table C.

Note: Inventory information appears on the front panel of the card. If any particular parameter information is not available, leave that parameter blank.

INPUT FORMAT

```
ED-INVENTORY:[<tid>]:<aid>:<ctag>::[<card>],[<part>],[<clei>],
        [<serial>],[<hardware_revision>],[<software_revision>];
```

Caution: The letter/number combinations "NO", "E1", "E2", and "E3" cannot be entered *alone* in any field in this command. These combinations can be used if additional characters are entered before or after these combinations.

A maximum of 20 characters is allowed for each of the following parameters: <card>,<part>,<clei>, <serial>,<hardware_revision>, and <software_revision>. If any of these parameters is left blank, there will be no change to that parameter. The parameter values in the table below are as follows:

a   = 1–2   b   = 1–12

aid	card
INPUT-a	ACI
	CI
	CI-EA
	ECI
PROT	MCA-5
CLOCK-a	LNC
	TNC
	TNC-E
	ST2
	ST2E
	ST3
	ST3E

COMMAND CODE: ED-INVENTORY (Contd)

INPUT FORMAT (Contd)

aid	card
OUTPUT-b	TOAA
	TOCA
	TOEA
	TO-EA
	TOGA
	TOLA
	TOTA
	TOTL
	SCIU
	ESCIU
PRS-a	LOU-1
	LOU-2
	LTI

EXAMPLE

Input:

```
ED-INVENTORY::OUTPUT-3:114::,090-45025-53,,,,;
```

Response:

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

This example, tagged as command 114, changes the part number of the card in output slot 3 to 090-45025-53 (other parameters that were previously entered are not changed).

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>]:<uid>:<ctag>::<pid>,<new pid>;
```

parameter	value	meaning
uid	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 for user "super".

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>][,[<reference
                                              condition>]];
```

Any parameter left blank causes no change to that parameter. The parameter values in the table below are as follows:

a	= 1–2		e	= 1–11
b	= 1–2 or ALL		f	= 1–12 (1–10 for TOTA-5 & TOTA-M)
c	= 1–4 or ALL		g	= 1–10 (1–20 for EA20) or ALL
d	= 2–4 (c > b)		h	= 2–10 (2–20 for EA20) (h > g)

aid	parameter	value	meaning
DCIM-a-b	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	priority	1–4	priority of the reference, 1 is highest priority
	reference type	(null)	(not applicable)
	signal type	ANALOG	analog signal
		DIGITAL	digital signal
	reference condition	ALW	this input reference can be used
		INH	this input reference cannot be used (but can be IS-NR)

COMMAND CODE: ED-PORT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
MRC-a-c[&&-d]	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	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
	reference condition	(null)	(not applicable)
PSM-e-c[&&-d]	framing	CAS	channel associated sequence
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	priority	(null)	(not applicable)
	reference type		
	signal type	ANALOG	analog signal
		DIGITAL	digital signal
	reference condition	(null)	(not applicable)

COMMAND CODE: ED-PORT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
TO-f-g[&&-h]	framing	(null)	(not applicable)
	priority		
	reference type		
	signal type	ANALOG	analog signal (TO-EA5, EA10, & EA20 only)
		DIGITAL	digital signal
	reference condition	(null)	(not applicable)

EXAMPLE

Input:

```
ED-PORT::MRC-2-2:154::FAS,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 FAS framing, the lowest 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-SSM-EQPT

PURPOSE

EDIT SYNCHRONIZATION STATUS MESSAGE EQUIPMENT

This command assigns a quality level to the output signal(s) of an input card or the output signals of a TOTA-M, EA10-M, EA20-M, GTI-17, or GTI-18 card. Also specified are the SSM trouble code to be sent out during clock holdover, and whether to use the Sa4 through Sa8 bits of an E1 signal for SSM messages. This command will be denied if the shelf is set for no SSM.

INPUT FORMAT

```
ED-SSM-EQPT:[<tid>]:<aid>:<ctag>::[<ssmmsg>][,[<ssmtc>]
    [,[<ssmsa4>],[<ssmsa5>],[<ssmsa6>],[<ssmsa7>],[<ssmsa8>]]];
```

Notes:
1. Any parameter left blank causes no change to that parameter.
2. "Input" in the table below refers to any input card other than a DCIM card.

The parameter values in the table below are as follows:

a   = 1–2   b   = 1–12

parameter	value	for card	meaning
aid	DCIM-a	DCIM-T, DCIM-EA	Specified DCIM card
	GTI-a	GTI-17, GTI-18	Specified GTI card
	INPUT-a	Input card other than DCIM	Specified input card
	TO-b	TOTA-M, EA10-M, EA20-M	Specified output card
ssmmsg	QL-DNU	DCIM-EA, EA10-M, EA20-M, E1 Input cards, GTI-18	Do not use for synchronization
	QL-DUS	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Do not use for synchronization
	QL-NONE	DCIM-EA, DCIM-T, EA10-M, EA20-M, TOTA-M	SSM is not supported
	QL-NORM	DCIM-EA, DCIM-T, EA10-M, EA20-M, TOTA-M	No quality level assigned; the incoming quality level message will be used, along with equipment conditions, to determine the output quality level message

COMMAND CODE: ED-SSM-EQPT (Contd)

INPUT FORMAT (Contd)

parameter	value	for card	meaning
ssmmsg (contd)	QL-PRC	DCIM-EA, EA10-M, EA20-M, E1 Input cards, GTI-18	Signal is traceable to a primary reference clock
	QL-PRS	DCIM-T, E1 Input cards, GTI-17, TOTA-M	Signal is traceable to a primary reference source
	QL-RES	DCIM-T, GTI-17, TOTA-M	Signal traceable to a user-defined level
	QL-SEC	DCIM-EA, EA10-M, EA20-M, E1 Input cards, GTI-18	Signal is traceable to SDH equipment clock
	QL-SMC	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Signal is traceable to SONET minimum clock
	QL-SSUL	DCIM-EA, EA10-M, EA20-M, E1 Input cards, GTI-18	Signal is traceable to synchronization supply unit local
	QL-SSUT	DCIM-EA, EA10-M, EA20-M, E1 Input cards, GTI-18	Signal is traceable to synchronization supply unit transit
	QL-ST2	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Signal is traceable to a stratum 2 level
	QL-ST3	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Signal is traceable to a stratum 3 level
	QL-ST3E	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Signal is traceable to a stratum 3E level
	QL-ST4	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Signal is traceable to a stratum 4 level
	QL-STU	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Signal is traceable to an unknown stratum level
	QL-TNC	DCIM-T, T1 Input cards, GTI-17, TOTA-M	Signal is traceable to a transit node clock
	QL-UNK	DCIM-EA, EA10-M, EA20-M, E1 Input cards, GTI-18	Signal is traceable to an unknown stratum level

COMMAND CODE: ED-SSM-EQPT (Contd)

INPUT FORMAT (Contd)

parameter	value	for card	meaning
ssmtc	ALW	EA10-M, EA20-M, TOTA-M	AIS is sent out during holdover
	INH		Output squelched during holdover
	NORM		Clock quality level is sent out during holdover
ssmsa4	ALW	EA10-M, EA20-M, GTI-18	Allows the Sa4 bit to be used for SSM messages
	INH		Inhibits the Sa4 bit from being used for SSM messages
ssmsa5	ALW		Allows the Sa5 bit to be used for SSM messages
	INH		Inhibits the Sa5 bit from being used for SSM messages
ssmsa6	ALW		Allows the Sa6 bit to be used for SSM messages
	INH		Inhibits the Sa6 bit from being used for SSM messages
ssmsa7	ALW		Allows the Sa7 bit to be used for SSM messages
	INH		Inhibits the Sa7 bit from being used for SSM messages
ssmsa8	ALW		Allows the Sa8 bit to be used for SSM messages
	INH		Inhibits the Sa8 bit from being used for SSM messages

EXAMPLE

Input:

```
ED-SSM-EQPT::TO-5:155::QL-NORM,NORM,ALW,ALW,ALW,ALW,ALW;
```

Response:

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

This example, tagged as command 155, assigns the output of TO 1 to be QL-NORM and allows bits Sa4 through Sa8 to be used for SSM.

COMMAND CODE: ED-SSM-MSG

<u>PURPOSE</u>

EDIT SYNCHRONIZATION STATUS MESSAGING

This command assigns a quality level to the output signals of a TOTA-M, EA10-M, EA20-M, GTI-17, or GTI-18 card. On TOTA-M, EA10-M, and EA20-M cards, the assigned message will be sent only if the TOTA-M, EA10-M, or EA20-MA card loses communicatins with the MIS card for longer than 2 seconds. On GTI-17 and GTI-18 cards, the assigned message will be sent only if the output signal from the GTI-17 or GTI-18 card is not traceable to PRS/PRC and the card signal is still active.

<u>INPUT FORMAT</u>

```
ED-SSM-MSG:[<tid>]:<aid>:<ctag>::<ssmmsg>;
```

The parameter values in the table below are as follows:

a = 1–2   b = 1–12

parameter	value	for card	meaning
aid	GTI-a	GTI-17, GTI-18	Specified GTI card
	TO-b	TOTA-M, EA10-M, EA20-M	Specified output card
ssmmsg	QL-DNU	EA10-M, EA20-M, GTI-18	Do not use for synchronization
	QL-DUS	GTI-17, TOTA-M	Do not use for synchronization
	QL-HOLDOVER	EA10-M, EA20-M, GTI-17, GTI-18, TOTA-M	Output quality level based on quality level of shelf clocks
	QL-PRC	EA10-M, EA20-M, GTI-18	Signal is traceable to a primary reference clock
	QL-PRS	GTI-17, TOTA-M	Signal is traceable to a primary reference source
	QL-RES	TOTA-M, GTI-17	Signal is traceable to a user-definded level
	QL-SEC	EA10-M, EA20-M, GTI-18	Signal is traceable to SDH equipment clock
	QL-SMC	GTI-17, TOTA-M	Signal is traceable to SONET minimum clock
	QL-SSUL	EA10-M, EA20-M, GTI-18	Signal is traceable to synchronization supply unit local
	QL-SSUT	EA10-M, EA20-M, GTI-18	Signal is traceable to synchronization supply unit transit

COMMAND CODE: ED-SSM-MSG (Contd)

INPUT FORMAT (Contd)

parameter	value	for card	meaning
ssmmsg (contd)	QL-ST2	GTI-17, TOTA-M	Signal is traceable to a stratum 2 level
	QL-ST3	GTI-17, TOTA-M	Signal is traceable to a stratum 3 level
	QL-ST3E	GTI-17, TOTA-M	Signal is traceable to a stratum 3E level
	QL-ST4	GTI-17, TOTA-M	Signal is traceable to a stratum 4 level
	QL-STU	GTI-17, TOTA-M	Signal is traceable to an unknown stratum level
	QL-TNC	GTI-17, TOTA-M	Signal is traceable to a transit node clock
	QL-UNK	EA10-M, EA20-M, GTI-18	Signal is traceable to an unknown stratum level

EXAMPLE

Input:

```
ED-SSM-MSG::TO-5:155::QL-ST2;
```

Response:

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

This example, tagged as command 155, assigns the output of the TOTA-M card in the TO1 slot to be QL-ST2 if the TOTA-M card in the TO1 slot loses communicatins with the MIS card for more than 2 minutes.

COMMAND CODE: ED-SSM-PORT

PURPOSE

EDIT SYNCHRONIZATION STATUS MESSAGE PORT

This command assigns a quality level to an input signal on a DCIM card. This command will be denied if the shelf is set for no SSM (factory setting).

INPUT FORMAT

```
ED-SSM-PORT:[<tid>]:<aid>:<ctag>::[<ssmmsg>][,[<ssmsa4>],
                    [<ssmsa5>],[<ssmsa6>],[<ssmsa7>],[<ssmsa8>]];
```

Any parameter left blank causes no change to that parameter. The parameter values in the table below are as follows:

a   = 1–2   b   = 1–2 or ALL

parameter	value	for card	meaning
aid	DCIM-a-b	DCIM-T, DCIM-EA	Specified port on specified DCIM card
ssmmsg	QL-DNU	DCIM-EA	Do not use for synchronization
	QL-DUS	DCIM-T	Do not use for synchronization
	QL-NORM	DCIM-T, DCIM-EA	No quality level assigned; the incoming quality level message will be used, along with equipment conditions, to determine the output quality level message
	QL-PRC	DCIM-EA	Signal is traceable to a primary reference clock
	QL-PRS	DCIM-T	Signal is traceable to a primary reference source
	QL-RES	DCIM-T	Signal is traceable to a user-defined level
	QL-SEC	DCIM-EA	Signal is traceable to SDH equipment clock
	QL-SMC	DCIM-T	Signal is traceable to SONET minimum clock
	QL-SSUL	DCIM-EA	Signal is traceable to synchronization supply unit local
	QL-SSUT	DCIM-EA	Signal is traceable to synchronization supply unit transit
	QL-ST2	DCIM-T	Signal is traceable to a stratum 2 level
	QL-ST3	DCIM-T	Signal is traceable to a stratum 3 level
	QL-ST3E	DCIM-T	Signal is traceable to a stratum 3E level
	QL-ST4	DCIM-T	Signal is traceable to a stratum 4 level
	QL-STU	DCIM-T	Signal is traceable to an unknown stratum level
	QL-TNC	DCIM-T	Signal is traceable to a transit node clock
	QL-UNK	DCIM-EA	Signal is traceable to an unknown stratum level

COMMAND CODE: ED-SSM-PORT (Contd)

INPUT FORMAT (Contd)

parameter	value	for card	meaning
ssmsa4	ALW	DCIM-EA	Allows the Sa4 bit to be used for SSM messages
	INH		Inhibits the Sa4 bit from being used for SSM messages
ssmsa5	ALW		Allows the Sa5 bit to be used for SSM messages
	INH		Inhibits the Sa5 bit from being used for SSM messages
ssmsa6	ALW		Allows the Sa6 bit to be used for SSM messages
	INH		Inhibits the Sa6 bit from being used for SSM messages
ssmsa7	ALW		Allows the Sa7 bit to be used for SSM messages
	INH		Inhibits the Sa7 bit from being used for SSM messages
ssmsa8	ALW		Allows the Sa8 bit to be used for SSM messages
	INH		Inhibits the Sa8 bit from being used for SSM messages

EXAMPLE

Input:

```
ED-SSM-PORT::DCIM-1-1:155::QL-NORM,ALW,INH,INH,INH,INH;
```

Response:

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

This example, tagged as command 155, assigns port 1 of DCIM 1 to be QL-NORM and allows only the Sa4 bit to be used for SSM messages.

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. One user is assigned at the factory, and up to 16 additional users can be assigned (for a total of 17 users).

INPUT FORMAT

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

parameter	value	meaning
uid	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 highest level)
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-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 the card into the MIS card database, and puts the card in service according to the switch settings on the card. The card switch settings can be overridden by TL1 command. See note below.

Note: For EA10, EA10M, EA20, EA20M, TO-EA5, TOTA-5, and TOTA-M cards, if section 8 of switch SW1 is ON:
- The outputs are disabled upon power-up.
- The ENT-PORT, RST-EQPT, and RST-PORT commands must be used to enable the outputs.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2   b   = 1–11   c   = 1–12 (1–10 for TOTA-5 &TOTA-M)

aid	meaning
CLK-a	Clock card
DCIM-a	DCIM card
GTI-a	GTI card
LTI-a	LTI card
MCA	MCA card
MRC-a	MRC card
PSM-b	PSM card
TO-c	timing output card

EXAMPLE

Input:

```
ENT-EQPT::MRC-2:134;
```

Response:

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

This example, tagged as command 134, enters and restores the MRC card in slot 2, and enters and restores all ports on the MRC card, with all factory settings.

COMMAND CODE: ENT-INVENTORY

PURPOSE

ENTER INVENTORY

This command is for nonstandard cards and standard cards without a database (LTI, ST2, ST2E, ST3, ST3E, TNC, TNC-E, and LNC). This command is used to enter the card name, part number, CLEI code, serial number, hardware revision, and software revision into the system database for each slot equipped with a nonstandard card. All cards entered with this command are nonstandard because they do not contain a database and cannot communicate with the MIS card. (Standard card information is communicated to the MIS card when the ENT-EQPT command is used for that card.) For a list of standard cards, refer to Table C.

Note: Inventory information appears on the front panel of the card. If any particular parameter information is not available, leave that parameter blank.

INPUT FORMAT

```
ENT-INVENTO-
   RY:[<tid>]:<aid>:<ctag>::[<card>],[<part>],[<clei>],
        [<serial>],[<hardware_revision>],[<software_revision>];
```

Caution: The letter/number combinations "NO", "E1", "E2", and "E3" cannot be entered *alone* in any field in this command. These combinations can be used if additional characters are entered before or after these combinations.

A maximum of 20 characters is allowed for each of the following parameters: <card>,<part>,<clei>, <serial>,<hardware_revision>, and <software_revision>. Parameters not entered will remain blank (null). The parameter values in the table below are as follows:

a = 1–2   b   = 1–12

aid	card
INPUT-a	ACI
	CI
	CI-EA
	ECI
PROT	MCA-5

COMMAND CODE: ENT-INVENTORY (Contd)

INPUT FORMAT (Contd)

aid	card
CLOCK-a	LNC
	TNC
	TNC-E
	ST2
	ST2E
	ST3
	ST3E
OUTPUT-b	TOAA
	TOCA
	TOEA
	TO-EA
	TOGA
	TOLA
	TOTA
	TOTL
	SCIU
	ESCIU
PRS-a	LOU-1
	LOU-2
	LTI

EXAMPLE

Input:

```
ENT-INVENTORY::OUTPUT-3:114::TOAA,090-45025-53,D0CPBC15AA,
                                        E18951,B,D;
```

Response:

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

This example, tagged as command 114, enters the following inventory information into the system database: output slot 3 contains a nonstandard TOAA card with a part number of 090-40025-01, a CLEI code of D0CPBC15AA, a serial number of E18951, a hardware revision of B, and a software revision of D.

COMMAND CODE: ENT-PORT

PURPOSE

ENTER PORT

This command enters a new port including the framing, priority, reference type, signal type, and reference condition.

INPUT FORMAT

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

Any parameter left blank causes the card to use switch settings for that parameter. The parameter values in the table below are as follows:

a	= 1–2	e	= 1–11	
b	= 1–2 or ALL	f	= 1–12 (1–10 for TOTA-5 &TOTA-M)	
c	= 1–4 or ALL	g	= 1–10 (1–20 for EA20) or ALL	
d	= 2–4 (c > b)	h	= 2–10 (2–20 for EA20) (h > g)	

aid	parameter	value	meaning
DCIM-a-b	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	priority	1–4	priority of the reference, 1 is highest priority
	reference type	(null)	(not applicable)
	signal type	ANALOG	analog signal
		DIGITAL	digital signal
	reference condition	ALW	this input reference can be used
		INH	this input reference cannot be used (but can be IS-NR)

COMMAND CODE: ENT-PORT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
MRC-a-c[&&-d]	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	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
	reference condition	(null)	(not applicable)
PSM-e-c[&&-d]	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	priority	(null)	(not applicable)
	reference type		
	signal type	ANALOG	analog signal
		DIGITAL	digital signal
	reference condition	(null)	(not applicable)

COMMAND CODE: ENT-PORT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
TO-f-g[&&-h]	framing	(null)	(not applicable)
	priority		
	reference type		
	signal type	ANALOG	analog signal (TO-EA5, EA10, & EA20 only)
		DIGITAL	digital signal
	reference condition	(null)	(not applicable)

EXAMPLE

Input:

```
ENT-PORT::MRC-2-2:154::FAS,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 FAS 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. The user name and password are case (uppercase/lowercase) sensitive, therefore use care when assigning these parameters. One user is assigned at the factory, and up to 16 additional users can be assigned (for a total of 17 users).

INPUT FORMAT

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

parameter	values	meaning
uid	up to 10 alpha-numeric characters	user name
pid	up to 10 characters (see note below)	password identification
uap	1–5	user access level (5 is highest level)
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). (If a port is provision for TERM1 [no DSR/DTR support], the command will indicate completed but no action will occur.)

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. (After clearing, the first entry in the log will be the initialization of the log.)

INPUT FORMAT

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

shelf	meaning
(null)	master shelf
E1	expansion shelf 1
E2	expansion shelf 2
E3	expansion shelf 3 (or remote shelf if equipped with a remote shelf instead of an expansion shelf 3)

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. After putting ports into service, it is recommended that this command be used to initialize the performance-monitoring storage registers on those ports to avoid the possibility of invalid data.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a	= 1–2	c	= 2	e	= 2–4 (c > b)
b	= 1–2 or ALL	d	= 1–4 or ALL	f	= 1–11

aid	parameter	value	meaning
ALL	montype	ALL	all spans of all DCIM, MRC, & PSM cards
DCIM-a-b	montype	ALL	all montypes
		BPV	bipolar violations register
		CRC	cyclic redundancy check errors register
MRC-a-d[&&-e]	montype	ALL	all montypes
		BPV	bipolar violations register
		CRC	cyclic redundancy check errors register
PSM-f-d[&&-e]	montype	ALL	all montypes
		BPV	bipolar violations register
		CRC	cyclic redundancy check errors register
		MTIE	MTIE performance monitoring register
		PHASE1M	phase 1-minute register
		SLIPS	slips register
		TDEV	TDEV performance monitoring register

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 either deletes the card database, resets the MIS card, changes to the alternate MIS card program, or resets all parameters to the factory settings and deletes the card database.

INPUT FORMAT

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

Caution: Before using the INIT-SYS command with a <ph> of 4 or 5 with an aid of MIS, ensure that section 5 of switch SW1 on the MIS card is in the up (ON) position. Failure to observe this caution may result in the loss of all card database information in the MIS card.

The parameter values in the table below are as follows:

a   = 1–2

parameter	value	meaning
aid	MIS	MIS card
	DCIM-a	DCIM card

COMMAND CODE: INIT-SYS (Contd)

INPUT FORMAT (Contd)

parameter	value	meaning
ph	3	aid = MIS only: deletes the card database (does not affect the SID, security, or communication port parameters)

	4	aid = MIS only:
		    with section 5 of SW1 on the MIS card in the ON position: performs a soft reset on the MIS card (does not affect the SID, security, or communication port parameters); the card database on the MIS card is retained and downloaded from the MIS card to all other cards
		
		    with section 5 of SW1 on the MIS card in the OFF position: performs a soft reset on the MIS card (does not affect the SID, security, or communication port parameters); the card database on the MIS card is retained but *not* downloaded from the MIS card to all other cards

	5	aid = MIS:
		    with section 5 of SW1 on the MIS card in the ON position: changes to the alternate MIS card program which may take up to 5 minutes (does not affect the SID, security, or communication port parameters); the card database on the MIS card is retained and downloaded from the MIS card to all other cards
		
		    with section 5 of SW1 on the MIS card in the OFF position: changes to the alternate MIS card program (does not affect the SID, security, or communication port parameters); the card database on the MIS card is retained but *not* downloaded from the MIS card to all other cards
		
		aid = DCIM:
		    changes to the inactive DCIM card program

	9	aid = MIS only: resets the SID, security, and communication port parameters to the factory settings (refer to the Operations section of this manual for factory settings), and deletes the card database

EXAMPLE

Input:

```
INIT-SYS::MIS:110::5;
```

Response:

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

This example, tagged as command 110, changes to the alternate MIS card program.

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. This command will be executed on all shelves.

INPUT FORMAT

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

shelf	meaning
(null)	master shelf
E1	expansion shelf 1
E2	expansion shelf 2
E3	expansion shelf 3 (or remote shelf if equipped with a remote shelf instead of an expansion shelf 3)

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-PROTNSW

PURPOSE

OPERATE PROTECTION SWITCH

To determine the protection configuration of the system use the RTRV-ATTR-CONT command to indicate the protection type, i.e., unprotected, 1-for-1, 1+1, or 1-for-N. In addition, use the RTRV-COND-EQPT command to determine which card of a 1-for-1 pair is the working and which is the protection card. The working card is indicated by the <condtype> IS-NR-ACT, whereas the protection card is indicated by the <condtype> IS-NR-STBY.

1-for-1 protection:
This command is only for TO-EA5, EA10, EA10M, EA20, & EA20M timing output cards that are set for 1-for-1 protection. This command forces a protection switch between a normally working timing output card and a protection timing output card (or visa versa) for maintenance purposes. This command will be denied if the protection type (SET-ATTR-CONT) is not appropriate for the output card(s) requested, or if the protection card is out of service. Before a card is pulled out of a shelf, the appropriate RMV command should be used to avoid alarms.

There is a working card (odd slot) and a protection card (even slot). A card or port failure on the working card initiates a switch to the protection card. The status of the working card changes from IS-NR-ACT to IS-NR-STBY or OOS-MT-FLT (depending on the failure) and the status of the protection card changes from IS-NR-STBY to IS-NR-ACT. When the failed card is replaced, status of the replacement card is IS-NR-STBY, and the status of the protection card remains IS-NR-ACT. Subsequently, the OPR-PROTNSW command can be used to switch back to make the original working card the active card.

If there has never been a failure of either card of the pair, or the protection card has failed and was replaced:

- The OPR-PROTNSW command is used to switch from the active working card to the standby protection card.

- The RLS-PROTNSW is used to switch from the active protection card to the standby working card.

If the working card has failed and was replaced:

- The OPR-PROTNSW command is used to switch from the active protection card to the standby working card.

- The RLS-PROTNSW is used to switch from the active working card to the standby protection card.

  Caution: If the OPR-PROTNSW command is used to switch to the protection card and subsequently there is a protection card or port failure, there is no automatic switch to the working card (service is locked to the failed protection card!). To make the working card the active card, the RLS-PROTNSW command is used.

1-plus-1 protection:
The OPR-PROTNSW and RLS-PROTNSW commands are not applicable with this protection type.

COMMAND CODE: OPR-PROTNSW (Contd)

PURPOSE (Contd)

1-for-N protection:
This command is only for timing output cards other than the TO-EA5, EA10, EA10M, EA20, & EA20M
that are set for 1:N protection. The OPR-PROTNSW and RLS-PROTNSW commands switch between a
timing output card and a protection timing output card of the same type in an HS slot.

- The OPR-PROTNSW command is used to switch from a timing output card in a TO slot to a
  protection card of the same type in an HS slot.

- The RLS-PROTNSW command is used to switch back to a timing output card in a TO slot from
  a protection card in an HS slot.

INPUT

```
OPR-PROTNSW:[<tid>]:<aid>:<ctag>::<switchfrom>;
```

The parameter values in the table below are as follows:

a   = 1–10 for MCA, 1–12 for MAN

parameter	value	meaning
aid	TO-a	timing output card
switchfrom	MAN	this value, used with 1-1 protection, causes a protection switch from the working timing output card in slot TO-a to the mate protection timing output card in the adjacent slot (used with TO-EA5, EA10, EA10M, EA20, & EA20M cards only)
	MCA	this value, used with 1:N protection, causes a switch from the working timing output card in slot TO-a to the protection timing output card in the HS slot (used with cards other than TO-EA5, EA10, EA10M, EA20, & EA20M)

Note: If automatic switching was set with the SET-ATTR-CONT command and revertive switching
was not set with the SET-ATTR-CONT command and a fault occurred in the working card, then the
working card with the fault was replaced, the two commands (OPR-PROTNSW and RLS-PROTNSW)
reverse function. That is, the OPR-PROTNSW must be used to return to the working card, and the
RLS-PROTNSW must be used to transfer to the protection card.

COMMAND CODE: OPR-PROTNSW (Contd)

EXAMPLE

Input:

```
OPR-PROTNSW::TO-5:111::MAN;
```

Response:

```
    SANJOSE-114 95-12-08 15:04:13
M  111 COMPLD
 ;
```

This example, tagged as command 111, switches all ports from the working card, TO-5, to the protection output card of the same type in slot 6 (TO-6).

COMMAND CODE: OPR-SWDX-PORT

PURPOSE

OPERATE SWITCH DUPLEX PORT

This command is for DCIM cards only. This command forces a particular reference input port on a particular DCIM card to be used. This command can be completed only if the <reference condition> for the port has been set to ALW by the ED-PORT or ENT-PORT command.

Caution: If the port specified in this command fails, the clocks will go into holdover.

Stand-alone: If the DCIM cards have been set for stand-alone operation (<conttype> = NO by the SET-ATTR-CONT command), one of the following will occur:

If the specified port is on the active DCIM card: the active DCIM card, and therefore the system, will use the signal on the specified input port.

If the specified port is on the inactive DCIM card: the inactive DCIM card, but not the system, will use the signal on the specified input port.

1+1: If the DCIM cards have been set for combined operation (<conttype> = 1+1 by the SET-ATTR-CONT command), one of the following will occur:

If the specified port is on the active DCIM card: the active DCIM card, and therefore the system, will use the signal on the specified input port.

If the specified port is on the inactive DCIM card: the inactive DCIM card will become the active card, and the newly activated DCIM card, and therefore the system, will use the signal on the specified input port.

To determine the protection mode of the DCIM cards, use the RTRV-ATTR-CONT command (<conttype> = NO or 1+1).

INPUT

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

The parameter values in the table below are as follows:

a   = 1–2   b   = 1–2

aid	meaning
DCIM-a-b	the specified port on the specified DCIM card

COMMAND CODE: OPR-SWDX-PORT (Contd)

EXAMPLE

Input:

```
OPR-SWDX-PORT::DCIM-1-1:787;
```

Response:

```
   SANJOSE-114 98-12-08 15:04:13
M  787 COMPLD
 ;
```

This example, tagged as command 787, causes DCIM 1 to use the signal on input port 1.

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.

This command applies to all timing output cards in all shelves in the system. If the selected source fails while this command is active (not canceled by the RLS-SYNCNSW command), all timing output cards will use the next available reference source in this order if revertive mode is set: CLK1, CLK2, IN1, IN2. If the selected source then becomes active (after failing) while this command is active (not canceled by the RLS-SYNCNSW command), all timing output cards will switch to the selected source.

INPUT FORMAT

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

switchto	meaning
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-PROTNSW

PURPOSE

RELEASE PROTECTION SWITCH

This command reverses (releases) the switch caused by the OPR-PROTNSW command. To determine the protection configuration of the system use the RTRV-ATTR-CONT to indicate the protection type (un-protected, 1-for-1, 1+1, or 1-for-N). In addition, use the RTRV-COND-EQPT command to determine the status of any or all of the card slots. Refer to the description under the OPR-PROTNSW command for additional information.

INPUT FORMAT

```
RLS-PROTNSW:[<tid>]:<aid>:<ctag>::<switchfrom>;
```

The parameter values in the table below are as follows:

a   = 1–10 for switchfrom=MCA, 1–12 for switchfrom=MAN

parameter	value	meaning
aid	TO-a	working timing output card
switchfrom	MAN	this value, used with 1-for-1 protection, releases a protection switch from a protection timing output card to the mate working timing output card in slot TO-a (used with TO-EA5, EA10, EA10M, EA20, & EA20M cards only)
	MCA	this value, used with 1-for-N protection, releases a protection switch from a timing output card in a hot spare slot back to the timing output card in slot TO-a slot (used with cards other than TO-EA5, EA10, EA10M, EA20, & EA20M cards only)

Note: If automatic switching was set with the SET-ATTR-CONT command and revertive switching was not set with the SET-ATTR-CONT command and a fault occurred in the working card, then the working card with the fault was replaced, the two commands (OPR-PROTNSW and RLS-PROTNSW) reverse function. That is, the OPR-PROTNSW must be used to return to the working card, and the RLS-PROTNSW must be used to transfer to the protection card.

COMMAND CODE: RLS-PROTNSW (Contd)

EXAMPLE

Input:

```
RLS-PROTNSW::TO-5:111::MAN;
```

Response:

```
    SANJOSE-114 95-12-08 15:04:13
M  111 COMPLD
 ;
```

This example, tagged as command 111, switches all ports from the protection output card back to TO-5.

COMMAND CODE: RLS-SWDX-PORT

PURPOSE

RELEASE SWITCH DUPLEX PORT

This command releases the forced use of the input port specified by the OPR-SWDX-PORT command and returns to normal operation.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2   b   = 1–2

aid	meaning
DCIM-a-b	specified DCIM card and port

EXAMPLE

Input:

```
RLS-SWDX-PORT::DCIM-1-1:134;
```

Response:

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

This example, tagged as command 134, releases the forced use of the timing reference on port 1 of DCIM 1 and returns to normal operation.

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 from service into 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   = 1–12 (1–10 for TOTA-5 &TOTA-M)

aid	meaning
CLK-a	Clock card
DCIM-a	DCIM card
GTI-a	GTI card
LTI-a	LTI card
MCA	MCA card
MRC-a	MRC card
PSM-b	PSM card
TO-c	timing output 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 into 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   e   = 1–11
b   = 1–2 or ALL   f   = 1–12 (1–10 for TOTA-5 &TOTA-M)
c   = 1–4 or ALL   g   = 1–10 (1–20 for EA20) or ALL
d   = 2–4 (c > b)   h   = 2–10 (2–20 for EA20) (h > g)

aid	meaning
DCIM-a-b	specified port on specified DCIM card
MRC-a-c[&&-d]	specified port on specified MRC card
PSM-e-c[&&-d]	specified port on specified PSM card
TO-f-g[&&-h]	specified port on specified timing output 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 puts a card 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   = 1–12 (1–10 for TOTA-5 &TOTA-M)

aid	meaning
CLK-a	Clock card
DCIM-a	DCIM card
GTI-a	GTI card
LTI-a	LTI card
MCA	MCA card
MRC-a	MRC card
PSM-b	PSM card
TO-c	timing output 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	e	= 1–11
b	= 1–2 or ALL	f	= 1–12 (1–10 for TOTA-5 &TOTA-M)
c	= 1–4 or ALL	g	= 1–10 (1–20 for EA20) or ALL
d	= 2–4 (c > b)	h	= 2–10 (2–20 for EA20) (h > g)

aid	meaning
DCIM-a-b	specified port on specified DCIM card
MRC-a-c[&&-d]	specified port on specified MRC card
PSM-e-c[&&-d]	specified port on specified PSM card
TO-f-g[&&-h]	specified port on specified timing output 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 active alarms on 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	e	= 1–4 or ALL
b	= 1–11	f	= 2–4 (f > e)
c	= 1–12 (1–10 for TOTA-5 &TOTA-M)	g	= 1–10 (1–20 for EA20) or ALL
d	= 1–2 or ALL	h	= 2–10 (2–20 for EA20) (h > g)

command	aid
RTRV-ALM-ALL	SHELF
RTRV-ALM-EQPT	CLK-a
	DCIM-a
	GTI-a
	LTI-a
	MCA
	MRC-a
	PSM-b
	SHELF
	TO-c
RTRV-ALM-PORT	DCIM-a-d
	MRC-a-e[&&-f]
	PSM-b-e[&&-f]
	TO-c-g[&&-h]

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 F 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 control preferences set by the SET-ATTR-CONT command.

INPUT FORMAT

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

aid	meaning
DCIM-ALL	DCIM card protection mode (stand-alone or combined)
GTI-ALL	SSM mode for GTI-17 and GTI-18 cards (none; SSMT for GTI-17 cards; SSME or SSMEC for GTI-18 cards)
MCA	output protection type for timing output cards other than TO-EA, TO-EA5, EA10, EA10M, EA20, and EA20M (revertive/nonrevertive, automatic/manual, and protection priority for each output slot)
MIS	SSM mode for specified shelf (none; SSMT for DCIM-T and TOTA-M cards; SSME or SSMEC for DCIM-E, EA-10M, and EA20-M cards)
SHELF	output source selection mode (revertive or nonrevertive) for master and all expansion shelves
TO-ALL	output protection type for TO-EA, TO-EA5, EA10, EA10M, EA20, and EA20M timing output cards (none/1 for 1/1 plus 1)

OUTPUT FORMAT

```
    <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<conttype>[,<protmode>,
        <P1>,<P2>,<P3>,<P4>,<P5>,<P6>,<P7>,<P8>,<P9>,<P10>]"
 ;
```


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   d   = 2–4 (d > c)
b   = 1–2 or ALL   e   = 1–11
c   = 1–4 or ALL

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

RESPONSE FORMAT

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

Refer to Table A and Table F 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>;
```

aid	meaning
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>
        , COMPRI= <value>, HWCONTROL= <value>, SWCONTROL= <value>
                                , DUR= <value>, DN= <value> ...*/
    ;
```

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 COMPLD message every 15 to 20 min
	INH	this port is inhibited from autonomously outputting a COMPLD message every 15 to 20 min

COMMAND CODE: RTRV-COM (Contd)

RESPONSE FORMAT (Cont)

parameter	value	meaning
comtype	X25	this port is set for PAD
	MODEM	this port is set for modem
	TERM1	dumb terminal (VT100 with no DSR/DTR support and message buffering disabled)
	TERM2	dumb terminal (VT100 with DSR/DTR support and message buffering enabled)
	REMOTE	allows communication with a remote shelf via the specified communication port
endoftext	0–9F	this hexadecimal number 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
compri	INH	communication through a port with this designation is inhibited (INH is not allowed on COM2)
	ALW0	allows normal communication; autonomous messages are not sent out a port with this priority level
	ALW1	allows normal communication; autonomous messages are always sent out this port regardless of the priorities of the other ports (this is the highest port priority)
	ALW2	allows normal communication; autonomous messages are sent out this port only if there are no ports with a priority level of ALW1 (this is the second-highest port priority)
	ALW3	allows normal communication; autonomous messages are sent out this port only if there are no ports with a priority level of ALW1 or ALW2 (this is the lowest port priority)
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
dur	1–45	time in minutes after which a user is logged off if there is no activity
dn	0–32 numeric characters	the remote PAD address

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= TERM1
   , ENDOFTEXT= 0, ECHO= INH, COMPRI= ALW1, HWCONTROL= INH
   , SWCONTROL= INH, DUR= 25, DN= 12345*/
;
```

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

COMMAND CODE: RTRV-COM-CONN

PURPOSE

RETRIEVE COMMUNICATION CONNECTION

This command displays the connection status of the shelf.

INPUT FORMAT

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

              aid   = SHELF

RESPONSE FORMAT

```
    <sid> <date> <time>
M  <ctag> COMPLD
    "<aid>" ...
    /*
    COM-1=<value>[,ACT-USER=<uid>],
    COM-2=<value>[,ACT-USER=<uid>],
    COM-3=<value>[,ACT-USER=<uid>]
    */
```

          value   = status of communication port (ACTIVE or INACTIVE)
          uid   = the user id (as set by the ENT-USER-SECU command) of the user
                              logged onto the port

Notes:
1. The ",ACT-USER= <uid>" part of the response appears only if the communication port is active and security is enabled by section 4 of switch SW1 on the MIS card.
2. A status of INACTIVE (even if the port is active) will be reported for any communication port that is using a 3-wire connection or has been set for a comtype of TERM1 with the ED-COM command.

COMMAND CODE: RTRV-COM-CONN (Contd)

EXAMPLE

Input:

```
RTRV-COM-CONN::SHELF:115;
```

Response:

```
    SANJOSE-114 1997-12-08 16:01:04
M  115 COMPLD
    "SHELF"
    /*
    COM-1=ACTIVE,ACT-USER=GEORGE,
    COM-2=ACTIVE,ACT-USER=MARY,
    COM-3=INACTIVE
    */
 ;
```

This example, tagged as command 115, requests the connection status of all communication ports. In this example, a user with a uid of GEORGE is logged onto communication port 1, a user with a uid of MARY is logged onto communication port 2, and communication port 3 is inactive.

COMMAND CODE: RTRV-COND

PURPOSE

RETRIEVE CONDITIONS

This command displays the current standing alarms, events, or state associated with one or more speci-
fied 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	e	= 1–4 or ALL
b	= 1–11	f	= 2–4 (f > e)
c	= 1–12 (1–10 for TOTA-5 & TOTA-M)	g	= 1–10 (1–20 for EA20) or ALL
d	= 1–2 or ALL	h	= 2–10 (2–20 for EA20) (h > g)

command	aid
RTRV-COND-EQPT	CLK-a
	DCIM-a
	GTI-a
	LTI-a
	MCA
	MRC-a
	PSM-b
	SHELF
	TO-c
RTRV-COND-PORT	DCIM-a-d
	MRC-a-e[&&-f]
	PSM-b-e[&&-f]
	TO-c-g[&&-h]

RESPONSE FORMAT

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

Refer to Table A and Table F 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-DA-EQPT

PURPOSE

RETRIEVE DELAY ACTIVATION EQUIPMENT

This command displays the amount of time from when transmission impairments are detected on an input until the input is disqualified, and the amount of time from when the input is free of transmission impairments until the input is requalified for use on a DCIM card. These parameter values are set with the SET-DA-EQPT command and apply to both inputs of the specified DCIM card.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2 or ALL

aid	meaning
DCIM-a	specified DCIM card

RESPONSE FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>:<holdoff>,<rstdur>" ...
 ;
```

parameter	value	meaning
holdoff	0–2000	holdoff delay: amount of time (ms) from when a transmission impairment is detected on an input source until that input is disqualified
rstdur	0–15	restore delay: amount of time (min) from when an input source becomes free of transmission impairments until that input is requalified for use

COMMAND CODE: RTRV-DA-EQPT (Contd)

EXAMPLE

Input:

```
RTRV-DA-EQPT::DCIM-ALL:134;
```

Response:

```
    SANJOSE-114 1997-12-08 15:04:13
M  134 COMPLD
    "DCIM-1:100,5"
    "DCIM-2:0,1"
```

This example, tagged as command 134, shows that DCIM 1 is set to 100 ms for holdoff delay and 5 min for restore delay, and that DCIM 2 is set to 0 ms for holdoff delay and 1 min for restore delay.

COMMAND CODE: RTRV-EQPT

PURPOSE

RETRIEVE EQUIPMENT

This command retrieves framing, trouble code, port severity, oscillator 1 (OSCA) and 2 (OSCB) 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 or ALL   b   = 1–11 or ALL   c   = 1–12 (1–10 for TOTA-5 & TOTA-M) or ALL

aid	meaning
CLK-a	CLK card
DCIM-a	DCIM card
GTI-a	GTI card
LTI-a	LTI card
MCA	MCA card
MRC-a	MRC card
PSM-b	PSM card
SHELF	all aids for this command
TO-c	timing output card

RESPONSE FORMAT

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

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
CLK-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
	clklevel	ST2	the clock is an ST2
		ST2E	the clock is an ST2E
		ST3	the clock is an ST3
		ST3E	the clock is an ST3E
		TNC	the clock is a TNC
		TNCE	the clock is a TNCE
	alarmlead	(null)	(not applicable)
	signaltype		
DCIM-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
	clklevel		
	alarmlead		
	signaltype		

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
GTI-a	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	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 E
		2	see Table E
		3	see Table E
		4	see Table E
	clklevel	(null)	(not applicable)
	alarmlead		
	signaltype	ANALOG	output signal is analog
		DIGITAL	output signal is digital
LTI-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
	clklevel		
	alarmlead		
	signaltype		

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
MCA	framing	(null)	(not applicable)
	troublecode		
	portseverity	MJ	port failure causes major alarm
		MN	port failure causes minor alarm
	osc1	(null)	(not applicable)
	osc2		
	integration		
	clklevel		
	alarmlead	ALW	a protection switch activates the shelf alarm lead
		INH	a protection switch does not activate the shelf alarm lead
	signaltype	(null)	(not applicable)
MRC-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1	RB	oscillator 1 (OSCA) is rubidium clock
		QTZ	oscillator 1 (OSCA) is quartz clock
		NONE	oscillator 1 (OSCA) is not equipped
	osc2	RB	oscillator 2 (OSCB) is rubidium clock
		QTZ	oscillator 2 (OSCB) is quartz clock
		NONE	oscillator 2 (OSCB) is not equipped
	integration	(null)	(not applicable)
	clklevel		
	alarmlead		
	signaltype		
PSM -b	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		
	clklevel		
	alarmlead		
	signaltype		

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
TO-c	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	troublecode	ALW	AIS is sent on all outputs upon card failure
		INH	all outputs are squelched upon card failure
		Note: If any port on the TO card is set for ANALOG, the troublecode must be set to INH.	
	portseverity	MJ	port failure causes major alarm
		MN	port failure causes minor alarm
	osc1	(null)	(not applicable)
	osc2		
	integration		
	clklevel		
	alarmlead		
	signaltype		

EXAMPLE

Input:

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

Response:

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

This example, tagged as command 134, displays port 5 of timing output card 5 as: framing = FAS, 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. This command may take up to 40 seconds to execute.

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
*/
;
```

Note: The system occasionally returns an SARB error message in response to the RTRV-GPS-STAT command. If this occurs, repeat the command.

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>]:[<shelf>]:<ctag>;
```

      shelf   = shelf to which the command is directed:
                 (null)   = master shelf
                 E1   = expansion shelf 1
                 E2   = expansion shelf 2
                 E3   = expansion shelf 3 (or remote shelf if equipped with a remote shelf instead of an expansion shelf 3)

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-INVENTORY

PURPOSE

RETRIEVE INVENTORY

This command displays the following information about standard cards: card name, card type, part number, CLEI code, serial number, hardware revision, software revision, and software version. For non-standard cards, information that was entered with the ENT-INVENTORY command is displayed.

For standard cards, a null in all fields of the response means that the slot is empty. For nonstandard cards, a null in all fields of the response means that no card information has been entered for that slot using the ENT-INVENTORY command.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2 or ALL   b   = 1–12 or ALL

aid	meaning
ADMIN	MIS card slot
CLOCK-a	clock slot
INPUT-a	input slot
OUTPUT-b	output slot (used for timing output cards, monitoring cards, and clock insertion cards
PROT	protection controller slot
PRS-a	GTI card in LPR shelf
SHELF	all aids

COMMAND CODE: RTRV-INVENTORY (Contd)

RESPONSE FORMAT

For MIS card:

```
     <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>"
   /*
   CARD=<value>,
   TYPE=<value>,
   PART=<value>,
   CLEI=<value>,
   SERIAL=<value>,
   HARDREV=<value>,
   LOW_BANK_SW=<value>:
    SOFTREV=<value>,
    SOFTVER=<value>,
   HI_BANK_SW=<value>:
    SOFTREV=<value>,
    SOFTVER=<value>
   */
;
```

For GTI card:

```
     <sid> <date> <time>
M  <ctag> COMPLD
   "<aid>"
   /*
   CARD=<value>,
   TYPE=<value>,
   PART=<value>,
   CLEI=<value>,
   SERIAL=<value>,
   HARDREV=<value>,
   SOFTREV=<value>,
   SOFTVER=<value>,
   GTRSOFTVER=<value>,
   */
;
```

COMMAND CODE: RTRV-INVENTORY (Contd)

RESPONSE FORMAT (Contd)

<u>For cards other than MIS or GTI:</u>

```
      <sid> <date> <time>
   M  <ctag> COMPLD
      "<aid>"
      /*
      CARD=<value>,
      TYPE=<value>,
      PART=<value>,
      CLEI=<value>,
      SERIAL=<value>,
      HARDREV=<value>,
      ACTIVE SOFTREV=<value>,
      ACTIVE SOFTVER=<value>
      INACTIVE SOFTREV=<value>,
      INACTIVE SOFTVER=<value>
      */
   ;
```

Note: In the response format for cards other than MIS: in the lines ACTIVE SOFTREV=<value> and ACTIVE SOFTVER=<value>, the word "ACTIVE" appears only for DCIM cards; and the lines INAC-TIVE SOFTREV=<value> and INACTIVE SOFTVER=<value> appear only for DCIM cards.

COMMAND CODE: RTRV-INVENTORY (Contd)

EXAMPLE

Input:

```
RTRV-INVENTORY::ADMIN:114;
```

Response:

```
    SANJOSE-121 1997-12-08 15:04:13
M  114 COMPLD
    "ADMIN"
    /*
    CARD=MIS-5,
    TYPE=STD,
    PART=090-45018-05,
    CLEI=D0CPBC15AA,
    SERIAL=E18951,
    HARDREV=6.02.01,
    LOW_BANK_SW=ACTIVE:
       SOFTREV=M,
       SOFTVER=5.02.01,
    HI_BANK_SW=INACTIVE:
       SOFTREV=N,
       SOFTVER=5.03.01
    */
 ;
```

This example, tagged as command 114, requests the inventory information for the card in the ADMIN slot. The ADMIN card can contain two programs, one in the low-bank program location and one in the high-bank program location, with either one active. An empty location would be indicated by SOFTREV=NONE and SOFTVER=NONE for that program location.

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 256 messages can be stored in the log. (See INIT-LOG to clear the system message log.)

INPUT FORMAT

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

shelf	meaning
(null)	master shelf
E1	expansion shelf 1
E2	expansion shelf 2
E3	expansion shelf 3 (or remote shelf if equipped with a remote shelf instead of an expansion shelf 3)

COMMAND CODE: RTRV-LOG (Contd)

RESPONSE FORMAT

```
       <sid> <date> <time>
   M  <ctag> COMPLD
      "LOG"
      /*
      "<date> <time> "
      "<sid>:<ocrdat> <ocrtm> <aid>:<ntfcncde>,<condtype>,<srv-
      eff>:
                                         /* <conddescr> */" ...
      "<sid>:<ocrdat> <ocrtm> <aid>:<condtype>,<condeff>:
                                         /* <conddescr> */" ...
      */
   ;
```

Notes:
1. The line shown as "<date> <time> " in the response format will show an arbitrary date and time when the RTRV-LOG command is used without having ever used the INIT-LOG command. After the INIT-LOG command has been used, that line will appear as follows:

```
      "<date> <time> INIT-LOG:::<ctag>::LOG"
```

where the date and time shown are the date and time when the INIT-LOG command was entered.
2. The next-to-the-last line in the response format (begins with "<sid>) is the format for an alarm in the log.
3. The last line in the response format (also begins with "<sid>) is the format for an event in the log.

COMMAND CODE: RTRV-LOG (Contd)

EXAMPLE

Input:

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

Response:

```
    SANJOSE-114 1998-01-08 16:11:28
M  115 COMPLD
    "LOG"
    /*
    "1998-01-07 11:06:42 INIT-LOG:::1::LOG"
    "SANJOSE-114:1998-01-18 16:35:26 PSM-1-4:MN,OOF,NSA:
                                      /* OOF DETECTED */"
    "SANJOSE-114:1998-01-18 16:41:34 CLK-1:ACTIVE,SC:
                                 /* CLOCK IS SUPPLYING SIGNAL */"
    */
;
```

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

COMMAND CODE: RTRV-MSG-EQPT

PURPOSE

RETRIEVE MESSAGE EQPT

This command displays the quality level being output by a DCIM, EA10-M, EA20-M, GTI-17, GTI-18, or TOTA-M card. The quality level displayed may be the result of received messages or may have been set (overridden) by the ED-SSM-EQPT command. If the word OVERRIDE is appended to the <conddescr> parameter in the event messages, the SSM has been set by the ED-SSM-EQPT command. If OVERRIDE is not appended to the <conddescr> parameter in the event messages, the message is the result of incoming messages.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2 or ALL   b   = 1–12 or ALL

aid	for card	meaning
DCIM-a	DCIM-T, DCIM-EA	Specified DCIM card
GTI-a	GTI-17, GTI-18	Specified GTI card
TO-b	TOTA-M, EA10-M, EA20-M	Specified output card

RESPONSE FORMAT

```
    <sid> <date> <time>
M  <ctag> COMPLD
    "<aid>:<ssm-state>"
  ;
```

COMMAND CODE: RTRV-MSG-EQPT (Contd)

RESPONSE FORMAT (Contd)

ssm-state	meaning
QL-ALW	Output of card is AIS
QL-DNU	Do not use for synchronization
QL-DUS	Do not use for synchronization
QL-IDLE	SSM is not used (idle code is sent)
QL-INH	No output message
QL-PRC	Signal is traceable to a primary reference clock
QL-PRS	Signal is traceable to a primary reference source
QL-RES	Signal is traceable to a user-defined level
QL-SEC	Signal is traceable to SDH equipment clock
QL-SMC	Signal is traceable to SONET minimum clock
QL-SSUL	Signal is traceable to synchronization supply unit local
QL-SSUT	Signal is traceable to synchronization supply unit transit
QL-ST2	Signal is traceable to stratum 2 level
QL-ST3	Signal is traceable to stratum 3 level
QL-ST3E	Signal is traceable to stratum 3E level
QL-ST4	Signal is traceable to stratum 4 level
QL-STU	Signal is traceable to unknown stratum level
QL-TNC	Signal is traceable to transit node clock
QL-UNK	Signal is traceable to unknown stratum level

EXAMPLE

Input:

```
RTRV-MSG-EQPT::DCIM-ALL:155;
```

Response:

```
    SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
    "DCIM-1:QL-PRS"
    "DCIM-2:QL-PRS"
 ;
```

This example, tagged as command 155, shows the output of DCIM cards 1 and 2 to be QL-PRS.

COMMAND CODE: RTRV-MSG-PORT

PURPOSE

RETRIEVE MESSAGE PORT

This command displays the quality level on an input port of a DCIM card. The quality level displayed may be the result of received messages or may have been set (overridden) by the ED-SSM-PORT command. If the word OVERRIDE is appended to the <conddescr> parameter in the event messages, the SSM has been set by the ED-SSM-PORT command. If OVERRIDE is not appended to the <conddescr> parameter in the event messages, the event message is the result of incoming messages.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2 or ALL   b   = 1–2 or ALL

aid	for card	meaning
DCIM-a-b	DCIM-T, DCIM-EA	Specified port on DCIM card

RESPONSE FORMAT

```
    <sid> <date> <time>
M  <ctag> COMPLD
    "<aid>:<ssm-state>"
  ;
```

COMMAND CODE: RTRV-MSG-PORT (Contd)

RESPONSE FORMAT (Contd)

ssm-state	meaning
QL-DNU	Do not use for synchronization
QL-DUS	Do not use for synchronization
QL-PRC	Signal traceable to a primary reference clock
QL-PRS	Signal traceable to a primary reference source
QL-RES	Signal traceable to a user-defined level
QL-SEC	Signal traceable to SDH equipment clock
QL-SMC	Signal traceable to SONET minimum clock
QL-SSUL	Signal traceable to synchronization supply unit local
QL-SSUT	Signal traceable to synchronization supply unit transit
QL-ST2	Signal traceable to stratum 2 level
QL-ST3	Signal traceable to stratum 3 level
QL-ST3E	Signal traceable to stratum 3E level
QL-ST4	Signal traceable to stratum 4 level
QL-STU	Signal traceable to unknown stratum level
QL-TNC	Signal traceable to transit node clock
QL-UNK	Signal is traceable to unknown stratum level

EXAMPLE

Input:

```
RTRV-MSG-PORT::DCIM-1-ALL:155;
```

Response:

```
    SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
    "DCIM-1-1:QL-PRS"
    "DCIM-1-2:QL-PRS"
  ;
```

This example, tagged as command 155, shows a signal quality of QL-PRS for ports 1 and 2 of DCIM 1.

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 examine events that are not reported by automatic messages, or to evaluate the system after mainte-nance operations. 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 output parameter values in the table below are as follows:

a   = 1–2   b   = 1–2   c   = 1–4   d   = 1–11

aid	parameter	value	meaning
DCIM-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
MRC-a-c	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-d-b	montype	SLIPS	number of slips since the previous midnight (mondat and montm1 = null)
		BPV	15-minute bipolar violation counts (used with montm2)
		CRC	15-minute cyclic redundancy check error counts (used with montm2)
		MTIE	900-second MTIE accumulated between monitor time 2 and 1 hour after montm2 (units of measure for MTIE are nanoseconds)
		TDEV	128-second TDEV accumulated between monitor time 2 and 1 hour after montm2 (units of measure for TDEV are nanoseconds)
		PHASE1M	1-minute average phase accumulated between monitor time 2 and 1 hour after montm2 (units of measure for PHASE1M are nanoseconds)
	mondat	(null)	current day
		mm-dd	month-day (mm = 1–12, dd = 1–31)
	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

Notes:
1. BPVs and CRCs are reported in 15-minute bins and can be retrieved for the past 24 hours. Each 15-minute bin is reinitialized to zero counts at the start of each 15-minute bin.
2. The time specified in montm2 is the start of a 15-minute period.
3. If the start time to the present time is less than 1 hour, only full 15-minute periods will be displayed.

RESPONSE FORMAT

For SLIPS and PHASE1M:

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

For BPV and CRC:

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

COMMAND CODE: RTRV-PM-PORT (Contd)

RESPONSE FORMAT (Contd)

For MTIE and TDEV:

```
    <sid> <date> <time>
M  <ctag> COMPLD
    "<aid>:<montype>,<monval-1>,<vldty-1>,<monval-2>,<vldty-2>
                    ,<monval-3>,<vldty-3>,<monval-4>,<vldty-4>
                              ,,,,<mondat>,<montm>"...
;
```

Each line displays one hour of data. The four monvals and corresponding four vldtys are for the four 15-minute periods following the montm shown at the end of each line. The –1, –2, –3, and –4 indicate the first, second, third, and fourth 15-minute period after the montm shown at the end of the line.

EXAMPLE

For SLIPS (PHASE1M will appear similarly):

Input:

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

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-PM-PORT (Contd)

EXAMPLE

<u>For BPV (CRC will appear similarly):</u>

Input:

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

Response:

```
    TOP523 1997-09-06 13:37:09
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

For MTIE (TDEV will appear similarly):

Input:

```
RTRV-PM-PORT::PSM-1-4:141::MTIE,,,,,,12-00;
```

Response:

```
    TOP523 1997-09-06 13:47:09
M   141 COMPLD
    "PSM-1-4:MTIE1,3,,2,,2,,2,,,,,1997-09-06,12:00:00"
    "PSM-1-4:MTIE4,6,,4,,4,,5,,,,,1997-09-06,12:00:00"
    "PSM-1-4:MTIE16,7,,5,,5,,7,,,,,1997-09-06,12:00:00"
    "PSM-1-4:MTIE64,7,,8,,9,,8,,,,,1997-09-06,12:00:00"
    "PSM-1-4:MTIE128,10,,8,,9,,9,,,,,1997-09-06,12:00:00"
    "PSM-1-4:MTIE512,13,,9,,10,,12,,,,,1997-09-06,12:00:00"
    "PSM-1-4:MTIE900,16,,10,,10,,12,,,,,1997-09-06,12:00:00"
;
```

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-PORT

PURPOSE

RETRIEVE PORT

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

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2   e   = 1–11
b   = 1–2 or ALL   f   = 1–12 (1–10 for TOTA-5 & TOTA-M)
c   = 1–4 or ALL   g   = 1–10 (1–20 for EA20) or ALL
d   = 2–4 (c > b)   h   = 2–10 (2–20 for EA20) (h > g)

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

RESPONSE FORMAT

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

Note: If the framing type has never been set for a port on an MRC or PSM card, the retrieved framing type for that port will indicate AUTO. If this occurs, use the ENT-PORT command (if the port has not been entered) or the ED-PORT command (if the port has been entered) to set the framing type for the specified port.

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
DCIM-a-b	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	priority	1–4	priority of the reference, 1 is highest priority
	reference type	(null)	(not applicable)
	signal type	ANALOG	analog signal
		DIGITAL	digital signal
	reference condition	ALW	input reference is part of dual card reference management scheme
		INH	input reference is not part of dual card reference management scheme
MRC-a-b[&&-c]	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	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
	reference condition	(null)	(not applicable)

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
PSM-d-b[&&-c]	framing	CAS	channel associated signaling
		CAS4	channel associated signaling with cyclic redundancy check 4
		CRC4	common channel signaling with cyclic redundancy check 4
		D4	D4 framing
		ESF	ESF framing
		FAS	common channel signaling
	priority	(null)	(not applicable)
	reference type		
	signal type	ANALOG	analog signal
		DIGITAL	digital signal
	reference condition	(null)	(not applicable)
TO-e-f[&&-g]	framing	(null)	(not applicable)
	priority		
	reference type		
	signal type	ANALOG	analog signal (TO-EA5, EA10, & EA20 only)
		DIGITAL	digital signal
	reference condition	(null)	(not applicable)

EXAMPLE

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

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

This example, tagged as command 154, displays the port parameters for span 2 of MRC-1.

COMMAND CODE: RTRV-REPTMODE-PORT

PURPOSE

RETRIEVE REPORT MODE PORT

This command displays the message type (REPT-ALM-PORT or REPT-ALM-EQPT) used to report autonomous port-alarm messages.

INPUT FORMAT

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

OUTPUT FORMAT

```
   <sid> <date> <time>
M  <ctag> COMPLD
   "REPTMODE: <modetype>"
;
```

modetype	meaning
ALW	automatic port-alarm messages are reported as a REPT-ALM-PORT messages
INH	automatic port-alarm messages are reported as a REPT-ALM-EQPT messages

Note: Automatic equipment-alarm messages are always reported as REPT-ALM-EQPT messages.

EXAMPLE

Input:

```
RTRV-REPTMODE-PORT:::119;
```

Response:

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

This example, tagged as command 119, shows that automatic port-alarm messages will be reported as REPT-ALM-PORT messages.

COMMAND CODE: RTRV-SSM-EQPT

PURPOSE

RETRIEVE SYNCHRONIZATION STATUS MESSAGING EQPT

This command displays the quality level assigned by the ED-SSM-EQPT command to the output signal(s) of an input card or the output signals of TOTA-M, EA10-M, EA20-M, GTI-17, or GTI-18 cards. Also displayed are the SSM trouble code to be sent out during clock holdover, and whether to use the Sa4 through Sa8 bits of an E1 signal for SSM messages.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2 or ALL   b   = 1–12 or ALL

aid	for card	meaning
DCIM-a	DCIM-T, DCIM-EA	Specified DCIM card
GTI-a	GTI-17, GTI-18	Specified GTI card
INPUT-a	Input	Specified input card other than DCIM card
TO-b	TOTA-M, EA10-M, EA20-M	Specified output card

RESPONSE FORMAT

```
      <sid> <date> <time>
   M  <ctag> COMPLD
      "<aid>:<ssmmsg>[,[<ssmtc>][,<ssmsa4>,<ssmsa5>,<ssmsa6>,
                                      <ssmsa7>,<ssmsa8>]]"
   ;
```

Notes:
1. The <ssmtc> parameter appears only for EA10-M, EA20-M, and TOTA-M cards.
2. The parameters <ssmsa4>, <ssmsa5>, <ssmsa6>, <ssmsa7>, and <ssmsa8> appear only for DCIM-EA and GTI-18 cards.

COMMAND CODE: RTRV-SSM-EQPT (Contd)

RESPONSE FORMAT (Contd)

parameter	value	meaning
ssmmsg	QL-DNU	Do not use for synchronization
	QL-DUS	Do not use for synchronization
	QL-NONE	SSM is not used
	QL-NORM	No quality level has been assigned; the incoming quality level message will be used, along with equipment conditions, to determine the output quality level message
	QL-PRC	Signal is traceable to a primary reference clock
	QL-PRS	Signal is traceable to a primary reference source
	QL-RES	Signal traceable to a user-defined level
	QL-SEC	Signal is traceable to SDH equipment clock
	QL-SMC	Signal is traceable to SONET minimum clock
	QL-SSUL	Signal is traceable to synchronization supply unit local
	QL-SSUT	Signal is traceable to synchronization supply unit transit
	QL-ST2	Signal is traceable to a stratum 2 level
	QL-ST3	Signal is traceable to a stratum 3 level
	QL-ST3E	Signal is traceable to a stratum 3E level
	QL-ST4	Signal is traceable to a stratum 4 level
	QL-STU	Signal is traceable to an unknown stratum level
	QL-TNC	Signal is traceable to a transit node clock
	QL-UNK	Signal is traceable to an unknown stratum level

COMMAND CODE: RTRV-SSM-EQPT (Contd)

RESPONSE FORMAT (Contd)

parameter	value	meaning
ssmtc	ALW	AIS is sent out during holdover
	INH	Output squelched during holdover`
	NORM	Clock quality level is sent out during holdover
ssmsa4	ALW	Allows the Sa4 bit to be used for SSM messages
	INH	Inhibits the Sa4 bit from being used for SSM messages
ssmsa5	ALW	Allows the Sa5 bit to be used for SSM messages
	INH	Inhibits the Sa5 bit from being used for SSM messages
ssmsa6	ALW	Allows the Sa6 bit to be used for SSM messages
	INH	Inhibits the Sa6 bit from being used for SSM messages
ssmsa7	ALW	Allows the Sa7 bit to be used for SSM messages
	INH	Inhibits the Sa7 bit from being used for SSM messages
ssmsa8	ALW	Allows the Sa8 bit to be used for SSM messages
	INH	Inhibits the Sa8 bit from being used for SSM messages

EXAMPLE

Input:

```
RTRV-SSM-EQPT::TO-4:155;
```

Response:

```
    SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
    "TO-4:QL-NORM,NORM,ALW,ALW,ALW,ALW,ALW"
 ;
```

This example, tagged as command 155, shows the output of TO 1 to be set for QL-NORM, the trouble code to be set for normal, and bits Sa4 through Sa8 are enabled for SSM messages.

COMMAND CODE: RTRV-SSM-MSG

RETRIEVE SYNCHRONIZATION STATUS MESSAGING

This command displays the quality level assigned by the ED-SSM-MSG command to the output of TOTA-M, EA10-M, EA20-M, GTI-17, or GTI-18 cards. See the ED-SSM-MSG command for more details.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2 or ALL   b   = 1–12 or ALL

aid	for card	meaning
GTI-a	GTI-17, GTI-18	Specified GTI card
TO-b	TOTA-M, EA10-M, EA20-M	Specified output card

RESPONSE FORMAT

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

COMMAND CODE: RTRV-SSM-MSG (Contd)

RESPONSE FORMAT (Contd)

parameter	value	meaning
ssmmsg	QL-DNU	Do not use for synchronization
	QL-DUS	Do not use for synchronization
	QL-HOLDOVER	Output quality level based on quality level of the active shelf clock
	QL-PRC	Signal is traceable to a primary reference clock
	QL-PRS	Signal is traceable to a primary reference source
	QL-RES	Signal traceable to a user-defined level
	QL-SEC	Signal is traceable to SDH equipment clock
	QL-SMC	Signal is traceable to SONET minimum clock
	QL-SSUL	Signal is traceable to synchronization supply unit local
	QL-SSUT	Signal is traceable to synchronization supply unit transit
	QL-ST2	Signal is traceable to a stratum 2 level
	QL-ST3	Signal is traceable to a stratum 3 level
	QL-ST3E	Signal is traceable to a stratum 3E level
	QL-ST4	Signal is traceable to a stratum 4 level
	QL-STU	Signal is traceable to an unknown stratum level
	QL-TNC	Signal is traceable to a transit node clock
	QL-UNK	Signal is traceable to an unknown stratum level

EXAMPLE

Input:

```
RTRV-SSM-MSG::TO-4:155;
```

Response:

```
    SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
    "TO-4:QL-ST2"
 ;
```

This example, tagged as command 155, shows the output of TO4 set for QL-NORM if the TOTA-M card in the TO4 slot loses communications with the MIS card for more than 2 minutes.

COMMAND CODE: RTRV-SSM-PORT

PURPOSE

RETRIEVE SYNCHRONIZATION STATUS MESSAGING PORT

This command displays the quality level assigned by the ED-SSM-PORT command to an input signal on a DCIM card. Also displayed is whether the Sa4 through Sa8 bits of an E1 signal can be used for SSM messages.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2   b   = 1–2 or ALL

aid	for card	meaning
DCIM-a-b	DCIM-EA, DCIM-T	Specified port on specified DCIM card

RESPONSE FORMAT

```
    <sid> <date> <time>
M  <ctag> COMPLD
    "<aid>:<ssmmsg>[,<ssmsa4>,<ssmsa5>,<ssmsa6>,<ssmsa7>,
                                              <ssmsa8>]"
 ;
```

Note: The parameters <ssmsa4>, <ssmsa5>, <ssmsa6>, <ssmsa7>, and <ssmsa8> appear only for DCIM-EA cards.

COMMAND CODE: RTRV-SSM-PORT (Contd)

RESPONSE FORMAT (Contd)

parameter	value	meaning
ssmmsg	QL-DNU	Do not use for synchronization
	QL-DUS	Do not use for synchronization
	QL-NORM	No quality level has been assigned; the incoming quality level message will be used, along with equipment conditions, to determine the output quality level message
	QL-PRC	Signal is traceable to a primary reference clock
	QL-PRS	Signal is traceable to a primary reference source
	QL-RES	Signal traceable to a user-defined level
	QL-SEC	Signal is traceable to SDH equipment clock
	QL-SMC	Signal is traceable to SONET minimum clock
	QL-SSUL	Signal is traceable to synchronization supply unit local
	QL-SSUT	Signal is traceable to synchronization supply unit transit
	QL-ST2	Signal is traceable to a stratum 2 level
	QL-ST3	Signal is traceable to a stratum 3 level
	QL-ST3E	Signal is traceable to a stratum 3E level
	QL-ST4	Signal is traceable to a stratum 4 level
	QL-STU	Signal is traceable to an unknown stratum level
	QL-TNC	Signal is traceable to a transit node clock
	QL-UNK	Signal is traceable to an unknown stratum level
ssmsa4	ALW	Allows the Sa4 bit to be used for SSM messages
	INH	Inhibits the Sa4 bit from being used for SSM messages
ssmsa5	ALW	Allows the Sa5 bit to be used for SSM messages
	INH	Inhibits the Sa5 bit from being used for SSM messages
ssmsa6	ALW	Allows the Sa6 bit to be used for SSM messages
	INH	Inhibits the Sa6 bit from being used for SSM messages
ssmsa7	ALW	Allows the Sa7 bit to be used for SSM messages
	INH	Inhibits the Sa7 bit from being used for SSM messages
ssmsa8	ALW	Allows the Sa8 bit to be used for SSM messages
	INH	Inhibits the Sa8 bit from being used for SSM messages

COMMAND CODE: RTRV-SSM-PORT (Contd)

EXAMPLE

Input:

```
RTRV-SSM-PORT::DCIM-1-ALL:155;
```

Response:

```
    SANJOSE-114 1997-12-08 15:04:13
M  155 COMPLD
    "DCIM-1-1:QL-NORM,ALW,ALW,ALW,ALW,ALW"
    "DCIM-1-2:QL-NORM,ALW,ALW,ALW,ALW,ALW"
 ;
```

This example, tagged as command 155, shows port 1 and 2 of DCIM 1 are set for QL-NORM and bits Sa4 through Sa8 are enabled for SSM messages.

COMMAND CODE: RTRV-TH-MSG

PURPOSE

RETRIEVE THRESHOLD MESSAGE

This command displays the persistence delay for DCIM cards and the nonswitching message delay, switching message delay, and the holdover message delay for the shelf.

INPUT FORMAT

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

The parameter values in the table below are as follows:

a   = 1–2 or ALL

aid	for card	meaning
DCIM-a	DCIM-EA, DCIM-T	Specified DCIM card(s)
SHELF	shelf	Shelf

RESPONSE FORMAT

```
    <sid> <date> <time>
M <ctag> COMPLD
    "<aid>:[<durmsg>,,,]|[,<nswmsg>,<swmsg>,<hldovrmsg>]"
 ;
```

COMMAND CODE: RTRV-TH-MSG (Contd)

RESPONSE FORMAT (Contd)

aid	parameter	value	meaning
DCIM-a	durmsg	0–2000	persistence delay: amount of time (ms) from an SSM change at an input until the new SSM is sent to the MIS card (in 100 ms steps)
	nswmsg	(null)	(not applicable)
	swmsg	(null)	(not applicable)
	hldovrmsg	(null)	(not applicable)
SHELF	durmsg	(null)	(not applicable)
	nswmsg	0–2000	nonswitching message delay: amount of time (ms) from a signal quality SSM change (following the persistence delay and which does not require a switch or rearrangement) at an input until the new SSM is sent to the timing output cards (in 100 ms steps)
	swmsg	0–2000	switching message delay: amount of time (ms) from a signal quality SSM change (following the persistence delay and which requires a switch or rearrangement) at an input until the new SSM is sent to the timing output cards (in 100 ms steps)
	hldovrmsg	0–3600	holdover message delay: amount of time (s) from when the clocks go into holdover until the holdover SSM is sent to the timing output cards (in 1 s steps)

EXAMPLE

Input:

```
RTRV-TH-MSG::DCIM-ALL:135;
```

Response:

```
    SANJOSE-114 1997-12-08 15:04:13
M  135 COMPLD
    "DCIM-1:100,,,"
    "DCIM-2:80,,,"
 ;
```

This example, tagged as command 135, shows the persistence delay for the DCIM 1 card is 100 ms and for the DCIM 2 card is 80 ms.

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	d	= 2–4 (d > c)
b	= 1–2 or ALL	e	= 1–11
c	= 1–4 or ALL		

aid	montype	meaning
DCIM-a-b	ALL	all montypes for this <aid>
	BPV	bipolar violations
	CRC	cyclic redundancy check errors
MRC-a-c[&&-d]	ALL	all montypes for this <aid>
	BPV	bipolar violations
	CRC	cyclic redundancy check errors
PSM-e-c[&&-d]	ALL	all montypes for this <aid>
	BPV	bipolar violations
	CRC	cyclic redundancy check errors
	MTIE1	1 second threshold
	MTIE4	4 second threshold
	MTIE16	16 second threshold
	MTIE64	64 second threshold
	MTIE128	128 second threshold
	MTIE512	512 second threshold
	MTIE900	900 second threshold
	TDEV1	1 second threshold
	TDEV4	4 second threshold
	TDEV16	16 second threshold
	TDEV64	64 second threshold
	TDEV128	128 second threshold

COMMAND CODE: RTRV-TH-PORT (Contd)

RESPONSE FORMAT

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

thlev	meaning
1–32767	threshold level in decimal numerals

Note for BPV and CRC: Only in-service (restored) ports are sampled; therefore, the BPV or CRC counts displayed correspond to a particular error rate depending on the number of in-service ports. Find the BPV count in one of the tables below that is closest to the displayed BPV or CRC 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. If an MRC or PSM card has only one port active, no sampling occurs.

Error Rate	BPV or CRC counts for a T1 signal			
	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	16384	10922	8192

Error Rate	BPV or CRC counts for an E1 signal			
	1 port in service	2 ports in service	3 ports in service	4 ports in service
1×10^{-8}	18	9	6	4
1×10^{-7}	184	92	61	46
1×10^{-6}	1843	922	614	461
1×10^{-5}	18432	9216	6144	4608
2.35×10^{-5}	32767	16384	10922	8192

COMMAND CODE: RTRV-TH-PORT (Contd)

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>]:<uid>:<ctag>;
```

uid	meaning
user name	a single user
ALL	all users

RESPONSE FORMAT

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

parameter	meaning
uap	user access level

EXAMPLE

Input:

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

Response:

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

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 control preferences.

1. Input protection type (DCIM only) (aid = DCIM-ALL):
    a. No protection: each DCIM card functions as a stand-alone card with 2 inputs
    b. 1-plus-1 (1+1) protection: the 2 DCIM cards function as 1 input card with 4 inputs

2. SSM Mode (applies to a single shelf or GTI card) (aid = MIS or GTI-1 or GTI-2):
    a. SSM is not supported
    b. SSMT: SSM is supported for DCIM-T, TOTA-M, and GTI-17 cards only
    c. SSME: SSM is supported for DCIM-E, EA10-M, EA20-M, and GTI-18 cards only
    d. SSMEC: same as SSME plus one additional quality level: QL-UNK

3. Output source selection mode (applies to master and all expansion shelves) (aid = SHELF):
    This option sets the timing output source selection mode (revertive or nonrevertive) which deter-
    mines 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.

4. Output protection type (TO-EA5, EA10, EA10M, EA20, & EA20M only) (aid = TO-a):
    a. No protection
    b. 1-for-1 (1-1) protection: one timing output card in an even-numbered slot is a standby for one tim-
        ing output card of the same type in an odd-numbered slot (outputs of standby timing output card
        are off until working card fails)
    c. 1-plus-1 (1+1) protection: one timing output card in an even-numbered slot is a hot standby for one
        one timing output card of the same type in an odd-numbered slot (the outputs of both cards are
        always active)

COMMAND CODE: SET-ATTR-CONT (Contd)

PURPOSE (Contd)

5. <u>1-for-N output protection (all TO cards except TO-EA5, EA-10, EA-10M, EA-20, & EA-20M) (aid = MCA)</u>:
   a. Automatic/manual switching:
      - Automatic (AUTO): if a fault occurs in a timing output card, the outputs are automatically switched to the same timing output card type in an HS slot (OPR-PROTNSW command does not function)
      - Manual (MAN): if a fault occurs in a timing output card, the outputs are not switched to the same timing output card type in an HS slot (the outputs must be manually switched via the OPR-PROTNSW command)
   b. Revertive/nonrevertive switching:
      - Revertive (RVRT): the protection switch will switch back to the original TO card when the fault clears (requires <protmode>=AUTO)
      - Nonrevertive (NRVRT): the protection switch will not switch back to the original TO card when the fault clears

INPUT FORMAT

```
SET-ATTR-CONT:[<tid>]:<aid>:<ctag>::<conttype>[,<protmode>,
          <p1>,<p2>,<p3>,<p4>,<p5>,<p6>,<p7>,<p8>,<p9>,<p10>];
```

The parameter values in the table below are as follows:

a   = 1–2   b   = 1–12

aid	parameter	value	meaning
DCIM-ALL	conttype	NO	each DCIM card is stand-alone
		1+1	the DCIM cards operate in a combined mode as 1 card with 4 inputs
	protmode	(null)	(not applicable)
	p1–p10		
GTI-a	conttype	OFF	SSM not supported
		SSME	SSM supported for GTI-18 cards
		SSMEC	same as SSME plus one additional quality level: QL-UNK
		SSMT	SSM supported for GTI-17 cards
	protmode	(null)	(not applicable)
	p1–p10		

COMMAND CODE: SET-ATTR-CONT (Contd)

INPUT FORMAT (Contd)

aid	parameter	value	meaning
MCA	conttype	NRVRT	nonrevertive protection switching when fault clears
		RVRT	revertive protection switching when fault clears (<protmode> must be set to AUTO)
	protmode	AUTO	allows automatic protection switching between a TO card and a protection TO card in an HS slot (OPR-PROTNSW command will not function)
		MAN	allows manual protection switching between a TO card and a protection TO card in an HS slot (via OPR-PROTNSW command)
	p1–p10	1–10	priority of output slots if there are multiple output slots with the same card type protected by a single protection card: enter a number (1–10) for the priority of each output slot
MIS	conttype	OFF	SSM not supported
		SSME	SSM supported for DCIM-EA, EA10-M, and EA20-M cards
		SSMEC	same as SSME plus one additional quality level: QL-UNK
		SSMT	SSM supported for DCIM-T and TOTA-M cards
	protmode	(null)	(not applicable)
	p1–p10		
SHELF	conttype	NRVRT	nonrevertive
		RVRT	revertive
	protmode	(null)	(not applicable)
	p1–p10		
TO-b	conttype	NO	no protection
		1-1	1-for-1 protection
		1+1	1-plus-1 protection
	protmode	(null)	(not applicable)
	p1–p10		

Note: When configuring timing output cards for 1-for-1 or 1-plus-1, both the odd and even TO slots must be configured identically. The SET-ATTR-CONT command must be issued to each card of the pair, otherwise a database mismatch will occur. The 1-for-1 or 1-plus-1 pairing is shelf dependent as follows:

DCD-519 Master: 2 and 3, 4 and 5, 11 and 12
DCD-519 Expansion: 1 and 2, 3 and 4, 5 and 6, 7 and 8, 9 and 10, 11 and 12
DCD-519 High Density: 1 and 2, 3 and 4, 5 and 6, 7 and 8
DCD-521/C Master or Expansion: 1 and 2, 3 and 4, 5 and 6, 7 and 8
DCD-521/C High Density: 1 and 2, 3 and 4, 5 and 6, 7 and 8
DCD-523 Master or Expansion: 1 and 2, 3 and 4, 5 and 6, 7 and 8, 9 and 10, 11 and 12

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 cards to the revertive mode for timing source selection.

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	d	= 2–4 (d > c)
b	= 1–2 or ALL	e	= 1–11
c	= 1–4 or ALL		

aid	ntfcncde	condtype	meaning
DCIM-a-b	CR, MJ, MN, NA, or NR	AIS	alarm indication signal
		BPV	bipolar violations
		CRC	cyclic redundancy check errors
		LOS	loss of signal
		OOF	out of frame errors
		ALL	all condtypes
MRC-a-c[&&-d]	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

aid	ntfcncde	condtype	meaning
PSM-e-c[&&-d]	CR, MJ, MN, NA, or NR	AIS	alarm indication signal
		ALL	all condtypes
		BPV	bipolar violations
		CRC	cyclic redundancy check errors
		LOS	loss of signal
		MTIE1	1 second threshold
		MTIE4	4 second threshold
		MTIE16	16 second threshold
		MTIE64	64 second threshold
		MTIE128	128 second threshold
		MTIE512	512 second threshold
		MTIE900	900 second threshold
		TDEV1	1 second threshold
		TDEV4	4 second threshold
		TDEV16	16 second threshold
		TDEV64	64 second threshold
		TDEV128	128 second threshold

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-DA-EQPT

PURPOSE

SET DELAY ACTIVATION EQUIPMENT

This command sets the amount of time from when transmission impairments are detected on an input until the input is disqualified, and the amount of time from when the input is free of transmission impairments until the input is requalified for use. The command applies to both inputs of a DCIM card.

INPUT FORMAT

```
SET-DA-EQPT:[<tid>]:<aid>:<ctag>::[<holdoff>],[<rstdur>];
```

The parameter values in the table below are as follows:

a   = 1–2

parameter	value	meaning
aid	DCIM-a	specified DCIM card
holdoff	0–2000	holdoff delay: amount of time (ms) from when a transmission impairment is detected on an input source until that input is disqualified (in 100 ms steps)
rstdur	0–15	restore delay: amount of time (min) from when an input source becomes free of transmission impairments until that input is requalified for use (in 1 min steps)

Caution: If the <holdoff> parameter is set to a value greater than zero and an input is lost, the output phase may shift an amount that exceeds standards for BITS systems.

EXAMPLE

Input:

```
SET-DA-EQPT::DCIM-1:137::100,5;
```

Response:

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

This example, tagged as command 137, sets the holdoff delay to 100 ms and the restore delay to 5 min.

COMMAND CODE: SET-REPTMODE-PORT

PURPOSE

SET REPORT MODE PORT

This command sets the message type (REPT-ALM-PORT or REPT-ALM-EQPT) used to report autonomous port-alarm messages.

INPUT FORMAT

```
SET-REPTMODE-PORT:[<tid>]::<ctag>::<modetype>;
```

modetype	meaning
ALW	automatic port-alarm messages are reported as REPT-ALM-PORT messages
INH	automatic port-alarm messages are reported as REPT-ALM-EQPT messages

Note: Automatic equipment-alarm messages are always reported as REPT-ALM-EQPT messages.

EXAMPLE

Input:

```
SET-REPTMODE-PORT:::119::ALW;
```

Response:

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

This example, tagged as command 119, sets automatic port-alarm messages to be reported as REPT-ALM-PORT messages.

COMMAND CODE: SET-SID

PURPOSE

SET SOURCE IDENTIFIER

This command changes 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. The <sid> can be up to 20 characters beginning with a letter, and is limited to letters, numerals and hyphens. The <sid> is case sensitive.

Note: The sid is recommended to be the target's CLLI code, if available (alternatively, the office name can be used).

INPUT FORMAT

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

Caution: The letter/number combinations "NO", "E1", "E2", and "E3" cannot be entered *alone* in any field in this command. These combinations can be used if additional characters are entered before or after these combinations.

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-MSG

PURPOSE

SET THRESHOLD MESSAGE

This command changes the persistence delay for DCIM cards and the nonswitching message delay, switching message delay, and the holdover message delay for the shelf.

INPUT FORMAT

```
SET-TH-MSG:[<tid>]:<aid>:<ctag>::[<durmsg>],[<nswmsg>],
                                  [<swmsg>],[<hldovrmsg>];
```

The parameter values in the table below are as follows:

a   = 1–2 or ALL

aid	parameter	value	meaning
DCIM-a	durmsg	0–2000	persistence delay: amount of time (ms) from an SSM change at an input until the new SSM is sent to the MIS card (in 100 ms steps)
	nswmsg	(null)	(not applicable)
	swmsg	(null)	(not applicable)
	hldovrmsg	(null)	(not applicable)
SHELF	durmsg	(null)	(not applicable)
	nswmsg	0–2000	nonswitching message delay: amount of time (ms) from a signal quality SSM change (following the persistence delay and which does not require a switch or rearrangement) at an input until the new SSM is sent to the timing output cards (in 100 ms steps)
	swmsg	0–2000	switching message delay: amount of time (ms) from a signal quality SSM change (following the persistence delay and which requires a switch or rearrangement) at an input until the new SSM is sent to the timing output cards (in 100 ms steps)
	hldovrmsg	0–3600	holdover message delay: amount of time (s) from when the clocks go into holdover until the holdover SSM is sent to the timing output cards (in 1 s steps)

COMMAND CODE: SET-TH-MSG (Contd)

EXAMPLE

Input:

```
SET-TH-MSG::SHELF:135::,100,100,80;
```

Response:

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

This example, tagged as command 135, sets the nonswitching message delay to 100 ms, the switching message delay to 100 ms, and the holdover message delay to 80 s.

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   c   = 2   e   = 2–4 (c > b)
b   = 1–2 or ALL   d   = 1–4 or ALL f   = 1–11

aid	montype	thlev	meaning
DCIM-a-b	BPV	1–32767	bipolar violations (see note below)
	CRC		cyclic redundancy check errors
MRC-a-d[&&-e]	BPV	1–32767	bipolar violations (see note below)
	CRC		cyclic redundancy check errors

Note: Only in-service (restored) ports are sampled; therefore, the BPV or CRC counts entered to obtain a desired error rate depends on the number of in-service ports. Enter a BPV or CRC 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.

	BPV or CRC counts for a T1 signal			
Error Rate	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	16384	10922	8192

COMMAND CODE: SET-TH-PORT (Contd)

INPUT FORMAT (Contd)

Error Rate	BPV or CRC counts for an E1 signal			
	1 port in service	2 ports in service	3 ports in service	4 ports in service
1×10^{-8}	18	9	6	4
1×10^{-7}	184	92	61	46
1×10^{-6}	1843	922	614	461
1×10^{-5}	18432	9216	6144	4608
2.35×10^{-5}	32767	16384	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. If an MRC or PSM card has only one port active, no sampling occurs.

aid	montype	thlev	meaning
PSM-f-d[&&-e]	BPV	1–32767	bipolar violations
	CRC		cyclic redundancy check errors
	MTIE1		1 second threshold
	MTIE4		4 second threshold
	MTIE16		16 second threshold
	MTIE64		64 second threshold
	MTIE128		128 second threshold
	MTIE512		512 second threshold
	MTIE900		900 second threshold
	TDEV1		1 second threshold
	TDEV4		4 second threshold
	TDEV16		16 second threshold
	TDEV64		64 second threshold
	TDEV128		128 second threshold

COMMAND CODE: SET-TH-PORT (Contd)

EXAMPLE

Input:

```
SET-TH-PORT::MRC-1-3:135::CRC,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.

6. AUTONOMOUS MESSAGES

6.01 The autonomous messages that can be issued are listed on the following pages. Each message starts on a separate page with the purpose describing what the message displays.

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

7. ALARMS & EVENTS

7.01 Table F is a summary of the alarms and events which may occur. The aid, condtype, and conddescr are listed for each alarm/event.

8. COMMAND DIFFERENCES

8.01 Table G lists the commands used with MIS card 090-4x018-05 compared to the commands used with MIS card 090-4x018-04. The correlation between the two sets of commands is not exactly one-for-one because some parameters were not setable in earlier versions, the function of two commands was combined into one, etc.

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> */" ...
   ;
```

Note: All the parameters between the quotation marks will appear on a single line (the parameters are shown on two lines here due to space restrictions). Refer to Table A and Table F for parameter values.

EXAMPLE

```
    SANJOSE-114 1997-12-08 15:41:32
*  14 REPT ALM EQPT
   "CLK-1:MN,HOLDOVER,NSA,1998-03-07,01:32:47:
                                    /* CLOCK IN HOLDOVER */"
   ;
```

This example, tagged as automatic message 14, shows that clock 1 has a minor alarm, the clock is in holdover, service is not affected, and that the problem occurred at 1:32:47 AM on Mar 7, 1998.

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> */" ...
;
```

Note: All the parameters between the quotation marks will appear on a single line (the parameters are shown on two lines here due to space restrictions). Refer to Table A and Table F 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 F. Alarm/Event Summary

<aid>	<condtype>	<conddescr>	Severity	Service Affecting

Notes:
1. The severities in this table are defined as follows:
    MN   = minor alarm   SC   = standing condition
    MJ   = major alarm   TC   = transient condition
    NA   = not alarmed
2. The service-affecting states are: service affecting (SA) and nonservice affecting (NSA).
3. Up to 6 minutes may be required to detect and report an unequipped condition (UNEQUIPPED: IMPROPER CARD REMOVAL OR COMM FAILURE) from a GTI or an LTI card. This condition may be caused by card removal, cable removal, or loss of power to the LPR shelf.
4. An asterisk (*) next to a severity indicates the following:
    • The severity can be changed using the SET-ATTR-PORT command
    • The severity shown is the factory setting
5. A word enclosed in brackets [ ] may or may not appear as part of the <conddescr>.
6. The IS-NR-STBY condtype for TO cards applies to TO-EA, EA10, EA20, EA10M, EA20M cards only.				

CLK-x (x = 1–2)	ACTIVE	CLOCK IS SUPPLYING SIGNAL	SC	NSA
	DRIFT	INPUT IS DRIFTING	MN	NSA
	FREERUN	CLOCK FREERUNNING	SC	NSA
	HOLDOVER	CLOCK IN HOLDOVER	MN	NSA
	INACTIVE	CLOCK IS NOT SUPPLYING SIGNAL	SC	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	LOCKED	CLOCK CONVERGED ON REFERENCE INPUT	SC	NSA
	NOT-LOCKED	CLOCK NOT CONVERGED ON REFERENCE INPUT	SC	NSA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/ MN	SA
	TOLERANCE	SYSTEM INPUT TO CLOCK OUT OF TOLERANCE	MN	NSA
	UNEQUIPPED	IMPROPER CARD REMOVAL	MN	NSA
DCIM-x (x = 1–2)	ACTIVE	CARD IS SUPPLYING A SIGNAL TO THE CLOCK(S)	SC	NSA
	ALL-REF	LOSS OF ALL EXTERNAL INPUT REFERENCES	MJ	SA
	CLOCK-x (x = 1–2)	LOSS OF CLOCK SIGNAL	MN	NSA
	FAIL	CARD FAIL:CLOCK SYNTHESIZER FAILURE	MJ	SA
	FAIL	CARD FAIL: FRAMER FAILURE	MJ	SA
	INACTIVE	CARD IS NOT SUPPLYING A SIGNAL TO THE CLOCK(S)	SC	NSA

Table F. Alarm/Event Summary (Contd)

\<aid\>	\<condtype\>	\<conddescr\>	Severity	Service Affecting
DCIM-x (x = 1–2) (contd)	IS-NR	IN-SERVICE NORMAL	NA	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	MISMATCH	CARD INFORMATION DOES NOT MATCH DATABASE	SC	SA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/ MN	SA
	QL-DNU	NOT TO BE USED FOR SYNCHRONIZATION [OVERRIDE]	SC	NSA
	QL-DUS	NOT TO BE USED FOR SYNCHRONIZATION [OVERRIDE]	SC	NSA
	QL-PRC	TRACEABLE TO PRC [OVERRIDE]	SC	NSA
	QL-PRS	TRACEABLE TO PRS/ST1 [OVERRIDE]	SC	NSA
	QL-RES	FORMAT SET BY USER [OVERRIDE]	SC	NSA
	QL-SEC	TRACEABLE TO SEC [OVERRIDE]	SC	NSA
	QL-SMC	TRACEABLE TO SMC [OVERRIDE]	SC	NSA
	QL-SSUL	TRACEABLE TO SSUL [OVERRIDE]	SC	NSA
	QL-SSUT	TRACEABLE TO SSUT [OVERRIDE]	SC	NSA
	QL-ST2	TRACEABLE TO ST2 [OVERRIDE]	SC	NSA
	QL-ST3	TRACEABLE TO ST3 [OVERRIDE]	SC	NSA
	QL-ST3E	TRACEABLE TO ST3E [OVERRIDE]	SC	NSA
	QL-ST4	TRACEABLE TO ST4 [OVERRIDE]	SC	NSA
	QL-STU	TRACEABLE TO UNKNOWN STRATUM LEVEL [OVERRIDE]	SC	NSA
	QL-TNC	TRACEABLE TO TNC [OVERRIDE]	SC	NSA
	QL-UNK	TRACEABLE TO UNKNOWN STRATUM LEVEL [OVERRIDE]	SC	NSA
	UNEQUIPPED	IMPROPER CARD REMOVAL	MN/ SC	SA/ NSA
DCIM-x-y (x = 1–2, y = 1–2)	AIS	ALARM INDICATION SIGNAL RECEIVED	MN*	NSA
	BPV	BPV THRESHOLD EXCEEDED	MN*	NSA
	CRC	CRC THRESHOLD EXCEEDED	MN*	NSA

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
DCIM-x-y (x = 1–2, y = 1–2) (contd)	IS-NR	IN-SERVICE NORMAL	NA	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	IS-NR-ACT-LOCK	IN-SERVICE NORMAL-ACTIVE LOCKED	SC	NSA
	LOS	LOSS OF EXTERNAL REFERENCE	MN*	NSA
	OOF	OOF DETECTED	MN*	NSA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/ MN	SA
	OOS-MT-FLT-LOCK	OUT-OF-SERVICE MAINTENANCE-FAILED LOCKED	MN/ MJ	SA
	QL-DNU	NOT TO BE USED FOR SYNCHRONIZATION [OVERRIDE]	SC	NSA
	QL-DUS	NOT TO BE USED FOR SYNCHRONIZATION [OVERRIDE]	SC	NSA
	QL-PRC	TRACEABLE TO PRC [OVERRIDE]	SC	NSA
	QL-PRS	TRACEABLE TO PRS/ST1 [OVERRIDE]	SC	NSA
	QL-RES	FORMAT SET BY USER [OVERRIDE]	SC	NSA
	QL-SEC	TRACEABLE TO SEC [OVERRIDE]	SC	NSA
	QL-SMC	TRACEABLE TO SMC [OVERRIDE]	SC	NSA
	QL-SSUL	TRACEABLE TO SSUL [OVERRIDE]	SC	NSA
	QL-SSUT	TRACEABLE TO SSUT [OVERRIDE]	SC	NSA
	QL-ST2	TRACEABLE TO ST2 [OVERRIDE]	SC	NSA
	QL-ST3	TRACEABLE TO ST3 [OVERRIDE]	SC	NSA
	QL-ST3E	TRACEABLE TO ST3E [OVERRIDE]	SC	NSA
	QL-ST4	TRACEABLE TO ST4 [OVERRIDE]	SC	NSA
	QL-STU	TRACEABLE TO UNKNOWN STRATUM LEVEL [OVERRIDE]	SC	NSA
	QL-TNC	TRACEABLE TO TNC [OVERRIDE]	SC	NSA
	QL-UNK	TRACEABLE TO UNKNOWN STRATUM LEVEL [OVERRIDE]	SC	NSA
	SWITCH	CARD NOW USING SPECIFIED INPUT SIGNAL	TC	NSA

Table F. Alarm/Event Summary (Contd)

\<aid\>	\<condtype\>	\<conddescr\>	Severity	Service Affecting
GTI-x (x = 1–2)	ACQUIRED	ACQUIRED AT LEAST ONE SATELLITE	SC	NSA
	CONVERGING	TIMING SIGNAL NOT YET STABLE	SC	NSA
	FAIL	CARD FAULT: REFERENCE PLL OUT OF LOCK	MJ	SA
	FAIL	CARD FAIL: PRIMARY REFERENCE PLL OUT OF LOCK	MJ	SA
	FAIL	CARD FAIL: OSCILLATOR PLL OUT OF LOCK	MJ	SA
	FREQ-TOL	GPS FREQUENCY OUT OF TOLERANCE	MN	NSA
	FUSE-x (x = 1–2)	LPR SHELF FUSE BLOWN OR POWER FAIL	MN	NSA
	GPS-INVALID	GPS INVALID	MJ/ MN/ SC	NSA
	GTI-OUT-FAIL	LOSS OF TIMING OUTPUT SIGNAL	MN	SA
	GTR-COMM-LOS	GTR COMMUNICATIONS FAIL	MN	NSA
	GTR-FAIL	GTR FAIL: ANTENNA CURRENT OUT OF TOLERANCE	MJ	NSA
	GTR-FAIL	GTR FAIL:GTR PLL OUT OF LOCK	MJ	NSA
	GTR-FAIL	GTR FAULT: NOT LOCKED TO UTC TIME - GTR OR SKY PROBLEM	MJ	NSA
	GTR-FAIL	GTR FAIL: FLASH MEMORY FAIL	MJ	NSA
	GTR-FAIL	GTR FAIL: RAM MEMORY FAIL	MJ	NSA
	GTR-GPS-LOS	LOSS OF GPS SIGNAL FROM GTR	MJ/ MN/ SC	NSA
	GTR-LOCKED	GTR IS LOCKED	SC	NSA
	GTR-NOT-LOCKED	GTR IS NOT LOCKED TO GPS SIGNAL	SC	NSA
	GTR-PWR-FLT	GTR POWER FAULT	MN	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	LOCKED	GTI IS LOCKED	SC	NSA
	MISMATCH	CARD INFORMATION DOES NOT MATCH DATABASE	SC	NSA
	NO-INPUTS	LOSS OF OSCILLATORS AND INPUT FROM ANTENNA	MJ	SA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA

Table F. Alarm/Event Summary (Contd)

\<aid\>	\<condtype\>	\<conddescr\>	Severity	Service Affecting
GTI-x (x = 1–2) (contd)	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/ MN	SA
	OSC-x-LOS (x = 1–2)	LOSS OF EXTERNAL OSCILLATOR	MN	NSA
	OSC-x-TOL (x = 1–2)	EXTERNAL OSCILLATOR OUT OF TOLERANCE	MN	NSA
	SATELLITE	INSUFFICIENT SATELLITES IN VIEW < 3	SC	NSA
	SEARCH	SEARCHING FOR FIRST SATELLITE	SC	NSA
	TOD-INVALID	TOD INVALID	SC/ MN/ MJ	NSA/ SA
	TOD-FAIL	TOD FAIL	MJ	SA
	TRACK	GTI TRACKING	SC	NSA
	UNEQUIPPED	IMPROPER CARD REMOVAL OR COMM FAILURE	MN/ SC	SA/ NSA
LTI-x (x = 1–2)	ACQUIRE	LORAN STATION FOUND	SC	NSA
	ANTENNA	CURRENT TO ANTENNA IS OUT OF TOLERANCE	MJ	SA
	FAIL	FAIL:TRANSFER OSC PLL OUT OF LOCK	MJ	SA
	FAIL	FAIL:SYNTHESIZER PLL OUT OF LOCK	MJ	SA
	FAIL	FAIL:PRIMARY REFERENCE PLL OUT OF LOCK	MJ	SA
	FAIL	FAIL:LOSS OF SIGNAL TO DSP OR DSP FAIL	MJ	SA
	FAIL	FAIL:PROCESSOR FAIL	MJ	SA
	FUSE-x (x = 1–2)	LPR SHELF FUSE BLOWN OR POWER FAIL	MN	NSA
	GRI-LOCKED	LOCKED TO LORAN STATION	SC	NSA
	HOLDOVER	LTI IN HOLDOVER	SC	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	LOCKED	LTI IS LOCKED	SC	NSA
	LOS	LOSS OF TIMING OUTPUT SIGNAL	MN	NSA
	NO-INPUTS	LOSS OF OSCILLATORS AND INPUT FROM ANTENNA	MN	NSA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/ MN	SA

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
LTI-x (x = 1–2) (contd)	OSC-LOS	LOSS OF BOTH LOCAL OSCILLATOR SIGNALS	MJ	NSA
	OSC-x-LOS (x = 1–2)	LOSS OF EXTERNAL OSCILLATOR	MN	NSA
	SEARCH	SEARCHING FOR LORAN STATION	MN/ SC	NSA
	UNEQUIPPED	IMPROPER CARD REMOVAL OR COMM FAILURE	MN/ SC	SA/ NSA
MCA	COMM	LOSS OF COMMUNICATIONS WITH ALL OUTPUT CARDS	SC	SA
	FAIL	CARD FAILED: WRITE RELAY REGISTER FAULT	MJ	SA
	FAIL	CARD FAILED: COMMON RELAY REGISTER FAULT	MJ	SA
	FAIL	CARD FAILED: OUTPUT RELAY DRIVER FAULT	MJ	SA
	FAIL	CARD FAILED: INTERNAL PROCESSOR FAILURE	MJ	SA
	IS-NR	IN-SERVICE NORMAL	SC	NSA
	IS-NR-FRCD	IN-SERVICE NORMAL COMMAND SWITCHED FORCED	SC	—
	IS-NR-LOCK	IN-SERVICE NORMAL MANUAL SWITCHED LOCKED	SC	—
	IS-NR-STBY	IN-SERVICE NORMAL-STANDBY	SC	NSA
	MISMATCH	CARD INFORMATION DOES NOT MATCH DATABASE	MN	NSA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	SC	SA
	PORT	EXTERNAL TIMING OUTPUT SHORT DETECTED	MJ	SA
	PROTN	HOT PROTECTION SWITCH PERFORMED TOx WITH HSy (x = 1–10, y = 1–2)	SC	SA
	UNEQUIPPED	IMPROPER CARD REMOVAL	MN/ SC	SA/ NSA
MIS	RESET	MIS HAS RESET	TC	NSA

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
MRC-x (x = 1–2)	ACTIVE	CARD IS SUPPLYING A SIGNAL TO THE CLOCK(S)	SC	NSA
	ALL-REF	LOSS OF ALL EXTERNAL INPUT REFERENCES	MJ	SA
	CLOCK-x (x = 1–2)	LOSS OF CLOCK SIGNAL	MN	NSA
	FAIL	CARD FAIL:CLOCK SYNTHESIZER FAILURE	MJ	SA
	FAIL	CARD FAIL: FRAMER FAILURE	MJ	SA
	FFREQ-x (x = 1–2)	CLOCK DISQUALIFIED:FFREQ THRESHOLD EXCEEDED	MN	NSA
	INACTIVE	CARD IS NOT SUPPLYING A SIGNAL TO THE CLOCK(S)	SC	NSA
	IS-NR	IN-SERVICE NORMAL	NA	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	MISMATCH	CARD INFORMATION DOES NOT MATCH DATABASE	SC	SA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/MN	SA
	UNEQUIPPED	IMPROPER CARD REMOVAL	MN/SC	SA/NSA
MRC-x-y (x = 1–2, y = 1–4)	AIS	ALARM INDICATION SIGNAL RECEIVED	MN*	NSA
	BPV	BPV THRESHOLD EXCEEDED	MN*	NSA
	CRC	CRC THRESHOLD EXCEEDED	MN*	NSA
	FFREQ	REF INPUT FRACTIONAL FREQ THRESHOLD EXCEEDED	MN*	NSA
	IS-NR	IN-SERVICE NORMAL	NA	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	LOS	LOSS OF EXTERNAL REFERENCE	MN*	NSA
	OOF	OOF DETECTED	MN*	NSA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/MN	SA
	SWITCH	CARD NOW USING SPECIFIED INPUT SIGNAL	TC	NSA

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
PSM-x (x = 1–11)	ALL-REF	LOSS OF ALL EXTERNAL INPUT REFERENCES	MJ	SA
	CLOCK-x (x = 1–2)	LOSS OF CLOCK SIGNAL	MN	NSA
	FAIL	CARD FAIL:CLOCK SYNTHESIZER FAILURE	MJ	SA
	FAIL	CARD FAIL: FRAMER FAILURE	MJ	SA
	FFREQ-x (x = 1–2)	CLOCK DISQUALIFIED:FFREQ THRESHOLD EXCEEDED	MN	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	MISMATCH	CARD INFORMATION DOES NOT MATCH DATABASE	SC	SA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/ MN	SA
	UNEQUIPPED	IMPROPER CARD REMOVAL	MN/ SC	SA/ NSA
PSM-x-y (x = 1–11, y = 1–4)	AIS	ALARM INDICATION SIGNAL RECEIVED	MN*	NSA
	BPV	BPV THRESHOLD EXCEEDED	MN*	NSA
	CRC	CRC THRESHOLD EXCEEDED	MN*	NSA
	FFREQ	REF INPUT FRACTIONAL FREQ THRESHOLD EXCEEDED	MN*	NSA
	LOS	LOSS OF EXTERNAL REFERENCE	MN*	NSA
	MTIEx (x = 1, 4, 16, 64, 128, 512, 900)	x SECOND THRESHOLD EXCEEDED (x = 1, 4, 16, 64, 128, 512, 900)	MN*	NSA
	OOF	OOF DETECTED	MN*	NSA
	TDEVx (x = 1, 4, 16, 64, 128)	x SECOND THRESHOLD EXCEEDED (x = 1, 4, 16, 64, 128)	MN*	NSA

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
SHELF	ACTIVE	Ex EXPANSION SHELF PRESENT (x = 1–3)	SC	NSA
	DLCMP	DOWNLOAD COMPLETED	TC	NSA
	DLIP	DOWNLOAD IN PROGRESS	TC	NSA
	FUSE-x (x = 1–2)	FUSE BLOWN OR POWER FAIL	MN	NSA
	GP	SHELF INPUT ALARM	MN	NSA
	GPMJ	MAJOR GENERAL PURPOSE ALARM ON SHELF	MJ	SA
	GPMN	MINOR GENERAL PURPOSE ALARM ON SHELF	MN	SA
	INACTIVE	Ex EXPANSION SHELF NOT PRESENT (x = 1–3)	SC	NSA
	LOS	LOSS OF ALL INPUT AND CLOCK SIGNALS	CR	SA
	OVERRIDE	TIMING OUTPUT SOURCE SELECTED BY COMMAND	SC	NSA

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
TO-x (x = 1–12)	CLOCK-x (x = 1–2)	TIMING SIGNAL FROM CLOCK CARD DISQUALIFIED	SC	NSA
	FAIL	CARD FAIL:A/D FAILURE	MJ	SA
	FAIL	CARD FAIL:INTERNAL FAILURE	MJ	SA
	FAIL	CARD FAIL:REFERENCE VOLTAGE FAILURE	MJ	SA
	FAIL	CARD FAIL:PLL OUT OF LOCK	MJ	SA
	INPUT-x (x = 1–2)	TIMING SIGNAL FROM INPUT CARD DISQUALIFIED	SC	NSA
	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	IS-NR-STBY	IN-SERVICE NORMAL-STANDBY	SC	NSA
	MISMATCH	CARD INFORMATION DOES NOT MATCH DATABASE	SC	SA
	MISMATCH	PROTECTION CARD CONFIGURATION MISMATCH OR PAIRED CARD MISSING	SC	NSA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	OOS-MT-FLT	OUT-OF-SERVICE MAINTENANCE-FAILED	MJ/ MN	SA
	QL-ALW	OUTPUT TRANSMITTING AIS [OVERRIDE]	SC	NSA
	QL-DNU	NOT TO BE USED FOR SYNCHRONIZATION [OVERRIDE]	SC	NSA
	QL-DUS	NOT TO BE USED FOR SYNCHRONIZATION [OVERRIDE]	SC	NSA
	QL-INH	OUTPUT SQUELCHED [OVERRIDE]	SC	NSA
	QL-PRC	TRACEABLE TO PRC [OVERRIDE]	SC	NSA
	QL-PRS	TRACEABLE TO PRS/ST1 [OVERRIDE]	SC	NSA
	QL-RES	FORMAT SET BY USER [OVERRIDE]	SC	NSA
	QL-SEC	TRACEABLE TO SEC [OVERRIDE]	SC	NSA
	QL-SMC	TRACEABLE TO SMC [OVERRIDE]	SC	NSA
	QL-SSUL	TRACEABLE TO SSUL [OVERRIDE]	SC	NSA
	QL-SSUT	TRACEABLE TO SSUT [OVERRIDE]	SC	NSA
	QL-ST2	TRACEABLE TO ST2 [OVERRIDE]	SC	NSA
	QL-ST3	TRACEABLE TO ST3 [OVERRIDE]	SC	NSA
	QL-ST3E	TRACEABLE TO ST3E [OVERRIDE]	SC	NSA

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
TO-x (x = 1–12) (contd)	QL-ST4	TRACEABLE TO ST4 [OVERRIDE]	SC	NSA
	QL-STU	TRACEABLE TO UNKNOWN STRATUM LEVEL [OVERRIDE]	SC	NSA
	QL-TNC	TRACEABLE TO TNC [OVERRIDE]	SC	NSA
	QL-UNK	TRACEABLE TO UNKNOWN STRATUM LEVEL [OVERRIDE]	SC	NSA
	SOURCE-CLK-x (x = 1–2)	OUTPUT CARD IS USING SPECIFIED CLOCK CARD	SC	NSA
	SOURCE-INPUT-x (x = 1–2)	OUTPUT CARD IS USING SPECIFIED INPUT CARD	SC	NSA
	SWITCH	INPUT SWITCHED	TC	NSA
	SWITCH-CLK-x (x = 1–2)	FAILURE TO SWITCH TO CLOCK CARD	SC	NSA
	SWITCH-INPUT-x (x = 1–2)	FAILURE TO SWITCH TO INPUT CARD	SC	NSA
	SWITCH	OUTPUT CARD PROTECTION SWITCH	TC	NSA
	UNEQUIPPED	IMPROPER CARD REMOVAL	MN/ SC	SA/ NSA
TO-x-y (x = 1–12, y = 1–10 [y = 1–20 for EA20])	IS-NR-ACT	IN-SERVICE NORMAL-ACTIVE	SC	NSA
	IS-NR-STBY	IN-SERVICE NORMAL-STANDBY	SC	NSA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	PORT	OUTPUT PORT HAS FAILED	MJ or MN (set by user)	SA

Table G. Command Differences

MIS -04 CARD COMMANDS	MIS -05 CARD COMMANDS
ACT-USER	ACT-USER
—	ALW-SWDX-EQPT
CANC-USER	CANC-USER
—	CONN-COM
—	COPY-MEM
—	DISC-COM
—	DLT-EQPT
—	DLT-INVENTORY
—	DLT-PORT
DLT-USER-SECU	DLT-USER-SECU
INIT-SYS	ED-COM
SET-DAT	ED-DAT
ED-PRMTR-T1, SET-ATTR-T1	ED-EQPT
—	ED-INVENTORY
ED-SECU-PID	ED-PID
ED-PRMTR-T1	ED-PORT
—	ED-SSM-EQPT
—	ED-SSM-PORT
—	ED-SSM-SECU
ED-USER-SECU	ED-USER-SECU
—	ENT-EQPT
—	ENT-INVENTORY
—	ENT-PORT
—	ENT-USER-SECU
ED-EQPT	INIT-COM
SET-ATTR-LOG	INIT-LOG
INIT-REG-T1	INIT-REG
INIT-SYS	INIT-SYS
OPR-ACO-ALL	OPR-ACO-ALL
—	OPR-PROTNSW
—	OPR-SWDX-PORT
—	OPR-SYNCNSW
—	RLS-PROTNSW
—	RLS-SWDX-PORT
—	RLS-SYNCNSW

Table G. Command Differences (Contd)

MIS -04 CARD COMMANDS	MIS -05 CARD COMMANDS
—	RMV-EQPT
—	RMV-PORT
—	RST-EQPT
—	RST-PORT
RTRV-ALM-{ALL|EQPT|T1}	RTRV-ALM-{ALL|EQPT|PORT}
—	RTRV-ATTR-CONT
RTRV-ATTR-T1	RTRV-ATTR-PORT
RTRV-EQPT	RTRV-COM
—	RTRV-COM-CONN
RTRV-COND-{EQPT|T1}	RTRV-COND-{EQPT|PORT}
—	RTRV-DA-EQPT
—	RTRV-EQPT
—	RTRV-GPS-STAT
RTRV-HDR	RTRV-HDR
—	RTRV-INVENTORY
RTRV-LOG	RTRV-LOG
—	RTRV-MSG-EQPT
—	RTRV-MSG-PORT
RTRV-PM-T1	RTRV-PM-PORT
—	RTRV-PORT
—	RTRV-REPTMODE-PORT
—	RTRV-SSM-EQPT
—	RTRV-SSM-PORT
—	RTRV-TH-MSG
RTRV-TH-PORT	RTRV-TH-PORT
RTRV-USER-SECU	RTRV-USER-SECU
—	SET-ATTR-CONT
SET-ATTR-T1	SET-ATTR-PORT
—	SET-DA-EQPT
—	SET-REPTMODE-PORT
SET-SID	SET-SID
—	SET-TH-MSG
SET-TH-T1	SET-TH-PORT