

DIGITAL CLOCK DISTRIBUTOR
500 SERIES
INPUT/OUTPUT REFERENCE GUIDE
RELEASE 5.05.02

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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 5.05.02 when installed in an MIS card with a part number of 090-45018-05 or 090-45018-25F. The language used for the commands in this section is Transaction Language 1 (TL1).

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

1.03 All product names, service marks, trademarks, and registered trademarks used in this document are the property of their respective owners.

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
- :
- ,
- & 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
- ;
- > 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:parameter
:parameter,parameter;
```

2.04 Parameter blocks may be null (contain no parameters), or contain one or more parameters. Two colons occur next to each other if a parameter block is

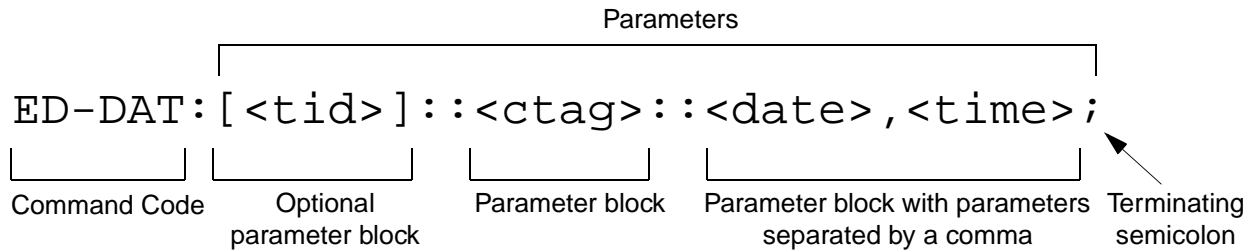
null. (Some parameters in the complete TL1 language set are not used. These unused parameters are left null in this command set.)

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

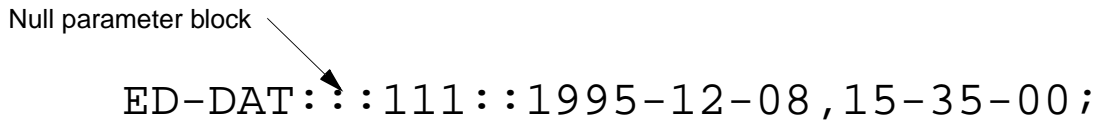
2.06 Entering a semicolon at the end of the command causes the command to execute.

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.



Example of a command format



Example of a command using the above format

Figure 1. Command Format

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 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	<p>This parameter is the access identifier. When used in a command, the aid is the equipment that the command affects. When seen in a response, the aid is the equipment reporting the condition.</p> <p>Shelf types are defined as follows:</p> <ul style="list-style-type: none"> 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. <p>On MIS cards with switch SW1-6 in the down position (Input Format 2) (factory setting for 090-45018-05 MIS cards):</p> <p>Without Remote Shelf: direct a command to a particular shelf as follows:</p> <ul style="list-style-type: none"> <aid> = Master shelf E1-<aid> = Expansion shelf #1 E2-<aid> = Expansion shelf #2 E3-<aid> = Expansion shelf #3 <p>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:</p> <ul style="list-style-type: none"> <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). <p>On 090-45018-25F MIS cards with switch SW1-6 in the up position (Input Format 1) (does not apply to 090-45018-05 MIS cards), expansion and remote shelves are not addressed through the <aid> parameter. Refer to the <tid> parameter in this table.</p>
almcde	<p>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:</p> <ul style="list-style-type: none"> *C = critical alarm ** = major alarm * = minor alarm A = event
atag	<p>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.</p>

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
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.
comtype	This parameter indicates the type of communication device used (X25, MODEM, TERM, 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 TO (timing output card), this parameter indicates the output protection mode (applies to TO-EAN cards): NO = no protection 1-N = 1-for-N 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												
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.												
ntfncde	<p>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 <ntfncde> are:</p> <table style="margin-left: 40px; border: none;"> <tr> <td>CR</td> <td>= critical alarm</td> <td>NA</td> <td>= not alarmed</td> </tr> <tr> <td>MJ</td> <td>= major alarm</td> <td>NR</td> <td>= not reported</td> </tr> <tr> <td>MN</td> <td>= minor alarm</td> <td>CL</td> <td>= cleared</td> </tr> </table> <p>Note: The Shelf, and MRC and PSM cards support critical, major, and minor alarms. Clock, GTI, and timing output cards support major and minor alarms only.</p>	CR	= critical alarm	NA	= not alarmed	MJ	= major alarm	NR	= not reported	MN	= minor alarm	CL	= cleared
CR	= critical alarm	NA	= not alarmed										
MJ	= major alarm	NR	= not reported										
MN	= minor alarm	CL	= cleared										
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.												
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.												

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
shelf	<p>This parameter directs the command to a particular shelf. Valid values for <shelf> are:</p> <p style="padding-left: 40px;">(null) = master shelf E1 = expansion shelf 1 E2 = expansion shelf 2 E3 = expansion shelf 3</p>
sid	<p>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.</p>
signal type	<p>This specifies the signal type (analog or digital).</p>
srveff	<p>This parameter identifies how the alarm condition affects service. Valid values for <srveff> are:</p> <p style="padding-left: 40px;">SA = service affecting NSA = not service affecting</p>
swcontrol	<p>This parameter specifies whether key combinations can be used to start (Control-s) and stop (Control-q) output messages.</p>
switchto	<p>This parameter specifies the internal synchronization source to be used by the timing output cards.</p>
switchfrom	<p>This parameter specifies whether the specified timing output card switches to a mate card in an HS slot (1 for N protection).</p>
thlev	<p>This parameter specifies threshold level of a <monval>.</p>

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
tid	<p>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>.</p> <p>Shelf types are defined as follows:</p> <p>Master: the shelf that is the communications interface for the system and contains the highest-quality clocks in the system.</p> <p>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).</p> <p>Remote: a shelf that contains timing input cards that use timing signals from the master or an expansion shelf (generally located distant from the master shelf).</p> <p>The <tid> can be omitted only if one of the following is true:</p> <ul style="list-style-type: none"> • Connection is made directly to the master shelf. • There is only one system. <p>On MIS cards with switch SW1-6 in the down position (Input Format 2) (factory setting for 090-45018-05 MIS cards), expansion and remote shelves are not addressed through the <tid> parameter. Refer to the <aid> parameter in this table.</p> <p>On 090-45018-25F MIS cards with switch SW1-6 in the up position (Input Format 1) (does not apply to 090-45018-05 MIS cards):</p> <p>Without Remote Shelf: direct a command to a particular shelf as follows:</p> <pre> <tid> = Master shelf <tid>E1 = Expansion shelf #1 <tid>E2 = Expansion shelf #2 <tid>E3 = Expansion shelf #3 </pre> <p>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:</p> <pre> <tid> = Master shelf <tid>E1 = Expansion shelf #1 <tid>E2 = Expansion shelf #2 <tid>E3 = Remote shelf (E3 identifies the remote shelf even if there are no Expansion shelves). </pre>
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 this table and Table F.

Table A. Parameter Definitions (Contd)

PARAMETER	DEFINITION
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: <div style="margin-left: 40px;"> (null) = complete NA = not available P = partial </div>

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 allowing access to all commands at that level and be-

low. 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-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
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)

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

COMMAND/MESSAGE	EXPANDED NAME	ACCESS LEVEL
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-PM-PORT	Retrieve Performance Monitoring Port	2
RTRV-PORT	Retrieve Port	1
RTRV-REPTMODE-PORT	Retrieve Report Mode Port	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-REPTMODE-PORT	Set Report Mode Port	4
SET-SID	Set Source Identifier (System Identification)	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 supported by MIS version 5.05.02; 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 Supported by MIS Version 5.05.02

CARD	PART NUMBER
INPUT CARDS	
DCIM-EA	090-45010-59
MRC-EA	090-45010-56 090-45010-57
MRC-T	090-45010-53 090-45010-58
MONITOR CARDS	
PSM-EA	090-45025-54
PSM-T	090-45025-51
PSM-T5S	090-45025-53
TIMING OUTPUT CARDS	
TO-EAN	090-45029-56
TOTA-5	090-45012-52
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

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 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.
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.
5	<p>If a GTI card is removed from the shelf without using appropriate commands or is removed from the shelf because it is not accepting commands from the MIS card, wait for the following message to appear before inserting the GTI card: UNEQUIPPED: IMPROPER CARD REMOVAL OR COMM FAILURE. This may take up to 6 minutes.</p> <p><i>Caution: If the card is inserted before the message appears, the card configuration set by TL1 commands will be invalidated, and the card will be configured according to its switch settings.</i></p>

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 lowercase) 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 Version 5 TO cards) or ALL

fromdev	to dev	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	
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

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****DISCONNECT 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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2 b = 1-11 c = 1-10

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

COMMAND CODE: DLT-EQPT (Contd)**INPUT FORMAT 2**

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 Version 5 TO cards)

aid	meaning
CLK-a	specified CLK card
DCIM-a	specified DCIM card
GTI-a	specified GTI 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 non Version 5 card from the database. (Version 5 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 non Version 5 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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), Input Format 1 must be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

- | | | | |
|---|---------------|---|----------------|
| a | = 1-2 | e | = 1-10 |
| b | = 1-4 or ALL | f | = 1-10 or ALL |
| c | = 2-4 (c > b) | g | = 2-10 (g > f) |
| d | = 1-11 | | |

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

COMMAND CODE: DLT-PORT (Contd)**INPUT FORMAT 2**

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 Version 5 TO cards)
c	= 1-4 or ALL	g	= 1-10 or ALL
d	= 2-4 (d > c)	h	= 2-10 (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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), Input Format 1 must be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

Note: Any parameter left blank causes no change to that parameter.

parameter	value	meaning
aid	COM-1	communication port 1 (backplane D connector)
	COM-2	communication port 2 (backplane D connector or front panel RJ connector)
	COM-3	communication port 3 (backplane D connector)
baud	1200	1200 baud
	9600	9600 baud
	Note: the baud parameter must be set to null when the aid is COM-2	
monmsg	ALW	allows this port to view communication messages associated with other communication ports in real-time
	INH	inhibits this port from viewing communication messages associated with other communication ports in real-time
keepalive	ALW	allows a port to autonomously output a COMPL message every 15 to 20 minutes
	INH	inhibits a port from autonomously outputting a COMPL message every 15 to 20 minutes

COMMAND CODE: ED-COM (Contd)

INPUT FORMAT 1 (Contd)

parameter	value	meaning
comtype	X25	PAD (sets configuration for Black Box Corporation's X.25 PAD-8 only with the following settings: a. drops call if idle time is greater than 1 minute b. fixed destination id
	MODEM	modem (sets RS232 control leads to communicate with any general-purpose modem)
	TERM	dumb terminal (VT100)
	REMOTE	allows communication with a remote shelf via the specified communication port
endoftext	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
reptalm	ALW	allows alarm/event messages to be transmitted from a port
	INH	inhibits alarm/event messages from being transmitted from a port
hwcontrol	ALW	allows external equipment to stop the DCD system from sending messages by setting the clear to send (CTS) lead low, or continue messages by setting the CTS lead high Note: hwcontrol and swcontrol cannot both be set to ALW.
	INH	inhibits external equipment from controlling DCD system messages by manipulation of the clear to send (CTS) lead
swcontrol	ALW	allows the user to use a Control-s key combination to stop the DCD system from sending messages; also allows the user to use a Control-q key combination to cause the DCD system to continue sending messages Note: swcontrol and hwcontrol cannot both be set to ALW.
	INH	inhibits the use of the Control-s and Control-q key sequences to stop and start messages

COMMAND CODE: ED-COM (Contd)

EXAMPLE OF INPUT FORMAT 1

Input:

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

Response:

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

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

INPUT FORMAT 2

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

Note: Any parameter left blank causes no change to that parameter.

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 2 (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 Note: hwcontrol and swcontrol cannot both be set to ALW.
	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 2 (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 Note: swcontrol and hwcontrol cannot both be set to ALW.
	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 characters	specifies the remote PAD address

EXAMPLE OF INPUT FORMAT 2

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

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2 b = 1-10 c = 1-11

COMMAND CODE: ED-EQPT (Contd)

INPUT FORMAT 1 (Contd)

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

COMMAND CODE: ED-EQPT (Contd)

INPUT FORMAT 1 (Contd)

aid	parameter	value	meaning
TO-b	framing	CAS	channel assigned sequence
		CAS4	channel assigned sequence with frame aligned sequence with cyclic redundancy check 4
		CRC4	frame alignment sequence framing with cyclic redundancy check 4
		D4	D4 framing format
		ESF	ESF framing format
		FAS	frame alignment sequence framing
	troublecode	INH	all outputs are squelched upon card failure
		ALW	AIS is sent on all outputs upon card failure
		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		

COMMAND CODE: ED-EQPT (Contd)

EXAMPLE OF INPUT FORMAT 1

Input:

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

Response:

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

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

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

COMMAND CODE: ED-EQPT (Contd)

INPUT FORMAT 2

```
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 Version 5 TO cards)

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 2 (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-5M	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 2 (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		
PSM-b	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		

COMMAND CODE: ED-EQPT (Contd)

INPUT FORMAT 2 (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	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 OF INPUT FORMAT 2

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	ALARM INTEGRATION TIME (SIGNAL DEFECT ONLY)	
	MINOR ALARM	MAJOR ALARM
1	4 hours	24 hours
2	8 hours	48 hours
3	Infinity	24 hours
4	30 minutes	1 hour

Notes:

- The GTI types are as follows:

<u>type</u>	<u>part #</u>
GTI -13	090-42140-13
GTI -14	090-42140-14
- 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 non Version 5 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 non Version 5 cards. Non Version 5 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

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 port parameters.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

- | | | | |
|---|---------------|---|----------------|
| a | = 1-2 | e | = 1-10 |
| b | = 1-4 or ALL | f | = 1-10 or ALL |
| c | = 2-4 (c > b) | g | = 2-10 (g > f) |
| d | = 1-11 | | |

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

COMMAND CODE: ED-PORT (Contd)

INPUT FORMAT 1 (Contd)

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

EXAMPLE OF INPUT FORMAT 1

Input:

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

Response:

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

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

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

COMMAND CODE: ED-PORT (Contd)

INPUT FORMAT 2

```
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 Version 5 TO cards)
c	= 1-4 or ALL	g	= 1-10 or ALL
d	= 2-4 (d > c)	h	= 2-10 (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 2 (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)

COMMAND CODE: ED-PORT (Contd)

INPUT FORMAT 2 (Contd)

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

COMMAND CODE: ED-PORT (Contd)

EXAMPLE OF INPUT FORMAT 2

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-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 TO-EAN and TOTA-5 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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used. (If Input Format 1 is used, the RST-EQPT command must be used to restore the card to service, and the ENT-PORT and RST-PORT commands must be used to put the outputs in service.)

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2 b = 1-11 c = 1-10

aid	parameter	value	meaning
CLK-a	framing	(null)	(not applicable)
	troublecode		
	portseverity		
	osc1		
	osc2		
	integration		

COMMAND CODE: ENT-EQPT (Contd)

INPUT FORMAT 1 (Contd)

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

COMMAND CODE: ENT-EQPT (Contd)

INPUT FORMAT 1 (Contd)

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

COMMAND CODE: ENT-EQPT (Contd)**EXAMPLE OF INPUT FORMAT 1**

Input:

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

Response:

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

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

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

INPUT FORMAT 2

Input:

```
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 Version 5 TO cards)

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

COMMAND CODE: ENT-EQPT (Contd)

EXAMPLE OF INPUT FORMAT 2

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 non Version 5 cards and Version 5 cards without a database (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 non Version 5 card. All cards entered with this command are non Version 5 because they do not contain a database and cannot communicate with the MIS card. (Version 5 card information is communicated to the MIS card when the ENT-EQPT command is used for that card.) For a list of Version 5 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.

Caution: *If the MCA-5M card is used, use the ENT-INVENTORY command to enter non-Version 5 TO cards, to protect the non-Version 5 TO cards.*

INPUT FORMAT

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

Caution: *The letter/number combinations “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

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 non Version 5 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, depending on card type and switch setting, reference condition.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

- | | | | |
|---|---------------|---|----------------|
| a | = 1-2 | e | = 1-10 |
| b | = 1-4 or ALL | f | = 1-10 or ALL |
| c | = 2-4 (c > b) | g | = 2-10 (g > f) |
| d | = 1-11 | | |

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

COMMAND CODE: ENT-PORT (Contd)

INPUT FORMAT 1 (Contd)

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

EXAMPLE OF INPUT FORMAT 1

Input:

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

Response:

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

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

COMMAND CODE: ENT-PORT (Contd)

INPUT FORMAT 2

```
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 Version 5 TO cards)
c	= 1-4 or ALL	g	= 1-10 or ALL
d	= 2-4 (d > c)	h	= 2-10 (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 2 (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)

COMMAND CODE: ENT-PORT (Contd)

INPUT FORMAT 2 (Contd)

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

COMMAND CODE: ENT-PORT (Contd)

EXAMPLE OF INPUT FORMAT 2

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.)

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

INPUT FORMAT 2

```
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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

- a = 1-2
- b = 1-4 or ALL
- c = 1-11

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

COMMAND CODE: INIT-REG (Contd)

INPUT FORMAT 2

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

The parameter values in the table below are as follows:

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

aid	parameter	value	meaning
ALL	montype	ALL	all spans of all MRC & PSM cards
DCIM-a-b	montype	ALL	all montypes
		BPV	bipolar violations register
		CRC	cyclic redundancy check errors register
MRC-a-b[&&-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

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

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

INPUT FORMAT 2

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 2 (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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

INPUT FORMAT 2

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 or 1-for-N.

This command is only for timing output cards 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 FORMAT

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

The parameter values in the table below are as follows:

a = 1-10

parameter	value	meaning
aid	TO-a	timing output card
switchfrom	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

Note: If automatic switching was set with the SET-ATTR-CONT command, 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, and 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::MCA;
```

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 FORMAT

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 (unprotected 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

parameter	value	meaning
aid	TO-a	working timing output card
switchfrom	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

Note: If automatic switching was set with the SET-ATTR-CONT command, 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, and 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::MCA;
```

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2 b = 1-11 c = 1-10

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

COMMAND CODE: RMV-EQPT (Contd)**INPUT FORMAT 2**

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 Version 5 TO cards)

aid	meaning
CLK-a	Clock card
DCIM-a	DCIM card
GTI-a	GTI 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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a	= 1-2	e	= 1-10
b	= 1-4 or ALL	f	= 1-10 or ALL
c	= 2-4 (c > b)	g	= 2-10 (g > f)
d	= 1-11		

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

COMMAND CODE: RMV-PORT (Contd)

INPUT FORMAT 2

```
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 Version 5 TO cards)
c	= 1-4 or ALL	g	= 1-10 or ALL
d	= 2-4 (c > b)	h	= 2-10 (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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2 b = 1-11 c = 1-10

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

COMMAND CODE: RST-EQPT (Contd)**INPUT FORMAT 2**

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 Version 5 TO cards)

aid	meaning
CLK-a	Clock card
DCIM-a	DCIM card
GTI-a	GTI 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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a	= 1-2	e	= 1-10
b	= 1-4 or ALL	f	= 1-10 or ALL
c	= 2-4 (c > b)	g	= 2-10 (g > f)
d	= 1-11		

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

COMMAND CODE: RST-PORT (Contd)

INPUT FORMAT 2

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 Version 5 TO cards)
c	= 1-4 or ALL	g	= 1-10 or ALL
d	= 2-4 (c > b)	h	= 2-10 (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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.
 If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

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

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

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

COMMAND CODE: RTRV-ALM (Contd)

INPUT FORMAT 2

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 Version 5 TO cards)	g	= 1-10 or ALL
d	= 1-2 or ALL	h	= 2-10 (g > f)

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

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.

COMMAND CODE: RTRV-ALM (Contd)

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

OUTPUT FORMAT 1

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

INPUT FORMAT 2

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

aid	meaning
DCIM-ALL	DCIM card protection mode (stand-alone or combined)
MCA	output protection type for timing output cards other than TO-EA (revertive/nonrevertive, automatic/manual, and protection priority for each output slot)
SHELF	output source selection mode (revertive or nonrevertive) for master and all expansion shelves
TO-ALL	output protection type for TO-EA and TO-EAN timing output cards (none, 1 for N)

COMMAND CODE: RTRV-ATTR-CONT (Contd)

OUTPUT FORMAT 2

```
<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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

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

- a = 1-2
- b = 1-4 or ALL
- c = 2-4 (c > b)
- d = 1-11

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

INPUT FORMAT 2

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

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

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

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)

COMMAND CODE: RTRV-ATTR-PORT (Contd)**RESPONSE FORMAT**

```

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

```

Refer to Table A and Table F for parameter values.

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), Response Format 1 will be shown.

If switch SW1-6 is in the down position, Response Format 2 will be shown.

On 090-45018-05 MIS cards:

Response Format 2 will be shown (SW1-6 is in the down position [factory setting]).

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 1

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

COMMAND CODE: RTRV-COM (Contd)

RESPONSE FORMAT 1 (Contd)

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

COMMAND CODE: RTRV-COM (Contd)

EXAMPLE OF RESPONSE FORMAT 1

Input:

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

Response:

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

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

RESPONSE FORMAT 2

```
<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> ...*/
;
```

COMMAND CODE: RTRV-COM (Contd)

RESPONSE FORMAT 2 (Contd)

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

COMMAND CODE: RTRV-COM (Contd)

RESPONSE FORMAT 2 (Contd)

parameter	value	meaning
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

EXAMPLE OF RESPONSE FORMAT 2

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 three-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 specified equipment units or facilities.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

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

a = 1-2
b = 1-11

c = 1-4 or ALL
d = 1-10

e = 1-10 or ALL

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

COMMAND CODE: RTRV-COND (Contd)

INPUT FORMAT 2

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) | g = 1-10 or ALL |
| d = 1-2 or ALL | h = 2-10 (h > g) |

command	aid
RTRV-COND-EQPT	CLK-a
	DCIM-a
	GTI-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 (minutes) 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 minutes for restore delay, and that DCIM 2 is set to 0 ms for holdoff delay and 1 minute for restore delay.

COMMAND CODE: RTRV-EQPT

PURPOSE

RETRIEVE EQUIPMENT

This command retrieves the equipment parameters.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2

b = 1-11

c = 1-10

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

RESPONSE FORMAT 1

```

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

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT 1 (Contd)

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

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT 1 (Contd)

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

COMMAND CODE: RTRV-EQPT (Contd)**EXAMPLE OF FORMAT 1**

Input:

RTRV-EQPT::TO-5:134;

Response:

```

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

```

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

INPUT FORMAT 2

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 Version 5 TO cards) or ALL

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

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT 2

```

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

```

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 2 (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

COMMAND CODE: RTRV-EQPT (Contd)

RESPONSE FORMAT 2 (Contd)

aid	parameter	value	meaning
MCA-5M	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 2 (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 OF FORMAT 2

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 (Contd)

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

INPUT FORMAT 2

```
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 Version 5 cards: card name, card type, part number, CLEI code, serial number, hardware revision, software revision, and software version. For non Version 5 cards, information that was entered with the ENT-INVENTORY command is displayed.

For Version 5 cards, a null in all fields of the response means that the slot is empty. For non Version 5 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)

For cards other than MIS or GTI:

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

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

RESPONSE FORMAT 1

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


COMMAND CODE: RTRV-LOG (Contd)

EXAMPLE OF FORMAT 1

Input:

RTRV-LOG:::115::LOG;

Response:

```

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

```

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

INPUT FORMAT 2

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 2

```

    <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 OF FORMAT 2

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-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 maintenance operations. PM data is retrieved from the specified time period to the current time period.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2 b = 1-4 c = 1-11

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

COMMAND CODE: RTRV-PM-PORT (Contd)

INPUT FORMAT 1 (Contd)

aid	parameter	value	meaning
PSM-c-b	montype	SLIPS	number of slips since the previous midnight is displayed (used with mon-dat.) Data is available for the previous 7 days.
		BPV, CRC	BPV or CRC since the time and date entered, reported in 15 minute increments, is displayed (used with montm2). Data is available for the previous 24 hours
		MTIE, TDEV	if today's date is entered, the MTIE or TDEV accumulated between the last 15 minute reset period specified by montm2 and the previous 24 hours is displayed; if any previous date is entered, montm2 is not required and the MTIE or TDEV accumulated for the 24 hours between time 00:00:00 and 23:59:59 for that day is displayed. Data is not retrievable for the current time 15 minute bin. Data is valid only after a full 15 minute bin has been processed by the PSM-T. Data is available for the 7 previous days.
		PHASE1M	1 minute raw phase accumulated between montm2 and 1 hour after montm2 is displayed. The units of measure for PHASE1M are nanoseconds. Data is available for the previous 7 days.
		PHASE1S	1 second raw phase accumulated between montm2 and 1 hour after montm2 is displayed. The units of measure for PHASE1S are nanoseconds. Data is available for the previous 24 hours.
	mondatt	mm-dd	mm = month, dd = day
		(null)	current day
	montm1	(null)	current time
	montm2	hh-00	hh = 00-23 (hour of the day)
		hh-15	15 minutes past hour hh
		hh-30	30 minutes past hour hh
		hh-45	45 minutes past hour hh

RESPONSE FORMAT 1

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

```

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

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

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE OF FORMAT 1

For BPV (CRC and SLIPS will appear similarly):

Input:

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

Response:

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

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

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

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE OF FORMAT 1 (Contd)

For MTIE (TDEV will appear similarly):

Input:

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

Response:

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

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

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE OF FORMAT 1 (Contd)

For PHASE1M:

Input:

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

Response:

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

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

COMMAND CODE: RTRV-PM-PORT (Contd)

EXAMPLE OF FORMAT 1 (Contd)

For PHASE1S:

Input:

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

Response:

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

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

COMMAND CODE: RTRV-PM-PORT (Cont)

EXAMPLE OF FORMAT 1 (Contd)

For SLIPS:

Input:

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

Response:

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

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

INPUT FORMAT 2

```
RTRV-PM-PORT:[<tid>]:<aid>:<ctag>::<montype>,,,,[<mondatt>],
[<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
	mondatt	(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

COMMAND CODE: RTRV-PM-PORT (Contd)

INPUT FORMAT 2 (Contd)

aid	parameter	value	meaning
MRC-a-c	montype	ALL	all montypes for this <aid>
		BPV	bipolar violations
		CRC	cyclic redundancy check errors
	mondatt	(null)	current day
	montm1	(null)	current time
PSM-d-b	montype	SLIPS	number of slips since the previous midnight (mondatt 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)
	mondatt	(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 2

For SLIPS and PHASE1M:

```

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

```

COMMAND CODE: RTRV-PM-PORT (Contd)

RESPONSE FORMAT 2 (Contd)

For BPV and CRC:

```

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

```

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 OF FORMAT 2

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 OF FORMAT 2 (Contd)

For BPV (CRC will appear similarly):

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 OF FORMAT 2 (Contd)

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a	= 1-2	e	= 1-10
b	= 1-4 or ALL	f	= 1-10 or ALL
c	= 2-4 (c > b)	g	= 2-10 (g > f)
d	= 1-11		

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

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT 1

```

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

```

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

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT 1 (Contd)

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

EXAMPLE OF FORMAT 1

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

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

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

INPUT FORMAT 2

```
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)
c	= 1-4 or ALL	g	= 1-10 or ALL
d	= 2-4 (c > b)	h	= 2-10 (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

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT 2

```

    <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.

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

COMMAND CODE: RTRV-PORT (Contd)

RESPONSE FORMAT 2 (Contd)

aid	parameter	value	meaning
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)
	PSM-d-b[&&-c]	framing	CAS
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: RTRV-PORT (Contd)

RESPONSE FORMAT 2 (Contd)

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

EXAMPLE OF FORMAT 2

```

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-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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2

c = 2-4 (c > b)

b = 1-4 or ALL

d = 1-11

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

COMMAND CODE: RTRV-TH-PORT (Contd)

INPUT FORMAT 1 (Contd)

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

COMMAND CODE: RTRV-TH-PORT (Contd)

INPUT FORMAT 1 (Contd)

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

COMMAND CODE: RTRV-TH-PORT (Contd)

RESPONSE FORMAT 1

```

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

```

thlev	meaning
1-32767	threshold level in decimal numerals

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

PSM Cards BPV count				Error Rate
1 port in service	2 ports in service	3 ports in service	4 ports in service	
14	4	4	4	1×10^{-8}
139	35	35	35	1×10^{-7}
1390	348	348	348	1×10^{-6}
13896	3474	3474	3474	1×10^{-5}
32767	8192	8192	8192	2.35×10^{-5}

COMMAND CODE: RTRV-TH-PORT (Contd)

INPUT FORMAT 2

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 2

```
<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 $\pm 4\%$ 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	DCIM Cards BPV or CRC counts for an E1 signal	
	1 port in service	2 ports in service
1×10^{-8}	18	18
1×10^{-7}	184	184
1×10^{-6}	1843	1843
1×10^{-5}	18432	18432
2.35×10^{-5}	32767	32767

Error Rate	PSM Cards 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	4	4	4
1×10^{-7}	139	35	35	35
1×10^{-6}	1390	348	348	348
1×10^{-5}	13896	3474	3474	3474
2.35×10^{-5}	32767	8192	8192	8192

COMMAND CODE: RTRV-TH-PORT (Contd)

Error Rate	PSM Cards 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	4	4	4
1×10^{-7}	184	46	46	46
1×10^{-6}	1843	461	461	461
1×10^{-5}	18432	4608	4608	4608
2.35×10^{-5}	32767	8192	8192	8192

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

1. 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 determines how the timing output cards select which internal synchronization source to use. This applies to the four sources in the pairs shown below.

Revertive mode: The highest available source is always used.

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

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

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

<u>1st pair</u>	<u>2nd pair</u>
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.

COMMAND CODE: SET-ATTR-CONT (Contd)

PURPOSE (Contd)

Note: The following items (2, 3, and 4) apply only to Input Format 2.

2. 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
3. Output protection type (TO-EAN only) (aid = TO-a):
 - a. No protection
 - b. 1-for-N protection: one TO-EAN card in an HS slot is a hot standby for any compatible TO-EAN card in any TO slot. To be protected, the cards in the TO slots and the card in the HS slot must be set for 1-N protection.
4. 1-for-N output protection (all TO cards) (aid = MCA):
 - 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

Caution: *Make sure the TO-EAN card switches are set according to the Test and Acceptance section of the manual that came with the equipment.*

COMMAND CODE: SET-ATTR-CONT (Contd)**INPUT FORMAT 1**

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

conttype	meaning
RVRT	revertive
NRVRT	nonrevertive

INPUT FORMAT 2

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		

COMMAND CODE: SET-ATTR-CONT (Contd)

INPUT FORMAT 2 (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
SHELF	conttype	NRVRT	nonrevertive
		RVRT	revertive
	protmode	(null)	(not applicable)
	p1-p10		
TO-b	conttype	NO	no protection
		1-N	1-for-N protection (TO-EAN card only)
	protmode	(null)	(not applicable)
	p1-p10		

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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2

b = 1-4 or ALL

c = 1-11

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

COMMAND CODE: SET-ATTR-PORT (Contd)

INPUT FORMAT 1 (Contd)

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

COMMAND CODE: SET-ATTR-PORT (Contd)

INPUT FORMAT 1 (Contd)

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

COMMAND CODE: SET-ATTR-PORT (Contd)

INPUT FORMAT 2

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 2 (Contd)

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-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 “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-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.

Note: On 090-45018-25F MIS cards:

If switch SW1-6 is in the up position (factory setting), either Input Format 1 or 2 can be used.

If switch SW1-6 is in the down position, Input Format 2 must be used.

On 090-45018-05 MIS cards:

Input Format 2 must be used (SW1-6 is in the down position [factory setting]).

INPUT FORMAT 1

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

The parameter values in the table below are as follows:

a = 1-2

b = 1-4 or ALL

c = 1-11

aid	montype	thlev	meaning
MRC-a-b	BPV	1-32767	bipolar violations
	CRC		cyclic redundancy check errors
PSM-c-b	BPV		bipolar violations (see note below)
	CRC		cyclic redundancy check errors
	MTIE1		1 second threshold
	MTIE2		2 second threshold
	MTIE4		4 second threshold
	MTIE10		10 second threshold
	MTIE16		16 second threshold
	MTIE20		20 second threshold
	MTIE40		40 second threshold
	MTIE64		64 second threshold
	MTIE100		100 second threshold
	MTIE128		128 second threshold
MTIE200	200 second threshold		
MTIE400	400 second threshold		
MTIE512	512 second threshold		

COMMAND CODE: SET-TH-PORT (Contd)

INPUT FORMAT 1 (Contd)

aid	montype	thlev	meaning
PSM-c-b (contd)	MTIE900	1-32767	900 second threshold
	MTIE1000		1000 second threshold
	MTIE2000		2000 second threshold
	MTIE4000		4000 second threshold
	MTIE10000		10000 second threshold
	MTIE20000		20000 second threshold
	MTIE40000		40000 second threshold
	MTIE86400		86400 second threshold
	TDEV1		1 second threshold
	TDEV2		2 second threshold
	TDEV3		3 second threshold
	TDEV4		4 second threshold
	TDEV5		5 second threshold
	TDEV6		6 second threshold
	TDEV7		7 second threshold
	TDEV8		8 second threshold
	TDEV9		9 second threshold
	TDEV10		10 second threshold
	TDEV16		16 second threshold
	TDEV20		20 second threshold
	TDEV30		30 second threshold
	TDEV40		40 second threshold
	TDEV50		50 second threshold
	TDEV60		60 second threshold
	TDEV64		64 second threshold
	TDEV70		70 second threshold
	TDEV80		80 second threshold
	TDEV90		90 second threshold
	TDEV100		100 second threshold
	TDEV128		128 second threshold
TDEV200	200 second threshold		
TDEV300	300 second threshold		

COMMAND CODE: SET-TH-PORT (Contd)

INPUT FORMAT 1 (Contd)

aid	montype	thlev	meaning
PSM-c-b (contd)	TDEV400	1-32767	400 second threshold
	TDEV500		500 second threshold
	TDEV600		600 second threshold
	TDEV700		700 second threshold
	TDEV800		800 second threshold
	TDEV900		900 second threshold
	TDEV1000		1000 second threshold

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

Error Rate	PSM Cards BPV count			
	1 port in service	2 ports in service	3 ports in service	4 ports in service
1×10^{-8}	14	4	4	4
1×10^{-7}	139	35	35	35
1×10^{-6}	1390	348	348	348
1×10^{-5}	13896	3474	3474	3474
2.35×10^{-5}	32767	8192	8192	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 $\pm 4\%$ in the specified error rate. The observation interval is 15 minutes.

COMMAND CODE: SET-TH-PORT (Contd)

INPUT FORMAT 2

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

The parameter values in the table below are as follows:

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

aid	montype	thlev	meaning
DCIM-a-b	BPV	1-32767	bipolar violations
	CRC		cyclic redundancy check errors
MRC-a-d[&&-e]	BPV		bipolar violations
	CRC		cyclic redundancy check errors
PSM-f-e[&&-e]	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	

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.

COMMAND CODE: SET-TH-PORT (Contd)

INPUT FORMAT 2 (Contd)

Error Rate	DCIM Cards BPV or CRC counts for an E1 signal	
	1 port in service	2 ports in service
1×10^{-8}	18	18
1×10^{-7}	184	184
1×10^{-6}	1843	1843
1×10^{-5}	18432	18432
2.35×10^{-5}	32767	32767

Error Rate	PSM Cards 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	4	4	4
1×10^{-7}	139	35	35	35
1×10^{-6}	1390	348	348	348
1×10^{-5}	13896	6948	4632	3474
2.35×10^{-5}	32767	16384	10922	8192

Error Rate	PSM Cards 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	4	4	4
1×10^{-7}	184	46	46	46
1×10^{-6}	1843	461	461	461
1×10^{-5}	18432	4608	4608	4608
2.35×10^{-5}	32767	8192	8192	8192

COMMAND CODE: SET-TH-PORT (Contd)**INPUT FORMAT 2 (Contd)**

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 $\pm 4\%$ 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.

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.

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
<p>Notes:</p> <ol style="list-style-type: none"> The severities in this table are defined as follows: <ul style="list-style-type: none"> MN = minor alarm MJ = major alarm NA = not alarmed SC = standing condition TC = transient condition The service-affecting states are: service affecting (SA) and nonservice affecting (NSA). Up to 6 minutes may be required to detect and report an unequipped condition (UNEQUIPPED: IMPROPER CARD REMOVAL OR COMM FAILURE) from a GTI card. This condition may be caused by card removal, cable removal, or loss of power to the LPR shelf. An asterisk (*) next to a severity indicates the following: <ul style="list-style-type: none"> The severity can be changed using the SET-ATTR-PORT command The severity shown is the factory setting A word enclosed in brackets [] may or may not appear as part of the <conddescr>. The IS-NR-STBY condtype for TO cards applies to TO-EA 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
	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
	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
	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
	COMM-LOSS	COMMUNICATION LOSS	MN	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	

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
GTI-x (x = 1-2) (contd)	NO-INPUTS	LOSS OF OSCILLATORS AND INPUT FROM ANTENNA	MJ	SA
	OOS-MT	OUT-OF-SERVICE MAINTENANCE	SC	NSA
	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

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
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 TO _x WITH HS _y (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*
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
	MTIE _x (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
	TDEV _x (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
	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

Table F. Alarm/Event Summary (Contd)

<aid>	<condtype>	<conddescr>	Severity	Service Affecting
TO-x-y (x = 1-12, y = 1-10)	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