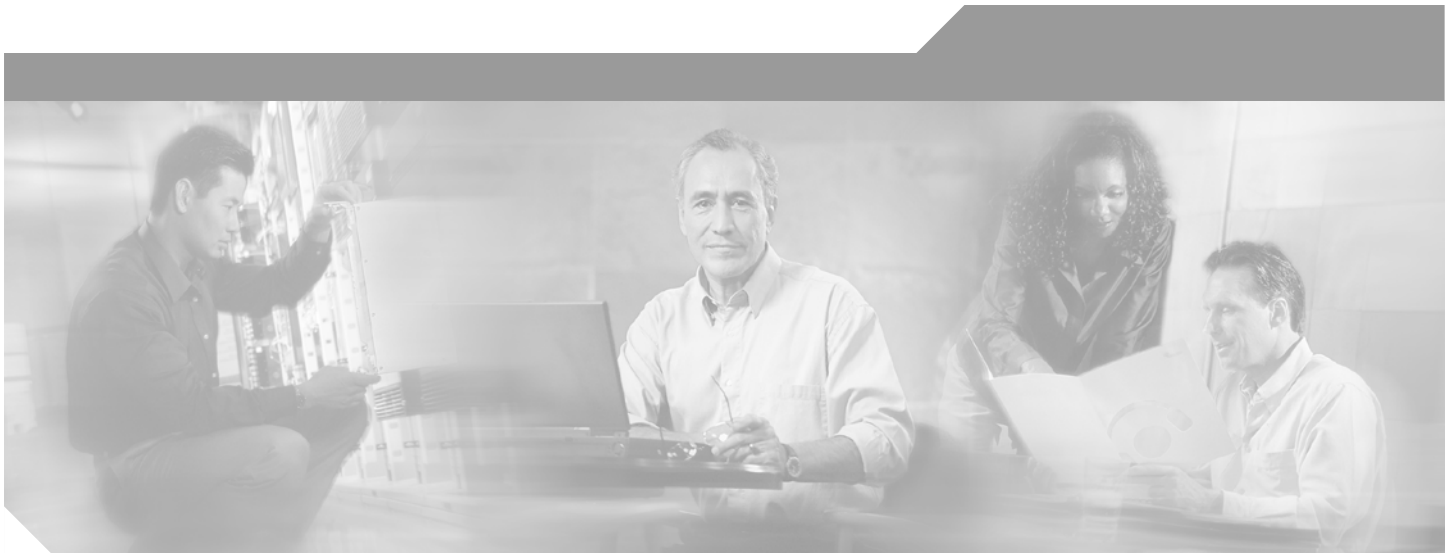

Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide

Product and Documentation Release 3.4
October 2002

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Text Part Number: 78-14818-01

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Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide

About This Manual

This section explains who should read the *Cisco ONS 15454 and Cisco ONS 15327 TL1 Command Guide*, how the document is organized, related documentation, document conventions, how to order print and CD-ROM documentation, and how to obtain technical assistance.

Document Organization

Chapter	Description
Chapter 1, "Getting Started"	Explains how to gain access to TL1, command syntax, autonomous messages, provision a DS3E card in CTC using TL1, CTC interoperability, security level privileges associated with each command, command completion behavior, test access configurations, PCA provisioning and FTP software download.
Chapter 2, "TL1 Gateway"	Describes the TL1 Gateway and provides procedures and examples for implementing TL1 Gateway on a four node ring.
Chapter 3, "TL1 Command Descriptions"	Lists TL1 commands by category and then lists each command and autonomous message supported by the ONS 15454 and the ONS 15327.
Chapter 4, "TL1 Command Components"	Describes the components of TL1 commands including, default values, access identifiers (AIDs), and parameter types.
Chapter 5, "Ring Provisioning"	Provides sample procedures for setting up STS or VT circuits over existing unidirectional path switched ring (UPSR) and bidirectional line switch ring (BLSR) configurations.
Chapter 6, "TL1 Performance Monitoring"	Provides TL1 performance monitoring (PM) information and scheduled PM report provisioning.
Chapter 7, "TL1 Alarms and Errors"	Lists TL1 alarms and errors supported by the ONS 15454 and the ONS 15327 including descriptions and severity.

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- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
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All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

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Getting Started

Transaction Language 1 (TL1) is a subset of the input and output messages contained in the International Telecommunications Union (ITU) Man-Machine Language (MML). TL1 provides a standard set of messages that can be used for communicating between operating systems and network elements, and personnel and network elements. The ONS 15454 and ONS 15327 can support up to 20 concurrent TL1 sessions in this release. For more information about TL1, refer to Telcordia document GR-833-CORE, *Network Maintenance: Network Element and Transport Surveillance Messages*.

This chapter provides information and procedures for getting started with TL1:

- Setting up TL1 communication
- TL1 command syntax
- Autonomous messages
- TL1 commands by user security
- Provisioning a DS3E card in CTC using TL1
- CTC interoperability
- Mixed mode timing support
- TL1 command completion behavior
- Test access
- TL1 PCA provisioning
- FTP software download

1.1 Setting up TL1 Communication

The period during which a user is logged into the ONS 15454 or ONS 15327 is called a session. There are three options you can use to open a session (login):

- Cisco Transport Controller (CTC)
- Telnet
- Craft interface

The TL1 password (PID) is masked when accessing a TL1 session using any of these options. When you logout of any of these options, you are closing a session. The ONS 15454 and ONS 15327 allow a maximum of 20 concurrent TL1 sessions using any one or any combination of the options listed above. For information on issuing commands to multiple nodes, see Chapter 2, “TL1 Gateway.”

1.1.1 Open a TL1 session

Use the following procedures to open a TL1 session via the CTC, telnet, or craft interface. In the procedures the Activate and Cancel User commands are shown in their input format. For more information about these and other commands and messages, see Chapter 3, "TL1 Command Descriptions."

Procedure: Open a TL1 Session Via CTC

Step 1 From the PC connected to the ONS 15454, start Netscape or Internet Explorer.

Step 2 Enter the ONS 15454 IP address of the node you want to communicate with in the Netscape or Internet Explorer Web address (URL) field.

Step 3 Log into the CTC. The IP address at the title bar should match the IP address of the node you entered in Step 2.

Step 4 Once logged into the CTC, click **Tools > Open TL1 Connection**.

Step 5 Choose the node you want to communicate with from the Select Node dialog box.

Step 6 Click **OK**.

A TL1 interface window opens. There are three sub-windows in the TL1 interface window: Request history, Message log, and TL1 request. Type commands in the TL1 request window. You will see responses in the Message log window. The Request history window allows you to recall previous commands by clicking on them.

Step 7 Verify that the Connect button is selected (grayed out).

Step 8 Type the Activate User command in the TL1 request window to open a TL1 session:

ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>; and press **Enter**.

Note You must press Enter after the semicolon in each TL1 command, or the command will not be issued.

Step 9 Type the Cancel User command in the TL1 request window or press the **Disconnect** button to close a TL1 session:

CANC-USER:[<TID>]:<USERID>:<CTAG>; and press **Enter**.

Procedure: Open a TL1 Session Via Telnet

To access TL1 commands in a telnet session over a craft interface or a LAN connection (TCC front panel or backplane pins) you can choose from several ports. Port number 3082 is a raw TCP/IP port; it will not echo and it will not prompt the user. Port number 3083 is a telnet port that uses the telnet protocol and associated telnet escape sequences. Port number 2361 is supported for backward compatibility with earlier releases and has the same behavior as Port 3083 (telnet port). Use the following procedure with PCs running Windows operating systems.

Step 1 At the DOS prompt, type **cmd** and click **OK**. (The same steps can also be done from a Unix prompt).

Step 2 At the DOS command prompt type:

TELNET <NODE IP ADDRESS OR NODE NAME> <PORT NUMBER> and press **Enter**.

The Node IP address or Node Name refers to the IP address or Node Name of the node you want to communicate with. Port number is the port (2361, 3082, or 3083) where TL1 commands are understood. If the connection is successful, a screen opens with a prompt.

Step 3 Type the Activate User command to open a TL1 session:

ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>;

Note When the semicolon is typed, the command is issued immediately.

Step 4 Type the Cancel User command to close a TL1 session:

CANC-USER:[<TID>]:<USERID>:<CTAG>;

Procedure: Open a TL1 Session Via Craft Interface

The TCC/XTC has two built-in interface ports for accessing the ONS 15454. With one RJ-45 LAN connection you can access the system using a standard browser interface. In the browser interface, you can perform local and remote Operations, Administration, Maintenance, and Provisioning (OAM&P) functions and open a VT100 emulation window to enter TL1 commands. If a browser is not available, you can access the system using a nine-pin RS-232 port. The RS-232 port supports VT100 emulation such that TL1 commands may be entered directly without a browser.

Step 1 Connect the serial cable to the RS-232 port on the active TCC/XTC card.

Step 2 Configure the terminal emulation software (Hyperterminal):

- **a.** Terminal emulation = vt100
- **b.** Bits per second = 9600
- **c.** Parity = None
- **d.** Stop BITS = 1
- **e.** Flow control = None

Step 3 Press **Enter**. An angle bracket prompt (>) appears.

Step 4 At the > prompt, type the Activate User command to open a TL1 session:

ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>;

Note When the semicolon is typed, the TL1 command is issued immediately.

Step 5 Type the Cancel User command to close a TL1 session:

CANC-USER:[<TID>]:<USERID>:<CTAG>;

1.2 TL1 Command Syntax

TL1 commands conform to the following syntax:

a:b:c:d:e: ... z;

where:

“a” is the command code

“b” is the target identifier (TID)

“c” is the access identifier (AID) or the user identifier (UID)

“d” is the correlation tag (CTAG)

“e: ... z;” are other positions required for various commands

The TID, AID, and CTAG route and control the TL1 command. Other parameters provide additional information required to complete the action requested by the command. TL1 command codes, parameter names and parameter values can be either uppercase or lowercase exclusively or any combination of the two, unless specifically noted in the command description.

The TID is a unique name given to each system when it is installed. The name identifies the particular NE (in this case, the ONS 15454 or ONS 15327), to which each command is directed. Each TID can have a maximum of 20 ASCII characters limited to letters, digits, and hyphens, but each TID must start with an alphabetic character. The presence of the TID is required in all input commands, but its value can be null (represented by two successive colons). The TID can be null when the operating system directly communicates with the target NE. The recommended value for the TID, when it is used, is the target’s CLLI code. To establish the TID for an ONS 15454/15327 node, use the Provisioning > General tabs in CTC.

Note If the TID contains any characters other than letters and digits, such as spaces, the text string form (enclosed in double quotes) must be used.

The AID is an access code used to identify and address specific objects within the ONS 15454 and the ONS 15327. These objects include individual pieces of equipment, transport spans, access tributaries, and other objects.

The CTAG is a unique identifier given to each input command by the user. When the ONS 15454/ONS 15327 system responds to a specific command, it includes the command’s CTAG in the reply. Including the CTAG eliminates discrepancies about which response corresponds to which command. Valid CTAG values include strings of up to six characters comprised of identifiers (alphanumeric, beginning with a letter) or decimal numerals (a string of decimal digits with an optional non-trailing “.”).

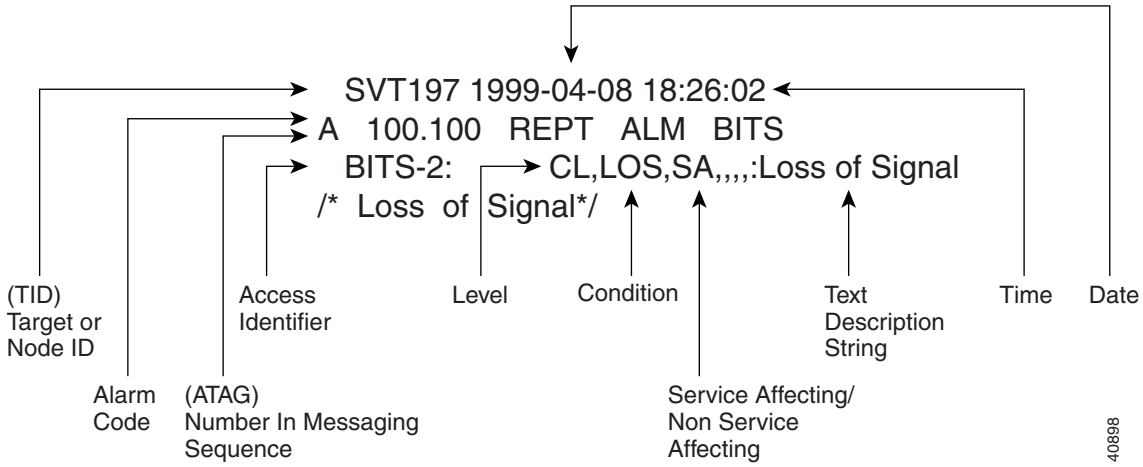
The following specification characters are used throughout this document as vehicles for defining the syntax:

- < > enclose a symbol specifier, for example <CTAG>.
- [ ] enclose an optional symbol, for example [<TID>].
- “ ” enclose a literal character, for example an output format “SLOT-7:PLUGIN,TC,,,,,,,:\“EQUIPMENT PLUG-IN\”,TCC”
- ^ is a space, a literal blank character used only in examples of messages.

1.3 Autonomous Messages

The autonomous TL1 messages are included in Chapter 3, "TL1 Command Descriptions" and listed alphabetically. Figure 1-1 shows the autonomous message format. The autonomous message tag (ATAG) is used for message sequencing. The number is incremented by one for each autonomous message sent by the ONS 15454 or ONS 15327. The ONS 15454 and ONS 15327 use whole numbers 0000 to 9999.

Figure 1-1 Autonomous message format



1.3.1 Alarm Codes

The alarm code indicates the severity of the autonomous message. Valid values for alarm codes in decreasing order of severity are as follows:

- *C Critical alarm
- ** Major alarm
- *^ Minor alarm
- A^ Non-alarm message

Critical, Major, and Minor correspond to the reporting of alarmed events. The Non-alarm message designation is used when the NE is reporting non-alarmed events, periodic measurements, or results of previously-scheduled diagnostics or audits. If multiple alarms are reported in the same message, the alarm code is the highest severity of those being reported.

The following is an example of an output message that includes the Critical alarm code:

```
  AB7-56 1970-01-01 16:02:10
*C 100.100 REPT ALM EQPT
  "SYSTEM:CR,HITEMP,NSA,,,,:\"High Temperature\",TCC"
```

For more information about alarms, see Chapter 7, "TL1 Alarms and Errors."

1.4 TL1 Commands by User Security

The following table specifies command access privileges for each user security level.

Table 1-1 Command Access

Command	Superuser	Provisioning	Maintenance	Retrieve
APPLY	X			
COPY-RFILE	X			
DLT-USER-SECU	X			
ED-DAT	X			
ED-USER-SECU	X			
ENT-USER-SECU	X			
DLT-*-*	X	X		
ED-*-*	X	X		
ENT-*-*	X	X		
SET-*-*	X	X		
SET-TOD	X	X		
INIT-*-*	X	X	X	
OPR-*-*	X	X	X	
RLS-*-*	X	X	X	
RMV-*-*	X	X	X	
RST-*-*	X	X	X	
SW-*-*	X	X	X	
ACT-*-*	X	X	X	X
ALW-*-*	X	X	X	X
CANC-*-*	X	X	X	X
ED-PID	X	X	X	X
INH-*-*	X	X	X	X
REPT * *	X	X	X	X
RTRV-*-*	X	X	X	X

User security levels limit the amount of time a user can leave the system idle before the TL1 session is locked to prevent unauthorized users from making changes. Higher security levels have shorter idle times. Table 1-2 shows security levels and their idle times.

Table 1-2 Security Idle Times

Security Level	Idle Time
Retrieve	Unlimited
Maintenance	60 minutes
Provisioning	30 minutes
Superuser	15 minutes

1.5 Provisioning a DS3E Card in CTC Using TL1

The DS3E card can autosense the framing being received and set the framing accordingly; however, this framing autosense feature can only be set using CTC. Use CTC to set the FMT attribute on a DS3E card to autoprovision which results in the FMT field being blanked out for a few seconds while the DS3E card is determining the framing mode coming into that particular port. The FMT field is then set accordingly to unframed, M23, or CBit. If the DS3E card is not present (pre-provisioned), setting the FMT field to autoprovision will result in the FMT field defaulting to unframed.

The TL1 interface does not support the autoprovision option for the DS3E card; the TL1 interface only supports unframed, M23, or CBit. If autoprovision is selected from CTC and at the same time the TL1 command RTRV-T3 is issued, the TL1 output will result in the FMT field populated with unframed during the time period that the DS3E card (if present) is autosensing the frame format. If the DS3E card is not present (pre-provisioned), issuing RTRV-T3 after CTC sets the FMT to autoprovision will result in the TL1 output populating the FMT field with unframed.

1.6 CTC Interoperability

A TL1 cross-connect that has been upgraded to a CTC circuit can no longer be managed by TL1. For example, if you issue a DLT-CRS-<STS_PATH> command to delete a circuit, you will see that the circuit still appears in CTC as “incomplete.” The reason for this is because in addition to creating cross-connects (as TL1 does), CTC creates another object on the source node that stores network-level circuit attributes. CTC will continue to see that object after the cross-connect is deleted which is why it shows an incomplete circuit.

Starting with R3.4, there is a *Create cross connects only (TL1-like)* check box that appears in CTC when creating circuits. If applicable, you can check this box to create one or more cross-connects to complete a signal path for TL1-generated circuits. If this box is checked, you cannot assign a name to the circuit; and VT tunnels, Ethergroup sources, and drops are unavailable. Refer to the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15327 User Documentation* for information about CTC circuit creation.

1.7 Mixed Mode Timing Support

Although TL1 supports mixed mode timing in this release, Cisco strongly advises against its implementation. Mixed mode timing is not a recommended timing mode because of the inherent risk of creating timing loops. Refer to Telcordia document GR-436-CORE, *Digital Network Synchronization Plan* for recommended synchronization planning. Refer to the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15327 User Documentation* for information about setting up ONS 15454/15327 timing. For further assistance contact the Cisco Technical Assistance Center (TAC) at www.cisco.com or call 1-877-323-7368 for unresolved problems.

1.8 TL1 Command Completion Behavior

When you enter a TL1 command, one of three completion codes will be returned. The completion codes are: completed (CMPLD), partial (PRTL), and deny (DENY). You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

1.8.1 General Rules

Note The command completion behavior does not apply to RTRV-CRS, RTRV-ALM, and RTVR-COND commands.

1.8.1.1 Explicit List of AIDs - No Wildcards

If a set of AIDs is explicitly listed, including a set of just one AID, then each AID must complete successfully to return a CMPLD message. If more than one AID is in the set and at least one AID succeeds but all do not, then a PRTL with errors for each failed AID is returned. If all AIDs in the set fail, a DENY with errors for each failed AID is returned.

SLOT-1
FAC-2-1&FAC-3-3&FAC-4-2

1.8.1.2 Implicit List of AIDs - Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same rules as in the "Explicit List of AIDs - No Wildcards" section on page 1-8. The caveat is that the implicit list only includes AIDs that apply to the command:

SLOT-ALL
FAC-1-ALL
STS-3-ALL

where Slot 3 contains an OC-12 and the command is ED-STS1 but STS-3-4 and STS-3-7 are STS3C. The set implied by STS-3-ALL then only contains STS-3-{1,2,3,10,11,12} and will not return an error for STS-3-{4,5,6,7,8,9}. Disregard the STS3C in this case because the modifier of the command specifies that the user is only interested in STS-1 paths. The rule specified in this section then applies to the implicit set of {1,2,3,10,11,12}.

1.8.1.3 Explicit List Grouped With Implicit List

If the set of AIDs is comprised of two subsets, one set including explicitly stated AIDs and the other set implied by one or more AID(s) with the ALL modifier, then follow the rules of the"Explicit List of AIDs - No Wildcards" section on page 1-8 and the "Implicit List of AIDs - Single AID With Wildcard" section on page 1-8, respectively.

FAC-1-1&FAC-2-ALL
FAC-3-ALL&FAC-7-ALL
STS-2-ALL&STS-12-1&STS-13-2&STS-14-ALL

1.8.2 Command Completion Behavior for Retrieval of Cross-Connections

When you enter a RTRV-CRS command, one of three completion codes will be returned. The completion codes are: completed (CMPLD), partial (PRTL), and deny (DENY). You can specify an explicit, implicit, or explicit with implicit list as explained in the following sections.

1.8.2.1 Explicit List of AIDs - No Wildcards

For an explicit list of AIDs on a RTRV-CRS command, an error code will be returned for each AID that fails validation (e.g. the user specifies STS-N-13 when SLOT-N only contains an OC-12) or for each AID where no matching cross-connection is found. To determine the completion code, follow the rules from the "Explicit List of AIDs - No Wildcards" section on page 1-8. If the result is either PRTL or CMPLD, then a list of matching cross-connections will accompany the response.

1.8.2.2 Implicit List of AIDs - Single AID With Wildcard

If a set of AIDs is implied by the use of the ALL modifier on a single AID, then follow the same AID expansion rule as defined in the example from the "Implicit List of AIDs - Single AID With Wildcard" section on page 1-8. Then apply the following rules to the set:

1. If all valid AIDs match, CMPLD is returned with a matching list of cross-connections.
2. If some valid AIDs match but not all, CMPLD is returned with a matching list of cross-connections.
3. If all valid AIDs fail to match, DENY is returned.

RTRV-CRS-STS1:[<TID>]:STS-9-ALL:<CTAG>; where STS-9-ALL maps to STS-9-{1,2,3,10,11,12} because there is a single-port OC-12 card in Slot 3 with STS-3C defined for STS-9-4 and STS-9-7. You then traverse the set and return only the STS1 cross-connections that exist using end points in that set. If no cross-connections are retrieved, CMPLD is returned.

1.8.2.3 Explicit List Grouped With Implicit List

When you have determined the implicit list, apply the rules from the "Implicit List of AIDs - Single AID With Wildcard" section on page 1-9 to the implicit list and the rules from the "Explicit List of AIDs - No Wildcards" section on page 1-9 to the explicit list. Apply the following logic to the results from the two subsets:

1. Explicit list returns CMPLD, implicit list returns CMPLD, return CMPLD plus matching list
2. Explicit list returns CMPLD, implicit list returns DENY, return PRTLwith errors plus matching list
3. Explicit list returns PRTL, implicit list returns CMPLD, return PRTL with errors plus matching lists

4. Explicit list returns PRTL, implicit list returns DENY, return PRTL with errors plus matching list
5. Explicit list returns DENY, implicit list returns CMPLD, return PRTL with errors plus matching list
6. Explicit list returns DENY, implicit list returns DENY, return DENY with errors

1.9 Test Access

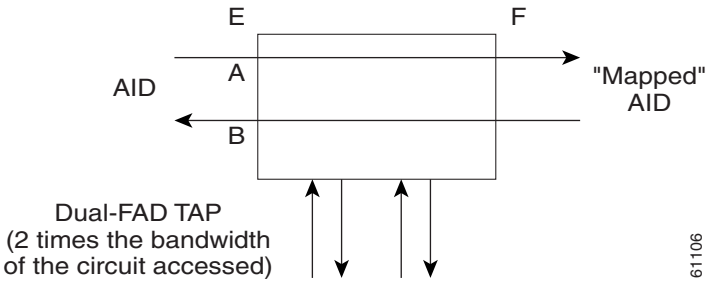
The test access (TACC) feature allows a third-party Broadband Remote Test Unit (BRTU) to create non-intrusive test access points (TAPs) to monitor the circuits on the ONS 15454/15327 for errors. The test access feature also allows the circuit to be split (intrusive), so that the transmission paths can be tested for bit errors via the use of various bit test patterns. The two BRTUs supported by the ONS 15454/15327 are the Hekimian/Spirent BRTU-93 (6750) and the TTC/Acterna Centest 650.

The test access functionality provides TL1 commands for creating and deleting TAPs, connecting or disconnecting TAPs to circuit cross-connects and changing the mode of test access on the ONS 15454/15327. You can view test access information in CTC; in node view click the **Maintenance > Test Access** tabs.

Refer to Telcordia document GR-834-CORE, *Network Maintenance: Access and Testing* and GR-1402-CORE, *Network Maintenance: Access Testing - DS3 HCDS TSC/RTU and DTAU Functional Requirements* for more information about Test Access. See Chapter 3, "TL1 Command Descriptions" for TL1 command information.

A TAP provides the capability of connecting the circuit under test to a BRTU. This connection initially provides in-service monitoring capability to permit the tester to determine that the circuit under test is idle. The monitor connection should not disturb the circuit under test. The access point and remote test unit (RTU) also provide the capability of splitting a circuit under test. A split consists of breaking the transmission path of the circuit under test. This is done out of service. The two sides of the access point are called the Equipment (E) and Facility (F) directions. For a 4-wire or 6-wire circuit, the transmission pairs within the access point are defined as the A and B pairs. The circuit under test should be wired into the access point so the direction of transmission on the A pair is from E to F, and the transmission direction for the B pair is from F to E (Figure 1-2).

Figure 1-2 Circuit with no access



1.9.1 Test Access Terminology

BRTU—Broadband remote test unit

DFAD—Dual facility access digroup

FAD—Facility access digroup

FAP—Facility access path

MONE—Monitor access with signal detector on A path

MONF—Monitor access with signal detector on B path

MONEF—Monitor access with signal detector on A and B paths

SPLTA—Split access on A path with signal detector from equipment, QRS on facility side

SPLTB—Split access on B path with signal detector from equipment, QRS on equipment side

SPLTE—Split access on A and B paths with signal detector from equipment, QRS on equipment side

SPLTF—Split access on A and B paths with signal detector from equipment, QRS on facility side

SPLTEF—Split access on A and B paths for testing in both equipment and facility directions

LOOPE—Split/loop access on A and B paths equipment side

LOOPF—Split/loop access on A and B paths facility side

QRS—Quasi-random signal (bit test pattern)

TACC—Test access

TAP—Test access path/point

Path Naming Conventions:

E—Equipment test access point direction

F—Facility test access point direction

A—Transmission path (the direction of transmission on the A pair is from E to F)

B—Transmission path (the transmission direction for the B pair is from F to E)

1.9.2 TAP Creation and Deletion

The edit command (ED-<rr>) is used to change an existing port, STS, or VT to a TAP.

Input Format:
ED-(STS_PATH):[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,]
[RVRTV=<RVRTV>,][RVTM=<RVTM>,][SWPDIP=<SWPDIP>,][EXPTRC=<EXPTRC>,]
[TRC=<TRC>,][TRCMODE=<TRCMODE>,][TACC=<TACC>]:[<PST>],[<SST>];

Edit an existing port, STS, or VT and change it to a TAP so it can be used when requesting TACC connections. Includes a new optical parameter TACC=n that defines the port, STS, or VT as a TAP with a selected unique TAP number. This TAP number will be used when requesting test access connections to circuit cross-connections under test. The TAP creation will fail if there is a cross-connection already on the port, STS, or VT.

The following list applies to TAP numbers:

1. The TAP number is an integer within the range of 1–999. When TACC=0 is specified, the TAP is deleted (if already present).
2. The TAP number is unique across T1/T3/STS/VT/DS1 TAPs in the system.
3. The TAP number is not editable.

1.9.2.1 ED-T1

When the ED-T1 command is issued with a specified TACC value for a given T1 port/facility, a dual facility access group (DFAD) is created by using the specified port/facility and the consecutive port/facility.

Example 1-1 ED-T1::FAC-1-1:12:::TACC=1;

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

This command creates a DFAD on FAC-1-1 and FAC-1-2.

Note These ports/facilities cannot be used for the creation of cross-connects until the TAP is deleted.

1.9.2.2 ED-T3

When the ED-T3 command is issued with a specified TACC value for a given T3 port/facility, a DFAD is created by using the specified port/facility and the consecutive port/facility.

The command in Example 1-2 creates a T3 DFAD on FAC-2-1 and FAC-2-2.

Example 1-2 ED-T3::FAC-2-1:12:::TACC=2;

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These ports/facilities cannot be used for the creation of cross-connects until the TAP is deleted.

1.9.2.3 ED-DS1

When the ED-DS1 command is issued with a specified TACC value for a given DS1 facility on a DS3XM, a DFAD is created by using the specified facility and the consecutive port/facility.

The command in Example 1-3 creates DFAD on DS1-2-1-1 and DS1-2-1-2.

Example 1-3 ED-DS1::DS1-2-1-1:12:::TACC=3;

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These ports/facilities cannot be used for the creation of cross-connects until the TAP is deleted.

1.9.2.4 ED-STSn

When the ED-STSn command is issued for a TACC it assigns the STS for the first 2-way test access connection and STS+1 as the second 2-way connection. For STS3c, STS9c, STS12c, STS24c, and STS48c the next consecutive STS of same width is chosen. The TAP creation will fail if either of the consecutive STSs are not available.

The command in Example 1-4 creates a TAP on STS-5-1 and STS-5-2.

Example 1-4 ED-STS1::STS-5-1:12:::TACCC=4

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These STSs cannot be used for the creation of cross-connects until the TAP is deleted.

The command in Example 1-5 creates an STS24C dual TAP on STS-6-1 and STS-6-25.

Example 1-5 ED-STS24C::STS-6-1:12:::TACC=5:

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These STSs cannot be used for the creation of cross-connects until the TAP is deleted.

1.9.2.5 ED-VT1

When the ED-VT1 command is issued for a TACC, a VT TAP is created. The specified VT AID is taken as the first VT connection, the second VT connection is made by incrementing the VT group and keeping the VT number the same.

The command in Example 1-6 creates a VT TAP on VT1-1-1-1-1 and VT1-1-1-2-1.

Example 1-6 ED-VT1-1-1-1-1:12:::TACC=6;

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

Note These VTs cannot be used for the creation of cross-connects until the TAP is deleted.

1.9.3 Connect Test Access Points

The CONN-TACC command (CONN-TACC-<rr>) is used to make a connection between the TAP and the circuit or cross-connect under test.

Input Format: CONN-TACC-(T1, T3, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, VT1, DS1):[<TID>]:<AID>:<CTAG>::<TAP>:MD=<MD>;

Connect the port/STS/VT defined by <AID> to the port/STS/VT defined by the <TAP> number. The mode of test access to the circuit/cross-connect is specified by <MD>. The modes can be either of monitor (non-intrusive), split or loop (intrusive) modes. The various modes are described in the "Test Access Mode Definitions" section on page 1-19.

Note The connection is maintained only for the duration of the TL1 session (non-persistent).

Note The TAP number is displayed at the output if the CONN-TACC command completes successfully.

Error Codes Supported:

RTBY—Requested TAP busy

RTEN—Requested TAP does not exist

SCAT—Circuit is already connected to another TAP

SRCN—Requested condition already exists

IIAC—Invalid access identifier (AID)

EANS—Access not supported

SRAC—Requested access configuration is invalid

The command in Example 1-7 creates a connection between TAP with number one and the port/facility FAC-1-3 with access mode as MONE. The various modes are described in the "Test Access Mode Definitions" section on page 1-19.

Example 1-7 CONN-TACC-T1::FAC-1-3:12::1:MD=MONE;

```
   DV9-99 1970-01-02 02:51:54
M 12 COMPLD
   1
;
```

1.9.4 Change Access Mode

The CHG-ACCMD command (CHG-ACCMD-<rr>) is used to change the access mode.

Input Format: CHG-ACCMD-(T1, T3, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, VT1, DS1):[<TID>]:<TAP>:<CTAG>::<MD>;

Change the type of test access. This may be a change from monitoring the data to inserting data into the STS. This command can only be applied to an existing TAP connection. If a TAP connection does not exist, a RTEN error is returned.

Error codes supported:

SRCN—Requested condition already exists

SRAC—Requested access configuration is invalid

RTEN—Requested TAP does not exist

The command in Example 1-8 changes the access mode of TAP 1 to LOOPE.

Example 1-8 CHG-ACCMD-T1::1:12::LOOPE;

```
   DV9-9 1970-01-02 02:59:43
M 12 COMPLD
;
```

Note The access mode cannot be changed if the TAP is not connected.

1.9.5 Disconnect Test Access Points

TAPs can be disconnected in the following ways:

- Issue the DISC-TACC command
- Delete or modify accessed connection
- Drop the TL1 session for any reason, including logout or a dropped telnet session
- Switch or reset a TCC/XTC

The DISC-TACC command disconnects the <TAP> and puts the connection back to it's original state (no access). To issue the DISC-TACC command, follow the input format and examples shown below:

Input Format: DISC-TACC:[<TID>]:<TAP>:<CTAG>;

The command in Example 1-9 disconnects TAP 1 from the circuit/cross-connect under test.

Example 1-9 DISC-TACC::1:12;

```
   DV9-99 1970-01-02 02:59:43
M 12 COMPLD
;
```

Error codes supported:

SADC—Already disconnected

SRTN—Unable to release TAP

1.9.6 Delete Test Access Points

The command in Example 1-10 deletes a TAP.

Example 1-10 ED-<STS_PATH>:[<[TID>]:<AID>:<CTAG>:::TACC=0:;

Note The TACC number must be set to zero in order to delete a TAP.

Note If a TAP is not removed the STS bandwidth will be stranded.

1.9.7 Retrieve Test Access Point Information

The RTRV-TACC command retrieves TAP information. See the "RTRV-TACC: Retrieve Test Access" section on page 3-225 for more information.

Input Format: RTRV-TACC:[<TID>]:<TAP>:<CTAG>;

<TAP> indicates the assigned numeric number for the AID being used as a test access point. The <TAP> number must be an integer with a range of 1–999. The ALL TAP value means that the command will return all the configured TACCs in the NE. <TAP> is a string and must not be null.

Example 1-11 RTRV-TACC::ALL:12;

```
   PTLM6-454A59-52 1970-01-10 09:51:27
M 12 COMPLD
   "1:STS-2-1,STS-2-2,MONE,STS-2-3,STS-2-4"
   "2:VT1-1-1-1-1,VT1-1-1-2-1,MONF,VT1-1-1-3-1,VT1-1-1-4-1"
;
```

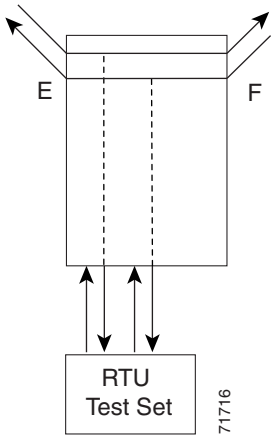
Parameter definitions:

- <TAP> indicates the assigned numeric number for the AID being used as a TAP; <TAP> is a string
- <TACC_AID1> is the STS or VT AID that was designated as a test access point and assigned to the TAP; <TACC_AID1> is from the "ALL" section on page 4-5
- <TACC_AID2> is the STS or VT AID that was designated as a test access point and assigned to the TAP+1; <TACC_AID2> is from the "ALL" section on page 4-5

- <MD> indicates the test access mode. It identifies the status of the circuit connected to the TACC. Valid values are shown in the "TACC_MODE" section on page 4-65
- <E_CONN> indicates the E side STS or VT AID of a circuit connected to the TACC or under test; <E_CONN> is from the "ALL" section on page 4-5 and is optional
- <F_CONN> indicates the F side STS or VT AID of a circuit connected to the TACC or under test; <F_CONN> is from the "ALL" section on page 4-5

1.9.8 Test Access Configurations

Figure 1-3 Single node view (Node 1)



Example 1-12 ED-STS1::STS-1-1:90:::TACC=1:;

This command changes STS1 and STS2 on Slot 1 to a TAP. The <CTAG> is 90. Sets the TAP number to 1.

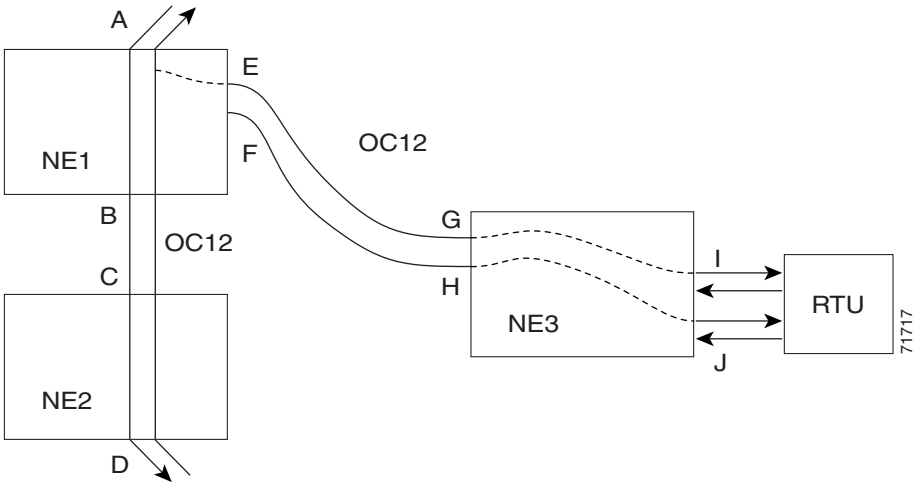
Example 1-13 CONN-TACC-STS1::<AID for E or F depending on MD>:91::TAP-1:MONE

This command connects the <AID> to the TACC defined by TAP 1 on the E side. <CTAG> is 91.

Note The connection made in the CONN-TACC command can use MONE to connect to the F side <AID>. The <AID> provided designates the E side and the other automatically becomes the F side. For example, if an <AIDF> is supplied to a MONE connection the top line would be connected to the side of the path, or what is shown in the diagram as the F side. Once a CONN-TACC is set up, these designations cannot change until a DISC-TACC or another CONN-TACC command is issued. The connection is based on the <AID> supplied.

Note In the Figure 1-3 configuration there may be a single DS3 port wired-up but configured as 14 dual FADs (28 VTs).

Figure 1-4 Multi-node view (MONE example)



On NE3:

Example 1-14 ENT-CRS-STS1::<AID I-G>:100::2WAY; A connection, not a TAP. CTAG is 100.
ENT-CRS-STS1::<AID J-H>:101::2WAY; Second connection, not a TAP.

On NE1:

Assuming the path from A to B is already entered; the A and B points in the diagram refer to entry and exit points on the node or different cards. The E/F designators refer to the two 2-way connections from NE3.

Example 1-15 ED-STS1::STS-1-1:TACC=4; Creates TAP with STS-1-1 and STS-1-2 through NE1. TAP number assigned is 4.

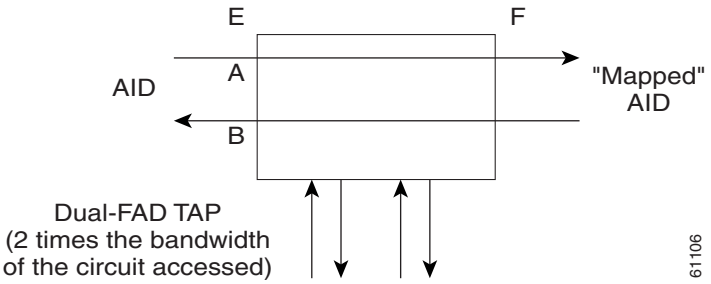
Example 1-16 CONN-TACC-STS1::<AID A or B>:102::4:<MD> Connects TAP #4 to the circuit.

Note The I and J connections above are TAPs in Figure 1-3, but normal connections in the Figure 1-4 configuration.

1.9.9 Test Access Mode Definitions

The following diagrams show what the different test access modes <MD> refer to. Figure 1-5 shows a circuit with no access followed by all the modes. The QRS may be generated by an outside source, i.e. the empty connection of the BRTU.

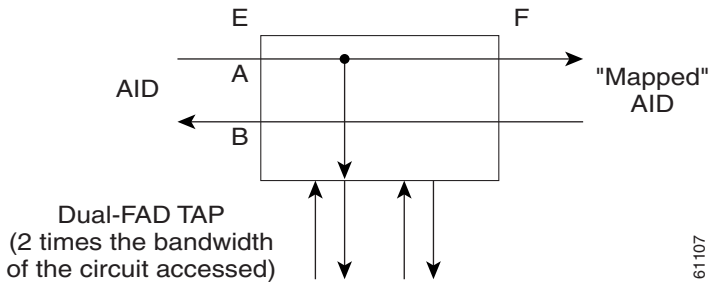
Figure 1-5 Circuit with no access



1.9.9.1 MONE

Monitor E (MONE) indicates a monitor connection provided from the facility access digroup (FAD) to the A transmission path of the accessed circuit (Figure 1-6). This is a non-intrusive mode.

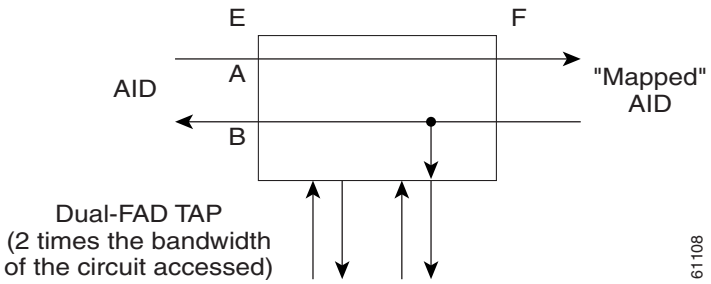
Figure 1-6 MONE access



1.9.9.2 MONF

Monitor F (MONF) indicates that the FAD is providing a monitor connection to the B transmission path of the accessed circuit (Figure 1-7). This is a non-intrusive mode.

Figure 1-7 MONF access



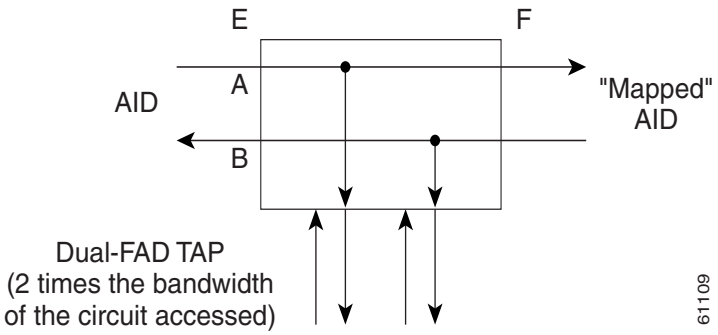
Note The MONE and SPLTA modes are applicable to unidirectional circuits from E to F. The MONF and SPLTB modes are applicable to unidirectional circuits from F to E.

1.9.9.3 MONEF

Monitor EF (MONEF) is a monitor connection provided from the FAD1 (odd pair) to a DFAD, to the A transmission path and from FAD2 (even pair) of the same DFAD, to the B transmission path of the accessed circuit. This is a non-intrusive mode.

MONEF for T3 (DS3 HCDS) indicates that the odd pair of a FAP is providing a monitor connection to the A transmission path and from the even pair of a facility access path (FAP) to the B transmission path of the accessed circuit.

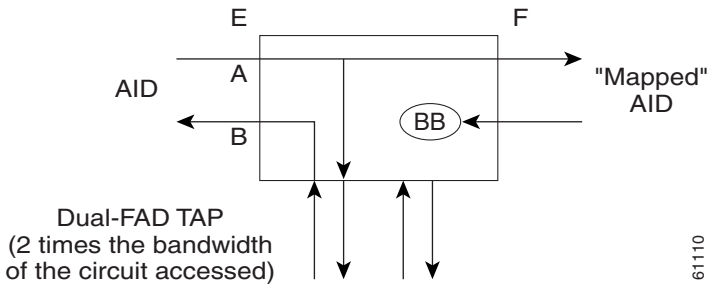
Figure 1-8 MONEF access



1.9.9.4 SPLTE

Split E (SPLTE) indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. Figure 1-9 through 1-11 show split E and F access modes.

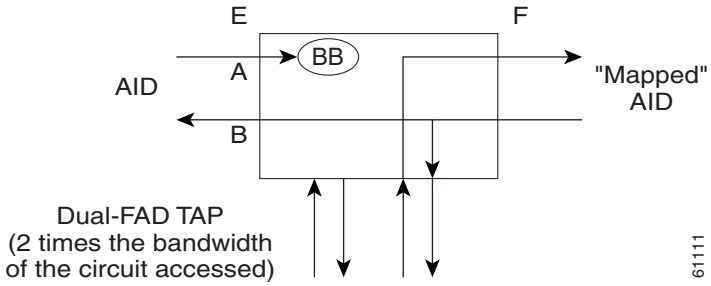
Figure 1-9 SPLTE access



1.9.9.5 SPLTF

Split F (SPLTF) indicates to split both the A and B paths and connect the F side of the accessed circuit to the FAD.

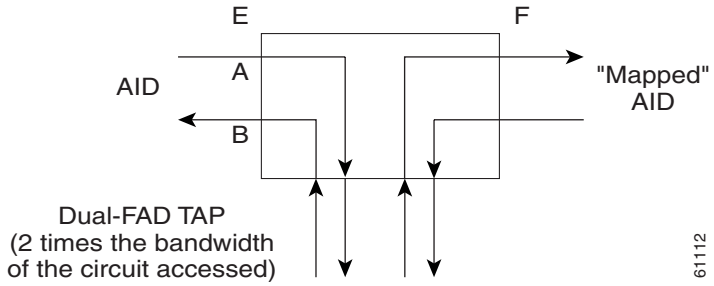
Figure 1-10 SPLTF access



1.9.9.6 SPLTEF

Split EF (SPLTEF) for T1 (DS1 HCDS) indicates to split both the A and B paths, connect the E side of the accessed circuit to FAD1 and the dual facility access digroup (DFAD) pair, and connect the F side to the FAD2 of the same DFAD pair. SPLTEF for T3 (DS3 HCDS) indicates to split both the A and B paths and connect the E side of the accessed circuit to the odd pair of the FAP and the F side to the even pair of the FAP.

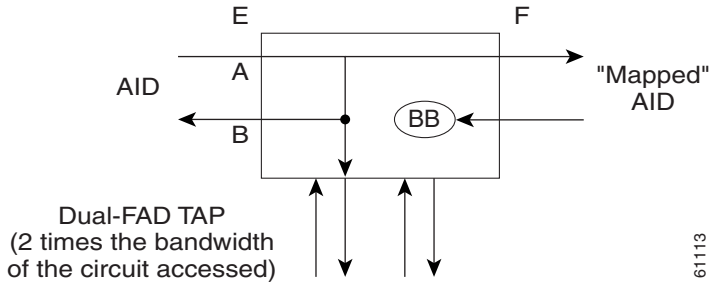
Figure 1-11 SPLTEF access



1.9.9.7 LOOPE

Loop E (LOOPE) indicates to split both the A and B paths, connect the incoming line from the E direction to the outgoing line in the E direction, and connect this looped configuration to the FAD. Loop E and F modes are basically identical to the SPLT E and F modes except that the outgoing signal is the incoming signal and not the signal from the remote test unit (RTU).

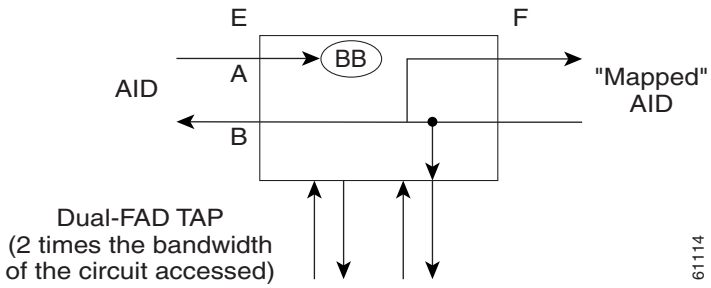
Figure 1-12 LOOPE access



1.9.9.8 LOOPF

Loop F (LOOPF) indicates to split both the A and B paths, connect the incoming line from the F direction to the outgoing line in the F direction and connect this looped configuration to the FAD.

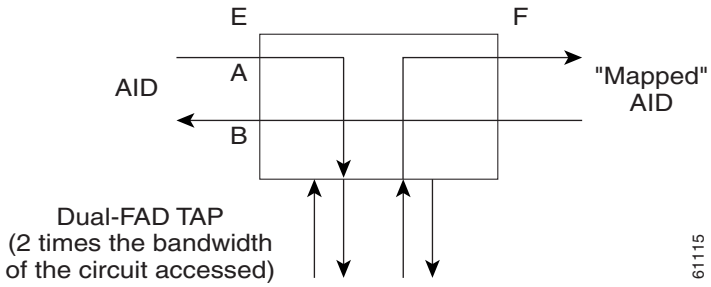
Figure 1-13 LOOPF access



1.9.9.9 SPLTA

Split A (SPLTA) indicates that a connection is provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path. Split A and B access modes are shown in Figure 1-14 and Figure 1-15. These modes are similar to the Split E and F modes, except the signals are sent to the RTU, not the NE signal configuration.

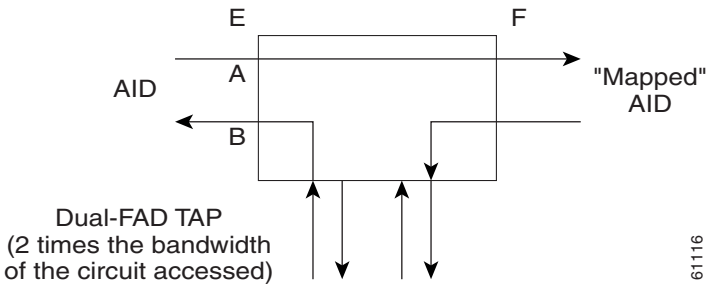
Figure 1-14 SPLTA access



1.9.9.10 SPLTB

Split B (SPLTB) indicates that a connection is provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path.

Figure 1-15 SPLTB access



1.9.10 Unmapped AID Test Access Point Connections

The ONS 15454/15327 supports connections to unmapped AIDs (unmapped circuits). The TAPs can be connected to an unmapped AID, i.e. an AID that does not have a cross-connect on it. The access modes supported are: MONE, SPLTE, and LOOPE.

Example 1-17 ED-STS1::STS-5-1:12:::TACC=1;

```
   DV9-99 1970-01-02 03:16:11
M 12 COMPLD
;
```

This command creates a TAP on STS-5-1 and STS-5-2.

Example 1-18 CONN-TACC-STS1::STS-5-3:12::1:MD=MONE;

```
   DV9-99 1970-01-02 02:51:54
M 12 COMPLD
   1
;
```

Note STS-5-3 does not have a cross-connect on it. This command creates an unmapped AID connection with the MONE access mode. STS-5-3 becomes unusable until the connection is disconnected by the DISC-TACC command.

Table 1-3 Modes Supported by Circuit Type

	MONE	MONF	MONEF	SPLTE	SPLTF	SPLTEF	LOOPE	LOOPF	SPLTA	SPLTB
1-way (from E)	X								X	
1-way (from F)		X								
2-way	X	X	X	X	X	X	X	X	X	X
UPSR	X	X	X	X	X	X	X	X	X	X
UPSR_HEAD (from E)	X								X	
UPSR_HEAD (from F)		X								X
UPSR_DROP UPSR_DC UPSR_EN (from E)	X								X	
UPSR_DROP UPSR_DC UPSR_EN (from F)		X								X
UPSR_UPSR	X	X	X	X	X	X	X	X	X	X
Unmapped AID	X			X			X			

Note The <AID> provided in the CONN-TACC command designates the E side and the other automatically becomes the F side.

Note In the case of all 1-way circuits (1-way, UPSR_HEAD, UPSR_DROP, UPSR_DC, UPSR_EN):If the <AID> specified is the source AID, the direction is designated as From E in the above table. If the <AID> specified is the destination AID or the drop side, the direction is designated as From F in the above table.

Examples:

The following examples assume an STS TAP is already created with TAP number = 1.

1.9.10.1 1-Way Circuit

Example 1-19 ENT-CRS-STS1::STS-5-1,STS-5-2:12::1WAY;
DV9-99 1970-07-01 20:29:06
M 12 COMPLD;

Example 1-20 CONN-TACC-STS1::STS-5-1:12::1:MD=MONF;
DV9-99 1970-01-01 20:29:47
M 12 DENY
EANS
STS-5-1
/*INCORRECT TAP MODE*/

The <AID> specified in the above CONN-TACC command is the source AID for the 1-way circuit. In this case only MONE and SPLTA modes are allowed because there is no B path in the case of a 1-way circuit (see Table 1-3).

Example 1-21 CONN-TACC-STS1::STS-5-1:12::1:MD=MONE;
DV9-99 1970-01-01 20:30:09
M 12 COMPLD

Example 1-22 DISC-TACC::1:12;
DV9-99 1970-01-01 20:30:20
M 12 COMPLD
;

However if the <AID> specified is the destination AID as shown below, the modes allowed are MONF and SPLTB.

Example 1-23 CONN-TACC-STS1::STS-5-2:12::1:MD=MONF;
DV9-99 1970-01-01 20:30:32
M 12 COMPLD

Notes:

1. The same examples apply for UPSR_HEAD, UPSR_DROP, UPSR_DC and UPSR_EN which are all 1-way circuits.
2. The connections are made only to the working path irrespective of which path is currently active.

1.9.10.2 2-Way Circuits

For 2-way circuits all the modes are allowed as shown in Table 1-3 on page 1-25 and the same applies for UPSR_UPSR and UPSR circuit types. In the case of UPSR_UPSR and UPSR circuits the working path is connected irrespective of which path is currently active.

1.9.10.3 Unmapped AID

As explained in the "Unmapped AID Test Access Point Connections" section on page 1-24, connections can be made to an <AID> without a cross-connect on it. The modes supported are MONE, SPLTE and LOOPE as shown in Table 1-3.

1.10 TL1 PCA Provisioning

You can provision or retrieve protection channel access (PCA) cross-connections on two-fiber and four-fiber BLSR topologies at these supported OC rates: OC12 (two-fiber only), OC48, and OC192. The traffic on the protection channel is referred to as extra-traffic and has the lowest priority level. Extra-traffic will be preempted by any working traffic that requires the use of the protection channel.

In a two-fiber BLSR the extra traffic is provisioned on the upper half of the bandwidth path. In a four-fiber BLSR the extra traffic is provisioned on the protect fiber. The PCA provisioning feature allows you to establish the PCA cross-connection on the protection path of the two-fiber BLSR and protection channel of the four-fiber BLSR only when the query is an explicit request.

There are two PCA connection types: 1WAYPCA and 2WAYPCA. The PCA cross-connection is provisioned only when the user provides an explicit request using the ENT-CRS-STSp/VT1 commands. If the cross-connection is a PCA cross-connection, either 1WAYPCA or 2WAYPCA is shown in the CCT field of the RTRV-CRS-STSp/VT1 command output.

1WAYPCA and 2WAYPCA are only used in the TL1 user interface to provide usability and visibility for the user to specify a PCA cross-connection type in the TL1 cross-connection commands.

Note The network must be configured as either a two-fiber or four-fiber OC-12, OC-48, or OC-192 BLSR.

Note The STS or VT1 path cross-connection can be established with TL1 commands (ENT-CRS-xxx).

Note Because the RTRV-CSR-xxx command does not include the optional CTYPE field to specify a connection type, the output result reports the matched cross-connections based on the queried AID(s); therefore, the retrieved cross-connection inventory can be both PCA and non-PCA cross-connections.

1.10.1 Provision a PCA Cross-Connection

Input format for provisioning a PCA cross-connection:

Example 1-24 ENT-CRS-<PATH>:[<TID>]:<FROM>,<TO>:<CTAG>::[<CCT>][::];
<PATH>::={STS_PATH | VT1}
[<CCT>]::={1WAY, 1WAYDC, 1WAYEN, 2WAY, 1WAYPCA, 2WAYPCA}, it defaults to 2WAY.
{STS_PATH}::={STS1 | STS3C | STS6C | STS9C | STS12C | STS24C | STS48C | STS192C}

STS= all the STS bandwidth cross-connections.

VT1=VT1_5 cross-connection.

Input example of provisioning an STS3C PCA cross-connection:

Example 1-25 ENT-CRS-STS3C::STS-1-1,STS-2-1:123::2WAYPCA;

Note If the [<CCT>] of this cross-connection provisioning command is either 1WAYPCA or 2WAYPCA, and the NONE of both <FROM> and <TO> AID is PCA AID, an IIAC (Input, Invalid PCA AIDs) error message is returned.

Note If sending this command with a non-PCA connection type (CCT), and one (or two) AIDs is/are the PCA AIDs, an IIAC (The PCA AID Is Not Allowed for the Queried CCT Type) error message is returned.

1.10.2 Retrieve a PCA Cross-Connection

Input Format for retrieving a PCA cross-connection:

Example 1-26 RTRV-CRS-[<PATH>]:[<TID>]:<AID>:<CTAG>[::::];<PATH>::={STS_PATH | VT1 | STS }

If PATH is STS, it will retrieve all the STS cross-connections based on the queried AIDs.

<AID>={FacilityAIDs, STSAIDs, VTAIDs, ALL}

Output format of the PCA STSp cross-connection retrieval command:

Example 1-27 "<FROM>,<TO>:2WAYPCA,STS3C"

Output format of the PCA VT cross-connection retrieval command:

Example 1-28 "<FROM>,<TO>:2WAYPCA"

1.11 FTP Software Download

The file transfer protocol (FTP) software download feature downloads a software package to the inactive flash partition residing on either the TCC or XTC. FTP software download provides for simplex and duplex TCC/XTC downloads, success and failure status, and in-progress status at 20% increments.

1.11.1 COPY-RFILE

The COPY-RFILE command downloads a new software package from the location specified by the FTP URL into the inactive flash partition residing on either the TCC or XTC.

Input format:

Example 1-29 COPY-RFILE:[<TID>]:[<SRC>]:<CTAG>::TYPE=<XFERTYPE>,[SRC=<SRC1>]:

where:

- SRC is the type of file being transferred and is from the "RFILE" section on page 4-16

- <XFERTYPE> is the file transfer protocol; valid values can be found in the "TX_TYPE" section on page 4-68
- <SRC1> specifies the source of the file to be transferred. Only the FTP URL is supported. In a non-firewall environment the format for the URL is: "FTP://FTPUSER[:FTPPASSWORD]]@FTPHOST/PACKAGE_PATH"

  where:

  – userid is the userid to connect to the computer with the package file
  – password is the password used to connect to the computer with the package file
  – hostname is the IP address of the computer with the package file. DNS lookup of hostname is not supported.
  – package_path is the long path name to the package file

Note Userid and password are optional if the user does not need to log into the host computer. The password may be optional if the user does not need to log in. All other portions of the URL are required, including the initial "FTP://" string.

In a firewall environment the hostname should be replaced with a list of IP addresses each separated by a "@" character. The first IP address should be for the computer where the package file is stored. Subsequent IP addresses are for firewall computers moving outward toward the edge of the network until the final IP address listed is the computer that outside users use to first access the network.

For example, if your topology is:

"FTPHOST <-> GNE3 <->GNE2 <-> GNE1 <-> ENE"

the FTP URL is:

FTP://FTPUSER:FTPPASSWORD@FTPHOST@GNE3@GNE2@GNE1/PACKAGE_PATH

SRC1 is a String

Notes:

1. SWDL is the only allowable <XFERTYPE>.
2. FTP is the only allowed file transfer method.
3. The use of the SWDL and the extended FTP URL syntax are required by the COPY-RFILE syntax.

1.11.2 APPLY

The APPLY command can activate or revert software depending on the version of software loaded on the active and protect flash. An error is returned if attempting to activate to an older software load or trying to revert to a newer software load. If this command is successful the appropriate flash is selected and the TCC/XTC will reboot.

Input format:

Example 1-30 APPLY:[<TID>]::<CTAG>[::<MEM_SW_TYPE>]:

where:

- <MEM_SW_TYPE> indicates memory switch action during the software upgrade. <MEM_SW_TYPE> is ACT for activate and RVRT for revert.

1.11.3 REPT EVT FXFR

REPT EVT FXFR is an autonomous message used to report the start, completion, and completed percentage status of the FTP software download. REPT EVT FXFR also reports any failure during the software upgrade including invalid package, invalid path, invalid userid/password, and loss of network connection.

Note:

1. The “FXFR_RSLT” is only sent when the “FXFR_STATUS” is COMPLD.
2. The “BYTES_XFRD” is only sent when the “FXFR_STATUS” is IP or COMPLD.

Output format:

Example 1-31 SID DATE TIME
A ATAG REPT EVT FXFR
“<FILENAME>,<FXFR_STATUS>,[<FXFR_RSLT>],[<BYTES_XFRD>]”
;

where:

- <FILENAME> indicates the transferred file path name and is a string
- <FXFR_STATUS> indicates the file transferred status: Start, IP (in progress), or COMPLD
- <FXFR_RSLT> indicates the file transferred result: success or failure. <FXFR_RSLT> is optional
- <BYTES_XFRD> indicates the percentage transfer complete and is optional

1.11.4 Downloading New Software

The following procedure downloads new software to the TCC/XTC card using TL1.

Procedure: Download New Software

Note Only Superusers can download and activate software.

Step 1 Copy the new software package (15454-0340-X02E-2804.pkg) to an FTP host.

Step 2 Establish a TL1 session with the target NE.

Step 3 Login with the ACT-USER command.

Step 4 Check the working and protect software on the NE by issuing the RTRV-NE-GEN command.

Input example:

Example 1-32 RTRV-NE-GEN:::1;

Output example:

Example 1-33 VA454-94 1970-01-06 22:22:12
M 1 COMPLD
"IPADDR=1-.82.87.94,IPMASK=255.255.254.0,DEFRTR=10.82.86.1,
ETHIPADDR=10.82.87.94,ETHIPMASK=255.255.254.0,NAME=VA454-94,
SWER=3.40.00,LOAD=03.40-002G-14.21,PROTSWVER=4.00.00,
PROTLOAD=04.00-X02G-25.07,DEFDESC=\"FACTORY DEFAULTS\""
;

Step 5 Issue the COPY-RFILE command. This command will initiate the download process. Refer to the "COPY-RFILE" section on page 1-28 for command syntax.

In the following example the package is located in "/USR/CET/VINTARA" in the host 10.77.22.199. The userid and passwords are TL1 and CISCO454. The directory path of the package is similar to what you will see during an FTP session.

Example 1-34 COPY-RFILE::RFILE-
PKG:CTAG::TYPE=SWDL,SRC="FTP://TL1:CISCO454@10.77.29.199
/USR/CET/VINTARA/15454-0340-X02E-2804.PKG";

DEV208 1970-01-10 11:51:57
M CTAG COMPLD
;

Step 6 If any of the parameters are wrong or if the host is not accessible, a REPT EVT FXFR message will report from the following list. A download failure may be due to one or more of the following:

- Directory path of the package is invalid or not found
- Package is invalid (i.e., ONS 15454 package on an ONS 15327, vice-versa, or an invalid file type)
- Package not found on specified path
- Userid/password or hostname is invalid
- Host is not accessible
- Firewall userid/password or host in invalid
- Node rebooted/lost connection during download
- If software download is already in progress
- If the node or the host timed out during FTP protocol

Example 1-35 DEV208 1970-01-10 11:52:02
A 2816.2816 REPT EVT EQPT
"SLOT-11:SFTWDOWN-FAIL,TC,,,,,,:\"SOFTWARE DOWNLOAD FAILED\",TCC
;

Step 7 If the download is successful the REPT EVT FXFR message will report an active start:

Example 1-36 DEV208 1970-01-10 11:52:15
A 2818,2818 REPT EVT FXFR
"ACTIVE START"
;

Step 8 A SFTDOWN minor alarm is raised to indicate that the software download is in progress. The SFTDOWN alarm will clear when the download is complete.

Example 1-37 DEV208 1970-01--10 11:52:15

```
* 2817.2817 REPT ALM EQPT
  "SLOT-7:MN,SFTWDOWN,NSA,,,,:\"SOFTWARE DOWNLOAD IN PROGRESS\",TCC"
;
```

Use the in-progress status at any time during the software download to verify the RTRV-NE-GEN command.

Example 1-38 RTRV-NE-GEN

```
  VA454-94 1970-01-06 22:22;12
M  1  COMPLD
  "IPADDR=10.82.87.94,IPMASK=255.255.245.0,DEFRTR=10.82.86.1,
  ETHIPADDR=10.82.87.94,EHTIPMASK=255.255.254.0,NAME=VA454-94,
  SWVER=3.40.00,LOAD=03.40-002G-14-21,PROTSWVER=NONE,
  PROTLOAD=DOWNLOADINPROGRESS,DEFDESC=\FACTORY DEFAULTS\""
;
```

Step 9 The download progress is reported by the REPT EVT FXFR message which will report a message after every 20% of download is complete as shown:

Example 1-39 DEV208 1970-01-10 11:53:12

```
A  2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,20"
;

 DEV208 1970-01-10 11:53:12
A  2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,40"
;

 DEV208 1970-01-10 11:53:12
A  2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,60"
;

 DEV208 1970-01-10 11:53:12
A  2820,2820 REPT EVT FXFR
  "ACTIVE,IP,,80"
;
```

Step 10 If the TL1 session times out during download or if the user terminates the TL1 session the download will continue. The download completion can be confirmed by issuing the RTRV-NE-GEN command and verifying the PROTLOAD.

Example 1-40 RTRV-NE-GEN:::1;

```
  VA454-94 1970-01-06 22:22:12
M  1  COMPLD
  "IPADDR=10.82.87.94,IPMASK=255.255.245.0,DEFRTR=10.82.86.1,
  ETHIPADDR=10.82.87.94,EHTIPMASK=255.255.254.0,NAME=VA454-94,
  SWVER=3.40.00,LOAD=03.40-002G-14-21,PROTSWVER=4.00.00,
  PROTLOAD=03.40-X02E-28.04,DEFDESC=\FACTORY DEFAULTS\""
;
```

Step 11 REPT EVT FXFR confirms the completion of the software download.

Example 1-41 DEV208 1970-01-10 12:01:16
A 2825,2825 REPT EVT FXFR
"ACTIVE,COMPLD,SUCCESS"
;

Step 12 The SFTDOWN alarm clears when the download is complete.

Example 1-42 DEV208 1970-01-10 11:52:15
** 2826,2817 REPT ALM EQPT*
"SLOT-7:CL,SFTWDOWN,NSA,,,:\"SOFTWARE DOWNLOAD IN PROGRESS\",TCC"
;

1.11.5 Activating New Software

After the software is successfully downloaded, the new software which resides in the protect load must be activated to run on the NE. The APPLY command can be used to activate and revert depending on the version of the protect software and the newly downloaded software (refer to the "APPLY" section on page 1-29 for correct APPLY syntax).

Procedure: Activate New Software

Step 1 If the protect software is newer than the working software, activate it as shown:

Example 1-43 APPLY::1::ACT;

DEV208 1970-01-10 13:40:53
M 1 COMPLD
;

An error is reported if a revert is attempted with a newer protect software.

Step 2 If the APPLY command is successful, logout of the TL1 session using the CANC-USER command:

Example 1-44 CANC-USER::CISCO15:1;

VA454-94 1970-01-07 01:18:18
M 1 COMPLD
;

After a successful completion of the APPLY command the NE will reboot and the TL1 session will disconnect. When the NE comes up after the reboot it will be running the new software. Traffic switches are possible during activation.

1.11.6 Remote Software Download/Activation Using the GNE

In a network with SDCC-connected ONS 15454 and ONS 15327s, remote download and activation are possible using the GNE/ENE feature supported in TL1. The GNE must be connected by a LAN and the remaining ENEs can download the new software package through fiber from the GNE.

For remote software downloading, complete the steps in the "Download New Software" procedure on page 1-30 and the "Activate New Software" procedure on page 1-33, but ensure that the TID in each command is filled with the ENE node name.

A maximum of 5 ENEs (an additional session through craft interface) can be contacted using the GNE sessions through the GNE by opening a single TL1 session on the GNE. For more information on TL1 Gateway, see Chapter 2, "TL1 Gateway."

Example 1-45 ***ACT-USER:NODE1:CISCO15:1;***
ACT-USER:NODE2:CISCO15:1;
ACT-USER:NODE3:CISCO15:1;
ACT-USER:NODE4:CISCO15:1;
ACT-USER:NODE5:CISCO15:1;

Five simultaneous software downloads can be initiated using the COPY-RFILE command with appropriate TIDs. All downloads will be independent of each other and download speeds may differ.

Example 1-46 ***COPY-RFILE:NODE1:RFILE-PKG:CTAG::TYPE=SWDL,SRC="FTP://TL1:CISCO454@10.77.29.199/USR/CET/VINTARA/15454-0340-X02E-2804.PKG";***

COPY-RFILE:NODE2:RFILE-PKG...
COPY-RFILE:NODE3:RFILE-PKG...
COPY-RFILE:NODE4:RFILE-PKG...
COPY-RFILE:NODE5:RFILE-PKG...

Individual REPT EVT FXFR messages can be isolated using the node names. RTRV-NE-GEN also requires the individual node names entered in the TID to see a specific download status.

You can activate the software on all of the nodes using the GNE node.

Note Activate the GNE last, after activating all the ENEs or else ENE connectivity will be lost when the GNE starts to reboot for activation.

Example 1-47 ***APPLY:NODE1::1::ACT;***
APPLY:NODE2::1::ACT;
APPLY:NODE3::1::ACT;
APPLY:NODE4::1::ACT;
APPLY:NODE5::1::ACT;

TL1 Gateway

This chapter describes the TL1 Gateway and provides procedures and examples for implementing TL1 Gateway on the ONS 15454 or ONS 15327.

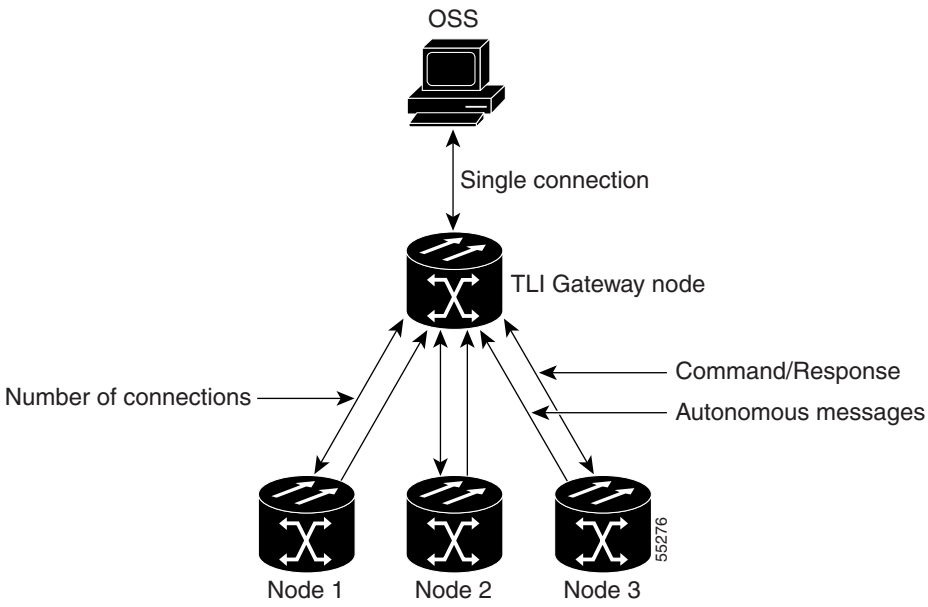
2.1 Gateway Network Element Topology

You can issue TL1 commands to multiple nodes via a single connection through the TL1 Gateway. Any node can serve as a Gateway Network Element (GNE), End-Point Network Element (ENE), or Intermediate Network Element (INE). A node becomes a GNE when a TL1 user connects to it and enters a command destined for another node. An ENE is an end node because it processes a TL1 command that is passed to it from another node. An INE is an intermediate node because of topology; it has no special hardware, software, or provisioning.

To implement the TL1 Gateway, use the desired ENE's TID in the ACT-USER command to initiate a session between the GNE and the ENE. Once a session is established you need to enter the ENE's TID in all of the subsequent commands that are destined for the ENE. From the GNE, you can access several remote nodes which become the ENEs. The ENEs are the message destinations or origins. The INE handles the DCC TCP/IP packet exchange.

The GNE Session is the connection that multiplexes TL1 messages between the OSS/craftsperson and the GNE. The GNE demulitplexes incoming operations support system (OSS) TL1 commands and forwards them to the remote ENE. The GNE also multiplexes incoming responses and autonomous messages to the GNE Session. The ENE Session is the connection that exchanges messages between the GNE and the remote ENE. Figure 2-1 shows the GNE topology.

Figure 2-1 Example of a GNE topology



Each GNE can support six (5+1) concurrent gateway communication sessions (connections from an OS to the GNE). Five of these sessions are via the LAN (wire-wrap, active TCC/XTC LAN port, or DCC) and the sixth session is reserved for the active TCC/XTC serial port.

On each gateway communication session a GNE can establish TL1 sessions to up to 31 additional DCC-connected nodes, for a total DCC of 32 nodes. Each GNE can handle 32 nodes and 6 concurrent communication gateway sessions, and the GNE can handle up to a maximum of 96 ENEs/GNE. You can dynamically distribute the ENEs to balance the number of concurrent gateway communication sessions versus the number of NEs on the DCC. The GNE treats the 6 (5+1) concurrent gateway communication sessions and 96 ENEs/GNE limit as a resource pool (Table 2-1) and continues to allocate resources until the pool is exhausted (see Table 2-2 for allocation examples). When the pool is exhausted the GNE returns an “All Gateways in Use” message or an “All ENE Connections in Use” message.

Table 2-1 Gateway Resource Pool

Number of GNEs	Number of GNE Sessions	Number of ENEs	Maximum Number of ENE sessions/GNE session
1	6 (5+1)	96 (dynamically allocated)	31

Table 2-2 Examples of a Single GNE Topology Showing How the GNE/ENE Resources can be Allocated

Number of GNE Communication Sessions	Maximum Number of ENEs
1	31
2	62
3	93
4	96
Number of GNE Communication Sessions	**Number of ENEs**
1	16
2	32
3	48
4	64
5	80
6	96

Note Issuing commands to specific nodes in the network is accomplished by entering a unique node name in the TID field in each TL1 message. The TID field is synonymous with the name of the node and is the second token in a TL1 command.

2.2 Implementing TL1 Gateway

The following procedures demonstrate TL1 Gateway on a four-node ring (without TL1 Gateway in Figure 2-2 and with TL1 Gateway in Figure 2-3), where:

Node 0 is the GNE.
Node 1 is the ENE 1.
Node 2 is the INE 2.
Node 3 is the ENE 3.

Figure 2-2 Four-node ring without TL1 Gateway

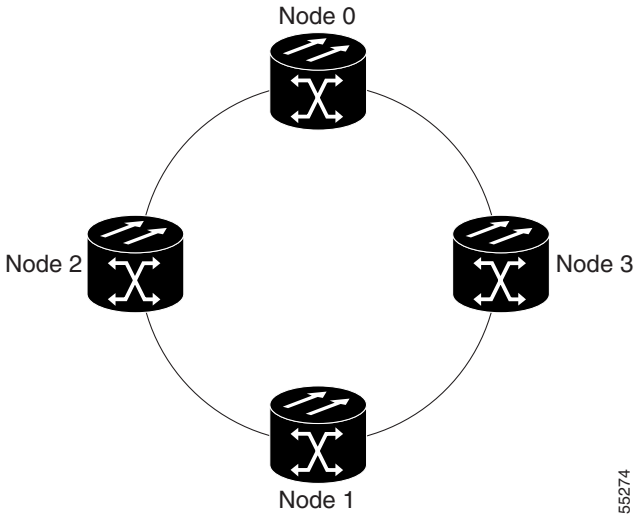
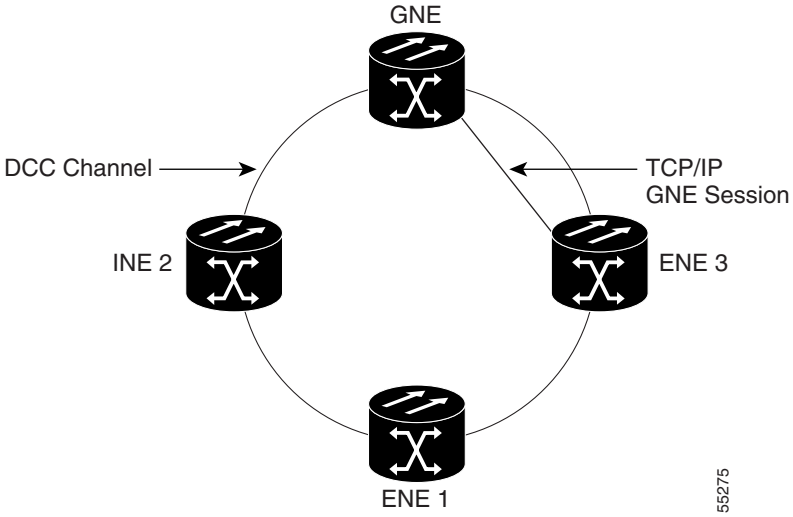


Figure 2-3 Four-node ring with TL1 Gateway



Log Into a Remote ENE

Step 1 Telnet or serial port to Node 0, which will become the GNE.

Step 2 To connect to the ENE 1 node, enter the TL1 login command using the following input example:

ACT-USER:NODE1:USERNAME:1234:PASSWORD;

The GNE forwards the login to ENE 1. After successful login, ENE 1 sends a COMPLD response.

Step 3 When you are logged into ENE 1, enter the following TL1 login command to connect to ENE 3:

ACT-USER:NODE3:USERNAME:1234:PASSWORD;

The GNE forwards the login to ENE 3. After successful login, the ENE 3 sends a COMPLD response.

Forward Commands by Specifying the ENE TID (Node 1 or Node 3)

When you are logged into ENE 1 and ENE 3, enter a command and designate a specific TID, as shown in the following example:

RTRV-HDR:NODE1::1; will retrieve the header of Node 1 and

RTRV-HDR:NODE3::3; will retrieve the header of Node 3.

Receive Autonomous Messages from the Remote ENE

To receive autonomous messages from the remote ENE, you must log into the remote ENE. When you are logged in, you will start receiving autonomous messages. The source of the message is identified by the node TID as part of the message.

Log Out of a Remote ENE

To disconnect from a remote ENE, you must use the CANC-USER command as follows:

CANC-USER:NODE1:USERNAME:1; will disconnect ENE 1 and

CANC-USER:NODE3:USERNAME:3; will disconnect ENE 3.

The GNE forwards the logout to the remote ENEs. The GNE/ENE TCP session is closed.

TL1 Command Descriptions

This chapter provides specific information on TL1 commands and autonomous messages for the Cisco ONS 15454 and the Cisco ONS 15327, Release 3.4, including:

- TL1 commands by category
- TL1 commands by card
- TL1 commands, categories and cards
- TL1 commands

For information on command components, such as parameters, see Chapter 4, "TL1 Command Components."

3.1 TL1 Commands by Category

Table 3-1 TL1 Commands by Category

Category	Command or Autonomous Message
BLSR	DLT-BLSR ED-BLSR ENT-BLSR REPT EVT RING RTRV-BLSR RTRV-COND-RING
Cross Connections	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
Environment Alarms and Controls	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Equipment	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Fault	REPT ALM <MOD2ALM> REPT ALM COM REPT ALM RING REPT EVT <MOD2ALM> REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-RING RTRV-COND-<MOD2ALM> RTRV-COND-ALL
Log	ALW-MSG-DBCHG INH-MSG-DBCHG REPT DBCHG RTRV-LOG

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
Performance	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Ports	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Security	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
SONET Line Protection	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
STS Paths	ED-<STS_PATH> RTRV-<STS_PATH> RTRV-PTHTRC-<STS_PATH>
STS and VT Paths	ED-VT1 RTRV-VT1

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
Synchronization	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
System	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-TOD SET-TOD
Test Access	CHG-ACCMD-<MOD_TACC> CONN-TACC-<MOD_TACC> DISC-TACC RTRV-TACC
Testing	OPR-LPBK-<MOD2_IO> RLS-LPBK-<MOD2_IO>

Table 3-1 TL1 Commands by Category (continued)

Category	Command or Autonomous Message
UCP	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
UPSR Switching	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1

3.2 TL1 Commands by Card (ONS 15454)

Table 3-2 TL1 Commands by Card (ONS 15454)

ONS 15454 Card	Command or Autonomous Message	
G1000	DISC-TACC	RLS-PROTNSW-<STS_PATH>
	DLT-CRS-<STS_PATH>	RMV-<MOD2_IO>
	DLT-CRS-VT1	RST-<MOD2_IO>
	DLT-EQPT	RTRV-ALM-<MOD2ALM>
	ED-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-<STS_PATH>	RTRV-ALM-EQPT
	ED-G1000	RTRV-COND-ALL
	ENT-CRS-<STS_PATH>	RTRV-COND-EQPT
	ENT-EQPT	RTRV-COND-<MOD2ALM>
	INIT-SYS	RTRV-CRS
	OPR-LPBK-<MOD2_IO>	RTRV-CRS-<STS_PATH>
	OPR-PROTNSW-<STS_PATH>	RTRV-EQPT
	REPT ALM EQPT	RTRV-G1000
	REPT ALM <MOD2ALM>	RTRV-INV
	REPT DBCHG	RTRV-PTHTRC-<STS_PATH>
	REPT EVT <MOD2ALM>	RTRV-<STS_PATH>
	REPT EVT EQPT	SET-PMMODE-<STS_PATH>
	RLS-LPBK-<MOD2_IO>	
EC1	ALW-SWTOPROTN-EQPT	RMV-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RST-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RTRV-<STS_PATH>
	CONN-TACC-<MOD_TACC>	RTRV-ALM-<MOD2ALM>
	DISC-TACC	RTRV-ALM-ALL
	DLT-CRS-<STS_PATH>	RTRV-ALM-EQPT
	DLT-CRS-VT1	RTRV-COND-<MOD2ALM>
	DLT-EQPT	RTRV-COND-ALL
	ED-<STS_PATH>	RTRV-COND-EQPT
	ED-CRS-<STS_PATH>	RTRV-CRS
	ED-EC1	RTRV-CRS-<STS_PATH>
	ED-EQPT	RTRV-CRS-VT1
	ED-VT1	RTRV-EC1
	ENT-CRS-<STS_PATH>	RTRV-EQPT
	ENT-EQPT	RTRV-INV
	INH-SWTOPROTN-EQPT	RTRV-PM-<MOD2>
	INH-SWTOWKG-EQPT	RTRV-PMMODE-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-PMSCHED-<MOD2>
	INIT-SYS	RTRV-PTHTRC-<STS_PATH>
	OPR-LPBK-<MOD2_IO>	RTRV-TACC
	REPT ALM <MOD2ALM>	RTRV-TH-<MOD2>
	REPT ALM EQPT	RTRV-VT1
	REPT DBCHG	SCHED-PMREPT-<MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT PM <MOD2>	SW-TOPROTN-EQPT
	RLS-LPBK-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
DS1	ALW-SWTOPROTN-EQPT	RST-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RLS-LPBK-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RTRV-<STS_PATH>
	CONN-TACC-<MOD_TACC>	RTRV-ALM-<MOD2ALM>
	DISC-TACC	RTRV-ALM-ALL
	DLT-CRS-<STS_PATH>	RTRV-ALM-EQPT
	DLT-CRS-VT1	RTRV-COND-<MOD2ALM>
	DLT-EQPT	RTRV-COND-ALL
	ED-<STS_PATH>	RTRV-COND-EQPT
	ED-CRS-<STS_PATH>	RTRV-CRS
	ED-EQPT	RTRV-CRS-<STS_PATH>
	ED-T1	RTRV-CRS-VT1
	ED-VT1	RTRV-EQPT
	ENT-CRS-<STS_PATH>	RTRV-INV
	ENT-EQPT	RTRV-PM-<MOD2>
	INH-SWTOPROTN-EQPT	RTRV-PMMODE-<STS_PATH>
	INH-SWTOWKG-EQPT	RTRV-PMSCHED-<MOD2>
	INIT-REG-<MOD2>	RTRV-PTHTRC-<STS_PATH>
	INIT-SYS	RTRV-T1
	OPR-LPBK-<MOD2_IO>	RTRV-TACC
	REPT ALM <MOD2ALM>	RTRV-TH-<MOD2>
	REPT ALM EQPT	RTRV-VT1
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT PM <MOD2>	SW-TOPROTN-EQPT
	RMV-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
DS1N	ALW-SWTOPROTN-EQPT	RMV-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RST-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RTRV-<STS_PATH>
	CONN-TACC-<MOD_TACC>	RTRV-ALM-<MOD2ALM>
	DISC-TACC	RTRV-ALM-ALL
	DLT-CRS-<STS_PATH>	RTRV-ALM-EQPT
	DLT-CRS-VT1	RTRV-COND-<MOD2ALM>
	DLT-EQPT	RTRV-COND-ALL
	ED-<STS_PATH>	RTRV-COND-EQPT
	ED-CRS-<STS_PATH>	RTRV-CRS
	ED-EQPT	RTRV-CRS-<STS_PATH>
	ED-T1	RTRV-CRS-VT1
	ED-VT1	RTRV-EQPT
	ENT-CRS-<STS_PATH>	RTRV-INV
	ENT-EQPT	RTRV-PM-<MOD2>
	INH-SWTOPROTN-EQPT	RTRV-PMMODE-<STS_PATH>
	INH-SWTOWKG-EQPT	RTRV-PMSCHED-<MOD2>
	INIT-REG-<MOD2>	RTRV-PTHTRC-<STS_PATH>
	INIT-SYS	RTRV-T1
	OPR-LPBK-<MOD2_IO>	RTRV-TACC
	REPT ALM <MOD2ALM>	RTRV-TH-<MOD2>
	REPT ALM EQPT	RTRV-VT1
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT PM <MOD2>	SW-TOPROTN-EQPT
	RLS-LPBK-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
DS3	ALW-SWTOPROTN-EQPT	RMV-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RST-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RTRV-<STS_PATH>
	CONN-TACC-<MOD_TACC>	RTRV-ALM-<MOD2ALM>
	DISC-TACC	RTRV-ALM-ALL
	DLT-CRS-<STS_PATH>	RTRV-ALM-EQPT
	DLT-EQPT	RTRV-COND-<MOD2ALM>
	ED-<STS_PATH>	RTRV-COND-ALL
	ED-CRS-<STS_PATH>	RTRV-COND-EQPT
	ED-EQPT	RTRV-CRS
	ED-T3	RTRV-CRS-<STS_PATH>
	ENT-CRS-<STS_PATH>	RTRV-EQPT
	ENT-EQPT	RTRV-INV
	INH-SWTOPROTN-EQPT	RTRV-PM-<MOD2>
	INH-SWTOWKG-EQPT	RTRV-PMMODE-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-PMSCHED-<MOD2>
	INIT-SYS	RTRV-PTHTRC-<STS_PATH>
	OPR-LPBK-<MOD2_IO>	RTRV-T3
	REPT ALM <MOD2ALM>	RTRV-TACC
	REPT ALM EQPT	RTRV-TH-<MOD2>
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT PM <MOD2>	SW-TOPROTN-EQPT
	RLS-LPBK-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
DS3N	ALW-SWTOPROTN-EQPT	RMV-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RST-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RTRV-<STS_PATH>
	CONN-TACC-<MOD_TACC>	RTRV-ALM-<MOD2ALM>
	DISC-TACC	RTRV-ALM-ALL
	DLT-CRS-<STS_PATH>	RTRV-ALM-EQPT
	DLT-EQPT	RTRV-COND-<MOD2ALM>
	ED-<STS_PATH>	RTRV-COND-ALL
	ED-CRS-<STS_PATH>	RTRV-COND-EQPT
	ED-EQPT	RTRV-CRS
	ED-T3	RTRV-CRS-<STS_PATH>
	ENT-CRS-<STS_PATH>	RTRV-EQPT
	ENT-EQPT	RTRV-INV
	INH-SWTOPROTN-EQPT	RTRV-PM-<MOD2>
	INH-SWTOWKG-EQPT	RTRV-PMMODE-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-PMSCHED-<MOD2>
	INIT-SYS	RTRV-PTHTRC-<STS_PATH>
	OPR-LPBK-<MOD2_IO>	RTRV-T3
	REPT ALM <MOD2ALM>	RTRV-TACC
	REPT ALM EQPT	RTRV-TH-<MOD2>
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT PM <MOD2>	SW-TOPROTN-EQPT
	RLS-LPBK-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
DS3E	ALW-SWTOPROTN-EQPT	RMV-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RST-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RTRV-<STS_PATH>
	CONN-TACC-<MOD_TACC>	RTRV-ALM-<MOD2ALM>
	DISC-TACC	RTRV-ALM-ALL
	DLT-CRS-<STS_PATH>	RTRV-ALM-EQPT
	DLT-EQPT	RTRV-COND-<MOD2ALM>
	ED-<STS_PATH>	RTRV-COND-ALL
	ED-CRS-<STS_PATH>	RTRV-COND-EQPT
	ED-EQPT	RTRV-CRS
	ED-T3	RTRV-CRS-<STS_PATH>
	ENT-CRS-<STS_PATH>	RTRV-EQPT
	ENT-EQPT	RTRV-INV
	INH-SWTOPROTN-EQPT	RTRV-PM-<MOD2>
	INH-SWTOWKG-EQPT	RTRV-PMMODE-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-PMSCHED-<MOD2>
	INIT-SYS	RTRV-PTHTRC-<STS_PATH>
	OPR-LPBK-<MOD2_IO>	RTRV-T3
	REPT ALM <MOD2ALM>	RTRV-TACC
	REPT ALM EQPT	RTRV-TH-<MOD2>
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT PM <MOD2>	SW-TOPROTN-EQPT
	RLS-LPBK-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
DS3NE	ALW-SWTOPROTN-EQPT	RMV-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RST-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RTRV-<STS_PATH>
	CONN-TACC-<MOD_TACC>	RTRV-ALM-<MOD2ALM>
	DISC-TACC	RTRV-ALM-ALL
	DLT-CRS-<STS_PATH>	RTRV-ALM-EQPT
	DLT-EQPT	RTRV-COND-<MOD2ALM>
	ED-<STS_PATH>	RTRV-COND-ALL
	ED-CRS-<STS_PATH>	RTRV-COND-EQPT
	ED-EQPT	RTRV-CRS
	ED-T3	RTRV-CRS-<STS_PATH>
	ENT-CRS-<STS_PATH>	RTRV-EQPT
	ENT-EQPT	RTRV-INV
	INH-SWTOPROTN-EQPT	RTRV-PM-<MOD2>
	INH-SWTOWKG-EQPT	RTRV-PMMODE-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-PMSCHED-<MOD2>
	INIT-SYS	RTRV-PTHTRC-<STS_PATH>
	OPR-LPBK-<MOD2_IO>	RTRV-T3
	REPT ALM <MOD2ALM>	RTRV-TACC
	REPT ALM EQPT	RTRV-TH-<MOD2>
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT PM <MOD2>	SW-TOPROTN-EQPT
	RLS-LPBK-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
DS3XM	ALW-SWTOPROTN-EQPT	RLS-LPBK-<MOD2_IO>
	ALW-SWTOWKG-EQPT	RMV-<MOD2_IO>
	CHG-ACCMD-<MOD_TACC>	RST-<MOD2_IO>
	CONN-TACC-<MOD_TACC>	RTRV-<STS_PATH>
	DISC-TACC	RTRV-ALM-<MOD2ALM>
	DLT-CRS-<STS_PATH>	RTRV-ALM-ALL
	DLT-CRS-VT1	RTRV-ALM-EQPT
	DLT-EQPT	RTRV-COND-<MOD2ALM>
	ED-<STS_PATH>	RTRV-COND-ALL
	ED-CRS-<STS_PATH>	RTRV-COND-EQPT
	ED-CRS-VT1	RTRV-CRS
	ED-DS1	RTRV-CRS-<STS_PATH>
	ED-EQPT	RTRV-CRS-VT1
	ED-T3	RTRV-DS1
	ED-VT1	RTRV-EQPT
	ENT-CRS-<STS_PATH>	RTRV-INV
	ENT-CRS-VT1	RTRV-PM-<MOD2>
	ENT-EQPT	RTRV-PMMODE-<STS_PATH>
	INH-SWTOPROTN-EQPT	RTRV-PMSCHED-<MOD2>
	INH-SWTOWKG-EQPT	RTRV-PTHTRC-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-TACC
	INIT-SYS	RTRV-TH-<MOD2>
	OPR-LPBK-<MOD2_IO>	RTRV-VT1
	REPT ALM <MOD2ALM>	SCHED-PMREPT->MOD2>
	REPT ALM EQPT	SET-PMMODE-<STS_PATH>
	REPT DBCHG	SET-TH-<MOD2>
	REPT EVT <MOD2ALM>	SW-TOPROTN-EQPT
	REPT EVT EQPT	SW-TOWKG-EQPT
	REPT PM <MOD2>	

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
OC3	CHG-ACCMD-<MOD_TACC>	REPT PM <MOD2>
	CONN-TACC-<MOD_TACC>	RLS-LPBK-<MOD2_IO>
	DISC-TACC	RLS-PROTNSW-<OCN_TYPE>
	DLT-CRS-<STS_PATH>	RLS-PROTNSW-<STS_PATH>
	DLT-CRS-VT1	RLS-PROTNSW-VT1
	DLT-EQPT	RLS-SYNCSW
	DLT-FFP-<OCN_TYPE>	RMV-<MOD2_IO>
	DLT-UCP-CC	RST-<MOD2_IO>
	DLT-UCP-IF	RTRV-<OCN_TYPE>
	ED-<OCN_TYPE>	RTRV-<STS_PATH>
	ED-<STS_PATH>	RTRV-ALM-<MOD2ALM>
	ED-BLSR	RTRV-ALM-ALL
	ED-CRS-<STS_PATH>	RTRV-ALM-EQPT
	EX-CRS-VT1	RTRV-ALM-SYNCN
	ED-FFP-<OCN_TYPE>	RTRV-COND-<MOD2ALM>
	ED-UCP-CC	RTRV-COND-ALL
	ED-UCP-IF	RTRV-COND-EQPT
	ED-VT1	RTRV-CRS
	ENT-CRS-<STS_PATH>	RTRV-CRS-<STS_PATH>
	ENT-CRS-VT1	RTRV-CRS-VT1
	ENT-EQPT	RTRV-DS1
	ENT-FFP-<OCN_TYPE>	RTRV-EQPT
	ENT-UCP-CC	RTRV-FFP-<OCN_TYPE>
	ENT-UCP-IF	RTRV-INV
	INIT-REG-<MOD2>	RTRV-NE-IPMAP
	INIT-SYS	RTRV-PM-<MOD2>
	OPR-LPBK-<MOD2_IO>	RTRV-PMMODE-<STS_PATH>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-PMSCHED-<MOD2>
	OPR-PROTNSW-<STS_PATH>	RTRV-PTHTRC-<STS_PATH>
	OPR-PROTNSW-VT1	RTRV-TACC
	OPR-SYNCNSW	RTRV-TH-<MOD2>
	REPT ALM <MOD2ALM>	RTRV-UCP-CC
	REPT ALM EQPT	RTRV-UCP-IF
	REPT ALM SYNCN	RTRV-VT1
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
	REPT EVT SYNCN	

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
OC12	CHG-ACCMD-<MOD_TACC>	REPT EVT RING
	CONN-TACC-<MOD_TACC>	REPT EVT SYNCN
	DISC-TACC	REPT PM <MOD2>
	DLT-BLSR	RLS-LPBK-<MOD2_IO>
	DLT-CRS-<STS_PATH>	RLS-PROTNSW-<OCN_TYPE>
	DLT-CRS-VT1	RLS-PROTNSW-<STS_PATH>
	DLT-EQPT	RLS-PROTNSW-VT1
	DLT-FFP-<OCN_TYPE>	RLS-SYNCSW
	DLT-UCP-CC	RMV-<MOD2_IO>
	DLT-UCP-IF	RST-<MOD2_IO>
	ED-<OCN_TYPE>	RTRV-<OCN_TYPE>
	ED-<STS_PATH>	RTRV-<STS_PATH>
	ED-BLSR	RTRV-ALM-ALL
	ED-CRS-<STS_PATH>	RTRV-ALM-EQPT
	ED-CRS-VT1	RTRV-ALM-RING
	ED-FFP-<OCN_TYPE>	RTRV-ALM-SYNCN
	ED-UCP-CC	RTRV-ALM-<MOD2ALM>
	ED-UCP-IF	RTRV-BLSR
	ED-VT1	RTRV-COND-<MOD2ALM>
	ENT-BLSR	RTRV-COND-ALL
	ENT-CRS-<STS_PATH>	RTRV-COND-EQPT
	ENT-CRS-VT1	RTRV-COND-RING
	ENT-EQPT	RTRV-CRS
	ENT-FFP-<OCN_TYPE>	RTRV-CRS-<STS_PATH>
	ENT-UCP-CC	RTRV-CRS-VT1
	ENT-UCP-IF	RTRV-EQPT
	EX-SW-<OCN_BLSR>	RTRV-FFP-<OCN_TYPE>
	INIT-REG-<MOD2>	RTRV-INV
	INIT-SYS	RTRV-NE-IPMAP
	OPR-LPBK-<MOD2_IO>	RTRV-PM-<MOD2>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-PMMODE-<STS_PATH>
	OPR-PROTNSW-<STS_PATH>	RTRV-PMSCHED-<MOD2>
	OPR-PROTNSW-VT1	RTRV-TACC
	OPR-SYNCNSW	RTRV-TH-<MOD2>
	REPT ALM <MOD2ALM>	RTRV-UCP-CC
	REPT ALM EQPT	RTRV-UCP-IF
	REPT ALM RING	RTRV-VT1
	REPT ALM SYNCN	SCHED-PMREPT->MOD2>
	REPT DBCHG	SET-PMMODE-<STS_PATH>
	REPT EVT <MOD2ALM>	SET-TH-<MOD2>
	REPT EVT EQPT	

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
4 port OC12	CHG-ACCMD-<MOD_TACC>	REPT EVT EQPT
	CONN-TACC-<MOD_TACC>	REPT EVT RINGREPT EVT
	DISC-TACC	SYNCN
	DLT-BLSR	REPT PM <MOD2>
	DLT-CRS-<STS_PATH>	RLS-LPBK-<MOD2_IO>
	DLT-CRS-VT1	RLS-PROTNSW-<OCN_TYPE>
	DLT-EQPT	RLS-PROTNSW-<STS_PATH>
	DLT-FFP-<OCN_TYPE>	RLS-PROTNSW-VT1
	DLT-UCP-CC	RLS-SYNCSW
	DLT-UCP-IF	RMV-<MOD2_IO>
	ED-<OCN_TYPE>	RST-<MOD2_IO>
	ED-<STS_PATH>	RTRV-<OCN_TYPE>
	ED-BLSR	RTRV-<STS_PATH>
	ED-CRS-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-VT1	RTRV-ALM-EQPT
	ED-FFP-<OCN_TYPE>	RTRV-ALM-RING
	ED-UCP-CC	RTRV-ALM-SYNCN
	ED-UCP-IF	RTRV-ALM-<MOD2ALM>
	ED-VT1	RTRV-BLSR
	ENT-BLSR	RTRV-COND-<MOD2ALM>
	ENT-CRS-<STS_PATH>	RTRV-COND-ALL
	ENT-CRS-VT1	RTRV-COND-EQPT
	ENT-EQPT	RTRV-COND-RING
	ENT-FFP-<OCN_TYPE>	RTRV-CRS
	ENT-UCP-CC	RTRV-CRS-<STS_PATH>
	ENT-UCP-IF	RTRV-CRS-VT1
	EX-SW-<OCN_BLSR>	RTRV-EQPT
	INIT-REG-<MOD2>	RTRV-FFP-<OCN_TYPE>
	INIT-SYS	RTRV-INV
	OPR-LPBK-<MOD2_IO>	RTRV-NE-IPMAP
	OPR-PROTNSW-<OCN_TYPE>	RTRV-PM-<MOD2>
	OPR-PROTNSW-<STS_PATH>	RTRV-PMMODE-<STS_PATH>
	OPR-PROTNSW-VT1	RTRV-PMSCHED-<MOD2>
	OPR-SYNCNSW	RTRV-TACC
	REPT ALM <MOD2ALM>	RTRV-TH-<MOD2>
	REPT ALM EQPT	RTRV-UCP-CC
	REPT ALM RING	RTRV-UCP-IF
	REPT ALM SYNCN	SCHED-PMREPT->MOD2>
	REPT DBCHG	SET-PMMODE-<STS_PATH>
	REPT EVT <MOD2ALM>	SET-TH-<MOD2>

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
OC48	CHG-ACCMD-<MOD_TACC>	REPT EVT RING
	CONN-TACC-<MOD_TACC>	REPT EVT SYNCN
	DISC-TACC	REPT PM <MOD2>
	DLT-BLSR	RLS-LPBK-<MOD2_IO>
	DLT-CRS-<STS_PATH>	RLS-PROTNSW-<OCN_TYPE>
	DLT-CRS-VT1	RLS-PROTNSW-<STS_PATH>
	DLT-EQPT	RLS-PROTNSW-VT1
	DLT-FFP-<OCN_TYPE>	RLS-SYNCSW
	DLT-UCP-CC	RMV-<MOD2_IO>
	DLT-UCP-IF	RST-<MOD2_IO>
	ED-<OCN_TYPE>	RTRV-<OCN_TYPE>
	ED-<STS_PATH>	RTRV-<STS_PATH>
	ED-BLSR	RTRV-ALM-<MOD2ALM>
	ED-CRS-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-VT1	RTRV-ALM-EQPT
	ED-FFP-<OCN_TYPE>	RTRV-ALM-RING
	ED-UCP-CC	RTRV-ALM-SYNCN
	ED-UCP-IF	RTRV-BLSR
	ED-VT1	RTRV-COND-<MOD2ALM>
	ENT-BLSR	RTRV-COND-ALL
	ENT-CRS-<STS_PATH>	RTRV-COND-EQPT
	ENT-CRS-VT1	RTRV-COND-RING
	ENT-EQPT	RTRV-CRS
	ENT-FFP-<OCN_TYPE>	RTRV-CRS-<STS_PATH>
	ENT-UCP-CC	RTRV-CRS-VT1
	ENT-UCP-IF	RTRV-EQPT
	EX-SW-<OCN_BLSR>	RTRV-FFP-<OCN_TYPE>
	INIT-REG-<MOD2>	RTRV-INV
	INIT-SYS	RTRV-NE-IPMAP
	OPR-LPBK-<MOD2_IO>	RTRV-PM-<MOD2>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-PMMODE-<STS_PATH>
	OPR-PROTNSW-<STS_PATH>	RTRV-PMSCHED-<MOD2>
	OPR-PROTNSW-VT1	RTRV-TACC
	OPR-SYNCNSW	RTRV-TH-<MOD2>
	REPT ALM <MOD2ALM>	RTRV-UCP-CC
	REPT ALM EQPT	RTRV-UCP-IF
	REPT ALM RING	RTRV-VT1
	REPT ALM SYNCN	SCHED-PMREPT->MOD2>
	REPT DBCHG	SET-PMMODE-<STS_PATH>
	REPT EVT <MOD2ALM>	SET-TH-<MOD2>
	REPT EVT EQPT	

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
OC48AS	CHG-ACCMD-<MOD_TACC>	REPT EVT RING
	CONN-TACC-<MOD_TACC>	REPT EVT SYNCN
	DISC-TACC	REPT PM <MOD2>
	DLT-BLSR	RLS-LPBK-<MOD2_IO>
	DLT-CRS-<STS_PATH>	RLS-PROTNSW-<OCN_TYPE>
	DLT-CRS-VT1	RLS-PROTNSW-<STS_PATH>
	DLT-EQPT	RLS-PROTNSW-VT1
	DLT-FFP-<OCN_TYPE>	RLS-SYNCSW
	DLT-UCP-CC	RMV-<MOD2_IO>
	DLT-UCP-IF	RST-<MOD2_IO>
	ED-<OCN_TYPE>	RTRV-<OCN_TYPE>
	ED-<STS_PATH>	RTRV-<STS_PATH>
	ED-BLSR	RTRV-ALM-<MOD2ALM>
	ED-CRS-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-VT1	RTRV-ALM-EQPT
	ED-FFP-<OCN_TYPE>	RTRV-ALM-RING
	ED-UCP-CC	RTRV-ALM-SYNCN
	ED-UCP-IF	RTRV-BLSR
	ED-VT1	RTRV-COND-<MOD2ALM>
	ENT-BLSR	RTRV-COND-ALL
	ENT-CRS-<STS_PATH>	RTRV-COND-EQPT
	ENT-CRS-VT1	RTRV-COND-RING
	ENT-EQPT	RTRV-CRS
	ENT-FFP-<OCN_TYPE>	RTRV-CRS-<STS_PATH>
	ENT-UCP-CC	RTRV-CRS-VT1
	ENT-UCP-IF	RTRV-EQPT
	EX-SW-<OCN_BLSR>	RTRV-FFP-<OCN_TYPE>
	INIT-REG-<MOD2>	RTRV-INV
	INIT-SYS	RTRV-NE-IPMAP
	OPR-LPBK-<MOD2_IO>	RTRV-PTHTRC-<STS_PATH>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-PM-<MOD2>
	OPR-PROTNSW-<STS_PATH>	RTRV-PMMODE-<STS_PATH>
	OPR-PROTNSW-VT1	RTRV-PMSCHED-<MOD2>
	OPR-SYNCNSW	RTRV-TACC
	REPT ALM <MOD2ALM>	RTRV-TH-<MOD2>
	REPT ALM EQPT	RTRV-UCP-CC
	REPT ALM RING	RTRV-UCP-IF
	REPT ALM SYNCN	RTRV-VT1
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
OC192	CHG-ACCMD-<MOD_TACC>	REPT EVT RING
	CONN-TACC-<MOD_TACC>	REPT EVT SYNCN
	DISC-TACC	REPT PM <MOD2>
	DLT-BLSR	RLS-LPBK-<MOD2_IO>
	DLT-CRS-<STS_PATH>	RLS-PROTNSW-<OCN_TYPE>
	DLT-CRS-VT1	RLS-PROTNSW-<STS_PATH>
	DLT-EQPT	RLS-PROTNSW-VT1
	DLT-FFP-<OCN_TYPE>	RLS-SYNCSW
	DLT-UCP-CC	RMV-<MOD2_IO>
	DLT-UCP-IF	RST-<MOD2_IO>
	ED-<OCN_TYPE>	RTRV-<OCN_TYPE>
	ED-<STS_PATH>	RTRV-<STS_PATH>
	ED-BLSR	RTRV-ALM-<MOD2ALM>
	ED-CRS-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-VT1	RTRV-ALM-EQPT
	ED-FFP-<OCN_TYPE>	RTRV-ALM-RING
	ED-UCP-CC	RTRV-ALM-SYNCN
	ED-UCP-IF	RTRV-BLSR
	ED-VT1	RTRV-COND-<MOD2ALM>
	ENT-BLSR	RTRV-COND-ALL
	ENT-CRS-<STS_PATH>	RTRV-COND-EQPT
	ENT-CRS-VT1	RTRV-COND-RING
	ENT-EQPT	RTRV-CRS
	ENT-FFP-<OCN_TYPE>	RTRV-CRS-<STS_PATH>
	ENT-UCP-CC	RTRV-CRS-VT1
	ENT-UCP-IF	RTRV-EQPT
	EX-SW-<OCN_BLSR>	RTRV-FFP-<OCN_TYPE>
	INIT-REG-<MOD2>	RTRV-INV
	INIT-SYS	RTRV-NE-IPMAP
	OPR-LPBK-<MOD2_IO>	RTRV-PTHTRC-<STS_PATH>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-PM-<MOD2>
	OPR-PROTNSW-<STS_PATH>	RTRV-PMMODE-<STS_PATH>
	OPR-PROTNSW-VT1	RTRV-PMSCHED-<MOD2>
	OPR-SYNCNSW	RTRV-TACC
	REPT ALM <MOD2ALM>	RTRV-TH-<MOD2>
	REPT ALM EQPT	RTRV-UCP-CC
	REPT ALM RING	RTRV-UCP-IF
	REPT ALM SYNCN	RTRV-VT1
	REPT DBCHG	SCHED-PMREPT->MOD2>
	REPT EVT <MOD2ALM>	SET-PMMODE-<STS_PATH>
	REPT EVT EQPT	SET-TH-<MOD2>
E100T	DLT-EQPT	RTRV-ALM-<MOD2ALM>
	ENT-EQPT	RTRV-ALM-ALL
	INIT-SYS	RTRV-ALM-EQPT
	REPT ALM <MOD2ALM>	RTRV-COND-<MOD2ALM>
	REPT ALM EQPT	RTRV-COND-ALL
	REPT DBCHG	RTRV-COND-EQPT
	REPT EVT <MOD2ALM>	RTRV-EQPT
	REPT EVT EQPT	RTRV-INV

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
E1000	DLT-EQPT	RTRV-ALM-<MOD2ALM>
	ENT-EQPT	RTRV-ALM-ALL
	INIT-SYS	RTRV-ALM-EQPT
	REPT ALM <MOD2ALM>	RTRV-COND-<MOD2ALM>
	REPT ALM EQPT	RTRV-COND-ALL
	REPT DBCHG	RTRV-COND-EQPT
	REPT EVT <MOD2ALM>	RTRV-EQPT
	REPT EVT EQPT	RTRV-INV
TCC	APPLY	REPT EVT FXFR
	COPY-RFILE	REPT EVT SYNCN
	DLT-EQPT	RLS-SYNCSW
	ED-BITS	RTRV-ALM-<MOD2ALM>
	ED-NE-GEN	RTRV-ALM-ALL
	ED-NE-SYNCN	RTRV-ALM-BITS
	ED-SYNCN	RTRV-ALM-EQPT
	ENT-EQPT	RTRV-ALM-SYNCN
	INIT-SYS	RTRV-BITS
	OPR-SYNCNSW	RTRV-COND-<MOD2ALM>
	REPT ALM <MOD2ALM>	RTRV-COND-ALL
	REPT ALM BITS	RTRV-COND-BITS
	REPT ALM EQPT	RTRV-COND-EQPT
	REPT ALM SYNCN	RTRV-EQPT
	REPT DBCHG	RTRV-INV
	REPT EVT <MOD2ALM>	RTRV-NE-GEN
	REPT EVT BITS	RTRV-NE-SYNCN
	REPT EVT EQPT	RTRV-SYNCN
XC	ALW-SWDX-EQPT	REPT SW
	DLT-EQPT	RTRV-ALM-<MOD2ALM>
	ENT-EQPT	RTRV-ALM-ALL
	INH-SWDX-EQPT	RTRV-ALM-EQPT
	INIT-SYS	RTRV-COND-<MOD2ALM>
	REPT ALM <MOD2ALM>	RTRV-COND-ALL
	REPT ALM EQPT	RTRV-COND-EQPT
	REPT DBCHG	RTRV-EQPT
	REPT EVT <MOD2ALM>	RTRV-INV
	REPT EVT EQPT	SW-DX-EQPT
XCVT	ALW-SWDX-EQPT	REPT SW
	DLT-EQPT	RTRV-ALM-<MOD2ALM>
	ENT-EQPT	RTRV-ALM-ALL
	INH-SWDX-EQPT	RTRV-ALM-EQPT
	INIT-SYS	RTRV-COND-<MOD2ALM>
	REPT ALM <MOD2ALM>	RTRV-COND-ALL
	REPT ALM EQPT	RTRV-COND-EQPT
	REPT DBCHG	RTRV-EQPT
	REPT EVT <MOD2ALM>	RTRV-INV
	REPT EVT EQPT	SW-DX-EQPT

Table 3-2 TL1 Commands by Card (ONS 15454) (continued)

ONS 15454 Card	Command or Autonomous Message	
XC10G	ALW-SWDX-EQPT	REPT SW
	DLT-EQPT	RTRV-ALM-<MOD2ALM>
	ENT-EQPT	RTRV-ALM-ALL
	INH-SWDX-EQPT	RTRV-ALM-EQPT
	INIT-SYS	RTRV-COND-<MOD2ALM>
	REPT ALM <MOD2ALM>	RTRV-COND-ALL
	REPT ALM EQPT	RTRV-COND-EQPT
	REPT DBCHG	RTRV-EQPT
	REPT EVT <MOD2ALM>	RTRV-INV
	REPT EVT EQPT	SW-DX-EQPT
AIC	DLT-EQPT	RTRV-ALM-ALL
	ENT-EQPT	RTRV-ALM-ENV
	INIT-SYS	RTRV-ALM-EQPT
	OPR-ACO-ALL	RTRV-ATTR-CONT
	OPR-EXT-CONT	RTRV-ATTR-ENV
	REPT ALM <MOD2ALM>	RTRV-COND-<MOD2ALM>
	REPT ALM ENV	RTRV-COND-ALL
	REPT ALM EQPT	RTRV-COND-ENV
	REPT DBCHG	RTRV-COND-EQPT
	REPT EVT <MOD2ALM>	RTRV-EQPT
	REPT EVT ENV	RTRV-EXT CONT
	REPT EVT EQPT	RTRV-INV
	RLS-EXT-CONT	SET-ATTR-CONT
	RTRV-ALM-<MOD2ALM>	SET-ATTR-ENV
AICI	DLT-EQPT	RTRV-ALM-ALL
	ENT-EQPT	RTRV-ALM-ENV
	INIT-SYS	RTRV-ALM-EQPT
	OPR-ACO-ALL	RTRV-ATTR-CONT
	OPR-EXT-CONT	RTRV-ATTR-ENV
	REPT ALM <MOD2ALM>	RTRV-COND-<MOD2ALM>
	REPT ALM ENV	RTRV-COND-ALL
	REPT ALM EQPT	RTRV-COND-ENV
	REPT DBCHG	RTRV-COND-EQPT
	REPT EVT <MOD2ALM>	RTRV-EQPT
	REPT EVT ENV	RTRV-EXT CONT
	REPT EVT EQPT	RTRV-INV
	RLS-EXT-CONT	SET-ATTR-CONT
	RTRV-ALM-<MOD2ALM>	SET-ATTR-ENV

3.3 TL1 Commands by Card (ONS 15327)

Table 3-3 TL1 Commands by Card (ONS 15327)

ONS 15327Card	Command or Autonomous Message	
G1000	DLT-CRS-<STS_PATH>	RMV-<MOD2_IO>
	DLT-EQPT	RST-<MOD2_IO>
	ED-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-<STS_PATH>	RTRV-ALM-EQPT
	ED-G1000	RTRV-ALM-<MOD2ALM>
	ENT-CRS-<STS_PATH>	RTRV-COND-ALL
	ENT-EQPT	RTRV-COND-EQPT
	INIT-SYS	RTRV-COND-<MOD2ALM>
	OPR-LPBK-<MOD2_IO>	RTRV-CRS
	REPT ALM EQPT	RTRV-CRS-<STS_PATH>
	REPT ALM <MOD2ALM>	RTRV-EQPT
	REPT DBCHG	RTRV-G1000
	REPT EVT EQPT	RTRV-INV
	REPT EVT <MOD2ALM>	RTRV-PTHTRC-<STS_PATH>
	RLS-LPBK-<MOD2_IO>	RTRV-<STS_PATH>

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

ONS 15327Card	Command or Autonomous Message	
XTC	APPLY	RLS-SYNCSW
	CHG-ACCMD-<MOD_TACC>	RMV-<MOD2_IO>
	CONN-TACC-<MOD_TACC>	RST-<MOD2_IO>
	COPY-RFILE	RTRV-<STS_PATH>
	DISC-TACC	RTRV-ALM-<MOD2ALM>
	DLT-CRS-<STS_PATH>	RTRV-ALM-ALL
	DLT-CRS-VT1	RTRV-ALM-BITS
	DLT-EQPT	RTRV-ALM-ENV
	ED-<STS_PATH>	RTRV-ALM-EQPT
	ED-BITS	RTRV-ALM-SYNCN
	ED-CRS-<STS_PATH>	RTRV-ATTR-CONT
	ED-EQPT	RTRV-ATTR-ENV
	ED-NE-GEN	RTRV-BITS
	ED-NE-SYNCN	RTRV-COND-<MOD2ALM>
	ED-SYNCN	RTRV-COND-ALL
	ED-T1	RTRV-COND-BITS
	ED-T3	RTRV-COND-ENV
	ED-VT1	RTRV-COND-EQPT
	ENT-CRS-<STS_PATH>	RTRV-CRS
	ENT-EQPT	RTRV-CRS-<STS_PATH>
	INH-SWDX-EQPT	RTRV-CRS-VT1
	INH-SWTOPROTN-EQPT	RTRV-EQPT
	INH-SWTOWKG-EQPT	RTRV-INV
	INIT-REG-<MOD2>	RTRV-NE-GEN
	INIT-SYS	RTRV-NE-SYNCN
	OPR-ACO-ALL	RTRV-PM-<MOD2>
	OPR-LPBK-<MOD2_IO>	RTRV-PMMODE-<STS_PATH>
	OPR-SYNCNSW	RTRV-PMSCHED-<MOD2>
	REPT ALM <MOD2ALM>	RTRV-PMSCHED-ALL
	REPT ALM BITS	RTRV-PTHTRC-<STS_PATH>
	REPT ALM EQPT	RTRV-SYNCN
	REPT ALM SYNCN	RTRV-T1
	REPT DBCHG	RTRV-T3
	REPT EVT <MOD2ALM>	RTRV-TACC
	REPT EVT BITS	RTRV-TH-<MOD2>
	REPT EVT ENV	RTRV-VT1
	REPT EVT EQPT	SET-ATTR-CONT
	REPT EVT FXFR	SET-ATTR-ENV
	REPT EVT SYNCN	SET-PMMODE-<STS_PATH>
	REPT PM <MOD2>	SET-TH-<MOD2>
	REPT SW	SW-DX-EQPT
	RLS-EXT-CONT	SW-TOPROTN-EQPT
	RLS-LPBK-<MOD2_IO>	SW-TOWKG-EQPT

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

ONS 15327Card	Command or Autonomous Message	
OC3	CHG-ACCMD-<MOD_TACC>	RLS-PROTNSW-<OCN_TYPE>
	CONN-TACC-<MOD_TACC>	RLS-PROTNSW-<STS_PATH>
	DISC-TACC	RLS-PROTNSW-VT1
	DLT-CRS-<STS_PATH>	RLS-SYNCSW
	DLT-CRS-VT1	RMV-<MOD2_IO>
	DLT-EQPT	RST-<MOD2_IO>
	DLT-FFP-<OCN_TYPE>	RTRV-<OCN_TYPE>
	ED-<OCN_TYPE>	RTRV-<STS_PATH>
	ED-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-<STS_PATH>	RTRV-ALM-EQPT
	ED-CRS-VT1	RTRV-ALM-SYNCN
	ED-FFP-<OCN_TYPE>	RTRV-ALM-<MOD2ALM>
	ED-VT1	RTRV-COND-<MOD2ALM>
	ENT-CRS-<STS_PATH>	RTRV-COND-ALL
	ENT-CRS-VT1	RTRV-COND-EQPT
	ENT-EQPT	RTRV-CRS
	ENT-FFP-<OCN_TYPE>	RTRV-CRS-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-CRS-VT1
	INIT-SYS	RTRV-EQPT
	OPR-LPBK-<MOD2_IO>	RTRV-FFP-<OCN_TYPE>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-INV
	OPR-PROTNSW-<STS_PATH>	RTRV-NE-IPMAP
	OPR-PROTNSW-VT1	RTRV-PM-<MOD2>
	OPR-SYNCNSW	RTRV-PMMODE-<STS_PATH>
	REPT ALM <MOD2ALM>	RTRV-PMSCHED-<MOD2>
	REPT ALM EQPT	RTRV-PMSCHED-ALL
	REPT ALM SYNCN	RTRV-PTHTRC-<STS_PATH>
	REPT EVT <MOD2ALM>	RTRV-TACC
	REPT EVT EQPT	RTRV-TH-<MOD2>
	REPT EVT SYNCN	RTRV-VT1
	REPT PM <MOD2>	SET-PMMODE-<STS_PATH>
	RLS-LPBK-<MOD2_IO>	SET-TH-<MOD2>

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

ONS 15327Card	Command or Autonomous Message	
OC12	CHG-ACCMD-<MOD_TACC>	REPT EVT SYNCN
	CONN-TACC-<MOD_TACC>	REPT PM <MOD2>
	DISC-TACC	RLS-LPBK-<MOD2_IO>
	DLT-BLSR	RLS-PROTNSW-<OCN_TYPE>
	DLT-CRS-<STS_PATH>	RLS-PROTNSW-<STS_PATH>
	DLT-CRS-VT1	RLS-PROTNSW-VT1
	DLT-EQPT	RLS-SYNCSW
	DLT-FFP-<OCN_TYPE>	RMV-<MOD2_IO>
	ED-<OCN_TYPE>	RST-<MOD2_IO>
	ED-<STS_PATH>	RTRV-<OCN_TYPE>
	ED-BLSR	RTRV-<STS_PATH>
	ED-CRS-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-VT1	RTRV-ALM-EQPT
	ED-FFP-<OCN_TYPE>	RTRV-ALM-SYNCN
	ED-VT1	RTRV-ALM-<MOD2ALM>
	ENT-BLSR	RTRV-BLSR
	ENT-CRS-<STS_PATH>	RTRV-COND-<MOD2ALM>
	ENT-CRS-VT1	RTRV-COND-ALL
	ENT-EQPT	RTRV-COND-EQPT
	ENT-FFP-<OCN_TYPE>	RTRV-CRS
	EX-SW-<OCN_BLSR>	RTRV-CRS-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-CRS-VT1
	INIT-SYS	RTRV-EQPT
	OPR-LPBK-<MOD2_IO>	RTRV-FFP-<OCN_TYPE>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-INV
	OPR-PROTNSW-<STS_PATH>	RTRV-NE-IPMAP
	OPR-PROTNSW-VT1	RTRV-PM-<MOD2>
	OPR-SYNCNSW	RTRV-PMMODE-<STS_PATH>
	REPT ALM <MOD2ALM>	RTRV-PMSCHED-<MOD2>
	REPT ALM EQPT	RTRV-PMSCHED-ALL
	REPT ALM RING	RTRV-TACC
	REPT ALM SYNCN	RTRV-TH-<MOD2>
	REPT EVT <MOD2ALM>	RTRV-VT1
	REPT EVT EQPT	SET-PMMODE-<STS_PATH>
	REPT EVT RING	SET-TH-<MOD2>

Table 3-3 TL1 Commands by Card (ONS 15327) (continued)

ONS 15327Card	Command or Autonomous Message	
OC48	CHG-ACCMD-<MOD_TACC>	REPT EVT SYNCN
	CONN-TACC-<MOD_TACC>	REPT PM <MOD2>
	DISC-TACC	RLS-LPBK-<MOD2_IO>
	DLT-BLSR	RLS-PROTNSW-<OCN_TYPE>
	DLT-CRS-<STS_PATH>	RLS-PROTNSW-<STS_PATH>
	DLT-CRS-VT1	RLS-PROTNSW-VT1
	DLT-EQPT	RLS-SYNCSW
	DLT-FFP-<OCN_TYPE>	RMV-<MOD2_IO>
	ED-<OCN_TYPE>	RST-<MOD2_IO>
	ED-<STS_PATH>	RTRV-<OCN_TYPE>
	ED-BLSR	RTRV-<STS_PATH>
	ED-CRS-<STS_PATH>	RTRV-ALM-ALL
	ED-CRS-VT1	RTRV-ALM-EQPT
	ED-FFP-<OCN_TYPE>	RTRV-ALM-SYNCN
	ED-VT1	RTRV-ALM-<MOD2ALM>
	ENT-BLSR	RTRV-BLSR
	ENT-CRS-<STS_PATH>	RTRV-COND-<MOD2ALM>
	ENT-CRS-VT1	RTRV-COND-ALL
	ENT-EQPT	RTRV-COND-EQPT
	ENT-FFP-<OCN_TYPE>	RTRV-CRS
	EX-SW-<OCN_BLSR>	RTRV-CRS-<STS_PATH>
	INIT-REG-<MOD2>	RTRV-CRS-VT1
	INIT-SYS	RTRV-EQPT
	OPR-LPBK-<MOD2_IO>	RTRV-FFP-<OCN_TYPE>
	OPR-PROTNSW-<OCN_TYPE>	RTRV-INV
	OPR-PROTNSW-<STS_PATH>	RTRV-NE-IPMAP
	OPR-PROTNSW-VT1	RTRV-PM-<MOD2>
	OPR-SYNCNSW	RTRV-PMMODE-<STS_PATH>
	REPT ALM <MOD2ALM>	RTRV-PMSCHED-<MOD2>
	REPT ALM EQPT	RTRV-PMSCHED-ALL
	REPT ALM RING	RTRV-TACC
	REPT ALM SYNCN	RTRV-TH-<MOD2>
	REPT EVT <MOD2ALM>	RTRV-VT1
	REPT EVT EQPT	SET-PMMODE-<STS_PATH>
	REPT EVT RING	SET-TH-<MOD2>
E10/100	DLT-EQPT	RTRV-ALM-<MOD2ALM>
	ENT-EQPT	RTRV-ALM-ALL
	INIT-SYS	RTRV-ALM-EQPT
	REPT ALM <MOD2ALM>	RTRV-COND-<MOD2ALM>
	REPT ALM EQPT	RTRV-COND-ALL
	REPT EVT <MOD2ALM>	RTRV-COND-EQPT
	REPT EVT EQPT	RTRV-EQPT
	REPT PM <MOD2>	RTRV-INV

3.4 TL1 Commands, Categories and Cards

Table 3-4 TL1 Commands, Categories and Cards

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
ACT-USER	Security	—	—
ALW-MSG-ALL	System	—	—
ALW-MSG-DBCHG	Log	—	—
ALW-PMREPT-ALL	Performance	—	—
ALW-SWDX-EQPT	Equipment	XC, XCVT, XC10G	—
ALW-SWTOPROTN-EQPT	Equipment	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM	—
ALW-SWTOWKG-EQPT	Equipment	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM	—
APPLY	System	TCC	XTC
CANC	Security	—	—
CANC-USER	Security	—	—
CHG-ACCMD-<MOD_TACC>	Test Access	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
CONN-TACC-<MOD_TACC>	Test Access	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
COPY-RFILE	System	TCC	XTC
DISC-TACC	Test Access	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
DLT-BLSR	BLSR	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC12, OC48

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
DLT-CRS-<STS_PATH>	Cross Connections	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
DLT-CRS-VT1	Cross Connections	G1000, EC1, DS1, DS1N, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
DLT-EQPT	Equipment	All cards	G1000, XTC, OC3, OC12, OC48, E10/100
DLT-FFP-<OCN_TYPE>	SONET Line Protection	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
DLT-UCP-CC	UCP	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	—
DLT-UCP-IF	UCP	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	—
DLT-UCP-NBR	UCP	—	—
DLT-USER-SECU	Security	—	—
ED-<OCN_TYPE>	Ports	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
ED-<STS_PATH>	STS Paths	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
ED-BITS	Synchronization	TCC	XTC
ED-BLSR	BLSR	OC12, 4-port OC12, OC48, OC48AS, OC192	OC12, OC48

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
ED-CRS-<STS_PATH>	Cross Connections	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, 4-port OC12, OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
ED-CRS-VT1	Cross Connections	DS3XM, OC3, 4-port OC12, OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
ED-DAT	System	—	—
ED-DS1	Ports	DS3XM	—
ED-EC1	Ports	EC1	—
ED-EQPT	Equipment	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM	XTC
ED-FFP-<OCN_TYPE>	SONET Line Protection	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
ED-G1000	Ports	G1000	G1000
ED-NE-GEN	System	TCC	XTC
ED-NE-SYNCN	Synchronization	TCC	XTC
ED-PID	Security	—	—
ED-SYNCN	Synchronization	TCC	XTC
ED-T1	Ports	DS1, DS1N	XTC
ED-T3	Ports	DS3, DS3N, DS3E, DS3NE, DS3XM	XTC
ED-UCP-CC	UCP	OC3, 4-port OC12, OC12, OC48, OC48AS, OC192	—
ED-UCP-IF	UCP	OC3, 4-port OC12, OC12, OC48, OC48AS, OC192	—
ED-UCP-NBR	UCP	—	—
ED-USER-SECU	Security	—	—
ED-VT1	STS and VT Paths	EC1, DS1, DS1N, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
ENT-BLSR	BLSR	OC12, 4-port OC12, OC48, OC48AS, OC192	OC12, OC48
ENT-CRS-<STS_PATH>	Cross Connections	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
ENT-CRS-VT1	Cross Connections	DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
ENT-EQPT	Equipment	All cards	All cards
ENT-FFP-<OCN_TYPE>	SONET Line Protection	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
ENT-UCP-CC	UCP	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	—
ENT-UCP-IF	UCP	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	—
ENT-UCP-NBR	UCP	—	—
ENT-USER-SECU	Security	—	—
EX-SW-<OCN_BLSR>	SONET Line Protection	OC12, 4-port OC12, OC48, OC48AS, OC192	OC12, OC48
INH-MSG-ALL	System	—	—
INH-MSG-DBCHG	Log	—	—
INH-PMREPT-ALL	Performance	—	—
INH-SWDX-EQPT	Equipment	XC, XCVT, XC10G	XTC
INH-SWTOPROTN-EQPT	Equipment	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM	XTC
INH-SWTOWKG-EQPT	Equipment	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM	XTC

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
INIT-REG-<MOD2>	Performance	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
INIT-SYS	System	All cards	All cards
OPR-ACO-ALL	Environment Alarms and Controls	AIC, AICI	XTC
OPR-EXT-CONT	Environment Alarms and Controls	AIC, AICI	—
OPR-LPBK-<MOD2_IO>	Testing	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
OPR-PROTNSW-<OCN_TYPE>	SONET Line Protection	OC3, OC12, 4-port OC12, OC48, OC48AS,OC192	OC3, OC12, OC48
OPR-PROTNSW-<STS_PATH>	UPSR Switching	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
OPR-PROTNSW-VT1	UPSR Switching	OC3, OC12, OC48, OC48AS,OC192	OC3, OC12, OC48
OPR-SYNCNSW	Synchronization	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192, TCC	XTC, OC3, OC12, OC48
REPT ALM <MOD2ALM>	Fault	All cards	All cards
REPT ALM BITS	Synchronization	TCC	XTC
REPT ALM COM	Fault	—	—
REPT ALM ENV	Environment Alarms and Controls	AIC, AICI	—
REPT ALM EQPT	Equipment	All cards	All cards
REPT ALM RING	Fault	OC12, 4-port OC12, OC48, OC48AS, OC192	OC12, OC48

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
REPT ALM SYNCN	Synchronization	OC3, OC12, 4-port OC12, OC48, OC48AS,OC192, TCC	XTC, OC3, OC12, OC48
REPT ALM UCP	UCP	—	—
REPT DBCHG	Log	All cards	G1000
REPT EVT <MOD2ALM>	Fault	All cards	All cards
REPT EVT BITS	Synchronization	TCC	XTC
REPT EVT COM	Fault	—	—
REPT EVT ENV	Environment Alarms and Controls	AIC, AICI	—
REPT EVT EQPT	Equipment	All cards	All cards
REPT EVT FXFR	System	TCC	XTC
REPT EVT RING	BLSR	OC12, 4-port OC12, OC48, OC48AS, OC192	OC12, OC48
REPT EVT SECU	Security	—	—
REPT EVT SYNCN	Synchronization	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192, TCC	XTC, OC3, OC12, OC48
REPT EVT UCP	UCP	—	—
REPT PM-<MOD2>	Performance	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS,OC192	XTC, OC3, OC12, OC48, E10/100
REPT SW	UPSR Switching	XC, XCVT, XC10G	XTC
RLS-EXT-CONT	Environment Alarms and Controls	AIC, AICI	XTC
RLS-LPBK-<MOD2_IO>	Testing	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
RLS-PROTNSW-<OCN_TYPE>	SONET Line Protection	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RLS-PROTNSW-<STS_PATH>	UPSR Switching	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RLS-PROTNSW-VT1	UPSR Switching	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RLS-SYNCNSW	Synchronization	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192, TCC	XTC, OC3, OC12, OC48
RMV-<MOD2_IO>	Ports	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
RST-<MOD2_IO>	Ports	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
RTRV-<OCN_TYPE>	Ports	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RTRV-<STS_PATH>	STS Paths	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
RTRV-ALM-<MOD2ALM>	Fault	All cards	All cards
RTRV-ALM-ALL	Fault	All cards	All cards
RTRV-ALM-BITS	Synchronization	TCC	XTC
RTRV-ALM-ENV	Environment Alarms and Controls	AIC, AICI	XTC
RTRV-ALM-EQPT	Equipment	All cards	All cards

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
RTRV-ALM-RING	Fault	OC12, 4-port OC12, OC48, OC48AS, OC192	—
RTRV-ALM-SYNCN	Synchronization	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192, TCC	XTC, OC3, OC12, OC48
RTRV-ALM-UCP	UCP	—	—
RTRV-ATTR-CONT	Environment Alarms and Controls	AIC, AICI	XTC
RTRV-ATTR-ENV	Environment Alarms and Controls	AIC, AICI	XTC
RTRV-BITS	Synchronization	TCC	XTC
RTRV-BLSR	BLSR	OC12, 4-port OC12, OC48, OC48AS, OC192	OC12, OC48
RTRV-COND-<MOD2ALM>	Fault	All cards	All cards
RTRV-COND-ALL	Fault	All cards	All cards
RTRV-COND-BITS	Synchronization	TCC	XTC
RTRV-COND-ENV	Environment Alarms and Controls	AIC, AICI	XTC
RTRV-COND-EQPT	Equipment	All cards	All cards
RTRV-COND-RING	BLSR	OC12, 4-port OC12, OC48, OC48AS, OC192	—
RTRV-COND-SYNCN	Synchronization	TCC	XTC
RTRV-COND-UCP	UCP	—	—
RTRV-CRS	Cross Connections	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
RTRV-CRS-<STS_PATH>	Cross Connections	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	G1000, XTC, OC3, OC12, OC48
RTRV-CRS-VT1	Cross Connections	EC1, DS1, DS1N, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
RTRV-DS1	Ports	DS3XM	—
RTRV-EC1	Ports	EC1	—
RTRV-EQPT	Equipment	All cards	All cards
RTRV-EXT-CONT	Environment Alarms and Controls	AIC, AICI	XTC
RTRV-FFP-<OCN_TYPE>	SONET Line Protection	OC3, OC12, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RTRV-G1000	Ports	G1000	G1000
RTRV-HDR	System	—	—
RTRV-INV	System	All cards	All cards
RTRV-LOG	Log	—	—
RTRV-MAP-NETWORK	System	—	—
RTRV-NE-GEN	System	TCC	XTC
RTRV-NE-IPMAP	System	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RTRV-NE-SYNCN	Synchronization	TCC	XTC
RTRV-PM-<MOD2>	Performance	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
RTRV-PMMODE-<STS_PATH>	Performance	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
RTRV-PMSCHED-<MOD2>	Performance	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
RTRV-PMSCHED-ALL	Performance	—	XTC, OC3, OC12, OC48
RTRV-PROTNSW-<OCN_TYPE>	SONET Line Protection	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RTRV-PROTNSW-<STS_PATH>	UPSR Switching	G1000, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RTRV-PROTNSW-VT1	UPSR Switching	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	OC3, OC12, OC48
RTRV-PTHTRC-<STS_PATH>	STS Paths	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC48AS, OC192	G1000, XTC, OC3
RTRV-SYNCN	Synchronization	TCC	XTC
RTRV-T1	Ports	DS1, DS1N	XTC
RTRV-T3	Ports	DS3, DS3N, DS3E, DS3NE	XTC
RTRV-TACC	Test Access	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
RTRV-TH-<MOD2>	Performance	EC1, DS1, DS1N, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
RTRV-TOD	System	—	—

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
RTRV-UCP-CC	UCP	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	—
RTRV-UCP-IF	UCP	OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	—
RTRV-UCP-NBR	UCP	—	—
RTRV-UCP-NODE	UCP	—	—
RTRV-USER-SECU	Security	—	—
RTRV-VT1	STS and VT Paths	EC1, DS1, DS1N, DS3XM, OC3, OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
SCHED-PMREPT-<MOD2>	Performance	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	—
SET-ATTR-CONT	Environment Alarms and Controls	AIC, AICI	XTC
SET-ATTR-ENV	Environment Alarms and Controls	AIC, AICI	XTC
SET-PMMODE-<STS_PATH>	Performance	G1000, EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
SET-TH-<MOD2>	Performance	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM, OC3, OC12, 4-port OC12, OC48, OC48AS, OC192	XTC, OC3, OC12, OC48
SET-TOD	System	—	—
SW-DX-EQPT	Equipment	XC, XCVT, XC10G	XTC

Table 3-4 TL1 Commands, Categories and Cards (continued)

Command or Autonomous Message	Category	ONS 15454 Cards	ONS 15327 Cards
SW-TOPROTN-EQPT	Equipment	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM	XTC
SW-TOWKG-EQPT	Equipment	EC1, DS1, DS1N, DS3, DS3N, DS3E, DS3NE, DS3XM	XTC

3.5 TL1 Commands

The commands and autonomous messages used for ONS 15454 and ONS 15327 are described in detail in this section and are listed alphabetically according to the first alpha character of the command string.

Each TL1 command must be less than or equal to 255 characters. Any command larger than 255 characters must be split into multiple commands. For example, if you use the ED-<STS_PATH> command to edit the J1 EXPTRC/TRC message, UPSR attributes, and TACC attributes and the command exceeds 255 characters the command will not be processed. You must use multiple ED-<STS_PATH> commands instead.

Note The CTAG of any TL1 line mode command is a mandatory field in this TL1 release.

Note The AID definitions provided are supersets of the actual AID definitions.

Note TL1 commands that are entered incorrectly are not completed.

Note Starting with release 3.3 (R3.3), all TL1 commands will return the DENY error code without any additional error messages prior to a successful TL1 login (i.e., prior to a successful ACT-USER command). Releases earlier than R3.3 either return different error codes; for example, PLNA and IICT and also additional error messages; for example, Login Not Active.

3.5.1 ACT-USER: Activate User

This command set-ups a session with the Network Element (NE).

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. In this release, the ACT-USER command does not return the date and time of the last session established by the UID or the number of unsuccessful session attempts since the last session.
3. This command is backwards compatible with userids and passwords from ONS 15454 2.X software versions according to the following rules:

   ACT-USER:[TID]:[STRING]:CTAG::[STRING]

   a. The syntax of the userid (first [STRING]) and the password (second [STRING]) are not checked.

b. Invalid syntax for both the userid and password is permitted, but the user can only log in if the userid/password match what is in the database.

c. The userid and password cannot exceed 10 characters.

4. For the ACT-USER command, it is required that no error code be transmitted except to convey that the login is granted or denied. Per TR-835, Appendix A, Section A.2:

"... the error codes corresponding to ACT ... do not apply to the ACT-USER command because this command requires that no error code be provided to the session request except to indicate that it has been denied. Before a session is established, a specific error code may reveal clues to an intruder attempting unauthorized entry."

Section	ACT-USER Description
Category	Security
Security	N/A
Related Messages	CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	ACT-USER:[<TID>]:<UID>:<CTAG>::<PID>; where: • <UID> is the user identifier; <UID> is any combination of up to 10 alphanumeric characters. <UID> is a string and must not be null • <PID> is the user password; <PID> is any combination of up to 10 alphanumeric characters. <PID> is a string and must not be null **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>
Input Example	ACT-USER:PETALUMA:TERRI:100::MYPASSWD;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.2 ALW-MSG-ALL: Allow Message All

This command instructs the NE to enter a mode in which all the REPT ALM and REPT EVT autonomous messages are transmitted. See the INH-MSG-ALL command to inhibit these autonomous messages. When a TL1 session starts, the REPT ALM and REPT EVT messages are allowed by default.

Note If this command is issued twice in the same session, the SAAL (Status, Already Allowed) error message will be returned. The optional fields in the e block are not supported.

Section	ALW-MSG-ALL Description	
Category	System	
Security	Retrieve	
Related Messages	APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	ALW-MSG-ALL:[<TID>]::<CTAG>[::,,];	
Input Example	ALW-MSG-ALL:PETALUMA::549;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.3 ALW-MSG-DBCHG: Allow Database Change Message

This command enables REPT DBCHG. When a TL1 session starts, the REPT DBCHG messages are not allowed by default.

Note This command is not defined in the GR.

Section	ALW-MSG-DBCHG Description
Category	Log
Security	Retrieve
Related Messages	INH-MSG-DBCHG REPT DBCHG RTRV-LOG
Input Format	ALW-MSG-DBCHG:[<TID>]::<CTAG>[::,,];
Input Example	ALW-MSG-DBCHG:CISCO::123;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.4 ALW-PMREPT-ALL: Allow Performance Report All

This command resumes processing all the PM reports that are inhibited. The allowance of the PM reporting is session-based, which means the command is only effective to the TL1 session that issues this command. REPT PM messages are inhibited by default for a session.

Section	ALW-PMREPT-ALL Description	
Category	Performance	
Security	Retrieve	
Related Messages	INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2>	RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	ALW-PMREPT-ALL:[<TID>]::<CTAG>;	
Input Example	ALW-PMREPT-ALL:CISCONODE::123;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.5 ALW-SWDX-EQPT: Allow Switch Duplex Equipment

(Cisco ONS 15454 only)

This command allows automatic or manual switching on a duplex system containing duplexed or redundant equipment. To inhibit an NE switching to duplex, use the INH-SWDX-EQPT command.

ALW-SWDX-EQPT is not used for SONET line or electrical card protection switching. For SONET line or path protection switching commands, see OPR-PROTNSW and RLS-PROTNSW commands. For the electrical card protection switching, see the SW-TOWKG-EQPT and SW-TOPROTN-EQPT commands.

Note This command applies to the XC, XCVT, or XC10G equipment units only in this release.

Section	ALW-SWDX-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	ALW-SWDX-EQPT Description (continued)
Input Format	ALW-SWDX-EQPT:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is the XC/XCVT/XC10G equipment AID from the "EQPT" section on page 4-14
Input Example	ALW-SWDX-EQPT:CISCO:SLOT-8:1234;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.6 ALW-SWTOPROTN-EQPT: Allow Switch to Protection Equipment

(Cisco ONS 15454 only)

This command allows automatic or manual switching of an equipment unit back to a protection status. Use the INH-SWTOPROTN-EQPT command to inhibit an NE from switching to protection.

ALW-SWTOPROTN-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection. When this command is given to a working unit, the working unit will be allowed to switch to the protection unit. When this command is given to a protection unit, any working unit in the protection group is allowed to switch to the protection unit.

The standing condition of INHSWPR on the unit specified by the AID will be cleared.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access identifier) error message. To use a SONET card switching command, use OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be responsed.
5. If this command is used on a card that is not in the inhibit state, the SAAL (Status, Already Allowed) error message should be responsed.
6. The following situation(s) are allowed and will not generate any error response: Sending this command to missing cards so long as none of the previous error conditions apply.

Section	ALW-SWTOPROTN-EQPT Description
Category	Equipment
Security	Maintenance

Section	ALW-SWTOPROTN-EQPT Description (continued)	
Related Messages	ALW-SWDX-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TORPROTN-EQPT SW-TOWKG-EQPT
Input Format	ALW-SWTOPROTN-EQPT:[<TID>]:<AID>:<CTAG>[::<DIRN>]; where: • <AID> This parameter can either be the protection unit for which carrying traffic is to be allowed (release of lockout) or the working unit for which switching to protect is to be allowed (release of lock on); <AID> is from the "EQPT" section on page 4-14 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-40	
Input Example	ALW-SWTOPROTN-EQPT:CISCO:SLOT-2:123::BTH;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.7 ALW-SWTOWKG-EQPT: Allow Switch to Working Equipment

(Cisco ONS 15454 only)

This command allows automatic or manual switching of an equipment unit back to a working status. Use the INH-SWTOWKG-EQPT command to inhibit an NE from switching to working. ALW-SWTOWKG-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection.

When this command is given to a working unit, the working unit will be allowed to carry traffic. In the case of revertive protection, the traffic will switch immediately from the protection unit to the working unit regardless of the reversion time setting.

When this command is given to a protection unit, the protection unit will be allowed to switch back to the working unit currently protected as long as the working unit has not raised INHSWWKG. In the case of revertive protection, the traffic will switch immediately from the protection unit to the working unit regardless of the reversion time setting. In the case of non-revertive protection, the protection unit will continue to carry the traffic.

The standing condition of INHSWWKG on the unit specified by the AID will be cleared.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.

3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be responsed.
5. If this command is used on a card that is not in the inhibit state, the SAAL (Status, Already Allowed) error message should be responsed.
6. The following situation(s) are allowed and will not generate any error response: sending this command to missing cards as long as none of the previous error conditions apply.

Section	ALW-SWTOWKG-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	ALW-SWTOWKG-EQPT:[<TID>]:<AID>:<CTAG>[::<DIRN>]; where: • <AID> This parameter can either be the protection unit for which switching back to working is to be allowed (release of lock on) or the working unit for which carrying traffic is to be allowed (release of lockout); <AID> is from the "EQPT" section on page 4-14 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-40	
Input Example	ALW-SWTOWKG-EQPT:CISCO:SLOT-2:123::BTH;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.8 APPLY: Apply

This command activates or reverts a software load during a software upgrade or downgrade process.

Section	APPLY Description
Category	System
Security	Maintenance

Section	APPLY Description (continued)	
Related Messages	ALW-MSG-ALL COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	APPLY:[<TID>]::<CTAG>[::<MEM_SW_TYPE>]; where: • <MEM_SW_TYPE> indicates memory switch action during the software upgrade; valid values for <MEM_SW_TYPE> are shown in the "DL_TYPE" section on page 4-41	
Input Example	APPLY:CISCO::123::ACT;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.9 CANC: Cancel

Reports the occurrence of a session timeout event.

CANC is an autonomous message transmitted by the NE to a user when a session established by that user is terminated because no messages were exchanged for a long period of time, a timeout. The timeout period is set based on the user's privilege. The superuser [SUPER] has the timeout period of 15 minutes. The Provision user [PROV] has the timeout period of 30 minutes. The Maintenance [MAINT] user has the timeout period of 60 minutes. The Retrieve user [RTRV] has no timeout.

When a timeout occurs, the corresponding port drops and the next session initiation at that port requires the regular login procedure.

Section	CANC Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU

Section	CANC Description (continued)
Output Format	SID DATE TIME A ATAG CANC "<UID>" ; where: • <UID> refers to the user's identification whose session is terminated due to timeout; <UID> is any combination of up to 10 alphanumeric characters. <UID> is a string
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 CANC "CISCO15" ;

3.5.10 CANC-USER: Cancel User

This command logs a user out of an active session with the NE.

Note The USERID field of this command is a mandatory field.

For the CANC-USER command: CANC-USER:[TID]:[STRING]:CTAG

the syntax of the userid (fist [STRING]) is not checked. Invalid syntax for the userid is permitted and the userid must not exceed 10 characters.

Section	CANC-USER Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	CANC-USER:[<TID>]:<USERID>:<CTAG>; where: • <USERID> identifies the user to the system; <USERID> is any combination of up to 10 alphanumeric characters. <USERID> is a string **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>
Input Example	CANC-USER:PETALUMA:TERRI:101;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.11 CHG-ACCMD-<MOD_TACC>: Change Test Access Mode (DS1, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

(STS192C supported for Cisco ONS 15454 only)

This command changes the test access (TACC) mode for the circuit being tested. For more information on TACC, refer to the "Test Access" section on page 1-10.

This may be a change from monitoring the data to inserting data into the STS. This command can only be applied to an existing TAP connection.

For this command to be applicable, you must first create the TAP using the ED-<STS_PATH> or ED-VT1 commands

Notes:

1. If there is no TAP connection, a DENY error message is returned.
2. If a requested condition already exists, a SRCN error message is returned.
3. If a requested access configuration is invalid, a SRAC error message is returned
4. If a requested TAP does not exist, a RTEN error message is returned.

Section	CHG-ACCMD-<MOD_TACC> Description
Category	Test Access
Security	Maintenance
Related Messages	CONN-TACC-<MODE_TACC> DISC_TACC RTRV-TACC
Input Format	CHG-ACCMD-<MOD_TACC>:[<TID>]:<TAP>:<CTAG>::<MD>; where: • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and NE until the access point is released. The <TAP> number must be an integer with a range of 1 to 999. <TAP> is a string **Note** This command only changes a single TAP at a time. • <MD> indicates the test access mode (SPLTE, SPLTF, LOOPE, AND LOOPF require an external QRS input signal); valid values for <MD> are shown in the "TACC_MODE" section on page 4-65
Input Example	CHG-ACCMD-STS1:CISCO:8:123::MONE;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.12 CONN-TACC-<MOD_TACC>: Connect Test Access (DS1, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

(STS192C supported for Cisco ONS 15454 only)

This command connects the STS or VT defined by AID to the STS specified by the TAP number. For more information on TACC, refer to the "Test Access" section on page 1-10.

The connection will exist only for the duration of the TL1 session, after which the TAP will be disconnected from the circuit before the session cancels out. For this command to be applicable, you must first create the TAP using the ED-<STS_PATH> or ED-VT1 commands.

Notes:

1. If all TAPs are busy, a RABY error message is returned.
2. If a requested TAP is busy, a RTBY error message is returned.
3. If a requested TAP does not exist, a RTEN error message is returned.
4. If a circuit is already connected to another TAP, a SCAT error message is returned.
5. If a requested condition already exists, a SRCN error message is returned.
6. If the AID is invalid, an IIAC (Input, Invalid Access Identifier) error message is returned.
7. If an access is not supported, an EANS error message is returned.
8. If a requested access configuration is invalid, a SRAC error message is returned.

Section	CONN-TACC-<MOD_TACC> Description
Category	Test Access
Security	Provisioning
Related Messages	CHG-ACCMD-<CHG-ACCMD> DISC-TACC RTRV-TACC
Input Format	CONN-TACC-<MOD_TACC>:[<TID>]:<AID>:<CTAG>::<TAP>:MD=<MD>; where: • <AID> is an access identifier. <AID> format is the modifier AID format in the ALL AID list. Only a single AID is supported in this command. <AID> is the AID from the "ALL" section on page 4-5. <AID> must not be null • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and the NE until the access point is released. The <TAP> number must be an integer with a range of 1 to 999. A null <TAP> defaults to an appropriate <TAP> number selected by the NE. <TAP> is an integer and a null value is equivalent to ALL • <MD> indicates the test access mode (SPLTE, SPLTF, LOOPE and LOOPF require an external QRS input signal); valid values for <MD> are shown in the "TACC_MODE" section on page 4-65. <MD> must not be null
Input Example	CONN-TACC-STS1:CISCO:STS-2-4:123::8:MD=MONE;

Section	CONN-TACC-<MOD_TACC> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<TAP>" ; where: • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and NE until the access point is released. The <TAP> number must be an integer with a range of 1 - 999. A null <TAP> defaults to an appropriate <TAP> number selected by the NE. <TAP> is an integer
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "8" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.13 COPY-RFILE: Copy RFILE

This command downloads a new software package from the location specified by the FTP URL.

Notes:

1. Userid is the userid to connect to the computer with the package file.
2. Password is the password used to connect to the computer with the package file.
3. Hostname_ip is the IP address of the computer with the package file.
4. Package_path is the long path name to the package file.
5. Both the userid and password are optional if the user does not need to log into the host computer.
6. The password may be optional if the user does not need to log in.
7. All the other portions of the URL are required, including the initial "FTP://" string.

Example:

COPY-RFILE:TID:RFILE-PKG:703::TYPE=SWDL,SRC="FTP://USERID:PASSWORD@HOSTNAME_IP/DIR1/DIR2/DIR3/PACKAGE.PKG";

Notes:

1. SWDL is the only allowable "XFERTYPE".
2. FTP is the only allowed file transfer method.
3. The use of the SWDL and the extended FTP URL syntax are required by the COPY-RFILE syntax.

Section	COPY-RFILE Description
Category	System
Security	Superuser

Section	COPY-RFILE Description (continued)	
Related Messages	ALW-MSG-ALL APPLY ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	COPY-RFILE:[<TID>]:<SRC>:<CTAG>::TYPE=<XFERTYPE>, [SRC=<SRC1>]; where: • <SRC> is the type of file being transferred; <SRC> is the AID from the "RFILE" section on page 4-16 • <XFERTYPE> is the file transfer protocol; valid values for <XFERTYPE> are shown in the "TX_TYPE" section on page 4-68 • <SRC1> specifies the source of the file to be transferred. Only the FTP URL is supported. In a non-firewall environment the format of the URL should be: "FTP://FTP_USER[:FTP_PASSWORD]]@FTP_HOST_IP/PACKAGE_PATH" where: – FTP_USER is the userid to connect to the computer with the package file – FTP_PASSWORD is the password used to connect to the computer with the package file – FTP_HOST_IP is the IP address of the computer with the package file, DNS lookup of hostnames is not supported – PACKAGE_PATH is the long path name to the package file **Note** Userid and password are optional if the user does not need to log into the host computer. The password may be optional if the user does not need to log in. All the other portions of the URL are required, including the initial "FTP://" string. In a firewall environment, the hostname should be replaced with a list of IP addresses each separated by a @ character. The first IP address should be for the machine where the package file is stored. Subsequent IP addresses should then be for firewall machines moving outwards towards the edge of the network, until the final IP address listed is the machine that outside users first access the network. For example, if the topology is "FTP_HOST_IP <-> GNE3 <->GNE2 <-> GNE1 <-> ENE", the FTP URL is: FTP://FTP_USER:FTP_PASSWORD@FTP_HOST_IP@GNE3@GNE2@ GNE1/PACKAGE_PATH <SRC1> is a string.	
Input Example	COPY-RFILE:HERNDON:RFILE-PKG:703::TYPE=SWDL, SRC="FTP://USER:PASSWORD@207.3.224.135/PATH/FILE.PKG";	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.14 DISC-TACC: Disconnect Test Access

This command disconnects the TAP and puts the connection back to its original state (no splits). For more information on TACC, refer to the "Test Access" section on page 1-10.

For this command to be applicable, you must first create the TAP using the ED-<STS_PATH> or ED-VT1 commands.

Notes:

1. If you send this command to an already disconnected connection, a SADC error message is returned.
2. If the system cannot release TAP, an SRTN error message is returned.
3. Automatic disconnection of the STS/VT path from a TAP happens when the session that created the connection gets timed out or is terminated.

Section	DISC-TACC Description
Category	Test Access
Security	Provisioning
Related Messages	CHG-ACCMD-<MOD_TACC> CONN-TACC-<MOD_TACC> RTRV-TACC
Input Format	DISC-TACC:[<TID>]:<TAP>:<CTAG>; where: • <TAP> indicates the test access path number selected by the NE. The <TAP> is used to identify all messages between the TSC and the NE until the access point is released. The <TAP> number must be an integer with a range of 1- 999. This command only supports changing a single <TAP> number at a time. <TAP> is a string **Note** This command only disconnects a single TAP at a time.
Input Example	DISC-TACC:CISCO:8:123;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.15 DLT-BLSR: Delete BLSR

This command deletes the BLSR of the NE.

Error conditions:

1. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message is returned.
2. If the NE returns nothing for the required BLSR (BLSR-# AID), a SRQN (Status, Invalid Request) error message is returned.

Section	DLT-BLSR Description
Category	BLSR
Security	Provisioning

Section	DLT-BLSR Description (continued)	
Related Messages	ED-BLSR ENT-BLSR REPT ALM RING REPT EVT RING	RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING
Input Format	DLT-BLSR:[<TID>]:<AID>:<CTAG>[:::]; where: • <AID> identifies the BLSR of the NE. “ALL” or “BLSR-ALL” AID is not allowed for editing BLSR. This command only supports a single BLSR AID. <AID> is the AID from the “BLSR” section on page 4-12	
Input Example	DLT-BLSR:PETALUMA:BLSR-2:123;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.16 DLT-CRS-<STS_PATH>: Delete Cross Connection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for Cisco ONS 15454 only)

This command deletes a cross-connection between STS paths. STS paths are specified using their STS AID.

Notes:

1. The fields after CTAG (trailing colons) are optional.
2. For the 1-way cross-connections the AIDs must be in the same order as originally entered; for the 2-way cross-connections, either order will work.
3. This command does not support deleting multiple STS cross-connections.
4. Using “&” in the AID field of this command can delete an UPSR STS cross-connection.
   a. The following command is used to delete a 1-way selector or 2-way selector and bridge with:

      from points: F1, F2

      to points: T1

      DLT-CRS-{STS_PATH}:[<TID>]:F1&F2,T1:<CTAG>;
   b. The following command is used to delete a 1-way bridge or 2-way selector and bridge with:

      from point: F1

      to points: T1, T2

      DLT-CRS-{STS_PATH}:[<TID>]:F1,T1&T2:<CTAG>;
   c. The following command is used to delete a 1-way or 2-way subtending UPSR connection with:

      from point: F1, F2

      to points: T1, T2

      DLT-CRS-{STS_PATH}:[<TID>]:F1&F2,T1&T2:<CTAG>;
   d. The AID format in the deletion command is the same as the AID format in the retrieved response message. For example, if the output of any retrieved AID is “F1&F2,T1:CCT,STS3C”, the deletion command with the AID format (F1&F2,T1) is required to delete this cross-connection.

5. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. You can experience some implementation behavior problems if additional drops have been added to the connection object.
7. The facility AID is only valid for slots holding the G1000-4 card.
8. A TL1 cross-connect that has been upgraded to a CTC circuit can no longer be managed by TL1. For example, if you issue a DLT-CRS-<STS_PATH> command to delete a circuit, you will see that the circuit still appears in CTC as "incomplete". The reason for this is because in addition to creating cross-connects (as TL1 does), CTC creates another object on the source node that stores network-level circuit attributes. CTC will continue to see that object after the cross-connect is deleted which is why it shows an incomplete circuit.

Section	DLT-CRS-<STS_PATH> Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	DLT-CRS-<STS_PATH>:[<TID>]:<FROM>,<TO>:<CTAG>[:::]; where: • <FROM> indicates an identifier at one end of the STS cross-connection; <FROM> is the AID from the "STS" section on page 4-16 • <TO> indicates an identifier at the other end of the STS cross-connection; <TO> is the AID from the "STS" section on page 4-16
Input Example	DLT-CRS-STS12C:VINBURG:STS-1-1,STS-12-1:102;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.17 DLT-CRS-VT1: Delete Virtual Tributary Cross Connect

This command deletes the VT1 cross-connections.

Notes:

1. The fields after CTAG (trailing colons) are the optional.
2. For the 1-way cross-connections the AIDs must be in the same order as originally entered; for the 2-way either order will work.
3. This command does not support deleting multiple VT cross-connections.
4. Using "&" in the AID field of this command can delete an UPSR VT cross-connection.
   a. The following command is used to delete a 1-way selector or 2-way selector and bridge with:

      from points: F1, F2

      to points: T1

      DLT-CRS-VT1:[<TID>]:F1&F2,T1:<CTAG>;

   b. The following command is used to delete a 1-way bridge or 2-way selector and bridge with:

      from point: F1

      to points: T1, T2

      DLT-CRS-VT1:[<TID>]:F1,T1&T2:<CTAG>;

   c. The following command is used to delete a 1-way subtending UPSR connection or 2-way subtending UPSR connection with:

      from points: F1, F2

      to points: T1, T2

      DLT-CRS-VT1:[<TID>]:F1&F2,T1&T2:<CTAG>;

   d. The AID format in the deletion command is the same as the AID format in the retrieved response message. For example, if the output of any retrieved AID is "F1&F2,T1:CCT", the deletion command with the AID format (F1&F2,T1) is required to delete this cross-connection.
5. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. You can experience some implementation behavior problems if additional drops have been added to the connection object.

Section	DLT-CRS-VT1 Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-<STS_PATH> ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1

Section	DLT-CRS-VT1 Description (continued)
Input Format	DLT-CRS-VT1:[<TID>]:<from>,<to>:<CTAG>[:::]; where: • <FROM> indicates an identifier at one end of the VT cross-connection; <FROM> is the AID from the "VT1_5" section on page 4-21 • <TO> indicates an identifier at the other end of the VT cross-connection; <TO> is the AID from the "VT1_5" section on page 4-21
Input Example	DLT-CRS-VT1:CISCO:VT1-2-3-7-2,VT1-4-4-5-2:1234;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.18 DLT-EQPT: Delete Equipment

This command deletes a card from the NE.

This command removes the card type and attributes that were entered for a particular slot. If any facilities are assigned, they are deleted too. The command will be denied if the card is part of a protection group or has a cross-connect end-point.

To delete a card that is part of a protection group, it has to be removed from the protection group first using the ED-EQPT command.

Error conditions for deleting equipment may be:

1. If the equipment is in use which corresponds to some provisioning having been done on the equipment, the SPLD (Equipment in use) error message will be returned:
   a. If it is belongs to a protection group that has a cross-connection.
   b. If one of its ports has been provisioned as a DCC channel.
   c. If one of its ports is being used for a synchronization source.
   d. If the equipment has a Test Access Point (TAP).
   e. If one of its ports is being used as an UCP Control Channel or Interface.
   f. If one of its ports is provisioned for a BLSR.
   g. If one of its ports is a part of a 1+1 protection group.
2. If a card is not provisioned, an error message will be returned.

Section	DLT-EQPT Description	
Category	Equipment	
Security	Provisioning	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	DLT-EQPT Description (continued)
Input Format	DLT-EQPT:[<TID>]:<AID>:<CTAG>[:::]; where: • <AID> is the equipment unit (slot) to act on and is the AID from the "EQPT" section on page 4-14
Input Example	DLT-EQPT:SONOMA:SLOT-1:104;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.19 DLT-FFP-<OCN_TYPE>: Delete Facility Protection Group (OC3, OC12, OC48, OC192)

(OC192 supported for Cisco ONS 15454 only)

This command deletes an OCN facility protection group in the 1+1 architecture.

Note If the protection group does not exist, an error message will be returned.

Section	DLT-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Provisioning
Related Messages	ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	DLT-FFP-<OCN_TYPE>:[<TID>]:<WORK>,<PROTECT>:<CTAG>[:::]; where: • <WORK> identifies the working facility and is the AID from the "FACILITY" section on page 4-15 • <PROTECT> identifies the protect facility and is the AID "FACILITY" section on page 4-15
Input Example	DLT-FFP-OC3:PETALUMA:FAC-2-1,FAC-1-1:1;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.20 DLT-UCP-CC: Delete Unified Control Plane Control Channel

This command deletes an UCP IP control channel.

1. If you send this command to a control channel that is in use, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command to delete an SDCC IPCC with a complete result, the SDCC of the specified SONET line is deleted (or disabled) automatically with a DB change reporting (if the DB change report is enabled).
3. If sending this command to delete an IPCC which is in use by an UCP Interface, an SROF (Delete UCP IPCC Failed - Object Is In Use) error message is returned.

Section	DLT-UCP-CC Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR
Input Format	DLT-UCP-CC:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates an individual IPCC ID; <AID> is the AID from the "IPCC" section on page 4-9	
Input Example	DLT-UCP-CC:CISCO:CC-9:CTAG;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.21 DLT-UCP-IF: Delete Unified Control Plane Interface

This command deletes an UCP interface.

Note If the UCP interface is not found or in use, a SRQN (Status, Invalid Request) error message is returned.

Section	DLT-UCP-IF Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR
Input Format	DLT-UCP-IF:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the interface port index of the data link; <AID> is the AID from the "FACILITY" section on page 4-15	
Input Example	DLT-UCP-IF:CISCO:FAC-2-1:CTAG;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.22 DLT-UCP-NBR: Delete Unified Control Plane Neighbor

This command deletes an UCP neighbor.

Notes:

1. If the neighbor is in use, an SRQN (Status, Invalid Request) error message is returned.
2. If sending this command to delete a neighbor which is in use by IPCC, an SROF (Delete UCP neighbor Failed - Object Is In Use) error message is returned.

Section	DLT-UCP-NBR Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR
Input Format	DLT-UCP-NBR:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates an individual neighbor AID of the UCP; <AID> is the AID from the "NBR" section on page 4-10	
Input Example	DLT-UCP-NBR:CISCO:NBR-8:CTAG;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.23 DLT-USER-SECU: Delete User Security

This command deletes a user and can only be performed by a Superuser. Privilege levels are described in the ENT-USER-SECU command.

This command cannot be used to delete a user that is currently logged on.

For the DLT-USER-SECU command:

DLT-USER-SECU:[TID]:<UID>:[CTAG];

the syntax of <UID> is not checked. The user is deleted if the <UID> exists in the database.

Notes:

1. A userid cannot be deleted when that user is logged in. If you try to delete a userid and the user is logged in, an error message indicating that the user is logged in will be received.

Section	DLT-USER-SECU Description
Category	Security
Security	Superuser

Section	DLT-USER-SECU Description (continued)
Related Messages	ACT-USER CANC CANC-USER ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	DLT-USER-SECU:[<TID>]:<UID>:<CTAG>; where: • <UID> is the user identifier and is a string; <UID> is any combination of up to 10 alphanumeric characters **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>.
Input Example	DLT-USER-SECU:PETALUMA:CISCO15:123;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.24 ED-<OCN_TYPE>: Edit (OC3, OC12, OC48, OC192)

(OC192 supported for Cisco ONS 15454 only)

This command edits the attributes (i.e., service parameters) and state of an OC-N facility. Allowable states for a facility are Out Of Service (OOS), Out Of Service with Automatic In Service transitioning (OOS-AINS), Out Of Service for Maintenance (OOS-MT), and In Service (IS).

The DCC transmit is bridged to both working and protect in a 1+1 configuration. On the receive side, the active one is selected for DCC. The DCC is provisioned on the working port only in a 1+1 configuration.

All lines in a 1+1 BLSR must have the same mode. If you change the mode of a line that is in a 1+1 BLSR, an error message will be returned.

UNI-C DCC provisioning notes:

1. The attributes DCC(Y/N) and mode (SONET/SDH) remain the same in the ED/RTRV-OCN commands when the DCC is used for UNI-C, in which case the port attribute UNIC is enables (UNIC=Y).
2. If the DCC is created under regular SONET provisioning, and this port is used by UNI-C, the port is converted as a UNI-C DCC automatically.
3. De-provisioning UNI-C IF/IB IPCC will free up DCC termination automatically.
4. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-<OCN_TYPE> Description
Category	Ports
Security	Provisioning

Section	ED-<OCN_TYPE> Description (continued)
Related Messages	ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	ED-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>:::[DCC=<DCC>,][SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,][PJMON=<PJMON>,][SFBER=<SFBER>,][SDBER=<SDBER>,][MODE=<MODE>,][MUX=<MUX>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-15 • <DCC> identifies an OCN port DCC connection; valid values for <DCC> are shown in the "SDCC_MODE" section on page 4-59 • <SYNCMSG> indicates if sync status messaging is enabled or disabled on the facility; valid values for <SYNCMSG> are shown in the "ON_OFF" section on page 4-56 • <SENDDUS> indicates that the facility will send out the DUS (do not use for synchronization) value as the sync status message for that facility; valid values are shown in the "ON_OFF" section on page 4-56 • <PJMON> identifies an OC-N port PJMON with a value range of [0, highest STS number for the sonet card]; <PJMON> is an integer • <SFBER> identifies an OC-N port SFBER; valid values for <SFBER> are shown in the "SF_BER" section on page 4-59 • <SDBER> identifies an OC-N port SDBER; valid values for <SDBER> are shown in the "SD_BER" section on page 4-59 • Valid values for <MODE> are shown in the "OPTICAL_MODE" section on page 4-56 • <MUX> BLSR Extension Byte (supported only on OC48AS cards); valid values for <MUX> are shown in the "MUX_TYPE" section on page 4-54 • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours). <SOAK> is an integer. • <PST> is the primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> is the secondary state; valid values for <SST> are shown in the "SST" section on page 4-60

Section	ED-<OCN_TYPE> Description (continued)
Input Example	ED-OC48:PENNGROVE:FAC-6-1:114:::DCC=Y,SYNCMSG=Y,SENDDUS=N, PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SONET,MUX=E2, SOAK=10:OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.25 ED-<STS_PATH>: Edit (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for Cisco ONS 15454 only)

This command edits the attributes associated with an STS path.

The SFBER, SDBER, RVRTV, and RVTM parameters only apply to UPSR.

The path trace message is a 64 character string including the terminating CR (carriage return) and LF (line feed) that is transported in the J1 byte of the SONET STS Path overhead. Both the EXPTRC and TRC string can be provisioned by user with up to 62 character string.

The EXPTRC indicates the contents of the expected incoming path trace are provisioned by the user. The TRC indicates the contents of the outgoing path trace message. The INCTRC indicates the contents of the incoming path trace message.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The path trace mode defaults to OFF. The MANUAL mode performs the comparison of the received string with the user-entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

The TACC parameter edits an existing single STS or VT and changes it to a test access point. When an editing command on TACC is executed, it assigns the STS for the first 2-way connection and STS=1 as the second 2-way connection. For STS3C and STS12C, the next available STS of the same width is chosen. For more information on TACC, refer to the "Test Access" section on page 1-10.

J1 is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, OC3, OC48AS and OC192 cards.

DS3/DS3N, OC12, OC48, E100, and E1000 cards do not support path trace.

DS1/DS1N, DS3E/DS3NE, and DS3XM support both TRC and EXPTRC in the ED-STS-PATH command.

EC1, OC3, OC48AS, and OC192 only support EXPTRC in the ED-STS-PATH command.

Note Each TL1 command must be less than or equal to 255 characters. Any command larger than 255 characters must be split into multiple commands. For example, if you use the ED-<STS_PATH> command to edit the J1 EXPTRC/TRC message, UPSR attributes, and TACC attributes and the command exceeds 255 characters the command will not be processed. You must use multiple ED-<STS_PATH> commands instead.

Note An STS tap created in a DS3XM card cannot be used to connect to an STS having a non-VT structured payload; for example, DS3, if created traffic cannot be monitored.

Note An STS tap created in a DS3 card cannot be used to connect to an STS having non-DS3 payload; for example, VT-structured, if created traffic cannot be monitored.

Error conditions:

1. If sending this command to edit SFBER or SDBER or RVRTV or RVTM for the non UPSR STS path, an error message will be returned.
2. If sending this command to edit the EXPTRC string with the AUTO path trace mode (TRCMODE=AUTO), an error message will be returned.
3. If sending this command to edit TRC on any card other than DS3(N)E, DS1(N), and DS3XM cards, an error message (TRC-not allowed for monitor paths. Incorrect card type.) will be returned.
4. This command is allowed to edit EXPTRC on DS1(N), DS3(N)E, DS3XM, EC1, OC3, OC48AS, and OC192 cards.
5. If sending this command to edit both TACC and any other attribute(s), the (Parameters Not compatible) error message will be returned.
6. If sending this command to edit TACC on an AID with circuits or cross-connections, an error message (VT in Use) will be returned.
7. TACC creation will also be denied on the protect ports/cards.

Section	ED-<STS_PATH> Description
Category	STS Paths
Security	Provisioning
Related Messages	RTRV-<STS_PATH> RTRV-PTHTRC-<STS_PATH>

Section	ED-<STS_PATH> Description (continued)
Input Format	ED-<STS_PATH>:[<TID>]:<AID>:<CTAG>:::[SFBER=<SFBER>,][SDBER=<SDBER>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][SWPDIP=<SWPDIP>,][EXPTRC=<EXPTRC>,][TRC=<TRC>,][TRCMODE=<TRCMODE>,][TACC=<TACC>]:[<PST>],[<SST>]; where: • <AID> is the access identifier from the "STS" section on page 4-16 • <SFBER> identifies an STS path SFBER which only applies to UPSR; valid values for <SFBER> are shown in the "SF_BER" section on page 4-59 • <SDBER> identifies an STS path SDBER which only applies to UPSR; valid values for <SDBER> are shown in the "SD_BER" section on page 4-59 • <RVRTV> identifies a revertive mode which only applies to UPSR; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 • <RVTM> identifies a revertive time which only applies to UPSR; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58. <RVTM> is not allowed to be set while <RVRTV> is N. • <SWPDIP> indicates if the STS path can be automatically switched on receiving a PDI-P signal. A null value defaults to N. This parameter applies only to UPSR paths. Valid values for <SWPDIP> are shown in the "ON_OFF" section on page 4-56 • <EXPTRC> indicates the expected path trace message (J1) contents. The EXPTRC is any 64 character string, including the terminating CR (carriage return) and LF (line feed); <EXPTRC> is a string • <TRC> identifies the path trace message to be transmitted. The TRC is any combination of 64 characters, including the terminating CR and LF. The trace byte (J1) continuously transmits a 64 byte string, one byte at a time. A null value defaults to the NE transmitting null characters (Hex 00); <TRC> is a string • <TRCMODE> indicates the path trace mode, and defaults to the OFF mode; valid values for <TRCMODE> are shown in the "TRCMODE" section on page 4-67 • <TACC> is the AID "TACC" section on page 4-20 • <PST> is the primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> is the secondary state; valid values for <SST> are shown in the "SST" section on page 4-60
Input Example	ED-STS1:FERNDALE:STS-2-4:115:::SFBER=1E-3,SDBER=1E-5,RVRTV=Y,RVTM=1.0,SWPDIP=Y,EXPTRC="EXPTRCSTRING",TRC="TRCSTRING",TRCMODE=OFF,TACC=8:OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.26 ED-BITS: Edit Building Integrated Timing Supply

This command edits the BITS reference attributes.

Section	ED-BITS Description	
Category	Synchronization	
Security	Provisioning	
Related Messages	ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	ED-BITS:[<TID>]:<AID>:<CTAG>:::[LINECDE=<LINECDE>,][FMT=<FMT>,][LBO=<LBO>,][SYNCMSG=<SYNCMSG>,][AISTHRSHLD=<AISTHRSHLD>][:<PST>]; where: • <AID> is an access identifier from the "BITS" section on page 4-11 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "LINE_CODE" section on page 4-48 • <FMT> is the frame format; valid values for <FMT> are shown in the "FRAME_FORMAT" section on page 4-47 • <LBO> indicates BITS line build out. The default value is 0-133. Valid values for <LBO> are shown in the "BITS_LineBuildOut" section on page 4-27 • <SYNCMSG> indicates if this BITS facility supports synchronization status message; <SYNCMSG> defaults to (Y) and valid values are shown in the "ON_OFF" section on page 4-56 • <AISTHRSHLD> is the AIS Threshold. Valid values for <AISTHRSHLD> shown in the "SYNC_CLOCK_REF_QUALITY_LEVEL" section on page 4-62 • <PST> is a state; valid values for <PST> are shown in the "PST" section on page 4-58	
Input Example	ED-BITS:SONOMA:BITS-2:779:::LINECDE=AMI,FMT=ESF,LBO=0-133,SYNCMSG=Y,AISTHRSHLD=PRS:IS;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.27 ED-BLSR: Edit Bidirectional Line Switched Ring

This command edits the BLSR attributes.

Notes:

1. Only the RVRTV, RVTM, SRVRTV, SRVTM attributes can be edited for the 4-Fiber BLSR.
2. Only the RVRTV and RVTM attributes can be edited for the 2-Fiber BLSR.

Error conditions:

1. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message will be returned.
2. If the NE returns nothing for the required BLSR (BLSR-#, AID), a SRQN (Status, Invalid Request) error message will be returned.
3. If sending this command to modify any attribute other than RVRTV, RVTM, SRVRTV, and SRVTM on the 4-Fiber BLSR, an IDNV (Input, Data Not Valid) error message will be returned.
4. If sending this command to modify any attribute other than RVRTV or RVTM on the 2-fiber BLSR, an IDNV (Input, Data Not Valid) error message will be returned.
5. Both RINGID and NODEID can be edited using the ED-BLSR command starting with Release 3.2.

Section	ED-BLSR Description
Category	BLSR
Security	Provisioning
Related Messages	DLT-BLSR ENT-BLSR REPT ALM RING REPT EVT RING RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING

Section	ED-BLSR Description (continued)
Input Format	ED-BLSR:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>,] [NODEID=<NODEID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,] [SRVRTV=<SRVRTV>,][SRVTM=<SRVTM>][:]; where: • <AID> identifies the BLSR of the NE and is from the "BLSR" section on page 4-12 (the AID "ALL" or "BLSR ALL" is not allowed for editing BLSR). This command only supports a single BLSR AID • <RINGID> identifies the BLSR ring ID of the NE. It ranges from 0–9999. <RINGID> is an integer • <NODEID> identifies the BLSR node ID of the NE. It ranges from 0–31. <NODEID> is an integer • <RVRTV> identifies the revertive mode and valid values are shown in the "ON_OFF" section on page 4-56 • <RVTM> identifies the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58 • <SRVRTV> identifies the span revertive mode for 4F BLSR only and valid values are shown in the "ON_OFF" section on page 4-56 • <SRVTM> identifies the span revertive time for 4F BLSR only; valid values for <SRVTM> are shown in the "REVERTIVE_TIME" section on page 4-58
Input Example	ED-BLSR:PETALUMA:BLSR-43:123:::RINGID=43,NODEID=3,RVRTV=Y, RVTM=2.0,SRVRTV=Y,SRVTM=5.0;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.28 ED-CRS-<STS_PATH>:ED CRS (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS 48C, STS192C)

This command edits the state of an STS cross-connection.

Section	ED-CRS-<STS_PATH> Description	
Category	Cross Connections	
Security	Provisioning	
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-VT1 ENT-CRS-<STS_PATH>	ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1

Section	ED-CRS-<STS_PATH> Description (continued)
Input Format	ED-CRS-<STS_PATH>:[<TID>]:<SRC>,<DST>:<CTAG>::::[<PST>],[<SST>]; where: • <SRC> indicates an identifier at one end of the STS cross-connection; <SRC> is the AID from the "STS" section on page 4-16 • <DST> indicates an identifier at the other end of the STS cross-connection; <DST> is the AID from the "STS" section on page 4-16 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60
Input Example	ED-CRS-STS1::STS-1-1,STS-2-1:1::::OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.29 ED-CRS-VT1: ED-VT1 Cross Connection

This command edits a VT cross-connection.

Section	ED-CRS-VT1 Description	
Category	Cross Connections	
Security	Provisioning	
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ENT-CRS-<STS_PATH>	ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	ED-CRS-VT1:[<TID>]:<SRC>,<DST>:<CTAG>::::[<PST>],[<SST>]; where: • <SRC> indicates an identifier at one end of the VT cross-connection; <SRC> is the AID from the "VT1_5" section on page 4-21 • <DST> indicates an identifier at the other end of the VT cross-connection; <DST> is the AID from the "VT1_5" section on page 4-21 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60	
Input Example	ED-CRS-VT1::VT1-1-1-1-1,VT1-2-1-1-1:1::::OOS,AINS;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.30 ED-DAT: Edit Date and Time

This command edits the date and the time

Section	ED-DAT Description	
Category	System	
Security	Provisioning	
Related Messages	ALM-MSG-ALL APPLY COPY-RFILE ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	ED-DAT:[<TID>]::<CTAG>::[<DATE>],[<TIME>]; where: • <DATE> identifies the date and is a string • <TIME> identifies the time and is a string	
Input Example	ED-DAT:CISCO::1234::99-12-21,14-35-15;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.31 ED-DS1: Edit DS1 Layer of DS3XM

(Cisco ONS 15454 only)

This command edits the test access attribute for DS1 access on a DS3XM card.

Note This command is not allowed if the card is a protecting card.

Section	ED-DS1 Description	
Category	Ports	
Security	Provisioning	
Related Messages	ED-<OCN_TYPE> ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3

Section	ED-DS1 Description (continued)
Input Format	ED-DS1:[<TID>]:<AID>:<CTAG>[:::TACC=<TACC>]; where: • <AID> is the access identifier of a DS1 access on the DS3XM card and is from the "DS1" section on page 4-13 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999. When TACC is 0, the TAP is deleted. <TACC> is an integer
Input Example	ED-DS1:PETALUMA:DS1-2-6-12:123:::TACC=8;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.32 ED-EC1: Edit Electrical Carrier

(Cisco ONS 15454 only)

This command edits the attributes of an EC1.

Notes:

1. This command is not allowed if the card is a protecting card.
2. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-EC1 Description	
Category	Ports	
Security	Provisioning	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3

Section	ED-EC1 Description (continued)
Input Format	ED-EC1:[<TID>]:<AID>:<CTAG>:::[PJMON=<PJMON>,][LBO=<LBO>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is a facility AID of an EC1 port and is from the "FACILITY" section on page 4-15 • <PJMON> is a SONET pointer number (0 or 1) of an EC1 port and is an integer • Valid values for <LBO> are shown in the "E_LBO" section on page 4-42 • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours). <SOAK> is an integer • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60
Input Example	ED-EC1:CISCO:FAC-1-1:123:::PJMON=0,LBO=0-225,SOAK=10:OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.33 ED-EQPT: Edit Equipment

This command edits the attributes for a given equipment slot in the NE. If the card is in an equipment slot, this command is allowed only on the working AID.

The PROTID parameter indicates the unique identifier of the protection group (the protect card). "NULL" is a special value of the PROTID parameter and indicates absence of a protection group. For 1:1 protection type, RVRTV and RVTM parameters can be changed. For 1:1 protection type, if the PROTID parameter is entered as "NULL", the protection group is deleted.

ED-EQPT:[<TID>]:SLOT-2:<CTAG>:::PROTID=NULL;

For 1:N protection type, if the PROTID is "NULL", the AIDs in the list are removed from the protection group. If all the working cards are in the AID list, the protection group is deleted.

Example: if Slot-1, Slot-2 and Slot-4 were the only working cards in the protection group. The following command will remove Slot-4 from the protection group:

ED-EQPT:[<TID>]:SLOT-4:<CTAG>:::PROTID=NULL;

The protection group still has Slot-1 and Slot-2 as working cards.

The following command will remove all the other working cards in the above example and consequently, delete the protection group itself:

ED-EQPT:[<TID>]:SLOT-2&SLOT-1:<CTAG>:::PROTID=NULL;

The ED-EQPT command can be successfully executed on an already provisioned card to add a working card to or remove one from a protection group. This command is not valid on a protect card. Only cards can be added to or removed from a protection group. Protection type is immutable and is determined at the time of creation of a protection group (while adding the first working card). Once provisioned, the equipment type cannot be edited either.

Examples of adding an existing card to a protection group using the ED-EQPT command:

1:1 protection group

ED-EQPT::SLOT-2:12:::PROTID=SLOT-1,RVRTV=Y,RVTM=9.0;

1:N protection group

ED-EQPT::SLOT-2:12:::PROTID=SLOT-3,PRTYPE=1-N,RVTM=6.5;

Error conditions for editing a 1:1 or 1:N protection group may be:

1. Editing the PRTYPE or PROTID (non-NULL value) parameters.
2. Editing RVRTV or RVTM when no protection group exists.
3. Editing RVRTV for 1:N protection.
4. Failed to remove, currently switched to protect.

Section	ED-EQPT Description	
Category	Equipment	
Security	Provisioning	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	ED-EQPT:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>,][PRTYPE=<PRTYPE>,][RVRTV=<RVRTV>,][RVTM=<RVTM>][:]; where: • <AID> is an access identifier from the "EQPT" section on page 4-14 • <PROTID> is the protecting card slot number of the protection group. <PROTID> is the AID from the "UCP" section on page 4-11 • <PRTYPE> is the protection group type; valid values for <PRTYPE> are shown in the "PROTECTION_GROUP" section on page 4-58 • <RVRTV> is the revertive mode: valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 • <RVTM> is the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58	
Input Example	ED-EQPT:CISCO:SLOT-2:123:::PROTID=SLOT-1,PRTYPE=1-1,RVRTV=Y,RVTM=9.0;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.34 ED-FFP-<OCN_TYPE>: Edit Facility Protection Group (OC3, OC12, OC48, OC192)

(OC192 supported for Cisco ONS 15454 only)

This command edits the optical facility protection.

Notes:

1. This command can be used on both protecting and working AIDs.

Section	ED-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Provisioning
Related Messages	DLT-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	ED-FFP-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>:::[PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:]; where: • <AID> is the facility AID from the "FACILITY" section on page 4-15 • <PROTID> is the protection group identifier (protection group name) and is a string; <PROTID> can have a maximum of 32 characters • <RVRTV> identifies a revertive mode; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 • <RVTM> identifies a revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58 • <PSDIRN> identifies the switching mode; valid values for <PSDIRN> are shown in the "UNI_BI" section on page 4-70
Input Example	ED-FFP-OC3:PETALUMA:FAC-1-1:1:::PROTID=PROT_NAME,RVRTV=Y,RVTM=1.0,PSDIRN=BI;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.35 ED-G1000: Edit G1000

(Cisco ONS 15454 only)

This command edits the attributes related to a G1000 port.

Notes:

1. The state OOS-AINS is not supported on the G1000.
2. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-G1000 Description	
Category	Ports	
Security	Provisioning	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	ED-G1000:[<TID>]:<AID>:<CTAG>:::[MFS=<MFS>,][FLOW=<FLOW>]:[<PST>],[<SST>]; where: • <AID> is the AID facility from the "FACILITY" section on page 4-15 • Valid values for <MFS> are shown in the "MFS_TYPE" section on page 4-49 • Valid values for <FLOW> are shown in the "PM_STATE" section on page 4-57 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60	
Input Example	ED-G1000:TID:FAC-1-1:CTAG:::MFS=1548,FLOW=Y:IS;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.36 ED-NE-GEN: Edit Network Element General

This command edits the node attributes of the NE.

Notes:

1. Only the IPADDR, IPMASK, DEFRTR, IIOP PORT and node name can be modified with this command.
2. The node name can be a maximum of 20 characters. If the entered name exceeds 20 characters, an IPNV (Node Name Too Long) error message is returned.
3. The feature of setting a timing source has been supported since ONS 15454 R3.2.
4. An existing timing source can be removed by setting the address to 0.0.0.0.

Section	ED-NE-GEN Description	
Category	System	
Security	Superuser	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	ED-NE-GEN:[<TID>]::<CTAG>:::[NAME=<NAME>,][IPADDR=<IPADDR>,][IPMASK=<IPMASK>,][DEFRTR=<DEFRTR>,][IIOPPORT=<IIOPPORT>,][NTP=<NTP>]; where: • <NAME> indicates the node name and is a string • <IPADDR> indicates the node IP address and is a string • <IPMASK> indicates the node IP mask and is a string • <DEFRTR> indicates the node default router and is a string • <IIOPPORT> indicates the node IIOPPORT and is an integer • <NTP> indicates the node's NTP timing origin address and is a string	
Input Example	ED-NE-GEN:CISCO::123:::NAME=NODENAME,IPADDR=192.168.100.52,IPMASK=255.255.255.0,DEFRTR=192.168.100.1,IIOPPORT=57790,NTP=192.168.100.52;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.37 ED-NE-SYNCN: Edit Network Element Synchronization

This command edits the synchronization attributes of the NE.

Notes:

1. Although mixed mode timing is supported in this release, it is not recommended. See the "Mixed Mode Timing Support" section on page 1-8 for more information.
2. The existing external and line modes have the same functionality in all ONS 15454 3.x releases:

   External mode: the node derives its timing from the BITS inputs.

   Line mode: the node derives its timing from the SONET line(s).

   Mixed mode: the node derives its timing from the BITS input or SONET lines.

Section	ED-NE-SYNCN Description	
Category	Synchronization	
Security	Provisioning	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-BITS ED-DAT ED-NE-GEN ED-SYNCN INH-MSG-ALL INIT-SYS OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT FXFR REPT EVT SYNCN	RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-SYNCN RTRV-TOD SET-TOD
Input Format	ED-NE-SYNCN:[<TID>]::<CTAG>:::[TMMD=<TMMD>,][SSMGEN=<SSMGEN>,][QRES=<QRES>,][RVRTV=<RVRTV>,][RVTM=<RVTM>]; where: • <TMMD> is the timing mode; valid values for <TMMD> are shown in the "TIMING_MODE" section on page 4-66 • <SSMGEN> is the SSM message set; valid values for <SSMGEN> are shown in the "SYNC_GENERATION" section on page 4-63 • <QRES> is the quality of the RES; valid values for <QRES> are shown in the "SYNC_QUALITY_LEVEL" section on page 4-63 • <RVRTV> is the revertive mode; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 • <RVTM> is the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58	

Section	ED-NE-SYNCN Description (continued)
Input Example	ED-NE-SYNCN:CISCO::123:::TMMD=LINE,SSMGEN=GEN1, QRES=ABOVE-PRS,RVRTV=Y,RVTM=8.0;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.38 ED-PID: Edit Password

This command allows a user to change his or her own password.

The password cannot be null. It will be echoed as clear text as the message is parsed only after the complete message is entered and terminated.

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. The password will not appear in the TL1 log on the NE.
3. You must use the ED-USER-SECU command to change the empty password (Superuser CISCO15 default empty password) to a non-empty, valid password. The ED-PID command cannot be used to change the empty password to a valid password.
4. For the ED-PID command:

   ED-PID:[TID]:<UID>:[CTAG]::<OLDPID>,<NEWPID>;

   the syntax of <OLDPID> is not checked. The <NEWPID> is required to follow Telcordia standards (i.e., 10 characters maximum including 1 letter, 1 number, and any one of the following characters: #, %, or +). The <OLDPID> must match what is in the database.

Section	ED-PID Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-USER-SECU ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU

Section	ED-PID Description (continued)
Input Format	ED-PID:[<TID>]:<UID>:<CTAG>::<OLDPID>,<NEWPID>; where: • <UID> is the user identifier and is a string; <UID> is any combination of up to 10 alphanumeric characters • <OLDPID> is the old password and is a string; <OLDPID> is any combination of up to 10 alphanumeric characters. The syntax of <OLDPID> is not checked for backwards compatibility • <NEWPID> is the user login password and is a string; <NEWPID> is a minimum of 6, maximum of 10 alphanumeric characters including at least one digit and one special character (%, #, or +) **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>.
Input Example	ED-PID:CISCO:UID:123::OLDPWD,NEWPWD;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.39 ED-SYNCN: Edit Synchronization

This command edits the synchronization reference list used to determine the sources for the NE's reference clock and the BITS output clock. For each clock, up to three synchronization sources may be specified (e.g., PRIMARY, SECOND, THIRD).To view or edit the system timing mode, use the RTRV-NE-SYNCN or ED-NE-SYNCN commands.

Note To retrieve/set the timing mode, SSM message Set or Quality of RES information, use the RTRV-NE-SYNCN and ED-NE-SYNCN commands.

Section	ED-SYNCN Description	
Category	Synchronization	
Security	Provisioning	
Related Messages	ED-BITS ED-NE-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN

Section	ED-SYNCN Description (continued)
Input Format	ED-SYNCN:[<TID>]:<AID>:<CTAG>:::[PRI=<PRI>,][SEC=<SEC>,][THIRD=<THIRD>][:]; where: • <AID> is the synchronization reference to be modified and is from the "SYNC_REF" section on page 4-19 • <PRI> is the primary reference of the synchronization and is the AID from the "SYN_SRC" section on page 4-18 • <SEC> is the secondary reference of the synchronization and is the AID from the "SYN_SRC" section on page 4-18 • <THIRD> is the third reference of the synchronization and is the AID from the "SYN_SRC" section on page 4-18
Input Example	ED-SYNCN:BOYES:SYNC-NE:112:::PRI=INTERNAL,SEC=INTERNAL,THIRD=INTERNAL;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.40 ED-T1: Edit T1

This command edits the attributes related to a DS1/T1 port.

Notes:

1. This command is not allowed if the card is a protecting card.
2. If sending this command to edit TACC and any other attribute(s), and the port having the cross-connection, the (Parameters Not compatible) error message will be returned.
3. Editing TACC via an ED-xxx command is only allowed when there is no circuit/cross-connection on this port and the port/VT does not have a test access point (TAP or TACC number). Otherwise, an error message (e.g. VT in Use) will be returned.
4. TACC creation will also be denied on the protect ports/cards.
5. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-T1 Description	
Category	Ports	
Security	Provisioning	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3

Section	ED-T1 Description (continued)
Input Format	ED-T1:[<TID>]:<AID>:<CTAG>:::[LINECDE=<LINECDE>,][FMT=<FMT>,][LBO=<LBO>,][TACC=<TACC>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-15 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "LINE_CODE" section on page 4-48 • <FMT> is a frame format; valid values for <FMT> are shown in the "FRAME_FORMAT" section on page 4-47 • <LBO> is a line build out; valid values for <LBO> are shown in the "LINE_BUILDOUT" section on page 4-48 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999. When TACC is 0, the TAP is deleted; <TACC> is an integer. • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours); <SOAK> is an integer • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60
Input Example	ED-T1:CISCO:FAC-2-1:1223:::LINECDE=AMI,FMT=ESF,LBO=0-131,TACC=8,SOAK=10:OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.41 ED-T3: Edit T3

This command edits the attributes related to a DS3/T3 port.

Notes:

1. This command is not allowed if the card is a protecting card.
2. Both FMT and Line code are not supported for T3/DS3 facility. They are supported on both the DS3XM and DS3E card. The unframed value of the framing format is only supported on the DS3E facility.
3. If sending this command to edit TACC and any other attribute(s), and the port having the cross-connection or the port/VT has a test access point (TAP or TACC number), the (Parameters Not compatible) error message will be returned.
4. Editing TACC via an ED-xxx command is only allowed when there is no circuit/cross-connection on the port and the port/VT does not have a test access point (TAP or TACC number). Otherwise, an error message (e.g. VT in Use) will be returned.
5. TACC creation will also be denied on the protect ports/cards.
6. The state of the T1 port cannot be changed to IS or OOS if a loopback has been operated upon the line.

Section	ED-T3 Description
Category	Ports
Security	Provisioning
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	ED-T3:[<TID>]:<AID>:<CTAG>:::[FMT=<FMT>,][LINECDE=<LINECDE>,][LBO=<LBO>,][TACC=<TACC>,][SOAK=<SOAK>]:[<PST>],[<SST>]; where: • <AID> indicates a facility AID from the "FACILITY" section on page 4-15 • <FMT> is a frame format and the unframed value of the framing format is only supported for the DS3E; valid values for <FMT> are shown in the "DS_LINE_TYPE" section on page 4-41 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "DS_LINE_CODE" section on page 4-41 • <LBO> is a line buildout; valid values for <LBO> are shown in the "E_LBO" section on page 4-42 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999. When TACC is 0, the TAP is deleted; <TACC> is an integer • <SOAK> OOS-AINS to IS transition soak time as measured in 15 minute intervals, so a value of 4 translates to a soak time of 1 hour. The allowable range is 0–192 intervals (maximum of 48 hours); <SOAK> is an integer • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60
Input Example	ED-T3:CISCO:FAC-1-2:123:::FMT=C-BIT,LINECDE=B3ZS,LBO=0-225, TACC=8,SOAK=10:OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.42 ED-UCP-CC: Edit Unified Control Plane Control Channel

(Cisco ONS 15454 only)

This command edits UCP IP control channel attributes.

Notes:

1. If sending this command with invalid data, an IIAC (Status, Invalid Data) error message is returned.
2. If sending this command to provision MTU, CRCMD, or both while the IPCC type is routed (CCTYPE=ROUTED), an IIAC (Routed CC Is Not Allowed to Provision MTU & CRCMD) error message is returned.

Section	ED-UCP-CC Description
Category	UCP
Security	Provisioning
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	ED-UCP-CC:[<TID>]:<AID>:<CTAG>:::[LOCALIPCC=<LOCALIPCC>,][REMOTEIPCC=<REMOTEIPCC>,][LMPHELLOINT=<LMPHELLOINT>,][LMPHELLODEADINT=<LMPHELLODEADINT>,][MTU=<MTU>,][CRCMD=<CRCMD>][:]; where: • <AID> indicates an individual IPCC ID; <AID> is the AID from the "IPCC" section on page 4-9 • <LOCALIPCC> indicates the local IP address of the control channel and is a string • <REMOTEIPCC> indicates the remote IP address of the control channel and is a string • <LMPHELLOINT> indicates the LMP (line management protocol) interval (in milliseconds) and is an integer. It is the time between hello messages sent by this node. • <LMPHELLODEADINT> indicates the control channel time-out interval (in milliseconds) by the neighbor if the neighbor does not receive the hello message; <LMPHELLODEADINT> is an integer • <MTU> indicates the MTU size of this control channel and is an integer • <CRCMD> indicates the CRC mode for this control channel. It is applicable to IPCCs in SDCC type.Valid values for <CRCMD> are shown in the "UCP_CRC_MODE" section on page 4-69

Section	ED-UCP-CC Description (continued)
Input Example	ED-UCP-CC:CISCO:CC-9:CTAG:::LOCALIPCC=172.20.209.31, REMOTEIPCC=172.20.209.15,LMPHELLOINT=1,LMPHELLODEADINT=5, MTU=1500,CRCMD=16-BIT;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.43 ED-UCP-IF: Edit Unified Control Plane Interface

(ONS 15454 only)

This command edits UCP interface attributes.

Note If you send invalid data with this command, an IIAC (Status, Invalid Data) error message is returned.

Section	ED-UCP-IF Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	ED-UCP-IF:[<TID>]:<AID>:<CTAG>:::[TNATYPE=<TNATYPE>,] [TNAADDR=<TNAADDR>,][CORENETWORKID=<CORENETWORKID>][:]; where: • <AID> indicates the interface port index of the data link; <AID> is the AID from the "FACILITY" section on page 4-15 • <TNATYPE> indicates the TNA (transport network administered) type; valid values for <TNATYPE> are shown in the "UCP_TNA_TYPE" section on page 4-70 • <TNAADDR> indicates the TNA (transport network administered) IP address and is a string • <CORENETWORKID> indicates the core network ID and is an integer	
Input Example	ED-UCP-IF:CISCO:FAC-2-1:CTAG:::TNATYPE=IPV4, TNAADDR=172.20.209.73,CORENETWORKID=9;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.44 ED-UCP-NBR: Edit Unified Control Plane Neighbor

(ONS 15454 only)

This command edits an UCP neighbor.

The default value of the node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required.

Example:

ENT-UCP-NBR::NBR-18:CTAG:::NBRIX=18,NODEID=192.168.101.18,
NAME=NeibhgorName,NDEN=N,HELLOEN=Y,HELLOINT=5, REFREDEN=Y;

Notes:

1. If this command is sent twice or input with invalid data, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command without neighbor node name in the “NAME” field, an IIAC (Neighbor Name Cannot Be Empty) error message is returned.
3. If sending this command to set the hello interval while the RSVP hello is disabled, an IIAC (HELLOINT Is Not Allowed If HELLOEN Is Disabled) error message is returned.

Section	ED-UCP-NBR Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ED-UCP-NBR Description (continued)
Input Format	ED-UCP-NBR:[<TID>]:<AID>:<CTAG>:::[NAME=<NAME>,] [HELLOEN=<HELLOEN>,][HELLOINT=<HELLOINT>,] [REFREDEN=<REFREDEN>][:]; where: • <AID> indicates an individual neighbor index of the UCP. An available neighbor index will be assigned internally while sending this command without AID; <AID> is the AID from the "NBR" section on page 4-10 • <NAME> indicates the neighbor node name. It defaults to the ASCII representation of the node ID in this command. The default value of this node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required. Node name is a string. The default value is "defaults to the nodeid ASCII representation". <NAME> is a string. The default value is "the ASCII representation of the nodeid". <NAME> is a string • <HELLOEN> indicates if the RSVP hello enabled to this neighbor or not; valid values for <HELLOEN> are shown in the "ON_OFF" section on page 4-56 • <HELLOINT> indicates the interval between hello messages to neighbor; <HELLOINT> is an integer • <REFREDEN> indicates if the refresh reduction is enabled or not; valid values for <REFREDEN> are shown in the "ON_OFF" section on page 4-56
Input Example	ED-UCP-NBR:CISCO:NBR-8:CTAG:::NAME=NODE-B,HELLOEN=Y, HELLOINT=20,REFREDEN=N;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.45 ED-UCP-NODE: Edit Unified Control Plane Node

(ONS 15454 only)

This command edits the UCP node level attributes.

The nodeid is the unique number used to identify the local node in LMP, RSVP messages sent to the neighbors. It defaults to the local ethernet interface address (ISA).

The retry initial interval (in seconds) is used for that have been released by the net work side. This interval has a range of 60 seconds (1 minute) to 1800 seconds (30 minutes), with a default value of 180 seconds.

The retry max interval (in seconds) is used for released circuits. The node will back off exponentially from the initial retry interval to this maximum value of 600 seconds (10 minutes).

The restart time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to restart. This timer has a range of 1 second to 10 seconds with a default of 5 seconds.

The recovery time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to re-sync path, reservation state with a given neighbor. This timer has a range of 300 seconds (5 minutes) to 1800 seconds (30 minutes) and a default value of 600 seconds (10 minutes).

The transmit interval is used to retransmit un-acknowledged messages. This timer has a range of 1 second to 7 seconds with a default value of 1 second.

The refresh interval is used to refresh path, reservation state. This interval has a range of 30 seconds to 4060800 seconds (47 days) with a default value of 30 seconds.

The timeout RESV CONF interval is used to wait for a RESV CONF message in response to a RESV message. This interval has a range of 10–180 seconds with a default value of 60 seconds.

The Destination Deletion progress is a timeout interval while the destination is in the progress of cleanly deleting a call. This interval has a range of 1–180 seconds with a default value of 60 seconds.

Notes:

1. If the retry initial interval is set to zero, it will be interpreted as having the retry procedure disable.
2. The retry maximum interval has to be set to a higher value than the initial retry interval.

Section	ED-UCP-NODE Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ED-UCP-NODE Description (continued)
Input Format	ED-UCP-NODE:[<TID>]::<CTAG>:::[NODEID=<NODEID>,] [INITRETRY=<INITRETRY>,][MAXRETRY=<MAXRETRY>,] [RESTARTTM=<RESTARTTM>,][RECOVTM=<RECOVTM>,] [RXMTINT=<RXMTINT>,][RFRSHINT=<RFRSHINT>,] [RESVTIMEOUT=<RESVTIMEOUT>,] [RESVCONFTIMEOUT=<RESVCONFTIMEOUT>,] [SOURCEDIP=<SOURCEDIP>,][DESTINATIONDIP=<DESTINATIONDIP>][:]; where: • <NODEID> indicates the node IP address and is a string • <INITRETRY> indicates the circuit retry initial interval (in seconds) and is an integer • <MAXRETRY> indicates the circuit maximum retry initial interval (in seconds) and is an integer • <RESTARTTM> indicates the restart time taken by this local node; <RESTARTTM> is an integer and the default value is 5 seconds. • <RECOVTM> indicates the circuit retry maximum interval (in seconds) and is an integer • <RXMTINT> indicates the interval for re-transmitting un-acknowledged messages and is an integer • <RFRSHINT> indicates the interval for refreshing path, reservation state and is an integer • <RESVTIMEOUT> indicates the timeout interval for waiting for a reservation message in response to a PATH message; <RESVTIMEOUT> is an integer • <RESVCONFTIMEOUT> indicates the timeout interval for waiting for a RESV CONF message in response to a RESV message; <RESVCONFTIMEOUT> is an integer • <SOURCEDIP> indicates the timeout interval of the SourceDip (Source Deletion in Progress) while the source is in the process of cleanly deleting a call; <SOURCEDIP> is an integer • <DESTINATIONDIP> indicates the timeout interval of the DestinationDip (Destination Deletion in Progress) while the destination is in the process of cleanly deleting a call; <DESTINATIONDIP> is an integer
Input Example	ED-UCP-NODE:CISCO::CTAG:::NODEID=192.168.100.52,INITRETRY=180, MAXRETRY=600,RESTARTTM=5,RECOVTM=600,RXMTINT=1, RFRSHINT=30,RESVTIMEOUT=60,RESVCONFTIMEOUT=60, SOURCEDIP=60,DESTINATIONDIP=60;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.46 ED-USER-SECU: Edit User Security

This command edits a user's privileges, password, or ID. Only a Superuser may perform this operation. Privilege levels are described in the ENT-USER-SECU command.

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. The <UID> can be any combination of up to 10 alphanumeric characters.
3. The <PID> is a string of up to 10 characters where at least 2 are non-alphabetic with at least one special character (+, %, or #).
4. Although the CTC allows both <UID> and <PID> of up to 20 characters, the CTC-entered users (<UID>, <PID>) are not valid TL1 users (e.g., if issuing an ACT-USER command and using the CTC-entered <UID> that is greater than 10 characters long, TL1 will respond with DENY.
5. For the ED-USER-SECU command;

   ED-USER-SECU:[TID]:<UID>:[CTAG]::[<NEWUID>],[<NEWPID>],,[<UAP>]:;

   a. The syntax of <NEWPID> is checked.
   b. If the <NEWPID> is specified, the syntax is checked.
   c. The syntax of <UID> is not checked.
   d. Old users can change their password without changing their userid, but the new password must meet the new requirements.
   e. The <NEWPID> is required when changing the <USERID>.

   Currently, when <NEWUID> is specified, <NEWPID> is not optional; however, it is possible to change a userid without changing the password by providing the same password. Users are not allowed to keep their old password if the old password does not meet the new syntax requirements; for example,

   <USERID> = DODI2345
   <PASSWORD> = DODI#234 /*PASSWORD ALREADY MEETS REQUIREMENTS*/

   > ED-USER-SECU::DODI2345:1::DODI3456,DODI#234,,PROV;
   ED-USER-SECU::DODI2345:1::DODI3456,DODI#234,,PROV;

   TCCP 1970-01-02 13:15:35
   M 1 COMPLD
   ;

   <NEWUSERID> = DODI3456
   <PASSWORD> = DODI#234
   <USERID> = CISCO40
   <PASSWORD> = CISCO40 /*PASSWORD DOES NOT MEET REQUIREMENTS*/

```
> ED-USER-SECU::CISCO40:1::CISCO40,,PROV;
ED-USER-SECU::CISCO40:1::CISCO40,,PROV;


   TCCP 1970-01-02 13:14:24
M  1 DENY
   IIFM
    /* INVALID PASSWORD */
;
```

6. You must use the ED-USER-SECU command to change the empty password (Superuser CISCO15 default empty password) to a non-empty, valid password. The ED-PID command cannot be used to change the empty password to a valid password.

Section	ED-USER-SECU Description
Category	Security
Security	Superuser
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ENT-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	ED-USER-SECU:[<TID>]:<UID>:<CTAG>::[<NEWUID>],[<NEWPID>],,[<UAP>][:]; where: • <UID> is the user identifier and is a string. The minimum <UID> size is 6, the maximum UID size is 10 • <NEWUID> is the new user identifier and is a string. The minimum <UID> size is 6, the maximum PID size is 10 • <NEWPID> is a new password and is a string; <NEWPID> is a minimum of 6, maximum of 10 alphanumeric characters including at least one digit and one special character (%, #, or +). • <UAP> is a user access privilege; valid values for <UAP> are shown in the "PRIVILEGE" section on page 4-57 **Note** CTC allows <UID> and <PID> of up to 20 characters. The 20 character CTC-entered <UID> and <PID> are not valid TL1 <UID> and <PID>.
Input Example	ED-USER-SECU:PETALUMA:CISCO15:123::NEWUID,NEWPID,,MAINT;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.47 ED-VT1: Edit Virtual Tributary

This command edits the attributes associated with a VT1 path.

Both RVRTV and RVTM parameters only apply to UPSR.

The TACC parameter edits an existing single STS or VT and changes it to a test access point. When an editing command on TACC is executed, it assigns the STS for the first 2-way connection and STS=1 as the second 2-way connection.

Error conditions:

1. Sending this command to edit RVRTV or RVTM for the non-UPSR VT path, an error message will be returned.
2. If sending this command to edit both TACC and any other attribute(s), the (Parameters Not compatible) error message will be returned.
3. This command is only allowed whenever there are no circuits/cross-connections (no UPSR connections) on that AID.
4. If sending this command to edit TACC on an AID with circuits or cross-connections, or if the port/VT has a test access point (TAP or TACC number), an error message (e.g., VT in Use) will be returned.
5. TACC creation will also be denied on the protect ports/cards.

Section	ED-VT1 Description
Category	STS and VT Paths
Security	Provisioning
Related Messages	RTRV-VT1
Input Format	ED-VT1:[<TID>]:<AID>:<CTAG>:::[RVRTV=<RVRTV>,][RVTM=<RVTM>,][TACC=<TACC>]:[<PST>],[<SST>]; where: • <AID> is an access identifier from the "VT1_5" section on page 4-21 • <RVRTV> identifies revertive mode which only applies to UPSR; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 • <RVTM> identifies revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58 • <TACC> is the AID from the "TACC" section on page 4-20 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60
Input Example	ED-VT1:CISCO:VT1-2-3-1-4:123:::RVRTV=Y,RVTM=1.0,TACC=8:OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.48 ENT-BLSR: Enter BLSR

This command creates either a two-fiber or four-fiber BLSR.

On successful creation of the BLSR, all cross-connections in protect channels, for example, high-end STSs of two-fiber BLSR and protect fiber on four-fiber BLSR, will be automatically converted to PCA cross-connections.

<RINGID> defaults to AID number (# in the AID format of BLSR-#)

Input examples:

Four-fiber BLSR:

ENT-BLSR:PETALUMA:BLSR-2:123:::RINGID=2,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0, SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1,EASTPROT=FAC-12-1, WESTPROT=FAC-13-1:;

Two-fiber BLSR:

ENT-BLSR:PETALUMA:BLSR-4:123:::RINGID=4,NODEID=6,MODE=2F,RVRTV=Y,RVTM=5.0, EASTWORK=FAC-5-1,WESTWORK=FAC-6-1:;

Error conditions:

1. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message is returned.
2. If the NE returns nothing for the required BLSR (BLSR-# AID), a SRQN (Status, Invalid Request) error message is returned.
3. In RINGID is different from the AID number, a SDNC (Status, Input Ringid Is Not Consistent with NE Data) error message is returned.
4. Both <EASTPROT> and <WESTPROT> are optional, but required for 4-fiber BLSR creation.
5. Four-fiber BLSR is only supported on OC48 and OC192 cards. Two-fiber BLSR is only supported on OC12, OC48 and OC192 cards. Any attempt to create a BLSR on any other card combination results in a “BLSR Creation Failed” error message.
6. If sending this command to create 4-fiber BLSR on OC12 cards, or 2-fiber BLSR on OC3 cards, an IIAC (Input, Invalid work/prot port) error message will be returned.
7. If sending this command to create a BLSR on an NE that already has two BLSRs, a SRQN (BLSR Creation Failed) error message will be returned because one NE is only allowed to have two BLSRs in this release.
8. If sending this command to create a BLSR on a port with 1+1,a SRQN (BLSR Creation Failed) error message will be returned.

Section	ENT-BLSR Description	
Category	BLSR	
Security	Provisioning	
Related Messages	DLT-BLSR ED-BLSR REPT ALM RING REPT EVT RING	RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING

Section	ENT-BLSR Description (continued)
Input Format	ENT-BLSR:[<TID>]:<AID>:<CTAG>:::[RINGID=<RINGID>,] NODEID=<NODEID>,MODE=<MODE>,[RVRTV=<RVRTV>,] [RVTM=<RVTM>,][SRVRTV=<SRVRTV>,][SRVTM=<SRVTM>,] EASTWORK=<EASTWORK>,WESTWORK=<WESTWORK>, [EASTPROT=<EASTPROT>,][WESTPROT=<WESTPROT>]; where: • <AID> identifies the BLSR of the NE. “ALL” or “BLSR-ALL” AID is not allowed for editing BLSR. This command only supports a single BLSR AID. <AID> is the AID from the “BLSR” section on page 4-12 • <RINGID> identifies the BLSR ring ID of the NE. It ranges from 0–9999. <RINGID> is an integer and the default value is “# of AID BLSR-#” • <NODEID> identifies the BLSR node ID of the NE and is an integer. It ranges from 0–31 • <MODE> identifies the BLSR mode; valid values for <MODE> are shown in the “BLSR_MODE” section on page 4-27 • <RVRTV> identifies the revertive mode and defaults to N (non-revertive mode). Valid values for <RVRTV> are shown in the “ON_OFF” section on page 4-56; the default value is N • <RVTM> identifies the revertive time and defaults to 5.0. Valid values for <RVTM> are shown in the “REVERTIVE_TIME” section on page 4-58; the default value is 5.0 • <SRVRTV> identifies the span revertive mode for 4-fiber BLSR only. <SRVRTV> defaults to N (non-revertive mode>; valid values are shown in the “ON_OFF” section on page 4-56. The default value is N. • <SRVTM> identifies the span revertive time for 4-fiber BLSR only. <SRVTM> defaults to 5.0 and valid values are shown in the “REVERTIVE_TIME” section on page 4-58. The default value is 5.0 • <EASTWORK> identifies the east working facility and is the AID from the “FACILITY” section on page 4-15 • <WESTWORK> identifies the west working facility and is the AID from the “FACILITY” section on page 4-15 • <EASTPROT identifies the east protecting facility and is the AID from the “FACILITY” section on page 4-15 • <WESTPROT> identifies the west protecting facility and is the AID from the “FACILITY” section on page 4-15
Input Example	ENT-BLSR:PETALUMA:BLSR-2:123:::RINGID=2,NODEID=1,MODE=4F, RVRTV=Y,RVTM=5.0,SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1, WESTWORK=FAC-6-1,EASTPROT=FAC-12-1,WESTPROT=FAC-13-1;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.49 ENT-CRS-<STS_PATH>: Enter Cross Connection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command creates an STS cross-connection with a cross-connection type (CCT).

When a UPSR cross-connection is created, the path presented by the first AID is configured to be the preferred path. For example, the AID (F1) of the cross-connection (created by ENT-CRS-STS1::F1&F2,T1:123;) is the preferred path.

Notes:

1. The default cross-connection type is 2-way
2. If a path is already in a connection, it cannot be in another connection even if the other is a 1-way and the new one will be 1-way the other direction.
3. This command does not support creating multiple STS cross-connections.
4. The UPSR cross STS connection can be created by using "&" in the AID fields of this command.
   a. The following command is used to create a 1-way selector or 2-way selector and bridge with:

      from points: F1, F2

      to points: T1

      ENT-CRS-{STS_PATH}:[<TID>]:f1&f2,t1:<CTAG>::[<CCT>];

   b. The following command is used to create a 1-way bridge or 2-way selector and bridge with:

      from point: F1

      to points: T1, T2

      ENT-CRS-{STS_PATH}:[<TID>]:F1,T1&T2:<CTAG>::[<CCT>];

   c. The following command is used to create a 1-way subtending UPSR connection or 2-way subtending UPSR connection with:

      from point: F1, F2

      to points: T1, T2

      ENT-CRS-{STS_PATH}:[<TID>]:F1&F2,T1&T2:<CTAG>::[<CCT>];

   d. The following command is used to create a 2-way selector and bridge with:

      from point: F1,F2 (F1 is the working side, F2 is the protect side)

      selector points: S1, S2 (S1 is the working side, S2 is the protect side)

      ENT-CRS-{STS_PATH}:[<TID>]:F1&F2,S1&S2:<CTAG>::2WAY;
5. All a&b AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. To establish a cross-connection on a 2-fiber protection path or on a 4-fiber protection channel, the PCA connection type (1WAYPCA or 2WAYPCA) is required.
7. If you send a PCA cross-connection type on the non-PCA AIDs, the IIAC error message is returned.
8. If you send a non-PCA cross-connection type on the PCA AIDs, the IIAC error message is returned.
9. The facility AID is only valid on slots holding a G1000-4 card (ONS 15454).

10. 1-way monitor cross-connects cannot be created. 1WAYMON value for CCT parameter is not supported. However, such cross-connects can be retrieved through the RTRV-CRS-STS_PATH and RTRV-CRS commands.

Section	ENT-CRS-<STS_PATH> Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	ENT-CRS-<STS_PATH>:[<TID>]:<FROM>,<TO>:<CTAG>::[<CCT>]::[<PST>],[<SST>]; where: • <FROM> indicates an identifier at one end of the STS cross-connection and is the AID from the "STS" section on page 4-16 • <TO> indicates an identifier at the other end of the STS cross-connection and is the AID from the "STS" section on page 4-16 • <CCT> identifies the cross-connection type; valid values for <CCT> are shown in the "CCT" section on page 4-28 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60 **Note** A facility AID of FAC-{1-6,12-17}-{1-4} is allowed as the <FROM> or <TO> portions of the cross connect for a G1000-4 card (ONS 15454). For UPSR cross-connections, the FAC AID should not be used in conjunction with the "&" syntax, so <FROM> or <TO> AIDs such as "STS-1-1&FAC-5-1" or "FAC-1-1&FAC-2-1" or "FAC-3-1&STS-2-1" should not be used. However, if the <FROM> or <TO> AID uses multiple STS AIDs, then the other AID of the cross-connection can be a single FAC AID and "STS-1-1&STS-2-1,FAC-5-1" and "FAC-5-1,STS-1-1&STS-2-1" are allowed. A facility AID of FAC-{1-4}-{1-2} is allowed for the ONS 15327 G1000-2 card.
Input Example	ENT-CRS-STS1:BODEGA:STS-5-1,STS-12-5:116::2WAY::OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.50 ENT-CRS-VT1: Enter STS Cross Connection VT1

This command creates a VT1 cross connect. When a UPSR cross-connection is created, the path presented by the first AID is configured to be the preferred path.

For example, the first AID (F1) of the cross-connection (created by ENT-CRS-VT1::F1&F2,T1:123;) is the preferred path.

Notes:

1. The default cross-connection type is 2-way.
2. If a path is already in a connection, it cannot be in another connection even if the other is a 1-way and the new one will be 1-way the other direction.
3. This command does not support creating multiple VT cross-connections.
4. The UPSR VT cross-connection can be created by using "&" in the AID fields of this command.
   a. The following command is used to create a 1-way selector or 2-way selector and bridge with:

      from points: F1, F2

      to points: T1

      ENT-CRS-VT1:[<TID>]:F1&F2,T1:<CTAG>::[<CCT>];

   b. The following command is used to create a 1-way bridge or 2-way selector and bridge with:

      from point: F1

      to points: T1, T2

      ENT-CRS-VT1:[<TID>]:F1,T1&T2:<CTAG>::[<CCT>];

   c. The following command is used to create a 1-way subtending UPSR connection or 2-way subtending UPSR connection with:

      from point: F1, F2

      to points: T1, T2

      ENT-CRS-VT1:[<TID>]:F1&F2,T1&T2:<CTAG>::[<CCT>];

   d. The following command is used to create a 2-way selector and bridge with:

      from points: F1, F2 (F1 is the working side, F2 is the protect side)

      selector points: S1, S2 (S1 is the working side, S2 is the protect side)

      ENT-CRS-VT1:[<TID>]:F1&F2,S1&S2:<CTAG>::2WAY;
5. All a&b AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
6. To establish a cross-connection on a 2-fiber protection path or on a 4-fiber protection channel, the PCA connection type (1WAYPCA or 2WAYPCA) is required.
7. If you send a PCA cross-connection type on the non-PCA AIDs, an IIAC error message is returned.
8. If you send a non-PCA cross-connection type on the PCA AIDs, an IIAC error message is returned.
9. 1-way monitor cross-connects cannot be created. 1WAYMON value for CCT parameter is not supported. However, such cross-connects can be retrieved through the RTRV-CRS-VT1 and RTRV-CRS commands.

Section	ENT-CRS-VT1 Description
Category	Cross Connections
Security	Provisioning
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> RTRV-CRS RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	ENT-CRS-VT1:[<TID>]:<FROM>,<TO>:<CTAG>::[<CCT>]::[<PST>],[<SST>]; where: • <FROM> indicates an identifier at one end of the VT cross connection and is the AID from the "VT1_5" section on page 4-21 • <TO> indicates an identifier at the other end of the VT cross-connection and is the AID from the "VT1_5" section on page 4-21 • <CCT> identifies the cross-connection type; valid values for <CCT> are shown in the "CCT" section on page 4-28 • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values for <SST> are shown in the "SST" section on page 4-60
Input Example	ENT-CRS-VT1:CISCO:VT1-2-3-7-2,VT1-4-4-5-2:1234::1WAY::OOS,AINS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.51 ENT-EQPT: Enter Equipment

This command enters the card type and attributes for a given equipment slot in the NE. It also automatically enters all facilities supported by the card, assigning default values to all facility and path attributes.

The command supports optional parameters: RVTM (revertive time), RVRTV (revertive behavior), PROTID (unique protection ID) and PRTYPE (protection type) for configuring the card in an equipment protection group. PRTYPE can be 1:1 and 1:N. These parameters can only be entered for a working AID. The protect card must already be provisioned before creating the protection group.

1:1 protection involves the odd slot protecting the even slot. The work-protect pair is as follows (2-1, 4-3, 6-5, 16-17, 14-15, 12-13). DS1, DS3, DS3XM, DS3N, DS3E, EC1 and other electrical cards support 1:1 protection. The value of PROTID is the protecting slot and is of the form "slot-x". This command creates a 1:1 protection group. If the command has the optional parameters for creating a protection group and the protection group cannot be created due to an error condition, provisioning of the equipment fails.

The PROTID slot must be provisioned first.

To create 1:1 with the ENT-EQPT command, the working card should not be provisioned first, so the AID type field should be presented in ENT-EQPT for the AID on this <AID>.

The following is an example for a 1:1 protection group:

ENT-EQPT:[<TID>]:SLOT-1:<CTAG>::DS1;

ENT-EQPT:[<TID>]:SLOT-2:<CTAG>::DS1:PROTID=SLOT-1,PRTYPE=1-1,RVTM=5.0, RVRTV=Y;

1:N protection is always revertive. For 1:N protection, the protect slot can only be Slot 3 or Slot 15. For a protect card in Slot 3, the working cards can be in any of the slots on Bank A. Slot 15 is for protection in Bank B. A DSXN (DS1N or DS3N) card must be provisioned in the protect slot. A 1:1 protection cannot be upgraded to 1:N protection. This command creates a 1:N protection group or adds a new card to an existing 1:N protection group. Multiple working AIDs can be entered in a protection group.

The following is an example of provisioning a 1:N protection group with the ENT-EQPT command:

ENT-EQPT:[<TID>]:SLOT-3:<CTAG>::DS1N;

ENT-EQPT:[<TID>]:SLOT-2&SLOT-1:<CTAG>::DS1:PROTID=SLOT-3,PRTYPE=1-N;

The following is an example of provisioning a 1:N protection group with the ED-EQPT command:

ENT-EQPT:[<TID>]:SLOT-1&SLOT-2:<CTAG>::DS1;

ENT-EQPT:[<TID>]:SLOT-3:<CTAG>::DS1N;

ED-EQPT:[<TID>]:SLOT-2&SLOT-1:<CTAG>:::PROTID=SLOT-1,PRTYPE=1-N;

If the provisioning fails for some AIDs, PRTL responses will be provided indicating failed AIDs. If the provisioning fails for all the AIDs, a DENY response will be provided. For both CMPLD and PRTL responses on creating protection group query, the protection group has been created for the successful AID(s) query.

The following is an example for 1:N protection. The RVRTV parameter is not valid for 1:N protection.

ENT-EQPT:[<TID]>:SLOT-2:<CTAG>:::PROTID=SLOT-3,PRTYPE=1-N,RVTM=5.0;

Both ENT-EQPT and ED-EQPT commands can provision all working AIDs (1-5) together for 1:N by using listed AIDs.

The ENT-EQPT command provisions a new card and adds it to the protection group. The ED-EQPT command adds the already provisioned cards to the protection group.

Protect AID should already be provisioned for either command because protection group parameters are not supported for the protect AID.

The ENT-EQPT command provisions an equipment successfully on an empty slot if the equipment type is compatible with the slot number. This command can have the optional parameters in the “f” block to provision a card as a working card. It has the effect of adding the protection behavior at the time of provisioning itself. For the protection provisioning to succeed, the protect card should have already been provisioned. Trying to execute ENT-EQPT to provision a protection group on an already provisioned card will result in an error.

An example to provision a 1:1 protection group:

ENT-EQPT::SLOT-1:12::DS3;// provision the protect card

ENT-EQPT::SLOT-2:12::DS3:PROTID=SLOT-1,RVRTV=Y,RVTM=8.0; //provision a card and add it to the protection group.

An example to provision a 1:N protection group:

ENT-EQPT::SLOT-3:12::DS3N;//provision the protect card

ENT-EQPT::SLOT-1:12::DS3:PROTID=SLOT-3,RVTM=7.5,PRTYPE=1-N;//provision a card and add it to protection group.

Notes:

1. Sending this command to provision a DS3NE card on Slot {1,2,4,5,6,12,13,14,16,or 17}, the DS3E card type is presented.
2. Sending this command to provision a DS3N card on Slot {1,2,4,5,6,12,13,14,16,17}, the DS3 card type is presented.
3. Sending this command to provision a DS1N card on Slot-{1,2,4,5,6,12,13,14,16,17}, the DS1 card type is presented.

Error conditions for creating 1:1 or 1:N protection groups are:

1. AID sent to non-working slot; the working cards must be in even slots for 1:1 and in the same bank for 1:N and not in Slot 3 or Slot 15 (ONS 15454).
2. Invalid AID chosen for protection slot.
3. Working AID is already in protection group.
4. AID is a protect AID.
5. The protect card has a circuit.
6. The equipment type does not match with the allowed AID.
7. The slot is already provisioned.
8. The protecting slot is not provisioned.
9. Multiple working AIDs for 1:1 protection.

Section	ENT-EQPT Description	
Category	Equipment	
Security	Provisioning	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	ENT-EQPT Description (continued)
Input Format	ENT-EQPT:[<TID>]:<AID>:<CTAG>::<AIDTYPE>:[PROTID=<PROTID>,][PRTYPE=<PRTYPE>,][RVRTV=<RVRTV>,][RVTM=<RVTM>][:]; where: • <AID> is an access identifier from the "EQPT" section on page 4-14 • <AIDTYPE> is the AID card type; valid values for <AIDTYPE> are shown in the "EQUIPMENT_TYPE" section on page 4-46 • <PROTID> is the protecting card slot identifier of the protection group and is the AID from the "PRSLOT" section on page 4-10 • <PRTYPE> is the protection group type; valid values for <PRTYPE> are shown in the "PROTECTION_GROUP" section on page 4-58 • <RVRTV> is the revertive mode; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 • <RVTM> is the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58
Input Example	ENT-EQPT:PETALUMA:SLOT-12:118::DS1:PROTID=SLOT-13,PRTYPE=1-1,RVRTV=Y,RVTM=8.5:;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.52 ENT-FFP-<OCN_TYPE>: Enter Facility Protection Group (OC3, OC12, OC48, OC192)

(OC192 supported for ONS 15454 only)

This command creates an optical 1+1 protection.

Notes:

1. Protect AID must not be provisioned with traffic.
2. Work AID can be provisioned with traffic.
3. PROTID is a string and can have a maximum length of 32 characters.
4. In this release, 1+1 provisioning between an OC12-4 card and an OC12 card is allowed but is not correct. This provisioning will not be allowed in a future release.

Section	ENT-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Provisioning
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	ENT-FFP-<OCN_TYPE>:[<TID>]:<WORK>,<PROTECT>:<CTAG>:::[PROTID=<PROTID>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,][PSDIRN=<PSDIRN>][:]; where: • <WORK> identifies a working port and is the AID from the "FACILITY" section on page 4-15 • <PROTECT> identifies a protection port and is the AID from the "FACILITY" section on page 4-15 • <PROTID> is the protection group identifier (protection group name); <PROTID> defaults to the protecting port AID of the protection group, it is a string and can have a maximum length of 32 characters. • <RVRTV> identifies a revertive mode and defaults to N (non-revertive mode); valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 • <RVTM> identifies a revertive time and defaults to 5.0 minutes; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58 • <PSDIRN> identifies the switching mode and defaults to UNI; valid values for <PSDIRN> are shown in the "UNI_BI" section on page 4-70
Input Example	ENT-FFP-OC3:PETALUMA:FAC-2-1,FAC-1-1:1:::PROTID=PROT_NAME,RVRTV=Y,RVTM=1.0,PSDIRN=BI;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.53 ENT-UCP-CC: Enter Unified Control Plane Control Channel

(ONS 15454 only)

This command creates an UCP IP control channel.

If the CCTYPE is SCCC, the SDCC of the port should be created.

The LMP Hello parameters, CRC mode and MTU can be left NULL. The defaults will be assigned by the node.

The UCP remote cannot be provisioned by the user. The local CCID will be allocated by the node.

If the CCTYPE is routed, the remote IPCC defaults to its neighbor's nodeID.

Examples:

ENT-UCP-CC::CC-12:CTAG:::NBRIX=1,CCTYPE=SDCC,PORT=FAC-6-1,
LOCALCCID=12,LOCALIPCC=172.20.209.73,REMOTEIPCC=192.168.100.18,
LMPHELLOINT=2,LMPHELLODEADINT=6,MTU=1500,CRCMD=32-BIT;

ENT-UCP-CC::CC-20:CTAG:::NBRIX=18,CCTYPE=ROUTED,LOCALCCID=20,
LOCALIPCC=172.20.209.73,REMOTEIPCC=192.168.100.18,LMPHELLOINT=2,
LMPHELLODEADINT=6,MTU=1500,CRCMD=16-BIT;

ENT-UCP-CC::CC-21:CTAG:::NBRIX=18,CCTYPE=ROUTED,LOCALCCID=21,
LOCALIPCC=172.20.209.73,LMPHELLOINT=2,LMPHELLODEADINT=6,
MTU=1500,CRCMD=16-BIT;

Notes:

1. If this command is sent twice, or input with invalid data, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command to provision MTU, CRCMD, or both while the IPCC type is routed (CCTYPE=ROUTED), an IIAC (Routed CC Is Not Allowed to Provision MTU and CRCMD) error message is returned.
3. The LMPHELLODEADINT interval has to be larger than the hello interval and is normally set to 3 times the hello interval. Its range is 3 seconds to 30 seconds with a default of 15 seconds.
4. If sending this command to provision a ROUTED IPCC no matter if the neighbor discovery (NDEN) is Enabled or Disabled, the REMOTEIPCC has to be specified by the user with non zeros, otherwise, an error message will be returned.
5. If sending this command to provision an SDCC IPCC while the neighbor discovery (NDEN=Y) is Enabled, the REMOTEIPCC defaults to 0.0.0.0, and the user is not allowed to specify REMOTEIPCC, otherwise, and error message (SROF, Cannot specify Remote IPCC for SDCC-IPCC when ND is enabled) will be returned.
6. If sending this command to provision an SDCC IPCC while the neighbor discovery (NDEN=N) is Disabled, the REMOTEIPCC defaults to its neighbor's node ID (IP address).
7. If sending this command to provision an SDCC IPCC with a complete result, the SDCC of the specified SONET line is created (or enabled) automatically with a DB change reporting (if the DB change report is enabled).
8. If sending this command to provision more than 16 IPCC over one NE, a (Cannot create IPCC. Max. number (16) reached) error message is returned.

Section	ENT-UCP-CC Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-IF ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ENT-UCP-CC Description (continued)
Input Format	ENT-UCP-CC:[<TID>]:[<AID>]:<CTAG>:::[NBRIX=<NBRIX>,][CCTYPE=<CCTYPE>,][PORT=<PORT>,][LOCALCCID=<LOCALCCID>,][LOCALIPCC=<LOCALIPCC>,][REMOTCCID=<REMOTECCID>,][REMOTEIPCC=<REMOTEIPCC>,][LMPHELLOINT=<LMPHELLOINT>,][LMPHELLODEADINT=<LMPHELLODEADINT>,][MTU=<MTU>,][CRCMD=<CRCMD>,][TUNMD=<TUNMD>][:]; where: • <AID> indicates an individual IPCC ID and is the AID from the "IPCC" section on page 4-9. The default value is "local IPCC ID" • <NBRIX> indicates a neighbor within the local node and is an integer • <CCTYPE> indicates the type of the control channel; valid values for <CCTYPE> are shown in the "UCP_IPCC_TYPE" section on page 4-69 • <PORT> indicates the port which the control channel is configured, while the CCTYPE is the type of SDCC. <PORT> is the AID from the "FACILITY" section on page 4-15 and the default value is "applicable only if it is SDCC type" • <LOCALCCID> indicates the local control channel ID and is an integer. The default value is "local UCP node id" • <LOCALIPCC> indicates the local IP address of the control channel and is a string. The default value is "local node id's node name" • <REMOTECCID> indicates the local control channel ID and is an integer. The default value is "zero (0) – undefined until discovery by LMP" • <REMOTEIPCC> indicates the remote IP address of the control channel and is a string. The default value is "0.0.0.0 – undefined for SDCC IPCC and discovered by LMP" • <LMPHELLOINT> indicates the LMP (line management protocol) interval (in milliseconds). It is the time between hello messages sent by this node, defaults to 5 (with the range of 1–10). <LMPHELLOINT> is an integer and the default value is "5 seconds – (1–10 seconds)" • <LMPHELLODEADINT> indicates the control channel time-out interval (in milliseconds) by the neighbor if the neighbor does not receive the hello message, and defaults to 15 (with the range of 3–30). This interval has to be at least as large as the hello interval and is normally set to 3 times the hello interval. It's range is 3–30 seconds with a default of 15 seconds. <LMPHELLODEADINT> is an integer and it's default value is "15 seconds – (3–30 seconds)" • <MTU> indicates the MTU size of this control channel. <MTU> is an integer and it's default value is "1500 bytes" • <CRCMD> indicates the CRC mode for this control channel. It is applicable to IPCCs in SDCC type. Valid values for <CRCMD> are shown in the "UCP_CRC_MODE" section on page 4-69 • <TUNMD> indicates the IP Tunneling option. It defaults to disabled and valid values are shown in the "UCP_CC_TUN_MD" section on page 4-68

Section	ENT-UCP-CC Description (continued)
Input Example	ENT-UCP-CC:CISCO:CC-9:CTAG:::NBRIX=28,CCTYPE=SDCC,PORT=FAC-2-1,LOCALCCID=9,LOCALIPCC=172.20.209.162,REMOTCCID=20,REMOTEIPCC=172.20.209.73,LMPHELLOINT=1,LMPHELLODEADINT=5,MTU=1500,CRCMD=16-BIT,TUNMD=DISABLED;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.54 ENT-UCP-IF: Enter Unified Control Plane Interface

(ONS 15454 only)

This command creates an UCP interface.

The CCID can be set to zero to request the use of any control channel to the neighbor for this UCP interface/data link.

The local interface ID (LOCALIFID) is used by LMP/RSVP (Line Management Protocol/Resource Reservation Protocol). If zero is passed in as the local Interface ID of the data link, then the node assigns a value for it. If the user specifies a non-zero value, then the node checks if that Interface ID is available and uses it.

If the UCP interface/data link control channel type is SDCC type, the local interface ID should be the same as CCID. Otherwise, an error message will be returned by the node.

The remote interface ID is allowed to be unspecified (by passing zero) if the NDEN is Enabled and there is a SDCC IPCC specified for this UPC Interface with the same Interface Index, or when Routed IPCC is used for this data link.

Examples:

ENT-UCP-IF::FAC-2-3:CTAG:::NBRIX=18,CCID=20,LOCALIFID=0,REMOTEIFID=4,TNATYPE=IPV4,TNAADDR=172.20.209.162,CORENETWORKID=3;

ENT-UCP-IF::FAC-2-4:CTAG:::NBRIX=18,CCID=21,LOCALIFID=0,REMOTEIFID=4,TNATYPE=NSAP,TNAADDR=01020304050607080 90A0B0C0D0E0F1011121314,CORENETWORKID=3;

Note If this command is sent twice, or inputs invalid data, a SRQN (Status, Invalid Request) error message is returned.

Section	ENT-UCP-IF Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-NBR	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ENT-UCP-IF Description (continued)
Input Format	ENT-UCP-IF:[<TID>]:<AID>:<CTAG>:::[NBRIX=<NBRIX>,][CCID=<CCID>,] [LOCALIFID=<LOCALIFID>,][REMOTEIFID=<REMOTEIFID>,] [TNATYPE=<TNATYPE>,][TNAADDR=<TNAADDR>,] [CORENETWORKID=<CORENETWORKID>][:]; where: • <AID> indicates the interface port index of the data link and is the AID from the "FACILITY" section on page 4-15 • <NBRIX> indicates a neighbor within the local node and is an integer • <CCID> indicates the control channel ID. It can be set to zero to request the use of any control channel to the neighbor for this UCP interface/ data link. <CCID> is an integer. A null value defaults to "any control channel to the neighbor" • <LOCALIFID> indicates the local interface ID used by LMP/RSVP (Line Management Protocol/Resource reservation Protocol). If this attribute value is assigned by the UI, it will be ignored. <LOCALIFID> is an integer • <REMOTEIFID> indicates the remote interface ID on the neighbor's side. If this attribute value is passed by UI, it will be ignored. <REMOTEIFID> is an integer • <TNATYPE> indicates the TNA (Transport Network Administered) type and defaults to IPv4. Valid values for <TNATYPE> are shown in the "UCP_TNA_TYPE" section on page 4-70. The default value is "IPv4" • <TNAADDR> indicates the TNA (Transport Network Administered) IP address and defaults to IPv4 0.0.0.0. <TNAADDR> is a string. The default value is "0" • <CORENETWORKID> indicates the core network ID and defaults to one (1). <CORENETWORKID> is an integer and the default value is "1"
Input Example	ENT-UCP-IF:CISCO:FAC-2-1:CTAG:::NBRIX=12,CCID=16,LOCALIFID=16, REMOTEIFID=0,TNATYPE=IPV4,TNAADDR=172.20.209.162, CORENETWORKID=7;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.55 ENT-UCP-NBR: Enter Unified Control Plane Neighbor

(ONS 15454 only)

This command creates an UCP neighbor.

The default value of the node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required.

Notes:

1. If this command is sent twice or inputs invalid data, a SRQN (Status, Invalid Request) error message is returned.
2. If sending this command without neighbor node name in the "NAME" field, an IIAC (Neighbor Name Can Not be Empty) error message is returned.
3. If sending this command with nodeid while the neighbor discovery is enabled (NDEN=Y), an IIAC (NODEID Is Not Allowed If NDEN Is Enabled) error message is returned.

4. If sending this command to set the hello interval while the RSVP hello is disabled, an IIAC (HELLOINT Is Not Allowed If HELLOEN Is Disabled) error message is returned.
5. If provisioning a neighbor with disabled neighbor discovery (NDEN=N), and NULL nodeid, a SROF (UCP Neighbor's NodeID cannot be null when Neighbor Discovery is disabled) is returned.
6. If sending this command to create a neighbor with the neighbor node name string longer than 64 characters, an IIAC (Node Name Too Long) error message is returned.

Section	ENT-UCP-NBR Description	
Category	UCP	
Security	Provisioning	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE

Section	ENT-UCP-NBR Description (continued)
Input Format	ENT-UCP-NBR:[<TID>]:<AID>:<CTAG>:::[NBRIX=<NBRIX>,] [NODEID=<NODEID>,]NAME=<NAME>,[NDEN=<NDEN>,] [HELLOEN=<HELLOEN>,][HELLOINT=<HELLOINT>,] [REFREDEN=<REFREDEN>,][NUMRXMTS=<NUMRXMTS>][:]; where: • <AID> indicates an individual neighbor index of the UCP. An available neighbor index will be assigned internally while sending this command without AID; <AID> is the AID from the "NBR" section on page 4-10 • <NBRIX> indicates a neighbor within the local node. <NBRIX > is an integer and the default value is "the number of the AID (NBR-#). Or undefined zero (0)" <NODEID> indicates the neighbor node ID as received in RSVP, LMP messages from that node and is a string • <NAME> indicates the neighbor node name, it has to be specified by the user. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required. <NAME> is a string • <NDEN> indicates if the neighbor discovery is enabled or not for this neighbor and it defaults to enable (Y). The default value is "Y". Valid values for <NDEN> are shown in the "ON_OFF" section on page 4-56 • <HELLOEN> indicates if the RSVP hello is enabled to this neighbor or not and defaults to enable (Y). The default value is "Y". Valid values for <HELLOEN> are shown in the "ON_OFF" section on page 4-56 • <HELLOINT> indicates the interval between hello messages to neighbor and defaults to 5. The default value is "5". <HELLOINT> is an integer • <REFREDEN> indicates if the refresh reduction is enabled or not and defaults to enable (Y). The default value is "Y". Valid values for <REFREDEN> are shown in the "ON_OFF" section on page 4-56 • <NUMRXMTS> indicates the maximum number of retransmits of each message and defaults to 3. The default value is "3". <NUMRXMTS> is an integer
Input Example	ENT-UCP-NBR:CISCO:NBR-8:CTAG:::NBRIX=8,NODEID=192.168.100.52, NAME=NODE-A,NDEN=Y,HELLOEN=Y,HELLOINT=20,REFREDEN=Y, NUMRXMTS=3;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.56 ENT-USER-SECU: Enter User Security

This command adds a user account. Only a Superuser can do this. Each user is configured as being at one of these four privilege levels:

1. Retrieve [RTRV]: Users possessing this security level can retrieve information from the node, but cannot modify anything. The idle time for Retrieve is unlimited.
2. Maintenance [MAINT]: Users possessing this security level can retrieve information from the node and perform limited maintenance operations such as card resets, Manual/Force/Lockout on cross-connects or in protection groups, and BLSR maintenance. The idle time for Maintenance is 60 minutes.
3. Provisioning [PROV]: Users possessing this security level can perform all maintenance actions, and all provisioning actions except those restricted to superusers. The idle time for Provisioning is 30 minutes.
4. Superuser [SUPER]: Users possessing this security level can perform all PROV user actions, plus creating/deleting user security profiles, setting basic system parameters such as time/date, node name, and IP address, doing database backup & restore. The idle time for Superuser is 15 minutes.

Notes:

1. Passwords are masked for the following security commands: ACT-USER, ED-PID, ENT-USER-SECU and ED-USER-SECU. Access to a TL1 session via any means will have the password masked. The CTC Request History and Message Log will also show the masked commands. When a password-masked command is re-issued by double-clicking the command from CTC Request History, the password will still be masked in the CTC Request History and Message Log. The actual password that was previously issued will be sent to the NE. To use a former command as a template only, single-click the command in CTC Request History. The command will be placed in the Command Request text box, where you can edit the appropriate fields prior to re-issuing it.
2. The <UID> can be any combination of up to 10 alphanumeric characters.
3. The <PID> is a string of up to 10 characters where at least 2 characters are non-alphabetic with at least one special character (+, %, or #).
4. Although the CTC allows both <UID> and <PID> of up to 20 characters, the CTC-entered users (<UID> and <PID>) may not be valid TL1 users (e.g. if issuing an ACT-USER command and using the CTC-entered <UID> that is greater than 10 characters long, TL1 will respond with DENY (Can't Login) error message.
5. The TL1 password security is enforced as follows:
   a. The password <PID> cannot be the same as or contain the userid (UID), for example, if the userid is CISCO25 the password cannot be CISCO25#.
   b. The password <PID> must have one non-alphabetic and one special (+, %, or #) character.
   c. There is no password <PID> toggling; for example, if the current password is CISCO25#, the new password cannot be CISCO25#

Section	ENT-USER-SECU Description
Category	Security
Security	Superuser

Section	ENT-USER-SECU Description (continued)
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU REPT EVT SECU RTRV-USER-SECU
Input Format	ENT-USER-SECU:[<TID>]:<UID>:<CTAG>::<PID>,,<UAP>[:]; where: • <UID> is the user identifier. The minimum <UID> size is 6, the maximum <UID> size is 10; <UID> is a string. • <PID> is a string. • <UAP> is the user access privilege value; valid values for <UAP> are shown in the "PRIVILEGE" section on page 4-57
Input Example	ENT-USER-SECU:PETALUMA:CISCO15:123::PSWD11#,,MAINT;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.57 EX-SW-<OCN_BLSR>: Operate Protection Switch (OC12, OC48, OC192)

(OC192 supported for ONS 15454 only)

This command exercises the algorithm for switching from a working facility to a protection facility without actually performing a switch. It is assumed that the facility being exercised is the working unit. The exercise switching success or failure result will be indicated by an automatic alarm.

Exercise switch for the SONET protection line is not supported in this release. If sending this command to the protection unit, an error message will be returned. In addition to all normal INPUT, EQUIPAGE, PRIVILEGE error codes, the following error codes are also included in this command:

SNVS (Status, Not in Valid State)

SROF (Status, Requested Operation Failed)

SSRD (Status, Switch Request Denied)

Section	EX-SW-<OCN_BLSR> Description
Category	SONET Line Protection
Security	Maintenance
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>

Section	EX-SW-<OCN_BLSR> Description (continued)
Input Format	EX-SW-<OCN_BLSR>:[TID]:<AID>:[CTAG]::[<ST>]; where: • <AID> identifies the facility in the NE to which the switch request is directed. <AID> is from the "FACILITY" section on page 4-15. <AID> must not be null. • <ST> is the BLSR switch type. the switch type is optional and for BLSR protection switch only. <ST> defaults to RING switch type and valid values are shown in the "SW_TYPE" section on page 4-62. A null value is equivalent to ALL.
Input Example	EX-SW-OC48:CISCO:FAC-12-1:123::SPAN;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.58 INH-MSG-ALL: Inhibit Message All

This command inhibits all REPT ALM and REPT EVT autonomous messages from being transmitted. See the ALW-MSG-ALL to resume these autonomous messages. When a TL1 session starts, the REPT ALM and REPT EVT messages are allowed by default.

Note If this command is used twice in the same session, the SAIN (Already Inhibited) error message is reported.

Section	INH-MSG-ALL Description	
Category	System	
Security	Retrieve	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INIT-SYS REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	INH-MSG-ALL:[<TID>]::<CTAG>[::,,];	
Input Example	INH-MSG-ALL:PETALUMA::550;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.59 INH-MSG-DBCHG: Inhibit Database Change Message

This command disables REPT DBCHG.

Section	INH-MSG-DBCHG Description
Category	Log
Security	Retrieve
Related Messages	ALW-MSG-DBCHG REPT DBCHG RTRV-LOG
Input Format	INH-MSG-DBCHG:[<TID>]::<CTAG>[::,,];
Input Example	INH-MSG-DBCHG:CISCO::123;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.60 INH-PMREPT-ALL: Inhibit Performance Report All

This command inhibits all scheduled PM reporting. The inhibitance of the PM reporting is session-based, which means the command is only effective to the TL1 session that issues this command. By default, the scheduled PM reporting is inhibited by a TL1 session.

A TL1 session for which PM reports are inhibited will include an INHMSG-PMREPT condition when issuing TL1 command RTRV-COND-ALL.

Section	INH-PMREPT-ALL Description	
Category	Performance	
Security	Retrieve	
Related Messages	ALW-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2>	RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	INH-PMREPT-ALL:[<TID>]::<CTAG>;	
Input Example	INH-PMREPT-ALL:NE-NAME::123;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.61 INH-SWDX-EQPT: Inhibit Switch Duplex Equipment

(Cisco ONS 15454 only)

This command inhibits automatic or manual switching on a system containing duplex equipment. Use the ALW-SWDX command to release the inhibit. This command is not used for SONET line protection switching. For SONET line/path protection switching commands, use the OPR-PROTNSW and RLS-PROTNSW commands. This command is not used for 1:1 and 1:N equipment protection switching, use ALW-SWTOPROTN, ALW-SWTOWKG, INH-SWTOPROTN, INH-SWTOWKG commands.

Notes:

1. This command applies for XC, XCVT, or XC10G equipment units only in this release.
2. When sending this command to a TCC card, an error message will occur because the NE treats the TCC as a non-revertive protection group without user control.

Section	INH-SWDX-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	INH-SWDX-EQPT:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is the XC/XCVT/XC10G equipment AID (Slot 8 or Slot 10) from the "EQPT" section on page 4-14	
Input Example	INH-SWDX-EQPT:CISCO:SLOT-1:1234;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.62 INH-SWTOPROTN-EQPT: Inhibit Switch to Protection Equipment

(Cisco ONS 15454 only)

This command inhibits automatic or manual switching of an equipment unit to protection. Use the ALW-SWTOPROTN-EQPT command to release the inhibit.

INH-SWTOPROTN-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM and EC1 cards). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection. When performing a lockout with this command, the traffic will be switched from the unit specified by the AID, unless the working unit being protected has failed or is missing. When performing a lock on with this command and the working unit specified in the AID is in standby, sending this command will also initiate a traffic switch. When traffic is locked on a working unit or locked out of the protection unit with this command, the protection unit will not carry traffic, even if the working unit is pulled from the system.

Sending this command to a working unit in a 1:N protection group does not prevent a protection switch from another working unit in the same protection group. All the working units must be sent this command to prevent a protection switch. If the command is sent only to a subset of the working units, only those working units will have traffic locked on.

The inhibit state is persistent over TCC side switches and removal/reboot of all the units in the protection group. The inhibit state can, but does not have to be persistent over a complete power cycle of the NE.

The unit specified by the AID will raise the condition of INHSWPR when this command is sent.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be received.
5. If this command is used on a card that is already in the inhibit state, the SAIN (Status, Already Inhibited) error message should be received.
6. If sending the inhibit switch to protection command to a working card when the protect card in the same protection group has already raised the condition of INHSWWKG, the SPLD (Status, Protection unit Locked) error message should be responsed.
7. If sending the inhibit switch to protection command to the protect card when a working card in the same protection group has already raised the condition of INHSWWKG, the SWLD (Status, Working unit Locked) error message should be responsed.
8. Sending the inhibit switch to protection command to an active protect card when the peer working card is failed or missing, the SWFA (Status, Working unit Failed) error message should be responsed.
9. The following situation(s) are allowed and will not generate any error response: sending this command to missing cards as long as none of the previous error conditions apply.

Section	INH-SWTOPROTN-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOWKG-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	INH-SWTOPROTN-EQPT Description (continued)
Input Format	INH-SWTOPROTN-EQPT:[<TID>]:<AID>:<CTAG>[::<DIRN>]; where: • <AID> This parameter can either be the working unit for which switching to protection is inhibited (lock on) or the protection unit for which carrying traffic is to be inhibited (lockout); <AID> is from the "EQPT" section on page 4-14 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the DIRECTION, page 40
Input Example	INH-SWTOPROTN-EQPT:CISCO:SLOT-2:123::BTH;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.63 INH-SWTOWKG-EQPT: Inhibit Switch to Working Equipment

(Cisco ONS 15454 only)

This command inhibits automatic or manual switching of an equipment unit back to the working unit. Use the ALW-SWTOWKG-EQPT command to release the inhibit.

INH-SWTOWKG-EQPT is used for non-SONET line cards (e.g. DS1, DS3, DS3XM and EC1 cards). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection. When performing a lock-out with this command, the traffic will be switched from the unit specified by the AID, unless the protection unit has failed or is missing. When performing a lock-on with this command and the protection unit specified in the AID is in standby, sending this command will initiate a traffic switch only when there is one working card in the protection group. In the case where there is more than one working card in the protection group, an error will be generated (see error conditions below). When traffic is locked on the protection unit or locked out of a working unit with this command, the working unit will not carry traffic, even if the protection unit is pulled from the system.

The inhibit state is persistent over TCC side switches and removal/reboot of all the units in the protection group. The inhibit state can but does not have to be persistent over a complete power cycle of the NE.

The unit specified by the AID will raise the condition of INHSWWKG when this command is sent.

Notes:

1. The command only supports one value of the <DIRN> parameter - BTH. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed.
2. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. A command on a common control card will receive an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will receive an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be received.
5. If this command is used on a card that is already in the inhibit state, the SAIN (Status, Already Inhibited) error message should be received.

6. If sending this command to a working card when the protect card in the same protection group has already raised the condition of INHSWPR, the SPLD (Status, Protection unit Locked) error message should be received.
7. If sending the INH-SWTOWKG command to a protect card when a working card in the same protection group has already raised the condition of INHSWPR, the SWLD (Status, Working unit Locked) error message should be responsed.
8. If sending the INH-SWTOWKG command to an active working card when the protect card has failed or is missing, the SPFA (Status, Protection unit Failed) error message should be received.
9. If sending the INH-SWTOWKG command to an active working card when the protect card is already carrying traffic (this only occurs in a 1:N protection group with N greater than one), the SPAC (Status, Protection unit Active) error message should be received.
10. The following situation is allowed and will not generate any error response: Sending this command to missing cards as long as none of the previous error conditions apply.

Section	INH-SWTOWKG-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	INH-SWTOWKG-EQPT:[<TID>]:<AID>:<CTAG>[::<dirn>]; where: • <AID> This parameter can either be the protection unit for which switching back to working is inhibited (lock-on) or the working unit for which carrying traffic is to be inhibited (lockout); <AID> is from the "EQPT" section on page 4-14 • <DIRN> is the direction of the switching. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the DIRECTION, page 40	
Input Example	INH-SWTOWKG-EQPT:CISCO:SLOT-2:123::BTH;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.64 INIT-REG-<MOD2>: Initialize Register (DS1, EC1, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

(DS1, EC1, OC192 and STS192C supported for ONS 15454 only)

This command initializes the performance monitoring (PM) registers.

Notes:

1. The time period is always the current time period, and the previous time period counts are not cleared; therefore, both <MONDAT> and <MONTM> are not supported in this command.
2. Both transmit and receive directions are allowed in DS1, other cards only support the receive direction.

Section	INIT-REG-<MOD2> Description
Category	Performance
Security	Maintenance
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	INIT-REG-<MOD2>:[<TID>]:<AID>:<CTAG>::,,[<LOCN>],[<DIRN>],[<TMPER>][,,]; where: • <AID> is the access identifier. All the STS, VT1, facility and DS1 AIDs are supported; <AID> is from the "ALL" section on page 4-5 • <LOCN> indicates the location, in reference to the entity identified by the AID, from which the PM value is being retrieved; valid values for <LOCN> are shown in the "LOCATION" section on page 4-48 • <DIRN> is the direction of PM relative to the entity identified by the AID. <DIRN> defaults to ALL, which means that the command initializes all the registers irrespective of the PM direction. Valid values for <DIRN> are shown in the "DIRECTION" section on page 4-40. • <TMPER> indicates the accumulation time period for the PM information; valid values for <TMPER> are shown in the "TMPER" section on page 4-67. A null value of <TMPER> defaults to 15-MIN. The default value is 15-MIN.
Input Example	INIT-REG-OC3:CISCO:FAC-1-1:1234::,,NEND,BTH,15-MIN;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.65 INIT-SYS: Initialize System

This command initializes the specified card and its associated subsystem(s).

Notes:

1. The SLOT-ALL AID and the list AID are not allowed in this command.
2. Only one level of restart is supported in this command.
3. It is important that the standby TCC should be up and running fully standby before this command is sent on the active TCC for a period of time. During this time, the system is vulnerable to traffic outages caused by timing disruptions or other causes.

Section	INIT-SYS Description	
Category	System	
Security	Maintenance	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL REPT EVT FXFR	RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	INIT-SYS:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is the access identifier of the equipment unit or slot and is from the "EQPT" section on page 4-14	
Input Example	INIT-SYS:HOTWATER:SLOT-8:201;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.66 OPR-ACO-ALL: Operate Alarm Cutoff All

This command cuts off the office audible alarm indication without changing the local alarm indications.

This command does not have any effect on future alarms at the NE, it directs the NE to provide conditioning only on those alarms that are currently active.

The ACO retires the Central Office (CO) alarm audible indicators without clearing the indicators that show the trouble still exists. There is no need for a RLS-ACO command.

Section	OPR-ACO-ALL Description
Category	Environment Alarms and Controls
Security	Maintenance

Section	OPR-ACO-ALL Description (continued)	
Related Messages	OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT	RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	OPR-ACO-ALL:[<TID>]::<CTAG>;	
Input Example	OPR-ACO-ALL:CISCO::123;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.67 OPR-EXT-CONT: Operate External Control

This command operates an external control and closes the external control contact. The control can be operated momentarily or continuously.

Notes:

1. The duration has two values in this release:

   MNTRY: Momentary duration

   CONTS: Continuos duration
2. In an automatic state, the contact could be opened or closed depending on the provisioned trigger.
3. RLS-EXT-CONT changes the state to automatic. Therefore, issuing an OPR-EXT-CONT command when the control is manually open and then issuing a RLS-EXT-CONT will not revert the state back to Manual Open.
4. A NULL value for the duration parameter defaults to MNTRY in this release.
5. The RLS-EXT-CONT is not allowed during the MNTRY duration, the command is allowed for the CONTS duration. The length of the MNTRY duration is set to be 2 seconds on Cisco ONS 15454.

Section	OPR-EXT-CONT Description	
Category	Environment Alarms and Controls	
Security	Maintenance	
Related Messages	OPR-ACO-ALL REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT	RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV

Section	OPR-EXT-CONT Description (continued)
Input Format	OPR-EXT-CONT:[<TID>]:<AID>:<CTAG>::[<CONTTYPE>],[<DURATION>]; where: • <AID> is the access identifier environment AID from the "ENV" section on page 4-13 and must not be null • <CONTTYPE> is the type of control; valid values for <CONTTYPE> are shown in the "CONTTYPE" section on page 4-40. A null value is equivalent to ALL. • Valid values for <DUR> are shown in the "DURATION" section on page 4-42. A null value is equivalent to ALL.
Input Example	OPR-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND,CONTS;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.68 OPR-LPBK-<MOD2_IO>: Operate Loopback (DS1, EC1, G1000, OC3, OC12, OC48, OC192, T1, T3)

(OC192 supported for ONS 15454 only)

This command operates a signal loopback on an I/O card.

The optional [<LPBKTYPE>] defaults to FACILITY in this command.

Notes:

1. The TERMINAL loopback type is not supported for the DS1 line of a DS3XM card.
2. Loopbacks are only allowed to be setup if the port is in OOS-MT or in OOS-AINS state.

Section	OPR-LPBK-<MOD2_IO> Description
Category	Testing
Security	Maintenance
Related Messages	RLS-LPBK-<MOD2_IO>
Input Format	OPR-LPBK-<MOD2_IO>:[<TID>]:<AID>:<CTAG>::,,,[<LPBKTYPE>]; where: • <AID> is the access identifier. The <AID> is only supported for FACILITY and DS1; <AID> is from the "ALL" section on page 4-5 • <LPBKTYPE> is a loopback type; valid values for <LPBKTYPE> are shown in the "LPBK_TYPE" section on page 4-49
Input Example	OPR-LPBK-DS1:PTREYES:DS1-4-2-13:203::,,,FACILITY;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.69 OPR-PROTNSW-<OCN_TYPE>: Operate Protection Switch (OC3, OC12, OC48, OC192)

(OC192 supported for ONS 15454 only)

This command initiates a SONET line protection switch request. User switch requests initiated with this command remain active until they are released via the RLS-PROTNSW-OCN command or are overridden by a higher priority protection switch request.

The switch commands; MAN (Manual Switch), FRCD (Forced Switch) and LOCKOUT (Lockout) are supported by the ONS 15454.

Manual Switch of Protection Line (to Working Line). If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line, unless a request of equal or higher priority is in effect.

Manual Switch of Working Line (to Protection Line). If the AID identifies a working line, then service will be switched from the working line to the protection line unless a request of equal or higher priority is in effect.

Force Switch of Protection Line (to Working Line). If the AID identifies the protection line, then (only in the 1+1 architecture) service will be transferred from the protection line to the working line unless a request of equal or higher priority is in effect.

Force Switch of Working Line (to Protection Line). If the AID identifies a working line, then service will be transferred from the working line to the protection line unless a request of equal or higher priority is in effect. A lockout of protection and a signal fail of protection line have higher priority than this switch command.

Lockout of Protection Line. If the AID identifies the protection line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back to its original working line.

Lockout of Protection Line. If the AID identifies protection line, this switch command will prevent the working line from switching to protection line. If the working line is already on protection, then the working line will be switched back from protection line to its original working line.

Notes:

1. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. A query on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To use this command on the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
2. Sending this command on non-SONET (OCN) cards, an IIAC (Input, Invalid Access Identifier) error message should be received. To query on a non-SONET card switching command, use the ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
3. When sending this command to query on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be received.
4. When sending this command to a working card that is failed or missing, the SWFA (Status, Working unit Failed) error message should be received.
5. When sending this command to a protect card that is failed or missing, the SPFA (Status, Protection unit Failed) error message should be received.
6. When sending this command to a card that is already in protection with a higher priority, the SSRD (Status, Switch Request Denied) error message should be received.

7. Sending this command to an OCN line with a switching mode that is already in mode, will return a SAMS (Already in the Maintenance State) error message.
8. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
9. If the far end of the same span has a higher protection switching state, for example, the near end is under Manual protection switching state, the far end is in the Forced protection switching state, the near end protection switching state will be preemptive and shown as APS_CLEAR switching state over the CTC/TL1 interface. The RTRV-PROTNSW-OCN command is used to retrieve the current switching state of a SONET line.
10. If sending this command with EXERCISE or APS_CLEAR switch operation, an error SROF (Invalid Protection Switch Operation) will be returned because these operations are not valid according to GR-833-CORE.

    Sending this command with CLEAR switch operation is not a valid operation per GR-833, the NE will clear the state of the line. This behavior will be corrected in a future release.

    The EX-SW-<OCN_BLSR> is the correct command to perform the EXERCISE switch over the BLSR line.
11. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK do not apply to BLSR protection switching.

Section	OPR-PROTNSW-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Maintenance
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	OPR-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>::<SC>,[<SWITCHTYPE>]; where: • <AID> identifies the facility in the NE to which the switch request is directed and is from the "FACILITY" section on page 4-15 • <SC> is the switch command on the facility; valid values for <SC> are shown in the "SW" section on page 4-61 • Valid values for <SWITCHTYPE> are shown in the "SW_TYPE" section on page 4-62 **Caution** MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR, and LOCKOUTOFWK do not apply to BLSR protection switching. Cisco advises against using these switch types in this command.
Input Example	OPR-PROTNSW-OC48:PETALUMA:FAC-6-1:204::LOCKOUT,SPAN;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.70 OPR-PROTNSW-<STS_PATH>: Operate Protection Switch (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command initiates a SONET path protection (UPSR) switch request. User switch requests initiated with this command (forced switch, lockout, and manual switch) remain active until they are released through the RLS-PROTNSW-<STS_PATH> command or overridden by a higher priority protection switch request.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. If you send this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
5. The GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID. Sending this command on the UPSR WORKING path, a SROF (Invalid Protection Switch Operation) is returned.
6. If sending this command with EXERCISE or APS_CLEAR switch operation, an error SROF (Invalid Protection Switch Operation) will be returned because these operations are not valid according to GR-833-CORE.

   Sending this command with CLEAR switch operation is not a valid operation per GR-833, the NE will clear the state of the line. This behavior will be corrected in a future release.

Section	OPR-PROTNSW-<STS_PATH> Description
Category	UPSR Switching
Security	Maintenance
Related Messages	OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	OPR-PROTNSW-<STS_PATH>:[<TID>]:<AID>:<CTAG>::<SC>[:]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "STS" section on page 4-16 • <SC> is the switch command that is to be initiated on the paths; valid values for <SC> are shown in the "SW" section on page 4-61
Input Example	OPR-PROTNSW-STS1:CISCO:STS-2-1:123::MAN;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.71 OPR-PROTNSW-VT1: Operate Virtual Tributary Protection Switch

This command initiates a SONET path protection (UPSR) switch request. User switch requests initiated with this command (forced switch, lockout, and manual switch) remain active until they are released through the RLS-PROTNSW-VT1 command or overridden by a higher priority protection switch request.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. If you send this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL commands.
5. The GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID. Sending this command on the UPSR WORKING path, a SROF (Invalid Protection Switch Operation) is returned.
6. If sending this command with EXERCISE or APS_CLEAR switch operation, an error SROF (Invalid Protection Switch Operation) will be returned because these operations are not valid according to GR-833-CORE.

   Sending this command with CLEAR switch operation is not a valid operation per GR-833, the NE will clear the state of the line. This behavior will be corrected in a future release.

Section	OPR-PROTNSW-VT1 Description
Category	UPSR Switching
Security	Maintenance
Related Messages	OPR-PROTNSW-<STS_PATH> REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	OPR-PROTNSW-VT1:[<TID>]:<AID>:<CTAG>::<SC>[:]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "VT1_5" section on page 4-21 • <SC> is the switch command that is to be initiated on the paths; valid values for <SC> are shown in the "SW" section on page 4-61
Input Example	OPR-PROTNSW-VT1:CISCO:VT1-5-2-4-1:123::MAN;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.72 OPR-SYNCNSW: Operate Synchronization Switch

This command initiates a switch to the reference specified by the synchronization reference number if the reference supplied is valid.

For manual types of switches the reference to which you want to switch should be of the same quality as the active reference source, otherwise the command will fail.

If you want to switch to a reference of lower quality, use the forced switch option.

The Operate Synchronization Switches are released by the RLS-SYNCNSW command or are overridden by a synchronization reference failure.

Once the switch is effective, a minor alarm "MANSWTOPRI" (Manual Switch to Primary or Secondary Reference...) will be raised for Manual switches and alarms like "FRCDSWTOPRI" (Forced Switch to Primary or Secondary Reference...) will be raised for Forced switches.

Section	OPR-SYNCNSW Description	
Category	Synchronization	
Security	Maintenance	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN RLS-SYNCNSW	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	OPR-SYNCNSW:[<TID>]:[<AID>]:<CTAG>::<SWITCHTO>,[<SC>]; where: • <AID> is the access identifier from the "SYNC_REF" section on page 4-19. THe default value is SYNC-NE. • <SWITCHTO> identifies the new synchronization reference that will be used and is the AID from the "SYNCSW" section on page 4-20 • <SC> is the switch command to be issued. Only manual (MAN) and forced (FRCD) switches are allowed for this command. Valid values for <SC> are shown in the "SW" section on page 4-61. The default value is "MAN"	
Input Example	OPR-SYNCNSW:CISCO:SYNC-NE:3::PRI,MAN;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.73 REPT ALM <MOD2ALM>: Report Alarm (DS1, E100, E1000, EC1, G1000, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, UDCDCC, UDCF, VT1)

(DS1, E1000, EC1, OC192, STS192C supported for ONS 15454 only)

Reports an alarm condition against a facility or a path.

Section	REPT ALM <MOD2ALM> Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Output Format	SID DATE TIME ** ATAG REPT ALM <MOD2ALM> "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>], [<AIDDET>]" ; where: • <AID> is the access identifier from the "ALL" section on page 4-5 • <NTFCNCDE> indicates a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the AID type; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-43, <AIDDET> is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM DS1 "FAC-2-1:MJ,LOS,SA,,,,:\"LOSS OF SIGNAL\",OC12" ;	

3.5.74 REPT ALM BITS: Report Alarm Building Integrated Timing Supply

Reports an alarm condition on a BITS facility.

Section	REPT ALM BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL	RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN
Output Format	SID DATE TIME ** ATAG REPT ALM BITS "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is the access identifier from the "BITS" section on page 4-11 • <NTFCNCDE> identifies a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM BITS "BITS-1:MJ,SYNC,SA,,,,:\"LOSS OF TIMING\"" ;	

3.5.75 REPT ALM COM: Report Alarm COM

Reports an alarm condition when an AID cannot be given, for example, a fan failure is reported using this message.

Section	REPT ALM COM Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Output Format	SID DATE TIME ** ATAG REPT ALM COM "[<AID>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> indicates the alarm without AID; <AID> is a string and is optional • <NTFCNCDE> indicates a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM COM "COM:MJ,FAN,NSA,,,,:\"FAN FAILURE\"" ;	

3.5.76 REPT ALM ENV: Report Alarm Environment

Reports a customer-defined condition on an environmental alarm input.

Section	REPT ALM ENV Description	
Category	Environment Alarms and Controls	
Security	Retrieve	
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT ENV RLS-EXT-CONT RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT	RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Output Format	SID DATE TIME ** ATAG REPT ALM ENV "<AID>:<NTFCNCDE>,<ALMTYPE>,,,[<DESC>]" ; where: • <AID> identifies an environmental input and is from the "ENV" section on page 4-13 • <NTFCNCDE> identifies a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <ALMTYPE> abbreviated code identifying the alarm; valid values for <ALMTYPE> are shown in the "ENV_ALM" section on page 4-42 • <DESC> is the alarm message; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM ENV "ENV-IN-1:MJ,OPENDR,,,\"OPEN DOOR\"" ;	

3.5.77 REPT ALM EQPT: Report Alarm Equipment

Reports an alarm condition against an equipment unit or slot.

Section	REPT ALM EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT EQPT RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Output Format	SID DATE TIME ** ATAG REPT ALM EQPT "<AID>:<NTFCNCDE>,<CONDITION>,<SRVEFF>,,,,:[<DESC>], [<AIDDET>]" ; where: • <AID> is the equipment AID SLOT from the "EQPT" section on page 4-14 • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDITION> is the type of alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-43, <AIDDET> is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM EQPT "SLOT-7:MJ,CONTR,NSA,,,,:\"CONTROLLER FAILURE\",TCC" ;	

3.5.78 REPT ALM RING: Report Alarm Ring

Reports an alarm condition against a ring object for BLSR.

Section	REPT ALM RING Description	
Category	Fault	
Security	Retrieve	
Related Messages	DLT-BLSR ED-BLSR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT RING RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS	RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BLSR RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Output Format	SID DATE TIME ** ATAG REPT ALM RING "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is from the "BLSR" section on page 4-12 • <NTFCNCDE> indicates a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> indicates a BLSR alarm; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM RING "BLSR-999:MJ,PRC-DUPID,SA,,,,:\"DUPLICATE NODE ID\"," ;	

3.5.79 REPT ALM SYNCN: Report Alarm Synchronization

Reports an alarm condition against a synchronization reference.

Section	REPT ALM SYNCN Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL	RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNC RTRV-SYNCN
Output Format	SID DATE TIME ** ATAG REPT ALM SYNCN "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies a synchronization reference with alarm condition and is from the "SYNC_REF" section on page 4-19 • <NTFCNCDE> indicates a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> indicates an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM SYNCN "SYNC-NE:MJ,MAN,SA,,,,:\"MANUAL SWITCH\"," ;	

3.5.80 REPT ALM UCP: Report Alarm Unified Control Plane

Reports an alarm condition against an UCP object.

Section	REPT ALM UCP Description	
Category	UCP	
Security	Retrieve	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM UCP REPT ALM ENV REPT ALM EQPT	REPT ALM RING REPT ALM SYNCN REPT ALM UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Output Format	SID DATE TIME ** ATAG REPT ALM UCP "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies an UCP object with alarm condition and is from the "ALL" section on page 4-5 • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> is the type of condition to be retrieved; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 ** 100.100 REPT ALM UCP "CC-1:MJ,LMP-HELLODOWN,SA,,,,: \"LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;	

3.5.81 REPT DBCHG: Report Database Change Message

Reports any changes on the NE that result from:

1. TL1 provisioning commands or their GUI equivalents containing the verbs: ALW, DLT, ED, ENT, INH, INIT, OPR, RLS, SET, and SW (for example, DLT-EQPT, ENT-CRS-STS1)
2. External event such as a board insertion.

Section	REPT DBCHG Description
Category	Log
Security	Retrieve
Related Messages	ALW-MSG-DBCHG INH-MSG-DBCHG RTRV-LOG
Output Format	SID DATE TIME A ATAG REPT DBCHG "TIME=<TIME>,DATE=<DATE>,[SOURCE=<SOURCE>,] [USERID=<USERID>,]DBCHGSEQ=<DBCHGSEQ>:<COMMAND>:<AID>" ; where: • <TIME> is the time of the message triggered by the NE; <TIME> is a time • <DATE> is the date of the message triggered by the NE; <DATE> is a date • <SOURCE> is an input command CTAG if present; <SOURCE> is an integer and is optional • <USERID> is the user name or user identifier; <USERID> is a string and is optional • <DBCHGSEQ> is a sequential number of the DBCHG message; <DBCHGSEQ> is an integer • <COMMAND> is the input command or substitute; <COMMAND> is a string • <AID> is the AID(s) or substitute; <AID> is a string
Output Example	TID-000 1998-06-20 14:30:00 A 001 REPT DBCHG "TIME=14-35-46,DATE=99-07-28,SOURCE=123,USERID=CISCO15, DBCHGSEQ=456:ENT-CRS-VT1:VT1-4-2-6-4" ;

3.5.82 REPT EVT <MOD2ALM>: Report Event (DS1, E100, E1000, EC1, G1000, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, UDCDCC, UDCF, VT1)

(DS1, E1000, EC1, OC192, STS192C supported for ONS 15454 only)

Reports the occurrence of a non-alarmed event.

Section	REPT EVT <MOD2ALM> Description
Category	Fault
Security	Retrieve
Related Messages	—
Output Format	SID DATE TIME A ATAG REPT EVT <MOD2ALM> "<AID>:<CONDTYPE>,[<CONDEFF>],,,[<LOCN>],,[<MONVAL>], [<THLEV>],[<TMPER>]:[<DESC>],[<AIDDET>]" ; where: • <AID> indicates an event with the condition type and is from the "ALL" section on page 4-5 • <CONDTYPE> indicates an event with the condition type and is a string • <CONDEFF> is the effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-29, <CONDEFF> is optional • <LOCN> indicates the location; valid values for <LOCN> are shown in the "LOCATION" section on page 4-48, <LOCN> is optional • <MONVAL> is the monitored value; <MONVAL> is an integer and is optional • <THLEV> is the threshold value; <THLEV> is an integer and is optional • <TMPER> is the accumulation time period for the PM information; valid values for <TMPER> are shown in the "TMPER" section on page 4-67 • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-43, <AIDDET> is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT DS1 "FAC-5-1:WKSWPR,TC,,,FEND,,12,13,15-MIN: \"WORKING SWITCH TO PROTECTION\",OC48" ;

3.5.83 REPT EVT BITS: Report Event BITS

Reports a non-alarmed event against a BITS facility.

Section	REPT EVT BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT SYNCN RLS-SYNCNSW	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Output Format	SID DATE TIME A ATAG REPT EVT BITS "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> indicates an access identifier and is from the "BITS" section on page 4-11 • <CONDTYPE> indicates a condition type and the valid values are shown in the "CONDITION" section on page 4-29 • <CONDEFF> indicates an effect of the condition on the NE; valid values for are shown in the "COND_EFF" section on page 4-29, <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT BITS "BITS-1:SSM-STU,TC,,,,,,,:\"SYNCHRONIZED - TRACEABILITY UNKNOWN\"" ;	

3.5.84 REPT EVT COM: Report Event COM

Reports a non-alarmed event against an NE when there is no AID associated with it.

Section	REPT EVT COM Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Output Format	SID DATE TIME A ATAG REPT EVT COM "[<AID>]:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> indicates this event is from the NE. <AID> is a string and is optional. • <CONDTYPE> indicates an event condition type. Valid values are shown in the "CONDITION" section on page 4-29 • <CONDEFF> indicates an effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-29, <CONDEFF> is optional • <DESC> is the description message for the condition; <DESC> is a string and is optional	
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT COM "COM:CLDRESTART,TC,,,,,,,:\"COLD RESTART\"," ;	

3.5.85 REPT EVT ENV: Report Event Environment

Reports the occurrence of a non-alarmed event against an environment alarm input.

Section	REPT EVT ENV Description
Category	Environment Alarms and Controls
Security	Retrieve
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Output Format	SID DATE TIME A ATAG REPT EVT ENV "<AID>:<ALMTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> identifies an environmental input and is from the "ENV" section on page 4-13 • <ALMTYPE> is an abbreviated code identifying the alarm and the valid values are shown in the "ENV_ALM" section on page 4-42 • <CONDEFF> indicates an effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-29, <CONDEFF> is optional • <DESC> is an alarm message; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT ENV "ENV-IN-2:OPENDR,TC,,,,,,,:\"OPEN DOOR\"" ;

3.5.86 REPT EVT EQPT: Report Event Equipment

Reports the occurrence of a non-alarmed event against an equipment unit or slot.

Section	REPT EVT EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Output Format	SID DATE TIME A ATAG REPT EVT EQPT "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>],[<AIDDET>]" ; where: • <AID> indicates an equipment AID SLOT and is from the "EQPT" section on page 4-14 • <CONDTYPE> indicates an event condition type; <CONDTYPE> defaults to EQPT and the valid values are shown in the "CONDITION" section on page 4-29 • <CONDEFF> indicates an effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-29, <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-43, <AIDDET> is optional	
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT EQPT "SLOT-7:PLUGIN,TC,,,,,,,:\"EQUIPMENT PLUG-IN\",TCC" ;	

3.5.87 REPT EVT FXFR: Report Event Software Download

Reports the FTP software download status of the start, completion, and completed percentage.

Notes:

1. The FXFR_RSLT is only sent when the FXFR_STATUS is COMPLD.
2. The BYTES_XFRD is only sent when the FXFR_STATUS is IP or COMPLD.

Section	REPT EVT FXFR Description
Category	System
Security	Retrieve
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Output Format	SID DATE TIME A ATAG REPT EVT FXFR "<FILENAME>,<FXFR_STATUS>,[<FXFR_RSLT>],[<BYTES_XFRD>]" ; where: • <FILENAME> when a package is being transferred between the FTP server and the controller cards, the <FILENAME> field will contain the string "active". Following the transfer, if there is a second controller card on the node, the file will be copied over to the second card. While this is happening, REPT EVT FXFR messages will be generated with a filename of "standby". <FILENAME> is a string • <FXFR_STATUS> indicates the file transferred status; START, or IP (In Progress), or COMPLD. Valid values for <FXFR_STATUS> are shown in the "TX_STATUS" section on page 4-68 • <FXFR_RSLT> indicates the file transferred result; SUCCESS or FAILURE. Valid values for <FXFR_RSLT> are shown in the "TX_RSLT" section on page 4-67 and <FXFR_RSLT> is optional • <BYTES_XFRD> indicates the transferred byte count; <BYTES_XFRD> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT FXFR "NEW.PKG,COMPLD,SUCCESS,21215147" ;

3.5.88 REPT EVT RING: Report Event Ring

Reports the occurrence of a non-alarmed event against a ring object for BLSR.

In this release, the BLSR-UPDATED condition has been added and will be reported as a transient message, not a standing condition/alarm.

Note When a change is made to a BLSR, including creating a new circuit, the circuit will not have BLSR protection until after the BLSR-UPDATED message is received.

Section	REPT EVT RING Description
Category	BLSR
Security	Retrieve
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM RING RTRV-ALM-RING RTRV-BLSR RTRV-COND-RING
Output Format	SID DATE TIME A ATAG REPT EVT RING "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> is from the "BLSR" section on page 4-12 • <CONDTYPE> indicates an event condition type; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <CONDEFF> is the effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-29 • <DESC> is the condition description; <CONDDESR> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT RING "BLSR-88:BLSR-RESYNC,TC,,,,,,,:\"BLSR TABLESRESYNCHRONIZED\"," ;

3.5.89 REPT EVT SECU: Report Event Security

Reports the occurrence of a non-alarmed security event against the NE.

Based on TR-NWT-000835 in TR-NWT-000835 and the AID of the security alarm should be the Connection Identifier (CID) which is not supported in this release. The COM or UID is an acceptable substitute for the AID here. CID's will be supported in a future release.

For the rule of single failure, single message/alarm, the security alarm will not be reported as REPT ALM COM, because it is reported as REPT ALM SECU.

Because the NE sends this security message as a transient message, to make all TL1 autonomous messages consistent, the TL1 agent reports the security message into REPT EVT SECU.

Section	REPT EVT SECU Description
Category	Security
Security	Retrieve
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU RTRV-USER-SECU
Output Format	SID DATE TIME A ATAG REPT EVT SECU "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>]" ; where: • <AID> identifies an entity with the condition and defaults to "COM"; <AID> is a string • <CONDTYPE> is the condition type and valid values are shown in the "CONDITION" section on page 4-29 • <CONDEFF> indicates an effect of the condition on the NE and valid values are shown in the "COND_EFF" section on page 4-29; <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT SECU "COM:INTRUSION,TC,,,,,,,:\"SECURITY-INVALID LOGIN (SEE AUDIT TRIAL)\"" ;

3.5.90 REPT EVT SYNCN: Report Event Synchronization

Reports the occurrence of a non-alarmed event against a synchronization entity.

Section	REPT EVT SYNCN Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS RLS-SYNCNSW	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Output Format	SID DATE TIME A ATAG REPT EVT SYNCN "<AID>:<CONDTYPE>,[<CONDEFF>],,,,,,,:[<DESC>],[<AIDDET>]" ; where: • <AID> identifies the synchronization entity with the condition and is from the "SYNC_REF" section on page 4-19 • <CONDTYPE> indicates the condition type; <CONDTYPE> defaults to SYNCN and the valid values are shown in the "CONDITION" section on page 4-29 • <CONDEFF> indicates the effect of the condition on the NE; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-29, <CONDEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> specifies the type of AID; valid values for <AIDDET> are shown in the "EQPT_TYPE" section on page 4-43, <AIDDET> is optional	
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT SYNCN "SYNC-NE:SWTOINT,SC,,,,,,,:\"SWITCH TO INTERNAL CLOCK\",TCC" ;	

3.5.91 REPT EVT UCP: Report Event Unified Control Plane

Reports the occurrence of a non-alarmed even against an UCP object.

Section	REPT EVT UCP Description
Category	UCP
Security	Retrieve
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Output Format	SID DATE TIME A ATAG REPT EVT UCP "<AID>:[<CONDTYPE>],<CONDEFF>,,,,,,,:[<DESC>]" ; where: • <AID> identifies an UCP object with alarm condition and is from the "ALL" section on page 4-5 • <CONDTYPE> is the type of condition to be retrieved. Valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29; <CONDTYPE> is optional • <CONDEFF> is the effect on service caused by the alarm condition; valid values for <CONDEFF> are shown in the "COND_EFF" section on page 4-29 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 A 100.100 REPT EVT UCP "CC-1:LMP-HELLODOWN,TC,,,,,,,:\"LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;

3.5.92 REPT PM <MOD2>: Report PM (DS1, EC1, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

Reports autonomous monitoring statistics as a result of the schedule created by SCHED-PMREPT.

Section	REPT PM <MOD2> Description	
Category	Performance	
Security	Retrieve	
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH>	RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Output Format	SID DATE TIME A ATAG REPT PM <MOD2> "<AID>:<MONTYPE>,<MONVAL>,<VLDTY>,<LOCN>,<DIRN>, <TMPER>,<MONDAT>,<MONTM>" ; where: • <AID> access identifier from the "ALL" section on page 4-5 • <MONTYPE> type of monitored parameter; valid values are shown in the "ALL_MONTYPE" section on page 4-24 • <MONVAL> measured value of monitored parameter; <MONVAL> is an integer • <VLDTY> validity indicator for the reported PM data; valid values for <VLDTY> are shown in the "VALIDITY" section on page 4-70 • <LOCN> indicates the location; valid values are shown in "LOCATION" section on page 4-48 • <DIRN> direction of PM relative to the entity identified by the AID; valid values are shown in the "DIRECTION" section on page 4-40 • <TMPER> indicates the accumulation time period for the PM data; valid values are shown in the "TMPER" section on page 4-67 • <MONDAT> is the date of the beginning of the PM period specified by the TMPER parameter; <MONDAT> is a string • <MONTM> is the beginning time of day of the PM period specified by the TMPER parameter; <MONTM> is a string	
Output Example	TID-000 1998-06-20 14:30:00 A 100 REPT PM DS1 "FAC-3-1:CVL,10,PRTL,NEND,BTH,15-MIN,05-25,14-46" ;	

3.5.93 REPT SW: Report Switch

(Cisco ONS 15454 only)

Reports the autonomous switching of a unit in a duplex equipment pair to the standby state and its mate unit to the active state. An automatic report for the occurrence or clearance of an alarm or event that triggers the switch may be associated with the message.

Section	REPT SW Description
Category	UPSR Switching
Security	Retrieve
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Output Format	SID DATE TIME A ATAG REPT SW "<ACTID>,<STDBYID>" ; where: • <ACTID> identifies the equipment unit that has been placed in the active state. Parameter grouping cannot be used with this parameter; <ACTID> is the AID from the "EQPT" section on page 4-14 • <STDBYID> identifies the equipment unit that was placed in the standby state. Parameter grouping cannot be used with this parameter; <STDBYID> is the AID from the "EQPT" section on page 4-14
Output Example	TID-000 1998-06-20 14:30:00 A 001 REPT SW "SLOT-8,SLOT-10" ;

3.5.94 RLS-EXT-CONT: Release External Control

This command releases a forced contact state and returns the control of the contact to an AUTOMATIC control state. In AUTOMATIC control state, the contact could be opened or closed depending on triggers that may or may not be provisioned in the NE. Therefore, issuing an RLS might not produce any contact state change.

The NE defaults to having no triggers provisioned for external controls which consequently produces default open contacts. An NE with this default provisioning will always produce an open contact with a RLS-EXT-CONT command.

Notes:

1. The duration is not supported, it defaults to CONTS.
2. In an automatic state, the contact could be opened or closed depending on the provisioned trigger. Therefore, issuing an OPR-EXT-CONT command followed by an RLS-EXT-CONT command might not produce any contact state change.
3. The RLS-EXT-CONT is not allowed during the MNTRY duration. The command is allowed for the CONTS duration. The length of MNTRY duration is set to be 2 seconds.

Section	RLS-EXT-CONT Description
Category	Environment Alarms and Controls
Security	Maintenance
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RLS-EXT-CONT:[<TID>]:<AID>:<CTAG>[::,]; where: • <AID> identifies the external control being released and is from the "ENV" section on page 4-13
Input Example	RLS-EXT-CONT:CISCO:ENV-OUT-2:123;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.95 RLS-LPBK-<MOD2_IO>: Release Loopback (DS1, EC1, G1000, OC3, OC12, OC48, OC192, T1, T3)

(DS1, EC1, and OC192 supported for ONS 15454 only)

This command releases a signal loopback on an I/O card.

Notes:

1. The optional [<LPBKTYPE>] field defaults to the current existing loopback type.
2. The TERMINAL loopback type is not supported for a DS3XM card.

Section	RLS-LPBK-<MOD2_IO> Description
Category	Testing
Security	Maintenance
Related Messages	OPR-LPBK-<MOD2_IO>
Input Format	RLS-LPBK-<MOD2_IO>:[<TID>]:<AID>:<CTAG>::,,,[<LPBKTYPE>]; where: • <AID> is an access identifier. The <AID> is only supported for FACILITY and DS1; <AID> is from the "ALL" section on page 4-5 • <LPBKTYPE> indicates the loopback type; valid values for <LPBKTYPE> are shown in the "LPBK_TYPE" section on page 4-49
Input Example	RLS-LPBK-DS1:PTREYES:DS1-4-2-13:203::,,,FACILITY;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.96 RLS-PROTNSW-<OCN_TYPE>: Release Protection Switch (OC3, OC12, OC48, OC192)

(OC192 supported for ONS 15454 only)

This command releases a SONET line protection switch request.

The release of a protection switch request is applicable only to the OPR-PROTNSW protection switch commands, the user-initiated switch protection commands.

Notes:

1. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. Sending a command on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To query the common control card switching commands, use SW-DX-EQPT, ALW-SWDX-EQPT commands.
2. When sending this command on non-SONET (OCN) cards, an IIAC (Input, Invalid Access Identifier) error message should be responsed. To use this command on a non-SONET card switching command, use ALW-SWTOPROTN/SWTOWKG-EQPT and INH-SWTOPROTN/SWTOWKG-EQPT commands.
3. When sending this command to query on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message should be responsed.
4. When sending this command to a working card that is failed or missing, the SWFA (Status, Working unit Failed) error message should be responsed.
5. When sending this command to a protect card that is failed or missing, the SPFA (Status, Protection unit Failed) error message should be responsed.
6. When sending this command to a card that is not in protection, the SNPR (Status, Not in Protection State) error message should be responsed.
7. Sending this command to an OCN line that is already in clear mode will return a SAMS (Already in Clear Maintenance State) error message.
8. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL command.

Section	RLS-PROTNSW-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Maintenance
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_TYPE> OPR-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	RLS-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> identifies the facility in the NE to which the switch request is directed and is from the "FACILITY" section on page 4-15

Section	RLS-PROTNSW-<OCN_TYPE> Description (continued)
Input Example	RLS-PROTNSW-OC48:PETALUMA:FAC-6-1:209;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.97 RLS-PROTNSW-<STS_PATH>: Release Protection Switch (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command releases a SONET path protection switch request that was established with the OPR-PROTNSW-<MOD_PATH> command. This command assumes that only one user-initiated switch is active per AID.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. If sending this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL command.

Section	RLS-PROTNSW-<STS_PATH> Description
Category	UPSR Switching
Security	Maintenance
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	RLS-PROTNSW-<STS_PATH>:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "STS" section on page 4-16
Input Example	RLS-PROTNSW-STS1:CISCO:STS-2-1:123;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.98 RLS-PROTNSW-VT1: Release VT Protection Switch

This command releases a SONET path protection switch request that was established with the OPR-PROTNSW-VT1 command. This command assumes that only one user-initiated switch is active per AID.

Notes:

1. This command applies to UPSR configuration only.
2. The VTAID should be working or protect AID only.
3. Sending this command on the Drop AID, a DENY (Invalid AID, should use working/protect AID) message will be returned.
4. To get the protection switching state (manual, lockout, forced), use the RTRV-COND-ALL or RTRV-ALM-ALL command.

Section	RLS-PROTNSW-VT1 Description
Category	UPSR Switching
Security	Maintenance
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RTRV-PROTNSW-<STS_PATH> RTRV-PROTNSW-VT1
Input Format	RLS-PROTNSW-VT1:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> identifies the entity in the NE to which the switch request is directed and is from the "VT1_5" section on page 4-21
Input Example	RLS-PROTNSW-VT1:CISCO:VT1-4-2-3-1:123;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.99 RLS-SYNCNSW: Release Synchronization Switch

This command releases the previous synchronization reference provided by the OPR-SYNCNSW command.

In a non-revertive system, the use of the RLS-SYNCNSW command may not be appropriate. All the switching between synchronization references should be initiated with the OPR-SYNCNSW command.

Once a switch is released, a minor alarm "MANSWTOPRI", (Manual Switch to Primary Reference or Secondary...) or "FRDCSWTOPRI" (Forced Switch to Primary Reference or Secondary...), will be cleared.

Section	RLS-SYNCNSW Description
Category	Synchronization
Security	Maintenance

Section	RLS-SYNCNSW Description (continued)	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN	RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RLS-SYNCNSW:[<TID>]:[<AID>]:<CTAG>; where: • <AID> is the access identifier from the "SYNC_REF" section on page 4-19. The default value is SYNC-NE.	
Input Example	RLS-SYNCNSW:CISCO:SYNC-NE:3;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.100 RMV-<MOD2_IO>: Remove (DS1, EC1, G1000, OC3, OC12, OC48, OC192, T1, T3)

(EC1, G1000, OC192 supported for ONS 15454 only)

This command removes a facility from service.

Section	RMV-<MOD2_IO> Description	
Category	Ports	
Security	Maintenance	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RST <MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	RMV-<MOD2_IO>:[<TID>]:<AID>:<CTAG>::[<CMDMODE>],[<PST>],[<SST>]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-15 • <CMDMODE> is the command mode; valid values are shown in the "CMD_MODE" section on page 4-28 • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60	
Input Example	RMV-EC1:CISCO:FAC-1-1:1::NORM,OOS,AINS;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.101 RST-<MOD2_IO>: Restore (DS1, EC1,G1000, OC3, OC12, OC48, OC192, T1, T3)

(EC1, G1000, OC192 supported for ONS 15454 only)

This command provisions a facility in service.

Section	RST-<MOD2_IO> Description	
Category	Ports	
Security	Maintenance	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO>	RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	RST-<MOD2_IO>:[<TID>]:<AID>:<CTAG>[::]; where: • <AID> is an access identifier from the "FACILITY" section on page 4-15	
Input Example	RST-EC1:CISCO:FAC-1-1:1;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.102 RTRV-<OCN_TYPE>: Retrieve (OC3, OC12, OC48, OC192)

(OC192 supported for ONS 15454 only)

This command retrieves the attributes (i.e., service parameters) and the state of an OC-N facility.

Both RINGID and BLSRTYPE identify the OCN port connected with a BLSR. These attributes are only presented for the OC12, OC48, OC192 ports within a BLSR connection. The RTRV-BLSR command with the AID BLSR-RINGID, can provide more information on this BLSR.

Note This command does not show the WVLEN attribute if the OCN port has zero value on WVLELN.

UNI-C DCC provisioning notes:

1. The attributes DCC(Y/N) and mode (SONET/SDH) remain the same in the ED/RTRV-OCN commands when the DCC is used for UNI-C, in which case the port attribute UNIC is enabled (UNIC=Y).
2. UNI-C DCC termination ca not be deleted by the regular DCC de-provisioning command.
3. If the DCC is created under regular SONET provisioning, and this port is used by UNI-C, the port is converted as an UNI-C DCC automatically.
4. De-provisioning UNI-C IF/IB IPCC will free up DCC termination automatically.

Section	RTRV-<OCN_TYPE> Description	
Category	Ports	
Security	Retrieve	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO>	RST-<MOD2_IO> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	RTRV-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-15 and must not be null.	
Input Example	RTRV-OC48:PENNGROVE:FAC-6-1:236;	

Section	RTRV-<OCN_TYPE> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:,,[<ROLE>],[<STATUS>]:[DCC=<DCC>,][TMGREF=<TMGREF>,] [SYNCMSG=<SYNCMSG>,][SENDDUS=<SENDDUS>,] [PJMON=<PJMON>,][SFBER=<SFBER>,][SDBER=<SDBER>,] [MODE=<MODE>,][WVLEN=<WVLEN>,][RINGID=<RINGID>,] [BLSRTYPE=<BLSRTYPE>,][MUX=<MUX>,][UNIC=<UNIC>,] [CCID=<CCID>,][NBRIX=<NBRIX>,][SOAK=<SOAK>]: <PST>,[<SST>]" ; where: • <AID> is the access identifier from the "FACILITY" section on page 4-15 • <ROLE> identifies the OCN port role (e.g. WORK or PROT); valid values for <ROLE> are shown in the "SIDE" section on page 4-60, <ROLE> is optional • <STATUS> identifies the OCN port status (e.g. Active or Standby); valid values for <STATUS> are shown in the "STATUS" section on page 4-60, <STATUS> is optional • <DCC> identifies the OCN port DCC connection and defaults to N; valid values for <DCC> are shown in the "ON_OFF" section on page 4-56, <DCC> is optional • <TMGREF> identifies if an OCN port has timing reference and defaults to N; valid values for <TMGREF> are shown in the "ON_OFF" section on page 4-56, <TMGREF> is optional • <SYNCMSG> indicates if sync status messaging is enabled or disabled on the facility; <SYNCMSG> defaults to Y and the valid values are shown in the "ON_OFF" section on page 4-56. <SYNCMSG> is optional. • <SENDDUS> indicates that the facility will send out the DUS (do not use for synchronization) value as the sync status message for that facility; <SENDDUS> defaults to N and the valid values are shown in the "ON_OFF" section on page 4-56. <SENDDUS> is optional • <PJMON> identifies the OCN port PJMON; <PJMON> defaults to 0 (zero), is an integer and is optional • <SFBER> identifies the OCN port SFBER and defaults to 1E-4; valid values for <SFBER> are shown in the "SF_BER" section on page 4-59, <SFBER> is optional • <SDBER> identifies the OCN port SDBER and defaults to 1E-7; valid values for <SDBER> are shown in the "SD_BER" section on page 4-59, <SDBER> is optional • <MODE> identifies the OCN port mode (e.g. SONET, SDH) and defaults to SONET; valid values for <MODE> are shown in the "OPTICAL_MODE" section on page 4-56, <MODE> is optional

Section	RTRV-<OCN_TYPE> Description (continued)
Output Format (continued)	• <WVLEN> identifies the OCN port wavelength; <WVLEN> is wavelength in nm (nanometer) for unit, e.g. WVLEN=1310.00 means it operates at 1310 nm in the DWM application. <WVLEN> is a float and is optional • <RINGID> identifies the BLSR RINGID with which the port is connected. The <RINGID> ranges from 0–9999; <RINGID> is an integer and is optional • <BLSRTYPE> identifies the BLSR type with which the port is connected. Valid values for <BLSRTYPE> are shown in the "BLSR_TYPE" section on page 4-28 and <BLSRTYPE> is optional. • <MUX> BLSR Extension Byte. Valid values for <MUX> are shown in the "MUX_TYPE" section on page 4-54; <MUX> is optional. • <UNIC> indicates if the port connects to the UCP; valid values are shown in the "ON_OFF" section on page 4-56 and <UNIC> is optional • <CCID> indicates the UCP control channel ID; <CCID> is an integer and is optional • <NBRIX> indicates the UCP neighbor ID. <NBRIX> is an integer and is optional • <SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals. <SOAK> is an integer and is optional • <PST> primary state; valid values for <PST> are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-6-1:,,WORK,ACT:DCC=N,TMGREF=N,SYNCMSG=Y,SENDDUS=N, PJMON=48,SFBER=1E-4,SDBER=1E-6,MODE=SONET,WVLEN=1310.00, RINGID=43,BLSRTYPE=WESTWORK,MUX=E2,UNIC=Y,CCID=8, NBRIX=2,SOAK=10:OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.103 RTRV-<STS_PATH>: Retrieve (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command retrieves the attributes associated with an STS path.

The SFBER, SDBER, RVRTV, and RVTM parameters only apply to UPSR.

The path trace message is a 64 character string including the terminating CR (carriage return) and LF (line feed) that is transported in the J1 byte of the SONET STS Path overhead.

The EXPTRC indicates the contents of the expected incoming path trace are provisioned by the user in the ED-STS_PATH command. The TRC indicates the contents of the outgoing path trace message. The INCTRC indicates the contents of the incoming path trace message.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The mode defaults to OFF. The MANUAL mode performs the comparison of the received string with the user entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.

When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.

J1 (EXPTRC) is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, OC3, OC48AS and OC192.

TRC and INCTRC are supported on DS1(N), DS3(N)E, and DS3XM cards.

Section	RTRV-<STS_PATH> Description
Category	STS Paths
Security	Retrieve
Related Messages	ED-<STS_PATH> RTRV-PTHTRC-<STS_PATH>
Input Format	RTRV-<STS_PATH>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is an access identifier from the "STS" section on page 4-16 and must not be null
Input Example	RTRV-STS1:FERNDALE:STS-2-4:238;

Section	RTRV-<STS_PATH> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[LEVEL=<LEVEL>,][SFBER=<SFBER>,][SDBER=<SDBER>,] [RVRTV=<RVRTV>,][RVTM=<RVTM>,][SWPDIP=<SWPDIP>,] [EXPTRC=<EXPTRC>,][TRC=<TRC>,][INCTRC=<INCTRC>,] [TRCMODE=<TRCMODE>,][TACC=<TACC>]:<PST>,[<SST>]" ; where: • <AID> is an access identifier from the "STS" section on page 4-16 • <LEVEL> indicates the rate of the cross connected channel; valid values for <LEVEL> are shown in the "STS_PATH" section on page 4-61, <LEVEL> is optional • <SFBER> identifies the STS path SFBER which only applies to UPSR; <SFBER> defaults to 1E-4 and valid values are shown in the "SF_BER" section on page 4-59, <SFBER> is optional • <SDBER> identifies the STS path SDBER which only applies to UPSR; <SDBER> defaults to 1E-6 and valid values are shown in the "SD_BER" section on page 4-59, <SDBER> is optional • <RVRTV> identifies a revertive mode which only applies to UPSR and defaults to N (non-revertive mode) when a UPSR STSp is created; valid values for <RVRTV> are shown in the "ON_OFF" section on page 4-56 and <RVRTV> is optional • <RVTM> identifies a revertive time which only applies to UPSR and defaults to empty because <RVRTV> is N when a UPSR STSp is created; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58 and <RVTM> is optional • <SWPDIP> indicates if the STS path can be automatically switched on receiving a PDI-P signal. A null value defaults to N. This parameter applies only to UPSR paths.Valid values for <SWPDIP> are shown in the "ON_OFF" section on page 4-56; <SWDIP> is optional • <EXPTRC> indicates the expected path trace message (J1) contents. The EXPTRC is any 64 character string, including the terminating CR (carriage return) and LF (line feed); <EXPTRC> defaults to null when a UPSR STSp is created. <EXPTRC> is a string and is optional

Section	RTRV-<STS_PATH> Description (continued)
Output Format	• <TRC> identifies the path trace message to be transmitted. The TRC is any combination of 64 characters, including the terminating CR (carriage return) and LF (line feed). The trace byte (J1) continuously transmits a 64 byte string, one byte at a time. A null value defaults to the NE transmitting null characters (Hex 00); <TRC> defaults to null when a UPSR STSp is created. <TRC> is a string and is optional • <INCTRC> identifies the incoming path trace message contents. The INCTRC is any combination of 64 characters; <INCTRC> is a string and is optional • <TRCMODE> indicates the path trace mode, and defaults to the OFF mode when a UPSR STSp is created; valid values for <TRCMODE> are shown in the"TRCMODE" section on page 4-67 and <TRCMODE> is optional • <TACC> is the AID from the "TACC" section on page 4-20 and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60. <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-2-4::LEVEL=STS1,SFBER=1E-3,SDBER=1E-5,RVRTV=Y, RVTM=1.0,SWPDIP=Y,EXPTRC="EXPTRCSTRING", TRC="TRCSTRING",INCTRC="INCTRCSTRING",TRCMODE=AUTO, TACC=8:OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.104 RTRV-ALM-<MOD2ALM>:Retrieve Alarm (DS1, E100, E1000, EC1, G1000, OC3, OC12, OC48, OC192, STS1, STS3C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, UDCDCC, UDCF, VT1)

(DS1, E1000, EC1, OC192, STS192C, UDCDCC, UDCF supported for ONS 15454 only. UDCDCC AND UDCF only supported for AIC-I card in ONS 15454.)

This command retrieves and sends the current status of alarm conditions. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Notes:

1. VT1-n-n-n replaces PS_VT1-n-n-n for the VT1 alarm AID.
2. The [<AIDTYPE>] shows STS1 for STS alarms.

Section	RTRV-ALM-<MOD2ALM> Description
Category	Fault
Security	Retrieve

Section	RTRV-ALM-<MOD2ALM> Description (continued)	
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-ALM-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> is the access identifier from the "ALL" section on page 4-5 and must not be null • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL. • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59. A null value is equivalent to ALL.	
Input Example	RTRV-ALM-OC12:ELDRIDGE:FAC-5-1:225::MN,SD,SA;	
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,: [<DESC>]" ; where: • <AID> is the access identifier from the "ALL" section on page 4-5 • <AIDTYPE> is the type of access identifier; valid values for <AIDTYPE> are shown in the "MOD2ALM" section on page 4-50, <AIDTYPE> is optional • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <CONDDESR> is the condition description; <CONDDESCR> is a string and is optional	

Section	RTRV-ALM-<MOD2ALM> Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-5-1,OC12:MJ,SD,SA,,,,:\"BER AT SIGNAL DEGRADE LEVEL\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.105 RTRV-ALM-ALL: Retrieve Alarm All

This command retrieves and sends the current status of all active alarm conditions. The alarm condition or severity to be retrieved is specified using the input parameters as a filter.

According to GR-833, the RTRV-ALM-ALL command only reports EQPT, RING, COM, and rr (T1, T3, OCN, EC1, STSN, VT1, and DS1) alarms.

To retrieve all the NE alarms, issue all of the following commands:

RTRV-ALM-ALL
RTRV-ALM-ENV
RTRV-ALM-BITS
RTRV-ALM-RING
RTRV-ALM-SYNCN

Section	RTRV-ALM-ALL Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP

Section	RTRV-ALM-ALL Description (continued)
Input Format	RTRV-ALM-ALL:[<TID>]::<CTAG>::[<NTFCNCDE>],[<CONDITION>], [<SRVEFF>][,,,]; where: • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL. • <CONDITION> is the type of alarm condition; valid values for <CONDITION> are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59. A null value is equivalent to ALL.
Input Example	RTRV-ALM-ALL:COTATI::229::MN,PWRRESTART,NSA;
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,: [<DESC>],[<AIDDET>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "ALL" section on page 4-5, <AID> is optional • <AIDTYPE> is the type of access identifier; valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-51, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> is the single type of alarm condition being reported on this particular line; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional • <AIDDET> is the supplementary equipment identification; <AIDDET> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-2,EQPT:MN,PWRRESTART,NSA,,,,:\"POWER FAIL RESTART\", DS1-14" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.106 RTRV-ALM-BITS: Retrieve Alarm Building Integrated Timing Supply

This command retrieves and sends the current status of alarm conditions associated with the BITS facility. The alarm condition or severity retrieved is specified using the input parameters as a filter.

Section	RTRV-ALM-BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RTRV-ALM-BITS:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> is an identifier that has an alarm condition and is from the AID "BITS" section on page 4-11; <AID> must not be null • <NTFCNCDE> is a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL. • <CONDTYPE> is an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59. A null value is equivalent to ALL.	
Input Example	RTRV-ALM-BITS:ELVERANO:BITS-1:228::CR,LOS,SA;	

Section	RTRV-ALM-BITS Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,: [<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "BITS" section on page 4-11 • <AIDTYPE> is the type of access identifier; valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-51 and <AIDTYPE> is optional • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BITS-1,BITS:CR,LOS,SA,,,,:\"LOSS OF SIGNAL\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.107 RTRV-ALM-ENV: Retrieve Alarm Environment

This command retrieves the environmental alarms.

Section	RTRV-ALM-ENV Description
Category	Environment Alarms and Controls
Security	Retrieve

Section	RTRV-ALM-ENV Description (continued)	
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT ENV RLS-EXT-CONT RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-EQPT	RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-ALM-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>]; where: • <AID> is the access identifier from the "ENV" section on page 4-13; <AID> must not be null **Note** For RTRV-ALM-ENV, only ENV-IN-{1-4} is a valid AID for ONS 15454 and only ENV-IN-{1-6} is a valid AID for ONS 15327. ENV-OUT-{1,6} is not a valid AID for RTRV-ALM-ENV. • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL. • <ALMTYPE> is the alarm type for the environmental alarm; valid values for <ALMTYPE> are shown in the "ENV_ALM" section on page 4-42. A null value is equivalent to ALL.	
Input Example	RTRV-ALM-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;	
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<ALMTYPE>,,,[<DESC>]" ; where: • <AID> is an access identifier from the "ENV" section on page 4-13 • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <ALMTYPE> is the alarm type for the environmental alarm; valid values for <ALMTYPE> are shown in the "ENV_ALM" section on page 4-42 • <DESC> is the alarm message; <DESC> is a string and is optional	

Section	RTRV-ALM-ENV Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-IN-1:MJ,OPENDR,,,\"OPEN DOOR\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.108 RTRV-ALM-EQPT: Retrieve Alarm Equipment

This command retrieves and sends the current status of alarm conditions associated with the equipment units. The alarm condition or severity to be retrieved is specified using the input parameters as a filter.

Section	RTRV-ALM-EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT ALM COM REPT EVT EQPT	RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	RTRV-ALM-EQPT Description (continued)
Input Format	RTRV-ALM-EQPT:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> is an identifier that has an alarm condition and is from the "EQPT" section on page 4-14; <AID> must not be null • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL. • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59. A null value is equivalent to ALL.
Input Example	RTRV-ALM-EQPT:TWOROCK:SLOT-7:227::MJ,HITEMP,NSA;
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>],[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,: [<DESC>]" ; where: • <AID> is an identifier that has an alarm condition and is from the "EQPT" section on page 4-14; <AID> is optional • valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-51; <AIDTYPE> is optional • <NTFCNCDE> is a 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> is an alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-7,EQPT:MJ,HITEMP,NSA,,,,:\"HI TEMPERATURE\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.109 RTRV-ALM-RING: Retrieve Alarm Ring

This command retrieves and sends the current status of all active alarm conditions against a ring object for BLSR. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Section	RTRV-ALM-RING Description	
Category	Fault	
Security	Retrieve	
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT RING RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL	RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BLSR RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-ALM-RING:[<TID>]:[<AID>]:<CTAG>::[<NTFCNCDE>],[<CONDITION>],[<SRVEFF>][,,,]; where: • <AID> identifies a BLSR RING ID with alarm condition and is the AID from the "BLSR" section on page 4-12; <AID> is a string and a null value is equivalent to ALL. • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 and a null value is equivalent ALL. • <CONDITION> indicates a BLSR alarm condition; valid values for <CONDITION> are shown in the "CONDITION" section on page 4-29 and a null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 and a null value is equivalent to ALL.	
Input Example	RTRV-ALM-RING:CISCO:BLSR-999:123::MJ,PRC-DUPID,SA;	

Section	RTRV-ALM-RING Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies a BLSR RING ID with alarm condition and is from the "BLSR" section on page 4-12 • <NTFCNCDE> is a notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> indicates a BLSR alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BLSR-999:MJ,PRC-DUPID,SA,,,,:\"DUPLICATE NODE ID\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.110 RTRV-ALM-SYNCN: Retrieve Alarm Synchronization

This command retrieves and sends the current status of alarm conditions associated with a synchronization facility. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Section	RTRV-ALM-SYNCN Description
Category	Synchronization
Security	Retrieve

Section	RTRV-ALM-SYNCN Description (continued)	
Related Messages	ED-BITS	RTRV-ALM-ALL
	ED-NE-SYNCN	RTRV-ALM-BITS
	ED-SYNCN	RTRV-ALM-ENV
	OPR-SYNCNSW	RTRV-ALM-EQPT
	REPT ALM <MOD2ALM>	RTRV-ALM-RING
	REPT ALM BITS	RTRV-ALM-UCP
	REPT ALM COM	RTRV-BITS
	REPT ALM ENV	RTRV-COND-<MOD2ALM>
	REPT ALM EQPT	RTRV-COND-ALL
	REPT ALM RING	RTRV-COND-BITS
	REPT ALM SYNCN	RTRV-COND-ENV
	REPT ALM UCP	RTRV-COND-EQPT
	REPT EVT BITS	RTRV-COND-RING
	REPT EVT COM	RTRV-COND-SYNCN
	REPT EVT SYNCN	RTRV-COND-UCP
	RLS-SYNCNSW	RTRV-NE-SYNCN
	RTRV-ALM-<MOD2ALM>	RTRV-SYNCN
Input Format	RTRV-ALM-SYNCN:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> identifies the access identifier from the "SYNC_REF" section on page 4-19, <AID> must not be null • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL. • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL. • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59. A null value is equivalent to ALL.	
Input Example	RTRV-ALM-SYNCN:FULTON:SYNC-NE:226::CR,FAILTOSW,SA;	

Section	RTRV-ALM-SYNCN Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>, <SRVEFF>,,,,:[<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "SYN" section on page 4-18 • <AIDTYPE> is the type of access identifier: valid values for <AIDTYPE> are shown in the "MOD2B" section on page 4-51 and <AIDTYPE> is optional • <NTFCNCDE> is the 2-letter notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> is the alarm condition; valid values for <CONDTYPE> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values for <SRVEFF> are shown in the "SERV_EFF" section on page 4-59 • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SYNC-NE,SYNCN:CR,FAILTOSW,SA,,,,: \"FAILURE TO SWITCH TO PROTECTION\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.111 RTRV-ALM-UCP: Retrieve Alarm Unified Control Plane

This retrieves and sends the current status of all active alarm conditions against an UCP object. The alarm condition or severity to be retrieved can be specified by using the input parameters as a filter.

Section	RTRV-ALM-UCP Description
Category	UCP
Security	Retrieve

Section	RTRV-ALM-UCP Description (continued)	
Related Messages	DLT-UCP-CC DLT-UCP IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT UCP	RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-ALM-UCP:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<CONDTYPE>],[<SRVEFF>][,,,]; where: • <AID> identifies an UCP object with alarm condition; <AID> is from the "UCP" section on page 4-11 and must not be null • <NTFCNCDE> is a notification code; valid values <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL • <CONDTYPE> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59. A null value is equivalent to ALL	
Input Example	RTRV-ALM-UCP:CISCO:CC-1:123::MJ,LMP-HELLODOWN,SA;	

Section	RTRV-ALM-UCP Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,,,,:[<DESC>]" ; where: • <AID> identifies an UCP object with alarm condition; <AID> is from the "UCP" section on page 4-11 • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55 • <CONDTYPE> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59 • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CC-1:MJ,LMP-HELLODOWN,SA,,,,:\ "LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.112 RTRV-ATTR-CONT: Retrieve Attribute Control

This command retrieves and sends the attributes associated with an external control. These attributes are used when an external control is operated or released. To set these attributes, use the SET-ATTR-CONT command.

Section	RTRV-ATTR-CONT Description	
Category	Environment Alarms and Controls	
Security	Retrieve	
Related Messages	OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV	RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-ATTR-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>]; where: • <AID> identifies the external control for which attributes are being set; <AID> is from the "ENV" section on page 4-13 and must not be null • <CONTTYPE> is the type of external control; valid values for <CONTTYPE> are shown in the "CONTTYPE" section on page 4-40. A null value is equivalent to ALL	
Input Example	RTRV-ATTR-CONT:CISCO:ENV-OUT-2:123::AIRCOND;	

Section	RTRV-ATTR-CONT Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<CONTTYPE>]" ; where: • <AID> identifies the external control for which attributes are being set and is from the "ENV" section on page 4-13 • <CONTTYPE> is the type of external control; valid values are shown in the "CONTTYPE" section on page 4-40 and <CONTTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-OUT-2:AIRCOND" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.113 RTRV-ATTR-ENV: Retrieve Attribute Environment

This command retrieves the attributes associated with an environmental alarm.

Section	RTRV-ATTR-ENV Description	
Category	Environment Alarms and Controls	
Security	Retrieve	
Related Messages	OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV	RTRV-ATTR-CONT RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-ATTR-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>]; where: • <AID> is the access identifier from the "ENV" section on page 4-13 and must not be null • <NTFCNCDE> is the notification code for the environmental alarm; valid values are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL • <ALMTYPE> is the alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-42. A null value is equivalent to ALL	
Input Example	RTRV-ATTR-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;	

Section	RTRV-ATTR-ENV Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<NTFCNCDE>],[<ALMTYPE>],[<DESC>]" ; where: • <AID> is the access identifier from the "ENV" section on page 4-13 • <NTFCNCDE> is the notification code for the environmental alarm; valid values are shown in the "NOTIF_CODE" section on page 4-55, <NTFCNCDE> is optional • <ALMTYPE> is the alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-42, <ALMTYPE> is optional • <DESC> is the alarm description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-IN-1:MJ,OPENDR,\"OPEN DOOR\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.114 RTRV-BITS: Retrieve Building Integrated Timing Supply

This command retrieves the BITS configuration command.

Section	RTRV-BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN	RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RTRV-BITS:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is a bit access identifier from the "BITS" section on page 4-11 and must not be null	
Input Example	RTRV-BITS:SONOMA:BITS-1:782;	

Section	RTRV-BITS Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[LINECDE=<LINECDE>,][FMT=<FMT>,][LBO=<LBO>,] [SYNCMSG=<SYNCMSG>,][AISTHRSHLD=<AISTHRSHLD>]:[<PST>]" ; where: • <AID> is an access identifier from the "BITS" section on page 4-11 • <LINECDE> is a line code; valid values for <LINECDE> are shown in the "LINE_CODE" section on page 4-48, <LINECDE> is optional • <FMT> is a frame format; valid values are shown in the "FRAME_FORMAT" section on page 4-47, <FMT> is optional • <LBO> indicates BITS line build-out; valid values are shown in the "BITS_LineBuildOut" section on page 4-27, <LBO> is optional • <SYNCMSG> indicates a sync messaging; <SYNCMSG> defaults to (Y) and valid values are shown in the "ON_OFF" section on page 4-56, <SYNCMSG> is optional • <AIRTHRSHLD> is the AIS threshold. Valid values are shown in the "SYNC_CLOCK_REF_QUALITY_LEVEL" section on page 4-62; <AIRTHRSHLD> is optional • <PST> is the state; valid values are shown in the "PST" section on page 4-58, <PST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BITS-1::LINECDE=AMI,FMT=ESF,LBO=0-133,SYNCMSG=Y, AISTHRSHLD=PRS:IS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.115 RTRV-BLSR: Retrieve Bidirectional Line Switched Ring

This command retrieves the BLSR information of the NE. A two-fiber or four-fiber BLSR can be retrieved.

Output examples:

4F BLSR

"BLSR-43::RINGID=43,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0,SRVRTV=Y,
SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1,EASTPROT=FAC-12-1,
WESTPROT=FAC-13-1"

2F BLSR

"BLSR-12::RINGID=12,NODEID=2,MODE=2F,RVRTV=Y,RVTM=5.0,EASTWORK=FAC-5-1,
WESTWORK=FAC-6-1"

Error conditions:

1. Only ALL, null, or single "BLSR-#" in the AID in is allowed in this command.

2. A NULL AID defaults to the AID ALL.
3. If the system fails on getting IOR, a SDBE (Status, Internal Data Base Error) error message will be returned.
4. If the NE does not have BSLR, the TL1 session will return the COMPLD error message with empty information to the user.

Section	RTRV-BLSR Description
Category	BLSR
Security	Retrieve
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM RING REPT EVT RING RTRV-ALM-RING RTRV-COND-RING
Input Format	RTRV-BLSR:[<TID>]:[<AID>]:<CTAG>[::::]; where: • <AID> identifies the BLSR of the NE. Only ALL, NULL, or single "BLSR-#" in <AID> is allowed; <AID> is from the "BLSR" section on page 4-12. A null value is equivalent to ALL.
Input Example	RTRV-BLSR:PETALUMA:ALL:123;

Section	RTRV-BLSR Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>]::[RINGID=<RINGID>,][NODEID=<NODEID>,] [MODE=<MODE>,][RVRTV=<RVRTV>,][RVTM=<RVTM>,] [SRVRTV=<SRVRTV>,][SRVTM=<SRVTM>,] [EASTWORK=<EASTWORK>,][WESTWORK=<WESTWORK>,] [EASTPROT=<EASTPROT>,][WESTPROT=<WESTPROT>]" ; where: • <AID> identifies the BLSR of the NE and is from the "BLSR" section on page 4-12 • <RINGID> identifies the BLSR ID of the NE and ranges from 0–9999; <RINGID> is an integer • <NODEID> identifies the BLSR node ID of the NE and ranges from 0–31; <NODEID> is an integer • <MODE> identifies the BLSR mode and can be 2-fiber or 4-fiber; valid values for <MODE> are shown in the "BLSR_MODE" section on page 4-27 • <RVRTV> identifies the revertive mode; valid values are shown in the "ON_OFF" section on page 4-56 • <RVTM> identifies the revertive time; valid values are shown in the "REVERTIVE_TIME" section on page 4-58 • <SRVRTV> identifies the span revertive mode; valid values are shown in the "ON_OFF" section on page 4-56 and <SRVRTV> is optional • <SRVTM> identifies the span revertive time; valid values are shown in the "REVERTIVE_TIME" section on page 4-58. <SRVTM> is optional. • <EASTWORK> identifies the east working facility and is the AID from the "FACILITY" section on page 4-15 • <WESTWORK> identifies the west working facility and is the AID from the "FACILITY" section on page 4-15 • <EASTPROT> identifies the east protecting facility and is the AID from the "FACILITY" section on page 4-15; <EASTPROT> is optional • <WESTPROT> identifies the west protecting facility and is the AID from the "FACILITY" section on page 4-15; <WESTPROT> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BLSR-43::RINGID=43,NODEID=3,MODE=4F,RVRTV=Y,RVTM=5.0, SRVRTV=Y,SRVTM=5.0,EASTWORK=FAC-5-1,WESTWORK=FAC-6-1, EASTPROT=FAC-12-1,WESTPROT=FAC-13-1" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.116 RTRV-COND-<MOD2ALM>: Retrieve Condition (DS1, E100, E1000, EC1, G1000, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, UDCDCC, UDCF, VT1)

(DS1, E1000, EC1, OC192, STS192C, UDCDCC, UDCF supported for ONS 15454 only. UDCDCC and UDCF only supported for the AIC-I card in the ONS 15454).

This command retrieves the current standing condition and state associated with an entity.

Section	RTRV-COND-<MOD2ALM> Description	
Category	Fault	
Security	Retrieve	
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS	RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-COND-<MOD2ALM>:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is the identifier that has an alarm condition; <AID> is from the "ALL" section on page 4-5 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL.	
Input Example	RTRV-COND-T3:TID:FAC-2-1:229::LOS;	

Section	RTRV-COND-<MOD2ALM> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],,,,, [<DESC>]" ; where: • <AID> is an identifier that has an alarm condition and is from the "ALL" section on page 4-5 • Valid values for <AIDTYPE> are shown in the "MOD2ALM" section on page 4-50, <AIDTYPE> is optional • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55, <NTFCNCDE> is optional • <TYPEREP> is the condition itself; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59, <SRVEFF> is optional • <DESC> is a condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,T3:CR,LOS,SA,,,,,\"LOS OF SIGNAL\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.117 RTRV-COND-ALL: Retrieve Condition All

This command retrieves the current standing condition for all entities.

According to GR-833, the RTRV-COND-ALL command only reports EQPT, COM, and rr (T1, T3, OCN, EC1, STSN, VT1, and DS1) alarms.

To retrieve all the NE conditions, issue all of the following commands:

RTRV-COND-ALL
RTRV-COND-ENV
RTRV-COND-BITS
RTRV-COND-RING
RTRV-COND-SYNCN

RTRV-COND-ALL does not return all conditions that are returned by other, more specific RTRV-COND commands. Instead it returns a subset of those conditions. This is a requirement from section 6.2.1.8.4 of GR-253-CORE. The specific requirements are R6-288, R6-289 and R6-290. Section 6.2.1.8.4 states a retrieval that returns ALL conditions from a node (RTRV-COND-ALL) must omit any conditions that are "same root cause" as other raised conditions. The section also states any retrieval of a subset of the conditions from a node, regardless of how the subsetting occurs, should not omit these "same root cause" conditions. RTRV-COND-STS1, for example, must include "same root cause" conditions in the set it returns, while RTRV-COND-ALL must not.

Section	RTRV-COND-ALL Description
Category	Fault
Security	Retrieve
Related Messages	REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-COND-ALL:[<TID>]::<CTAG>::[<TYPEREQ>][,,,]; where: • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL
Input Example	RTRV-COND-ALL:TID::229::LOS;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],,,,, [<DESC>]" ; where: • <AID> is an identifier that has an alarm condition; <AID> is from the "ALL" section on page 4-5 • <AIDTYPE> is the type of access identifier; valid values are shown in the "MOD2B" section on page 4-51, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59, <SRVEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,OC3:CR,LOS,SA,,,,,\"LOS OF SIGNAL\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.118 RTRV-COND-BITS: Retrieve Condition Building Integrated Timing Supply

This command retrieves the standing conditions on BITS.

Section	RTRV-COND-BITS Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN
Input Format	RTRV-COND-BITS:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is the access identifier from the "BITS" section on page 4-11 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL	
Input Example	RTRV-COND-BITS:TID:BITS-1:229::LOS;	

Section	RTRV-COND-BITS Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],,,,, [<DESC>]" ; where: • <AID> is an identifier that has an alarm condition and is from the "BITS" section on page 4-11 • <AIDTYPE> is the type of AID. It is always reported as BITS; valid values are shown in the "MOD2B" section on page 4-51, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59, <SRVEFF> is optional • <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BITS-1,BITS:CR,LOS,SA,,,,,\"LOS OF SIGNAL\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.119 RTRV-COND-ENV: Retrieve Condition Environment

This command retrieves the environmental conditions.

Section	RTRV-COND-ENV Description	
Category	Environment Alarms and Controls	
Security	Retrieve	
Related Messages	OPR-EXT-CONT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT ENV RLS-EXT-CONT RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV	RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EXT-CONT SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-COND-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>][,,,]; where: • <AID> is an access identifier from the "ENV" section on page 4-13 and must not be null **Note** For RTRV-COND-ENV, only ENV-IN-{1-4} is a valid AID for ONS 15454 and only ENV-IN-{1-6} is a valid AID for ONS 15327. ENV-OUT-{1,6} is not a valid AID for RTRV-COND-ENV. • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL. • <ALMTYPE> is the condition type for the environmental conditions; valid values are shown in the "ENV_ALM" section on page 4-42. A null value is equivalent to ALL.	
Input Example	RTRV-COND-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR;	

Section	RTRV-COND-ENV Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<NTFCNCDE>,<ALMTYPE>,,,,,,[<DESC>]" ; where: • <AID> is an access identifier and is from the "ENV" section on page 4-13 • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55 • <ALMTYPE> is an alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-42 • <DESC> is the description of the condition; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-IN-1:MJ,OPENDR,,,,,,\"OPEN DOOR\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.120 RTRV-COND-EQPT: Retrieve Condition Equipment

This command retrieves the condition equipment.

Section	RTRV-COND-EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT INH-SWTOWKG-EQPT REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT EQPT	RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-RING RTRV-COND-SYNCN RTRV-COND-UCP RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT

Section	RTRV-COND-EQPT Description (continued)
Input Format	RTRV-COND-EQPT:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is an identifier that has an alarm condition; <AID> is from the "EQPT" section on page 4-14 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL
Input Example	RTRV-COND-EQPT:TID:SLOT-1:229::LOS;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],,,,, [<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "EQPT" section on page 4-14 • <AIDTYPE> is the type of the AID. It is always reported as EQPT for the equipment condition; valid values are shown in the "MOD2B" section on page 4-51, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59, <SRVEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-1,EQPT:CR,LOS,SA,,,,,\"LOS OF SIGNAL\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.121 RTRV-COND-RING: Retrieve Condition Ring

This command retrieves the current standing condition against a ring object for BLSR. The condition BLSR-UPDATED has been added and is always reported as a transient message, not a standing condition/alarm.

Note When a change is made to a BLSR, including creating a new circuit, the circuit will not have BLSR protection until after the BLSR-UPDATED message is received.

Section	RTRV-COND-RING Description
Category	BLSR
Security	Retrieve
Related Messages	DLT-BLSR ED-BLSR ENT-BLSR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT RING RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-UCP RTRV-ALM-SYNCN RTRV-BLSR RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-SYNCN RTRV-COND-UCP
Input Format	RTRV-COND-RING:[<TID>]:[<AID>]:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> identifies a BLSR ID with alarm condition; <AID> is a string and a null value is equivalent to ALL • Valid values for <TYPEREQ> are shown in the "CONDITION" section on page 4-29 and a null value is equivalent to ALL
Input Example	RTRV-COND-RING:CISCO:RING-88:123::RING-MISMATCH;

Section	RTRV-COND-RING Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],,,,,[<DESC>]" ; where: • <AID> identifies a BLSR ID with alarm condition; <AID> is from the "BLSR" section on page 4-12 • Valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55. <NTFCNCDE> is optional. • Valid values for <TYPEREP> are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59. <SRVEFF> is optional. • <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "BLSR-88:MN,RING-MISMATCH,SA,,,,, \"FAR END OF FIBER IS PROVISIONED WITH DIFFERENT RING ID\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.122 RTRV-COND-SYNCN: Retrieve Condition Synchronization

This command retrieves the synchronization condition.

Section	RTRV-COND-SYNCN Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT BITS REPT EVT COM REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-<MOD2ALM>	RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-BITS RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-UCP RTRV-NE-SYNCN RTRV-SYNCN

Section	RTRV-COND-SYNCN Description (continued)
Input Format	RTRV-COND-SYNCN:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> is an identifier that has an alarm condition; <AID> is from the "SYNC_REF" section on page 4-19 and must not be null • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29. A null value is equivalent to ALL
Input Example	RTRV-COND-SYNCN:TID:SYNC-NE:229::LOS;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],,,,, [<DESC>]" ; where: • <AID> is the identifier that has an alarm condition and is from the "SYN" section on page 4-18 • <AIDTYPE> is the type of AID. It is always reported as SYNCN; valid values are shown in the "MOD2B" section on page 4-51, <AIDTYPE> is optional • <NTFCNCDE> is the notification code; valid values for <NTFCNCDE> are shown in the "NOTIF_CODE" section on page 4-55, <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59, <SRVEFF> is optional • <DESC> is the condition description; <DESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SYNC-NE,SYNCN:MJ,FRNGSYNC,SA,,,,,\ \"FREE RUNNING SYNCHRONIZATION MODE\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.123 RTRV-COND-UCP: Retrieve Condition Unified Control Plane

This command retrieves the current standing condition against an UCP object.

Section	RTRV-COND-UCP Description
Category	UCP
Security	Retrieve

Section	RTRV-COND-UCP Description (continued)	
Related Messages	DLT-UCP-CC DLT-UCP IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF ENT-UCP-NBR REPT ALM <MOD2ALM> REPT ALM BITS REPT ALM COM REPT ALM ENV REPT ALM EQPT REPT ALM RING REPT ALM SYNCN REPT ALM UCP REPT EVT COM REPT EVT UCP	RTRV-ALM-<MOD2ALM> RTRV-ALM-ALL RTRV-ALM-BITS RTRV-ALM-ENV RTRV-ALM-EQPT RTRV-ALM-RING RTRV-ALM-SYNCN RTRV-ALM-UCP RTRV-COND-<MOD2ALM> RTRV-COND-ALL RTRV-COND-BITS RTRV-COND-ENV RTRV-COND-EQPT RTRV-COND-RING RTRV-COND-SYNCN RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-COND-UCP:[<TID>]:<AID>:<CTAG>::[<TYPEREQ>][,,,]; where: • <AID> identifies an UCP object with alarm condition; <AID> is from the "UCP" section on page 4-11 and must not be NULL • <TYPEREQ> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29 and a NULL value is equivalent to ALL	
Input Example	RTRV-COND-UCP:CISCO:CC-18:123::LMP-HELLODOWN;	
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<NTFCNCDE>],<TYPEREP>,[<SRVEFF>],,,,,[<DESC>]" ; where: • <AID> identifies an UCP object with alarm condition; <AID> is from the "UCP" section on page 4-11 • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55 and <NTFCNCDE> is optional • <TYPEREP> is the type of condition to be retrieved; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is the effect on service caused by the alarm condition; valid values are shown in the "SERV_EFF" section on page 4-59 and <SRVEFF> is optional • <DESC> is a condition description, a string and is optional	

Section	RTRV-COND-UCP Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CC-18:MN,LMP-HELLODOWN,SA,,,,,\"LMP HELLO FSM ON CONTROL CHANNEL DOWN\"," ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.124 RTRV-CRS: Retrieve Cross Connect

This command retrieves all the cross-connections based on the required CRSTYPE (STS, VT, or both).

Notes:

1. A NULL AID defaults to ALL (NE).
2. A NULL CRSTYPE defaults to all the existing cross-connections.
3. The level in the output field is an optional field, and is used to indicate the bandwidth of the STS cross-connection.

Section	RTRV-CRS Description	
Category	Cross Connections	
Security	Retrieve	
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1	ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS-<STS_PATH> RTRV-CRS-VT1
Input Format	RTRV-CRS:[<TID>]:<AID>:<CTAG>:::[CRSTYPE=<CRSTYPE>][:]; where: • <AID> indicates the access identifier. It can be a facility AID, an STS AID, a VT AID, or ALL AID. The ALL AID defaults to NE, which reports all the existing cross-connections of the NE. <AID> is from the "ALL" section on page 4-5 and must not be NULL • <CRSTYPE> specifies the cross-connection type. It is STS or VT or both. It defaults to all existing cross-connections. Valid values for <CRSTYPE> are shown in the "CRS_TYPE" section on page 4-40 and a NULL value is equivalent to ALL	
Input Example	RTRV-CRS:CISCO:ALL:123:::CRSTYPE=STS;	

Section	RTRV-CRS Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<FROM>,<TO>:<CCT>,<MOD>::<PST>,[<SST>]" ; where: • <FROM> identifies an entity at one end of the cross-connection; <FROM> is from the "ALL" section on page 4-5 • <TO> identifies an entity at the other end of the cross-connection; <TO> is from the "ALL" section on page 4-5 • <CCT> identifies the cross-connection type; valid values are shown in the "CCT" section on page 4-28 • Valid values for <MOD> are shown in the "MOD2" section on page 4-49 • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-6-1,STS-12-4:2WAY,STS3C::OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.125 RTRV-CRS-<STS_PATH>: Retrieve Cross Connect (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command retrieves any connections associated with the entered AID(s) or AID range. The information on both ends is returned along with the type of connection.

Notes:

1. The UPSR STS cross-connection can be retrieved by using "&" in the AID fields of this command.
   a. To retrieve a 1-way selector or 2-way selector and bridge cross-connection with:

      from points: F1, F2

      to points: T1

      the output will be:

      1-way

      "F1&F2,T1:CCT,STS3C"

      2-way

      If retrieved on point F1 or F2, the output format is the same as the 1-way output.

      If retrieved on point T1, the output will be:

      "T1,F1&F2:CCT,STS3C"

b. To retrieve a 1-way bridge or 2-way selector and bridge cross-connection with:

from point: F1

to points: T1, T2

the output will be:

1-way

“F1,T1&T2:CCT,STS3C”

2-way

“T1&T2,F1:CCT,STS3C”

c. To retrieve a 1-way subtending UPSR connection or 2-way subtending UPSR cross-connection with:

from point: F1, F2

to points: T1, T2

the output will be:

1-way:

“F1&F2,T1&T2:CCT,STS3C”

2-way:

If retrieved on point F1 or F2, the output format is the same as the 1-way output.

If retrieved on point T1 or T2, the output will be:

“T1&T2,F1&F2:CCT,STS3C”

d. To retrieve a 2-way selector and bridge cross-connection with:

ENT-CRS-<STS_PATH>::F1&F2,S1&S2:<CTAG>::2WAY;

from points: F1, F2 (F1 is the working side, F2 is the protect side)

selector: S1, S2 (s1 is the working side, S2 is the protect side)

the output will be:

If retrieved on point F1 or F2, the output will be:

“F1&F2,S1&S2:CCT,STS3C”

If retrieved on selector S1 or S2, the output will be:

“S1&S2,F1&F2:CCT,STS3C”

2. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID.
3. <STS_PATH> does not include STS for the RTRV-CRS command because STS is not a standard designator as defined by GR-833 A-2.
4. Both the 1WAYPCA and 2WAYPCA is used to specify a PCA cross-connection.
5. The facility AID is only valid on slots with a G1000-4 card.

Section	RTRV-CRS-<STS_PATH> Description
Category	Cross Connections
Security	Retrieve

Section	RTRV-CRS-<STS_PATH> Description (continued)
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT1 ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-VT1
Input Format	RTRV-CRS-<STS_PATH>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> identifies STS to check for connection membership. <AID> can be a Facility, STS, or ALL AID. The ALL AID defaults to NE which reports all the existing cross-connections of the NE. The STS_PATH does not include STS for the RTRV-CRS command because STS is not a standard designator as defined by GR-833 A-2. <AID> is from the "STS" section on page 4-16 and must not be null
Input Example	RTRV-CRS-STS3C:KENWOOD:STS-6-1:223;
Output Format	SID DATE TIME M CTAG COMPLD "<FROM>,<TO>:<CCT>,<MOD>::<PST>,[<SST>]" ; where: • <FROM> identifies an entity at one end of the STS cross-connection and is from the "STS" section on page 4-16 • <TO> identifies an entity at the other end of the STS cross-connection and is from the "STS" section on page 4-16 • <CCT> identifies the cross-connection type; valid values are shown in the "CCT" section on page 4-28 • Valid values for <MOD> are shown in the "MOD2" section on page 4-49 • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-6-1,STS-12-4:2WAY,STS3C::OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.126 RTRV-CRS-VT1: Retrieve Cross Connect Virtual Tributary

This command retrieves the VT cross-connection information.

Notes:

1. The UPSR VT cross-connection can be retrieved by using "&" in the AID fields of this command.
   a. To retrieve a 1-way selector or 2-way selector and bridge cross-connection with:

      from points: F1, F2

      to points: T1

      the output will be:

      1-way:

      "F1&F2,T1:CCT,1WAY"

      2-way:

      If retrieved on point F1 or F2, the output form is the same as the 1-way output.

      If retrieved on T1, the output will be:

      "T1,F1&F2:CCT"

   b. To retrieve a 1-way bridge or 2-way selector and bridge cross-connection with:

      from point: F1

      to points: T1, T2

      the output will be:

      1-way:

      "F1,T1&T2:CCT"

      2-way:

      "T1&T2,F1:CCT"

   c. To retrieve a 1-way subtending UPSR connection or 2-way subtending UPSR cross-connection with:

      from point: F1, F2

      to points: T1, T2

      the output will be:

      1-way:

      "F1&F2,T1&T2:CCT"

      2-way:

      If retrieved on point F1 or F2, the output format is the same as the 1-way output.

      If retrieved on point T1 or T2, the output will be:

      "T1&T2,F1&F2:CCT"

   d. To retrieve a 2-way selector bridge cross-connection with:

      ENT-CRS-VT1::F1&F2,S1&S2:<CTAG>::2WAY;

      from points F1, F2 (F1 is the working side, F2 is the protect side)

      selector: S1, S2 (S1 is the working side, S2 is the protect side)

the output will be:

If retrieved on point F1 or F2, the output will be:

"F1&F2,S1&S2:CCT"

If retrieved on selector S1 or S2, the output will be:

"S1&S2,F1&F2:CCT"

2. All A&B AIDs in the TL1 cross-connection command are in the format of WorkingAID&ProtectAID
3. Both 1WAYPCA and 2WAYPCA is used to specify a PCA cross-connection.

Section	RTRV-CRS-VT1 Description
Category	Cross Connections
Security	Retrieve
Related Messages	DLT-CRS-<STS_PATH> DLT-CRS-VT1 ED-CRS-<STS_PATH> ED-CRS-VT ENT-CRS-<STS_PATH> ENT-CRS-VT1 RTRV-CRS RTRV-CRS-<STS_PATH>
Input Format	RTRV-CRS-VT1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> identifies VT to check for connection membership. <AID> can be Facility, VT or ALL. The ALL AID defaults to NE which reports all the existing cross-connections of the NE. <AID> is from the "ALL" section on page 4-5 and must not be null
Input Example	RTRV-CRS-VT1:CISCO:VT1-1-1-1-1:1234;
Output Format	SID DATE TIME M CTAG COMPLD "<FROM>,<TO>:<CCT>::<PST>,[<SST>]" ; where: • <FROM> indicates an identifier at one end of the VT cross-connection and is the AID from the "VT1_5" section on page 4-21 • <TO> indicates an identifier at the other end of the VT cross-connection and is the AID from the "VT1_5" section on page 4-21 • Valid values for <CCT> are shown in the "CCT" section on page 4-28 • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60 and <SST> is optional

Section	RTRV-CRS-VT1 Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VT1-1-1-1-1,VT1-4-4-5-2:1WAY::OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.127 RTRV-DS1: Retrieve DS1 Layer of DS3XM

(Cisco ONS 15454 only)

This command retrieves the test access attributes on a DS1 layer of a DS3XM card.

Section	RTRV-DS1 Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-EC1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	RTRV-DS1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the access identifier of a DS1 layer entity on the DS3XM card; <AID> is from the "DS1" section on page 4-13 and must not be null
Input Example	RTRV-DS1:PETALUMA:DS1-2-6-12:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[TACC=<TACC>]" ; where: • <AID> is the access identifier from the "DS1" section on page 4-13 • <TACC> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 0–999; <TACC> is an integer and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "DS1-2-6-12::TACC=8" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.128 RTRV-EC1: Retrieve EC1

(Cisco ONS 15454 only)

This command retrieves the facility status of an EC1 card.

Section	RTRV-EC1 Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-G1000 RTRV-T1 RTRV-T3
Input Format	RTRV-EC1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is from the "FACILITY" section on page 4-15 and must not be null
Input Example	RTRV-EC1:CISCO:FAC-1-1:1234;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[PJMON=<PJMON>,][LBO=<LBO>,][RXEQUAL=<RXEQUAL>,][SOAK=<SOAK>]:<PST>,[<SST>]" ; where: • <AID> is the facility AID of an EC1 port and is from the "FACILITY" section on page 4-15 • <PJMON> is the SONET pointer monitor attribute of an EC1 port; <PJMON> is an integer and is optional • <LBO> is the line build-out value of an EC1 port; valid values for <LBO> are shown in the "E_LBO" section on page 4-42, <LBO> is optional • Valid values for <RXEQUAL> are shown in the "EXT_RING" section on page 4-47, <RXEQUAL> is optional • <SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals; <SOAK> is an integer and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1::PJMON=0,LBO=0-225,RXEQUAL=Y,SOAK=10:OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.129 RTRV-EQPT: Retrieve Equipment

This command retrieves protection group information and status information for all the cards.

Notes:

1. The working card of a 1:1 protection group should return PRTYPE, PROTID, RVTM and RVRTV.
2. The protect card of a 1:1 protection group should return PRTYPE, RVTM and RVRTV.
3. A working card of a 1:N protection group should return PRTYPE, PROTID, RVTM and RVRTV (=Y).
4. A protect card of a 1:N protection group should return PRTYPE, RVTM and RVRTV (=Y).
5. An unprotected card should return AIDtype, equip, status and state values.

Section	RTRV-EQPT Description	
Category	Equipment	
Security	Retrieve	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT SW-DX-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	RTRV-EQPT:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is from the "EQPT" section on page 4-14 and must not be null	
Input Example	RTRV-EQPT:MIRABEL:SLOT-12:230;	

Section	RTRV-EQPT Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<AIDTYPE>,<EQUIP>,[<ROLE>],[<STATUS>]: [PROTID=<PROTID>,][PRTYPE=<PRTYPE>,] [RVRTV=<RVRTV>,][RVTM=<RVTM>,] [CARDNAME=<CARDNAME>]: [<PST>],[<SST>]" ; where: • <AID> is the equipment unit identifier and is from the"EQPT" section on page 4-14 • <AIDTYPE> is a string • <EQUIP> indicates if the equipment unit is physically present; valid values are shown in the "EQUIP" section on page 4-45 • <ROLE> indicates if the card is a working unit or a protecting unit; valid values are shown in the "SIDE" section on page 4-60, <ROLE> is optional • <STATUS> indicates a status. SONET card status is shown on it's line/port level. Valid values for <STATUS> are shown in the "STATUS" section on page 4-60, <STATUS> is optional • <PROTID> indicates the protecting identifier; <PROTID> is from the "PRSLOT" section on page 4-10 and is optional • <PRTYPE> indicates the protection type; valid values are shown in the "PROTECTION_GROUP" section on page 4-58, <PRTYPE> is optional • <RVRTV> indicates a revertive mode; valid values are shown in the "ON_OFF" section on page 4-56, <RVRTV> is optional • <RVTM> indicates the revertive time; valid values for <RVTM> are shown in the "REVERTIVE_TIME" section on page 4-58, <RVTM> is optional • <CARDNAME> indicates the card name from the hardware. It will be empty for the preprovisioned card; <CARDNAME> is a string and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-58, <PST> is optional • <SST> secondary state; valid values are shown in the "SST" section on page 4-60, <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-12:DS1,EQUIP,,ACT:PROTID=SLOT-13,PRTYPE=1-1, RVRTV=Y,RVTM=8.5,CARDNAME=DESCRIPTION:OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.130 RTRV-EXT-CONT: Retrieve External Control

This command retrieves the control state of an external control. The command can be used to audit the result of an OPR-EXT-CONT or a RLS-EXT-CONT command.

Notes:

1. If the CONTTYPE is null, the existing conttype on this AID will be returned.
2. The duration is not supported, it defaults to CONTS.

Section	RTRV-EXT-CONT Description
Category	Environment Alarms and Controls
Security	Retrieve
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV SET-ATTR-CONT SET-ATTR-ENV
Input Format	RTRV-EXT-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>]; where: • <AID> is from the "ENV" section on page 4-13 and must not be null. **Note** For this command only ENV-OUT-{1-2} is a valid AID. • Valid values for <CONTTYPE> are shown in the "CONTTYPE" section on page 4-40. A null value is equivalent to ALL
Input Example	RTRV-EXT-CONT:CISCO:ENV-OUT-2:123::AIRCOND;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<CONTTYPE>],<DUR>,[<CONTSTATE>]" ; where: • <AID> identifies the external control for which control state is being retrieved and is from the "ENV" section on page 4-13 • <CONTTYPE> is the type of control for which control state is being retrieved; valid values are shown in the "CONTTYPE" section on page 4-40, <CONTTYPE> is optional • <DUR> is the duration for which the external control can be operated; valid values are shown in the "DURATION" section on page 4-42 • <CONTSTATE> is the control of the external control; valid values are shown in the "CONT_MODE" section on page 4-39, <CONTSTATE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "ENV-OUT-2:AIRCOND,CONTS,OPEN" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.131 RTRV-FFP-<OCN_TYPE>: Retrieve Facility Protection Group (OC3, OC12, OC48, OC192)

(OC192 supported for ONS 15454 only)

This command retrieves the optical facility protection information.

Section	RTRV-FFP-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Retrieve
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-PROTNSW-<OCN_TYPE>
Input Format	RTRV-FFP-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the optical facility AID from the "FACILITY" section on page 4-15 and must not be null
Input Example	RTRV-FFP-OC3:PETALUMA:FAC-1-1:1;
Output Format	SID DATE TIME M CTAG COMPLD "<WORK>,<PROTECT>::[PROTID=<PROTID>,][RVRTV=<RVRTV>,] [RVTM=<RVTM>,][PSDIRN=<PSDIRN>]" ; where: • <WORK> identifies the working port and is the AID from the "FACILITY" section on page 4-15 • <PROTECT> identifies the protection port and is the AID from the "FACILITY" section on page 4-15 • <PROTID> is a protection group identifier (protection group name). It defaults to the protecting port of the protection group; <PROTID> is a string, it is optional and can have a maximum length of 32 characters • <RVRTV> identifies a revertive mode and defaults to N (non-revertive mode); valid values are shown in the "ON_OFF" section on page 4-56, <RVRTV> is optional • <RVTM> identifies the revertive time and defaults to 5.0 minutes; valid values are shown in the "REVERTIVE_TIME" section on page 4-58, <RVTM> is optional • <PSDIRN> indicates the switch mode and defaults to UNI. valid values are shown in the "UNI_BI" section on page 4-70, <PSDIRN> is optional

Section	RTRV-FFP-<OCN_TYPE> Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,FAC-1-1::PROTID=PROT_NAME,RVRTV=Y, RVTM=1.0,PSDIRN=BI" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.132 RTRV-G1000: Retrieve G1000 Facility

(Cisco ONS 15454 only)

This command retrieves the G1000 facilities configuration.

Section	RTRV-G1000 Description	
Category	Ports	
Security	Retrieve	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO>	RST-<MOD2_IO> RTRV_<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-T1 RTRV-T3
Input Format	RTRV-G1000:[<TID>]:<AID>:<CTAG>; where: • <AID> is from the "FACILITY" section on page 4-15 and must not be null	
Input Example	RTRV-G1000:TID:FAC-1-1:CTAG;	

Section	RTRV-G1000 Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[MFS=<MFS>,][FLOW=<FLOW>,][LAN=<LAN>,] [OPTICS=<OPTICS>]:<PST>,[<SST>]" ; where: • <AID> is from the "FACILITY" section on page 4-15 • Valid values for <MFS> are shown in the "MFS_TYPE" section on page 4-49; <MFS> is optional • Valid values for <FLOW> are shown in the "ON_OFF" section on page 4-56; <FLOW> is optional • Valid values for <LAN> are shown in the "FLOW" section on page 4-47; <LAN> is optional • Valid values for <OPTICS> are shown in the "OPTICS" section on page 4-56; <OPTICS> is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60; <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-1::MFS=9032,FLOW=N,LAN=ASYMMETRIC, OPTICS=UNKNOWN:OOS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.133 RTRV-HDR: Retrieve Header

This command retrieves the header of a TL1 response message. Used by TL1 clients to determine if the link to the NE is still active and if the NE is responding to commands.

Section	RTRV-HDR Description	
Category	System	
Security	Retrieve	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS	REPT EVT FXFR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-HDR:[<TID>]::<CTAG>;	
Input Example	RTRV-HDR:SONOMA::232;	

3.5.134 RTRV-INV: Retrieve Inventory

This command retrieves a listing of the equipment inventory. For each unit in the system, it identifies the unit's firmware numbers and the unit's CLEI code.

Section	RTRV-INV Description
Category	System
Security	Retrieve
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-INV:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is an access identifier from the "EQPT" section on page 4-14 and must not be null
Input Example	RTRV-INV:OCCIDENTAL:SLOT-15:301;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,<AIDTYPE>::[PN=<PN>,][HWREV=<HWREV>,] [FWREV=<FWREV>,][SN=<SN>,][CLEI=<CLEI>]" ; where: • <AID> is the access identifier from the "EQPT" section on page 4-14 • <AIDTYPE> specifies the type of AID and is a string • <PN> is the HW part number; <PN> is a string and is optional • <HWREV> is the HW Rev; <HWREV> is a string and is optional • <FWREV> is the firmware Rev; <FWREV> is a string and is optional • <SN> is the serial number; <SN> is a string and is optional • <CLEI> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SLOT-15,OC3-IR-4::PN=87-31-00002,HWREV=004K, FWREV=76-99-00009-004A,SN=013510,CLEI=NOCLEI" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.135 RTRV-LOG: Retrieve Log

This command retrieves the alarm log of the NE.

Note The only option reported for LOGNM is ALARM.

Section	RTRV-LOG Description
Category	Log
Security	Superuser
Related Messages	ALW-MSG-DBCHG INH-MSG-DBCHG REPT DBCHG
Input Format	RTRV-LOG:[<TID>]::<CTAG>::<LOGNM>; where: • <LOGNM> is the log name - ALARM; <LOGNM> is a string and must not be null
Input Example	RTRV-LOG:CISCO::123::ALARM;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,<ALMNUMBER>:CURRENT=<CURRENT>, [PREVIOUS=<PREVIOUS>,]<CONDITION>,<SRVEFF>,[TIME=<OCRTIME>,] [DATE=<OCRDAT>]:<ALMDESCR>" ; where: • <AID> is an access identifier from the "ALL" section on page 4-5 • <ALMNUMBER> is an alarm number of the log and is an integer • <CURRENT> is a current severity; valid values are shown in the "NOTIF_CODE" section on page 4-55 • <PREVIOUS> is a previous severity; valid values are shown in the "COND_EFF" section on page 4-29, <PREVIOUS> is optional • <CONDITION> is a condition; valid values are shown in the "CONDITION" section on page 4-29 • <SRVEFF> is a service effect; valid values are shown in the "SERV_EFF" section on page 4-59 • <OCRTIME> is the time an alarm is triggered and is optional • <OCRDAT> is the date an alarm is triggered and is optional • <ALMDESCR> is the alarm description and is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-3-1,18:CURRENT=MJ,PREVIOUS=CL,EOC,NSA, TIME=16-33-04,DATE=1971-02-03:\"SDCC TERMINATION FAILURE\"" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.136 RTRV-MAP-NETWORK: Retrieve Map Network

This command retrieves all the NE attributes which are reachable from the GNE. The NE attributes include the node IP address (IPADDR), node name (TID), and the product type of the NE (PRODUCT).

Section	RTRV-MAP-NETWORK Description
Category	System
Security	Retrieve
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-MAP-NETWORK:[<TID>]::<CTAG>;
Input Example	RTRV-MAP-NETWORK:CISCO::123;
Output Format	SID DATE TIME M CTAG COMPLD "<IPADDR>,<NODENAME>,<PRODUCT>" ; where: • <IPADDR> indicates the node IP address and is a string • <NODENAME> indicates the node name (TID) and is a string • <PRODUCT> indicates the product type of the NE; valid values are shown in the "PRODUCT_TYPE" section on page 4-58
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "172.20.222.225,TID-000,15454" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.137 RTRV-NE-GEN: Retrieve Network Element General

This command retrieves the general NE attributes.

The ETHIPADDR/ETHIPMASK are used to show the Ethernet interface address and mask. Both default to the node's IP address and mask.

Section	RTRV-NE-GEN Description
Category	System
Security	Retrieve

Section	RTRV-NE-GEN Description (continued)
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-NE-GEN:[<TID>]::<CTAG>;
Input Example	RTRV-NE-GEN:CISCO::123;
Output Format	SID DATE TIME M CTAG COMPLD "[IPADDR=<IPADDR>,][IPMASK=<IPMASK>,][DEFRTR=<DEFRTR>,] [IIOPPORT=<IIOPPORT>,][NTP=<NTP>,][NAME=<NAME>,] [SWVER=<SWVER>,][LOAD=<LOAD>,][PROTSWVER=<PROTSWVER>,] [PROTLOAD=<PROTLOAD>,][DEFDESC=<DEFDESC>]" ; where: • <IPADDR> indicates the node IP address; <IPADDR> is a string and is optional • <IPMASK> indicates the node IP mask; <IPMASK> is a string and is optional • <DEFRTR> indicates the node default router; <DEFRTR> is a string and is optional • <IIOPPORT> indicates the node IIOP port; <IIOPPORT> is an integer and is optional • <NTP> indicates the node's NTP timing source address; <NTP> is a string and is optional • <NAME> is the node name; <NAME> is a string and is optional • <SWVER> is the software version; <SWVER> is a string and is optional • <LOAD> is a string and is optional • <PROTSWVER> is protect software version; <PROTSWVER> is a string and is optional • <PROTLOAD> is a string and is optional • <DEFDESC> is a string and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "IPADDR=192.168.100.52,IPMASK=255.255.255.0, DEFRTR=192.168.100.1,IIOPPORT=57970,NTP=192.168.100.52, NAME=NODENAME,SWVER=2.01.03,LOAD=02.13-E09A-08.15, PROTSWVER=2.01.02,PROTLOAD=02.12-E09A-09.25, DEFDESC=\"NEDEFAULTS FEATURE\" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.138 RTRV-NE-IPMAP: Retrieve Network Element IPMAP

This command retrieves the IP address and node name of the NEs that have the DCC connection with this NE.

Note This command only reports the active DCC link. If there is no active DCC link on the port (or the node), the command will return COMPLD without IPMAP information.

Section	RTRV-NE-IPMAP Description
Category	System
Security	Retrieve
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NEWORK RTRV-NE-GEN RTRV-NE-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-NE-IPMAP:[<TID>]:[<AID>]:<CTAG>; where: • <AID> is the port of an NE carrying the DCC connection; <AID> is from the "FACILITY" section on page 4-15 and a null value defaults to the whole NE
Input Example	RTRV-NE-IPMAP:NODENAME1:FAC-12-1:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<IPADDR>,<NODENAME>" ; where: • <AID> is the port of an NE carrying a DCC connection and is from the "FACILITY" section on page 4-15 • <IPADDR> indicates the NE IP address and is a string • <NODENAME> indicates the NE node name and is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-12-1:172.20.208.225,NODENAME2" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.139 RTRV-NE-SYNCN: Retrieve Network Element Synchronization

This command retrieves the synchronization attributes of the NE.

Notes:

1. Although mixed mode timing is supported in this release, it is not recommended. See the "Mixed Mode Timing Support" section on page 1-8 for more information.
2. The existing external and line modes have the same functionality in all 3.x releases:
   - External mode: the node derives its timing from the BITS inputs.
   - Line mode: the node derives its timing from the SONET line(s).
   - Mixed mode: the node derives its timing from the BITS input or SONET lines.

Section	RTRV-NE-SYNCN Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-BITS ED-DAT ED-NE-GEN ED-NE-SYNCN ED-SYNCN INH-MSG-ALL INIT-SYS OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT FXFR	REPT EVT SYNCN RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE IPMAP RTRV-SYNCN RTRV-TOD SET-TOD
Input Format	RTRV-NE-SYNCN:[<TID>]::<CTAG>[::::];	
Input Example	RTRV-NE-SYNCN:CISCO::123;	

Section	RTRV-NE-SYNCN Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "::[TMMD=<TMMD>,][SSMGEN=<SSMGEN>,][QRES=<QRES>,] [RVRTV=<RVRTV>,][RVTM=<RVTM>]" ; where: • <TMMD> is a timing mode; valid values are shown in the "TIMING_MODE" section on page 4-66, <TMMD> is optional • <SSMGEN> is an SSM generator; valid values are shown in the "SYNC_GENERATION" section on page 4-63, <SSMGEN> is optional • <QRES> is a quality of RES; valid values are shown in the "SYNC_QUALITY_LEVEL" section on page 4-63, <QRES> is optional • <RVRTV> is a revertive mode; valid values are shown in the "ON_OFF" section on page 4-56, <RVRTV> is optional • <RVTM> is a revertive time; valid values are shown in the "REVERTIVE_TIME" section on page 4-58, <RVTM> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "::TMMD=LINE,SSMGEN=GEN1,QRES=ABOVE-PRS,RVRTV=Y,RVTM=8.0" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.140 RTRV-PM-<MOD2>: Retrieve Performance (DS1, EC1, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

(DS1, EC1, OC192, STS192C supported for ONS 15454 only)

This command retrieves the values of PM parameters for a specified card type.

<MONTYPE>, <MONLEV>, <MONDAT> and <MONTM> are supported in this release.

<MONLEV> is in the format of LEV-DIRN. Valid values for <DIRN> are shown in the "DIRN" section on page 4-41.

The format of <MONDAT> is MM-DD, where MM (month of the year) ranges from 1–12 and DD (day of the month) ranges from 1–31.

The format for <MONTM> is HH-MM, where HH (hour of the day) ranges from 0–23 and MM (minute of the hour) ranges from 0–59.

Notes:

1. If the <TMPER> is 1-DAY, <MONTM> is not applicable (null), and is treated as null if <MONTM> is not null.
2. A null value for <MONLEV> defaults to 1-UP.
3. A null value for <MONDAT> defaults to the current date (MM-DD).
4. A null value for <MONTM> defaults to the current time (HH-MM).

5. Both transmit and receive directions are allowed in DS1, other cards only support the receive direction.

Section	RTRV-PM-<MOD2> Description
Category	Performance
Security	Retrieve
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	RTRV-PM-<MOD2>:[<TID>]:<AID>:<CTAG>::[<MONTYPE>],[<MONLEV>],[<LOCN>],[<DIRN>],[<TMPER>],[<DATE>],[<TIME>]; where: • <AID> is the access identifier. All the STS, VT1, FACILITY and DS1 AIDs are supported; <AID> is from the "ALL" section on page 4-5 and must not be null • <MONTYPE> indicates the type of the monitored parameter; valid values are shown in the "ALL_MONTYPE" section on page 4-24. A null value is equivalent to ALL • <MONLEV> specifies the discriminating level for the requested monitored parameter. <MONLEV> is in the format of LEVEL-DIRN where LEVEL is the measured value of the monitored parameter (MONVAL) and valid values for DIRN are shown in the "DIRN" section on page 4-41. A null value for <MONLEV> defaults to 1-UP. <MONLEV> is a string • <LOCN> indicates the location; valid values are shown in the "LOCATION" section on page 4-48. A null value defaults to NEND • <DIRN> is the direction of PM relative to the entity identified by the AID. <DIRN> defaults to ALL, which means that the command initializes all the registers irrespective of the PM direction. Valid values for <DIRN> are shown in the "DIRECTION" section on page 4-40. **Note** BTH is not a valid DIRN value for performance monitoring. • <TMPER> indicates the accumulation time period for the PM information. If the <TMPER> is 1-DAY, <MONTM> is not applicable (null), and is treated as null if <MONTM> is not null. Valid values for <TMPER> are shown in the "TMPER" section on page 4-67. A null value defaults to 15-MIN • <DATE> is the beginning date of the PM or storage register period specified in <TMPER>. The format of <MONDAT> is MM-DD, where MM (month of year> ranges from 1–12 and DD (day of month) ranges from 1–31. A null value for <MONDAT> defaults to the current date • <TIME> is the beginning time of day of the PM or storage register period specified in <TMPER>. The format for <MONTM> is HH-MM, where HH (hour of day) ranges from 0–23 and MM (minute of hour) ranges from 0–59. A null value for <MONTM> defaults to the current time (HH-MM)
Input Example	RTRV-PM-T1:TID:FAC-2-1:123::CVL,10-UP,NEND,RCV,15-MIN,04-11,12-45;

Section	RTRV-PM-<MOD2> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<MONTYPE>,<MONVAL>,[<VLDTY>], [<LOCN>],[<DIRN>],[<TMPER>],[<MONDAT>],[<MONTM>]" ; where: • <AID> is an access identifier from the "ALL" section on page 4-5 • <AIDTYPE> specifies the type of AID; valid values are shown in the "MOD2B" section on page 4-51, <AIDTYPE> is optional • <MONTYPE> indicates the type of monitored parameter; valid values are shown in the "ALL_MONTYPE" section on page 4-24 • <MONVAL> is the measured value of the monitored parameter and is an integer • <VLDTY> is the validity indicator of historical monitoring information; valid values are shown in the "VALIDITY" section on page 4-70, <VLDTY> is optional • <LOCN> indicates the location; valid values are shown in the "LOCATION" section on page 4-48, <LOCN> is optional • <DIRN> is the direction of PM relative to the entity identified by the AID; valid values are shown in the "DIRECTION" section on page 4-40, <DIRN> is optional **Note** BTH is not a valid DIRN value for performance monitoring. • <TMPER> indicates the accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-67, <TMPER> is optional and a null value defaults to 15-MIN • <MONDAT> is the beginning date of the PM or storage register period specified in <TMPER>. The format of <MONDAT> is MM-DD, where MM (month of year> ranges from 1–12 and DD (day of month) ranges from 1–31. <MONDAT> is a string and is optional • <MONTM> is the beginning time of the day of the PM or storage register period specified in <TMPER>. The format for <MONTM> is HH-MM, where HH (hour of day) ranges from 0– 23 and MM (minute of hour) ranges from 0–59. <MONTM> is a string and is optional.
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1,DS1-14:CVL,21,COMPL,NEND,RCV,15-MIN,04-11,12-45" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.141 RTRV-PMMODE-<STS_PATH>: Retrieve Performance Mode of PM Data Collection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command retrieves the type of PM mode that has been previously set in the NE. This command can be used to identify whether the PM parameters are Section, Line or Path type, and to identify whether or not the PM are being collected by the NE.

This command returns the categories that are enabled only.

The PM mode and state of an entity is set by using the SET-PMMODE command.

Notes:

1. This near end monitoring of the intermediate-path PM (IPPM) only supports OC-3, OC-12, OC-48, OC-48AS, OC-192, and EC-1 on STS Path.
2. The far end PM data collection is not supported by the current ONS 15454 in this release.
3. This release of software will support only the Path (P) mode type PM parameters with this command, that is, this command will not be applicable for Line (L) and Section (S) mode types. It should be noted that the PM monitoring for Line (L) and Section (S) are supported by the ONS 15454, and the storing PM data is always performed.
4. This command only returns the categories that are enabled (pmstate is ON), and does not return the categories that are disabled (pmstate is OFF).

Section	RTRV-PMMODE-<STS_PATH> Description
Category	Performance
Security	Retrieve
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	RTRV-PMMODE-<STS_PATH>:[<TID>]:<AID>:<CTAG>::<LOCN>; where: • <AID> identifies the entity from where the PM mode is being retrieved; <AID> is from the "STS" section on page 4-16 and must not be null • <LOCN> identifies the location from where the PM mode is being retrieved; valid values are shown in the "LOCATION" section on page 4-48. <LOCN> must not be null
Input Example	RTRV-PMMODE-STS1:CISCO:STS-4-2:123::NEND;

Section	RTRV-PMMODE-<STS_PATH> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:[<LOCN>],<MODETYPE>" ; where: • <AID> identifies the entity from where the PM mode is being retrieved; <AID> is from the "STS" section on page 4-16 • <LOCN> identifies the location from where the PM mode is being retrieved; valid values are shown in the "LOCATION" section on page 4-48. <LOCN> is optional. • <MODETYPE> identifies whether or not the PM mode type is turned on or off; valid values are shown in the "PM_MODE" section on page 4-57
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-4-2:NEND,P" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.142 RTRV-PMSCHED-<MOD2>:Retrieve Performance Monitoring Schedule (DS1, EC1, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

This command retrieves the PM reporting schedule that was set for the NE by the SCHED-PMREPT command.

Section	RTRV-PMSCHED-<MOD2> Description	
Category	Performance	
Security	Retrieve	
Related Messages	ALW-PMREPT-ALL INH-PMREP-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH>	RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS-PATH> SET-TH-<MOD2>
Input Format	RTRV-PMSCHED-<MOD2>:[<TID>]:<AID>:<CTAG>; where: • <AID> is an access identifier from the "ALL" section on page 4-5; <AID> must not be null	
Input Example	RTRV-PMSCHED-OC3:CISCO-NODE:FAC-3-1:123;	

Section	RTRV-PMSCHED-<MOD2> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>, [<NUMINVL>],,[<MONLEV>],<LOCN>,,[<TMPER>],,[<INHMODE>]" ; where: • <AID> access identifier from the "ALL" section on page 4-5 • <AIDTYPE> type of access identifier; valid values are shown in the "MOD2" section on page 4-49. <AIDTYPE> is optional • <REPTINVL> interval between PM reports; <REPTINVL> is a string • <REPTDAT> date for the next report; <REPTDAT> is a string • <REPTTM> the time of day for the next PM report; <REPTTM> is a string • <NUMINVL> remaining number of intervals over which PM is being reported; <NUMINVL> is and integer and is optional • <MONLEV> discriminating level for the requested monitored parameter; <MONLEV> is a string and is optional • <LOCN> location being performance-monitored and refers to the entity identified by the AID; valid values are shown in the "LOCATION" section on page 4-48 • <TMPER> accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-67 and <TMPER> is optional • <INHMODE> describes whether the reporting of PM data is inhibited (via the INH-PMREPT-ALL command) or is allowed (via the ALW-PMREPT-ALL command); valid values are shown in the "INH_MODE" section on page 4-47
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-3-1,OC3:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,,ALW" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.143 RTRV-PMSCHED-ALL: Retrieve Performance Schedule All

This command retrieves all the PM reporting schedules that were set for the NE by the SCHED-PMREPT command.

Section	RTRV-PMSCHED-ALL Description
Category	Performance
Security	Retrieve

Section	RTRV-PMSCHED-ALL Description (continued)
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH SET-TH-<MOD2>
Input Format	RTRV-PMSCHED-ALL:[<TID>]::<CTAG>;
Input Example	RTRV-PMSCHED-ALL:CISCO-NODE::123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<REPTINVL>,<REPTDAT>,<REPTTM>, [<NUMINVL>],,[<MONLEV>],<LOCN>,,[<TMPER>],,[<INHMODE>]" ; where: • <AID> access identifier from the "ALL" section on page 4-5 • <AIDTYPE> type of access identifier; valid values are shown in the "MOD2" section on page 4-49. <AIDTYPE> is optional • <REPTINVL> interval between PM reports; <REPTINVL> is a string • <REPTDAT> date for the next report; <REPTDAT> is a string • <REPTTM> the time of day for the next PM report; <REPTTM> is a string • <NUMINVL> remaining number of intervals over which PM is being reported; <NUMINVL> is and integer and is optional • <MONLEV> discriminating level for the requested monitored parameter; <MONLEV> is a string and is optional • <LOCN> location being performance-monitored and refers to the entity identified by the AID; valid values are shown in the "LOCATION" section on page 4-48 • <TMPER> accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-67 and <TMPER> is optional • <INHMODE> describes whether the reporting of PM data is inhibited (via the INH-PMREPT-ALL command) or is allowed (via the ALW-PMREPT-ALL command); valid values are shown in the "INH_MODE" section on page 4-47
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-3-1,OC3:30-MIN,5-25,14-46,100,,1-UP,NEND,,15-MIN,,ALW" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.144 RTRV-PROTNSW-<OCN_TYPE>: Retrieve Protection Switch (OC3, OC12, OC48, OC192)

This command retrieves the switching state of a SONET line specified in the AID.

Section	RTRV-PROTNSW-<OCN_TYPE> Description
Category	SONET Line Protection
Security	Retrieve
Related Messages	DLT-FFP-<OCN_TYPE> ED-FFP-<OCN_TYPE> ENT-FFP-<OCN_TYPE> EX-SW-<OCN_BLSR> OPR-PROTNSW-<OCN_TYPE> RLS-PROTNSW-<OCN_TYPE> RTRV-FFP-<OCN_TYPE>
Input Format	RTRV-PROTNSW-<OCN_TYPE>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the entity in the NE and is from the "FACILITY" section on page 4-15; <AID> must not be null
Input Example	RTRV-PROTNSW-OC48:CISCO:FAC-5-1:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<SC>,[<SWITCHTYPE>]" ; where: • <AID> indicates the entity in the NE and is from the "FACILITY" section on page 4-15 • <SC> is the switch operation on the path/AID; valid values are shown in the "SW" section on page 4-61 • Valid values for <SWITCHTYPE> are shown in the "SW_TYPE" section on page 4-62: <SWITCHTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-5-1:MAN,MANWKSWBK" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.145 RTRV-PROTNSW-<STS_PATH>: Retrieve Protection Switch (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

This command retrieves the switching state of a SONET UPSR STS path specified in the AID. Because the GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID, the "AID:LOCKOUT,LOCKOUTOFWK" is not presented in this protection switch retrieval result.

Section	RTRV-PROTNSW-<STS_PATH> Description
Category	UPSR Switching
Security	Retrieve
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-VT1
Input Format	RTRV-PROTNSW-<STS_PATH>:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the entity in the NE and is from the "STS" section on page 4-16; <AID> must not be null
Input Example	RTRV-PROTNSW-STS1:CISCO:STS-5-1:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<SC>,[<SWITCHTYPE>]" ; where: • <AID> is from the "STS" section on page 4-16 • <SC> is the switch operation on the path/AID; valid values are shown in the "SW" section on page 4-61 • Valid values for <SWITCHTYPE> are shown in the "SW_TYPE" section on page 4-62: <SWITCHTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "STS-5-1:MAN,MANWKSWBK" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.146 RTRV-PROTNSW-VT1: Retrieve VT Protection Switch

This command retrieves the switching state of a SONET UPSR VT path specified in the AID. Because the GR-1400 does not allow the LOCKOUT_OF_WORKING on the UPSR WORKING path/AID, the "AID:LOCKOUT,LOCKOUTOFWK" is not presented in this protection switch retrieval result.

Section	RTRV-PROTNSW-VT1 Description
Category	UPSR Switching
Security	Retrieve
Related Messages	OPR-PROTNSW-<STS_PATH> OPR-PROTNSW-VT1 REPT SW RLS-PROTNSW-<STS_PATH> RLS-PROTNSW-VT1 RTRV-PROTNSW-<STS_PATH>
Input Format	RTRV-PROTNSW-VT1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> indicates the entity in the NE and is from the "VT1_5" section on page 4-21; <AID> must not be null
Input Example	RTRV-PROTNSW-VT1:CISCO:VT1-5-1-1-2:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<SC>,[<SWITCHTYPE>]" ; where: • <AID> indicates the entity in the NE and is from the "VT1_5" section on page 4-21 • <SC> is the switch operation on the path/AID; valid values are shown in the "SW" section on page 4-61 • Valid values for <SWITCHTYPE> are shown in the "SW_TYPE" section on page 4-62: <SWITCHTYPE> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VT1-5-1-1-2:MAN,MANWKSWBK" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.147 RTRV-PTHTRC-<STS_PATH>: Retrieve Path Trace (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command retrieves the contents of the SONET path trace message that is transported in the J1 byte of the SONET STS Path.

The path trace message is a 64-character string with the last two characters reserved for the terminating CR (carriage return) and the LF (line feed). The message can be an incoming path trace message, an expected incoming path trace message, or an outgoing path trace message which is inserted into the path overhead of the outgoing signal.

The path trace mode has three modes: OFF, MANUAL, and AUTO. The path trace mode defaults to OFF mode. The MANUAL mode performs the comparison of the received string with the user-entered expected string. The AUTO mode performs the comparison of the present received string with an expected string set to a previously received string. If there is a mismatch, the TIM-P alarm is raised. When the path trace mode is in OFF mode, there is no path trace processing, and all the alarm and state conditions are reset.

When the expected string is queried under the OFF path trace mode, the expected string is a copy of the provisioned string or NULL. When an expected string is queried under the MANUAL path trace mode, the expected string is a copy of the user-entered string. When an expected string is queried under the AUTO path trace mode, the expected string is a copy of the acquired received string or NULL if the string has not been acquired.

When the incoming string is queried under the OFF path trace mode, the incoming string is NULL. When an incoming string is queried under the MANUAL or AUTO path trace mode, the incoming string is a copy of the received string or NULL if the string has not been received.

When the transmitted string is queried under the OFF, MANUAL or AUTO path trace mode, the transmitted string is the provisioned transmit string.

Notes:

1. A null value for the <MSGTYPE> defaults to INCTRC.
2. Only the NEND of the <LOCN> value is supported. A null value of the <LOCN> defaults to NEND.
3. Sending a FEND of the <LOCN> with this command, an “unsupported locn value” error message will display.
4. J1 (EXPTRC/INCTRC) is implemented on the DS1/DS1N, DS3E/DS3NE, DS3XM, EC1, OC3, OC48AS and OC192 cards.
5. TRC is supported only on DS1(N), DS3(N)E, and DS3XM cards.

Section	RTRV-PTHTRC-<STS_PATH> Description
Category	STS Paths
Security	Retrieve
Related Messages	ED-<STS_PATH> RTRV-<STS_PATH>
Input Format	RTRV-PTHTRC-<STS_PATH>:[<TID>]:<AID>:<CTAG>::[<MSGTYPE>][:<LOCN>]; where: • <AID> is an access identifier from the “STS” section on page 4-16 and must not be null • <MSGTYPE> is the type of trace message to be retrieved; valid values are shown in the “MSGTYPE” section on page 4-54 and a null value defaults to INCTRC. A null value is equivalent to ALL. • <LOCN> is the location of the trace message; valid values are shown in the “LOCATION” section on page 4-48. A null value is equivalent to ALL.
Input Example	RTRV-PTHTRC-STS1:CISCO:STS-2-1:123::EXPTRC:NEND;

Section	RTRV-PTHTRC-<STS_PATH> Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<TRACMSG>" ; where: • <TRACMSG> is the Path Trace message returned to the requester. The message should be up 64 characters in length.The user is allowed to enter up to 62 characters, the last two characters are reserved for the terminating CR (carriage return) and LF (line feed); <TRACMSG> is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "TRACMSG" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.148 RTRV-SYNCN: Retrieve Synchronization

This command retrieves the synchronization reference list used to determine the sources for the NE's reference clock and the BITS output clock. For each clock, up to three synchronization sources may be specified (e.g. PRIMARY, SECOND, THIRD).

Notes:

1. To retrieve/set the timing mode, SSM message Set or Quality of RES information, use the RTRV-NE-SYNCN and ED-NE-SYNCN commands.
2. The output example shown here is under line timing mode.

Section	RTRV-SYNCN Description	
Category	Synchronization	
Security	Retrieve	
Related Messages	ED-BITS ED-NE-SYNCN ED-SYNCN OPR-SYNCNSW REPT ALM BITS REPT ALM SYNCN REPT EVT BITS REPT EVT SYNCN	RLS-SYNCNSW RTRV-ALM-BITS RTRV-ALM-SYNCN RTRV-BITS RTRV-COND-BITS RTRV-COND-SYNCN RTRV-NE-SYNCN
Input Format	RTRV-SYNCN:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> identifies the synchronization reference to retrieve; <AID> is from the "SYNC_REF" section on page 4-19, is listable and must not be null	
Input Example	RTRV-SYNCN:BOYES:SYNC-NE:234;	

Section	RTRV-SYNCN Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>:<REF>,<REFVAL>,[<QREF>],[<STATUS>],[<PROTECTSTATUS>]" ; where: • <AID> is the synchronization reference to be modified and is from the "SYNC_REF" section on page 4-19 • <REF> is the rank of the synchronization reference and is from the "SYNCSW" section on page 4-20 • <REFVAL> is the value of the synchronization reference and is from the "SYN_SRC" section on page 4-18 • <QREF> is the quality of the reference source; valid values are shown in the "SYNC_CLOCK_REF_QUALITY_LEVEL" section on page 4-62, <QREF> is optional • <STATUS> is the active status of the synchronization source; valid values are shown in the "STATUS" section on page 4-60, <STATUS> is optional • <PROTECTSTATUS> indicates whether the working or protect card (in a protection group) provides timing. This parameter has no significance if the reference source is BITS or INTERNAL and is left blank. Valid values are shown in the "SIDE" section on page 4-60 and <PROTECTSTATUS> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "SYNC-NE:PRI,FAC-1-2,PRS,ACT,WORK" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.149 RTRV-T1: Retrieve T1 Facility

This command retrieves the DS-1 facilities configuration.

(The facilities are on the XTC card for the ONS 15327)

Section	RTRV-T1 Description	
Category	Ports	
Security	Retrieve	
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV <MOD2_IO>	RST <MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T3

Section	RTRV-T1 Description (continued)
Input Format	RTRV-T1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is an access identifier from the "FACILITY" section on page 4-15 and must not be null
Input Example	RTRV-T1:TID:FAC-2-1:1223;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[LINECDE=<LINECDE>,][FMT=<FMT>,] [LBO=<LBO>,][TACC=<TAP>,][SOAK=<SOAK>]:<PST>,[<SST>]" ; where: • <AID> is an access identifier from the "FACILITY" section on page 4-15 • <LINECDE> is a line code; valid values are shown in the "LINE_CODE" section on page 4-48, <LINECDE> is optional • <FMT> is a frame format; valid values are shown in the "FRAME_FORMAT" section on page 4-47, <FMT> is optional • <LBO> is a line buildout; valid values are shown in the "LINE_BUILDOUT" section on page 4-48, <LBO> is optional • <TAP> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 1–999. When TACC is 0, the TAP is deleted. <TAP> is from the "TACC" section on page 4-20 and <TAP> is optional • <SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals; <SOAK> is an integer and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1::LINECDE=AMI,FMT=ESF,LBO=0-131, TACC=8,SOAK=10:OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.150 RTRV-T3: Retrieve T3

This command retrieves the facility properties of a DS3 and a DS3XM card.

(The facilities are on the XTC card for the ONS 15327)

Notes:

1. CTC can set the FMT attribute of a DS3(N)E line to autoprovision to set the framing based on the framing is coming in. This would result in the FMT field being blanked out for a few seconds blanked forever for a preprovisioned DS3(N)E card on CTC.

2. The autoprovision is not considered a valid DS3 framing type. It is used only to trigger an autosense and subsequent autoprovisioning of a valid DS3 framing type (unframed, M23, C-BIT).
3. TL1 does not have the autoprovision mode according to GR-199. TL1 maps/returns the autoprovision to be the unframed framing type.

Section	RTRV-T3 Description
Category	Ports
Security	Retrieve
Related Messages	ED-<OCN_TYPE> ED-DS1 ED-EC1 ED-G1000 ED-T1 ED-T3 RMV-<MOD2_IO> RST-<MOD2_IO> RTRV-<OCN_TYPE> RTRV-DS1 RTRV-EC1 RTRV-G1000 RTRV-T1
Input Format	RTRV-T3:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is the access identifier from the "FACILITY" section on page 4-15 and must not be null
Input Example	RTRV-T3:CISCO:FAC-1-2:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[FMT=<FMT>,][LINECDE=<LINECDE>,] [LBO=<LBO>,][TACC=<TAP>,][SOAK=<SOAK>]:<PST>,[<SST>]" ; where: • <AID> is an access identifier from the "FACILITY" section on page 4-15 • <FMT> is a frame format; valid values are shown in the "DS_LINE_TYPE" section on page 4-41, <FMT> is optional • <LINECDE> is a line code; valid values are shown in the "DS_LINE_CODE" section on page 4-41, <LINECDE> is optional • <LBO> is a line buildout; valid values are shown in the "E_LBO" section on page 4-42, <LBO> is optional • <TAP> defines the STS as a test access port with a selected unique TAP number. The TAP number ranges from 1–999. When TACC is 0, the TAP is deleted. <TAP> is from the "TACC" section on page 4-20 and is optional • <SOAK> OOS-AINS to IS transition soak time measured in 15 minute intervals; <SOAK> is an integer and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-58 • <SST> secondary state; valid values are shown in the "SST" section on page 4-60

Section	RTRV-T3 Description (continued)
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-1-2::FMT=C-BIT,LINECDE=B3ZS,LBO=0-225, TACC=8,SOAK=10:OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.151 RTRV-TACC: Retrieve Test Access

This command retrieves details associated with a TAP. The TAP is identified by the TAP number. The ALL input TAP value means that the command will return all the configured TACCs in the NE.

Section	RTRV-TACC Description
Category	Test Access
Security	Retrieve
Related Messages	CHG-ACCMD-<MOD_TACC> CONN-TACC-<MOD_TACC> DISC-TACC
Input Format	RTRV-TACC:[<TID>]:<TAP>:<CTAG>; where: • <TAP> indicates the assigned numeric number for the AID being used as a TAP. The TAP number must be an integer with a range of 1–999. The ALL TAP value means that the command will return all the configured TACCs in the NE. <TAP> is a string and must not be null
Input Example	RTRV-TACC:CISCO:241:CTAG;

Section	RTRV-TACC Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<TAP>:<TACC_AID1>,<TACC_AID2>,[<MD>],[<E_CONN>],[<F_CONN>]" ; where: • <TAP> indicates the assigned numeric number for the AID being used as a TAP; <TAP> is a string • <TACC_AID1> is the STS or VT AID that was designated as a test access point and assigned to the TAP; <TACC_AID1> is from the "ALL" section on page 4-5 • <TACC_AID2> is the STS or VT AID that was designated as a test access point and assigned to the TAP+1; <TACC_AID2> is from the "ALL" section on page 4-5 • <MD> indicates the test access mode. It identifies the status of the circuit connected to the TACC. Valid values are shown in the "TACC_MODE" section on page 4-65 • <E_CONN> indicates the E side STS or VT AID of a circuit connected to the TACC or under test; <E_CONN> is from the "ALL" section on page 4-5 and is optional • <F_CONN> indicates the F side STS or VT AID of a circuit connected to the TACC or under test; <F_CONN> is from the "ALL" section on page 4-5
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "241:STS-2-1,STS-2-2,MONE,STS-12-1,STS-13-1" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.152 RTRV-TH-<MOD2>: Retrieve Threshold (DS1, EC1, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

(DS1, EC1, OC192, STS192C supported for ONS 15454 only)

This command retrieves the threshold level of one or more monitored parameters.

Section	RTRV-TH-<MOD2> Description	
Category	Performance	
Security	Retrieve	
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH>	RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>

Section	RTRV-TH-<MOD2> Description (continued)
Input Format	RTRV-TH-<MOD2>:[<TID>]:<AID>:<CTAG>:: [<MONTYPE>],[<LOCN>],[<TMPER>]; where: • <AID> is an access identifier from the "ALL" section on page 4-5 and must not be null • <MONTYPE> is the monitored type and defaults to CVL; valid values are shown in the "ALL_MONTYPE" section on page 4-24. A null value is equivalent to ALL. **Note** <MONTYPE> defaults to: CVL for OCN, EC1 and DSN, ESP for STSp, UASV for VT1, AISSP for DS1 layer of DS3XM. LOCN defaults to NEND. TMPER defaults to 15 minutes. • <LOCN> is the location; valid values are shown in the "LOCATION" section on page 4-48. A null value defaults to NEND • <TMPER> indicates the accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-67. A null value defaults to 15-MIN
Input Example	RTRV-TH-T3:CISCO:FAC-1-3:1234::CVL,NEND,15-MIN;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>,[<AIDTYPE>]:<MONTYPE>,[<LOCN>],,<THLEV>,[<TMPER>]" ; where: • <AID> is from the "ALL" section on page 4-5 • <AIDTYPE> specifies the type of AID; valid values are shown in the "MOD2B" section on page 4-51, <AIDTYPE> is optional • <MONTYPE> indicates the monitored type; valid values are shown in the "ALL_MONTYPE" section on page 4-24 • <LOCN> is a location; valid values are shown in the "LOCATION" section on page 4-48, <LOCN> is optional • <THLEV> is the threshold value and is an integer • <TMPER> is the accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-67, <TMPER> is optional
Output Example	TID-0001998-06-20 14:30:00 M 001 COMPLD "FAC-1-3,DS3:CVL,NEND,,1,15-MIN" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.153 RTRV-TOD: Retrieve Time of Day

This command retrieves the system date and time at the instant when the command was executed. The time returned is in Coordinated Universal Time (UTC).

Section	RTRV-TOD Description
Category	System
Security	Retrieve
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS REPT EVT FXFR RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN SET-TOD
Input Format	RTRV-TOD:[<TID>]::<CTAG>;
Input Example	RTRV-TOD:CAZADERO::230;
Output Format	SID DATE TIME M CTAG COMPLD "<YEAR>,<MONTH>,<DAY>,<HOUR>, <MINUTE>,<SECOND>,<TMTYPE>" ; where: • <YEAR> is the current calendar year and is a string • <MONTH> is the month of the year and ranges from 01–12; <MONTH> is a string • <DAY> is the day of the month and ranges from 01–31; <DAY> is a string • <HOUR> is the hour of the day and ranges from 00–23; <HOUR> is a string • <MINUTE> is the minute of the hour and ranges from 00–59; <MINUTE> is a string • <SECOND> is the second of the minute and ranges from 00–59; <SECOND> is a string • <TMTYPE> identifies the time zone and is a string
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "1998,05,08,17,01,33,UTC" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.154 RTRV-UCP-CC: Retrieve Unified Control Plane Control Channel

(ONS 15454 only)

This command creates an UCP IP control channel attributes.

The ALL AID is used for UCP retrieving command input only. A NULL AID in the IPCC's retrieval command defaults to the ALL AID, which returns all the IPCCs of the node.

Retrieve all of the UCP IPCCs example:

RTRV-UCP-CC:::A;

Notes:

1. If the control channel is not found, a SRQN (Status, Invalid Request) error message is returned.
2. If the IPCC type is ROUTED (CCTYPE=ROUTED), both MTU and CRCMD fields are grayed out.

Section	RTRV-UCP-CC Description	
Category	UCP	
Security	Retrieve	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-IF RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-UCP-CC:[<TID>]:[<AID >]:<CTAG>[::::]; where: <AID> indicates an individual IPCC ID. The ALL AID is used for UCP retrieving command input only. A NULL AID in the IPCCs retrieval command defaults to the ALL AID which returns all the IPCCs of the node. <AID> is from the "IPCC" section on page 4-9 and a null value is equivalent to ALL	
Input Example	RTRV-UCP-CC:CISCO:CC-9:CTAG;	

Section	RTRV-UCP-CC Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>]::NBRIX=<NBRIX>,CCTYPE=<CCTYPE>,[PORT=<PORT>,] LOCALCCID=<LOCALCCID>,LOCALIPCC=<LOCALIPCC>, REMOTECCID=<REMOTECCID>,[REMOTEIPCC=<REMOTEIPCC>,] LMPHELLOINT=<LMPHELLOINT>, OPERLMPHELLOINT=<OPERLMPHELLOINT>, LMPHELLODEADINT=<LMPHELLODEADINT>, OPERLMPHELLODEADINT=<OPERLMPHELLODEADINT>, [TUNMD=<TUNMD>,][MTU=<MTU>,][CRCMD=<CRCMD>]" ; where: • <AID> indicates an individual IPCC ID; <AID> is from the "IPCC" section on page 4-9 and <AID> is optional • <NBRIX> indicates the neighbor node index and is an integer • <CCTYPE> indicates the type of the control channel; valid values are shown in the "UCP_IPCC_TYPE" section on page 4-69 • <PORT> indicates the port which the control channel is configured, while the CCTYPE is the type of SDCC; <PORT> is from the "FACILITY" section on page 4-15 and is optional • <LOCALCCID> indicates the local control channel ID and is an integer • <LOCALIPCC> indicates the local IP address of the control channel and is a string • <REMOTECCID> indicates the remote control channel ID and is an integer • <REMOTEIPCC> indicates the remote IP address of the control channel; <REMOTEIPCC> is a string and is optional • <LMPHELLOINT> indicates the provisioned interval between hello messages sent by this node. <LMPHELLOINT> has a range of 1–10 seconds with a default of 5 seconds; <LMPHELLOINT> is an integer • <OPERLMPHELLOINT> indicates the LMP hello interval negotiated between a node and it's neighbor and the negotiated value is used during operation. This value is the negotiated, operational value of LMP Hello interval. This value is initialized to the hello Interval at the time of IPCC creation and is updated after the negotiation is done with the neighbor; <OPERLMPHELLOINT> is a float • <LMPHELLODEADINT> indicates the control channel time-out interval (in milliseconds) by the neighbor if the neighbor does not receive the hello message, and defaults to 15 (with the range of 3–30). This interval has to be at least as large as the hello interval and is normally set to 3 times the hello interval. Its range is 3 seconds to 30 seconds with a default of 15 seconds. <LMPHELLODEADINT> is an integer • <OPERLMPHELLODEADINT> indicates the operational value of the LMP interval negotiated between this node and its neighbor. This value is initialized to the helloDeadInterval at the time of IPCC creation and is updated after the negotiation is done with the neighbor; <OPERLMPHELLODEADINT> is a float

Section	RTRV-UCP-CC Description (continued)
Output Format (continued)	• <TUNMD> indicates the IP tunneling option. It defaults to disabled; valid values are shown in the "UCP_CC_TUN_MD" section on page 4-68 and <TUNMD> is optional • <MTU> indicates the MTU size of this control channel; <MTU> is an integer and is optional • <CRCMD> indicates the CRC mode for this control channel. It is applicable to IPCCs in SDCC type; valid values are shown in the "UCP_CRC_MODE" section on page 4-69 and <CRCMD> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CC-9::NBRIX=28,CCTYPE=SDCC,PORT=FAC-2-1,LOCALCCID=9, LOCALIPCC=172.20.209.31,REMOTECCID=20, REMOTEIPCC=172.20.209.15,LMPHELLOINT=10, OPERLMPHELLOINT=10.00,LMPHELLODEADINT=30, OPERLMPHELLODEADINT=30.00,TUNMD=DISABLED, MTU=1500,CRCMD=16-BIT" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.155 RTRV-UCP-IF: Retrieve Unified Control Plane Interface

(ONS 15454 only)

This command retrieves UCP interface attributes.

The local interface ID (LOCALIFID) is used by LMP/RSVP (Line Management Protocol/Resource reservation Protocol). If zero is passed in as the local Interface ID of the data link, then the node assigns a value for it. If the user specifies a non-zero value, then the node checks if that Interface ID is available and uses it.

If the UCP interface/data link control channel type is SDCC type, the local interface ID should be same as CCID.

Retrieve all of the UCP interfaces example:

RTRV-UCP-IF:::A;

Note If this command is sent twice or inputs invalid data, as SRQN (Status, Invalid Request) error message is returned.

Section	RTRV-UCP-IF Description
Category	UCP
Security	Retrieve

Section	RTRV-UCP-IF Description (continued)	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-NBR RTRV-UCP-NODE
Input Format	RTRV-UCP-IF:[<TID>]:[<AID>]:<CTAG>[::::]; where: • <AID> indicates the interface port index of the data link; <AID> is from the "FACILITY" section on page 4-15 and a null value is equivalent to ALL	
Input Example	RTRV-UCP-IF:CISCO:FAC-2-1:CTAG;	
Output Format	SID DATE TIME M CTAG COMPLD "[<AID>]::NBRIX=<NBRIX>,CCID=<CCID>,LOCALIFID=<LOCALIFID>, REMOTEIFID=<REMOTEIFID>,TNATYPE=<TNATYPE>, TNAADDR=<TNAADDR>,CORENETWORKID=<CORENETWORKID>" ; where: • <AID> indicates the interface port index of the data link; <AID> is from the "FACILITY" section on page 4-15 and is optional • <NBRIX> indicates a neighbor within the local node; <NBRIX> is an integer • <CCID> indicates the control channel ID and is an integer • <LOCALFID> indicates the local interface ID used by LMP/RSVP (line management protocol/resource reservation protocol); <LOCALFID> is an integer • <REMOTEFID> indicates the interface ID on the neighbor's side and in an integer • <TNATYPE> indicates the TNA (transport network administered) type; valid values are shown in the "UCP_TNA_TYPE" section on page 4-70 • <TNAADDR> indicates the TNA IP address and is a string • <CORENETWORKID> indicates the core network ID and is an integer	
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "FAC-2-1::NBRIX=12,CCID=16,LOCALIFID=16,REMOTEIFID=5, TNATYPE=IPV4,TNAADDR=172.20.209.73,CORENETWORKID=9" ;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.156 RTRV-UCP-NBR: Retrieve Unified Control Plane Neighbor

(ONS 15454 only)

This command retrieves an UCP neighbor.

The default value of the node name can be overwritten by the TL1 user to a string in a maximum size of 20 characters. If the node name includes non-identified TL1 characters (e.g. space), the text string format with the double quotes is required.

The ALL AID is used for UCP retrieving command input only. A NULL AID in the retrieval command defaults to the ALL AID, which returns all the UCP neighbors of the node.

Retrieve all the UCP neighbors example:

RTRV-UCP-NBR:::A;

Section	RTRV-UCP-NBR Description	
Category	UCP	
Security	Retrieve	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NODE
Input Format	RTRV-UCP-NBR:[<TID>]:[<AID>]:<CTAG>[::::]; where: • <AID> indicates an individual neighbor AID of the UCP; <AID> is from the "NBR" section on page 4-10 and a null value is equivalent to ALL	
Input Example	RTRV-UCP-NBR:CISCO:NBR-8:CTAG;	

Section	RTRV-UCP-NBR Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[NBRIX=<NBRIX>,][NODEID=<NODEID>,][NAME=<NAME>,] [NDEN=<NDEN>,][HELLOEN=<HELLOEN>,][HELLOINT=<HELLOINT>,] [REFREDEN=<REFREDEN>,][NUMRXMTS=<NUMRXMTS>]" ; where: • <AID> indicates an individual neighbor AID of the UCP. The ALL AID and NODEID (IP address, e.g. "AAA.BB.CC.D") are used for UCP retrieving command input only; <AID> is from the "NBR" section on page 4-10 • <NBRIX> indicates a neighbor within the local node; <NBRIX> is an integer and is optional • <NODEID> indicates the neighbor node ID as received in RSVP, LMP messages from that node; <NODEID> is a string and is optional • <NAME> is a string and is optional • <NDEN> indicates if the neighbor discovery is enabled or not for this neighbor; valid values are shown in the "ON_OFF" section on page 4-56 and <NDEN> is optional • <HELLOEN> indicates if the RSVP hello is enabled to this neighbor or not; valid values are shown in the "ON_OFF" section on page 4-56 and <HELLOEN> is optional • <HELLOINT> indicates the interval between hello messages to the neighbor; <HELLOINT> is an integer and is optional • <REFREDEN> indicates if the refresh reduction is enabled or not; valid values are shown in the "ON_OFF" section on page 4-56 and <REFREDEN> is optional • <NUMRXMTS> indicates the maximum number of retransmits of each message; <NUMRXMTS> is not editable, is an integer and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "NBR-8::NBRIX=8,NODEID=192.168.100.52,NAME=NODE-B, NDEN=Y,HELLOEN=Y,HELLOINT=20,REFREDEN=N,NUMRXMTS=3" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.157 RTRV-UCP-NODE: Retrieve Unified Control Plane Node

(ONS 15454 only)

This command retrieves UCP node level attributes.

The NODEID is the unique number used to identify the local node in LMP, RSVP messages sent to the neighbors. It defaults to the local ethernet interface address (ISA).

The retry initial interval (in seconds) is used for that have been released by the net work side. This interval has a range of 60 seconds (1 minute) to 1800 seconds (30 minutes), with a default value of 180 seconds.

The retry max interval (in seconds) is used for released circuits. The node will back off exponentially from the initial retry interval to this maximum value of 600 seconds (10 minutes).

The restart time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to restart. This timer has a range of 1 second to 10 seconds with a default of 5 seconds.

The recovery time is used to be signaled to neighbors. It indicates the time taken by this node (in seconds) to re-sync path, reservation state with a given neighbor. This timer has a range of 300 seconds (5 minutes) to 1800 seconds (30 minutes) and a default value of 600 seconds (10 minutes).

The transmit interval is used to retransmit un-acknowledged messages. This timer has a range of 1 second to 7 seconds with a default value of 1 second.

The refresh interval is used to refresh path, reservation state. This interval has a range of 30 seconds to 4060800 seconds (47 days) with a default value of 30 seconds.

The timeout RESV interval is used to wait for a reservation message in response to a PATH message. This interval has a range of 10–180 seconds with a default value of 60 seconds.

The timeout RESV CONF interval is used to wait for a RESV CONF message in response to a RESV message. This interval has a range of 10–180 seconds with a default value of 60 seconds.

The Source Deletion in progress is a timeout interval while the source is in the progress of cleanly deleting a call. This interval has a range of 10–180 seconds with a default of 60 seconds.

The Destination Deletion progress is a timeout interval while the destination is in the progress of cleanly deleting a call. This interval has a range of 10–180 seconds with a default value of 60 seconds.

Notes:

1. If the retry initial interval is set to zero, it will be interpreted as having the retry procedure disable.
2. The retry maximum interval has to be set to a higher value than the initial retry interval.

Section	RTRV-UCP-NODE Description	
Category	UCP	
Security	Retrieve	
Related Messages	DLT-UCP-CC DLT-UCP-IF DLT-UCP-NBR ED-UCP-CC ED-UCP-IF ED-UCP-NBR ED-UCP-NODE ENT-UCP-CC ENT-UCP-IF	ENT-UCP-NBR REPT ALM UCP REPT EVT UCP RTRV-ALM-UCP RTRV-COND-UCP RTRV-UCP-CC RTRV-UCP-IF RTRV-UCP-NBR
Input Format	RTRV-UCP-NODE:[<TID>]::<CTAG>[::::];	
Input Example	RTRV-UCP-NODE:CISCO::CTAG;	

Section	RTRV-UCP-NODE Description (continued)
Output Format	SID DATE TIME M CTAG COMPLD "::[NODEID=<NODEID>,][INITRETRY=<INITRETRY>,] [MAXRETRY=<MAXRETRY>,][RESTARTTM=<RESTARTTM>,] [RECOVTM=<RECOVTM>,][RXMTINT=<RXMTINT>,] [RFRSHINT=<RFRSHINT>,][RESVTIMEOUT=<RESVTIMEOUT>,] [RESVCONFTIMEOUT=<RESVCONFTIMEOUT>,] [SOURCEDIP=<SOURCEDIP>,][DESTINATIONDIP=<DESTINATIONDIP>] ; where: • <NODEID> indicates the node IP address, is a string and is optional • <INITRETRY> indicates the circuit retry initial interval (in seconds); <INITRETRY> is an integer and is optional • <MAXRETRY> indicates the circuit retry maximum retry interval (in seconds); <MAXRETRY> is an integer and is optional • <RESTARTTM> indicates the restart time taken by the local node; <RESTARTTM> is an integer and is optional • <RECOVTM> indicates the time taken by the local node to re-synchronize the path, reservation state with a given neighbor; <RECOVTM> is an integer and is optional • <RXMTINT> indicates the interval for re-transmitting un-acknowledged messages; <RXMTINT> is an integer and is optional • <RFRSHINT> indicates the interval for refreshing path, reservation state; <RFRSHINT> is an integer and is optional • <RESVTIMEOUT> indicates the timeout interval for waiting for a reservation message in response to a PATH message; <RESVTIMEOUT> is an integer and is optional • <RESVCONFTIMEOUT> indicates the timeout interval for waiting for a RESV CONF message in response to a RESV message; <RESVCONFTIMEOUT> is an integer and is optional • <SOURCEDIP> indicates the timeout interval of the SourceDip (Source Deletion in Progress) while the source is in the process of cleanly deleting a call; <SOURCEDIP> is an integer and is optional • <DESTINATIONDIP> indicates the timeout interval of the DestinationDip (Destination Deletion in Progress) while the destination is in the process of cleanly deleting a call; <DESTINATIONDIP> is an integer and is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "::NODEID=192.168.100.52,INITRETRY=180,MAXRETRY=600, RESTARTTM=5,RECOVTM=600,RXMTINT=1,RFRSHINT=30, RESVTIMEOUT=60,RESVCONFTIMEOUT=60, SOURCEDIP=60,DESTINATIONDIP=60"
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.158 RTRV-USER-SECU: Retrieve User Security

This command retrieves the security information of a specified user or list of users. The keyword ALL can be used to obtain a list of all users. For security reasons the password cannot be retrieved.

A Superuser can retrieve any user's security information. A user with MAINT, PROV, or RTRV privileges can only retrieve their own information.

Note When using the keyword ALL, all users created for the system are displayed. This includes users created via CTC that are not legal and valid TL1 users (i.e., userids/passwords greater than 20 characters in length). Although displayed via the RTRV-USER-SECU command, these users will not be able to log into the TL1 environment.

Section	RTRV-USER-SECU Description
Category	Security
Security	Superuser
Related Messages	ACT-USER CANC CANC-USER DLT-USER-SECU ED-PID ED-USER-SECU ENT-USER-SECU REPT EVT SECU
Input Format	RTRV-USER-SECU:[<TID>]:<UID>:<CTAG>; where: • <UID> the user ID or the keyword ALL. A non-superuser can only specify their own user ID; <UID> is a string and must not be null
Input Example	RTRV-USER-SECU::CISCO15:1;
Output Format	SID DATE TIME M CTAG COMPLD "<UID>:,<UAP>" ; where: • <UID> the user ID that was retrieved; <UID> is a string • <UAP> the privilege of the user; valid values are shown in the "PRIVILEGE" section on page 4-57
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "CISCO15:,SUPER" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.159 RTRV-VT1: Retrieve Virtual Tributary

This command retrieves the attributes associated with a VT1 path.

Note Both RVRTV and RVTM parameters only apply to UPSR.

Section	RTRV-VT1 Description
Category	STS and VT Paths
Security	Retrieve
Related Messages	ED-VT1
Input Format	RTRV-VT1:[<TID>]:<AID>:<CTAG>[::::]; where: • <AID> is an access identifier from the "VT1_5" section on page 4-21 and must not be null
Input Example	RTRV-VT1:CISCO:VT1-2-4-1-2:123;
Output Format	SID DATE TIME M CTAG COMPLD "<AID>::[RVRTV=<RVRTV>,][RVTM=<RVTM>,] [TACC=<TACC>]:[<PST>],[<SST>]" ; where: • <AID> is an access identifier from the "VT1_5" section on page 4-21 • <RVRTV> is a revertive mode which only applies to a UPSR VT1 path. <RVRTV> defaults to N (non-revertive mode) when UPSR VT1 is created; valid values are shown in the "ON_OFF" section on page 4-56 and <RVRTV> is optional • <RVTM> is a revertive time which only applies to a UPSR VT1 path. <RVTM> defaults to empty because <RVRTV> is N when UPSR VT1 is created. Valid values are shown in the "REVERTIVE_TIME" section on page 4-58 and <RVTM> is optional • <TACC> is from the "TACC" section on page 4-20 and is optional • <PST> primary state; valid values are shown in the "PST" section on page 4-58 and <PST> is optional • <SST> secondary state; valid values are shown in the "SST" section on page 4-60 and <SST> is optional
Output Example	TID-000 1998-06-20 14:30:00 M 001 COMPLD "VT1-2-4-1-2::RVRTV=Y,RVTM=1.0,TACC=8:OOS,AINS" ;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.160 SCHED-PMREPT-<MOD2>: Schedule Performance Monitoring Report (DS1, EC1, OC3, OC12, OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C, T1, T3, VT1)

(DS1, EC1, OC192, STS192C supported for ONS 15454 only)

This command schedules/reschedules the NE to report the performance monitoring data for a line facility or for an STS/VT path periodically, using the automatic REPT PM message. This command can also remove the previously created schedule.

The automatic performance monitoring reporting scheduled by this command is inhibited by default. ALW-PMREPT-ALL can be used to allow the NE to send the performance monitoring report. INH-PMREPT-ALL can be used to stop the NE from sending the performance monitoring report. The schedules created for the NE can be retrieved by RTRV-PMSCHED command.

The deletion of the schedule for the automatic performance monitoring reporting can be done by issuing SCHED-PMREPT-<MOD2> with the <NUMREPT> parameter equal to zero.

Notes:

1. The current maximum number of schedules allowed to be created for a NE is 1000. If this number of schedules has been created for the NE, an error message “Reach Limits Of MAX Schedules Allowed. Can Not Add More” will be returned if another schedule creation is attempted on the NE. Frequent use of automatic performance monitoring reporting will significantly degrade the performance of the NE.
2. A schedule cannot be created if the card associated with the schedule is not provisioned, or if the cross-connection associated with the schedule has not been created. However, a schedule is allowed to be deleted even if a card is not provisioned, or if the cross-connection has not been created.
3. The number of outstanding performance monitoring reports counter <NUMREPT> will not be decremented, and the scheduled automatic performance monitoring reporting will not start if the card associated with the schedule is not physically plugged into the slot.
4. An expired schedule would not be automatically removed. The SCHED-PMREPT command has to be issued with the <NUMREPT> parameter equal to zero in order to delete the expired schedule.
5. Identical schedules for an NE is not allowed. Two schedules are considered identical if they have the same AID, MOD2 type, performance monitor type, performance monitor level, location, direction and time period.

   An error message “Duplicate Schedule” is returned when trying to create a schedule which is a duplicate of a existing schedule. However, if the existing schedule expires (with the parameter <NUMINVL> equal to zero when retrieved by the RTRV-PMSCHED command, i.e., no more performance monitoring reporting sent) the new schedule with the identical parameter will replace the existing schedule.
6. When a electrical or optical card is unprovisioned by the DLT-EQPT command, or a cross-connection is deleted by the DLT-CRS command, the schedules associated with that card or that cross-connection will be removed silently by the NE. This removal prevents another type of card or cross-connection with the same AID to be provisioned on the NE, and prevents the NE from trying to send automatic performance monitoring reports based on the existing schedules.

   The card or cross connect can be unprovisioned or deleted through CTC. The schedules associated with that card or that cross-connection will also be removed silently by the NE.
7. When creating schedules on an ONS 15327 XTC card, only schedules against the working XTC card (in Slot 6) are allowed. An error message “Can Not Create Schedule On Protect Card” will be returned if you try to create a schedule on protect XTC card in Slot 5.

8. When you create a PM schedule, the minimum report interval should not be less than five minutes.

Section	SCHED-PMREPT-<MOD2> Description	
Category	Performance	
Security	Maintenance	
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH>	RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SET-PMMODE-<STS_PATH> SET-TH-<MOD2>
Input Format	SCHED-PMREPT-<MOD2>:[<TID>]:<SRC>:<CTAG>::[<REPTINVL>],[<REPTSTATM>],[<NUMREPT>],,[<MONLEV>],[<LOCN>],,[<TMPER>][,];	

where:

- <SRC> is from the "ALL" section on page 4-5
- <REPTINVL> specifies how often a performance monitoring report is generated. The format for <REPTINVL> is VAL-UN; valid values for VAL (value) are:
  - 1–31 if UN (units of time) is DAY
  - 1–24 if UN is HR
  - 1–1440 if UN is MIN

  Examples are: 10-DAY, 12-HR, or 100-MIN. A null value for the input would default to 15-MIN. <REPTINVL> is a string

Note The minimum time for processing PM schedules is every five minutes. A <REPTINVL> value of less than five minutes will process every five minutes.

- <REPTSTATM> starting time for the performance monitoring report. The format is HOD-MOH, where HOD (hour of day) ranges from 0–23, and MOH (minute of hour) ranges from 0–59. If the input value of the starting time is smaller than the current time; for example, the input value is 5-30 (5:30 in the morning) and the current time is 10:30, then the reporting will be scheduled to start at 5:30 the next day. A null value defaults to the current time of day; <REPTSTATM> is a string
- <NUMREPT> the number of reports that the schedule is expected to produce. A value of 0 is used to delete an existing identical schedule (see Note 5 above). If <NUMREPT> is null the schedule will be in effect forever until it is deleted. The value of <NUMREPT> will continue to be decremented even though the automatic performance monitoring reporting is inhibited; <NUMREPT> is an integer
- <MONLEV> discriminating level for the requested monitored parameter. It applies to all MONTYPE of the scheduled performance monitoring report. The format is LEV-DIRN; valid values for LEV are decimal numbers, and valid values for DIRN are as follows: UP Monitored parameter with values equal to or greater than the value of LEV will be reported. DN Monitored parameter with values equal to or less than the value of LEV will be reported. The null input defaults to 1-UP; <MONLEV> is a string

Section	SCHED-PMREPT-<MOD2> Description (continued)
Input format (continued)	• <LOCN> the location being performance-monitored. The valid value is NEND or FEND. A null input defaults to NEND. FEND is not supported by all MOD2 types; valid values are shown in the "LOCATION" section on page 4-48 • <TMPER> the accumulation time period. It defaults to 15-MIN; valid values are shown in the "TMPER" section on page 4-67
Input Example	SCHED-PMREPT-OC3:NE-NAME:FAC-3-1: 123::60-MIN,15-30,100,,1-UP,NEND,,15-MIN;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.161 SET-ATTR-CONT: Set Attribute Control

This command sets the attributes associated with an external control. The attributes are used when an external control is operated or released. To send the attributes, use the RTRV-ATTR-CONT command.

Notes:

1. If the <CONTTYPE> parameter is not specified, the control specified by <AID> is unprovisioned.
2. A control should be unprovisioned before it is reprovisioned to another type of control.

Section	SET-ATTR-CONT Description	
Category	Environment Alarms and Controls	
Security	Provisioning	
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV	RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-ENV
Input Format	SET-ATTR-CONT:[<TID>]:<AID>:<CTAG>[::<CONTTYPE>]; where: • <AID> identifies the external control for which attributes are being retrieved and is from the "ENV" section on page 4-13 • <CONTTYPE> is the type of control for which the attribute is being retrieved; valid values are shown in the "CONTTYPE" section on page 4-40. The default value is MISC	
Input Example	SET-ATTR-CONT:CISCO:ENV-OUT-1:123::AIRCOND;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.162 SET-ATTR-ENV: Set Attribute Environment

This command sets the attributes associated with an external control.

Notes:

1. If the <NTFCNCDE>, <ALMTYPE>, and <ALMMSG> parameters are omitted, the environmental alarm specified by <AID> is unprovisioned.
2. An alarm should be unprovisioned and you should wait for any raised alarm to clear before reprovisioning the alarm to another alarm type.

Section	SET-ATTR-ENV Description
Category	Environment Alarms and Controls
Security	Provisioning
Related Messages	OPR-ACO-ALL OPR-EXT-CONT REPT ALM ENV REPT EVT ENV RLS-EXT-CONT RTRV-ALM-ENV RTRV-ATTR-CONT RTRV-ATTR-ENV RTRV-COND-ENV RTRV-EXT-CONT SET-ATTR-CONT
Input Format	SET-ATTR-ENV:[<TID>]:<AID>:<CTAG>::[<NTFCNCDE>],[<ALMTYPE>],[<ALMMSG>]; where: • <AID> is an access identifier from the "ENV" section on page 4-13 and must not be null • <NTFCNCDE> is a notification code; valid values are shown in the "NOTIF_CODE" section on page 4-55. A null value is equivalent to ALL • <ALMTYPE> is an alarm type for the environmental alarm; valid values are shown in the "ENV_ALM" section on page 4-42. A null value is equivalent to ALL • <ALMMSG> is an alarm message and is a string. A null value is equivalent to ALL
Input Example	SET-ATTR-ENV:CISCO:ENV-IN-1:123::MJ,OPENDR,\"OPEN DOOR\"
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.163 SET-PMMODE-<STS_PATH>: Set Performance Mode of PM Data Collection (STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C)

(STS192C supported for ONS 15454 only)

This command sets the mode and turns the PM data collection mode on or off. The Cisco ONS 15454 is capable of collecting and storing section, line and path PM data.

The PM mode and state of an entity are retrieved by using the RTRV-PMMODE command.

Notes:

1. The near end monitoring of the intermediate-path PM (IPPM) only supports OC-3, OC-12, OC-48, OC-48AS, OC-192, and EC-1 on STS Path.
2. The far end PM data collection is not supported for the ONS 15454 in this release.
3. This release of software will support only the Path (P) mode type PM parameters with this command, that is, this command is not applicable for Line (L) and Section (S) mode types.

   The PM monitoring for Line (L) and Section (S) are supported by the ONS 15454, and the storing PM data is always performed.

Section	SET-PMMODE-<STS_PATH> Description
Category	Performance
Security	Provisioning
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-TH-<MOD2>
Input Format	SET-PMMODE-<STS_PATH>:[<TID>]:<AID>:<CTAG>::<LOCN>,<MODETYPE>,[<PMSTATE>]; where: • <AID> identifies the entity where the PM mode is being set; <AID> is from the "STS" section on page 4-16 • <LOCN> identifies the location to which the PM mode is to be set and only supports near end PM data collection; valid values are shown in the "LOCATION" section on page 4-48 • <MODETYPE> identifies the type of PM parameters; only the Path (P) PM parameter is supported and valid values are shown in the "PM_MODE" section on page 4-57 • <PMSTATE> directs the named PM mode type to turn On or Off and a null value defaults to On; valid values are shown in the "PM_STATE" section on page 4-57
Input Example	SET-PMMODE-STS1:CISCO:STS-4-2:123::NEND,P,ON;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.164 SET-TH-<MOD2>: Set Threshold (DS1, EC1, OC3, OC12,OC48, OC192, STS1, STS3C, STS6C, STS9C, STS12C, STS24C, STS48C, STS192C,T1, T3, VT1)

(DS1, EC1, OC192, STS192C supported for ONS 15454 only)

This command sets the threshold of PM parameters.

Section	SET-TH-<MOD2> Description
Category	Performance
Security	Provisioning
Related Messages	ALW-PMREPT-ALL INH-PMREPT-ALL INIT-REG-<MOD2> REPT PM <MOD2> RTRV-PM-<MOD2> RTRV-PMMODE-<STS_PATH> RTRV-PMSCHED-<MOD2> RTRV-PMSCHED-ALL RTRV-TH-<MOD2> SCHED-PMREPT-<MOD2> SET-PMMODE-<STS_PATH>
Input Format	SET-TH-<MOD2>:[<TID>]:<AID>:<CTAG>:: <MONTYPE>,<THLEV>,[<LOCN>],,[<TMPER>]; where: • <AID> indicates the access identifier. All the STS, VT1, Facility and DS1 AIDs are supported and <AID> is from the "ALL" section on page 4-5 • <MONTYPE> is the monitored value; valid values are shown in the "ALL_MONTYPE" section on page 4-24 • <THLEV> is the threshold value and is an integer • <LOCN> is the location; valid values are shown in the "LOCATION" section on page 4-48 • <TMPER> indicates the accumulation time period for the PM information; valid values are shown in the "TMPER" section on page 4-67
Input Example	SET-TH-T3:CISCO:FAC-1-1:123::CVL,12,NEND,,15-MIN;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.165 SET-TOD: Set Time of Day

This command sets the system date and time for the NE. The year should be entered using four digits while the hour should be entered using a 24-hour time period (i.e., military time).

Section	SET-TOD Description
Category	System
Security	Provisioning
Related Messages	ALW-MSG-ALL APPLY COPY-RFILE ED-DAT ED-NE-GEN ED-NE-SYNCN INH-MSG-ALL INIT-SYS RTRV-HDR RTRV-INV RTRV-MAP-NETWORK RTRV-NE-GEN RTRV-NE-IPMAP RTRV-NE-SYNCN RTRV-TOD
Input Format	SET-TOD:[<TID>]::<CTAG>::<YEAR>,<MONTH>,<DAY>,<HOUR>,<MINUTE>,<SECOND>,[<DIFFERENCE>][:DST=<DST>]; where: • <YEAR> is the current calendar year and is an integer • <MONTH> is the month of the year and ranges from 01–12; <MONTH> is an integer • <DAY> is the day of the month and ranges from 01–31; <DAY> is an integer • <HOUR> is the hour of the day and ranges from 00–23; <HOUR> is an integer • <MINUTE> is the minute of the hour and ranges from 00–59; <MINUTE> is an integer • <SECOND> is the second of the minute and ranges from 00–59; second is an integer • <DIFFERENCE> is the number of minutes off UTC and is an integer • <DST> identifies if the time is a Daylight Saving Time (Y) or not (N); valid values are shown in the "ON_OFF" section on page 4-56
Input Example	SET-TOD:CAZADERO::240::1998,05,08,13,18,55,480:DST=Y;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.166 SW-DX-EQPT: Switch Duplex Equipment

(Cisco ONS 15454 only)

This command switches an XC/XCVT/XC10G card with the mate card within the NE.

Note If sending a mode parameter with a value other than NORM, FRCD, or NULL, the IDNV (Input, Data Not Valid) error message will be returned.

Section	SW-DX-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-TOPROTN-EQPT SW-TOWKG-EQPT
Input Format	SW-DX-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>][,];	
	where: • <AID> identifies the equipment (XC/XCVT/XC10G) unit in the NE that is to be switched with its mate unit; <AID> is from the "EQPT" section on page 4-14 • Valid values for <MODE> are shown in the "CMD_MODE" section on page 4-28	
Input Example	SW-DX-EQPT:CISCO:SLOT-1:123::FRCD;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

3.5.167 SW-TOPROTN-EQPT: Switch to Protection Equipment

(Cisco ONS 15454 only)

This command performs an equipment unit protection switch.

This command is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection.

This command will switch the traffic from the working card specified in the AID to the protect card.

There is a priority for the switch to protection commands. In a 1:N protection group with N > 1, consider two working cards - A and B. Card A is switched to the protect card with the SW-TOPROTN command. If card B is pulled from the system, the protect card will carry the traffic of card B and card A will raise the FAILTOSW condition and carry traffic. When card B is replaced and the revert timer expires, card B will carry traffic and card A will switch to the protect card. The FAILTOSW condition on card A will be cleared. Note:1:N protection groups in the system are always revertive.

In a revertive protection group, the unit specified by the AID will raise the standing condition of WKSWPR if the command were executed without an error. In a non-revertive protection group, the unit specified by the AID will raise the transient condition of WKSWPR if the command were executed without an error.

Notes:

1. The default PROTID is the protecting unit if there is only one protection unit per protection group in the NE, otherwise a DENY error message will be responsed.
2. This command only supports one value of the <DIRN> parameter - BTH or null. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message will be responsed.

3. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. A command on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
4. This command is not used for SONET (OCN) cards. A command on a SONET card will generate an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.
5. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message will be responsed.
6. If this command is sent to a missing working card, the SWFA (Status, Working Unit Failed) error message will be responsed.
7. If this command is used on a protection card, the IIAC (Input, Invalid Access Identifier) error message will be responsed.
8. If sending a mode parameter with a value other than NORM, FRCD, or null, the IDNV (Input, Data Not Valid) error message will be responsed.
9. If sending the SW-TOPROTN command to a working card when the working card has raised INHSWPR, the SWLD (Status, Working Unit Locked) error message will be responsed.
10. If sending the SW-TOPROTN command to a working card when the protection card has raised INHSWPR, the SPLD (Status, Protection Unit Locked) error message will be responsed.
11. If sending the SW-TOPROTN command to an active working card when the protect card is already carrying traffic. This only occurs in a 1:N protection group with N greater than one, the SNVS (Status, Not in Valid State) error message will be responsed.
12. If sending the SW-TOPROTN command to an active working card when the protect card is failed or missing, the SPFA (Status, Protection Unit Failed) error message will be responsed.
13. If sending this command to a standby working card, the SNVS (Status, Not in Valid State) error message will be responsed.

Section	SW-TOPROTN-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOWKG-EQPT

Section	SW-TOPROTN-EQPT Description (continued)
Input Format	SW-TOPROTN-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>], [<PROTID>],[<DIRN>]; where: • <AID> is the parameter that specifies the working unit which will have traffic switched to protection and is from the "EQPT" section on page 4-14 • <MODE> is the parameter that will only support the NORM value. The null value for <MODE> will default to NORM. Sending the FRCD value for <MODE> will generate the same switching behavior as sending the NORM value. Valid values are shown in the "CMD_MODE" section on page 4-28 • <PROTID> identifies the protection unit to be switched when there is more than one protection unit within the NE; <PROTID> is from the "PRSLOT" section on page 4-10 • <DIRN> is the direction of transmission in which switching is to be made. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-40
Input Example	SW-TOPROTN-EQPT:CISCO:SLOT-1:123::FRCD,SLOT-3,BTH;
Errors	Errors for each command are listed in Table 7-22 on page 7-23.

3.5.168 SW-TOWKG-EQPT: Switch to Working Equipment

(Cisco ONS 15454 only)

This command switches the protected working unit back to working unit.

This command is used for non-SONET line cards (e.g. DS1, DS3, DS3XM, and EC1). DS1 and DS3 cards have 1:1 and 1:N equipment protection. DS3XM and EC1 cards have only 1:1 equipment protection cards.

This command will switch the traffic from the protection card to the working card specified by the AID.

In a revertive protection group, the unit specified by the AID will clear the standing condition of WKSWPR if the command were executed without an error. In a non-revertive protection group, the unit specified by the AID will raise the transient condition of WKSWBK if the command were executed without an error.

Notes:

1. This command only supports one value of the <DIRN> parameter - BTH or null. A command with any other value is considered an incorrect use of the command. An IDNV (Input, Data Not Valid) error message should be responsed
2. This command is not used for the common control (TCC or XC/XCVT/XC10G) cards. A command on a common control card will generate an IIAC (Input, Invalid Access Identifier) error message. To use the common control card switching commands, use the SW-DX-EQPT and ALW-SWDX-EQPT commands.
3. This command is not used for SONET (OCN) cards. A command on a SONET card will generate an IIAC (Input, Invalid Access Identifier) error message. To use a SONET card switching command, use the OPR-PROTNSW and RLS-PROTNSW commands.

4. If this command is used on a card that is not in a protection group, the SNVS (Status, Not in Valid State) error message will be responsed.
5. If this command is sent to a missing working card, the SWFA (Status, Working Unit Failed) error message will be responsed.
6. If this command is used on a protection card, the IIAC (Input, Invalid Access Identifier) error message will be responsed.
7. If sending a mode parameter with a value other than NORM, FRCD, or null, the IDNV (Input, Data Not Valid) error message will be responsed.
8. If sending the SW-TOWKG command to a working card when the working card has raised INHSWWKG, the SWLD (Status, Working Unit Locked) error message will be responsed.
9. If sending the SW-TOWKG command to a working card when the protection card has raised INHSWWKG, the SPLD (Status, Protection Unit Locked) error message will be responsed.
10. If sending the SW-TOWKG command to an active working card, the SNVS (Status, Not in Valid State) error message will be responsed.

Section	SW-TOWKG-EQPT Description	
Category	Equipment	
Security	Maintenance	
Related Messages	ALW-SWDX-EQPT ALW-SWTOPROTN-EQPT ALW-SWTOWKG-EQPT DLT-EQPT ED-EQPT ENT-EQPT INH-SWDX-EQPT INH-SWTOPROTN-EQPT	INH-SWTOWKG-EQPT REPT ALM EQPT REPT EVT EQPT RTRV-ALM-EQPT RTRV-COND-EQPT RTRV-EQPT SW-DX-EQPT SW-TOPROTN-EQPT
Input Format	SW-TOWKG-EQPT:[<TID>]:<AID>:<CTAG>::[<MODE>],[<DIRN>]; where: • <AID> identifies the working unit that is to be released from protection. <AID> is from the "PRSLOT" section on page 4-10 • <MODE> will only support the NORM value. The null value will default to NORM. Sending the FRCD value will generate the same switching behavior as sending the NORM value. Valid values for <MODE> are shown in the "CMD_MODE" section on page 4-28 • <DIRN> is the direction of transmission. The command only supports one value of the <DIRN> parameter - BTH. This parameter defaults to BTH; valid values for <DIRN> are shown in the "DIRECTION" section on page 4-40	
Input Example	SW-TOWKG-EQPT:CISCO:SLOT-2:123::FRCD,BTH;	
Errors	Errors for each command are listed in Table 7-22 on page 7-23.	

TL1 Command Components

This chapter describes the components of TL1 commands and autonomous messages for the Cisco ONS 15454 and the Cisco ONS 15327, Release 3.4, including:

- TL1 default values
- Access identifiers (AIDs)
- Parameter types

4.1 TL1 Default Values

4.1.1 BLSR

Table 4-1 BLSR default values

BLSR	Default
RVRTV	Y
RVTM	5.0 minutes
SRVRTV	Y
SRVTM	5.0 minutes

4.1.2 Cross Connections

Table 4-2 Cross Connections default values

Cross Connections	Default
CCT	2WAY for both STSp and VT1 cross-connections

4.1.3 Environment Alarms and Controls

Table 4-3 Environment Alarms and Controls default values

Environment Alarms and Controls	Default
OPR-EXT-CONT	CONTTYPE is set as one provisioned in the respective AID, there is not default for it. It is only used as a filter if entered. DUR is always taken as CONT.
RTRV-ATTR-CONT	There is no default for CONTTYPE. It is only used as a filter if entered.
RTRV-ATTR-ENV	There is no default for both NTFCNCDE and ALMTYPE, which are only used as filters if entered.
RTRV-EXT-CONT	CONTTYPE defaults to the conttype associated with the AID.
SET-ATTR-ENV	NTFCNCDE defaults to NR. ALMTYPE defaults to NULL. ALMMSG defaults to \“Env Alarm Input 1\”.

4.1.4 Equipment

Table 4-4 Equipment default values

Equipment	Default
ALW-SWTOPROTN-EQPT, INH-SWTOPROTN-EQPT and ALW-SWTOWKG-EQPT, ING-SWTOWKG-EQPT	DIRN defaults to BTH
ENT-EQPT	PROTID, PRTYPE, RVRTV and RVTM defaults to NULL
SW-DX-EQPT	MODE defaults to NORM
SW-TOPROTN-EQPT and SW-TOWKG-EQPT	MODE defaults to NORM DIRN defaults to BTH

4.1.5 Performance

Table 4-5 Performance default values

Performance	Default
INIT-REG-<MOD2>	LOCN defaults to NEND (near end)
RTRV-PM-<MOD2>	LOCN defaults to NEND TMPER defaults to 15 minutes

Table 4-5 Performance default values (continued)

Performance	Default
RTRV-TH-<MOD2>	MONTYPE defaults to CVL for OCN, EC1, and DSN MONTYPE defaults to ESP for STSp MONTYPE defaults to UASV for VT1 MONTYPE defaults to AISSP for the DS1 layer of the DS3XM card LOCN defaults to NEND TMPER defaults to 15 minutes
SET-PMMODE-<STS_PATH>	PMSTATE defaults to ON
SET-TH-<MOD2>	LOCN defaults to NEND TMPER defaults to 15 minutes

4.1.6 Ports

Table 4-6 Ports default values

Ports	Default
OCN Line	DCC defaults to N TMGREF defaults to N SYNCMSG defaults to Y SENDDUS defaults to N PJMON defaults to 0 SFBER defaults to 1E-4 SDBER defaults to 1E-7 MODE defaults to SONET PST defaults to OOS
EC1 Line	PJMON defaults to 0 (zero) LBO defaults to 0-225 RXEQUAL is Y PST defaults to defaults to OOS
T1 Line (DS1/DS1N)	LINECDE defaults to AMI FMT defaults to D4 LBO defaults to 0-133 PST defaults to OOS
T3 Line (DS3, DS3E, DS3NE, DS3XM)	DS3/T3 LINECDE defaults to 0-225 DS3 PST defaults to OOS DS3E/DS3NE FMT defaults to UNFRAMED DS3E/DS3NE LINECDE defaults to B3ZS DS3E/DS3NE LBO defaults to 0-225 DS3 of DS3XM PST defaults to OOS

4.1.7 SONET Line Protection

Table 4-7 SONET Line Protection default values

SONET Line Protection	Default
EX-SW-<OCN>	ST (switch type) is optional and for BLSR protection switch only ST defaults to BLSR RING switch type
OCN Line Protection	PROTID defaults to the protecting port of the protection group (SLOT-#(OCN)PORT-#). It is a string that can have a maximum length of 32 characters RVRTV defaults to N (non-revertive mode) RVTM defaults to 5.0 minutes PSDIRN defaults to UNI
OPR-PROTNSW-<OCN>	ST (switch type) is optional and for BLSR protection switch only ST defaults to BLSR RING switch type

4.1.8 STS and VT Paths

Table 4-8 STS and VT Paths default values

STS and VT Paths	Default
STS Path	SFBER, SDBER, RVRTV, and RVTM apply to UPSR STS paths only SFBER defaults to 1E-4 SDBER defaults to 1E-6 RVRTV defaults to N RVTM defaults to empty because RVRTV is N when UPSR STSp is created J1 is implemented on DS1, DS1N, DS3, DS3E, DS3NE, DS3XM, EC1, OC3, OC48AS AND OC192 cards TRCMODE defaults to the OFF mode EXPTRC defaults to a copy of the provisioned string or NULL when TRCMODE is OFF mode EXPTRC defaults to the user entered string when the TRCMODE is MANUAL mode EXPTRC defaults to a copy of the acquired received string or NULL if the string has not been acquired when the TRCMODE is AUTO mode INCTRC defaults to the incoming string (NULL) when the TRCMODE is under OFF mode INCTRC defaults to a copy of the received string or NULL if the string has not been received when the TRCMODE is under MANUAL or AUTO mode
VT Path	RVRTV, RVTM apply to UPSR VT paths only RVRTV defaults to N RVTM defaults to empty because RVRTV is N when UPSR VT1 is created

4.1.9 Synchronization

Table 4-9 Synchronization default values

Synchronization	Default
BITS	LINECDE defaults to B8ZS FMT defaults to ESF SYNCMSG defaults to Y PST defaults to OOS
NE-SYNCN	TMMDE defaults to EXTERNAL SSMGEN defaults to GEN1 QRES defaults to SAME-AS-DUS RVRTV defaults to Y RVTM defaults to 5.0 minutes
SYNCN	PRI/SEC QREF defaults to PRS PRI STATUS defaults to ACT SEC STATUS defaults to STBY THIRD QREF defaults to ST3 STATUS defaults to STBY

4.1.10 Testing

Table 4-10 Testing default values

Testing	Default
OPR-LPBK	LPBKTYPE defaults to FACILITY
RLS-LPBK	LPBKTYPE defaults to current existing loopback type

4.2 Access Identifiers

The AID code directs an input command to its intended physical or data entity inside the NE. Equipment modules and facilities are typical examples of entities addressed by the access code.

4.2.1 ALL

Table 4-11 ALL for ONS 15454 and ONS 15327

AID	ONS 15454	ONS 15327
CrossConnect ID	FACILITY STS	—
IPCC	ALL CC-{1–16}	—

Table 4-11 ALL for ONS 15454 and ONS 15327 (continued)

AID	ONS 15454	ONS 15327
NBR	AAA.BBB.CC.DD ALL NBR-{1–16}	—
PRSLOT	NULL SLOT-1 SLOT-3 SLOT-5 SLOT-13 SLOT-15 SLOT-17	—
UCP	IPCCAID NBRAID STSAID	—
BITS	BITS-ALL BITS-{1,2}	BITS-ALL BITS-{1,2}
BLSR	ALL BLSR-{0-9999}	ALL BLSR-ALL BLSR-{0-9999}
COM	Common	Common
DS1	DS1-{1-6,12-17}-{1-6}-{1-28}	—
ENV	ENV-IN-ALL ENV-IN-{1-20} ENV-IN-{1-32} ENV-IN-{1-4} ENV-IN-{1-6} ENV-OUT-ALL ENV-OUT-{1-16} ENV-OUT-{1-2} ENV-OUT-{1-4}	ENV-{IN,OUT}-{1-6} 6 Input, 2 Output
EQPT	AIP ALL BP FAN SLOT-ALL SLOT-{1-17} SLOT-{1-6,12-17}	SLOT-ALL SLOT-{1-8}
FACILITY	FAC-{1-6,12-17}-ALL FAC-{1-6,12-17}-{1-12} FAC-{1-6,12-17}-{1-14} FAC-{1-6,12-17}-{1-4} FAC-{1-6,12-17}-{1-6} FAC-{1-6,12-17}-{1-8} FAC-{1-6,12-17}-{1} FAC-{5,6,12,13}-{1}	FAC-{1-6}-ALL FAC-{1-4}-{1} OC12, OC48 FAC-{5-6}-{1-3} XTC-DS3 FAC-{5-6}-{1-28} XTC-DS1 FAC-{1-4}-{2} G1000-2 FAC-{1-4}-{1-4} OC3
RFILE	RFILE-DB RFILE-PKG	—

Table 4-11 ALL for ONS 15454 and ONS 15327 (continued)

AID	ONS 15454	ONS 15327
STS	FAC-{1-6,12-17}-{1-4} STS-{1-6,12-17}-ALL STS-{1-6,12-17}-{1,4,10,13,16,19,25,28,37,40} STS-{1-6,12-17}-{1,4,13,16,25,28,37,40} STS-{1-6,12-17}-{1,13,25,37} STS-{1-6,12-17}-{1,25} STS-{1-6,12-17}-{1,4,7,10-46} STS-{1-6,12-17}-{1,4,7,10} STS-{1-6,12-17}-{1,7,13,19,-,43} STS-{1-6,12-17}-{1,4,7} STS-{1-6,12-17}-{1-12} STS-{1-6,12-17}-{1-48} STS-{1-6,12-17}-{1-6} STS-{1-6,12-17}-{1} STS-{5,6,12,13}-{1,13,25,37-81} STS-{5,6,12,13}-{1,13,25,37} STS-{5,6,12,13}-{1,4,7,10-190} STS-{5,6,12,13}-{1,4,7,10-46} STS-{5,6,12,13}-{1,49,97,145} STS-{5,6,12,13}-{1,4,7,13,19-187} STS-{5,6,12,13}-{1,4,7,13,19-43} STS-{5,6,12,13}-{1-192} STS-{5,6,12,13}-{1-48} STS-{5,6,12,13}-{1}	FAC-{1-6,12-17}-{1-4} STS-{1-6}-ALL STS-{5-6}-{1} STS1 for XTC-DS1 STS-{5-6}-{2-4} STS1 for XTC-DS3 STS-{1-4}-{1} STS48C for OC48 STS-{1-4}-{1,13,25,37} STS12C for OC48 STS-{1-4}-{1,7,13,16,19,...,43} STS6C for OC48 STS-{1-4}-{1,4,10,13,16,19,25,28,37,40} STS6C for OC48 STS-{1-4}-{1,7} STS6C for OC12 STS-{1-4}-{1,4,7,10,...,46} STS3C for OC48 STS-{1-4}-{1,25} STS24C for OC48 STS-{1-4}-{1,4,7} STS6C for OC12 STS-{1-4}-{1,4} STS9C for OC12 STS-{1-4}-{1,4,7,10,...,46} STS3C for OC48 STS-{1-4}-{1,4,7,10} STS3C for OC3 and OC12 STS-{1-4}-{1,4,7,10} STS3C for OC3 and OC12 STS-{1-4}-{1-12} STS1 for OC3, OC12 STS-{1-4}-{1-48} STS1 for OC48
SYN	SYNC-NE	SYNC-NE
SYN_SRC	BITS-1 BITS-2 FAC-{1-6,12-17}-{1-4} FAC-{1-6,12-17}-{1} FAC-{5,6,12,13}-{1} INTERNAL NONE SYNC-NE	FAC-{1-4}-{1} OC12, OC48 FAC-{1-4}-{1-4} OC3 INTERNAL SYNC-NE SYNC-{BITS1,BITS2}
SYNC_REF	SYNC-ALL SYNC-NE SYNC-{BITS1,BITS2}	SYNC-ALL SYNC-NE SYNC-{BITS1,BITS2}
SYNCSW	INT PRI SEC THIRD	INT PRI SEC THIRD
TACC	{0, 1-999}	{0, 1-999}

Table 4-11 ALL for ONS 15454 and ONS 15327 (continued)

AID	ONS 15454	ONS 15327
UDC	UDC-{F,DCC}-{A,B}	—
VT1_5	VT1-{1-6,12-17}-1-{1-7}-{1-2} VT1-{1-6,12-17}-{1-12}-{1-7}-{1-4} VT1-{1-6,12-17}-{1-24}-{1-7}-{1-4} VT1-{1-6,12-17}-{1-48}-{1-7}-{1-4} VT1-{1-6,12-17}-{1-6}-{1-7}-{1-4} VT1-{5,6,12,13}-{1-192}-{1-7}-{1-4} VT1-{5,6,12,13}-{1-48}-{1-7}-{1-4}	ALL VT1-{5-6}-{1-2}-{1-7}-{1-4} XTC-DS1 VT1-{5-6}-{1-3}-{1-7}-{1-4} XTC-DS3 VT1-{1-4}-{1-12}-{1-7}-{1-4} OC3, OC12 VT1-{1-4}-{1-48}-{1-7}-{1-4} OC48

4.2.2 CrossConnectID

(ONS 15454 only)

Table 4-12 CrossConnectID for ONS 15454

AID	ONS 15454 Pattern
FACILITY	FAC-{1-6,12-17}-ALL FAC-{1-6,12-17}-{1-12} FAC-{1-6,12-17}-{1-14} FAC-{1-6,12-17}-{1-4} FAC-{1-6,12-17}-{1-6} FAC-{1-6,12-17}-{1} FAC-{5,6,12,13}-{1}

Table 4-12 CrossConnectID for ONS 15454 (continued)

AID	ONS 15454 Pattern
STS	FAC-{1-6,12-17}-{1-4} STS-{1-6,12-17}-ALL STS-{1-6,12-17}-{1,10,-,37} STS-{1-6,12-17}-{1,13,25,37} STS-{1-6,12-17}-{1,25} STS-{1-6,12-17}-{1,4,7,-,22} STS-{1-6,12-17}-{1,4,7,10-46} STS-{1-6,12-17}-{1,4,7,10} STS-{1-6,12-17}-{1,7,13,19,-,43} STS-{1-6,12-17}-{1,7,13,19-43} STS-{1-6,12-17}-{1,7} STS-{1-6,12-17}-{1-12} STS-{1-6,12-17}-{1-48} STS-{1-6,12-17}-{1-6} STS-{1-6,12-17}-{1} STS-{5,6,12,13}-{1,13,25,37-81} STS-{5,6,12,13}-{1,13,25,37} STS-{5,6,12,13}-{1,4,7,10-190} STS-{5,6,12,13}-{1,4,7,10-46} STS-{5,6,12,13}-{1,49,97,145} STS-{5,6,12,13}-{1,7,13,19-187} STS-{5,6,12,13}-{1,7,13,19-43} STS-{5,6,12,13}-{1-192} STS-{5,6,12,13}-{1-48} STS-{5,6,12,13}-{1}

4.2.3 IPCC

(ONS 15454 only)

IP Control Channel AIDs are used to access the IPCC of the UCP.

Table 4-13 IPCC for ONS 15454

Pattern	Description
ALL	Indicates the whole IPCCs of the UCP. The “ALL” AID is used for UCP retrieving command input only. A NULL AID in the IPCCs retrieval command defaults to the ALL AID, which returns all the IPCCs of the node
CC-{1-16}	Indicates individual IPCC of the UCP

4.2.4 NBR

(ONS 15454 only)

UCP neighbor AIDs are used to access the neighbors of the UCP.

Table 4-14 NBR for ONS 15454

Pattern	Description
AAA.BBB.CC.DD	Indicates the UCP neighbor or IP address. It is a character string.
ALL	Indicates the whole neighbors of the UCP. It is used for UCP retrieving command input only.
NBR-{1-16}	Indicates an individual neighbor index (1-16) of the UCP. It is optional in the ENT-UCP-NBR command which returns a neighbor index.

4.2.5 PRSLOT

(ONS 15454 only)

Valid protection slots for the electrical cards

Table 4-15 PRSLOT for ONS 15454

Pattern	Description
NULL	Indicates there is no protection group. Used when trying to delete a protection group.
SLOT-1	The No.1 slot of an NE
SLOT-3	The No.3 slot of an NE
SLOT-5	The No.5 slot of an NE
SLOT-13	The No.13 slot of an NE
SLOT-15	The No.15 slot of an NE
SLOT-17	The No.17 slot of an NE

4.2.6 UCP

(ONS 15454 only)

UCP alarm AID

Table 4-16 UCP for ONS 15454

Pattern	Description
IPCCAID	Indicates UCP Control Channel AIDs, in the type of "CC-CCID"
NBRAID	Indicates UCP Neighbor AIDs, in the type of "CC-NEIGHBORID"
STSAID	Indicates UCP STS Circuit AIDs, in the type of "STS-SLOT#-STS#"

4.2.7 BITS

4.2.7.1 BITS for ONS 15454

AID for BITS

Table 4-17 BITS for ONS 15454

Pattern	Description
BITS-ALL	BITS AIDS of both BITS-1 and BITS-2 in the RTRV-BITS command
BITS-{1,2}	Individual BITS AID

4.2.7.2 BITS for ONS 15327

AID for BITS

Table 4-18 BITS for ONS 15327

Pattern	Description
BITS-ALL	BITS AIDS of both BITS-1 and BITS-2 in the RTRV-BITS command
BITS-{1,2}	Individual BITS AID

4.2.8 BLSR

4.2.8.1 BLSR for ONS 15454

BLSR AIDs are used to access the specific BLSR of the NE.

Table 4-19 BLSR for ONS 15454

Pattern	Description
ALL	The whole BLSR of the NE
BLSR-ALL	The whole BLSR of the NE
BLSR-{0-9999}	Individual BLSR of the NE

4.2.8.2 BLSR for ONS 15327

BLSR AIDs are used to access the specific BLSR of the NE.

Table 4-20 BLSR for ONS 15327

Pattern	Description
ALL	The whole BLSR of the NE
BLSR-ALL	The whole BLSR of the NE
BLSR-{0-9999}	Individual BLSR of the NE

4.2.9 COM

4.2.9.1 COM for ONS 15454

Common

Table 4-21 COM for ONS 15454

Pattern	Description
COM	Common

4.2.9.2 COM for ONS 15327

Common

Table 4-22 COM for ONS 15327

Pattern	Description
COM	Common

4.2.10 DS1

(ONS 15454 only)

Used to access the DS-1 frame layer of the DS3XM.

Table 4-23 DS1 for ONS 15454

Pattern	Description
DS1-{1-6,12-17}-{1-6}-{1-28}	DS1 AID for the DX3XM card

4.2.11 ENV

4.2.11.1 ENV for ONS 15454

The environmental AID for the AIC/AICI card

ENV-IN-{1-4} - Environmental AID for AIC Card on the 15454. “IN” is used for Environmental Alarms.

ENV-IN-{1-20} - Environmental AID for AICI Card on the 15454. “IN” is used for Environmental Alarms.

ENV-IN-{1-32} - Environmental AID for AICI Card Extensions on the 15454. “IN” is used for Environmental Alarms.

ENV-IN-ALL - All Environmental Alarm Input contacts

ENV-OUT-{1-4} - Environmental AID for AIC/AICI Card on the 15454. “OUT” is used for Environmental Controls.

ENV-OUT-{1-16} - Environmental AID for AICI Card Extensions on the 15454. “OUT” is used for Environmental Controls.

ENV-OUT-ALL - All Environmental Control Output contacts

Table 4-24 ENV for ONS 15454

Pattern	Description
ENV-IN-ALL	ENV-IN-{1-4} - Environmental aid for AIC/AICI Cards on the 15454. “IN” is used for Environmental Alarms.
ENV-IN-{1-20}	Environmental aid for AICI Card on the 15454. “IN” is used for Environmental Alarms.
ENV-IN-{1-32}	Environmental aid for AIC/AICI Cards on the 15454. “IN” is used for Environmental Alarms.
ENV-IN-{1-4}	Environmental aid for AIC Card on the 15454. “IN” is used for Environmental Alarms.
ENV-OUT-ALL	Environmental aid for AIC/AICI Cards on the 15454. “OUT” is used for Environmental Controls.

Table 4-24 ENV for ONS 15454

ENV-OUT-{1-16}	Environmental aid for AICI Extensions on the 15454. “OUT” is used for Environmental Controls.
ENV-OUT-{1-4}	Environmental aid for AIC/AICI Cards on the 15454. “OUT” is used for Environmental Controls.

4.2.11.2 ENV for ONS 15327

The environmental components within the XTC card.

ENV-IN-{1-6} - Environmental aid on the 15327. “IN” is used for Environmental Alarms.

ENV-OUT-{1-2} - Environmental aid on the 15327. “OUT” is used for Environmental Controls.

Table 4-25 ENV for ONS 15327

Pattern	Description
ENV-{IN,OUT}-{1-6}	Environmental alarm AID. “IN” is used for environmental AID, “OUT” is used for control AID.
ENV-IN-{1-6}	Environmental AID for the 15327. “IN” is used for Environmental Alarms.
ENV-OUT-{1-2}	Environmental AID for 15327. “OUT” is used for Environmental Controls.

4.2.12 EQPT

4.2.12.1 EQPT for ONS 15454

Equipment AIDs are used to access specific cards. The OC48/OC192 cards can only use the high speed slots (Slot 5, Slot 6, Slot 12, Slot 13).

Table 4-26 EQPT for ONS 15454

Pattern	Description
AIP	The AID for the AIP. It is used for RTRV-INV output only.
ALL	The ALL AID is only used for the RTRV-INV input command. It reports all of the inventory information of the whole NE: AIP, BP, FAN and SLOT-ALL.
BP	The AID for the backplane. It is used for RTRV-INV output only.
FAN	The AID for the fan tray. It is used for RTRV-INV output only.
SLOT-ALL	All of the NE equipment AIDs
SLOT-{1-17}	Individual equipment AID of an NE
SLOT-{1-6,12-17}	Individual equipment AID of the I/O card units or slots

4.2.12.2 EQPT for ONS 15327

Equipment AIDs are used to access specific cards. The I/O cards can only use the I/O slots (Slots 1–4). Slots 5a nd 6 are reserved for the XTC cards and Slots 7 and 8 are reserved for MIC cards.

Table 4-27 EQPT for ONS 15327

Pattern	Description
SLOT-ALL	All of the NE equipment AIDs
SLOT-{1-8}	Individual equipment AID of an NE

4.2.13 FACILITY

4.2.13.1 FACILITY for ONS 15454

Facilities AIDs are used to access specific ports.

Table 4-28 FACILITY for ONS 15454

Pattern	Description
FAC-{1-6,12-17}-ALL	All the facilities of an I/O unit or slot
FAC-{1-6,12-17}-{1-12}	Facilities AID for the EC1 and DS3 cards
FAC-{1-6,12-17}-{1-14}	Facilities for the DS1 card
FAC-{1-6,12-17}-{1-4}	Facilities for the four-port OC3 card, four-port OC12 card, and G1000-4
FAC-{1-6,12-17}-{1-6}	Facilities for the DS3XM card
FAC-{1-6,12-17}-{1}	Facility AID for the one-port OC12, and OC48AS cards
FAC-{5,6,12,13}-{1}	Facility AID for the OC48/OC192 card. The OC48/OC192 cards can only use the high speed slots (Slot 5, Slot 6, Slot 12, Slot 13).

4.2.13.2 FACILITY for ONS 15327

Facilities AIDs are used to access specific ports.

Table 4-29 FACILITY for ONS 15327

Pattern	Description
FAC-{1-6}-ALL	All the facilities of an I/O unit or slot
FAC-{5-6}-{1-28}	Facilities AID for the DS1 on the XTC card
FAC-{5-6}-{1-3}	Facilities AID for the DS3 on the XTC card
FAC-{1-4}-{1}	Facilities AID for the OC12 and OC48 cards
FAC-{1-4}-{2}	Facilities aid for the G1000-2 card
FAC-{1-4}-{1-4}	Facilities AID for the OC3 card

4.2.14 RFILE

4.2.14.1 RFILE for ONS 15454

(ONS 15454 only)

File transfer type

Table 4-30 RFILE for ONS 15454

Pattern	Description
RFILE-DB	Transferring the system database
RFILE-PKG	Transferring a software package

4.2.15 STS

4.2.15.1 STS for ONS 15454

SONET frame-level AID set

Table 4-31 STS for ONS 15454

Pattern	Description
FAC-{1-6,12-17}-{1-4}	Dynamically allocated STSs of all widths for the G1000-4 card
STS-{1-6,12-17}-ALL	All the STSs of an STS bandwidth on an I/O unit
STS-{1-6,12-17}-{1,4,10,13,16,19,25,28,37,40}	STS9C aid for OC48AScard
STS-{1-6,12-17}-{1,4,13,16,25,28,37,40}	STS9C aid for 4-Port OC12 card
STS-{1-6,12-17}-{1,13,25,37}	STS12C AID for an OC48AS and four-port OC12 card
STS-{1-6,12-17}-{1,25}	STS24C AID for an OC48AS card
STS-{1-6,12-17}-{1,4,7,10-46}	STS3C AID for an OC48AS and four-port OC12 card
STS-{1-6,12-17}-{1,4,7,10}	STS3C AID for a four-port OC3 and one-port OC12 card
STS-{1-6,12-17}-{1,7,13,19-43}	STS6C AID for an OC48AS and four-port OC12 card
STS-{1-6,12-17}-{1-12}	STS1 AID for a one-port OC12, EC1, DS3 and four-port OC3 card
STS-{1-6,12-17}-{1,4,7}	STS6C AID for one-port OC12 card
STS-{1-6,12-17}-{1-48}	STS1 AID for an OC48AS and four-port OC12 card
STS-{1-6,12-17}-{1-6}	STS1 AID for a DS3XM card
STS-{1-6,12-17}-{1}	STS1 AID for a DS1card STS12C AID for a one-port OC12 card STS48C AID for an OC48AS card
STS-{5,6,12,13}-{1,13,25,37-181}	STS12C AID for an OC192 card

Table 4-31 STS for ONS 15454 (continued)

Pattern	Description
FAC-{1-6,12-17}-{1-4}	Dynamically allocated STSs of all widths for the G1000-4 card
STS-{5,6,12,13}-{1,13,25,37}	STS12C AID for an OC48 card
STS-{5,6,12,13}-{1,4,7,10-190}	STS3C AID for an OC192 card
STS-{5,6,12,13}-{1,4,7,10-46}	STS3C AID for an OC48 card
STS-{5,6,12,13}-{1,49,97,145}	STS48C AID for an OC192 card
STS-{5,6,12,13}-{1,7,13,19-187}	STS6C AID for an OC192 card
STS-{5,6,12,13}-{1,7,13,19-43}	STS6C AID for an OC48 card
STS-{5,6,12,13}-{1-192}	STS1 AID for an OC192 card
STS-{5,6,12,13}-{1-48}	STS1 AID for an OC48 card
STS-{5,6,12,13}-{1}	STS48C AID for an OC48 card STS192C AID for the OC192 card

4.2.15.2 STS for ONS 15327

SONET frame-level AID set

Table 4-32 STS for ONS 15327

Pattern	Description
FAC-{1-4}-{1-2}	Dynamically allocated STSs of all widths for the G1000-2 card
STS-{1-6}-ALL	All the STSs of an STS bandwidth on an I/O unit
STS-{5-6}-{1}	STS1 AID for the DS1 in the XTC card
STS-{5-6}-{2-4}	STS1 AID for the DS3 in the XTC card
STS-{1-4}-{1}	STS48C AID for the OC48 card STS12C for the OC12 card
STS-{1-4}-{1,13,25,37}	STS12C AID for the OC48 card
STS-{1-4}-{1,7,13,19,...43}	STS6C AID for the OC48 card
STS-{1-4}-{1,4,10,13,16,19,25, 28,37,40}	STS9C AID for the OC48 card
STS-{1-4}-{1,25}	STS24C AID for the OC48 card
STS-{1-4}-{1,4,7}	STS6C AID for the OC12 card
STS-{1-4}-{1,4}	STS9C AID for the OC12 card
STS-{1-4}-{1,4,7,10,...,46}	STS3C AID for the OC48 card
STS-{1-4}-{1,4,7,10}	STS3C AID for the OC3 and OC12 card
STS-{1-4}-{1-12}	STS1 AID for the OC3 and OC12 card
STS-{1-4}-{1-48}	STS1 AID for the OC48 card

4.2.16 SYN

4.2.16.1 SYN for ONS 15454

Synchronization AIDs

Table 4-33 SYN for ONS 15454

Pattern	Description
SYNC-NE	NE sync AID

4.2.16.2 SYN for ONS 15327

Synchronization AIDs

Table 4-34 SYN for ONS 15327

Pattern	Description
SYNC-NE	NE sync AID

4.2.17 SYN_SRC

4.2.17.1 SYN_SRC for ONS 15454

Synchronization source

Table 4-35 SYN_SRC for ONS 15454

Pattern	Description
BITS-1	Sync source is BITS-1
BITS-2	Sync source is BITS-2
FAC-{1-6,12-17}-{1-4}	Sync source is the optical card (four-port OC3 and four-port OC12) facility
FAC-{1-6,12-17}-{1}	Sync source is the optical card (one-port OC12 and OC48AS) facility
FAC-{5,6,12,13}-{1}	Sync source is the optical card (OC48,OC192) facility
INTERNAL	Set the SYN_SRC to be the system default value. The “Internal” value of the SYN_SRC is only applied for the SYNC-NE AID on the ED-SYNCN command.
NONE	Set the SYNC_SRC value to the default value for BITS-OUT. The “NONE” value of SYNC_SRC only applies to the BITS-1 and BITS-2 AID of the ED-SYNCN command.
SYNC-NE	SYNC-NE source. It is only used for BITS-OUT in line timing mode.

4.2.17.2 SYN_SRC for ONS 15327

Synchronization source

Table 4-36 SYN_SRC for ONS 15327

Pattern	Description
FAC-{1-4}-{1-4}	Sync source is the optical card (OC3) facility
FAC-{1-4}-{1}	Sync source is the optical card (OC12, OC48) facility
INTERNAL	Set the SYN_SRC to be the system default value. The “Internal” value of the SYN_SRC is only applied for the SYNC-NE AID on the ED-SYNCN command.
SYNC-NE	SYNC-NE source. It is only used in the alarm report or alarm retrieve commands.
{BITS-1,BITS-2}	BITS-1 or BITS-2 of the synchronization source

4.2.18 SYNC_REF

4.2.18.1 SYNC_REF for ONS 15454

Synchronization AIDs

Table 4-37 SYNC_REF for ONS 15454

Pattern	Description
ALL	Equivalent to a combination of SYNC-ALL, BITS-1 and BITS-2. This AID is valid only for the commands RTRV-ALM-SYNCN and RTRV-COND-SYNCN
SYNC-ALL	NE, BITS1 and BITS2 sync AIDs used for the RTRV-SYNCN command only
SYNC-NE	NE sync AID
SYNC-{BITS1,BITS2}	BITS1 and BITS2 sync AIDs

4.2.18.2 SYNC_REF for ONS 15327

Synchronization AIDs

Table 4-38 SYNC_REF for ONS 15327

Pattern	Description
SYNC-ALL	NE, BITS1 and BITS2 sync AIDs used for the RTRV-SYNCN command only
SYNC-NE	NE sync AID
SYNC-{BITS1,BITS2}	BITS1 and BITS2 sync AIDs

4.2.19 SYNCSW

4.2.19.1 SYNCSW for ONS 15454

New synchronization reference that will be used

Table 4-39 SYNCSW for ONS 15454

Pattern	Description
INT	Internal clock. The “INT” value of the syncsw is only applied for the SYNC-NE AID on the OPR-SYNC-SW command.
PRI	Primary timing reference
SEC	Secondary timing reference
THIRD	Third timing reference

4.2.19.2 SYNCSW for ONS 15327

New synchronization reference that will be used

Table 4-40 SYNCSW for ONS 15327

Pattern	Description
INT	Internal clock. The “INT” value of the syncsw is only applied for the SYNC-NE AID on the OPR-SYNC-SW command.
PRI	Primary timing reference
SEC	Secondary timing reference
THIRD	Third timing reference

4.2.20 TACC

4.2.20.1 TACC for ONS 15454

Test access AID which indicates the TAP number

Table 4-41 TACC for ONS 15454

Pattern	Description
{0, 1-999}	Indicates individual TAP number of the NE. The zero (0) TAP number is used in the [<TACC>] field of the ED-rr test access related commands. When [<TACC>] is zero (0), the TAP is deleted.

4.2.20.2 TACC for ONS 15327

Test access AID which indicates the TAP number

Table 4-42 TACC for ONS 15327

Pattern	Description
{0, 1-999}	Indicates individual TAP number of the NE. The zero (0) TAP number is used in the [<TACC>] field of the ED-rr test access related commands. When [<TACC>] is zero (0), the TAP is deleted.

4.2.21 UDC

4.2.21.1 UDC for ONS 15454

(ONS 15454 only)

UDC AIDs for F-UDC and DCC-UDC channels on the AICI card

Table 4-43 UDC for ONS 15454

Pattern	Description
UDC-{F,DCC}-{A,B}	F-UDC and DCC-UDC AIDs for A and B channels

4.2.22 VT1_5

4.2.22.1 VT1_5 for ONS 15454

Virtual termination AIDs

Table 4-44 VT1_5 for ONS 15454

Pattern	Description
VT1-{1-6,12-17}-1-{1-7}-{1-2}	DS1 card VT AID set
VT1-{1-6,12-17}-{1-12}-{1-7}-{1-4}	EC1, one-port OC12, four-port OC3 card VT AID set
VT1-{1-6,12-17}-{1-48}-{1-7}-{1-4}	OC48AS and four-port OC12 card VT AID set
VT1-{1-6,12-17}-{1-6}-{1-7}-{1-4}	DS3XM card VT AID set
VT1-{5-6,12-13}-{1-192}-{1-7}-{1-4}	OC192 card VT AID set
VT1-{5,6,12,13}-{1-48}-{1-7}-{1-4}	OC48 card VT AID set

4.2.22.2 VT1_5 for ONS 15327

Virtual termination AIDs

Table 4-45 VT1_5 for ONS 15327

Pattern	Description
ALL	All the VT cross-connections of the NE. This <ALL> AID is only used for the RTRV-CRS-VT1 command.
VT1-{5-6}-{1-2}-{1-7}-{1-4}	DS1 on XTC card VT AID set
VT1-{5-6}-{1-3}-{1-7}-{1-4}	DS3 on XTC card VT AID Set
VT1-{1-4}-{1-12}-{1-7}-{1-4}	OC3 and OC12 card VT AID set
VT1-{1-4}-{1-48}-{1-7}-{1-4	OC48 card VT AID set

4.3 Parameter Types

This section provides a description of all message parameter types defined for the TL1 messages used in the ONS 15454 and ONS 15327. The TL1 message descriptions frequently refer to this section.

4.3.1 ATAG Description

The ATAG is used for message sequencing. There are three streams of autonomous messages and each stream corresponds to a sequence. The sequence numbers increment by one for each autonomous message within that stream. The format of ATAG differs for each stream. The three streams are:

1. Alarmed events:

   These include REPT ALM and REPT EVT messages as well as the REPT SW autonomous message.

   ATAG Format: x.y
   where
   x – sequence number of this alarmed event. This is an integer in the range of 0–9999.
   y – sequence number of the previous alarmed event which is related to this alarmed event. This is an integer in the range of 0-9999.

   If there is no such previous related event, then y will be the same as x. For example, the first time an alarm is raised you will receive the autonomous message:

   TID-000 1998-06-20 14:30:00
   * 1346.1346 REPT ALM T1
   “FAC-1-1:MN,LOS,NSA,,,,:\“Loss Of Signal\”,DS1-14”
   ;

   When this alarmed event/condition is cleared, you will receive the autonomous message:

   TID-000 1998-06-20 14:31:00
   A 1349.1346 REPT ALM T1
   “FAC-1-1:CL,LOS,NSA,,,,:\“Loss Of Signal\”,DS1-14”
   ;

Note The autonomous message CANC also has an ATAG in this format even though it is not an alarmed event.

2. Database change messages:

   The REPT DBCHG message falls into this category.

   ATAG Format: x
   where:
   x – sequence number of the database change update message. This is an integer in the range of 0–9999. For example:

   TID-000 1998-06-20 14:30:00
   A 96 REPT DBCHG
   "TIME=18-01-05,DATE=1970-01-01,SOURCE=2,USERID=CISCO15,
   DBCHGSEQ=96:ENT-EQPT:SLOT-3"
   ;

Note The ATAG is the same as the DBCHGSEQ field in the REPT DBCHG output.

3. PM Reports:

   The REPT PM messages fall into this category.

   ATAG format: x
   where:
   x – sequence number of the PM report. This is an integer in the range of 0–9999. For example:

   TID-000 1998-06-20 14:30:00
   A5 REPT PM DS1
   "FAC-3-1:CVL,10,PRTL,NEND,BTH,15-MIN,05-25,14-46"
   ;

   This sequence number is global across all existing PM schedules.

4.3.2 CTAG Description

The correlation tag (CTAG) is included in each command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.

Note The valid values for a CTAG are strings of up to 6 characters comprised of identifiers (alphanumeric, beginning with a letter) or decimal numerals (a string of decimal digits with an optional non-trailing ".").

4.3.3 TID Description

The TID is the name of the NE where the command is addressed. TID is the Telcordia name for the system.

4.3.4 Parameter Notes

1. If a parameter is set to a value that is inconsistent with something already in the database, and that value is not changed to a consistent value then the command will be denied.
2. If a parameter is set to a value that is consistent with what is already in the database, but another parameter in the same command is incompatible, then the command will be denied.
3. The correct way to issue a command where parameters may be in conflict is to:
   a. First issue that command and change all relevant parameters to compatible values,
   b. Then issue the command again to change the target values.

   For example, OC-N is syncmsg=y, to change SDH to y, ED-OCN needs to be called to set syncmsg=N, then called again to set SDH=y.
4. The attribute defaults have also been presented under RTRV commands, and they can be retrieved only if the RTRV commands follow the card/entity original provision.
5. The default for an optional field of an ED command is either the provisioned default value or the last provisioned value in the previous ED command.

4.3.5 ALL_MONTYPE

Monitoring type list

Table 4-46 ALL_MONTYPE Values

ALL_MONTYPE Values	Description
AISSP	Alarm Indication Signal Seconds - Path
CVCPP	Coding Violations - CP-Bit Path
CVL	Coding Violations - Line
CVP	Coding Violations - Path
CVS	Coding Violations - Section
CVV	Coding Violations - Section
ESCPP	Errored Seconds - CP- Bit Path
ESL	Errored Seconds - Line
ESP	Errored Seconds - Path
ESS	Errored Seconds - Section
ESV	Errored Seconds - VT Path
FCL	Failure Count - Line
FCP	Failure Count - Path
LOSSL	Loss of Signal Seconds - Line
NPJC-PDET	PPJC-PDET:Negative Pointer Justification
NPJC-PGEN	PPJC-PGEN:Negative Pointer Justification
PPJC-PDET	PPJC-PDET:Positive Pointer Justification

Table 4-46 ALL_MONTYPE Values (continued)

ALL_MONTYPE Values	Description
PPJC-PGEN	PPJC-PGEN:Positive Pointer Justification
PSC	Protection Switching Count
PSC-R	Protection Switching Count - Ring
PSC-S	Protection Switching Count - Span
PSC-W	Protection Switching Count - Working
PSD	Protection Switching Duration
PSD-R	Protection Switching Duration - Ring
PSD-S	Protection Switching Duration - Span
PSD-W	Protection Switching Duration - Working
SASCPP	Severely Errored Framing/AIS Second - CP-Bit Path
SASP	Severely Errored Framing/AIS Seconds Path
SEFS	Severely Errored Framing Seconds
SESCPP	Severely Errored Second - CP-Bit Path
SESL	Severely Errored Second - Line
SESP	Severely Errored Second - Path
SESS	Severely Errored Second - Section
SESV	Severely Errored Second - VT Path
UASCPP	Unavailable Second - CP-Bit Path
UASL	Unavailable Second - Line
UASP	Unavailable Second - Path
UASV	Unavailable Second - VT Path

4.3.6 ALL_THR

Threshold list

Table 4-47 ALL_THR Value

ALL_THR Values	Description
T-AISSP	Alarm Indication Signal Seconds - Path
T-BBEHP	Background Block Errors - High Order Path -VC4/VC4-nc
T-BBEMS	Background Block Errors- Multiplex Section
T-BBERS	Background Block Errors - Regenerator Section
T-CVCPP	Coding Violations - CP-Bit Path
T-CVL	Coding Violations - Line
T-CVP	Coding Violations - Path
T-CVS	Coding Violations - Section

Table 4-47 ALL_THR Value (continued)

ALL_THR Values	Description
T-CVV	Coding Violations - VT Path
T-EBHP	EB - High Order Path
T-EBLP	EB Low Order Path VC3/VC12
T-EBMS	EB Multiplex Section
T-EBRS	EB Regenerator Section
T-ESCPP	Errored Seconds - CP-Bit Path
T-ESHP	ED High Order Path VC4/VC4-nc
T-ESL	Errored Seconds - Line
T-ESLP	ES Low Order PAth VC3/VC12
T-ESMS	ES Multiplex Section
T-ESP	Errored Seconds - Path
T-ESRS	ES Regenerator Section
T-ESS	Errored Seconds - Section
T-ESV	Errored Seconds - VT Path
T-FCHP	FC High Order Path
T-FCL	Failure Count - Line
T-FCP	Failure Count - Path
T-FCLP	FC Low Order Path
T-FCMS	FC Multiplex Section
T-FCP	Failure Count - Line
T-LOSSL	Loss of Signal Seconds - Line
T-PJNEG	PPJC-PDET:Negative Pointer Justification
T-PJNEG-GEN	PPJC-PGEN:Negative Pointer Justification
T-PJPOS	PPJC-PDET:Positive Pointer Justification
T-PJPOS-GEN	PPJC-PGEN:Positive Pointer Justification
T-PSC	Protection Switching Count
T-PSD	Protection Switching Duration
T-SASCPP	Severely Errored Framing/AIS Second - CP-Bit Path
T-SASP	Severely Errored Framing/AIS Seconds
T-SEFS	Severely Errored Framing Seconds
T-SEFSRS	SEFRS
T-SESCPP	Severely Errored Second - CP-Bit Path
T-SESHP	SES High Order Path
T-SESL	Severely Errored Second - Line
T-SESLP	SES Low Order Path
T-SESMS	SES Multiplex Section

Table 4-47 ALL_THR Value (continued)

ALL_THR Values	Description
T-SESP	Severely Errored Second - Path
T-SESRS	SES Regeneration Section
T-SESS	Severely Errored Second - Section
T-SESV	Severely Errored Second - VT Path
T-UASCPP	Unavailable Second - CP-Bit Path
T-UASHP	UA High Order Path
T-UASL	Unavailable Second - Line
T-UASLP	UA Low Order Path
T-UASMS	UA Multiplex Section
T-UASP	Unavailable Second - Path
T-UASV	Unavailable Second - VT Path

4.3.7 BITS_LineBuildOut

BITS Line buildout

Table 4-48 BITS_LineBuildOut Values

BITS_LineBuildOut Values	Description
0–133	BITS line buildout range is 0–133
134–266	BITS line buildout range is 134–266
267–399	BITS line buildout range is 267–399
400–533	BITS line buildout range is 400–533
534–655	BITS line buildout range is 534–655

4.3.8 BLSR_MODE

BLSR mode

Table 4-49 BLSR_MODE Values

BLSR_MODE Values	Description
2F	Two fiber BLSR
4F	Four fiber BLSR

4.3.9 BLSR_TYPE

BLSR type of an OCN port

Table 4-50 BLSR_TYPE Values

BLSR_TYPE Values	Description
EASTPROT	Identifies that the OCN port is an east protecting port
EASTWORK	Identifies that the OCN port is an east working port
WESTPROT	Identifies that the OCN port is a west protecting port
WESTWORK	Identifies that the OCN port is a west working port

4.3.10 CCT

Defines the type of cross-connect to be created

Table 4-51 CCT Values

CCT Values	Description
1WAY	A unidirectional connection from a source tributary to a destination tributary
1WAYDC	UPSR mcast drop with (1-way) continue
1WAYEN	UPSR mcast end node (1-way continue)
1WAYMON	A unidirectional monitor connection
1WAYPCA	A unidirectional connection from a source tributary to a destination tributary on the protection path/fiber
2WAY	A bidirectional connection between the two tributaries
2WAYPCA	A bidirectional connection between the two tributaries on the extra protection path/fiber

4.3.11 CMD_MODE

Command mode is used to force the system to execute a given command regardless of any standing conditions. Normal mode is the default behavior for all commands but the user may specify FRCD to force the system to override a state in which the command would normally be denied.

Table 4-52 CMD_MODE Values

CMD_MODE Values	Description
FRCD	Force the system to override a state in which the command would normally be denied
NORM	Execute the command normally. Do not override any conditions that may make the command fail.

4.3.12 COND_EFF

The affected unit's condition

Table 4-53 COND_EFF Values

COND_EFF Values	Description
CL	Standing condition cleared
SC	Standing condition raised
TC	Transient condition

4.3.13 CONDITION

The condition type of the alarm indication

Table 4-54 CONDITION Values

CONDITION Values	Description
ACOMAN	Alarm cutoff is in manual mode
AIS	External failure - Incoming - Alarm Indication Signal
AIS-L	External failure - Incoming - Alarm Indication Signal - Line
AIS-P	External failure - Incoming - Alarm Indication Signal - Path
AIS-V	External failure - Incoming - Alarm Indication Signal - VT layer
ALM-SUPPRESS	Alarms/Events Suppressed for this Object
APSB	External failure - Incoming - Automatic Protection Switching Channel - Byte failure
APSC	External failure - Incoming - Automatic Protection Switching Channel failure
APSC-IMP	External failure - Incoming - Automatic Protection Switching- Invalid K bytes
APSCCONNL	External failure - Incoming -Automatic Protection Switching -Connection Loss
APSCDFLTK	External failure - Incoming -Automatic Protection Switching -Default K byte
APSCINCON	External failure - Incoming -Automatic Protection Switching -Inconsistent
APSCM	External failure - Incoming - Automatic Protection Switching Channel - Protection Switching Channel Match failure
APSCNMIS	APS Channel - BLSR - Node Id Mismatch
APSMM	External failure - Incoming -Automatic Protection Switching Channel - Automatic Protection Switch Mode Mismatch
AS-CMD	Alarms and Events Suppressed By User Command
AS-MT	Alarms and Events Suppressed For Maintenance

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
AUTOLSROFF	Internal hardware - Facility Termination Equipment - Automatic Laser Shutdown
AUTORESET	Recovery action - Automatic system Reset
AUTOSW-AIS	Automatic Switch - Alarm Indication Signal
AUTOSW-LOP	Automatic Switch - Loss of Pointer
AUTOSW-PDI	Automatic Switch - Payload Defect Indication
AUTOSW-SDBER	Automatic Switch - Signal Degrade Bit Error Rate
AUTOSW-SFBER	Automatic Switch - Signal Fail Bit Error Rate
AUTOSW-UNEQ	Automatic Switch - Unequipped
BKUPMEMP	Internal hardware - Control Equipment - Primary non-volatile Backup Memory failure
BKUPMEMS	Internal hardware - Control Equipment - Secondary non-volatile Backup Memory failure
BLSR-RESYNC	Bidirectional Line Switched Ring - Tables Resynchronized
BLSR-UPDATED	BLSR Multiple Node Table Update Finished
BLSROSYNC	Bidirectional Line Switched Ring - Out of Synchronization
BPV	External failure - Incoming - Bipolar Violation
CARLOSS	External failure - Incoming - Carrier Loss on the LAN
CKTDOWN	Signaling unable to setup circuit
CLDRESTART	Recovery action - Cold Restart
COMIOXC	IO Slot To cross-connection Communication Failure
CONCAT	Control Bus Failure
CONTBUS-1	Control Bus Failure - Bus 1
CONTBUS-2	Control Bus Failure - Bus 2
CONTBUS-A-X	TCC/XTC card in Slot 7/Slot 5 has lost communication with the card in Slot X
CONTBUS-B-X	TCC/XTC card in Slot 11/Slot 6 has lost communication with the card in Slot X
CONTBUS_A	TCC/XTC A to shelf Slot communication failure
CONTBUS_B	TCC/XTC B to shelf Slot communication failure
CONTBUS_IO_A	Peer to Peer Slot communication failure
CONTBUS_IO_B	Peer to Peer Slot communication failure
CONTCOM	Internal hardware - Control Equipment - Control Communications equipment failure
CONTEQPT	Internal hardware - Control Equipment failure
CONTR	Internal hardware - Control Equipment - Control processor failure
CTNEQPT	Internal hardware - Interconnection Equipment failure

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
CTNEQPT-PBXPROT	Failure of the main payload between the protect XC/XCVT/XC10G card in Slot 10 and the reporting I/O card in Slot X
CTNEQPT-PBXWORK	Failure of the main payload bus between the active XC/XCVT/XC10G card in Slot 8 and the reporting I/O card in Slot X
CTNEQPT-PBPROT	Interconnection Equipment Failure - Protect XC Payload Bus
CTNEQPT-PBWORK	Interconnection Equipment Failure - Working XC Payload Bus
DATAFLT	Internal Error - Software Fault - Data integrity fault
DS3-MISM	DS3 Frame Format Mismatch
E-W-MISMATCH	Procedural Error - Mis-connect East/West Direction
EHIBATVG-A/B	Extreme High Voltage - Battery A or Battery B
ELWBATVG-A/B	Extreme Low Voltage - Battery A or Battery B
EOC	Embedded Operations Channel (Section DCC) failure
EOC-DOWN	Embedded Operations Channel (Section DCC) failure
EQPT	Internal hardware - Critical alarm caused by equipment failure
EQPT-DIAG	Equipment failure - Diagnostics Failure
EQPT-FAIL	Equipment failure - Board Failure
EQPT-MAC	Equipment failure - Medium Access Control
EQPT-MISS	Replaceable Equipment/Unit is Missing
ESW	External error - Excessive Switching
EXCCOL	External failure - Incoming - Excess collisions on the LAN
EXERCISE-RING- FAIL	Exercise Ring Failed
EXERCISE-RING-REQ	Exercise Ring
EXERCISE-SPAN-FAIL	Exercise Span Failed
EXERCISE-SPAN-REQ	Exercise Span
EXERCISING-RING	Exercise Ring Completed
EXERCISING-SPAN	Exercise Span Completed
EXT	Failure detected External to the NE
EXTERR	External Error
EXTR-DROP	BLSR Extra Traffic Dropped
EXTRA-TRAF-PREEMPT	Extra Traffic preempted
FA	Internal hardware - Power failure - Fuse Alarm
FAC	External failure - Incoming - Facility, critical alarm caused by DS3 facility failure
FACTERM	Internal hardware - Facility Termination equipment failure
FAILTORLS	Internal hardware - Failure To Release from protection
FAILTOSW	Internal hardware - Failure To Switch to protection
FAILTOSW-HO	Failure to switch to protection - High Order Path

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
FAILTOSW-LO	Failure to switch to protection - Low Order Path
FAILTOSW-PATH	Failure to switch from the working path to the protection path on an UPSR
FAILTOSWR	Failure to Switch to Protection in a Ring
FAILTOSWS	Failure to Switch to Protection in a Span
FAN	Fan Tray failure
FANDEGRADE	Partial Failure of cooling fan tray
FE-AIS	Far-end DS3 node is reporting an AIS
FE-DS1-MULTLOS	Multiple inputs detect a loss on the far-end
FE-DS1-NSA	Non-service affecting failure detected from the far-end DS1
FE-DS1-SA	Service affecting failure detected from the far-end DS1
FE-DS1-SNGLLOS	One of the DS1 inputs on the far-end detects a LOS
FE-DS3-NSA	Non-service affecting failure detected from the far-end DS3
FE-DS3-SA	Service affecting failure detected from the far-end DS3
FE-EQPT-NSA	Non-service affecting equipment failure is detected from the far-end DS3
FE-EXERCISING-RING	Far End Exercise Ring
FE-EXERCISING-SPAN	Far End Exercise Span
FE-FRCDWKSWPR-RING	Working facility forced to switch to protection unit - Ring Far end
FE-FRCDWKSWPR-SPAN	Working facility forced to switch to protection unit - Span Far end
FE-IDLE	Far end node detects an idle DS3 signal
FE-LOCKOUTOFPR-ALL	Far end LockOut All Protection Channels of the network
FE-LOCKOUTOFPR-RING	Far End Lockout Of Protection - Ring
FE-LOCKOUTOFPR-SPAN	Far End Lockout Of Protection - Span
FE-LOCKOUTOFWK-RING	Far End Lockout Of Working - Ring
FE-LOCKOUTOFWK-SPAN	Far End Lockout Of Working - Span
FE-LOF	Far end node reports a DS3 loss of frame
FE-LOS	Far end node reports a DS3 loss of signal
FE-MANWKSWPR-RING	Far end Manual Ring Switching command is activated
FE-MANWKSWPR-SPAN	Far end Manual Span Switching command is activated
FE-SD-RING	Far end detected SD on Working channel and issued a Ring Switch
FE-SD-SPAN	Far end detected SD on Working channel and issued a Span Switch
FE-SDPRLF	Far end detected SD on Protection Channel
FE-SF-RING	Far end detected SF on Working channel and issued a Ring Switch
FE-SF-SPAN	Far end detected SF on Working channel and issued a Span Switch
FEBE	External failure - Incoming - Far End Block Error

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
FEPRLF	External failure - Incoming - Automatic Protection Switching Channel - Far End Protection Line Failure
FORCED-REQ	Forced switch request on facility/equipment
FORCED-REQ-RING	Forced switch request on a Ring
FORCED-REQ-SPAN	Forced switch request on a Span
FRCDWKSWBK	Recovery action - Working facility/equipment forced to switch back to working
FRCDWKSWPR	Recovery action - Working facility/equipment forced to switch to protection unit
FRCDWKSWPR-PATH	Recovery action - Working facility/equipment forced to switch to protection unit - Path
FRCWKBK-R	Working facility/equipment forced to switch back to working - Ring
FRCWKBK-S	Working facility/equipment forced to switch back to working - Span
FRCWKPR-R	Working facility/equipment forced to switch to protection unit - Ring
FRCWKPR-S	Working facility/equipment forced to switch to protection unit - Span
FRNGSYNC	Free Running Synchronization mode
FSTSYNC	Fast Start synchronization mode
FULLPASSTHR-BI	Bi-direction Full Pass Through is active
FULLPASSTHR-UNI	Uni-direction Full Pass Through is active
HITEMP	Internal hardware - Equipment failure - High temperature
HLDOVRSYNC	Holdover synchronization mode
IMPROPRMVL	Procedural Error - Improper Removal
INC	Incoming failure condition
INC-ISD	Incoming failure condition - Idle Signal Path
INHMSG	ALM/EVT Messages Suppressed for object & sub-objects
INHMSG-DBCHG	DBCHG Messages Suppressed for entire shelf
INHMSG-PMREPT	PM report message inhibited for the TL1 session
INHSWPR	Inhibit switch to protect request on equipment
INHSWWKG	Inhibit switch to working request on equipment
INIT	Recovery action - Initialization initiated
INT	Internal hardware fault or failure
INTER-RING-STARTUP	Far end LockOut All Protection Channels of the network
INTERR	Error Internal to the NE Detected
INTMSGERR	One or more ALM/EVT/DBCHG messages lost
INTRUSION	Security: invalid login with user-ID
INTSFT	Internal Error - Software Fault or failure
INVMACADR	Equipment failure - Invalid MAC Address

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
KB_PASSTHR	K-Byte Pass Through is active
LANOVERFLOW	Traffic storm on LAN. LAN temporarily disabled
LKOUTPR-R	Lockout of Protection - Ring
LKOUTPR-S	Lockout of Protection - Span
LKOUTWK-R	Lockout of working - Ring
LKOUTWK-S	Lockout of working - Span
LMP-HELLODOWN	LMP Hello FSM on Control Channel Down
LMP-NDFAIL	LMP Neighbor Discovery has failed
LOCKOUT-REQ	Lockout switch request on facility/equipment
LOCKOUT-REQ-RING	Lockout switch request on a Ring
LOCKOUT-REQ-SPAN	Lockout switch request on a Span
LOCKOUTOFPR	Recovery action - Lockout of Protection
LOCKOUTOFPR-ALL	Far end LockOut All Protection Channels of the network
LOCKOUTOFPR-PATH	Recovery action - Lockout of Protection - Path
LOCKOUTOFWK	Recovery action - Lockout of working
LOF	External failure - Incoming - Loss of Frame
LOP	External failure - Incoming - Loss of Pointer
LOP-P	External failure - Incoming - Loss of Pointer - Path
LOP-V	Loss of pointer at the VT level
LOS	External failure - Incoming - Loss of Signal
LOS-ABBX	VIC loss of audio base band channel X signal
LOS-AFM	VIC loss of Audio FM signal
LOS-VBB	VIC loss of Video Base Band Signal
LOS-VIF	Video Interface Card Loss of Video IF signal
LPBK	Loopback
LPBKDS1FEAC	DS1 loopback signal is received from the far-end due to a Far-End Alarm and Control (FEAC) command
LPBKDS1FEAC-CMD	DS1 loopback command sent by the ONS 15454 to the far-end equipment
LPBKDS3FEAC	DS3 loopback signal is received from the far-end due to a Far-End Alarm and Control (FEAC) command
LPBKDS3FEAC-CMD	DS3 loopback command sent by the ONS 15454 to the far-end equipment
LPBKFACILITY	Loopback, Facility
LPBKM23	Loopback, Facility
LPBKM23-CMD	DS2 Loopback due to Far End Command
LPBKNETWORK	DS2 Loopback Command sent to Far End

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
LPBKTERMINAL	Loopback, Terminal
MAN	Manually caused abnormal condition
MAN-REQ	Manual Switch Request on facility/equipment
MANRESET	Recovery action - Manual system Reset
MANSWTOFIFTH	Recovery action - Manual synchronization Switch To Fifth reference
MANSWTOFOURTH	Recovery action - Manual synchronization Switch To Fourth reference
MANSWTOINT	Recovery action - Manual synchronization switch to internal clock
MANSWTOPRI	Recovery action - Manual synchronization Switch To Primary reference
MANSWTOSEC	Recovery action - Manual synchronization Switch To Second reference
MANSWTOSIXTH	Recovery action - Manual synchronization Switch To Sixth reference
MANSWTOTHIRD	Recovery action - Manual synchronization Switch To Third reference
MANUAL-REQ-RING	Manual switch request on a Ring
MANUAL-REQ-SPAN	Manual switch request on a Span
MANWKBK-R	Manual Switch of working facility/equipment to protection - Ring
MANWKBK-S	Manual Switch of working facility/equipment to protection - Span
MANWKPR-R	Manual Switch of Working facility/equipment to Protection unit -Ring
MANWKPR-S	Manual Switch of Working facility/equipment to Protection unit -Span
MANWKSWBK	Recovery action - Manual Switch of working facility/equipment to protection
MANWKSWPR	Recovery action - Manual Switch of Working facility/equipment to Protection unit
MANWKSWPR-PATH	Manual Switch of working facility/equipment to Protection - Path
MEA	Internal error - Mismatch of Equipment and Attributes
MEM-GONE	Software operations exceed the memory capacity of the TCC/XTC card
MEM-LOW	Data generated by software operations is close to exceeding the memory capacity of the TCC/XTC card
MFGMEM	Manufacturing Data Memory (EEPROM) Failure
NEW-ROOT	NewRoot trap in BRIDGE-MIB
NORMAL	Normal condition. This condition type is used by the NE to report the returning to normal from a previous off-normal condition
OG	External failure - Outgoing failure condition
OOF	External failure - Incoming - Out of Frame
PATHSEL	External failure - Incoming - Path Selector inability to switch to a valid signal

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
PDI	External failure - Incoming - Signal Label Mismatch Failure - Payload Defect Indication
PDI-P	External failure - Incoming - Signal Label Mismatch Failure - Payload Defect Indication - Path
PEER-MISM	Peer State Mismatch
PEER-NORESPONSE	Peer card not responding
PLM-P	External failure - Incoming - Signal Label Mismatch Failure - Payload Label Mismatch - Path
PLM-V	Content of the V5 byte in the SONET overhead is inconsistent or invalid
PLUG-IN	Internal hardware - Equipment unit plug-in
PM-TCA	Performance Monitoring - Threshold Crossing Alert
PRC-DUPID	Procedural Error - Duplicate Node ID
PRCDRERR	Procedural Error
PROGFLT	Internal Error - Software Fault - Program failure
PROTNA	Protection unit not available
PS	Occurrence of a protection switching event
PWR	Internal hardware - Power failure (detected internal to NE)
PWR-A	Internal hardware - Power failure (detected internal to NE) on slot 7
PWR-B	Internal hardware - Power failure (detected internal to NE) on slot 11
PWRRESTART	Recovery action - Powerfail Restart
RAI	External failure - Incoming - Remote Alarm Indication
RCVR	Internal hardware - Facility Termination equipment - Receiver failure
RCVR-MISS	Facility termination equipment detects a missing receive cable on the DS1 port or a possible mismatch of backplane equipment
RCVRY	Recovery or service protection action has been initiated
RDI-L	External failure - Outgoing - Remote Defect Indication - Line
RDI-P	External failure - Outgoing - Remote Defect Indication - Path
RFI	External failure - Incoming - Remote Failure Indication
RFI-L	External failure - Incoming - Remote Failure Indication - Line
RFI-P	External failure - Incoming - Remote Failure Indication - Path
RFI-V	Upstream failure has occurred at the VT layer
RFLOWCTL	Receive pause frames Threshold crossing alert
RING-MISMATCH	Procedural Error - Mis-connected Ring
RING-SEGMENT	Ring Is Segmented
RING-SW-EAST	Ring switch is active on the East side
RING-SW-WEST	Ring switch is active on the West side

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
RMON-ALARM	An RMON Alarm
RMON-RESET	RMON histories and alarms have been reset due to chipset reboot
ROVERSUB	Receive packets dropped - internal congestion Threshold crossing alert
RSVP-HELLODOWN	RSVP Hello FSM to Neighbor down
SD	Facility has passed BER Threshold for Signal Degrade
SD-L	BER threshold exceeded for Signal Degrade - Line
SD-P	BER threshold exceeded for Signal Degrade - Path
SDBER-EXCEED-HO	BER Threshold exceeded for Signal Degrade - High Order
SDBER-EXCEED-LO	BER Threshold exceeded for Signal Degrade - Low Order Path
SEF	External failure - Incoming - Severely Errored Frame
SF	Facility has passed BER threshold for Signal Failure
SF-L	BER Threshold exceeded for Signal Failure - Line
SF-P	BER Threshold exceeded for Signal Failure - Path
SFBER-EXCEED-HO	BER Threshold exceeded for Signal Failure - High Order Path
SFBER-EXCEED-LO	BER Threshold exceeded for Signal Failure - Low Order Path
SFTWDOWN	Recovery action - Software download in progress
SFTWDOWN-FAIL	Software Download Failed
SLMF	External failure - Incoming - Signal Label Mismatch Failures - SONET
SNTP-HOST	SNTP host not alive condition
SPAN-SW-EAST	Span switch is active on the East side
SPAN-SW-WEST	Span switch is active on the West side
SQUELCH	Ring is isolated into two or more segments
SQUELCH-PATH	Squelching - Path level
SSM-DUS	Synchronization Status Messaging - Do Not Use for Synchronization
SSM-FAIL	Synchronization Status Messaging - Failed
SSM-OFF	Synchronization Status Messaging - Off
SSM-PRC	G811 Primary Reference Clock traceable
SSM-PRS	Synchronization Status Messaging - Primary reference source - Stratum 1
SSM-RES	Synchronization Status Messaging - Reserved - quality level set by user
SSM-SMC	Synchronization Status Messaging - SONET minimum clock
SSM-ST2	Synchronization Status Messaging - Stratum 2
SSM-ST3	Synchronization Status Messaging - Stratum 3
SSM-ST3E	Synchronization Status Messaging - Stratum 3E

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
SSM-ST4	Synchronization Status Messaging - Stratum 4
SSM-STU	Synchronization Status Messaging - Synchronized traceability unknown
SSM-TNC	Synchronization Status Messaging - Transit Node Clock traceable
SWMTXMOD	Switching Matrix Module Failure
SWTOFIFTH	Recovery action - Synchronization Switch To Fifth reference
SWTOFOURTH	Recovery action - Synchronization Switch To Fourth reference
SWTOINT	Recovery action - Synchronization Switch To Internal clock
SWTOPRI	Recovery action - Synchronization Switch To Primary reference
SWTOSEC	Recovery action - Synchronization Switch To Second refernce
SWTOSIXTH	Recovery action - Synchronization Switch To Sixth reference
SWTOTHIRD	Recovery action - Synchronization Switch To Third refernce
SYNC	External failure - Incoming - Loss of timing on synchronization link
SYNC-FREQ	Synchronization Reference Frequency Out Of Bounds
SYNCCLK	Internal hardware - Synchronization unit failure
SYNCEQPT	Internal hardware - Synchronization switching Equipment failure
SYNCFIFTH	External failure - Incoming - Loss of timing on fifth synchronization link
SYNCFOURTH	External failure - Incoming - Loss of timing on fourth synchronization link
SYNCOOS	External failure - Incoming - Loss of timing on all specified synchronization links
SYNCPRI	External failure - Incoming - Loss of timing on primary synchronization link
SYNCSEC	External failure - Incoming - Loss of timing on secondary synchronization link
SYNCSIXTH	External failure - Incoming - Loss of timing on sixth synchronization link
SYNCTHIRD	External failure - Incoming - Loss of timing on third synchronization link
SYSBOOT	Activation of new software
T-UIDAGE	Security: user-ID has expired
TFLOWCTL	Transmit pause frames Threshold crossing alert
TIM-P	SONET Trace Identifier message defect - Path
TOP-CHANGE	Topology Change trap in BRIDGE-MIB
TOVERSUB	Transmit packets dropped - internal congestion Threshold crossing alert
TPTFAIL	Transport Layer Failure
TRMT	Internal hardware - Facility Termination equipment - Transmit failure

Table 4-54 CONDITION Values (continued)

CONDITION Values	Description
TRMT-MISS	Facility termination equipment detects a missing transmit cable on the DS1 port or a possible mismatch of backplane equipment
TSI	Internal hardware - Interconnection Equipment - Time slot interchange equipment failure
TUNDERRUN	Buffer Underrun Alarm
UNAUTHCKT	Unauthorized incoming signaling request to create circuit
UNEQ-P	External failure - Incoming - Signal Label Mismatch Failure - Unequipped - Path
UNEQ-V	VT is receiving an unequipped signal
UNPLUG	Internal hardware - Equipment unit un-plug
WATM-TO	Internal Error - Watchdog Timer Timeout
WKGMEM	Internal hardware - Control Equipment - Working memory failure
WKSWBK	Recovery action - Working facility/equipment switched back to working
WKSWPR	Recovery action - Working facility/equipment switched to protection unit
WRMRESTART	Recovery action - Warm Restart
WTR	Wait To Restore
WTR-RING	Recovery action - SONET ring is in Wait To Restore state
WTR-SPAN	Recovery action - SONET span is in Wait To Restore state

4.3.14 CONT_MODE

Current state of environmental control

Table 4-55 CONT_MODE Values

CONT_MODE Values	Description
NA	Indicates Not applicable (i.e., duration is MNTRY)
OPR	Indicates that the environment control state is CLOSE
RLS	Indicates that the environment control state is OPEN

4.3.15 CONTTYPE

The Environmental control types as defined by Telcordia GR-833-CORE, Issue 2, November 1996, Appendix G.

Table 4-56 CONTTYPE Values

CONTTYPE Values	Description
AIRCOND	Air conditioning
ENGINE	Engine
FAN	Fan
GEN	Generator
HEAT	Heat
LIGHT	Light
MISC	Miscellaneous
SPKLR	Sprinkler

4.3.16 CRS_TYPE

Indicates the cross-connection type

Table 4-57 CRS_TYPE Values

CRS_TYPE Values	Description
STS	Indicates all the STS cross-connections
VT	Indicates all the VT1 cross-connections

4.3.17 DIRECTION

Transmit and receive directions

Table 4-58 DIRECTION Values

DIRECTION Values	Description
BTH	Both transmit and receive directions
RCV	Receive direction only
TRMT	Transmit direction only

4.3.18 DIRN

Specifies the discriminating level for the requested monitored parameter

Table 4-59 DIRN Values

DIRN Values	Description
DN	Monitored parameter with values equal to or greater than the level of LEV will be reported
UP	Monitored parameter with values equal to or less than the value of LEV will be reported

4.3.19 DL_TYPE

Indicates software download type

Table 4-60 DL_TYPE Values

DL_TYPE Values	Description
ACT	Indicates to activate to a newer software load during the software download
RVRT	Indicates to revert to an older software load during software download

4.3.20 DS_LINE_CODE

DS123 Line Code

Table 4-61 DS_LINE_CODE Values

DS_LINE_CODE Values	Description
B3ZS	Bipolar with Three-Zero Substitution

4.3.21 DS_LINE_TYPE

DS123 Line type

Table 4-62 DS_LINE_TYPE Values

DS_LINE_TYPE Values	Description
C-BIT	C-BIT line type applies to DS3XM and DS3E card
M23	M23 line type applies to DS3XM and DS3E card
UNFRAMED	Line Type is unframed. The old DS3 (L3M) and DS3CR cards can only run in unframed mode.

4.3.22 DURATION

Duration

Table 4-63 DURATION Values

DURATION Values	Description
CONTS	Continuous duration
MNTRY	Momentary duration

4.3.23 E_LBO

Electrical signal line buildout

Table 4-64 E_LBO Values

E_LBO Values	Description
0-225	Electrical signal buildout range is 0-225
226-450	Electrical signal buildout range is 226-450

4.3.24 ENV_ALM

Environmental alarm types as defined by Telcordia GR-833-CORE, Issue 2, November 1996, Appendix F.

Table 4-65 ENV_ALM Values

ENV_ALM Values	Description
AIRCOMPR	Air compressor failure
AIRCOND	Air conditioning failure
AIRDRYR	Air dryer failure
BATDSCHRG	Battery discharging
BATTERY	Battery failure
CLFAN	Cooling fan failure
CPMAJOR	Centralized power major failure
CPMINOR	Centralized power minor failure
ENGINE	Engine failure
ENGOPRG	Engine operating
EXPLGS	Explosive gas
FIRDETR	Fire detector failure
FIRE	Fire
FLOOD	Flood
FUSE	Fuse failure

Table 4-65 ENV_ALM Values (continued)

ENV_ALM Values	Description
GEN	Generator failure
HIAIR	High airflow
HIHUM	High humidity
HITEMP	High temperature
HIWTR	High water
INTRUDER	Intrusion
LWBATVG	Low battery voltage
LWFUEL	Low fuel
LWHUM	Low humidity
LWPRES	Low cable pressure
LWTEMP	Low temperature
LWWTR	Low water
MISC	Miscellaneous
OPENDR	Open door
POWER	Commercial power failure
PUMP	Pump failure
PWR-48	48 Volt power supply failure
RECT	Rectifier failure
RECTHI	Rectifier high voltage
RECTLO	Rectifier low voltage
SMOKE	Smoke
TOXICGAS	Toxic gas
VENTN	Ventilation system failure

4.3.25 EQPT_TYPE

Identifies the type of equipment being provisioned into a slot

Table 4-66 EQPT_TYPE Values

EQPT_TYPE Values	Description
AIC	The Alarm Interface Controller Card is an optional card which expands system management capabilities for the customer defined alarm I/O and orderwire functionality
AICI	The AICI card
AIP	The Alarm Indicator Panel
BP	The Backplane of the NE
DCC	The Data Communications Channel

Table 4-66 EQPT_TYPE Values (continued)

EQPT_TYPE Values	Description
DS1-14	A 14 port interface card supporting DS1 facilities
DS1N-14	A 14 port interface card supporting DS1 facilities
DS3-12	A 12 port interface card supporting DS3 facilities
DS3-3	A 3 port interface card supporting DS3 facilities
DS3ATM-12	A 12 port interface card supporting DS3 ATM facilities
DS3CR-12	Cost reduced DS3
DS3E-12	A 12 port interface card supporting DS3E facilities
DS3NE-12	A 12 port interface card supporting DS3E facilities
DS3N-12	A 12 port interface card supporting DS3 facilities
DS3XM-6	An interface card that converts six framed DS-3 network connections to 28x6 or 168 VT1.5s
E1000T-2	A 2 port interface card supporting 1000 Base T Ethernet facilities
E100T-12	A 12 port interface card supporting 100 Base T Ethernet facilities
E100T-4	A four port interface card supporting 100 Base T Ethernet facilities.
EC1-12	A 12 port interface card supporting EC1 facilities
FTA	The Fan Tray of the NE
FTA1	The Fan Tray 1 of the NE
FTA2	The Fan Tray 2 of the NE
G1000-4	A four port G1000 card
MIC-28-3-A	ONS 15327 MIC card A
MIC-28-3-B	ONS 15327 MIC card B
MIC-EXT	ONS 15327 MIC card
MIC-GEN	ONS 15327 MIC card
OC12	An interface card that supports one or more OC-12 (622Mbs) optical facilities
OC12-327	ONS 15327 OC12 card
OC12-4	A four port OC12 card
OC12-IR-1	An interface card that supports one intermediate range OC-12 (622Mbs) optical facilities
OC12-LR-1	An interface card that supports one long range OC-12 (622Mbs) optical facilities
OC12-SR-1	An interface card that supports one short range OC-12 (622Mbs) optical facilities
OC192-LR-1	An interface card that supports one or more OC-192 optical facilities
OC3	An interface card that supports multiple OC-3 (155Mbs) optical facilities
OC3-327	ONS 15327 OC3 card
OC3-IR-4	An interface card that supports four intermediate range OC-3 (155Mbs) optical facilities

Table 4-66 EQPT_TYPE Values (continued)

EQPT_TYPE Values	Description
OC3-SR-4	An interface card that supports four short range OC-3 (155Mbs) optical facilities
OC3ATM-IR-6	An interface card that supports six intermediate range OC-3 (155Mbs) ATM optical fibers
OC3POS-SR-4	An interface card that supports four short range OC-3 (155Mbs) POS optical facilities
OC48	An interface card that supports one or more OC-48 (10Gbs) optical facilities
OC48-327	ONS 15327 OC48 card
OC48-AS-1	An interface card that supports one short range OC-48 (10Gbs) optical facilities that can be provisioned in any I/O slot
OC48-ELR-1	An interface card that supports one short range OC-48 (2.5Gbs) optical facility
OC48-IR-1	An interface card that supports one intermediate range OC-48 (10Gbs) optical facility
OC48-LR-1	An interface card that supports one long range OC-48 (10Gbs) optical facility
OC48-SR-1	An interface card that supports one short range OC-48 (10Gbs) optical facilities
TCC	The Timing Communication and Control card
XC	A Cross-connect card
XCVT	A Cross-Connect card
XC10G	A Cross-Connect card
XTC	ONS 15327 XTC card
XTC-DS1-14	ONS 15327 XTC DS1-14 card
XTC-DS1-28	ONS 15327 XTC DS1-28 card
XTC-DS1-56	ONS 15327 XTC DS1-56 card
XTC-DS3-3	ONS 15327 XTC DS3-3 card

4.3.26 EQUIP

Indicates the presence of a plug-in unit

Table 4-67 EQUIP Values

EQUIP Values	Description
EQUIP	The unit is Equipped - present
UNEQUIP	The unit is Unequipped - absent

4.3.27 EQUIPMENT_TYPE

Equipment type

Table 4-68 EQUIPMENT_TYPE Values

EQUIPMENT_TYPE Values	Description
AIC	AIC card
AICI	AICI card
DS1	DS1 card
DS1N	DS1N card
DS3	DS3 card
DS3E	DS3E card
DS3N	DS3N card
DS3NE	DS3NE card
DS3XM	DS3XM card
E1000T	E1000T card
E100T	E100T card
EC1	EC1 card
G1000-4	A four port G1000 card
MIC	ONS 15327 MIC card
MIC-EXT	ONS 15327 XC-EXT card
OC3	OC3 card
OC12	OC12 card
OC12-4	A four port OC12 card
OC48	OC48 card
OC192	OC192 card
TCC	TCC card
XC	XC card
XC10G	XC10G card
XCVT	XCVT card
XTC	ONS 15327 XTC card

4.3.28 EXT_RING

Indicates if the ring supports the extended K1/K2/K3 protocol

Table 4-69 EXT_RING Values

EXT_RING Values	Description
N	Indicates the Ring does not support the extended K1/K2/K3 protocol
Y	Indicates the Ring does support the extended K1/K2/K3 protocol

4.3.29 FLOW

Indicates the type of flow control that has been negotiated for an Ethernet port

Table 4-70 FLOW Values

FLOW Values	Description
ASYMMETRIC	Asymmetric flow control
NONE	No flow control

4.3.30 FRAME_FORMAT

The frame format for a T1 port

Table 4-71 FRAME_FORMAT Values

FRAME_FORMAT Values	Description
D4	Frame format is D4
ESF	Frame format is ESF
UNFRAMED	Frame format is unframed

4.3.31 INH_MODE

Indicates whether the function is inhibited

Table 4-72 INH_MODE Values

INH_MODE Values	Description
ALW	Function is allowed
INH	Function is inhibited

4.3.32 LINE_BUILDOUT

Line buildout

Table 4-73 LINE_BUILDOUT Values

LINE_BUILDOUT Values	Description
0-131	Line buildout range is 0-131
132-262	Line buildout range is 132-262
263-393	Line buildout range is 263-393
394-524	Line buildout range is 394-524
525-655	Line buildout range is 525-655

4.3.33 LINE_CODE

Line code

Table 4-74 LINE_CODE Values

LINE_CODE Values	Description
AMI	Line code value is AMI
B8ZS	Line code value is B8ZS (Bipolar with Three-Zero Substitution)

4.3.34 LOCATION

Identifies the location where the action is to take place

Table 4-75 LOCATION Values

LOCATION Values	Description
FEND	Action occurs on the Far End of the facility
NEND	Action occurs on the Near End of the facility

4.3.35 LPBK_TYPE

Indicates the type of loopback that is to be operated or released

Table 4-76 LPBK_TYPE Values

LPBK_TYPE Values	Description
FACILITY	A type of loopback that connects the incoming received signal immediately following the optical-to-electrical conversion (after descrambling) to the associated transmitter in the return direction
TERMINAL	A loopback that connects the signal that is about to be transmitted (after scrambling but before the electrical-to-optical conversion) is connected to the associated, incoming receiver

4.3.36 MFS_TYPE

Indicates the maximum frame size used by an Ethernet card

Table 4-77 MFS_TYPE Values

MFS_TYPE Values	Description
1548	Normal frame size
JUMBO	Jumbo frame size

4.3.37 MOD2

Line/Path Modifier

Table 4-78 MOD2 Values

MOD2 Values	Description
DS1	DS1 line of a DS3XM card
EC1	EC1 facility
OC3	OC3 facility
OC12	OC12 facility
OC48	OC48 facility
OC192	OC192 facility
STS1	STS1 path
STS3C	STS3C path
STS6C	STS6C path
STS9C	STS9C path
STS12C	STS12C path
STS48C	STS48C path
STS192C	STS192C path

Table 4-78 MOD2 Values (continued)

MOD2 Values	Description
T1	T1/DS1 facility/line
T3	T3/DS3 facility/line
VT1	VT1_5 path

4.3.38 MOD2_IO

Facility/Line Modifier

Table 4-79 MOD2_IO Values

MOD2_IO Values	Description
DS1	DS1 line of a DS3XM card
EC1	EC1 facility
G1000	G1000 facility
OC3	OC3 facility
OC12	OC12 facility
OC48	OC48 facility
OC192	OC192 facility
T1	T1/DS1 facility
T3	T3/DS3 facility

4.3.39 MOD2ALM

Alarm type for certain generic TL1 commands

Table 4-80 MOD2ALM Values

MOD2ALM Values	Description
DS1	DS1 alarm
E100	E100 alarm
E1000	E1000 alarm
EC1	EC1 alarm
G1000	G1000 alarm
OC3	OC3 alarm
OC12	OC12 alarm
OC48	OC48 alarm
OC192	OC192 alarm
STS1	STS alarm
STS3C	STS alarm

Table 4-80 MOD2ALM Values (continued)

MOD2ALM Values	Description
STS6C	STS alarm
STS9C	STS alarm
STS12C	STS alarm
STS48C	STS alarm
STS192C	STS alarm
T1	T1 alarm
T3	T3 alarm
UDCDCC	UDCDCC Alarm
UDCF	UCDF Alarm
VT1	VT1 alarm

4.3.40 MOD2B

Alarm type for certain generic TL1 commands

Table 4-81 MOD2B Values

MOD2B Values	Description
BITS	BITS alarm
COM	Common alarm
DS1	DS1 alarm
E100	E100 alarm
E1000	E1000 alarm
EC1	EC1 alarm
ENV	ENV alarm
EQPT	EQPT alarm
G1000	G1000 alarm
MIC	MIC Alarm (ONS 15327)
MIC-EXT	MIC-EXT Alarm (ONS 15327)
OC3	OC3 alarm
OC12	OC12 alarm
OC48	OC48 alarm
OC192	OC192 alarm
STS1	STS alarm
STS3C	STS alarm
STS6C	STS alarm
STS9C	STS alarm

Table 4-81 MOD2B Values (continued)

MOD2B Values	Description
STS12C	STS alarm
STS24C	STS alarm
STS48C	STS alarm
STS192C	STS Alarm
SYNCN	SYNCN alarm
T1	T1 alarm
T3	T3 alarm
TCC	TCC alarm
UCP	UCP Alarm
VT1	VT alarm
XTC	ONS 15327 XTC Alarm

4.3.41 MOD_PATH

STS/VT Path Modifier

Table 4-82 MOD_PATH Values

MOD_PATH Values	Description
STS1	STS1 path
STS3C	STS3C path
STS6C	STS6C path
STS9C	STS9C path
STS12C	STS12C path
STS24C	STS 24C path
STS48C	STS48C path
STS192	STS192C path
VT1	VT1_5 path

4.3.42 MOD_PORT

Move from MOD2_IO without DS1

Table 4-83 MOD_PORT Values

MOD_PORT Values	Description
EC1	EC1 port
G1000	G1000 port
OC3	OC3 port
OC12	OC12 port
OC48	OC48 port
OC192	OC192 port
T1	T1/DS1 port
T3	T3/DS3 port

4.3.43 MOD_TACC

Test Access Modifier

Table 4-84 MOD_TACC Values

MOD_TACC Values	Description
DS1	DS1 line of a DS3XM card
STS1	STS1 path
STS3C	STS3C path
STS6C	STS6C path
STS9C	STS9C path
STS12C	STS12C path
STS24C	STS24C path
STS48C	STS48C path
STS192C	STS192C path
T1	T1/DS1 facility/line
T3	T3/DS3 facility/line
VT1	VT1_5 path

4.3.44 MODULE_OP

Module operation mode

Table 4-85 MOD_OP Values

MODULE_OP Values	Description
CLR	Clear switch operation mode
LOCKDX	Lock duplex switch operation mode
LOCKPRT	Lock switch to protection operation mode
LOCKWKG	Lock switch to working operation mode
RST	Reset operation mode
SWITCHDX	Switch duplex operation mode
SWITCHPRT	Switch to protection operation mode
SWITCHWKG	Switch to working operation mode
UNLOCKDX	Unlock duplex switch operation mode
UNLOCKPRT	Unlock switch to protection operation mode
UNLOCKWKG	Unlock switch to working operation mode
UPGRADE	Upgrade operation mode

4.3.45 MSGTYPE

Type of trace message

Table 4-86 MSGTYPE Values

MSGTYPE Values	Description
EXPTRC	Expected incoming Path trace message
INCTRC	Incoming Path trace message
TRC	Outgoing Path trace message

4.3.46 MUX_TYPE

BLSR Extension Byte

Table 4-87 MUX_TYPE Values

MUX_TYPE Values	Description
E2	E2 Byte (orderwire)
F1	F1 Byte (user)
K3	K3 Byte
Z2	Z2 Byte

4.3.47 NOTIF_CODE

The 2-character Notification Code associated with an autonomous message

Table 4-88 NOTIF_CODE Values

NOTIF_CODE Values	Description
CL	The condition causing the alarm has Cleared
CR	A Critical alarm
MJ	A Major alarm
MN	A Minor alarm
NA	The condition is Not Alarmed
NR	The alarm is not reported

4.3.48 OCN_BLSR

Modifier used to differentiate the various levels of OC-N in BLSR

Table 4-89 OCN_BLSR Values

OCN_BLSR Values	Description
OC12	Optical Carrier level-12 (662Mbs)
OC48	Optical Carrier level-48 (2.4Gbs)
OC192	Optical Carrier level-192 (10Gbs)

4.3.49 OCN_MONTYPE

OCN monitor type

Table 4-90 OCN_MONTYPE Values

OCN_MONTYPE Values	Description
CVL	Coding Violation - Line
ESL	Errored Second - Line
PJNEG	PPJC-PDET:Negative Pointer Justification
PJPOS	PPJC-PFEN:Negative Pointer Justification
PSC	Protection Switching Count
PSD	Protection Switching Duration
SEFS	Severely Errored Framing Seconds
UASL	Unavailable Second -Line

4.3.50 OCN_TYPE

Modifier used to differentiate the various levels of OC-N in the ENT/ED/DLT/RTRV commands

Table 4-91 OCN_TYPE Values

OCN_TYPE Values	Description
OC3	Optical Carrier level-3 (155Mbs)
OC12	Optical Carrier level-12 (622Mbs)
OC48	Optical Carrier level-48 (2.4Gbs)
OC192	Optical Carrier level-192 (10Gbs)

4.3.51 ON_OFF

Disable or Enable an attribute

Table 4-92 ON_OFF Values

ON_OFF Values	Description
N	Disable the attribute
Y	Enable the attribute

4.3.52 OPTICAL_MODE

The facility optical mode

Table 4-93 OPTICAL_MODE Values

OPTICAL_MODE Values	Description
SDH	The SDH optical mode the European format
SONET	The SONET optical mode the American format

4.3.53 OPTICS

The type of gigabyte Ethernet optics in place

Table 4-94 OPTICS Values

OPTICS Values	Description
1000_BASE_LX	1000 Base LX
1000_BASE_SX	1000 Base SX
1000_BASE_ZX	1000 Base ZX
UNKNOWN	Unknown Optical Type
UNPLUGGED	Unplugged

4.3.54 PM_MODE

Identifies the type of PM parameters. Only P type is supported.

Table 4-95 PM_MODE Values

PM_MODE Values	Description
I	Transport Intermediate Node PM parameters
L	Transport Line PM parameters
NONE	No PM parameters are being stored for the entity
P	Transport Path PM parameters
S	Transport Section PM parameters
SEG	Transport Path Segment PM parameters (e.g., ISDN BRA)

4.3.55 PM_STATE

Directs the named PM mode type - path (P) state

Table 4-96 PM_STATE Values

PM_STATE Values	Description
OFF	Disable the mode
ON	Enable the mode

4.3.56 PRIVILEGE

Security level

Table 4-97 PRIVILEGE Values

PRIVILEGE Values	Description
MAINT	Maintenance security level
PROV	Provisioning security level
RTRV	Retrieve security level
SUPER	Superuser security level

4.3.57 PRODUCT_TYPE

Product (NE) type

Table 4-98 PRODUCT_TYPE Values

PRODUCT_TYPE Values	Description
15327	Cisco ONS 15327 NE
15454	Cisco ONS 15454 NE
UNKNOWN	Unknown product type

4.3.58 PROTECTION_GROUP

Protection group type

Table 4-99 PROTECTION_GROUP Values

PROTECTION_GROUP Values	Description
1-1	1 to 1 protection group
1-N	1 to N protection group

4.3.59 PST

Primary State. This parameter indicates the current overall service condition of an entity.

Table 4-100 PST Values

PST Values	Description
IS	In-service
OOS	Out-of-Service

4.3.60 REVERTIVE_TIME

Revertive time

Table 4-101 REVERTIVE_TIME Values

REVERTIVE_TIME Values	Description
0.5 – 12.0	Revertive time is 0.5 to 12.0 minutes

4.3.61 SD_BER

The threshold for declaring Signal Degrade on a facility or path

Table 4-102 SD_BER Values

SD_BER Values	Description
1E-5–1E-9	SDBER is the 1E-5–1E-9

4.3.62 SDCC_MODE

Enables or disables the Section Data Communications Channel (SDCC) for the specified facility

Table 4-103 SDCC_MODE Values

SDCC_MODE Values	Description
N	Section Data Communications Channel is disabled for this facility
Y	Section Data Communications Channel is enabled for this facility

4.3.63 SERV_EFF

Indicates the effect of the alarm on service

Table 4-104 SERV_EFF Values

SERV_EFF Values	Description
NSA	The condition is Non-Service Affecting
SA	The condition is Service Affecting

4.3.64 SF_BER

The threshold for declaring Signal Failure on a facility or path

Table 4-105 SF_BER Values

SF_BER Values	Description
1E-3–1E-5	SFBER is the 1E-3–1E-5

4.3.65 SIDE

The role the unit is playing in the protection group

Table 4-106 SIDE Values

SIDE Values	Description
PROT	The entity is the protection unit in the protection group
WORK	The entity is a working unit in the protection group

4.3.66 SST

Secondary State. This parameter provides additional information pertaining to the state management of an entity. Values for this state included here are a subset of the list in the GR document.

Table 4-107 SST Values

SST Values	Description
AINS	Out of service, auto in service
MT	Out of service, maintenance mode

4.3.67 STATUS

Indicates whether the unit in the protection pair is active or standby

Table 4-108 STATUS Values

STATUS Values	Description
ACT	The entity is the active unit on the shelf
NA	Status is unavailable
STBY	The entity is the standby unit on the shelf

4.3.68 STM_TYPE

The Synchronous Transport Mode of the NE

Table 4-109 STM_TYPE Values

STM_TYPE Values	Description
SDH	The NE is operating in Synchronous Digital Hierarchy mode
SONET	The NE is operating in Synchronous Optical Network mode

4.3.69 STS_MONTYPE

STS Monitor Type

Table 4-110 STS_MONTYPE Values

STS_MONTYPE Values	Description
CVP	Coding Violation - P
ESP	Errored Second - Path
SESP	Severely Errored Second - Path
UASP	Unavailable Second - Path

4.3.70 STS_PATH

Modifier for some of the STS commands. This table does not include STS for the RTRV-CRS command, because STS is not a standard designator.

Table 4-111 STS_PATH Values

STS_PATH Values	Description
STS1	Synchronous Transport Signal level-1 (51 Mbs)
STS3C	Synchronous Transport Signal level-3 Concatenated (155 Mbs)
STS6C	Synchronous Transport Signal level-6 Concatenated (310 Mbs)
STS9C	Synchronous Transport Signal level-9 Concatenated (465 Mbs)
STS12C	Synchronous Transport Signal level-12 Concatenated (622 Mbs)
STS24C	Synchronous Transport Signal level-24 Concatenated (1240 Mbs)
STS48C	Synchronous Transport Signal level-48 Concatenated (2488 Mbs)
STS192C	Synchronous Transport Signal level-192 (9952 Mbs)

4.3.71 SW

The type of switch to be initiated

Table 4-112 SW Values

SW Values	Description
APS-CLEAR	APS-CLEAR switch state. It is a read only switch state, and is not allowed in the OPR-PROTNSW-xxx commands.
CLEAR	CLEAR switch state. This switch state is not allowed in the OPR-PROTNSW-xxx commands.
EXERCISE	EXERCISE switch state. This switch state is not allowed in the OPR-PROTNSW-XXX commands.
FRCD	Force a switch unless another FRCD or LOCKOUT is in effect.

Table 4-112 SW Values (continued)

SW Values	Description
LOCKOUT	Locks the facility out of switching. The system cannot switch to the protect facility to carry service.
MAN	Requests a manual switch of the facility

4.3.72 SW_TYPE

BLSR Switch Type. MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR and LOCKOUTOFWK are read only values for RTRV-PROTNSW-OCN commands. They are not allowed for the OPR-PROTNSW-OCN command. RING and SPAN are the only allowed values for SW_TYPE for BLSR Protection switching.

Caution In Release 3.4, Cisco advises against using MANWKSWBK, MANWKSWPR, FRCDWKSWBK, FRCDWKSWPR, LOCKOUTOFPR and LOCKOUTOFWK for SW_TYPE in the OPR-PROTNSW-OCN command.

Table 4-113 SW_TYPE Values

SW_TYPE Values	Description
FRCDWKSWBK	Working unit forced to switch back to working
FRCDWKSWPR	Working unit forced to switch to the protection unit
LOCKOUTOFPR	Lockout of protection
LOCKOUTOFWK	Lockout of working
MANWKSWBK	Manual switch of working unit back to working
MANWKSWPR	Manual switch of working unit back to the protection unit
RING	BLSR ring switch type
SPAN	BLSR span switch type

4.3.73 SYNC_CLOCK_REF_QUALITY_LEVEL

Clock Source Quality Level

Table 4-114 SYNC_CLOCK_REF_QUALITY_LEVEL Values

SYNC_CLOCK_REF_QUALITY_LEVEL Values	Description
DUS	Don’t Use for Synchronization
PRS	Primary Reference Source, Stratum 1 Traceable
RES	Reserved for network synchronization use
SMC	SONET Minimum Clock Traceable

Table 4-114 SYNC_CLOCK_REF_QUALITY_LEVEL Values (continued)

SYNC_CLOCK_REF_QUALITY_LEVEL Values	Description
ST2	Stratum 2 Traceable
ST3	Stratum 3 Traceable
ST3E	Stratum 3E Traceable (2nd generation only)
ST4	Stratum 4 Traceable
STU	Synchronized, Traceability Unknown
TNC	Transit Node Clock (2nd generation only)

4.3.74 SYNC_GENERATION

Synchronization status message set generation

Table 4-115 SYNC_GENERATION Values

SYNC_GENERATION Values	Description
GEN1	First generation SSM set
GEN2	Second generation SSM set

4.3.75 SYNC_QUALITY_LEVEL

Reserved for network synchronization quality level

Table 4-116 SYNC_QUALITY_LEVEL Values

SYNC_QUALITY_LEVEL Values	Description for Generation-1
ABOVE-PRS	Better than Primary Reference Source. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-SMC	Between SMC and ST3. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-ST2	Between ST2 and STU. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-ST3	For Generation-1 SSM set, between ST3 and ST2. For Generation-2 SSM set, between ST3 and ST3E
ABOVE-ST3E	Between ST3E and TNC. Valid setting only for Generation-2 SSM set
ABOVE-ST4	Between ST4 and ST3. Valid setting for Generation-1 and Generation-2 SSM set
ABOVE-STU	Between STU and PRS. Valid setting for Generation-1 and Generation-2 SSM set

Table 4-116 SYNC_QUALITY_LEVEL Values (continued)

SYNC_QUALITY_LEVEL Values	Description for Generation-1
ABOVE-TNC	Between TNC and ST2. Valid setting only for Generation-2 SSM set
ABOVE-SMC	Between SMC and ST3
BELOW-ST4	Below ST4 but still usable. Valid setting for Generation-1 and Generation-2 SSM set
SAME-AS-DUS	Disable the RES message by equating it to DUS. Valid setting for Generation-1 and Generation-2 SSM set

4.3.76 T1_MONTYPE

T1 monitor type

Table 4-117 T1_MONTYPE Values

T1_MONTYPE	Description
CVL	Coding Violation - Line
CVP	Coding Violation - Path
ESL	Errored Second - Line
SASP	Severely Errored Framing/AIS Seconds
SESL	Severely Errored Second - Line
SESP	Severely Errored Second - Path
UASP	Unavailable Second - Path

4.3.77 T3_MONTYPE

T3 monitor type

Table 4-118 T3_MONTYPE Values

T3_MONTYPE Values	Description
CVL	Coding Violation - Line
ESL	Errored Second - Line
SESL	Severely Errored Second - Line

4.3.78 TACC_MODE

Test access mode

Table 4-119 TACC_MODE Values

TACC_MODE Values	Description
LOOPE	Indicates to split both the A and B paths, connect the line incoming from E direction to the line outgoing in the E direction, and connect this looped configuration to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall be terminated by the nominal characteristic impedance of the line.
LOOPF	Indicates to split both the A and B paths, connect the line incoming from F direction to the line outgoing in the F direction, and connect this looped configuration to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line.

Table 4-119 TACC_MODE Values (continued)

TACC_MODE Values	Description
MONE	Indicates that a monitor connection is to be provided from the FAD to the A transmission path of the accessed circuit.
MONEF	Indicates that a monitor connection is to be provided from the FAD1 to a DFAD, or the odd pair of a FAP, to the A transmission path and from FAD2 of the same DFAD, or the even pair of a FAP, to the B transmission path of the accessed circuit.
MONF	Indicates that a monitor connection is to be provided from the FAD to the B transmission path of the accessed circuit.
SPLTA	Indicates that a connection is to be provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path.
SPLTB	Indicates that a connection is to be provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path.
SPLTE	Indicates to split both the A and B paths and connect the E side of the accessed circuit to the FAD. The line outgoing in the F direction shall have a QRS connected, and the line incoming from the F direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line.
SPLTEF	Indicates to split both the A and B paths, and connect the E side of the accessed circuit to FAD1 and the F side to FAD2.
SPLTF	Indicates to split both the A and B paths, and connect the F side of the accessed circuit to the FAD. The line outgoing in the E direction shall have a QRS connected, and the line incoming in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line.

4.3.79 TIMING_MODE

Timing mode for the current node

Table 4-120 TIMING_MODE Values

TIMING_MODE Values	Description
EXTERNAL	The node derives its clock from the BITS input
LINE	The node derives its clock from the SONET lines
MIXED	The node derives its clock from the mixed timing mode

4.3.80 TMPER

Performance parameter

Table 4-121 TMPER Values

TMPER Values	Description
15-MIN	Performance Parameter Accumulation Interval Length - Every 15 Minutes
1-DAY	Performance Parameter Accumulation Interval Length - Every 24 Hours

4.3.81 TRCMODE

Path Trace Mode

Table 4-122 TRCMODE Values

TRCMODE Values	Description
AUTO	Use the previously received path trace string as the expected string
AUTO-NO-AIS	Use the previously received path trace string as the expected string and do not turn on AIS and RDI if TIMP detected
MAN	Use the provisioned expected string as the expected string
MAN-NO-AIS	Use the provisioned expected string as the expected string and do not turn on AIS and RDI if TIMP detected
OFF	Turn off path trace capability. Nothing will be reported

4.3.82 TX_RSLT

Indicates the file transferred result

Table 4-123 TX_RSLT Values

TX_RSLT Values	Description
FAILURE	Indicates a failed result
SUCCESS	Indicates a successful result

4.3.83 TX_STATUS

Indicates the file transferred status

Table 4-124 TX_STATUS Values

TX_STATUS Values	Description
COMPLD	Indicates the file transmission is completed
IP	Indicates the file transmission is in process
START	Indicates the file transmission is started

4.3.84 TX_TYPE

Specifies the type and direction of the file transferred

Table 4-125 TX_TYPE Values

TX_TYPE Values	Description
RFBU	Indicates Remote File Backup
RFR	Indicates Remote File Restore
SWDL	Indicates Software Download

4.3.85 UCP_ADM_STATE

UCP Administrative States

Table 4-126 UCP_ADM_STATE Values

UCP_ADM_STATE Values	Description
DOWN	Indicates the UCP administrative state is down
UP	Indicates the UCP administrative state is up

4.3.86 UCP_CC_TUN_MD

UCP IP Tunneling mode. Default is DISABLED.

Table 4-127 UCP_CC_TUN_MD Values

UCP_CC_TUN_MD Values	Description
DISABLED	DISABLED UCP tunneling mode
GRE	GRE UCP tunneling mode
IP-IN-IP	IP-IN-IP UCP tunneling mode

4.3.87 UCP_CKT_STATE

UCP Operation States of Circuits

Table 4-128 UCP_CKT_STATE Values

UCP_CKT_STATE Values	Description
CLEARING	UCP circuit is in the clearing state
CLOSED	UCP circuit is in the closed state
FAILED	UCP circuit is in the failed state
LISTENING	UCP circuit is in the listening state. This state is applicable only at termination.
OPEN	UCP circuit is opened
OPENING	UCP circuit is opening
PENDING	UCP circuit is in the open-pending state
RETRY	UCP circuit is in retry state. This state is applicable only at source
WAIT	UCP circuit is in wait-cc state. This state is applicable only at source

4.3.88 UCP_CRC_MODE

UCP CRC mode for this control channel, it is applicable to IPCCs of the SDCC type only.

Table 4-129 UCP_CRC_MODE Values

UNI_BI Values	Description
16-BIT	Indicates a 16-bit CRC mode
32-BIT	Indicates a 32-bit CRC mode

4.3.89 UCP_IPCC_TYPE

UCP Types

Table 4-130 UCP_IPCC_TYPE Values

UCP_IPCC_TYPE Values	Description
ROUTED	Indicates the Optical User Network Interface–Client
SDCC	Indicates the Optical User Network Interface–Network

4.3.90 UCP_TNA_TYPE

Types of TNA (transport network administered address)

Table 4-131 UCP_TNA_TYPE Values

UCP_TNA_TYPE Values	Description
IPV4	Indicates IPV4 TNA type
IPV6	Indicates IPV6 TNA type
NSAP	Indicates NSAP TNA type

4.3.91 UNI_BI

Unidirectional and Bidirectional switch operations

Table 4-132 UNI_BI Values

UNI_BI Values	Description
BI	Bidirectional protection switching
UNI	Unidirectional protection switching

4.3.92 VALIDITY

Response validity

Table 4-133 VALIDITY Values

VALIDITY Values	Description
COMPL	Complete Response
PRTL	Partial Response

4.3.93 VT1_5_MONTYPE

VT1_5 Monitor Type

Table 4-134 VT1_5_MONTYPE Values

VT1_5_MONTYPE Values	Description
CVV	Coding Violation - VT Path
ESV	Errored Seconds - VT Path
SESV	Severely Errored Seconds - VT Path
UASV	Unavailable Second - VT Path

CHAPTER 5

Ring Provisioning

This chapter provides information and sample procedures for setting up STS or VT circuits over existing unidirectional path switched ring (UPSR) and bidirectional line switch ring (BLSR) configurations using TL1, including:

- UPSR topology
- UPSR cross-connections
- Ring-to-ring interconnection
- 1-way drop and continue

Note Because the ONS 15454/ONS 15327 implements logical UPSR, there are no defined east and west ports. Instead, the east STS path for one circuit can exit a different port than the east STS path of another circuit, even though the west STS paths for both circuits may share the same port.

5.1 UPSR Topology

No special configuration of the physical UPSR topology is required other than connecting the fibers to the desired ports on the desired nodes. The east and west paths must exit a node at different ports (to ensure link diversity), but there are no other physical topology restrictions

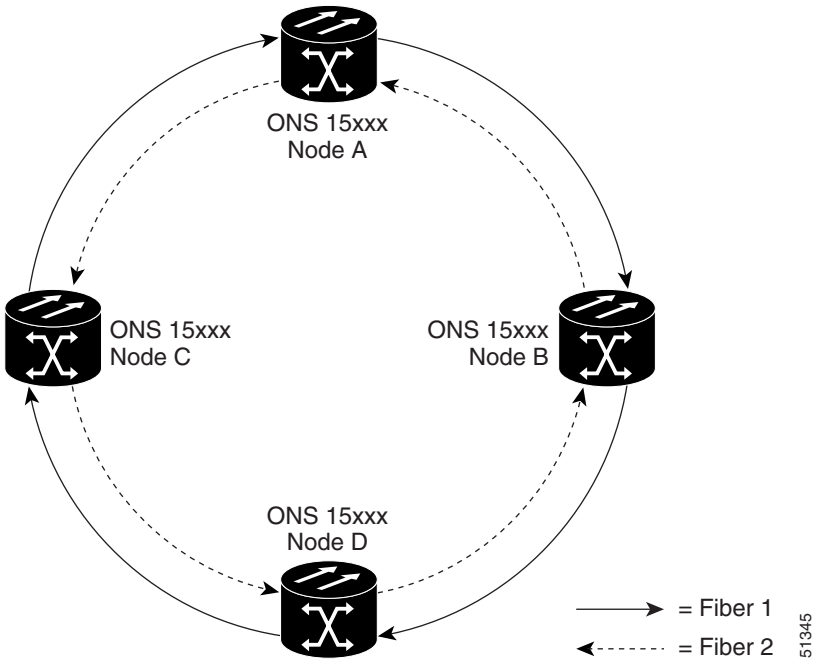
ONS 15xxx networks give you the option to set up path-protected mesh networks (PPMNs). PPMNs extend the protection scheme of a UPSR from the basic ring configuration to the meshed architecture of several interconnected rings. For more information about PPMN refer to the *Cisco ONS 15454 Procedure Guide* or the *Cisco ONS 15327 User Documentation*.

5.2 UPSR Cross-Connections

To create a UPSR cross-connection using TL1, you only need to designate whether it is a 1-way or 2-way cross-connect, but the access identifier (AID) must be more explicit. For example, to create a 1-way UPSR circuit over the network with nodes A, B, C, and D and segments A-B, B-D, A-C, C-D as shown in Figure 5-1, enter the following commands (Node A is the source node and Node D is the destination node):

ENT-CRS-STS1:A:FROM,TO1&TO2:CTAG1::1WAY;
ENT-CRS-STS1:B:FROM,TO:CTAG2::1WAY;
ENT-CRS-STS1:C:FROM,TO:CTAG3::1WAY;
ENT-CRS-STS1:D:FROM1&FROM2,TO:CTAG4::1WAY;

Figure 5-1 Network configured with a 1-way UPSR circuit

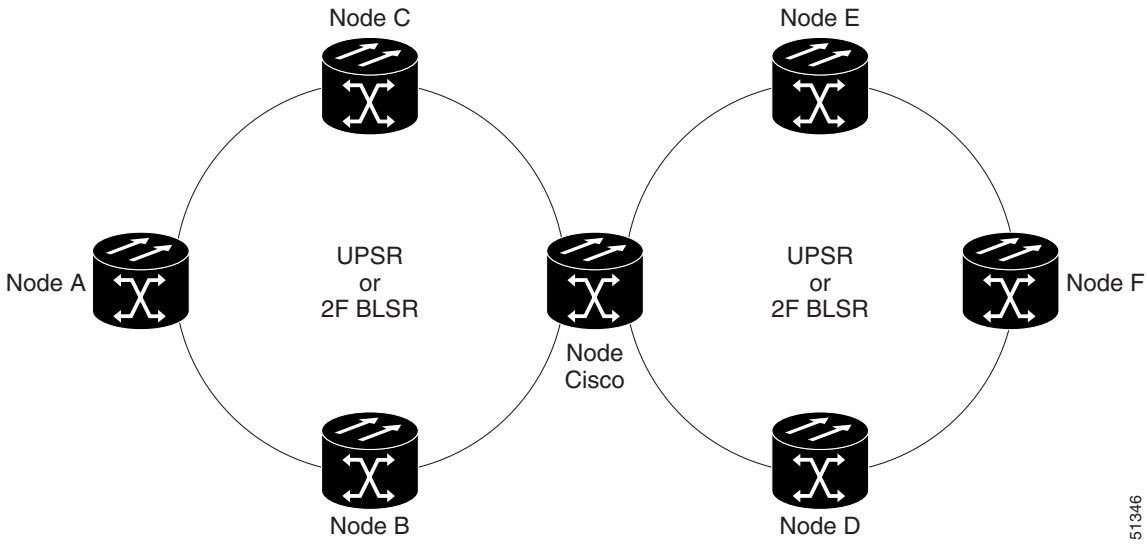


5.3 Ring-to-Ring Interconnection

In the following examples, the form “5/1/1” represents “Slot 5, Port 1, STS 1.” For VTs add the normal VT Group and VT ID extensions. These examples also assume that the slots/ports have been auto-provisioned (via a plug-in event) and that the ports involved have been placed into the in service state using a port configuration command, for example, ED-OCN.

For the examples in this section, both rings traverse the same node; therefore, only a single cross-connection is required to create the ring-to-ring connection. Use the network map shown in Figure 5-2 with the node named “Cisco” in the nexus.

Figure 5-2 Network map with Cisco node showing ring-to-ring interconnection



5.3.1 Sample UPSR to UPSR Connection

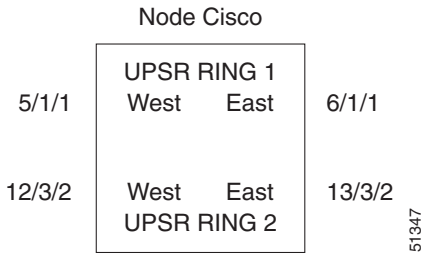
Ring 1 = UPSR

Ring 2 = UPSR

This example, illustrated in Figure 5-3, uses a 4-port OC-3 to feed Ring 2. Ring 1 can have any OC-N trunk card, but the trunk card is most likely a single-port OC-48 or OC-12.

Note STS 12/3/2 maps to STS-12-8 (((3-1)*3) +2).
The STS calculation formula is: (((Port # -1)*Number of STS per port)+STS#).

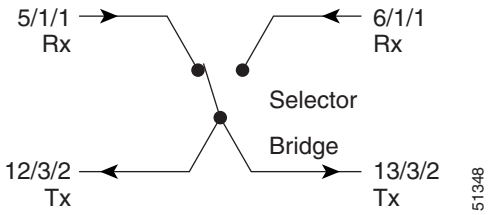
Figure 5-3 UPSR to UPSR connection specifications through the Cisco node



Use the ENT-CRS-STS1:CISCO:**STS-5-1&STS-6-1,STS-12-8&STS-13-8**:CTAG1::2WAY; input format.

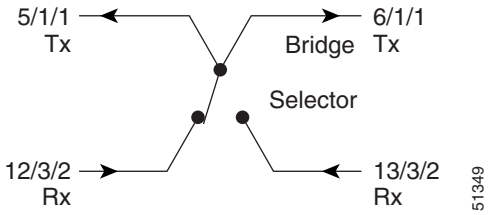
This command creates a selector between 5/1/1 and 6/1/1 which is bridged to Ring 2 (12/3/2 and 13/3/2), as shown in Figure 5-4.

Figure 5-4 Selector between 5/1/1 and 6/1/1



The command also creates a selector between 12/3/2 and 13/3/2 to a bridge to Ring 1 (5/1/1 and 6/1/1), as shown in Figure 5-5.

Figure 5-5 Selector between 12/3/2 and 13/3/2



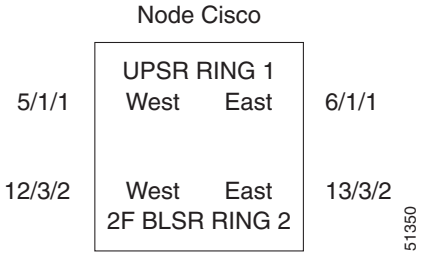
5.3.2 Sample UPSR to Two-Fiber BLSR Connection

Ring 1 = UPSR

Ring 2 = Two-fiber BLSR

This example, illustrated in Figure 5-6, uses a UPSR end-point with a drop on a two-fiber BLSR and the west span of the two-fiber BLSR (Ring 2) for the active path of the circuit. The example also uses multiport addressing for Ring 2 and is based on a multiport OC12-4 card (this is only important for computing the STS AID for multiport cards) where 13/3/2 = STS-13-26 and where 26 = (((3-1)*12) +2).

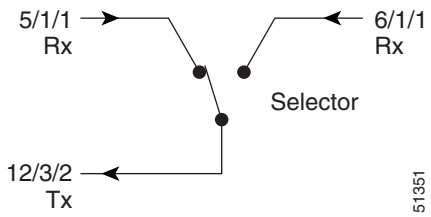
Figure 5-6 UPSR to two-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-5-1&STS-6-1,STS12-26**:CTAG2::2WAY; input format.

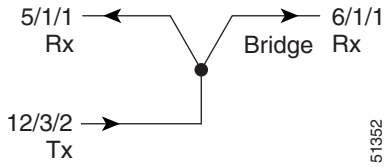
This command creates a selector between 5/1/1 and 6/1/1 which connects to 12/3/2 on Ring 2, as shown in Figure 5-7.

Figure 5-7 Selector between 5/1/1 and 6/1/1



The command also creates a bridge from 12/3/2 to Ring 1 (5/1/1 and 6/1/1), as shown in Figure 5-8.

Figure 5-8 Bridge from 12/3/2 to Ring 1



In this configuration a two-fiber BLSR switch can automatically reconnect the selector output to the protection path on the east port (12/3/2 assuming OC-12) if necessary.

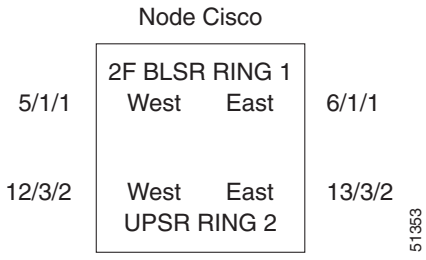
5.3.3 Sample Two-Fiber BLSR to UPSR Connection

Ring 1 = Two-fiber BLSR

Ring 2 = UPSR

This example, illustrated in Figure 5-9, uses a UPSR end-point with a drop on a two-fiber BLSR and uses the east span of the two-fiber BLSR (Ring 1) for the active path of the circuit. For STS addressing, the UPSR is an OC-3 (e.g. STS-13-8).

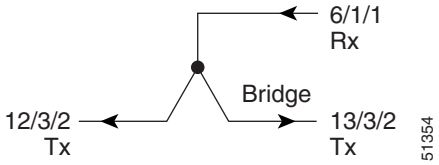
Figure 5-9 Two-fiber BLSR to UPSR



Use the ENT-CRS-STS1:CISCO:**STS-6-1,STS-12-8&STS-13-8**:CTAG3::2WAY; input format.

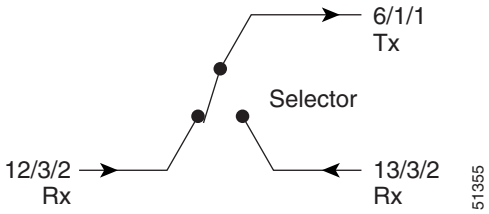
This command creates a bridge from 6/1/1 to Ring 2 (12/3/2 and 13/3/2), as shown in Figure 5-10.

Figure 5-10 Bridge from 6/1/1 to Ring 2



The command also creates a selector between 12/3/2 and 13/3/2 to Ring 1 (6/1/1) as shown in Figure 5-11.

Figure 5-11 Selector between 12/3/2 and 13/3/2 to Ring 1



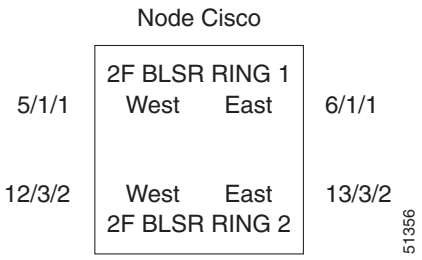
5.3.4 Sample Two-Fiber BLSR to Two-Fiber BLSR Connection

Ring 1 = Two-fiber BLSR

Ring 2 = Two-fiber BLSR

All protection for a two-fiber BLSR interconnecting to a two-fiber BLSR is performed at the line level. You can make the connection with a 2-way cross-connect from an STS on the working side of the two-fiber BLSR span of Ring 1 to an STS on the working side of a two-fiber BLSR span on Ring 2. The connections can be east to east, east to west, west to east, and west to west. This example, illustrated in Figure 5-12, uses Ring 1 west to Ring 2 east and assumes a 4-port OC-12 in Slots 12 and 13 for subtending to a two-fiber BLSR (Ring 2).

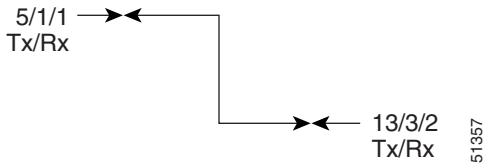
Figure 5-12 Two-fiber BLSR to two-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-5-1,STS-13-26**:CTAG4::2WAY; input format.

This command creates a 2-way connection from 5/1/1 to 13/3/2 as shown in Figure 5-13.

Figure 5-13 2-way connection from 5/1/1 to 13/3/2



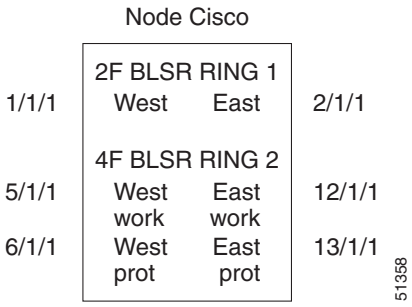
5.3.5 Sample Two-Fiber BLSR to Four-Fiber BLSR Connection (ONS 15454)

Ring 1 = Two-fiber BLSR

Ring 2 = Four-fiber BLSR

All protection for a two-fiber BLSR interconnecting to a four-fiber BLSR is performed at the line level. You can make the connection with a simple 2-way cross-connect from the appropriate side, east or west, of the two-fiber BLSR to the working fiber of the appropriate side, east or west, of the four-fiber BLSR, as shown in Figure 5-14.

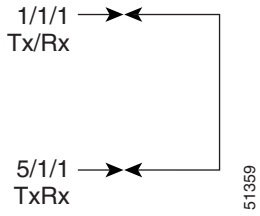
Figure 5-14 Two-fiber BLSR to four-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-1-1,STS-5-1**:CTAG5::2WAY; input format.

This command creates a 2-way connection from 1/1/1 to 5/1/1, as shown in Figure 5-15.

Figure 5-15 2-way connection from 1/1/1 to 5/1/1



In the event of a failure, the software will automatically switch the traffic to the appropriate line and path.

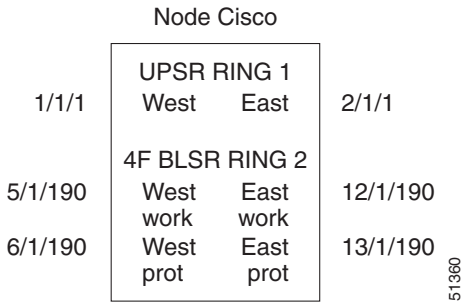
5.3.6 Sample UPSR to Four-Fiber BLSR Connection (ONS 15454)

Ring 1 = UPSR

Ring 2 = Four-fiber BLSR

This example uses the west span of the four-fiber BLSR (Ring 2) for the active path of the circuit. The example also assumes that the four-fiber BLSR travels over OC-192 spans, as shown in Figure 5-16.

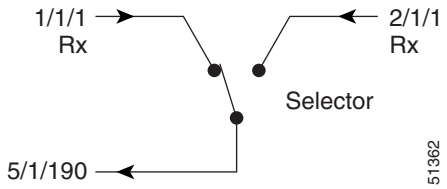
Figure 5-16 UPSR to four-fiber BLSR



Use the ENT-CRS-STS1:CISCO:**STS-1-1&STS-2-1&STS-5-190**:CTAG6::2WAY; input format.

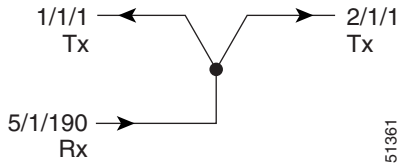
This command creates a selector between 1/1/1 and 2/1/1 to Ring 2 (5/1/190), as shown in Figure 5-17.

Figure 5-17 Selector between 1/1/1 and 2/1/1 to Ring 2 (5/1/190)



The command also creates a bridge from 5/1/190 to Ring 1 (1/1/1 and 2/1/1), as shown in Figure 5-18.

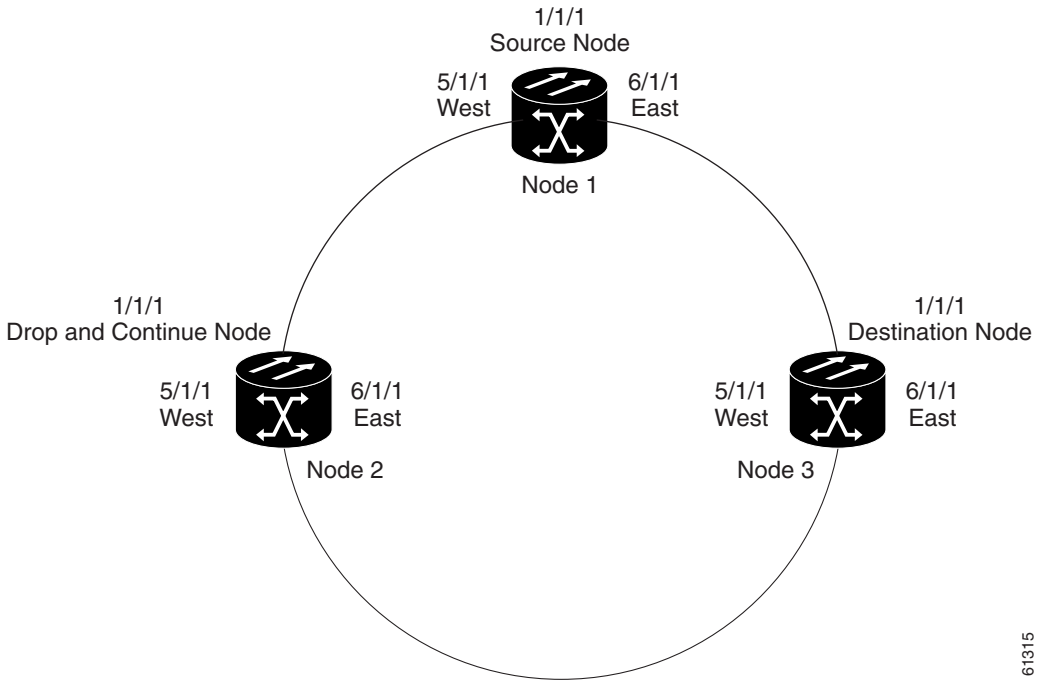
Figure 5-18 Bridge from 5/1/190 to Ring 1 (1/1/1 and 2/1/1)



5.4 1-Way Drop and Continue

The following examples show how to create a 1-way drop and continue cross-connect. The examples use three nodes (Node 1, Node 2, and Node 3) in a ring configuration. Node 1 is the source node, Node 2 has the drop and continue, and Node 3 is the destination.

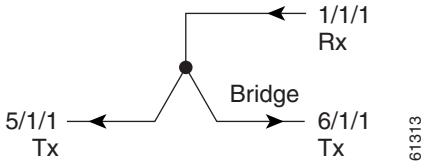
Figure 5-19 1-way drop and continue



5.4.1 Sample Node 1 Configuration (Source Node)

Issue the ENT-CRS-STSn::STS-1-1,STS-5-1&STS-6-1:CTAG::1WAY; command on this Node 1.

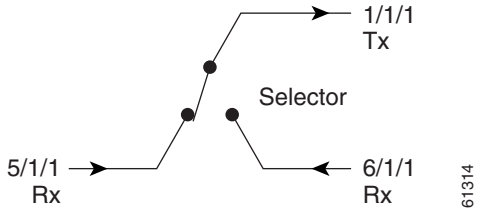
Figure 5-20 Bridge from 1/1/1 to 5/1/1 and 6/1/1



5.4.2 Sample Node 2 Configuration (Drop and Continue Node)

Issue the ENT-CRS-STSn::STS-5-1&STS-6-1,STS-1-1:CTAG::1WAYDC; on this Node 2.

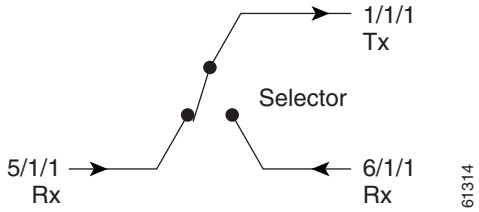
Figure 5-21 Selector between 5/1/1 and 6/1/1 to 1/1/1



5.4.3 Sample Node 3 Configuration (Destination Node)

Issue the ENT-CRS-STSn::STS-5-1&STS-6-1,STS-1-1:CTAG::1WAY; on this Node 3.

Figure 5-22 Selector between 5/1/1 and 6/1/1 to 1/1/1



TL1 Performance Monitoring

Performance information is continuously monitored and stored in individual performance monitoring (PM) registers and can be retrieved upon request or when a preset threshold is exceeded. For more detailed information on performance monitoring, refer to the *Cisco ONS 15454 Reference Guide* and the *Cisco ONS 15327 User Documentation* for more information on performance monitoring.

This chapter provides TL1 performance monitoring information for the Cisco ONS 15454 and the Cisco ONS 15327, including:

- Performance monitoring by card
- PM parameters by line type
- Scheduled PM report provisioning

6.1 Performance Monitoring by Card

Table 6-1 Near-End Section PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
CV-S					X	X	X
ES-S					X	X	X
SES-S					X	X	X
SEFS-S					X	X	X

Table 6-2 Near-End Line PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
Near-End Line							
CV-L					X	X	X
ES-L					X	X	X
SES-L					X	X	X

Table 6-2 Near-End Line PMs (continued)

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
UAS-L					X	X	X
FC-L					X	X	X
PSC					X (1+1)	X (1+1, 2F BLSR)	
PSC-R						X (4F BLSR)	
PSC-S						X (4F BLSR)	
PSC-W						X (4F BLSR)	
PSD					X (1+1)	X (1+1, 2F BLSR)	
PSD-R						X (4F BLSR)	
PSD-S						X (4F BLSR)	
PSD-W						X (4F BLSR)	
Far-End Line							
CV-L FE					X	X	X
ES-L FE					X	X	X
FC-L FE					X	X	X
SES-L FE					X	X	X
UAS-L FE					X	X	X

Table 6-3 Near-End DS1 Line PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
DS1 CV-L	X						
DS1 ES-L	X						
DS1 SES-L	X						
DS1 LOSS-L	X						

Table 6-4 Near-End DS3 Line PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
DS3 CV-L		X	X	X			
DS3 ES-L		X	X	X			
DS3 SES-L		X	X	X			
DS3 LOSS-L		X	X	X			

Table 6-5 SONET Path PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
Near-End SONET Path							
STS CV-P	X	X	X	X	X	X	X
STS ES-P	X	X	X	X	X	X	X
STS FC-P	X	X	X	X	X	X	X
STS SES-P	X	X	X	X	X	X	X
STS UAS-P	X	X	X	X	X	X	X
PPJC-Pdet					X	X	
NPJC-Pdet					X	X	
PPJC-Pgen					X	X	
NPJC-Pgen					X	X	
Far-End SONET Path							
STS CV-P FE	X	X	X	X	X (15454 only)		X
STS ES-P FE	X	X	X	X	X (15454 only)		X
STS FC-P FE	X	X	X	X	X (15454 only)		X
STS SES-P FE	X	X	X	X	X (15454 only)		X
STS UAS-P FE	X	X	X	X	X (15454 only)		X

Table 6-6 DS1 Path PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
DS1 Path (Rx and Tx)							
DS1 Rx AISS-P	X						
DS1 Rx CV-P	X						
DS1 Rx ES-P	X						
DS1 Rx SAS-P	X						
DS1 Rx SES-P	X						
DS1 Rx UAS-P	X						
DS1 Tx AISS-P	X						
DS1 Tx CV-P	X						
DS1 Tx ES-P	X						
DS1 Tx SAS-P	X						
DS1 Tx SES-P	X						
DS1 Tx UAS-P	X						
Near-End DS1 Path							
DS1 AISS-P				X			
DS1 ES-P				X			
DS1 SAS-P				X			
DS1 SES-P				X			
DS1 UAS-P				X			

Table 6-7 DS3 Path PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
Near-End DS3 Path							
DS3 AISS-P			X	X			
DS3 CVP-P			X	X			
DS3 ESP-P			X	X			
DS3 SASP-P			X	X			
DS3 SESP-P			X	X			
DS3 UASP-P			X	X			
Near-End C-bit DS3 Path							
DS3 CVCP-P			X	X			
DS3 ESCP-P			X	X			

Table 6-7 DS3 Path PMs (continued)

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
DS3 SESCP-P			X	X			
DS3 UASCP-P			X	X			
Far-End C-bit DS3 Path							
DS3 CVCP-P FE			X	X			
DS3 ESCP-P FE			X	X			
DS3 SASCP-P FE			X	X			
DS3 SESCP-P FE			X	X			
DS3 UASCP-P FE			X	X			

Table 6-8 VT Path PMs

Parameter	DS1, DS1N	DS3, DS3N	DS3-12E, DS3N-12E	DS3XM	OC3	OC12, OC48, OC192	EC1
Near-End VT Path							
CV-V	X			X			
ES-V	X			X			
SES-V	X			X			
UAS-V	X			X			
Far-End VT Path							
CV-V FE	X			X			
ES-V FE	X			X			
SES-V FE	X			X			
UAS-V FE	X			X			

6.2 PM Parameters by Line Type

Table 6-9 PM Parameters by Line Type

Parameter	OC-N	T1	T3	STS	VT1.5
CVL	Y	Y	Y		
CVP		Y	Y	Y	
CVS	Y				
CVV					Y
ESL	Y	Y	Y		
ESP		Y	Y	Y	
ESS	Y				
ESV					Y
FCP				Y	
FCL	Y				
PJNEG	Y				
PJPOS	Y				
PSC	Y				
PSD	Y				
SASP		Y	Y		
SEFS	Y				
SESL	Y	Y	Y		
SESP		Y	Y	Y	
SESS	Y				
SESV					Y
UASL	Y				
UASP		Y	Y	Y	
UASV					Y
AISSP		Y	Y		
CVCPP			Y		
ESCPP			Y		
LOSSL			Y		
SASCPP			Y		
SESCPP			Y		
UASCPP			Y		

6.3 Scheduled PM Report

Scheduled performance monitoring (PM) report is a feature that extends the capability of PM reporting for the ONS 15454 and the ONS 15327. With scheduled PM report the system automatically and periodically generates the PM report of any specified facility or cross-connection.

Note The current maximum number of schedules allowed to be created for an NE is 1000. If this number of schedules has been created for the NE, an error message "Reach Limits Of MAX Schedules Allowed. Can Not Add More" will be returned if trying to create more schedules on the NE.

Note Identical schedules for an NE is not allowed. Two schedules are considered identical if they have the same AID, MOD2 type, performance monitor type, performance monitor level, location, direction and time period.

Note An error message "Duplicate Schedule" is returned if you create a schedule which is a duplicate of an existing schedule. However, if the existing schedule expires (with the parameter <NUMINVL> equal to zero when retrieved by the RTRV-PMSCHED command which means no more performance monitoring report to be sent), then the new schedule with the identical parameter will replace the existing schedule.

Note When you create a PM schedule, the minimum report interval should not be less than five minutes.

See each command description for command formats and syntax:

- SCHED-PMREPT-<MOD2> on page 3-239
- ALW-PMREPT-ALL on page 3-42
- RTRV-PMSCHED-<MOD2> on page 3-214
- RTRV-PMSCHED-ALL on page 3-215
- INH-PMREPT-ALL on page 3-112
- REPT PM <MOD2> on page 3-145

6.3.1 Create a PM Schedule and Receive an Autonomous PM Report

1. Issue the SCHED-PMREPT-<MOD2> command to create a PM schedule.
2. Issue the ALW-PMREPT-ALL command to allow the current TL1 session to be able to receive the autonomous PM report.

6.3.2 Manage PM Schedules

1. Create a PM schedule by issuing the SCHED-PMREPT-<MOD2> command.
2. Delete a PM schedule by issuing the SCHED-PMREPT-<MOD2> command with the <NUMREPT> parameter equal to zero.

Note The PM schedules created on a facility or a cross-connect will be automatically deleted if the card or the cross-connect are unprovisioned.

3. Retrieve all the PM schedules created on the node by issuing the RTRV-PMSCHED-ALL command. Retrieve a particular MOD2 type of PM schedule by issuing the RTRV-PMSCHED-<MOD2> command.

Note The system will not automatically delete the schedules that are expired (for example, a schedule is created to report PM 10 times. After 10 PM reports are sent, the schedule is expired). The expired schedule can be identified by its <NUMINVL> field (equal to zero) in the response of RTRV-PMSCHED.

6.3.3 Enable or Disable a TL1 Session to Receive Autonomous PM Reports

1. Enable a TL1 session to receive a scheduled PM report by issuing the ALW-PMREPT-ALL command.

Note By default, a TL1 session is disabled to receive PM reports. The ALW-PMREPT-ALL command enables a TL1 user to receive all the scheduled PM reports from the system, regardless of whether or not the schedule is created by this TL1 user or by any other TL1 user.

2. Disable a TL1 session to receive any scheduled PM report by issuing the INH-PMREPT-ALL command.

TL1 Alarms and Errors

This chapter provides TL1 alarm and error information supported by the Cisco ONS 15454 and Cisco ONS 15327, including:

- Alarms
- Errors
- Echo

Each alarm includes a description and severity. Errors are listed by error type and command and include error type and error message. For a list of TL1 conditions, see Table 4-54 on page 4-29.

7.1 Alarms

Refer to "Alarm Troubleshooting" in the *Cisco ONS 15454 Troubleshooting Guide* and in the *Cisco ONS 15327 User Documentation* for complete alarm definitions, trouble notifications, and fault recovery procedures. The alarms are listed alphabetically by alarmable object:

- AIP
- BITS
- BPLANE
- DS1
- DS3
- ECN
- ENV
- EQPT
- ETHER
- EXTSYNCH
- FAN
- HDGE (G1000)
- NE
- NESYNCH
- OCN
- STSMON
- STSTERM
- VT-MON
- VT-TERM

For a sample of each TL1 alarm that can be generated by the ONS 15454, refer to the file 15454_r340_tl1_alarms.txt on the Cisco ONS 15454 Software CD in the subdirectory \Tl1. For a sample of each TL1 alarm that can be generated by the ONS 15327, refer to the file 15327_r340_tl1_alarms.txt on the Cisco ONS 15327 Software CD in the subdirectory \Tl1. These files can be used to test an operations support system's ability to receive alarms which the ONS 15454/ONS 15327 can raise.

7.1.1 AIP

Auxiliary interface protection module

Table 7-1 AIP

AIP Alarm	Severity (Active)	Description
INVMACADR	MJ/NSA	The ONS 15454/15327 media access control layer address (MAC address) is invalid.
MEA	CR/SA	The mismatch between entity/equipment type and provisioned attributes alarm occurs when the physical card inserted in a slot does not match the card type that is provisioned for that slot in the CTC.
MFGMEM	CR/SA	The manufacturing data memory failure alarm means that the ONS 15454/15327 cannot access the data on the erasable programmable read-only memory (EPROM).

7.1.2 BITS

Building integration timing supply (BITS) incoming references (BITS-1, BITS-2)

Table 7-2 BITS

BITS Alarm	Severity (Active)	Description
LOF	MJ/SA	A port on the TCC/MIC BITS input detects a loss of frame (LOF) on the incoming BITS timing reference signal.
LOS	MJ/SA	The TCC/MIC card has a loss of signal (LOS) condition from the BITS timing source.
SSM-FAIL	MN/NSA	Synchronization status messaging failed.

7.1.3 BPLANE

The backplane

Table 7-3 BPLANE

BPLANE Alarm	Severity (Active)	Description
MEA	CR/SA	The Mismatch Of Equipment and Attributes (MEA) alarm for the backplane means that the revision of the backplane is incompatible with XC10G equipment.
MFGMEM	CR/SA	The manufacturing data memory failure alarm means that the ONS 15454/15327 cannot access the data on the erasable programmable read-only memory (EPROM).

7.1.4 DS1

A DS1 line on a DS1 or DS3XM card

Table 7-4 DS1

DS1 Alarm	Severity (Active)	Description
LOF	MJ/SA	The receiving ONS 15454/15327 has lost frame delineation in the incoming data.
LOS	MJ/SA	A loss of signal (LOS) at the card for either a DS-3 port or a DS-1 port.
RCVR-MISS	MJ/SA	The facility termination equipment detects a missing receive cable on the DS-1 port or a possible mismatch of backplane equipment.
TRMT	MJ/SA	There is a transmission failure on the DS-1 card due to an internal hardware failure.
TRMT-MISS	MJ/SA	The facility termination equipment detects a missing transmit cable on the DS-1 port or a possible mismatch of backplane equipment.

7.1.5 DS3

A DS3 line on a DS3 or DS3XM card

Table 7-5 DS3

DS3 Alarm	Severity (Active)	Description
LOF	CR/SA	The receiving ONS 1545415327 has lost frame delineation in the incoming data.
LOS	CR/SA	Loss of signal at the card for either a DS-3 port or a DS-1 port.

7.1.6 ECN

An EC1 line on an EC1 card

Table 7-6 ECN

ECN Alarm	Severity (Active)	Description
LOF (EC1-12)	CR/SA	The receiving ONS 15454 has lost frame delineation in the incoming data.
LOS (EC1-12)	CR/SA	A port on the reporting EC-1 card has a loss of signal condition. A SONET receiver detects an all-zero pattern for 10 microseconds or longer.

7.1.7 ENV

An environmental alarm port on an AIC card (ONS 15454) or MIC card (ONS 15327)

Table 7-7 ENV

ENV Alarm	Severity (Active)	Description
EXT	MN/NSA	A facility alarm is detected external to the node because an environmental alarm is present.

7.1.8 EQPT

A card in any of the card slots. This object is used for alarms that refer to the card itself and all other objects on the card including ports, lines, STS and VT.

Table 7-8 EQPT

EQPT Alarm	Severity (Active)	Description
AUTORESET	MN/NSA	The card is performing a warm reboot automatically.
BKUPMEMP	CR/NSA	A problem with the TCC/XTC card's flash memory.
CARLOSS	MN/NSA	The Ethernet card has lost its link and is not receiving any signal, even an invalid one.
COMIOXC	CR/SA	The IO Slot To XCON Communication Failure alarm is raised by the XC card. It occurs when there is a communication failure for a particular IO slot.
CONTBUS-A-18	MJ/NSA	The main processor on the TCC/XTC card in Slot 7/Slot 5 has lost communication with the coprocessor on the second TCC/XTC card in Slot 11/Slot 6.
CONTBUS-A	MJ/NSA	The TCC/XTC card in Slot 7/Slot 5 has lost communication with a line card.
CONTBUS-B-18	MJ/NSA	The main processor on the TCC/XTC card in Slot 11/Slot 6 has lost communication with the coprocessor on the TCC/XTC card in Slot 7/Slot 5.
CONTBUS-B	MJ/NSA	The TCC/XTC card in Slot 11/Slot 6 has lost communication with a line card.
CTNEQPT-PBPROT	CR/SA	A failure of the main payload between the protect cross-connect (XC/XCVT/XC10G) card in Slot 10, or the protect XTC card, and the reporting traffic card.
CTNEQPT-PBWORK	CR/SA	The main payload bus between the active cross-connect (XC/XCVT/XC10G) card in Slot 8, or the active XTC card, and the reporting traffic card.
EQPT	CR/SA	A hardware failure occurred on the reporting card.
EXCCOL	MN/NSA	There are too many collisions are occurring on the network management LAN.

Table 7-8 EQPT (continued)

EQPT Alarm	Severity (Active)	Description
HITEMP	MN/NSA	The temperature of the ONS 15454/ONS 15327 is above 50 degrees Celsius.
IMPROPRMVL	CR/SA	A card was physically removed from its slot before the card was deleted in CTC.
MEA	CR/SA	The mismatch between entity/equipment type and provisioned attributes alarm occurs when the physical card inserted in a slot does not match the card type that is provisioned for that slot in the CTC.
MEM-GONE	MJ/NSA	Data generated by software operations exceeds the memory capacity of the TCC/XTC card.
MEM-LOW	MN/NSA	Data generated by software operations is close to exceeding the memory capacity of the TCC/XTC card.
PEER-NORESPONSE	MJ/NSA	The switch agent raises a Peer Card Not Responding alarm if either I/O card in a protection group does not receive a response to the peer status request message.
PROTNA	MN/NSA	The Protection Unit Not Available is raised by an out-of-service protection when a card or port that is provisioned as part of a protection group is not available.
SFTWDOWN-FAIL	MN/NSA	The software download from the TCC/XTC card to the ONS 15454 failed.
SNTP-HOST	MN/NSA	An ONS node serving as an IP proxy for the other ONS nodes in the ring is not forwarding SNTP information to the other ONS nodes in the network.
SWMTXMOD	CR/SA	Traffic on the reporting card is lost when this failure occurs.

7.1.9 ETHER

Ethernet

Table 7-9 EHTER

EHTER Alarm	Severity (Active)	Description
CARLOSS	MJ/SA	A Carrier Loss on the LAN alarm occurs when the ONS 15454 and the workstation hosting CTC do not have a TCP/IP connection.

7.1.10 EXTSYNCH

BITS outgoing references (SYNC-BITS1, SYNC-BITS2)

Table 7-10 EXTSYNCH

EXTSYNCH Alarm	Severity (Active)	Description
SYNCPRI	MN/NSA	A loss of the primary timing source (reference 1).
SYNCSEC	MN/NSA	A loss of the secondary timing source (reference 2).
SYNCTHIRD	MN/NSA	A loss of the third timing source (reference 3).

7.1.11 FAN

Fan-tray assembly

Table 7-11 FAN

FAN Alarm	Severity (Active)	Description
EQPT-MISS	CR/SA	Indicates the replaceable fan tray assembly unit is missing or not fully inserted.
FAN	CR/SA	A problem with the fan-tray assembly.
FANDEGRADE	MJ/NSA	The Partial Fan Failure alarm is raised if fan speed in shelf fan tray 1, 2, or 3 falls below 500 RPM when read by a tachometry counter.
MEA	CR/SA	The mismatch between entity/equipment type and provisioned attributes alarm occurs when the physical card inserted in a slot does not match the card type that is provisioned for that slot in the CTC.
MFGMEM	CR/SA	The manufacturing data memory failure alarm means that the ONS 15454/ONS 15327cannot access the data on the erasable programmable read-only memory (EPROM).

7.1.12 HDGE (G1000)

High Density Gigabit Ethernet. Applies to G1000 cards.

Table 7-12 HDGE (G1000)

NE Alarm	Severity (Active)	Description
CARLOSS	MJ/SA	A carrier loss on the LAN is the data equivalent of a SONET LOS alarm. The Ethernet card has lost its link and is not receiving a valid signal.
TPTFAIL	MJ/SA	Indicates a break in the end-to-end Ethernet link integrity feature of the G1000-4 cards. This alarm indicates a far-end condition and not a problem with the port reporting TPTFAIL.
UNEQ-P	CR/SA	A Signal Label Mismatch Failure Unequipped Path alarm occurs when the path does not have a valid sender. The UNEQ-P indicator is carried in the C2 signal path byte in the SONET overhead.

7.1.13 NE

The entire network element (SYSTEM)

Table 7-13 NE

NE Alarm	Severity (Active)	Description
DATAFLT	MN/NSA	The database exceeded the capacity of the flash memory on the TCC/XTC.
EHIBATVG-A	MJ/SA	The voltage level on battery lead A exceeds -56.7 Vdc. (ONS 15454)
EHIBATVG-B	MJ/SA	The voltage level on battery lead B exceeds -56.7 Vdc. (ONS 15454)
ELWBATVG-A	MJ/SA	The voltage on battery feed A is extremely low or has been lost, and power redundancy is no longer guaranteed. (ONS 15454)
ELWBATVG-B	MJ/SA	The voltage on battery feed B is extremely low or has been lost, and power redundancy is no longer guaranteed. (ONS 15454)
HITEMP	CR/SA	The temperature of the ONS 15454/ONS 15327 is above 50 degrees Celsius (122 degrees Fahrenheit).
PRC-DUPID	MJ/SA	Two identical node IDs exist in the same ring.
PWR-A	MJ/SA	This alarm applies to the NE rack. It is raised when there is no power supplied to the main power connector or if power is connected to the backup power connector (Connector B) but not to Connector A. (ONS 15454)
PWR-B	MJ/SA	This alarm applies to the NE rack. It is raised when there is no power supplied to the backup power connector or if power is connected to the main power connector (Connector A) but not to Connector B. (ONS 15454)

Table 7-13 NE (continued)

RING-MISMATCH	MJ/SA	The Ring ID of the ONS 15454/ONS 15327that is reporting the alarm does not match the Ring ID of another ONS node in the BLSR.
SNTP-HOST	MN/NSA	The SNTP (Simple Network Timing Protocol) host failure alarm indicates that an ONS node serving as an IP proxy for the other ONS nodes in the ring is not forwarding SNTP information to the other ONS nodes in the network.
SYSBOOT	MJ/SA	New software is booting on the TCC/XTC card.

7.1.14 NERING

Represents the ring status of the NE

Table 7-14 NERING

NERING Alarm	Severity (Active)	Description
BLSROSYNC	MJ/SA	The BLSR Out Of Sync alarm occurs when the mapping table needs updating.
PRC-DUPID	MJ/SA	The Procedural Error Duplicate Node ID alarm indicates that two identical node IDs exist in the same ring. The ONS 15454/ONS 15327 requires each node in the ring to have a unique node ID.
RING-MISMATCH	MJ/SA	A Procedural Error Mismatch Ring alarm occurs when the ring ID of the ONS 15454 that is reporting the alarm does not match the ring ID of another ONS node in the BLSR

7.1.15 NESYNCH

Represents the timing status of the NE

Table 7-15 NESYNCH

NESYNCH Alarm	Severity (Active)	Description
FRNGSYNC	MJ/SA	The reporting ONS 15454/ONS 15327 is in free run synchronization mode.
FSTSYNC	MN/NSA	A fast start synchronization. The ONS 15454/ ONS 15327 is choosing a new timing reference.
HLDOVRSYNC	MJ/SA	A loss of primary/secondary timing reference.
SYNCPRI	MN/NSA	A loss of the primary timing source (reference 1).
SYNCSEC	MN/NSA	A loss of the secondary timing source (reference 2).
SYNCTHIRD	MN/NSA	A loss of the third timing source (reference 3).

7.1.16 OCN

An OCN line on an OCN card

Table 7-16 OCN

OCN Alarm	Severity (Active)	Description
APSB	MN/NSA	The line terminating equipment detects protection switching byte failure in the incoming automatic protection switching (APS) signal if an inconsistent APS byte or invalid code is detected.
APSCDFLTK	MN/NSA	A BLSR is not properly configured.
APSC-IMP	MN/NSA	Invalid K bytes.
APSCINCON	MN/SA	The SONET overhead contains K1/K2 APS bytes that notify receiving equipment, such as the ONS 15454/ONS 15327, to switch the SONET signal from a working to a protect path.
APSCM	MJ/SA	The ONS 15454/ONS 15327 expects a working channel but receives a protection channel.
APSCNMIS	MJ/SA	The node ID contained in the K2 byte of the APS channel being received is not present in the ring map.
APSMM	MN/NSA	There is a mismatch of the protection switching schemes at the two ends of the span.
AUTOLSROFF	CR/SA	The OC-192 card temperature exceeds 90 degrees Centigrade. The internal equipment automatically shuts down the OC-192 laser when the card temperature rises to prevent the card from self-destructing.(ONS 15454)
EOC	MJ/NSA	The ONS 15454/ONS 15327 has lost its data communications channel (DCC).
E-W-MISMATCH	MJ/SA	Nodes in a ring have an east slot/port misconnected to another east slot/port or a west slot/port misconnected to another west slot/port.
FEPRLF	MN/NSA	An automatic protection switching channel failure on a signal coming into the node.
LOF	CR/SA	A port on the reporting OC-N card has an LOF condition.
LOS	CR/SA	A port on the reporting OC-N card has a LOS condition.
SSM-FAIL	MN/NSA	Synchronization status messaging received by the ONS 15454/ONS 15327 failed

7.1.17 STSMON

STS alarm detection at the monitor point (upstream of cross-connect)

Table 7-17 STSMON

STSMON Alarm	Severity (Active)	Description
CONCAT	CR/SA	The transmitted STSc circuit is smaller than the provisioned STSc causing a mismatch of the circuit type on the concatenation facility.
LOP-P	CR/SA	A loss of pointer (LOP) condition at the path level.
PLM-P	CR/SA	A signal label mismatch failure (SLMF).
TIM-P	MN/SA	The expected path trace string does not match the received path trace string.
UNEQ-P	CR/SA	The path does not have a valid sender.

7.1.18 STSTERM

STS alarm detection at termination (downstream of cross-connect)

Table 7-18 STSTERM

STSTERM Alarm	Severity (Active)	Description
LOP-P	CR/SA	A loss of pointer (LOP) condition at the path level.
PLM-P	CR/SA	A signal label mismatch failure (SLMF).
TIM-P	MN/SA	The expected path trace string does not match the received path trace string. Path trace mode can be set to auto or manual for this alarm to occur.
UNEQ-P	CR/SA	The path does not have a valid sender.

7.1.19 VT-MON

VT1 alarm detection at the monitor point (upstream of cross-connect)

Table 7-19 VT-MON

VT-MON Alarm	Severity (Active)	Description
AUTOSW-LOP	MN/SA	Automatic UPSR protection switching took place because of an LOP alarm.
AUTOSW-UNEQ	MN/SA	Automatic UPSR protection switching took place because of an UNEQ alarm.
LOP-V	MJ/SA	A loss of pointer at the VT level.
UNEQ-V	MJ/SA	The node is receiving SONET path overhead with bits 5, 6 and 7 of the V5 overhead byte all set to zeroes. The failure has occurred at the VT layer.

7.1.20 VT-TERM

VT1 alarm detection at termination (downstream of cross-connect)

Table 7-20 VT-TERM

VT-TERM Alarm	Severity (Active)	Description
LOP-V	MJ/SA	A loss of pointer at the VT level.
PLM-V	MN/SA	The content of the V5 byte in the SONET overhead is inconsistent or invalid.
UNEQ-V	MJ/SA	The node is receiving SONET path overhead with bits 5, 6 and 7 of the V5 overhead byte all set to zeroes. The failure has occurred at the VT layer.

7.2 Errors

Errors may be generated by any command or command response message. You can find errors listed by error code in Table 7-21 on page 7-12 and listed by command in Table 7-22 on page 7-23. The format of an error message is as follows:

```
   SID DATE TIME
M CTAG DENY
   <ERRCDE>
    /* <ERRMSG> */
;
```

7.2.1 Errors Listed by Error Code

Table 7-21 Errors Listed by Error Code

Error Code	Error Message
ENEQ	Control Not Provisioned Environmental Control Interface Not Found Equipment Not Found Equipment Not Provisioned Internal Communication Error Sensor Interface Not Found
IBEX	Invalid AID Block. Extra Datablock Invalid Payload Block. Extra Datablock Invalid Payload Block. Extra Parameters
ICNV	Equipment Does Not Match Request Equipment In Use Invalid Command Operation not supported by this card Performance Monitoring Type Not Supported
IDMS	Missing Internal Data
IDNC	Invalid Data Invalid PST Value Invalid SST Value Primary Source Cannot be Internal When Secondary Source Is Not Internal Primary Source Cannot be Internal When Third Source Is Not Internal Secondary Source Cannot be Internal When Third Source Is Not Internal

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
IDNV	2F-BLSR Architecture Does Not Permit Manual/Forced Span Switching At least an XC10G XC card is needed for this equipment type Cannot Change Protection Type Command Not Valid On Protect Card Facility Loopback Not Supported Frame Format Not Supported On Equipment Frame Format Contains Invalid Data Incompatible Protect Slot For Protection Incompatible Equipment Type Incompatible Equipment Type For Protection Invalid Data For 2F-BLSR Invalid Ethernet Frame Size Invalid Equipment Type Invalid Log Name Invalid MONLEV Value Invalid MONTYPE Value Invalid Protection Group Card Slot Identifier Invalid Protid Invalid Reference Invalid TAP Number Invalid Time/Date Interval Line Code Not Supported Multiple AIDs Not Allowed Multiple Protection Group Card Slot Identifiers Not Allowed Multiple References Not Allowed Protect Card Does Not Support Protection Type Protect Slot Not Provisioned Protection Group Card Slot Identifier Field Required Protection Group Does Not Exist Ring Lockout BLSR Switching Is Not Supported Switch Type Is Not Allowed On 1+1
IDRG	Difference Value Range Error Invalid PJMON Value Invalid Threshold Value

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
IIAC	AID Validation Failed ALL, Ranging and Grouping Are Not Supported Cannot Access 1+1 Protect Line Cannot Make Changes To Protect Card Equipment Does Not Match Request Expected Trace Not Supported On This Card Type Expected Trace String Exceeds Maximum Length (62) Incoming Trace Not Supported On This Card Type Incorrect Card Type Input, Invalid Access Invalid AID Invalid AID Pair Invalid DS1 AID Invalid Facility AID Invalid From AID Invalid G1000 Facility Port Invalid Month Or Day Invalid Operation On Drop AID Invalid PJMON Value Invalid Protect AID Invalid Protect AID Or Working AID Invalid Protect Switching Operation Invalid Reference Invalid TAP Invalid Time Invalid To AID Invalid Year List AID Not Allowed For ALL AID List Or All AID Not Supported Multiple AIDs Not Supported Multiple TAP AIDs Not Supported Not Allowed On 1+1 Protect Line Not Allowed On BLSR Protect Line Only CCT=2WAY Is Allowed When A G1000-4 Port Is Used Optional AIDs Are Not Supported RingId Does Not Match with AID Number Trace Mode Not Supported On This Card Type Trace Not Supported On This Card Type Trace String Exceeds Maximum Length (62) UPSR Cross-Connections Are Not Allowed When A G1000 Port Is Used
IICM	Input, Invalid MOD1 Input, Invalid VERB
IICT	Invalid Correlation Tag

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
IIDT	Cannot Activate To Older Software Cannot Revert From R2 To R1 Command Already In Progress Duplicate Performance Monitoring Schedule Flash Manager Not Active Hostname Missing In FTP URL Invalid Command Mode Value Invalid Data Parameter Invalid Location Value Invalid Revertive Time Invalid Software Switch Type Invalid State Value Mandatory FTP URL Not Provided Maximum Performance Monitoring Schedule Limit Reached Memory Out of Range Null Outputs In FTP URL Parsing Only NORM CMD_MODE Is Supported Only OOS PST Is Supported Only SWDL Is Supported For The xfertype Argument Package Name Missing in FTP URL Password Missing In FTP URL Performance Monitoring Schedule Does Not Exist Software Activate/Revert Failed Software Not Available For Switch Unknown Error Processing FTP URL Username Missing In FTP URL ftp:// Missing In FTP URL
IIFM	Invalid Payload Block. Invalid Data Format
IISP	Input, Garbage
IITA	Input, Invalid Target Identifier
INUP	External Ring ID Configuration Not Supported General Block Unsupported Node ID Configuration Not Supported RNGWTR Configuration Not Supported Ring ID Configuration Not Supported Ring Map Auto Configuration Not Supported
IPEX	Invalid Payload Block. Extra Parameters
IPMS	Invalid AID Block. Missing Mandatory Field Invalid Payload Block. Missing Mandatory Field
IPNC	Cannot Change Existing Protection Type Description Cannot Have More Than 64 Characters Invalid Flow Control Value Invalid Maximum Frame Size Invalid Parameter Invalid Primary State Parameters Are Not Consistent Parameters Not Compatible

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
IPNV	AID Or Condition Must Be Specified Cannot Set Expected Path Trace In Auto Mode Cross-Connection Does Not Have UPSR Path Selector Invalid Switch Type Exercise Is Not Allowed On Protected Facility Far End Performance Monitoring Values Not Supported INT Not Valid For BITS-OUT Internal-Ip Lookup Failed Internal-Network Nodes Lookup Failed Invalid Clock Source Invalid Default Router Address Invalid IIOP Port number Invalid IP Address Invalid Parameter Invalid IP Configuration Parameter Invalid IP Configuration, Subnets Differ Invalid IP Mask Invalid Parameter Invalid Payload Block. Empty Parameter Invalid SNTP Host Address Invalid Switch Command For Synchronization Invalid Switch Type New Source Must Be Specified Node Name Exceeds Maximum Length (62) PM Not Supported Primary Reference Incompatible With Timing Mode Reference Type Not Supported SPNWTR Parameter Not Supported TMGREF Parameter Not Supported Third Reference Incompatible With Timing Mode Timing Mode Not Compatible
PICC	AID Required Invalid User Access Privilege Value Invalid User Identifier–Must Conform To TL1 Rules Invalid User Password–Must Conform To TL1 Rules Logout failed New Password Same As Old Password Unknown CORBA Exception (Internal Error) Unknown User User Access Privilege Required User Already Exists User Identifier Exceeds Maximum Length Allowed User Not Authorized User Password and User Identifier Cannot Be Identical User Password Required
PIMA	Memory Out Of Range

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
PIUC	Cannot Delete The Logged In User Login Failed User Currently Logged Into Another Session User Is Not Superuser User Not Allowed To Change User Access Privilege User Not Allowed To Change User Password
RRNG	Invalid Slot Number
RTBY	Connection In Service TAP Already In Use TAP Number In Use
RTEN	Cannot Access VT Cannot Change Access Mode Cannot Set Access Mode Invalid Access Mode Invalid TAP AID Invalid TAP Mode Invalid TAP Number Requested TAP Does Not Exist TAP Not Found
SAAL	Already Allowed
SAAS	Equipment Already Provisioned Equipment Not Supported
SADC	TAP Not Connected
SAIN	Already Inhibited
SAIS	Port Already In Service
SAMS	Already In Clear Maintenance State Already In Force Maintenance State Already In Lockout Maintenance State Already In Manual Maintenance State
SAOP	Control Already Operated Control Not Operated Or Already Released
SAOS	Port Already In OOS-AINS Port Already In OOS-MT Port Already Out Of Service
SCAT	STS Is Already Connected Test Access Busy VT In Use VT Is Already Connected

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
SDBE	AID Parser Failed Cannot Access Conditions Cannot Access Controls Cannot Access Date/Time Cannot Access Defaults Description Cannot Access Environmental Settings Cannot Access Equipment Cannot Access Facility Cannot Access IP Configuration Cannot Access Interface Cannot Access Node ID Cannot Access Object Cannot Access Orderwire Cannot Access Protection Group Cannot Access Protection State Cannot Access SNTP Host Cannot Access STS Cannot Access Software Version Cannot Access Synchronization Configuration Cannot Access Timezone Cannot Access VT Cannot Access VT Performance Monitoring Parameters Cannot Create 1+1 Protection Group Cannot Edit STS Cannot Get Line Information Cannot Get Synchronization Configuration Cannot Set Date Cannot Set Date When Using SNTP Cannot Set IP Configuration Cannot Set Node Name Cannot Set Pointer Justification Monitoring Parameter (PJMON) Cannot Set SNTP Host Configuration Cannot Set Timezone Cannot Switch To E2 Byte With Express Orderwire IS Card Type Not Supported Delete Protection Group Failed Equipment Not Found Facility Does Not Exist Facility Does Not Match Request Facility Is Not Provisioned File Transfer In Progress Incompatible Parameter Values Incorrect Facility Type Internal Access Failed Internal Database Error Invalid DCC Invalid Performance Monitoring Mode Invalid Protection Group

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
SDBE (continued)	Location Value Invalid Object Not Provisioned Operation Not Supported On EC1 Interface STS Not Provisioned Synchronization Configuration Not Available Synchronization Status Messaging (SSM) Not Supported On EC1 Interface Used Frame Format Does Not Support Synchronization Status Messaging (SSM) VT Not Provisioned
SDLD	Duplex Unit Locked
SDNA	Standby TCC Not Ready
SNCC	Replace This Message When A SNCC message is needed
SNCN	Bad Quality Of Clock Source Cannot Switch To Inferior Reference Source Clock Source Failed Command Not Implemented Cross-Connection Type Not Supported In TL1 Invalid Clock Source STS Rate Changing Not Supported This Direction Is Not Supported
SNNS	Reference Not From Optical Card
SNPR	Cannot Get Role Of Port
SNVS	Already Switched To Internal Reference Source BLSR East Operation Already Set BLSR West Operation Already Set Cannot Manually Switch To Active Timing Source Cannot Operate Loopback In Current State Facility Not Part Of BLSR Invalid Admin State Invalid AINS Soak Time Invalid BLSR Element Invalid Clock Source Invalid Equipment State Loopback Already In Progress Loopback Not In Progress No Switch In Progress Protection Group Does Not Exist Protection Unit Active Working Unit Already Active Working Unit Already Standby
SOSE	Unrecognized Message Type
SPFA	Cannot Get Current Card Status Protection Unit Failed Or Missing

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
SPLD	Cannot Create 1+1 Protection Group Cannot Delete Equipment Equipment In Use Facility Is Busy Protection Unit Locked
SRCN	Already In Requested Mode Requested Condition Already Exists
SROF	1+1 Protection Group Not Found Alarm Log Empty All DCCs In Use Cannot Access 1+1 Line Cannot Access 1+1 Protected Line Cannot Access 2 Fiber BLSR Cannot Access 4 Fiber BLSR East Protection Cannot Access 4 Fiber BLSR West Protection Cannot Access 4F BLSR Cannot Access Alarm Log Cannot Access BLSR Cannot Access BLSR 2 Wire Line Cannot Access Cross-Connection Cannot Access DCC Cannot Access Facility Cannot Access Performance Monitoring Mode Cannot Access Performance Monitoring Statistics Cannot Access Protected Equipment Cannot Access Protection Group Cannot Access Protection Group Information Cannot Access Protection Group Name Cannot Access Protection Group Reversion Information Cannot Access STS Cannot Access TAP Cannot Access Unprotected Line Cannot Access VT Cannot Change XTC Protection Group Cannot Create Cross-Connection Between Incompatible Interfaces Cannot Create Protection Group Cannot Create TAP Cannot Delete Cross-Connection Cannot Delete Protected Equipment Cannot Delete Protection Group Cannot Edit STS Cannot Modify Protect Card Cannot Perform ACO Cannot Provision Equipment Cannot Provision Protection Equipment Cannot Set Bidirectional Protection Group Cannot Set Protection Group Cannot Set Protection Group Name Cannot Set Protection Group Revertive Behavior

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
SROF (continued)	Cannot Set Revertive Time In Non-revertive Mode Cannot Set Span Revertive Mode Unless 4-Fiber Ring Cannot Set Span Revertive Time In Non-revertive Mode Cannot Set Span Revertive Time Unless 4-Fiber Ring Cannot Switch For Specified Connection Type Cannot Switch For Specified Path Cannot Update Synchronization Reference List Command Not Supported Cross-Connection Creation Failed DCC Not In Use Date Or Time Required Element Not Found Equipment Does Not Match Request Equipment Type Not Supported Facility Not Provisioned Generation1 Does Not Support Given Quality Of RES Get IOR Failed Host Not In IP Address Format Incompatible Cross-Connection Width Insufficient Bandwidth Insufficient Path Width For Cross-connection Insufficient Path Width For Test Access Internal Exercise Failure Internal Facility Type Failure Invalid Control Type (CONTTYPE) For AID Invalid Cross-Connection Path Invalid FTP Username/Password Invalid Loopback Provision Invalid Operation For Connection Type Invalid Operation For Specified Path Invalid Path Invalid Protection Group Invalid Protection Switch Operation Invalid State When Loopback Present Invalid Synchronization Source Invalid UPSR Path Loopback Type Does Not Match MIC Cards Cannot Be Reset Maximum User Limit Reached Node::General Not Available Operate Alarm Cutoff Failed Operation Not Supported OspfTopology::OSPFTopo Not Available Package File Not Found Path Already In Use Path Specified Is Not Valid Pool Does Not Exist Protect Card Busy Requested Operation Failed Ring Reversion Failed

Table 7-21 Errors Listed by Error Code (continued)

Error Code	Error Message
SROF (continued)	STS Does Not Exist STS Does Not Have TAP STS Is Already In Use STS Path Width Does Not Match STS Rates Do Not Match Security::General Not Available Software Activation Failed Software Reversion Failed Span Reversion Failed Specified Operation Is Not Valid Test Access Active UPSR Must Exist In Order To Change Revertive Behavior Unsupported Command Type Unsupported Element Type VT Does Not Exist VT Does Not Have TAP VT Not Found XC Card Does Not Support VT Cross-Connection
SRQN	BLSR Creation Failed BLSR Deletion Failed BLSR Does Not Exist BLSR Not Found Cannot Edit SENDDUS On Protect Port Cannot Edit SYNCMSG On Protect Port DCC Not Allowed On Protect Port Data Access Request Failed Invalid Mode For Current Configuration Invalid Request Protect Card Does Not Support Electrical Protection Protect Card Does Not Support Protection Type Sync Status Messaging (SSM) Not Allowed With SDH Mode
SSRD	Manual Switch Cannot Override Forced Switch Switch Request Denied
SSRE	Memory Resources Exceeded
SWFA	Working Unit Failed Or Missing
SWLD	Working Unit Locked

7.2.2 Errors Listed by Command

Table 7-22 Errors listed by Command

Command	Error Code	Error Message
ACT-USER	SDBE	Cannot Access Node ID Internal Database Error
	SROF	Get IOR Failed
ALW-MSG-ALL	SAAL	Already Allowed
	SAIN	Already Inhibited
ALW-MSG-DBCHG	SAAL	Already Allowed
	SAIN	Already Inhibited
ALW-PMREPT-ALL	SAAL	Already Allowed
	SAIN	Already Inhibited
ALW-SWDX-EQPT	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
ALW-SWTOPROTN-EQPT	ENEQ	Equipment Not Found
	IDNV	Input, Data Not Valid Invalid Protid
	IIAC	Input, Invalid Access Invalid AID
	SAAL	Already Allowed
	SDBE	Cannot Access Protection Group Internal Access Failed| Internal Database Error
	SNVS	Protection Group Does Not Exist Working Unit Already Active Working Unit Already Standby
	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name
	SRQN	Invalid Request

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ALW-SWTOWKG-EQPT	ENEQ	Equipment Not Found
	IDNV	Input, Data Not Valid Invalid Protid
	IIAC	Input, Invalid Access Invalid AID
	IICM	Input, Invalid Command
	SAAL	Already Allowed
	SDBE	Cannot Access Protection Group Internal Access Failed Internal Database Error
	SNVS	Protection Group Does Not Exist Working Unit Already Active Working Unit Already Standby
	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name Get IOR Failed
	SRQN	Invalid Request
APPLY	IIDT	Cannot Activate To Older Software Cannot Revert From R2 To R1 Cannot Revert To Newer Software Command Already In Progress Flash Manager Not Active Invalid Software Switch Type Software Activate/Revert Failed Software Not Available For Switch
	SDBE	Internal Database Error
	SROF	Get IOR Failed Software Activation Failed Software Reversion Failed
CANC-USER	SDBE	Internal Database Error
	SROF	Get IOR Failed
CHG-ACCMD-<STS_PATH>	IDNV	Invalid TAP Number
	IIAC	Equipment Does Not Match Request Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	RTEN	Invalid TAP AID
	SDBE	Internal Database Error
	SRCN	Already In Requested Mode
	SROF	Unknown Internal Error STS Rates Do Not Match

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
CHG-ACCMD-DS1	ICNV	Equipment Does Not Match Request
	IIAC	Invalid AID Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SRCN	Already In Requested Mode
	SROF	Tap Number Does Not Exist
CHG-ACCMD-T1	ICNV	Equipment Does Not Match Request
	IIAC	Invalid AID Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SRCN	Already In Requested Mode
	SROF	Tap Number Does Not Exist
CHG-ACCMD-T3	IDNV	Invalid TAP Number
	IIAC	Equipment Does Not Match Request Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	RTEN	Invalid TAP AID
	SDBE	Internal Database Error
	SRCN	Already In Requested Mode
	SROF	Unknown Internal Error STS Rates Do Not Match
CHG-ACCMD-VT1	ICNV	Equipment Does Not Match Request
	IIAC	Invalid AID Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SRCN	Already In Requested Mode
	SROF	Tap Number Does Not Exist

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
CONN-TACC-<STS_PATH>	ENEQ	Equipment Not Found
	IDNV	Invalid TAP Number Multiple AIDs Not Allowed
	IIAC	Invalid AID Cannot Make Changes To Protect Card Invalid TAP Multiple AIDs Not Supported
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Internal Access Failed Internal Database Error STS Not Provisioned
	SROF	STS Rates Do Not Match Get IOR Failed
CONN-TACC-DS1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IDNV	Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Internal Access Failed Internal Database Error
	SROF	Tap Number Does Not Exist Unknown Internal Error Cannot Access Cross-Connection Get IOR Failed STS Rates Do Not Match

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
CONN-TACC-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IDNV	Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Internal Access Failed Internal Database Error
	SROF	Tap Number Does Not Exist Unknown Internal Error Cannot Access Cross-Connection Get IOR Failed STS Rates Do Not Match
CONN-TACC-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IDNV	Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID Multiple TAP AIDs Not Supported
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Internal Access Failed Internal Database Error
	SROF	Tap Number Does Not Exist Unknown Internal Error Cannot Access Cross-Connection Get IOR Failed STS Rates Do Not Match

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
CONN-TACC-VT1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Multiple AIDs Not Supported
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	RTEN	Invalid TAP Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Cross-Connection Get IOR Failed Invalid Path Path Already In Use
COPY-RFILE	IIAC	Invalid AID
	IIDT	Hostname Missing In FTP URL Mandatory FTP URL Not Provided Null Outputs In FTP URL Parsing Only SWDL Is Supported For The xfertype Argument Package Name Missing in FTP URL Password Missing In FTP URL Unknown Error Processing FTP URL. Username Missing In FTP URL ftp:// Missing In FTP URL
	IPEX	Invalid Payload Block. Extra Parameters
	IPMS	Invalid Payload Block. Missing Mandatory Field
	SDBE	Internal Database Error
	SROF	Active Flash Not Ready Database Busy Flash Busy Generic download failure message Software Error Standby Flash Not Ready Get IOR Failed
DISC-TACC	IDNV	Invalid TAP Number
	IIAC	Multiple TAP AIDs Not Supported
	RTEN	Invalid TAP AID TAP Not Found
	SDBE	Internal Database Error
	SROF	Tap Number Does Not Exist Unknown Internal Error

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
DLT-BLSR	IDNV	Invalid Data For 2F-BLSR
	IIAC	Input, Invalid Node ID Input, Invalid Ring ID
	SROF	Set NodeId Failed Set RingId Failed Cannot Access Facility Cannot Set Span Revertive Mode Unless 4-Fiber Ring Cannot Set Span Revertive Time Unless 4-Fiber Ring Facility Not Provisioned Ring Reversion Failed Span Reversion Failed
	SRQN	BLSR Deletion Failed BLSR Does Not Exist Data Access Request Failed
DLT-CRS-<STS_PATH>	ENEQ	Equipment Not Found
	IIAC	Invalid AID Cannot Make Changes To Protect Card
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Cross-Connection Cannot Delete Cross-Connection Get IOR Failed STS Rates Do Not Match
	SSRE	Memory Resources Exceeded
DLT-CRS-VT1	ENEQ	Equipment Not Found
	IIAC	Invalid AID Cannot Make Changes To Protect Card
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Database Error Internal Access Failed
	SROF	Cannot Access Cross-Connection Cannot Delete Cross-Connection Get IOR Failed
	SSRE	Memory Resources Exceeded

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
DLT-EQPT	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	IIDT	Invalid Data Parameter
	SDBE	Internal Access Failed Internal Database Error
	SPLD	Cannot Delete Equipment Equipment In Use
	SROF	Get IOR Failed
	SRQN	Invalid Request
DLT-FFP-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	ALL, Ranging and Grouping Are Not Supported Invalid AID Invalid Protect AID Or Working AID Equipment Does Not Match Request
	IICM	Input, Invalid Command
	SDBE	Cannot Access Protection Group Delete Protection Group Failed Internal Access Failed Internal Database Error
	SROF	1+1 Protection Group Not Found Cannot Access Facility Cannot Access Protection Group Name Facility Not Provisioned Get IOR Failed
DLT-UCP-CC	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
DLT-UCP-IF	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
DLT-UCP-NBR	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
DLT-USER-SECU	PICC	Unknown CORBA Exception (Internal Error) Unknown User User Not Authorized
	PIUC	Cannot Delete The Logged In User User Currently Logged Into Another Session
	SDBE	Internal Database Error
	SROF	Get IOR Failed
ED-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IDRG	Invalid PJMON Value
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Cannot Access Facility Cannot Set Pointer Justification Monitoring Parameter (PJMON) Cannot Switch To E2 Byte With Express Orderwire IS Facility Does Not Exist Facility Does Not Match Request Facility Is Not Provisioned Internal Access Failed Internal Database Error Not Supported On EC1 Interface Synchronization Status Messaging (SSM)
	SROF	All DCCs In Use Cannot Access DCC Cannot Access Facility Cannot Access Performance Monitoring Statistics Facility Not Provisioned Get IOR Failed
	SRQN	Invalid Mode For Current Configuration

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-<STS_PATH>	ENEQ	Equipment Not Found
	IDNV	Cannot Make Changes To Protect Card Invalid TAP Number Multiple AIDs Not Allowed
	IIAC	Expected Trace Not Supported On This Card Type Expected Trace String Exceeds Maximum Length (62) Incorrect Card Type Invalid AID Trace Mode Not Supported On This Card Type Trace Not Supported On This Card Type Trace String Exceeds Maximum Length (62)
	IICM	Input, Invalid Command
	IIDT	Only NORM CMD_MODE Is Supported
	IPNC	Parameters Not Compatible
	IPNV	Cannot Set Expected Path Trace In Auto Mode
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Incompatible Parameter Values Internal Database Error STS Not Provisioned
	SROF	Cannot Access Cross-connect Cannot Access Cross-Connection Cannot Access VT Cross-connection Does Not Exist Get IOR Failed STS Rates Do Not Match
	IPNV	Cannot Set Expected Path Trace In Auto Mode
	SDBE	Internal Database Error Synchronization Status Messaging (SSM) Used Frame Format Does Not Support
ED-BITS	SROF	Get IOR Failed
	IPNV	Invalid Parameter
	SDBE	Internal Database Error Synchronization Status Messaging (SSM) Used Frame Format Does Not Support
	IIAC	Invalid AID

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-BLSR	IDNV	Invalid Data For 2F-BLSR
	SROF	4-Fiber Ring Cannot Access Facility Cannot Set Span Revertive Mode Unless Cannot Set Span Revertive Time Unless Facility Not Provisioned Set NodeId Failed Set RingId Failed Ring Reversion Failed Span Reversion Failed
	SRQN	BLSR Deletion Failed BLSR Does Not Exist Data Access Request Failed
	IIAC	Input, Invalid Node ID Input, Invalid Ring ID
ED-CRS-<STS_PATH>	ENEQ	Equipment Not Found
	IIAC	Cannot make changes to protect card Invalid AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SNCC	Cross-connection does not exist
	SROF	Get IOR Failed
	SSRE	Memory resource denial
ED-CRS-VT1	ENEQ	Equipment Not Found
	IIAC	Cannot make changes to protect card Invalid AID
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SNCC	Cross-connection does not exist
	SROF	Get IOR Failed
	SSRE	Memory resource denial
ED-DAT	IIAC	Invalid Year
	SDBE	Cannot Access Date/Time Cannot Set Date Cannot Set Date When Using SNTP
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-DS1	ENEQ	Equipment Not Found Equipment Not Provisioned
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Operation not supported by this card Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
ED-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
ED-EQPT	ENEQ	Equipment Not Found
	ICNV	Equipment In Use
	IDNV	Cannot Change Protection Type Command Not Valid On Protect Card Incompatible Equipment Type For Protection Incompatible Protect Slot For Protection Multiple Protection Group Card Slot Identifiers Not Allowed Protect Card Does Not Support Protection Type Protect Slot Not Provisioned Protection Group Does Not Exist
	IIAC	ALL, Ranging and Grouping Are Not Supported Invalid AID Invalid Protect AID
	IIDT	Invalid Revertive Time
	IPMS	Invalid Payload Block. Missing Mandatory Field

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-EQPT (continued)	IPNC	Cannot Change Existing Protection Type Invalid Parameter Parameters Are Not Consistent
	IPNV	Invalid Reversion Mode For Protection Type Invalid Parameter
	SDBE	Cannot Access Protection Group Cannot Access Protection State Internal Access Failed Internal Database Error
	SNVS	Protection Group Does Not Exist
	SRCN	Requested Condition Already Exists
	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name Cannot Access Protection Group Reversion Information Cannot Change XTC Protection Group Cannot Create Protection Group Cannot Delete Protection Group Cannot Provision Protection Equipment Cannot Set Protection Group Name Get IOR Failed Protect Card Busy Unsupported Command Type
	SRQN	Invalid Request Protect Card Does Not Support Electrical Protection
ED-FFP-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IIDT	Invalid Data Parameter
	SDBE	Cannot Access Protection Group Internal Access Failed Internal Database Error
	SROF	1+1 Protection Group Not Found Cannot Access Facility Cannot Access Protection Group Name Cannot Set Bidirectional Protection Group Cannot Set Protection Group Name Cannot Set Protection Group Revertive Behavior Facility Not Provisioned Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-G1000	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IDNV	Invalid Ethernet Frame Size
	IIAC	Invalid AID Invalid G1000 Facility Port
	IPEX	Invalid Payload Block. Extra Parameters
	IPNC	Invalid Flow Control Value Invalid Maximum Frame Size
	SDBE	Internal Access Failed Internal Database Error Object Not Provisioned
	SNVS	Cannot Operate Loopback In Current State
	SROF	Get IOR Failed
ED-NE-GEN	IPNV	Invalid Default Router Address Invalid IIOP Port number Invalid IP Address Invalid IP Configuration Parameter Invalid IP Mask Invalid LAN IP Address Invalid LAN IP Mask Invalid SNTP Host Address Node Name Too Long Set LAN IP Config Failed - Different From Node IP DHCP/OSPF on LAN Is Not Allowed
	SDBE	Set LAN IP Configuration Failed Set LAN IP Config Failed - OSPF Is Provisioned Cannot Access IP Configuration Cannot Access Node ID Cannot Set IP Configuration Cannot Set Node Name Cannot Set SNTP Host Configuration Internal Database Error
	SDNA	Standby TCC Not Ready
	SROF	Cannot Access LAN IP Configuration Invalid MASK LAN IP Address Set LAN IP Config Failed - Subnets Different Get IOR Failed
ED-NE-SYNCN	SDBE	Cannot Access Synchronization Configuration Internal Database Error
	SROF	Generation1 Does Not Support Given Quality Of RES Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-PID	PICC	Invalid User Password - Must Conform To TL1 Rules New Password Same As Old Password Unknown CORBA Exception (Internal Error) Unknown User
	PIUC	User Not Allowed To Change User Password
	SDBE	Internal Database Error
	SROF	Get IOR Failed
ED-SYNCN	IDNV	Invalid Reference Multiple References Not Allowed
	SNNS	Reference Not From Optical Card
	SROF	Get IOR Failed
	IPNV	Invalid Clock Source Primary Reference Incompatible With Timing Mode Reference Type Not Supported Secondary Reference Incompatible With Timing Mode Synchronization Source Already Defined For The Slot Third Reference Incompatible With Timing Mode Timing Mode Not Compatible
	IDNC	Primary Source Cannot Be INTERNAL When Secondary Source Is Not INTERNAL Primary Source Cannot Be INTERNAL When Third Source Is Not INTERNAL Secondary Source Cannot Be INTERNAL When Third Source Is Not INTERNAL
	SDBE	Internal Database Error
	IIAC	Invalid AID Invalid Reference

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-T1	ENEQ	Equipment Not Found Equipment Not Provisioned
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Operation not supported by this card Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
ED-T3	ENEQ	Equipment Not Found Equipment Not Provisioned
	ICNV	Invalid Command
	IDNV	Frame Format Contains Invalid Data Frame Format Not Supported On Equipment Incompatible Equipment Type Invalid TAP Number Line Code Not Supported
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Operation not supported by this card Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
ED-UCP-CC	IIAC	Routed CC Is Not Allowed to Provision MTU & CRCMD
	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-UCP-IF	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
ED-UCP-NBR	IIAC	HELLOINT Is Not Allowed If HELLOEN Is Disabled
	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
ED-UCP-NODE	IICM	Input, Invalid Command
	IPNV	Invalid Node Id
	SDBE	Internal Database Error
	SROF	Get IOR Failed
ED-USER-SECU	PICC	AID Required Invalid User Access Privilege Value Invalid User Identifier - Must Conform To TL1 Rules Invalid User Password - Must Conform To TL1 Rules New Password Same As Old Password Unknown CORBA Exception (Internal Error) Unknown User User Access Privilege Required User Already Exists User Not Authorized User Password Required
	PIUC	User Currently Logged Into Another Session. User Is Not Superuser User Not Allowed To Change User Access Privilege User Not Allowed To Change User Password
	SDBE	Internal Database Error
	SROF	Get IOR Failed Maximum User Limit Reached
ED-VT1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IDNV	Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IIDT	Only NORM CMD_MODE Is Supported
	IPNC	Parameters Not Compatible

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ED-VT1 (continued)	IPNV	Cross-Connection Does Not Have UPSR Path Selector
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Cannot Access VT Internal Access Failed Internal Database Error STS Not Provisioned VT Not Provisioned
	SROF	Cannot Access Cross-Connection Get IOR Failed
ENT-BLSR	IIAC	Input, Invalid Duplicated Port ID Input, Invalid Node ID Input, Invalid Ring ID Input, Invalid Work/Prot Port Input Invalid MODE for BLSR Creation MODE Is Required for BLSR Creation SRVRTV/SRVTM/EASTPROT/WESTPROT Are Not Allowed for 2F-BLSR Creation RingId Does Not Match with AID Number
	SRQN	BLSR Creation Failed
ENT-CRS-<STS_PATH>	ENEQ	Equipment Not Found
	IIAC	Cannot Make Changes To Protect Card Invalid AID Only CCT=2WAY Is Allowed When G1000 Port Is Used UPSR Cross-Connections Are Not Allowed When A G1000 Port Is Used
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SNCN	Cross-Connection Type Not Supported In TL1
	SROF	Cannot Create Cross-Connection Between Incompatible Interfaces Cross-Connection Creation Failed Get IOR Failed Insufficient Path Width For Cross-connection Invalid Cross-Connection Path Invalid UPSR Path Path Already In Use
	SSRE	Memory Resources Exceeded

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ENT-CRS-VT1	SROF	Cross-Connection Creation Failed Get IOR Failed Invalid Cross-Connection Path Invalid UPSR Path Path Already In Use
	SSRE	Memory Resources Exceeded
	SDBE	Internal Access Failed Internal Database Error
	IIAC	Cannot Make Changes To Protect Card Invalid AID
ENT-EQPT	ENEQ	Equipment Not Found
	ICNV	Equipment In Use
	IDNV	At least an XC10G XC card is needed for this equipment type Command Not Valid On Protect Card Incompatible Equipment Type For Protection Incompatible Protect Slot For Protection Invalid Equipment Type Multiple Protection Group Card Slot Identifiers Not Allowed Protect Card Does Not Support Protection Type Protect Slot Not Provisioned Protection Group Card Slot Identifier Field Required
	IIAC	ALL, Ranging and Grouping Are Not Supported Invalid AID Invalid Protect AID
	IIDT	Invalid Data Parameter Invalid Revertive Time
	IPMS	Invalid Payload Block. Missing Mandatory Field
	IPNC	Cannot Change Existing Protection Type Invalid Parameter
	IPNV	Invalid Reversion Mode For Protection Type Invalid Parameter
	SAAS	Equipment Already Provisioned
	SDBE	Cannot Access Protection Group Cannot Access Protection State Internal Access Failed Internal Database Error
	SNVS	Protection Group Does Not Exist
	SPLD	Cannot Delete Equipment Equipment In Use
	SRCN	Requested Condition Already Exists

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ENT-EQPT (continued)	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name Cannot Access Protection Group Reversion Information Cannot Create Protection Group Cannot Delete Protection Group Cannot Provision Equipment Cannot Provision Protection Equipment Cannot Set Protection Group Name Get IOR Failed Protect Card Busy Unsupported Command Type
	SRQN	Invalid Request Protect Card Does Not Support Electrical Protection
ENT-FFP-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDMS	Missing Internal Data
	IDNC	Invalid Data
	IIAC	ALL, Ranging and Grouping Are Not Supported Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IIDT	Memory Out Of Range
	SDBE	Cannot Create 1+1 Protection Group Internal Access Failed Internal Database Error
	SPLD	Cannot Create 1+1 Protection Group Facility Is Busy
	SROF	Get IOR Failed
ENT-UCP-CC	IIAC	PORT Data Is Needed To Create SDCC Type IPCC Routed CC Is Not Allowed to Provision MTU & CRCMD
	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
ENT-UCP-IF	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
ENT-UCP-NBR	IIAC	HELLOINT Is Not Allowed If HELLOEN Is Disabled Invalid Neighbor Node ID NBRIX Does Not Match with AID NODEID Is Not Allowed If NDEN Is Enabled Neighbor Name Can Not be Empty Node Name Too Long
	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
ENT-USER-SECU	PICC	Invalid User Access Privilege Value Invalid User Identifier - Must Conform To TL1 Rules Invalid User Password - Must Conform To TL1 Rules Unknown CORBA Exception (Internal Error) Unknown User User Already Exists User Not Authorized
	PIUC	User Is Not Superuser
	SDBE	Internal Database Error
	SROF	Get IOR Failed Maximum User Limit Reached
EX-SW-<OCN_BLSR>	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IPNV	Exercise Is Not Allowed On Protected Facility Invalid Switch Type
	SDBE	Internal Access Failed Internal Database Error
	SNVS	BLSR East Operation Already Set BLSR West Operation Already Set Facility Not Part Of BLSR Invalid BLSR Element
	SROF	Cannot Access Facility Facility Not Provisioned Internal Exercise Failure Invalid Protection Switch Operation
INH-MSG-ALL	SAAL	Already Allowed
	SAIN	Already Inhibited
ING-MSG_DBCHG	SAAL	Already Allowed
	SAIN	Already Inhibited

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
INH-PMREPT-ALL	SAAL	Already Allowed
	SAIN	Already Inhibited
INH-SWDX-EQPT	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
INH-SWTOPROTN-EQPT	ENEQ	Equipment Not Found
	IDNV	Input, Data Not Valid Invalid Protid
	IIAC	Input, Invalid Access Invalid AID
	IICM	Input, Invalid Command
	SAAL	Already Allowed
	SDBE	Cannot Access Protection Group Internal Access Failed Internal Database Error
	SNVS	Protection Group Does Not Exist Working Unit Already Active Working Unit Already Standby
	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name Get IOR Failed
	SRQN	Invalid Request
INH-SWTOWKG-EQPT	ENEQ	Equipment Not Found
	IDNV	Input, Data Not Valid Invalid Protid
	IIAC	Input, Invalid Access Invalid AID
	IICM	Input, Invalid Command
	SAAL	Already Allowed
	SDBE	Cannot Access Protection Group Internal Access Failed Internal Database Error
	SNVS	Protection Group Does Not Exist Working Unit Already Active Working Unit Already Standby

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
INH-SWTOWKG-EQPT (continued)	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name Get IOR Failed
	SRQN	Invalid Request
INIT-REG-<OCN_TYPE>>	ENEQ	Equipment Not Found Equipment Not Present
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
INIT-REG-<STS_PATH>	ENEQ	Equipment Not Found Equipment Not Present Internal Communication Error
	IIAC	Cannot Make Changes To Protect Card Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Internal Access Failed Internal Database Error STS Not Provisioned
	SNCN	This Direction Is Not Supported
	SROF	Get IOR Failed
INIT-REG-DS1	ENEQ	Equipment Not Found Equipment Not Present Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
INIT-REG-DS1 (continued)	SDBE	Cannot Access Equipment Cannot Access Object Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Get IOR Failed
INIT-REG-EC1	ENEQ	Equipment Not Found Equipment Not Present
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
INIT-REG-T1	ENEQ	Equipment Not Found Equipment Not Present Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Cannot Access Object Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Get IOR Failed
INIT-REG-T3	ENEQ	Equipment Not Found Equipment Not Present Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
NIT-REG-T3 (continued)	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Cannot Access Object Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Get IOR Failed
INIT-REG-VT1	ICNV	Invalid Command Operation not supported by this card
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access VT Internal Database Error VT Not Provisioned
	SNCN	This Direction Is Not Supported
	SROF	Get IOR Failed Operation Not Supported
INIT-SYS	ENEQ	Equipment Not Found Equipment Not Present
	IIAC	ALL, Ranging and Grouping Are Not Supported Invalid AID
	SDBE	Cannot Access Equipment Internal Access Failed Internal Database Error
	SROF	Get IOR Failed MIC Cards Cannot Be Reset
	SRQN	Invalid Request
OPR-ACO-ALL	SROF	Operate Alarm Cutoff Failed
OPR-EXT-CONT	ENEQ	Control Not Provisioned
	SAOP	Control Already Operated Control Not Operated Or Already Released
	SDBE	Cannot Access Controls Internal Database Error
	SROF	Get IOR Failed Invalid Control Type (CONTTYPE) For AID
	SRQN	Invalid Request

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
OPR-LPBK-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Facility Cannot Access Interface Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State
	SROF	Get IOR Failed Invalid Loopback Provision
OPR-LPBK-DS1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Interface Cannot Access Object Internal Database Error
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match
OPR-LPBK-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Interface Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
OPR-LPBK-EC1 (continued)	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match Requested Operation Failed
OPR-LPBK-G1000	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IDNV	Facility Loopback Not Supported Invalid Ethernet Frame Size
	IIAC	Invalid AID Invalid G1000 Facility Port
	SDBE	Internal Access Failed Internal Database Error Object Not Provisioned
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Unsupported Command Type
OPR-LPBK-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Interface Cannot Access Object Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match
OPR-LPBK-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
OPR-LPBK-T3 (continued)	SDBE	Cannot Access Interface Cannot Access Object Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match
OPR-PROTNSW-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SAMS	Already In Clear Maintenance State Already In Force Maintenance State Already In Lockout Maintenance State Already In Manual Maintenance State
	SDBE	Cannot Access Facility Facility Does Not Match Request Facility Is Not Provisioned Internal Access Failed Internal Database Error
	SROF	Cannot Access Facility Facility Not Provisioned Get IOR Failed
OPR-PROTNSW-<STS_PATH>	ENEQ	Equipment Not Found
	IDNV	Multiple AIDs Not Allowed
	IIAC	Invalid AID AID Validation Failed Invalid Operation On Drop AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Cannot Access Facility Internal Access Failed Internal Database Error STS Not Provisioned

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
OPR-PROTNSW-<STS_PATH> (continued)	SROF	Cannot Access Cross-Connection Cannot Switch For Specified Connection Type Cannot Switch For Specified Path Get IOR Failed Invalid Protection Switch Operation Path Specified Is Not Valid Requested Operation Failed Specified Operation Is Not Valid
	SSRD	Switch Request Denied
OPR-PROTNSW-VT1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid Operation On Drop AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Cross-Connection Get IOR Failed Invalid Operation For Connection Type Invalid Operation For Specified Path Invalid Protection Switch Operation Path Specified Is Not Valid Requested Operation Failed Specified Operation Is Not Valid
	SSRD	Switch Request Denied
OPR-SYNCNSW	SNVS	Already Switched To Internal Reference Source Cannot Manually Switch To Active Timing Source Invalid Clock Source
	SROF	Get IOR Failed
	SNCN	Cannot Switch To Inferior Reference Source Clock Source Failed Invalid Clock Source
	SSRD	Manual Switch Cannot Override Forced Switch
	IPNV	INT Not Valid For BITS-OUT Invalid Parameter Invalid Switch Command For Synchronization New Source Must Be Specified Reference Type Not Supported
	SDBE	Internal Database Error
	IIAC	Invalid AID

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RLS-EXT-CONT	ENEQ	Control Not Provisioned
	IIAC	Invalid AID
	SAOP	Control Already Operated Control Not Operated Or Already Released
	SDBE	Cannot Access Controls Internal Database Error
	SROF	Get IOR Failed Invalid Control Type (CONTTYPE) For AID
	SRQN	Invalid Request
RLS-LPBK-<OCN_TYPE>	ENEQ	Equipment Not Found
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Facility Cannot Access Interface Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State
	SROF	Get IOR Failed Invalid Loopback Provision
RLS-LPBK-DS1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Interface Cannot Access Object Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RLS-LPBK-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Interface Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match Requested Operation Failed
RLS-LPBK-G1000	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IDNV	Facility Loopback Not Supported Invalid Ethernet Frame Size
	IIAC	Invalid AID Invalid G1000 Facility Port
	SDBE	Internal Access Failed Internal Database Error Object Not Provisioned
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Unsupported Command Type
RLS-LPBK-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Interface Cannot Access Object Internal Access Failed Internal Database Error

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RLS-LPBK-T1 (continued)	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match
RLS-LPBK-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Interface Cannot Access Object Internal Access Failed Internal Database Error
	SNVS	Cannot Operate Loopback In Current State Loopback Already In Progress Loopback Not In Progress
	SROF	Get IOR Failed Invalid Loopback Provision Loopback Type Does Not Match
RLS-PROTNSW-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SAMS	Already In Clear Maintenance State Already In Force Maintenance State Already In Lockout Maintenance State Already In Manual Maintenance State
	SDBE	Cannot Access Facility Facility Does Not Match Request Facility Is Not Provisioned Internal Access Failed Internal Database Error
	SROF	Cannot Access Facility Facility Not Provisioned Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RLS-PROTNSW-<STS_PATH>	ENEQ	Equipment Not Found
	IDNV	Multiple AIDs Not Allowed
	IIAC	Invalid AID Invalid Aid AID Validation Failed Invalid AID Invalid Operation On Drop AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Internal Access Failed Internal Database Error STS Not Provisioned
	SROF	Cannot Access Cross-Connection Cannot Switch For Specified Connection Type Cannot Switch For Specified Path Get IOR Failed Invalid Protection Switch Operation Path Specified Is Not Valid Requested Operation Failed Specified Operation Is Not Valid
	SSRD	Switch Request Denied
RLS-PROTNSW-VT1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid Operation On Drop AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Cross-Connection Get IOR Failed Invalid Operation For Connection Type Invalid Operation For Specified Path Invalid Protection Switch Operation Path Specified Is Not Valid Requested Operation Failed Specified Operation Is Not Valid
	SSRD	Switch Request Denied

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RLS-SYNCNSW	IIAC	Invalid AID
	SDBE	Internal Database Error
	SROF	Get IOR Failed
	SNVS	No Switch In Progress
RMV-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IIDT	Only NORM CMD_MODE Is Supported Only OOS PST Is Supported
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RMV-DS1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID
	IDNV	Incompatible Equipment Type Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Operation not supported by this card Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RMV-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IIDT	Only NORM CMD_MODE Is Supported Only OOS PST Is Supported

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RMV-EC1 (continued)	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RMV-G1000	ENEQ	Equipment Not Found
	IIAC	Invalid AID Invalid G1000 Facility Port
	IIDT	Invalid State Value Only NORM CMD_MODE Is Supported
	SDBE	Internal Access Failed Internal Database Error
	SROF	Command Not Supported Get IOR Failed
RMV-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IIDT	Only NORM CMD_MODE Is Supported Only OOS PST Is Supported
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RMV-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IIDT	Only NORM CMD_MODE Is Supported Only OOS PST Is Supported
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RST-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IIDT	Only NORM CMD_MODE Is Supported Only OOS PST Is Supported
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RST-DS1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID
	IDNV	Incompatible Equipment Type Invalid TAP Number
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Operation not supported by this card Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RST-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RST-G1000	ENEQ	Equipment Not Found
	IIAC	Invalid AID Invalid G1000 Facility Port
	IIDT	Invalid State Value Only NORM CMD_MODE Is Supported
	SDBE	Internal Access Failed Internal Database Error
	SROF	Command Not Supported Get IOR Failed
RST-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RST-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Cannot Access Facility Cannot Access IP Configuration Facility Does Not Exist Facility Does Not Match Request Facility Is Not Provisioned Internal Access Failed Internal Database Error

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-<OCN_TYPE> (continued)	SROF	Cannot Access Facility Cannot Access Performance Monitoring Statistics Facility Not Provisioned Get IOR Failed
RTRV-<STS_PATH>	ENEQ	Equipment Not Found Equipment Not Present
	IDNV	Multiple AIDs Not Allowed
	IIAC	AID Validation Failed Invalid AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Cannot Access Equipment Cannot Access STS Internal Access Failed Internal Database Error STS Not Provisioned
	SNVS	Invalid Admin State
	SROF	Cannot Access Cross-connect Cannot Access Cross-Connection Get IOR Failed
RTRV-ALM-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-<STS_PATH>	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Conditions Cannot Access STS Internal Database Error STS Not Provisioned
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-ALM-ALL	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	RRNG	Invalid Slot Number
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-BITS	IIAC	Invalid AID
	SDBE	Cannot Access Conditions
	SROF	Get IOR Failed
RTRV-ALM-DS1	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Conditions Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-E100	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-E1000	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-ALM-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Conditions Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-ENV	IIAC	Invalid AID
	SDBE	Cannot Access Conditions Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-ALM-EQPT	ENEQ	Equipment Not Found Equipment Not Present
	IIAC	Invalid AID
	SDBE	Cannot Access Conditions Cannot Access Equipment Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-ALM-G1000	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-RING	IIAC	Invalid AID
	SDBE	Internal Database Error
	SROF	Cannot Access BLSR Get IOR Failed
	SRQN	BLSR Does Not Exist

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-ALM-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Conditions Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Conditions Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-SYNCN	SROF	Get IOR Failed
	SDBE	Cannot Access Conditions Internal Database Error
	IIAC	Invalid AID
RTRV-ALM-UCP	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-ALM-UDCDCC	IIAC	Invalid AID
	SDBE	Cannot Access Conditions Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-ALM-UDCF	IIAC	Invalid AID
	SDBE	Cannot Access Conditions Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-ALM-VT1	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Conditions Internal Database Error
	SROF	Get IOR Failed
RTRV-ATTR-CONT	IIAC	Invalid AID
	SDBE	Cannot Access Controls Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-ATTR-ENV	IIAC	Invalid AID
	SDBE	Cannot Access Environmental Settings Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-BITS	IIAC	Invalid AID
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-BLSR	IIAC	Invalid AID
	SDBE	Internal Database Error
	SROF	Cannot Access BLSR Get IOR Failed
	SRQN	BLSR Does Not Exist
RTRV-COND-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-COND-<STS_PATH>	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Object Cannot Access STS Internal Database Error STS Not Provisioned
	SROF	Get IOR Failed
RTRV-COND-ALL	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	RRNG	Invalid Slot Number
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-BITS	IIAC	Invalid AID
	SROF	Get IOR Failed
RTRV-COND-DS1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-E100	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-COND-E1000	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-ENV	IIAC	Invalid AID
	SDBE	Cannot Access Object Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-COND-EQPT	ENEQ	Equipment Not Found Equipment Not Present
	IIAC	Invalid AID
	SDBE	Cannot Access Equipment Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-COND-G1000	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-COND-RING	IIAC	Invalid AID
	SDBE	Internal Database Error
	SROF	Cannot Access BLSR Get IOR Failed
	SRQN	BLSR Does Not Exist
RTRV-COND-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-SYNCN	IIAC	Invalid AID
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-UCP	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-COND-UDCDCC	IIAC	Invalid AID
	SDBE	Cannot Access Object Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-COND-UDCF	IIAC	Invalid AID
	SDBE	Cannot Access Object Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-COND-VT1	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Cannot Access Object Internal Database Error
	SROF	Get IOR Failed
RTRV-CRS	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access 1+1 Line Cannot Access 1+1 Protected Line Cannot Access 4F BLSR Cannot Access BLSR 2 Wire Line Cannot Access Cross-Connection Cannot Access Unprotected Line Element Not Found Get IOR Failed Requested Operation Failed Unsupported Element Type
RTRV-CRS-<STS_PATH>	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Cross-Connection Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-CRS-VT1	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Cross-Connection Get IOR Failed
RTRV-DS1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-EC1	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Facility Does Not Exist Incorrect Facility Type Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-EQPT	ENEQ	Equipment Not Found Equipment Not Present
	IIAC	Invalid AID
	SDBE	Cannot Access Equipment Cannot Access Protection Group Internal Access Failed Internal Database Error
	SNVS	Invalid Admin State Protection Group Does Not Exist

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-EQPT (continued)	SROF	Cannot Access Cross-connect Cannot Access Protection Group Information Cannot Access Protection Group Name Get IOR Failed
	SRQN	Invalid Request
RTRV-EXT-CONT	IIAC	Invalid AID
	SDBE	Cannot Access Controls Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
RTRV-FFP-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Protection Group Internal Access Failed Internal Database Error
	SROF	1+1 Protection Group Not Found Cannot Access Facility Cannot Access Protection Group Name Facility Not Provisioned Get IOR Failed
RTRV-G1000	ENEQ	Equipment Not Found Equipment Not Present
	ICNV	Invalid Command
	IIAC	Invalid AID Invalid G1000 Facility Port
	SDBE	Cannot Access Equipment Internal Access Failed Internal Database Error Object Not Provisioned
	SROF	Get IOR Failed
RTRV-INV	ENEQ	Equipment Not Found Equipment Not Present
	IIAC	Invalid AID List AID Not Allowed For ALL AID
	SDBE	Cannot Access Equipment Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-LOG	IDNV	Invalid Log Name
	SDBE	Internal Database Error
	SROF	Cannot Access Alarm Log Get IOR Failed
RTRV-MAP-NETWORK	IPNV	Internal-Ip Lookup Failed
	SDBE	Cannot Access IP Configuration Internal Database Error
	SROF	DCC Not In Use Get IOR Failed
RTRV-NE-GEN	SDBE	Cannot Access Defaults Description Cannot Access IP Configuration Cannot Access Node ID Cannot Access SNTP Host Cannot Access Software Version Cannot Access Synchronization Configuration Internal Database Error
	SROF	Cannot Access LAN IP Configuration Get IOR Failed
RTRV-NE IPMAP	ENEQ	Equipment Not Found
	IIAC	Equipment Does Not Match Request Invalid AID
	IPNV	Invalid IP Address
	SDBE	Cannot Access IP Configuration Internal Access Failed Internal Database Error
	SROF	DCC Not In Use Get IOR Failed
RTRV-NE-SYNCN	SDBE	Cannot Access Synchronization Configuration Internal Database Error
	SROF	Get IOR Failed
RTRV-PM-<OCN_TYPE>	ENEQ	Equipment Not Found Equipment Not Present
	IDNC	Invalid Data
	IDNV	Interval Out Of Range Invalid MONLEV Value Invalid MONTYPE Value
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-PM-<OCN_TYPE> (continued)	SDBE	Cannot Access Equipment Facility Does Not Exist Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
RTRV-PM-<STS_PATH>	ENEQ	Equipment Not Found Equipment Not Present Internal Communication Error
	IDNV	Interval Out Of Range Invalid MONLEV Value Invalid MONTYPE Value
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Cannot Access Equipment Cannot Access STS Internal Access Failed Internal Database Error STS Not Provisioned
	SNCN	This Direction Is Not Supported
	SROF	Get IOR Failed
RTRV-PM-DS1	ENEQ	Equipment Not Found Equipment Not Present Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type Interval Out Of Range Invalid MONLEV Value Invalid MONTYPE Value
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported PM Not Supported

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-PM-DS1 (continued)	SDBE	Cannot Access Equipment Cannot Access Object Card Type Not Supported Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Equipment Does Not Match Request Get IOR Failed
RTRV-PM-EC1	ENEQ	Equipment Not Found Equipment Not Present
	IDNC	Invalid Data
	IDNV	Interval Out Of Range Invalid MONLEV Value Invalid MONTYPE Value
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access Equipment Facility Does Not Exist Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
RTRV-PM-T1	ENEQ	Equipment Not Found Equipment Not Present Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type Interval Out Of Range Invalid MONLEV Value Invalid MONTYPE Value
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported PM Not Supported

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-PM-T1 (continued)	SDBE	Cannot Access Equipment Cannot Access Object Card Type Not Supported Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Equipment Does Not Match Request Get IOR Failed
RTRV-PM-T3	ENEQ	Equipment Not Found Equipment Not Present Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type Interval Out Of Range Invalid MONLEV Value Invalid MONTYPE Value
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported PM Not Supported
	SDBE	Cannot Access Equipment Cannot Access Object Card Type Not Supported Internal Access Failed Internal Database Error
	SNCN	This Direction Is Not Supported
	SROF	Equipment Does Not Match Request Get IOR Failed
RTRV-PM-VT1	ENEQ	Equipment Not Found Equipment Not Present
	ICNV	Invalid Command Operation not supported by this card
	IDNV	Interval Out Of Range Invalid MONLEV Value Invalid MONTYPE Value
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-PM-VT1 (continued)	SDBE	Cannot Access Equipment Cannot Access VT Internal Access Failed Internal Database Error VT Not Provisioned
	SNCN	This Direction Is Not Supported
	SROF	Get IOR Failed Operation Not Supported
RTRV-PMMODE-<STS_PATH>	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access STS Internal Database Error STS Not Provisioned
	SROF	Get IOR Failed
RTRV-PMSCHED-<OCN_TYPE>	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
RTRV-PMSCHED-<STS_TYPE>	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
RTRV-PMSCHED-ALL	IIAC	Invalid AID
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
RTRV-PMSCHED-DS1	IIAC	Invalid AID
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
RTRV-PMSCHED-EC1	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-PMSCHED-T1	IIAC	Invalid AID
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
RTRV-PMSCHED-T3	IIAC	Invalid AID
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
RTRV-PMSCHED-VT1	IIAC	Invalid AID
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
RTRV-PROTNSW-<OCN_TYPE>	ENEQ	Equipment Not Found
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Facility Facility Not Provisioned Get IOR Failed
RTRV-PROTNSW-<STS_TYPE>	ENEQ	Equipment Not Found
	IDNV	Multiple AIDs Not Allowed
	IIAC	Invalid AID Invalid Aid AID Validation Failed Invalid AID
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Internal Access Failed Internal Database Error STS Not Provisioned
	SROF	Cannot Access Cross-Connection Get IOR Failed STS Rates Do Not Match
	SSRD	Switch Request Denied

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-PROTNSW-VT1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID
	RRNG	Invalid Slot Number
	SDBE	Internal Access Failed Internal Database Error
	SROF	Cannot Access Cross-Connection Get IOR Failed Requested Operation Failed
	SSRD	Switch Request Denied
RTRV-PTHTRC-<STS_PATH>	ENEQ	Equipment Not Found Equipment Not Present
	IDNV	Multiple AIDs Not Allowed
	IIAC	Invalid AID Invalid Aid Expected Trace Not Supported On This Card Type Incoming Trace Not Supported On This Card Type Invalid AID Trace Not Supported On This Card Type
	IICM	Input, Invalid Command
	IIDT	Invalid Location Value
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Internal Data Base Error STS Is Not Provisioned Cannot Access Equipment Cannot Access STS Internal Access Failed Internal Database Error STS Not Provisioned
	SOSE	Unrecognized Message Type
	SROF	Get IOR Failed
RTRV-SYNCN	IIAC	Invalid AID
	SDBE	Internal Data Base Error Internal Database Error
	SROF	Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-T1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-T3	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-TACC	IDNV	Multiple AIDs Not Allowed
	IIAC	Invalid AID
	SROF	Tap Not Provisioned Tap Number Does Not Exist Unknown Internal Error
RTRV-TH-<OCN_TYPE>	ENEQ	Equipment Not Found
	ICNV	Pm Not Supported Performance Monitoring Type Not Supported
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IPNC	Invalid Parameter
	SDBE	Facility Does Not Exist Internal Access Failed Internal Database Error
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-TH-<STS_PATH>	ENEQ	Internal Communication Error
	ICNV	Performance Monitoring Type Not Supported
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Cannot Access STS Internal Database Error STS Not Provisioned
	SROF	Get IOR Failed
RTRV-TH-DS1	ENEQ	Equipment Not Found Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported Invalid Parameter PM Not Supported
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-TH-EC1	ENEQ	Equipment Not Found
	ICNV	Pm Not Supported Performance Monitoring Type Not Supported
	IDNC	Invalid Data
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IPNC	Invalid Parameter
	SDBE	Facility Does Not Exist Internal Access Failed Internal Database Error
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-TH-T1	ENEQ	Equipment Not Found Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported Invalid Parameter PM Not Supported
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-TH-T3	ENEQ	Equipment Not Found Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IIAC	Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IPNV	Far End Performance Monitoring Values Not Supported Invalid Parameter PM Not Supported
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
RTRV-TH-VT1	ICNV	Invalid Command Operation not supported by this card Performance Monitoring Type Not Supported
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	SDBE	Cannot Access VT Cannot Access VT Performance Monitoring Parameters Internal Database Error VT Not Provisioned

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-TH-VT1 (continued)	SROF	Get IOR Failed Operation Not Supported
RTRV-TOD	SDBE	Cannot Access Date/Time Cannot Access Timezone\ Internal Database Error
	SROF	Get IOR Failed
RTRV-UCP-CC	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-UCP-IF	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-UCP-NBR	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-UCP-NODE	IICM	Input, Invalid Command
	SDBE	Internal Database Error
	SROF	Get UCP Node Interface Failed
RTRV-USER-SECU	IIAC	Invalid AID
	PICC	AID Required Unknown CORBA Exception (Internal Error) Unknown User User Identifier Exceeds Maximum Length Allowed
	PIUC	User Is Not Superuser
	SDBE	Internal Database Error
	SROF	Get IOR Failed
RTRV-VT1	ENEQ	Equipment Not Found
	ICNV	Invalid Command
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	RRNG	Invalid Slot Number
	SDBE	Cannot Access STS Cannot Access VT Internal Access Failed Internal Database Error STS Not Provisioned VT Not Provisioned

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
RTRV-VT1 (continued)	SROF	Cannot Access Cross-Connection Get IOR Failed
SCHED-PMREPT-<OCN_TYPE>	IDNV	Invalid MONLEV Value Invalid Report Interval Invalid Start Time Number Of Reports Is Negative
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	IIDT	Duplicate Performance Monitoring Schedule Maximum Performance Monitoring Schedule Limit Reached Performance Monitoring Schedule Does Not Exist
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
SCHED-PMREPT-<STS_PATH>	IDNV	Invalid MONLEV Value Invalid Report Interval Invalid Start Time Number Of Reports Is Negative
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	IIDT	Duplicate Performance Monitoring Schedule Maximum Performance Monitoring Schedule Limit Reached Performance Monitoring Schedule Does Not Exist
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
SCHED-PMREPT-DS1	IDNV	Invalid MONLEV Value Invalid Report Interval Invalid Start Time Number Of Reports Is Negative
	IIAC	Invalid AID
	IIDT	Duplicate Performance Monitoring Schedule Maximum Performance Monitoring Schedule Limit Reached Performance Monitoring Schedule Does Not Exist
	IPNV	Far End Performance Monitoring Values Not Supported

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
SCHED-PMREPT-DS1 (continued)	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
SCHED-PMREPT-EC1	IDNV	Invalid MONLEV Value Invalid Report Interval Invalid Start Time Number Of Reports Is Negative
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	IIDT	Duplicate Performance Monitoring Schedule Maximum Performance Monitoring Schedule Limit Reached Performance Monitoring Schedule Does Not Exist
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
SCHED-PMREPT-T1	IDNV	Invalid MONLEV Value Invalid Report Interval Invalid Start Time Number Of Reports Is Negative
	IIAC	Invalid AID
	IIDT	Duplicate Performance Monitoring Schedule Maximum Performance Monitoring Schedule Limit Reached Performance Monitoring Schedule Does Not Exist
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
SCHED-PMREPT-T3	IDNV	Invalid MONLEV Value Invalid Report Interval Invalid Start Time Number Of Reports Is Negative
	IIAC	Invalid AID
	IIDT	Duplicate Performance Monitoring Schedule Maximum Performance Monitoring Schedule Limit Reached Performance Monitoring Schedule Does Not Exist
	IPNV	Far End Performance Monitoring Values Not Supported

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
SCHED-PMREPT-T3 (continued)	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
SCHED-PMREPT-VT1	IDNV	Invalid MONLEV Value Invalid Report Interval Invalid Start Time Number Of Reports Is Negative
	IIAC	Invalid AID
	IIDT	Duplicate Performance Monitoring Schedule Maximum Performance Monitoring Schedule Limit Reached Performance Monitoring Schedule Does Not Exist
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Operation not supported by this card Internal Database Error
	SSRE	Memory Resources Exceeded
SET-ATTR-CONT	IIAC	Invalid AID
	SDBE	Cannot Access Controls Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
SET-ATTR-ENV	IIAC	Invalid AID
	IPNC	Description Cannot Have More Than 64 Characters
	IPNV	Invalid Parameter
	SDBE	Cannot Access Environmental Settings Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
SET-PMMODE-<STS_PATH>	IICM	Input, Invalid Command
	ENEQ	Equipment Not Found
	ICNV	Pm Not Supported Performance Monitoring Type Not Supported
	IDNC	Invalid Data
	IDRG	Invalid Threshold Value
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
SET-PMMODE-<STS_PATH> (continued)	SDBE	Facility Does Not Exist Facility Does Not Match Request Internal Access Failed Internal Database Error
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
SET-TH-<OCN_TYPE>	ICNV	Pm Not Supported Performance Monitoring Type Not Supported
	ENEQ	Equipment Not Found
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Facility Does Not Exist Facility Does Not Match Request Internal Access Failed Internal Database Error
	IDNC	Invalid Data
	IDRG	Invalid Threshold Value
	IIAC	Equipment Does Not Match Request Invalid AID
SET-TH-<STS_PATH>	ENEQ	Internal Communication Error
	ICNV	Performance Monitoring Type Not Supported
	IDRG	Invalid Threshold Value
	IIAC	Cannot Make Changes To Protect Card Invalid AID
	IICM	Input, Invalid Command
	IPNV	Far End Performance Monitoring Values Not Supported
	SDBE	Cannot Access STS Internal Database Error STS Not Provisioned
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
SET-TH-DS1	ENEQ	Equipment Not Found Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IDRG	Threshold Out Of Range

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
SET-TH-DS1 (continued)	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter PM Not Supported
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
SET-TH-EC1	ENEQ	Equipment Not Found
	ICNV	Pm Not Supported Performance Monitoring Type Not Supported
	IDNC	Invalid Data
	IDRG	Invalid Threshold Value
	IIAC	Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Facility Does Not Exist Facility Does Not Match Request Internal Access Failed Internal Database Error
	SROF	Cannot Access Performance Monitoring Statistics Get IOR Failed
SET-TH-T1	ENEQ	Equipment Not Found Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IDRG	Threshold Out Of Range
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter PM Not Supported
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
SET-TH-T1 (continued)	SROF	Get IOR Failed
SET-TH-T3	ENEQ	Equipment Not Found Equipment Not Provisioned Internal Communication Error
	ICNV	Invalid Command
	IDNV	Incompatible Equipment Type
	IDRG	Threshold Out Of Range
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID Invalid DS1 AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter PM Not Supported
	SDBE	Cannot Access Object Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
SET-TH-VT1	ICNV	Invalid Command Operation not supported by this card Performance Monitoring Type Not Supported
	IIAC	Cannot Make Changes To Protect Card Equipment Does Not Match Request Invalid AID
	IICM	Input, Invalid Command
	IPNV	Invalid Parameter
	SDBE	Cannot Access VT Cannot Access VT Performance Monitoring Parameters Internal Database Error VT Not Provisioned
	SROF	Get IOR Failed Operation Not Supported
SET-TOD	IDRG	Difference Value Range Error
	IIAC	Invalid Month Or Day Invalid Time Invalid Year
	SDBE	Cannot Access Date/Time Cannot Access Timezone Cannot Set Date Cannot Set Date When Using SNTP Cannot Set Timezone Internal Database Error

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
SET-TOD (continued)	SROF	Get IOR Failed
SW-DX-EQPT	ENEQ	Equipment Not Found
	IIAC	Invalid AID
	IICM	Input, Invalid Command
	SDBE	Internal Access Failed Internal Database Error
	SROF	Get IOR Failed
	SRQN	Invalid Request
SW-TOPROTN-EQPT	ENEQ	Equipment Not Found
	IDNV	Input, Data Not Valid Invalid Protid
	IIAC	Input, Invalid Access Invalid AID
	IICM	Input, Invalid Command
	SAAL	Already Allowed
	SDBE	Cannot Access Protection Group Internal Access Failed Internal Database Error
	SNVS	Protection Group Does Not Exist Working Unit Already Active Working Unit Already Standby
	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name Get IOR Failed
	SRQN	Invalid Request
SW-TOWKG-EQPT	ENEQ	Equipment Not Found
	IDNV	Input, Data Not Valid Invalid Protid
	IIAC	Input, Invalid Access Invalid AID
	IICM	Input, Invalid Command
	SAAL	Already Allowed
	SDBE	Cannot Access Protection Group Internal Access Failed Internal Database Error
	SNVS	Protection Group Does Not Exist Working Unit Already Active Working Unit Already Standby

Table 7-22 Errors listed by Command (continued)

Command	Error Code	Error Message
SW-TOWKG-EQPT (continued)	SROF	Cannot Access Protection Group Information Cannot Access Protection Group Name Get IOR Failed
	SRQN	Invalid Request

7.3 Echo

In order to improve telnet functionality for automated systems, the echo function has been turned off since ONS 15454 Release 3.0. This change is transparent to users running standard UNIX-compliant telnet clients; however, PC users may need to change their client setup to enable “local echo.” This is normally accomplished by a pull-down menu or a preference attribute.

To test the local echo on your PC client, use the RTRV-HDR command. If you receive a response but no data, set local echo ON. Cisco recommends that you close any windows containing sensitive information after exiting a TL1 session.

Numerics

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