Lucent Technologies
Bell Labs Innovations

Optical Line System Release 2.0

Operations Systems Engineering Guide

Mandatory Customer Information

Interference Information: Part 15 of FCC Rules

NOTE: This equipment is designed to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause interference to radio communications. Operation of this equipment in a residence is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Security

In rare instances, unauthorized individuals make connections to the telecommunications network. In such event, applicable tariffs require that the customer pay all network charges for traffic. Lucent Technologies cannot be responsible for such charges and will not make any allowance or give any credit for charges that result from unauthorized access.

Warranty

The terms and conditions of sale will include a 5-year warranty on hardware and a 1-year warranty on software.

Document Ordering Information

The ordering number for this document is 824-102-176. To order this document, call 1-800-432-6600. RBOC/BOC customers should process document orders or standing order requests through their Company Documentation Coordinator. For more ordering information, refer to "How to Order Documents" in the Section "About this Document."

Customer Assistance and Technical Support

The Lucent Technologies Regional Technical Assistance Center (RTAC) provides a technical assistance telephone number which is monitored 24 hours a day. The technical assistance telephone number is also available for customers to provide feedback and enhancement suggestions for improving the Optical Line System. To receive technical assistance or to provide feedback and enhancement suggestions, simply call 1-800-225-RTAC.

Documentation Support

Lucent Technologies provides a telephone number for customers to report errors or to ask questions about the information in this document. The support telephone number is 1-888-LTINFO6 or 1-910-727-6681.

Developed by Lucent Technologies Network Systems Customer Training and Information Products.

Lucent Technologies' Transmission Systems Business Unit received ISO 9001 certification for its Merrimack Valley manufacturing facility and associated development organizations on September 15, 1992. Merrimack Valley manufactures systems for transporting data, voice, and images over public and private telecommunications networks. Major product lines consist of digital access and cross connect systems, network multiplex systems, and lightwave systems.

ISO 9001 is an international quality standard recognized by more than 50 countries. ISO 9001 is the most comprehensive standard in the ISO 9000 series, requiring well documented and implemented controls for design development, production, delivery, installation, and servicing. Its purpose is to ensure manufacturers produce products with consistently high levels of quality and services.

How Are We Doing?

Document Title: Optical Line System Release 2.0 Operations Systems Engineering Guide

Document No.: 824-102-176   Issue 2B   Date: September 1997

Lucent Technologies welcomes your feedback on this document. Your comments can be of great value in helping us improve our documentation.

1. Please rate the effectiveness of this document in the following areas:

	Excellent	Good	Fair	Poor	Not Applicable
Ease of Use					/////////////////
Clarity					/////////////////
Completeness					/////////////////
Accuracy					/////////////////
Organization					/////////////////
Appearance					/////////////////
Examples					
Illustrations					
Overall Satisfaction					/////////////////

2. Please check the ways you feel we could improve this document:

☐ Improve the overview/introduction
☐ Improve the table of contents
☐ Improve the organization
☐ Include more figures
☐ Add more examples
☐ Add more detail

☐ Make it more concise/brief
☐ Add more step-by-step procedures/tutorials
☐ Add more troubleshooting information
☐ Make it less technical
☐ Add more/better quick reference aids
☐ Improve the index

Please provide details for the suggested improvement. _____
_____

3. What did you like most about this document?
_____
_____

4. Feel free to write any comments below or on an attached sheet.
_____
_____
_____
_____

If we may contact you concerning your comments, please complete the following:

Name: _____ Telephone Number: _____

Company/Organization: _____ Date: _____

Address: _____

When you have completed this form, please fold, tape, and return to address on back
or Fax to: 910-727-3043.

Lucent Technologies
Bell Labs Innovations

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 1999 GREENSBORO, N.C.

POSTAGE WILL BE PAID BY ADDRESSEE

DOCUMENTATION SERVICES
2400 Reynolda Road
Winston-Salem, NC 27199-2029

How Are We Doing?

Document Title: Optical Line System Release 2.0 Operations Systems Engineering Guide

Document No.: 824-102-176   Issue 2B   Date: September 1997

Lucent Technologies welcomes your feedback on this document. Your comments can be of great value in helping us improve our documentation.

1. Please rate the effectiveness of this document in the following areas:

	Excellent	Good	Fair	Poor	Not Applicable
Ease of Use					////////////////////
Clarity					////////////////////
Completeness					////////////////////
Accuracy					////////////////////
Organization					////////////////////
Appearance					////////////////////
Examples					
Illustrations					
Overall Satisfaction					////////////////////

2. Please check the ways you feel we could improve this document:

☐ Improve the overview/introduction   ☐ Make it more concise/brief
☐ Improve the table of contents   ☐ Add more step-by-step procedures/tutorials
☐ Improve the organization   ☐ Add more troubleshooting information
☐ Include more figures   ☐ Make it less technical
☐ Add more examples   ☐ Add more/better quick reference aids
☐ Add more detail   ☐ Improve the index

Please provide details for the suggested improvement. _____

_____

3. What did you like most about this document?

_____

_____

4. Feel free to write any comments below or on an attached sheet.

_____

_____

_____

_____

If we may contact you concerning your comments, please complete the following:

Name: _____ Telephone Number: _____

Company/Organization: _____ Date: _____

Address: _____

When you have completed this form, please fold, tape, and return to address on back
or Fax to: 910-727-3043.

Lucent Technologies
Bell Labs Innovations

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 1999 GREENSBORO, N.C.

POSTAGE WILL BE PAID BY ADDRESSEE

DOCUMENTATION SERVICES
2400 Reynolda Road
Winston-Salem, NC 27199-2029

Contents

Contents

Figures

Tables

About This Document

Purpose

This document includes operations systems (OS) engineering information for the Optical Lightwave System (OLS) (Release 2.0).

Intended Audiences

This document is primarily for network operations planners, facility maintenance center personnel, transmission engineers, and technical support staff. It may be used by anyone desiring specific information about the OS interfaces of the OLS.

Reason for Reissue

This document, Issue 2B, replaces the Optical Line System Issue 2. This document was reissued to provide information about Issue 2B. Significant changes include the following:

■ Updated training data

■ Updated TL1 message data

■ Added new TL1 commands/messages.

Vertical bars (I) located in the right margin indicate changes between issues.

How to Use This Document

This document is divided into eight white tabbed parts as follows:

- "Contents" provides an overall document contents.

- "About This Document" provides a brief description about the purpose and what the document contains.

- "Introduction" provides an Overview of the document, Introductions to: The Lucent Technologies 2000 Family of Products, Operations Systems Interfaces, and to This Document,

- "TL1/X.25 Interface" provides information on the TL1/X.25 Interface.

- "TL1 Message Details" provides detailed information for TL1 Messages.

- "Parallel Telemetry" provides information on parallel telemetry to the operations system.

- "Glossary" provides specialized terms with brief description.

Related Documentation/Training

Lucent Technologies Practices

The following Lucent Technologies practices provide information about the Optical Line System:

- Number: 365-575-300

  Title: *Optical Line System (OLS), Applications, Planning, and Ordering Guide*

  Audience: System planners and engineers

  Content: Features, applications, general description, system planning/engineering, and ordering information

- Number: 365-575-310

  Title: *Optical Line System (OLS), Installation Manual*

  Audience: Customers planning to install and turn up the equipment

  Content: Customer installation instructions

- Number: 365-575-315* Comcode C107584468

  Title: *Optical Line System (OLS), Software Release Description, Release 1.0.0-OLS*

---

*   The software release description is shipped with the Optical Line System and is not orderable from the Lucent Technologies Customer Information Center.

Audience: End-user maintenance personnel

Content: Status of problems fixed and known problems for Release 1.0.0-OLS software

■ Number: 365-575-xxx* Comcode Cxxxxxxxxx

Title: *Optical Line System (OLS), Software Release Description, Release 2.0.0-OLS*

Audience: End-user maintenance personnel

Content: Status of problems fixed and known problems for Release 2.0.0-OLS software

■ Number: 824-102-176

Title: *Optical Line System (OLS), Operations Systems Engineering Guide*

Audience: End-user maintenance personnel

Content: Operations systems software commands, messages, and other information

Lucent Technologies Drawings

The following drawings provide information about the Optical Line System:

J68982C-1	Optical Line System Cabinet (Equipment and Circuit Packs Ordered with Equipment)
J68982CS-1	Optical Line System (Software and Documentation)
SD-5G276-01	Optical Line System Application Schematic Drawing
SD-5G273-01	Optical Line System Shelf Schematic Drawing
T-5G276-33	Optical Line System Interconnection Drawing
T-5G276-30	Optical Line System Wiring Drawing
T-5G273-30	Optical Line System Shelf Circuit Drawing

---

* The software release description is shipped with the Optical Line System and is not orderable from the Lucent Technologies Customer Information Center.

ED-7G033-30	Optical Line System Cabinet Framework
ED-7G028-20	Optical Line System Cable Assembly
ED-7G028-22	Optical Line System Intercabinet Cable Assembly
ED-7G028-30	Optical Line System Shelf Assembly
ED-7G027-30	Optical Line System User/Fuse Panel Assembly
FPD-804-604-161-( )	Optical Line System (Floor Plan Data Sheets)

Lucent Technologies Practices for Related Equipment

The following practices provide information about related equipment:

365-575-200	*FT-2000 OC-48 Large Capacity Terminal, Applications, Planning, and Ordering Guide*
365-575-201	*FT-2000 OC-48 Large Capacity Terminal, User/Service Manual*
365-575-210	*FT-2000 OC-48 Large Capacity Terminal, Installation Manual*
365-575-211	*FT-2000 OC-48 Large Capacity Terminal, Integration Manual*
365-575-212	*FT-2000 OC-48 Large Capacity Terminal, Modification Implementation Procedure*
365-575-215	*FT-2000 OC-48 Large Capacity Terminal, Software Release Description, Release 1.0.0-LCT*
365-575-xxx	*FT-2000 OC-48 Large Capacity Terminal, Software Release Description, Release 2.0.0-LCT*
636-299-120	*LGX® Distribution System, Planning, Engineering, Installation, and Operation System Reference Guide*
824-102-147	*2000 Product Family Operations Interworking Guide*
824-102-175	*FT-2000 OC-48 Large Capacity Terminal, Operations Systems Engineering Guide*

Training

No product offering is complete without a formal training package. The National Product Training Center provides management courses for system planning, engineering, and ordering, as well as training telecommunications technicians in installation, operations, and maintenance. Suitcasing of these courses is also available. Contact the National Product Training Center on **1-800-TRA-INER (1-800-872-4637)** to enroll in training classes. To arrange suitcase sessions, call the Product Training Manager on **1-800-432-6317** (within US) or **1-614-764-5542** (outside US).

The following courses are provided by the National Product Training Center:

- Number: LW2250

    Title: FT-2000 OC-48 Large Capacity Terminal/Optical Line System, Applications and Architecture

    Audience: Fundamental planners, account executives, and private telecommunications network technical consultants

    Content: Basic synchronous optical network (SONET) terms, applications (for example, point-to-point linear add/drop, 4-fiber rings), architecture (that is, cabinets, bays, shelves, circuit packs), and operation, administration, maintenance, and provisioning (OAM&P) features.

- Number: LW2350

    Title: FT-2000 OC-48 Large Capacity Terminal/Optical Line System, Equipment Engineering and Planning

    Audience: Facility planners, outside plant engineers, central office equipment engineers, and private network design engineers

    Content: Equipment and cabling specifications for engineering and ordering the FT-2000 OC-48 Large Capacity Terminal and Optical Line System.

- Number: LW2650

    Title: FT-2000 OC-48 Large Capacity Terminal/Optical Line System, Operations and Maintenance

    Audience: Technicians, installers, maintenance engineers, technical support personnel, product evaluators, and anyone desiring operations and maintenance information for the FT-2000 OC-48 Large Capacity Terminal and the Optical Line System

    Content: Description of initial turnup and day-to-day operations and maintenance tasks. Emphasis on developing the following:

    — Skills using the user/service manual

    — Competence performing day-to-day provisioning and maintenance tasks.

■ Number: TR2450

Title: FT-2000 OC-48 Large Capacity Terminal/Optical Line System, Installation and Operation

Audience: Technicians, installers, maintenance engineers, technical support personnel, product evaluators, and anyone desiring installation information for the FT-2000 OC-48 Large Capacity Terminal and the Optical Line System.

Content: Practical hands-on experience installing the FT-2000 OC-48 Large Capacity Terminal and Optical Line System, equipping the system with required circuit packs, and conducting installation testing.

■ Number: LW2252 (Replaces LW2250 and LW2350)

Title: *Optical Line System Applications, Architecture, Planning and Ordering*

Audience: Fundamental planners, account executives, private telecommunications network technical consultants, facility planners, outside plant engineers, central office equipment engineers, and private network design engineers

Content: Basic synchronous optical network (SONET) terms, applications (for example, point-to-point, rings), architecture (that is, cabinets, bays, shelves, circuit packs), operation, administration, maintenance, and provisioning (OAM&P) features, and equipment cabling specifications for engineering/ordering the Optical Line System.

■ Number: LW2652 (Replaces LW2650)

Title: *Optical Line System Operations and Maintenance*

Audience: Technicians, installers, maintenance engineers, technical support personnel, product evaluators, and anyone desiring operations and maintenance information for the Optical Line System

Content: Description of initial turnup and day-to-day operations and maintenance tasks. Emphasis on developing the following:

— Skills using the user/service manual

— Competence performing day-to-day provisioning and maintenance tasks.

■ Number: LW2253 (Replaces LW2250 and LW2350)

Title: *FT-2000 OC-48 Large Capacity Terminal Applications, Architecture, Planning and Ordering*

Audience: Fundamental planners, account executives, private telecommunications network technical consultants, facility planners, outside plant engineers, central office equipment engineers, and private network design engineers

Content: Basic synchronous optical network (SONET) terms, applications (for example, point-to-point, rings), architecture (that is, bays, shelves, circuit packs), operation, administration, maintenance, and provisioning (OAM&P) features, and equipment cabling specifications for engineering/ordering the FT-2000 OC-48 Large Capacity Terminal

■ Number: LW2653 (Replaces LW2650)

Title: *FT-2000 OC-48 Large Capacity Terminal Operations and Maintenance*

Audience: Technicians, installers, maintenance engineers, technical support personnel, product evaluators, and anyone desiring operations and maintenance information for the FT-2000 OC-48 Large Capacity Terminal

Content: Description of initial turnup and day-to-day operations and maintenance tasks. Emphasis on developing the following:

— Skills using the user/service manual

— Competence performing day-to-day provisioning and maintenance tasks.

Engineering and Installation Services

The Lucent Technologies Customer Technical Support (CTS) Organization is committed to providing customers with quality product support services. Whether you need assistance in engineering, installation, normal system maintenance, or disaster recovery, the support staff provides you with the quality technical support you need to get your job done. Each segment of the CTS organization regards the customer as its highest priority and understands your obligation to maintain quality service for your customer.

Within the CTS organization, the Engineering and Installation Services group provides a highly skilled force of support personel to provide customers with quality engineering and installation services. These engineering and installation specialists use state-of-the-art technology, equipment, and procedures to provide customers with highly competent, rapid responses services.

These services include the following:

- Analyzing your equipment request

- Preparing a detailed specification for manufacturing and installation

- Creating and maintaining job records

- Installing the equipment

- Testing and turning over a working system.

When the CTS organization provides job records and installs the equipment, operationally affective changes to the system are automatically identified and applied to the system at no additional cost.

The Engineering and Installation Services group provides the customer with an individually tailored, quality-tested job that meets our published high standards and the customer's operational requirements. The group ensures that the customer's system order is integrated into a complete working system tailored to office conditions and preferences. This process provides for the customer's complete needs. It includes provisions for cabling, lighting, power equipment, and ancillary connections to local and/or remote alarm systems. The group will also respond to any customer changes that occur during installation.

All equipment engineered and installed by Lucent Technologies is thoroughly tested and integrated into a reliable system at cutover. Once approved by Lucent Technologies Quality Assurance Test group (the industry's toughest), the system is turned over to the customer. The group also provides any specialized engineering and installation services required for unusual or highly individualized applications. These specialized services may include engineering consultations and data base preparation. Your local Account Executive can provide more information about these services.

Technical Support

Assistance in maintaining your installed system is available through the Regional Technical Assistance Center (RTAC) and the Customer Technical Support (CTS). As shown in 1, your single point of contact is the RTAC. RTAC personnel troubleshoot field problems 24 hours a day over the phone and, if necessary, on site. For technical assistance, simply call **1-800-225-RTAC**. One call guarantees support.

RTAC organizations are supported by a centralized CTS for transmission products. The CTS maintains a close relationship with Bell Laboratories and other Lucent Technologies organizations to expedite resolutions and maintain contact with the development community. This association provides continuous accessibility to every phase of a product life cycle and assures a prompt resolution to all inquiries.

The CTS has also established a technical support medium: COACH support tools. COACH is a system of on-line support tools aimed at providing product news and bulletins, diagnostic services, compatibility information, and on-line documents. COACH tools provide the most up-to-date product information so that problems are either prevented or quickly resolved. COACH tools reside on a dedicated time-share computer accessible over toll free lines and are available 24 hours a day, 7 days a week.

Many transmission products, including the DDM-2000 multiplexers, are supported by COACH.

Once connected to COACH, the user specifies which product to access and COACH grants the appropriate combination of tools and commands. The user reaches each one of these tools and commands through a centralized, menu-driven computer program. Every screen provides help in making appropriate menu selections. COACH users will achieve proficiency quickly because of the consistency of menu selections among products.
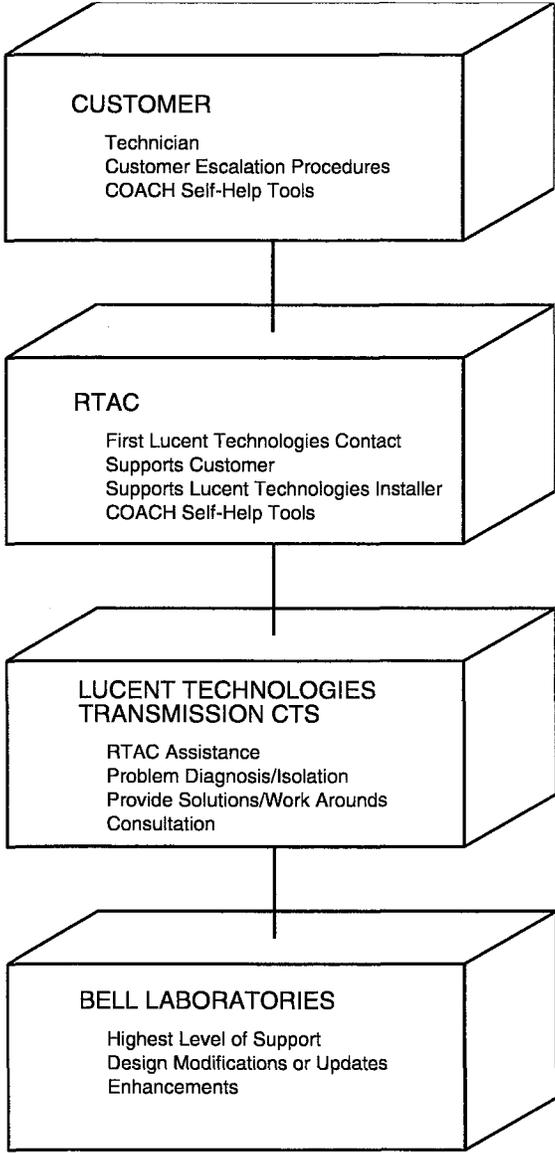
Figure 1. Product Support

These COACH tools are available to the user:

Diagnostic dictionary   The diagnostic dictionary contains histories of previously encountered problems and the descriptions of the solutions or work arounds. Your support staff can use this tool when published documentation or standard diagnostic procedures fail to address a problem.

News and bulletins   Immediately after a user logs into the COACH tools, the news and bulletins tool displays bulletins containing urgent information relating to all the user's products. All users are automatically notified about urgent matters, such as problems with scheduled releases, recalls of hardware or software, or scheduled maintenance for computer support. Less urgent messages are distributed through news items that can be sent to individuals or categories of users. Notification of news appears on the screen immediately following current bulletins.

Compatibility data   Occasionally, hardware/software configuration problems arise when new software generics are issued. The compatibility data tools permit users to view the correct hardware configuration associated with a specific software release. The user simply enters the appropriate software release number and COACH responds with page-formatted lists of circuit packs compatible with the selected software release. This tool also contains the latest issue numbers of the customer documentation.

COACH user's guide   COACH supplies an on-line version of its user's guide. The COACH user's guide includes instructions on using the customer support tools and documents any changes to the previous version of the guide.

For information about how to access COACH, contact:

COACH Software Development
Lucent Technologies — Department JC09110a0
1600 Osgood St.
North Andover, MA 01845

Telephone: **1-800-238-4021**
FAX: **1-508-960-1772**

The RTAC and CTS organization strive to provide proactive and responsive technical customer support for all its products. Through the combined efforts of the individual customer support groups and through COACH tools, the RTAC and CTS organization provide the best possible customer support.

The Lucent Technologies Customer Training and Information Products Organization provides a contact to report errors to or to ask questions about information in this document. The document support telephone number is **1-800-334-0404** or **1-910-727-6681** (Monday through Friday, 8:00 a.m. to 4:00 p.m. EST).

How to Order Documents

To order additional copies of this document and/or to request placement on the standing order list, send or call in an order as follows:

Customer	Mail Order	Telephone Order (Monday through Friday)
Commercial Customers*	Lucent Technologies Customer Information Center Attention: Order Entry Section 2855 N. Franklin Road P.O. Box 19901 Indianapolis, IN 46219	Within USA and Canada: **1-888-LUCENT-8 (1-888-582-3688)** **(1-888-582-3688)** FAX: **1-800-566-9568** Canada and Caribbean/ Latin American Countries: **1-317-322-6646** Asia/Pacific Region, China, Australia, and New Zealand Toll: **1-317-322-6411** Europe, Middle East, and Africa Toll: **1-317-322-6416** Worldwide: FAX: **1-317-322-6699**
RBOC/BOC	Process through your Company Documentation Coordinator	

* For commercial customers, a check, money order, purchase order number, or charge card number is required with all orders. Make checks payable to Lucent Technologies.

Lucent Technologies entities should use Form IND 1-80.80 FA, available through the Customer Information Center.

One-time orders include a binder (if applicable) and the document contents for the current issue in effect at the time of order. After placing a one-time order, you may request placement on the standing order list for all later reissues of the document. The standing order list for each document provides automatic distribution for all reissues of the document. RBOC/BOC customers should process document orders or standing order requests through their Company Documentation Coordinator. For questions regarding standing orders or to be placed on a standing order list, call the applicable Lucent Technologies Customer Information Center number listed above.

How to Comment on the Optical Line System

The Regional Technical Assistance Center (RTAC) technical assistance telephone number is available 24 hours a day for customers to provide feedback and enhancement suggestions for improving the Optical Line System. The toll free number is **1-800-225-RTAC**.

How to Comment on This Document

Feedback forms are located immediately after the title page of this document. Please fill out the form and return it to the address stamped on the front of the form, or fax it to the number provided on the form.

If the feedback forms are missing, send comments on this document to:

Documentation Services
Lucent Technologies
2400 Reynolda Road
Winston-Salem, NC 27106

You may also report errors or request changes to this document by calling the toll free number, **1-800-334-0404**, and giving the 9-digit document number.

Electronic Documentation

Lucent Technologies electronic documentation on compact disk, read-only memory (CD-ROM) has many advantages over traditional paper documentation, including cost-savings, search and retrieve capability, and the assurance of the most current documentation.

CD-ROM is available by annual subscription (on standing order).

- To order, call your Technical Information Resource Manager, your Lucent Technologies Account Executive, or the Lucent Technologies Customer Information Center (1-888-LUCENT-8). The CD-ROM Product Line Order Number for the Lucent Technologies transmission product documentation is 300-100-010.

- For pricing information, contact your Lucent Technologies Account Executive or the Lucent Technologies Customer Information Center (1-888-LUCENT-8).

- For technical information, call Lucent Technologies Documentation Support (1-800-334-0404).

Product Change Notifications

During the life of a product, changes may be required in service to correct an existing or potential problem. Product changes are issued in the form of product change notices (PCNs). Customers are notified about PCNs through the Design Change Management System (DCMS). The DCMS is an on-line tool similar to COACH. For more information about DCMS, contact your local Account Executive.

Introduction

1

Contents

Introduction

1

Overview

This document provides information on Lucent Technologies Optical Lightwave System (OLS) TL1/X.25 and parallel telemetry operations system (OS) interfaces.

Introduction to Operations Systems Interfaces

The OLS Transaction Language 1 (TL1) and parallel telemetry interfaces communicate alarm, status, and control information to/from the alarm surveillance OS. The OLS TL1/X.25 interface is based on Bellcore TR-TSY-000833, Issue 3, Revision 1*, and TR-NWT-000833, Issue 1, Supplement 1. The OLS parallel telemetry interface uses contact closures.

---

*   Where TR-TSY-000833, Issue 3, Rev. 1 was deficient, the OLS conforms to Bellcore's TR-NWT-000833, Issue 1.

The OLS uses parallel telemetry to communicate with a telemetry remote unit; the telemetry remote unit communicates with the OS. The TL1 interface communicates directly with the OS, not requiring the use of telemetry remote units or mediation devices (MDs).

The OLS TL1 interface provides significantly more detailed alarm and status information than the parallel telemetry interface. The OLS TL1 interface also supports performance-monitoring (PM) threshold-crossing alerts (TCAs) and retrievals of current and historical PM data.

Introduction to This Document

The following four tabbed sections will describe information in this document as follows:

- OLS TL1/X.25 Interface
- OLS TL1 Messages Details
- Parallel Telemetry
- Glossary.

Optical Line System (OLS)
TL1/X.25 Interface

2

Contents

Optical Line System (OLS) TL1/X.25 Interface

2

Overview

This section provides information on the TL1/X.25 interface to the Optical Line System (OLS). This section includes information about TL1-related provisioning, and X.25 specifications.

For information on TL1 Commands/Messages, refer to Section 3, "**TL1 Message Details**".

Introduction

The OLS supports a TL1/X.25 interface to report alarm and status conditions and performance-monitoring data to operations systems (OS) such as NMA (Network Monitoring and Analysis) operations systems. (See Bellcore's SR-STS-OO1665 for a list of NMA releases compatible with the OLS software releases.) The OLS TL1/X.25 interface provides significantly more detailed information than the alternate parallel telemetry interface to the operations system (OS). The OLS TL1 messages are based on Bellcore's TR-TSY-000833, Issue 3, Revision 1.†

---

† Where TR-TSY-000833, Issue 3, Revision 1 was deficient, the OLS conforms to Bellcore's TR-NWT-000833, Issue 1.

TL1-Related Provisioning

The following list summarizes the TL1-related parameters that are software provisionable in the OLS via the personal computer craft interface terminal (PC-CIT) and/or the TL1 command **ENT-SYS**. These parameters may affect the sending and receiving of autonomous TL1 messages.

The following parameters affect the *reporting* of autonomous messages:

   a. Allow or inhibit alarms

   b. OS types.

The following are several parameters that affect the *content* of autonomous messages:

   a. Target identifier (TID)

   b. Miscellaneous discrete environmental alarm level

   c. Miscellaneous discrete environmental description.

Refer to 365-575-301, *Optical Line System (OLS), User/Service Manual*, for the specific craft interface terminal (PC-CIT) commands which are used to set the software provisionable parameters and which report all the parameter values. The user/service manual provides data on the original (factory set) parameter values implemented by the OLS as well. Additional OLS software provisionable parameters exist that affect when, if, and how TL1 messages will be output.

Allow or Inhibit Alarms

Allowing or inhibiting autonomous reporting of alarms may be provisioned using the **Allow-Alarm** and **Inhibit-Alarm** PC-CIT user interface commands or the **ALW-MSG** and **INH-MSG** TL1 messages. Alarm reporting interfaces include office alarms, the parallel telemetry interfaces, and the X.25 link.

OS Types

A user can select the type of autonomous TL1 messages to be received by selecting the OS type. An OS type is a filter for the autonomous TL1 messages. Four different OS types may be provisioned. Refer to the "Provisioning Autonomous TL1 Messages" part, in this section, for more information on OS types.

Gateway Network Element (GNE) Provisioning

All OLS can perform the GNE function, so this parameter is not provisionable. However, TL1 communication, including autonomous messaging, occurs only through OLS communication channels where there are active login sessions. It is possible to log in and communicate with remote network elements without being logged in to the node that is serving as a GNE. A login to the GNE is necessary to obtain TL1 error messages that are generated by GNEs. (See the **RTRV-HDR** command).

Target Identifier (TID)

The TID of each OLS must be provisioned using the PC-CIT command **Set-Network-Element** at installation. The TID of any OLS may be changed after installation using the TL1 message **ENT-SYS**. In addition, the TL1 command **SET-SID** may also be used. The TID must be a string of up to 20 characters with no spaces. The characters may be alphanumeric or a dash (-). The TID is a unique identifier of the subject OLS and must match the TID provisioned in the operations system (OS). The TID is typically the *CLLI** code (a location identifier) of the OLS, although additional characters such as the synchronous optical network (SONET) Carrier ID (SCID) may need to be appended to the *CLLI* code to assure that the TID is unique. The terms TID and source identifier (SID) are generally used interchangeably. However, in TL1 messages the term target identifier implies the network element to which a message is sent; and the term source identifier implies the network element from which a response is received. All miscellaneous points are set to minor alarm at the factory, but are user settable. The value given to TID in the factory is LT-PF-2000.

Miscellaneous Discrete Environmental Alarm Level

The alarm level to be associated with each miscellaneous discrete environmental point may be provisioned using the **Set-Attribute-Environment** PC-CIT user interface command. If a miscellaneous discrete environmental point is provisioned as an alarm (minor, major, or critical), the TL1 autonomous message REPT ALM ENV is used to report the alarm. If a miscellaneous discrete environmental point is provisioned as not alarmed, the TL1 autonomous message REPT EVT COM is used to report the condition. The default is that each miscellaneous discrete environmental point is a minor alarm.

---

* COMMON LANGUAGE is a registered trademark and CLEI, CLLI, CLCI, and CLFI are trademarks of Bell Communication Research, Inc.

Miscellaneous Discrete Environmental
Description

The description to be associated with each miscellaneous discrete environmental alarm and status point may be provisioned using the `Set-Attribute-Environment` PC-CIT user interface command. The provisioned description will appear as the *almmsg* or *conddescr* parameter values in applicable TL1 messages. The default is that each miscellaneous discrete environmental point is a minor alarm. The point value given at the factory is `environment 1, environment 2`, etc.

Security

All users, including TL1 users, are subject to user login security. User login security provides the capability to control access to the OLS on an individual user basis. One hundred user logins are supported. User login security includes the following:

■ Login ID and password: All users must properly identify themselves by providing a valid login ID and password before gaining access to the OLS.

■ Three levels of access privileges: Each user login ID is assigned one of the following access levels to control which system functions may be performed.

— **Privileged:** A privileged login has access to all the system functional capabilities. Only the privileged logins have access to the security and access functions. These functions include assigning/changing logins/passwords for other users, setting target identifier (TID) names, resetting the system, and system installation functions, such as the auto turnup tests. The system installation functions are performed using the OLS PC-CIT only. There are also a few privileged user (or "expert mode") commands that are available to CIT users. The TL1 interface has no such restrictions on privileged user commands. The system comes from the factory with two privileged logins, LT01 and LT02 with passwords FT-2000. Both logins and passwords can be changed. However, the logins can not be deleted and no additional privileged logins can be created. [For detailed information about the PC-CIT, refer to 365-575-301, *Optical Line System (OLS), User/Service Manual.*]

— **General:** The general logins have access to all the system functional capabilities except the security, access, system initialization, and software installation functions.

— **Reports Only:** The reports only logins have access to the `RETRIEVE-` (except `RETRIEVE-USER-SECURITY`), `EDIT-PID`, and `OPERATE-ALARM CUTOFF` TL1 commands. The reports only logins are not allowed to change any of the system provisioning values; however, reports only logins may change their password.

■ **Visitor Logins:** Temporary visitor logins may be provisioned using the **ENTER-USER-SECURITY** TL1 command. Visitor logins are automatically deleted on the provisioned expiration date. Visitor logins are nonprivileged logins.

A privileged user can create up to 98 nonprivileged logins with security level of general or reports only. In addition, each login created can be considered permanent or visitor. Login IDs and passwords are administered with the **ENTER-USER-SECURITY, EDIT-USER-SECURITY, DELETE-USER-SECURITY,** and **RETRIEVE-USER-SECURITY** TL1 commands. For more information about provisioning user login security via TL1, refer to Section 3, "*TL1 Message Details*" part of this document.

Login aging prevents inactive, nonprivileged users from accessing the OLS. Any nonprivileged logins that have not been active within the PC-CIT provisionable login lifetime parameter are automatically removed. [For detailed information about the PC-CIT provisioning capabilities, refer to 365-575-301, *Optical Line System (OLS), User/Service Manual.*] Login aging applies only to nonprivileged logins; a privileged login is never deleted. Login aging can be disabled through PC-CIT provisioning.

Password aging provides the capability to force users to periodically change their password. If the users do not change their password within the provisioned period of time, their password will expire. The next time the users attempt to log in, they will not be allowed to execute any commands until they change their password. The **EDIT-PID** TL1 command can be used by users to change their password. For more information about provisioning passwords via TL1, refer to Section 3, "*TL1 Message Details*" part of this document.

To enable or disable password aging, the password aging interval must be provisioned using the PC-CIT. If password aging is enabled, a user may not change a password unless at least 7 days have passed since the last password change for that login. Any attempt to change a password when less than 7 days have passed shall be denied.

X.25 Technical Specifications

Each OLS is capable of supporting a direct, synchronous TL1/X.25 link to the OS. The following tables list X.25 detailed technical specifications that are supported by the OLS.

The X.25 interface to the OLS supports two permanent virtual circuits (PVCs) and up to six switched virtual circuits (SVCs). Every virtual circuit may be used to issue TL1 commands to the OLS and obtain responses. Once communication is established, the OS can send a TL1 command to any connected virtual circuit (VC) and can expect the OLS to reply via the same VC.

Provisioning Autonomous TL1 Messages

Up to eight logical channels (two PVCs and up to six SVCs) are supported. All logical channels may be used for command/response messages. In addition, TL1 autonomous messages are optionally available on all of the logical channels via user provisioning. There are four types of autonomous messages, or OS types, that can be provisioned per PVC logical channel. An OS type is a filter that determines the types of TL1 autonomous messages that appear at a logical channel.

The five OS types available for autonomous messages are as follows:

- **Maintenance:** A maintenance OS type will send autonomous messages that report on the status of the system (**REPORT ALARM, REPORT ALARM ENVIRONMENT, REPORT CONDITION, REPORT EVENT**, and **REPORT SWITCH**).

- **Memory administration:** A memory administration OS type will send autonomous messages that report on changes in the provisioning status of equipment (**REPORT DATA BASE CHANGE**).

- **Command/response only:** A command/response only OS type will send no autonomous messages.

- **Restoration:** A command/response only OS type will send all autonomous messages except **REPT EVT**.

- **:Other:** An other OS type will send all available autonomous messages.

The OS type parameter is provisionable using the PC-CIT command **SECURITY-Set-Security-Port** input. The OS type of the PVCs is directly provisionable.

For SVCs, the OS type is provisioned indirectly, in conjunction with the X.25 calling address. The user can specify what OS type to associate with a given X.25 calling address. When an SVC is set up using one of the provisioned calling addresses, then the call is assigned the associated OS type. If the SVC does not supply an X.25 calling address or if the X.25 calling address does not match any of the provisioned X.25 calling addresses, then command/response only is assumed. There can be up to sixteen X.25 addresses associated with an OS type.

When an OS establishes an SVC call, an available SVC is selected by the packet network. The user does not control SVC selection.

Automatic Tag (ATAG) Numbering

Automatic tags (ATAGs) are integer values assigned to autonomous TL1 messages for message sequencing. They are used by the OS to ensure that all autonomous TL1 messages output by the OLS are received by the OS. ATAGs are output by each individual OLS independently. The OLS uses a 3-digit integer value from 000 to 999 for the ATAG, with an initial value of 000. The ATAG value is increased by one for each autonomous additional message reported to the OS.

DTE Configuration

At the packet layer, the OLS is configured as a passive data terminating equipment (DTE) with the parameters listed in Table 2-1.

Table 2-1. TL1/X.25 Interface — X.25 Packet Layer Parameters

Parameter	Value
Packet Size	256 bytes
Window Size	2 packets
D bit support	No
M bit support	Yes
Q bit support	No

At the link layer, the OLS uses the standard link access procedure B (LAPB) protocol with the parameters listed in Table 2-2.

Table 2-2. TL1/X.25 Interface — LAPB Link Layer Parameters

Parameter	Value
Maximum Frame Size	2104 bits
Modulo	8
Window Size	7 frames
n2	6 retries
T1	3 seconds
T3	not supported

The OLS uses synchronous, full duplex, continuous carrier communication. Data rates of 1200, 2400, 4800, 9600, 19200, and 56000 are supported. The EIA-232D interface is configured as DTE, using the pins listed in Table 2-3.

Table 2-3. TL1/X.25 Interface — EIA-232D Pin Connections

Pin	Description
1	Protective Ground (Shield)
2	Transmitted Data
3	Received Data
4	Request to Send (RTS)*
5	Clear to Send (CTS)†
6	DCE Ready
7	Signal Ground
8	Received Line Signal Detector
15	Transmit Clock (TC)
17	Receive Clock (RC)
20	Data Terminal Ready (DTR)*

* DTR and RTS are always on when the OLS is powered.
† The OLS will only transmit data via X.25 when CTS is on.

The X.25 circuits between an OLS and the OS may be transported via an X.25 packet network, dedicated private line, or circuit switched network, at the user's option.

ASCII-Based Terminal Interface

An OLS may interface with an ASCII-based terminal through the CIT port. An ASCII-based terminal communicates with the OLS using the same TL1 messages as the X.25 interface, but with some limited capabilities. The message set includes maintenance commands, but excludes autonomous commands. This interface may not be used to install software. For a list of ASCII-based terminal minimum requirements, refer to 365-575-301, *Optical Line System (OLS), User/Service Manual.*

OLS TL1 Message Details

Contents

Contents

Contents

OLS TL1 Message Details

3

Overview

This section provides detailed information about the input and output parameters for the supported transaction language 1 (TL1) commands. Both autonomous messages [generated by the Optical Line System (OLS) independent of any request] and command/response messages [generated in response to a request from the operations system (OS) or OS user] are supported.

The following parameter detail table is included at the end of this section: TL1 Character Set Definitions.

All alphabetic characters in the OLS TL1 command responses and autonomous messages are output in uppercase except access identifier (*aid*), condition description (*conddescr*), alarm message description (*almmsg*), and error text. The *aid* is displayed in lowercase in the OLS user interface, and the same is done for the OLS's TL1 interface. The *conddescr*, *almmsg*, and error text are output in mixed case for readability.

The OLS does not support parameter grouping.

TL1 command entries which are to be typed exactly as shown are printed in **bold type**. The OLS's responses are printed in `courier type`. Descriptive names of entry values are shown in *italic type*. `<cr>` is used to represent a carriage return and `<lf>` is used to represent a line feed. Items enclosed in brackets "[ ]" indicate optional parameters. Table 3-1 lists the TL1 Commands and identifies the type user. The user types are:

■ Privileged — Privileged users are the only ones that can add, change, or delete logins. Privileged users also have access to system capabilities.

- General — The general user have access to all system functional capabilities except the security access, system initialization, and software installation functions.

- Reports-Only — The Reports-Only users can only make inquiries of the network element (NE) and define their own password.

Table 3-1. TL1 Command and User ID Table

TL1 Command	Privileged User	General User	Reports-Only User
ACT-USER	X	X	X
ALW-MSG-EQPT	X	X	
CANC-USER	X	X	X
CPY-PRGM	X		
DLT-TADRMAP	X		
DLT-USER-SECU	X		
ED-DAT	X		
ED-PID	X	X	X
ED-USER-SECU	X		
ENT-CID-SECU	X		
ENT-CMS	X		
ENT-FECOM	X		
ENT-NE-SECU	X		
ENT-OCHAN	X		
ENT-SUPR	X		
ENT-SYS	X		
ENT-USER-SECU	X		
INH-MSG-EQPT	X	X	
INIT-REG-ALL	X	X	
INIT-REG-OLINE	X	X	

Table 3-1. TL1 Command and User ID Table (Contd)

TL1 Command	Privileged User	General User	Reports-Only User
INIT-SYS	X	X	
OPR-ACO-ALL	X	X	X
OPR-EXT-CONT	X	X	
RLS-EXT-CONT	X	X	
RTRV-ALL	X	X	X
RTRV-ALM-ALL	X	X	X
RTRV-ALM-CMS	X	X	X
RTRV-ALM-COM	X	X	X
RTRV-ALM-ENV	X	X	X
RTRV-ALM-EQPT	X	X	X
RTRV-ALM-NTWK	X	X	X
RTRV-ALM-OCHAN	X	X	X
RTRV-ALM-OLINE	X	X	X
RTRV-ALM-SUPR	X	X	X
RTRV-AO	X	X	X
RTRV-ATTR-ALL	X	X	X
RTRV-ATTR-ALM	X	X	X
RTRV-ATTR-CONT	X	X	X
RTRV-ATTR-ENV	X	X	X
RTRV-ATTR-SUPR	X	X	X
RTRV-BASELINE	X	X	X
RTRV-CID-SECU	X	X	X
RTRV-CMS	X	X	X
RTRV-COND-ALL	X	X	X
RTRV-COND-CMS	X	X	X
RTRV-COND-COM	X	X	X
RTRV-COND-EQPT	X	X	X
RTRV-COND-OCHAN	X	X	X
RTRV-COND-OLINE	X	X	X
RTRV-COND-SUPR	X	X	X
RTRV-DAT	X	X	X
RTRV-EQPT	X	X	X
RTRV-FECOM	X	X	X

Table 3-2. TL1 Command and User ID Table (Contd)

TL1 Command	Privileged User	General User	Reports-Only User
RTRV-HDR	X	X	X
RTRV-LOG	X	X	X
RTRV-MAP-NETWORK	X	X	X
RTRV-MAP-RING	X	X	X
RTRV-NE-SECU	X	X	X
RTRV-OCHAN	X	X	X
RTRV-PM-ALL	X	X	X
RTRV-PM-OCHAN	X	X	X
RTRV-PM-OLINE	X	X	X
RTRV-PM-STIME	X	X	X
RTRV-PM-SUPR	X	X	X
RTRV-RELSPR	X	X	X
RTRV-STATE	X	X	X
RTRV-SUPR	X	X	X
RTRV-SYS	X	X	X
RTRV-TH-ALL	X	X	X
RTRV-TH-OCHAN	X	X	X
RTRV-TH-OLINE	X	X	X
RTRV-TH-SUPR	X	X	X
RTRV-USER-SECU	X	X	X
SET-ATTR-ALM	X	X	
SET-ATTR-CONT	X	X	
SET-ATTR-ENV	X	X	
SET-ATTR-SUPR	X	X	
SET-PM-STIME	X	X	
SET-SID	X		
SET-TH-OCHAN	X	X	
SET-TH-OLINE	X	X	
SET-TH-SUPR	X	X	
UPD-SYS	X	X	

TL1 MESSAGES

The Optical Lightwave System (OLS) TL1 messages are based on Bellcore's TR-TSY-000833, Issue 3, Revision 1,* and TR-NWT-000833, Issue 4, Supplement 1. The X.25 "short stack" protocol is based on TR-TSY-000827, Issue 1.

The following autonomous messages are supported:

REPORT ALARM (**REPT ALM**) —
autonomous reports of alarm conditions

REPORT ALARM ENVIRONMENT (**REPT ALM ENV**) —
autonomous reports of environmental alarm conditions

REPORT CONDITION (**REPT COND**) —
autonomous reports of active status conditions

REPORT DATA BASE CHANGE (**REPT DBCHG**) —
autonomous reports of changes to line termination provisioning and/or internal cross-connections

REPORT EVENT (**REPT EVT**) —
autonomous reports of status conditions, including performance-monitoring threshold-crossing alerts (TCAs)

The following command/response messages are supported:

ACTIVATE-USER (**ACT-USER**) —
activates a TL1 access login session

ALLOW-MESSAGE-EQUIPMENT (**ALW-MSG-EQPT**) —
initiated to resume transmission of autonomous messages

CANCEL-USER (**CANC-USER**) —
terminates a TL1 login session

COPY-PROGRAM (**CPY-PRGM**) —
copies the software generic contained in the memory of one OLS to the memory of another OLS of the **same type**.

DELETE-TID-ADDRESS-MAP (**DLT-TADRMAP**) —
instructs a Directory Services Network Element (DSNE) to remove an entry from the network maps

DELETE-USER-SECURITY (**DLT-USER-SECU**) —
deletes user logins from a network element

---

*   Where TR-TSY-000833, Issue 3, Revision 1, was deficient, DDM-2000 conforms to Bellcore's TR-NWT-000833, Issue 4.

EDIT-DATE (**ED-DAT**) —
changes the system date and time

EDIT-PASSWORD ID (**ED-PID**) —
changes the user password

EDIT-USER-SECURITY (**ED-USER-SECU**) —
changes the security parameters associated with a user

ENTER-CHANNEL-IDENTIFIER-SECURITY (**ENT-CID-SECU**) —
initiated to set port security parameters

ENTER-CUSTOMER-MAINTENANCE-SIGNAL (**ENT-CMS**) —
initiated to request OLS to provision various parameters of the CMS
ports

ENTER-FAR-END-COMMUNICATIONS (**ENT-FECOM**) —
initiated to enable/disable remote access capabilities over the DCC

ENTER-NETWORK-ELEMENT-SECURITY (**ENT-NE-SECU**) —
initiated to set the global security parameters of the system

ENTER-OPTICAL-CHANNEL (**ENT-OCHAN**) —
initiated to request OLS to provision various parameters of the optical
channels

ENTER-SUPERVISORY (**ENT-SUPR**) —
initiated to request OLS to provision various parameters of the
supervisory channel

ENTER-SYSTEM (**ENT-SYS**) —
sets network element name and other system level parameters

ENTER-USER-SECURITY (**ENT-USER-SECU**) —
enters the security parameters associated with a user

INHIBIT-MESSAGE-EQUIPMENT (**INH-MSG-EQPT**) —
inhibits transmission of all autonomous TL1 messages, office alarms,
and/or parallel telemetry from a network element

INITIALIZE-REGISTER-ALL (**INIT-REG-ALL**) —
initializes all *current* day and/or all *current* 15-minute performance-
monitoring (PM)

INITIALIZE-REGISTER-OPTICAL-LINE (**INIT-REG-OLINE**) —
initiated to baseline certain optical parameters

INITIALIZE-SYSTEM (**INIT-SYS**) —
initializes (resets) provisionable parameters to their original value

OPERATE-ALARM-CUTOFF-ALL (**OPR-ACO-ALL**) —
operates alarm cutoff to silence the audible office alarms

OPERATE-EXTERNAL-CONTROL (**OPR-EXT-CONT**) —
operates an external discrete control, such as a relay activation, a fan, a
light, or sprinkler

RELEASE-EXTERNAL-CONTROL (RLS-EXT-CONT) —
releases an external miscellaneous discrete control, such as a generator,
a fan, a light, or a sprinkler

RETRIEVE-ALL (RTRV-ALL) —
retrieves all active alarm conditions

RETRIEVE-ALARM-ALL (RTRV-ALM-ALL) —
retrieves all active alarm conditions from a network element terminal

RETRIEVE-ALARM-CUSTOMER-MAINTENANCE-SIGNAL (RTRV-ALM-CMS) —
retrieves all active, facility-related alarm conditions

RETRIEVE-ALARM-COMMON (RTRV-ALM-COM) —
retrieves all active (not specifically equipment-related or facility-related)
alarm conditions

RETRIEVE-ALARM-ENVIRONMENT (RTRV-ALM-ENV) —
retrieves active, environmental alarm conditions

RETRIEVE-ALARM-EQUIPMENT (RTRV-ALM-EQPT) —
retrieves active, equipment-related alarm conditions

RETRIEVE-ALARM-NETWORK (RTRV-ALM-NTWK) —
retrieves a report of all network elements in the maintenance subnetwork
with active alarm/or status conditions

RETRIEVE-ALARM-OPTICAL-CHANNEL (RTRV-ALM-OCHAN) —
retrieves active, facility-related alarm conditions at the channel level

RETRIEVE-ALARM-OPTICAL-LINE (RTRV-ALM-OLINE) —
retrieves active alarms or facility-related events on the optical line

RETRIEVE-ALARM-SUPERVISORY (RTRV-ALM-SUPR) —
retrieves active alarms of facility-related events

RETRIEVE-AUTONOMOUS-OUTPUT (RTRV-AO) —
retrieves copies of autonomous TL1 messages

RETRIEVE-ATTRIBUTE-ALL (RTRV-ATTR-ALL) —
retrieves the notification code associated with all supervisory channel
failure events

RETRIEVE-ATTRIBUTE-ALARM (RTRV-ATTR-ALM) —
retrieves the values that have been set for incoming signal alarm delay
(almdel), the alarm clear delay interval (clrdel), and tributary level
reporting (tribrept) parameters

RETRIEVE-ATTRIBUTE-CONTROL (RTRV-ATTR-CONT) —
retrieves the provisioned description(s) associated with an external
control device or devices

RETRIEVE-ATTRIBUTE-ENVIRONMENT (RTRV-ATTR-ENV) —
retrieves the alarm level and description parameters for each selected
miscellaneous discrete environmental input point

RETRIEVE-ATTRIBUTE-SUPERVISORY (**RTRV-ATTR-SUPR**) —
retrieves the notification code associated with the selected supervisory
channel failure events

RETRIEVE-BASELINE (**RTRV-BASELINE**) —
initiated to send the time and the reason for last baseline of the optical
parameters

RETRIEVE-CHANNEL-IDENTIFIER-SECURITY (**RTRV-CID-SECU**) —
initiated to retrieve the current CIT or TL1 port provisioning

RETRIEVE-CUSTOMER-MAINTENANCE-SIGNAL (**RTRV-CMS**) —
initiated to retrieve the current provisioned state and current state of the
CMS port

RETRIEVE-CONDITION-ALL (**RTRV-COND-ALL**) —
retrieves all active alarm and status conditions

RETRIEVE-CONDITION-CUSTOMER-MAINTENANCE-SIGNAL
(**RTRV-COND-CMS**) —
initiated to retrieve all active alarms and status conditions of
facility-related events

RETRIEVE-CONDITION-COMMON (**RTRV-COND-COM**) —
retrieves all active alarms and status conditions that are
non-equipment-related and non-facility-related

RETRIEVE-CONDITION-EQUIPMENT (**RTRV-COND-EQPT**) —
retrieves all active alarm and status conditions (non-alarmed and non-
reported) of equipment-related events

RETRIEVE-CONDITION-OPTICAL-CHANNEL (**RTRV-COND-OCHAN**) —
retrieves all active alarm and status conditions (non-alarmed and non-
reported) of facility-related events at the channel level

RETRIEVE-CONDITION-OPTICAL-LINE (**RTRV-COND-OLINE**) —
retrieves all active alarm and status conditions of facility-related events
on the optical line

RETRIEVE-CONDITION-SUPERVISORY (**RTRV-COND-SUPR**) —
retrieves all active alarm and status conditions (non-alarmed and non-
reported) of facility-related events on the supervisory channel in the
optical line

RETRIEVE-DATE (**RTRV-DAT**) —
initiated to retrieve the date and daylight savings time provisioning
information

RETRIEVE-EQPT (**RTRV-EQPT**) —
retrieves circuit pack and version information for one or more slots

RETRIEVE-FAR-END-COMMUNICATIONS (**RTRV-FECOM**) —
initiated to retrieve the provisioned state of network element's section
data communication channel (DCC)

RETRIEVE-HEADER (**RTRV-HDR**) —
retrieves system ID, time, and date

RETRIEVE-LOG (**RTRV-LOG**) —
initiated to generate a history log for the NE

RETRIEVE-MAP-NETWORK (**RTRV-MAP-NETWORK**) —
retrieves the list of all network elements in the local SONET subnetwork,
including the communication status, capabilities, the product and network
element types, and alarm group of each network element reachable via
the DCN from the local network element

RETRIEVE-MAP-RING (**RTRV-MAP-RING**) —
retrieves topological map of OLS OC-48 ring

RETRIEVE-NETWORK-ELEMENT-SECURITY (**RTRV-NE-SECU**) —
retrieves network element global security information

RETRIEVE-OPTICAL-CHANNEL (**RTRV-OCHAN**) —
retrieves all optical channel parameter settings that are provisionable

RETRIEVE-PERFORMANCE-MONITORING-ALL (**RTRV-PM-ALL**) —
retrieves all performance-monitoring (PM) data, including historical PM
data

RETRIEVE-PERFORMANCE-MONITORING-OPTICAL-CHANNEL
(**RTRV-PM-OCHAN**) —
retrieves performance-monitoring (PM) data, including historical PM data
associated with one or more optical channels

RETRIEVE-PERFORMANCE-MONITORING-OPTICAL-LINE
(**RTRV-PM-OLINE**) —
retrieves performance-monitoring (PM) data, including historical PM data
associated with one or more optical lines

RETRIEVE-PERFORMANCE-MONITORING-START-TIME
(**RTRV-PM-STIME**) —
retrieves the start time for measuring the day bins

RETRIEVE-PERFORMANCE-MONITORING-SUPERVISORY
(**RTRV-PM-SUPR**) —
retrieves performance-monitoring (PM) data, including historical PM data
associated with the supervisory channel

RETRIEVE-RELATIVE-SIGNAL-POWER (**RTRV-RELSPR**) —
reports instantaneous signal power of each channel in an optical line
relative to the strongest signal in a scale of 0 to 100

RETRIEVE-STATE (**RTRV-STATE**) —
retrieves slot, port, tributary, and line protection switching state and also
switch priority information for the network element

RETRIEVE-SUPERVISORY (**RTRV-SUPR**) —
retrieves provisioned state and current state of supervisory channel

RETRIEVE-SYSTEM (**RTRV-SYS**) —
retrieves network element name and other system level parameters.

RETRIEVE-THRESHOLD-ALL (**RTRV-TH-ALL**) —
retrieves the current threshold level of one or more monitored
parameters

RETRIEVE-THRESHOLD-OPTICAL-CHANNEL (**RTRV-TH-OCHAN**) —
retrieves the current threshold level of one or more monitored
parameters for optical channel signal types

RETRIEVE-THRESHOLD-OPTICAL-LINE (**RTRV-TH-OLINE**) —
retrieves the current threshold level of one or more monitored
parameters for optical line signal types

RETRIEVE-THRESHOLD-SUPERVISORY (**RTRV-TH-SUPR**) —
retrieves the current threshold level of one or more monitored
parameters

RETRIEVE-USER-SECURITY (**RTRV-USER-SECU**) —
retrieves security parameters associated with a login

SET-ATTRIBUTE-ALARM (**SET-ATTR-ALM**) —
sets the incoming signal alarm delay, the alarm clear delay intervals, the
office alarm levels to be raised during a power minor alarm condition, the
reporting of protection access availability, and the reporting of tributary
level conditions

SET-ATTRIBUTE-CONTROL (**SET-ATTR-CONT**) —
sets the description associated with an external control

SET-ATTRIBUTE-ENVIRONMENT (**SET-ATTR-ENV**) —
sets the notification code (alarm level) and alarm message (condition
description) associated with environmental alarm/status points

SET-ATTRIBUTE-SUPERVISORY (**SET-ATTR-SUPR**) —
sets the notification code associated with a supervisory channel failure
event

SET-PERFORMANCE-MONITORING-START-TIME (**SET-PM-STIME**) —
specifies the start time for the measurement of all twenty-four hour
performance monitoring parameters

SET-SOURCE-ID (**SET-SID**) —
sets the target identifier (TID) of the network element

SET-THRESHOLD-OPTICAL-CHANNEL (**SET-TH-OCHAN**) —
sets the threshold level for optical channel monitored parameters

SET-THRESHOLD-OPTICAL-LINE (**SET-TH-OLINE**) —
sets the threshold level for optical line monitored parameters

SET-THRESHOLD-OPTICAL-SUPERVISORY (**SET-TH-SUPR**) —
sets the threshold level for supervisory channel monitored parameters

UPDATE-SYSTEM (**UPD-SYS**) —
   updates the state of all the automatically provisioned parameters

NAME

REPT ALM: Report Alarm

This autonomous message is available starting in OLS Release 1.0.

DESCRIPTION

REPT ALM messages are generated autonomously by the network element to report an event that requires immediate attention by the craft at the OS. Each alarm message has an alarm severity associated with it.

If a condition defaults or is provisioned to have an alarm level of critical, major, or minor, the occurrence (and clearing) of that condition will be reported in a REPT ALM message.

An alarm condition reported to the OS via the REPT ALM message has a corresponding REPT ALM clearance message that is generated when the alarm condition clears.

OUTPUT FORMAT

```
    sid date time
almcde atag REPT ALM modifier
    "aid:ntfcncde,condtype,srveff,ocrdat,ocrtm,,,,[thlev]:
    \"conddescr\",:[,tblislt]"
;
```

OUTPUT PARAMETERS

sid	Source identifier. This is the system name.
date	Date output message is generated. This has the format YY-MM-DD (year-month-day).
time	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).

almcde   Alarm code. This has one of the following values:

    *C   Critical alarm

    **   Major alarm

    *   Minor alarm

    A   Automatic message (nonalarm) (This is used only to report a cleared alarm.)

atag   Automatic tag. The *atag* is used for message sequencing. The number is incremented by one for each autonomous message sent by the network element. The network element uses whole numbers from 000 through 999.

modifier   This is a message modifier to the REPT ALM command. It has one of the following values:

    COM   Common. This reports an event that is not an equipment or facility condition but applies to the whole network element system.

    OCHAN Channel. This reports a facility-related event at the channel level in OLS.

    CMS   CMS is the incoming customer maintenance signal [OC3 format.] This reports a facility-related event on the CMS part of the telemetry pack [OC3 format.]

    EQPT   This reports an equipment-related event for a OLS

    OLINE This reports a facility-related event on the optical line in OLS.

    SUPR   This reports a facility-related event on the supervisory channel in the optical line in OLS.

aid   Access identifier. This is the address of the equipment component, for which an alarm is being reported.

ntfcncde   Notification code. This is the alarm level and will have one of the following values:

    CR   Critical alarm

    MJ   Major alarm

    MN   Minor alarm

    CL   Cleared alarm

condtype Condition type. This is the type of the condition. There are several types of conditions.

The values for this parameter can be found in the various **RTRV-COND** command pages associated with the *modifier* output in the message. For example, condition types associated with the **COM** *modifier* are listed in the **RTRV-COND-COM** command page.

srveff Service effect. This indicates the effect of the reported alarm on service and has one of the following values:

SA   Service-affecting condition

NSA   Non-service-affecting condition.

A message reporting the clearing of an alarm has the same *srveff* value as the one reporting the alarm.

ocrdat Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

thlev Threshold level. For CMS and SUPR modifier type alarms only, if an incoming facility degradation or failure (or clear) is reported, the *thlev* parameter value is the bit error ratio (BER) threshold level, in integer form, representing the closest negative power of 10 to the BER. Otherwise, this parameter is not reported.

conddescr Condition description. This is the text description of the reported condition.

The following table contains the condition descriptions that can be output.

⚠ **CAUTION:**
The following table is for information only and must not be used for trouble clearing. Refer to the 365-575-201 User/Service Manual, Operation and Maintenance (TOP) section for trouble clearing information.

Alarm Condition Descriptions

Description!Meaning	
BC LAN failure	The board controller (BC) LAN circuitry on a circuit pack is failed in such a way as to affect the BC LAN.
CP reset in progress	A circuit pack has been installed and the necessary software is being downloaded to the circuit pack.
CP (unknown type) failure	The circuit pack in the indicated slot has failed but its type is unknown.
CP (unknown type) removed	The circuit pack in the indicated slot has been removed but its type is unknown.
CPYPGM:IP tid	Copy program in progress.
DCC APS data error	An error has been detected in the DCC APS byte.
DCC startup in progress	The DCC is starting up.
DS-NE not reachable	One of the network elements in the ring network has not been provisioned "DS-NE", far end communications has been disabled to the "DS-NE", or communication to the provisioned "DS-NE" has been interrupted.
duplicate TID defined	A recently entered target identifier (TID) value is a duplicate of the TID of another network element in the ring network.
fuse/power failure A	The network element has a blown fuse in feeder A, a power failure to a shelf, or a power failure within the cabinet. Likely causes: A blown 10A fuse or a defective filter board in the filter panel.
fuse/power failure A and B	The network element has blown fuses in feeders A and B, a power failure to a shelf, or a power failure within the bay. Likely causes: Blown 10A fuses or a defective filter board in the filter panel.

Alarm Condition Descriptions

Description	Meaning
fuse/power failure B	The network element has a blown fuse in feeder B, a power failure to a shelf, or a power failure within the cabinet. Likely causes: A blown 10A fuse or a defective filter board in the filter panel.
incoming CMS LOF	A CMS loss-of-frame (LOF) condition has been detected on an incoming CMS line. Likely cause: Failure of the far end customer equipment or the local TLM circuit pack.
incoming CMS LOS	A CMS loss-of-signal (LOS) condition has been detected on an incoming CMS line. Likely causes: Failure of the far end customer equipment, the incoming CMS line (receive fiber), or the local TLM circuit pack.
incoming CMS SD	A signal degrade (SD) condition has been detected on an incoming CMS line. The line parity error rate threshold setting has been exceeded (10^{-5} through 10^{-9} with an original value of 10^{-6}). Likely causes: Failure of the far end customer equipment or the local TLM circuit pack.
incoming CMS SF	A signal failure (SF) condition has been detected on an incoming CMS line Likely causes: Failure of the far end customer equipment, the incoming CMS line (receive fiber, or the local TLM circuit pack.
inc. (from Supr) DCC failure	The local network element cannot communicate through the supervisory signal data communications channel (DCC).
incoming optical channel LOS	An optical channel loss-of-signal (LOS) condition has been detected on an incoming optical channel.
incoming optical line LOS	An optical line loss-of-signal (LOS) condition has been detected on an incoming optical line.
incoming supr chnl fail	An incoming supervisory channel loss-of-frame (LOF) or loss-of-signal (LOS) condition has been detected on an incoming (from the optical line) supervisory channel.
incoming supr chnl SD	A signal degrade (SD) condition has been detected on an incoming (from the optical line) supervisory channel.
incoming supr chnl SF	A signal failure (SF) condition has been detected on an incoming (from the optical line) supervisory channel.

Alarm Condition Descriptions

Description	Meaning
inhibit alarms-office alarms	Alarm reporting via the office alarms interface is disabled.
inhibit alarms-parallel telem	Alarm reporting via the parallel telemetry interface is disabled.
inhibit alarms-X.25	Alarm reporting via the X.25 (TL1) interface is disabled.
logins inhibited	Logins are disabled.
optical line ID mismatch	A fiber misconnection has been detected between Optical Line System network elements.
provisioned control point	The specified control point (miscellaneous discrete output) is active. Note: The actual message that appears in the condition description report for this condition can be provisioned; this is the default message. See the **RTRV-ATTR-CONT** and **SET-ATTR-CONT** commands.
provisioned environment alarm point	A contact closure is present at an environmental input point of the network element. Note: The actual message that appears in the condition description report for this condition can be provisioned; this is the default message. See the **RTRV-ATTR-ENV** and **SET-ATTR-ENV** commands.
multiple DS-NEs defined	Two or more network elements in a ring network have their "Directory Server" (DS-NE) parameter provisioned to "Yes". There must be one and only one Directory Server Network Element (DS-NE) in the ring network.
NE status comm failure	The network element is not associated with an Alarm Group Network Element (AGNE) or the AGNE cannot establish associations with all of the network elements in the alarm group. If the AGNE loses power, all network elements in the alarm group will report this condition; however, the condition may not be reported for several minutes.
OA failure	Failure of an OA circuit pack.
OA LAN failure	The local area network (LAN) circuitry on a circuit pack has failed in such a way as to affect the Overhead Access (OA) LAN.
OA removed	An OA circuit pack is missing from slot.

Alarm Condition Descriptions

Description	Meaning
OLS system incomplete	The designated Directory Server Network Element (DS-NE) network element is unable to create a complete ring map because of a controller or transmission failure in the network.
OLS system startup in progress	This is a normally transient condition that indicates the network is starting up.
OMU/ODU mismatch or missing	An OMU/ODU mismatch has been detected or an OMU/ODU is missing.
reset in progress	The OLS network element is in progress of downloading its software from SYSMEM to SYSCTL, to TOHCTLs, and to all other circuit pack board controllers. Likely cause: Reset or **INIT-SYS** has been executed.
SER TLM 1 port failure	The serial telemetry 1 port has failed.
software download in progress	A software download from the CIT-PC to the SYSMEM is currently in progress.
SYSCTL failure	Failure of SYSCTL circuit pack.
SYSMEM failure	Failure of SYSMEM circuit pack.
SYSMEM removed	SYSMEM circuit pack is missing from slot.
SYSMEM/SYSCTL code mismatch	A software mismatch has been detected between the software stored in the SYSMEM circuit pack and the software version running in the OLS network element. Likely cause: A software upgrade procedure is in progress.
SYSMEM unrecognizable code	The software stored in the SYSMEM circuit pack has become corrupted and is no longer usable. Likely causes: Corrupted software download to SYSMEM circuit pack or spontaneous corruption of the software in the SYSMEM circuit pack.
test alarm in progress	An office alarm test is in progress.
test auto turnup in progress	An auto turnup test is in progress.
test telemetry in progress	A telemetry test is in progress.
TID address map full	The local subnetwork has exceeded the maximum size of 16 network elements.
TL-1 link failure	An incoming TL1 link failure has been detected.
TLM failure	Failure of a TLM circuit pack.
TLM removed	TLM circuit pack is missing from slot.
TOHCTL failure	Failure of TOHCTL circuit pack.

Alarm Condition Descriptions

Description	Meaning
TOHCTL removed	TOHCTL circuit pack is missing from slot.
unexpected CP type	A circuit pack has been replaced with a defective circuit pack.

tblislt Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, the *tblislt* parameter is not reported.

EXAMPLE OUTPUT

```
    LT-OLS 96-06-07 16:21:30
*   1 REPT ALM EQPT
    "tlm-1a:MN,PRCDRERR,NSA,06-07,16-21-30,,,,:\\"CP (Unknown type)
failure\\",:,ISLTD"
;
    LT-OLS 96-06-07 16:23:18
A   2 REPT ALM EQPT
    "tlm-1a:CL,PRCDRERR,NSA,06-07,16-23-18,,,,:\\"CP (Unknown type)
failure-cleared\\",:,ISLTD"
;
    LT-OLS 96-06-07 16:25:45
A   3 REPT ALM OLINE
    "oline-1a:MN,LOS,NSA,06-07,16-25-45,,,,:\\"incoming optical line
LOS\\",:"
;
    LT-OLS 96-06-07 16:30:08
A   4 REPT ALM OLINE
    "oline-1a:CL,LOS,NSA,06-07,16-25-45,,,,:\\"incoming optical line
LOS-cleared\\",:"
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

REPT ALM ENV: Report Alarm Environment

This autonomous message is available starting in OLS Release 1.0.

DESCRIPTION

REPT ALM ENV messages are generated autonomously by the network element to inform the OS an environmental condition has been detected at the OLS.

If a miscellaneous discrete environmental point defaults to, or is provisioned to have, an alarm level of critical, major, or minor, the occurrence (and clearing) of that environmental point will be reported in a REPT ALM ENV message. If provisioned as a nonalarmed condition, a REPT EVT message is used to report the event.

For each miscellaneous discrete environmental condition reported to the OS via the REPT ALM ENV message, a corresponding REPT ALM ENV clearance message will be generated when the environmental condition clears.

OUTPUT FORMAT

```
    sid date time
almcde atag REPT ALM ENV
    "aid:ntfcncde,almtype,ocrdat,ocrtm,\"almmsg\""
;
```

OUTPUT PARAMETERS

sid	Source identifier. This is the system name.
date	Date output message is generated. This has the format YY-MM-DD (year-month-day).
time	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).

almcde Alarm code. This has one of the following values:

  *C Critical alarm

  ** Major alarm

  * Minor alarm

  A Automatic message (nonalarm) (This is used only to report a cleared alarm.)

atag Automatic tag. The *atag* is used for message sequencing. The number is incremented by one for each autonomous message sent by OLS. OLS uses whole numbers from 000 through 999.

aid Access identifier. This is the address of the miscellaneous discrete environmental point for which an alarm is being reported.

ntfcncde Notification code. This is the alarm level and has one of the following values:

  CR Critical alarm

  MJ Major alarm

  MN Minor alarm

  CL Cleared alarm

almtype Alarm type. This parameter has one of the following values:

  MISC For miscellaneous discrete environmental conditions reported for near end terminals.

  REGR-MISC For miscellaneous discrete environmental conditions reported for far end terminals or repeater bay sites.

ocrdat Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

almmsg Alarm message. This is the text description of the reported condition. (the text description of the actual condition monitored and reported by each miscellaneous discrete environmental point can be provisioned by the user. The default is environment *n*.)

EXAMPLE OUTPUT

```
   LT-OLS 96-06-07 16:28:41
*  5 REPT ALM ENV
   "env-1:MN,MISC,10-26,16-25-48,\\"provisioned environment alpt\\""
;
   LT-OLS 96-06-07 16:38:17
A  6 REPT ALM ENV
   "env-1:CL,MISC,10-26,16-27-35,\\"provisioned environment
alpt-cleared\\""
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-ALM-ENV

RTRV-ATTR-ENV

SET-ATTR-ENV

NAME

REPT COND: Report Condition

This autonomous message is available starting in OLS Release 1.0.

DESCRIPTION

REPT COND messages are generated periodically and autonomously to report the active *status* conditions at the network element.

REPT COND messages are generated every 6 hours, that is, at 6:00 A.M., 12:00 Noon, 6:00 P.M. and 12:00 Midnight.

Each REPT COND message reports one active status condition similar to the autonomous REPT EVT message used to report each status condition (non-alarmed event) when it occurred.

Any status condition reported by an autonomous REPT EVT message, which is active when the periodic REPT COND messages are output, is included in a REPT COND message.

The information content of each REPT COND message is effectively equivalent to a line in the response to a **RTRV-COND** command.

OUTPUT FORMAT

If there are no active status conditions to report, the following report is output:

```
    sid date time
A   atag REPT COND
;
```

If there are active status conditions to report, the following report is output:

```
   sid date time
A  atag REPT COND modifier
   "aid:ntfcncde,condtype,srveff,ocrdat,ocrtm,,,,\"conddescr\""
;
```

OUTPUT PARAMETERS

sid   Source identifier (or Target identifier, *tid*). This is the system name.

date   Date output message is generated. This has the format YY-MM-DD (year-
            month-day).

time   Time output message is generated. This has the format HH:MM:SS
            (hours:minutes:seconds).

A   This indicates the message is sent autonomously.

atag   Automatic tag. The *atag* is used for message sequencing. The number is
            incremented by one for each autonomous message sent by the network
            element, on a per-OS-type basis. The network element uses only whole
            numbers from 000 through 999.

modifier This is the message modifier to the REPT COND message and has one of the
            following values for OLS:

   COM   Common. This reports a condition that is not an equipment or facility
            condition but Applies to the whole network element.

   OCHAN   Channel. This reports a facility-related condition at the channel level.

   CMS   CMS is the incoming customer maintenance signal [OC3 format].
            This reports a facility-related event on the zcms part of the telemetry
            pack [OC3 format].

   EQPT   This reports an equipment-related condition for an OLS terminal or
            repeater bay.

   OLINE   This reports a facility-related event on the optical line.

   SUPR   This reports a facility-related event on the supervisory channel in the
            optical line.

aid   Access identifier. This is the address of the equipment component or facility for which a status condition is being reported.

ntfcncde Notification code. This parameter value is always NA (not alarmed) for status conditions.

condtype Condition type. The values for this parameter can be found in the various **RTRV-COND** command pages associated with the *modifier* output in the message. For example, condition types associated with the **COM** *modifier* are listed in the **RTRV-COND-COM** command page.

srveff   Service effect. This indicates the effect of the reported condition on service. This parameter value is NSA (non-service-affecting) or SA (service-affecting) for status conditions.

ocrdat   Occurrence date. This indicates the date of the condition being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the condition being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr Condition description. This is the text description of the reported condition.

Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE OUTPUT

```
    LT-PF-2000 93-10-01 06:00:00
A   810 REPT COND COM
    "env-1:NA,MISC,NSA,10-01,01-03-29,,,,\"environment1\""
;
```

```
   LT-OLS 94-06-07 16:28:41
A  820 REPT COND OLINE
   "oline-1a:NA,LOS,06-07,16-25-48,\\"incoming optical line LOS\\""
;
```

```
   LT-OLS 94-06-26 16:25:48
A  830 REPT COND OCHAN
   "ochan-1a-1:NA,OCHANRMVD,06-26,16-25-48,\\"incoming optical
channel removed\\""
;
<
   LT-FT-2000 94-06-26 16:27:35
A  810 REPT COND OC48
   "oc48-in-1e:NA,INHSWPR,06-26,16-27-35,\\"line span lockout - FE\\""
;
```

RELATED TL1 COMMANDS/MESSAGES

REPT ALM

REPT EVT

RTRV-ALM

RTRV-AO

RTRV-COND

NAME

REPT DBCHG: Report Database Change

This autonomous message is available starting in OLS Release 1.0.

DESCRIPTION

REPT DBCHG messages are generated by a network element to report database changes that have occurred as a result of line termination, STS-3 cross-connection, and performance monitoring parameter threshold provisioning commands.

REPT DBCHG messages are sent on all virtual circuits which have an OS_TYPE allowing the receipt of REPT DBCHG autonomous messages. This will now include the virtual circuit which initiated the command that caused the database change.

The successful completion of commands from the network element which change the provisioning database or change the value of a CIT-provisionable parameter shall generate a REPT DBCHG message with the changed values listed in the output. If a provisionable value of a parameter was entered, and other optional parameter values were not entered, only the value of the parameter that was entered when the command was issued will appear in the REPT DBCHG output.

If an optional parameter was not entered, but the requirements state it must be set to a certain static default value, then that parameter value will be considered "entered". The value will be displayed in the output.

Controller reset:
> Any time the system controller resets (including on power-up), a REPT DBCHG message is transmitted after the controller has successfully recovered from the reset.

⇒ **NOTE:**
> The user is logged out when the controller reset process begins. However, the user can relogin after couple of minutes of controller reset process initiation. The user will be able to see the REPT DBCHG message at the time it is sent only if the user has logged in again after a couple of minutes of controller reset initiation and before the completion of system controller reset. Otherwise, the user has to use the **RTRV-AO** message to see the REPT DBCHG stored in the buffer internally in the system.

⇒ **NOTE:**
  OPS/INE will log the **INIT-SYS**, RESET, and UPDATE events but will not make any database changes. The OS craft will be responsible for requesting OPS/INE to run audits to check for OS/network element database discrepancies.

In addition to **INIT-SYS**, there are other commands which will cause the system to restart its program, and/or drop the user session. For these commands, the system should generate the report database change before the user session is terminated.

If the command only causes the user session to be dropped, and the REPT DBCHG message is not transmitted prior to the termination, the user can normally use the **RTRV-AO** command after relogging in to retrieve that REPT DBCHG message.

The following TL1 commands and equivalent CIT commands will trigger a REPT DBCHG message.

TL1 Command	CIT Command	Special Notes
CPY-PRGM	copy-program	
DLT-TADRMAP	delete-TID	
DLT-USER-SECU	set-login-delete	
ED-DAT	set-date	
ED-PID	set-password	*pid* must not be reported
ED-USER-SECU	set-login-change	
ENT-CID-SECU	set-security-port	
ENT-FECOM	enter-far end communication	
ENT-NE-SECU	set-security-network element	
ENT-CMS	set-CMS	
ENT-OCHAN	set-ochan	
ENT-SUPR	set-supr	
ENT-SYS	set-network element	
ENT-USER-SECU	set-login-enter	*pid* must not be reported
INIT-REG-OLINE	initialize-optics	
INIT-REG-ALL	initialize PM	
INIT-SYS	initialize-system,reset	

TL1 Command	CIT Command	Special Notes
SET-ATTR-ALM	set-attribute-alarm	
SET-ATTR-CONT	set-attribute-control	
SET-ATTR-ENV	set-attribute-environment	
SET-ATTR-SUPR	set-supr	
SET-PM-STIME	set-pm-start time	
SET-SID	set-network element	
SET-TH-OCHAN	set-PM threshold-ochan	
SET-TH-OLINE	set-PM threshold-oline	
SET-TH-SUPR	set-PM threshold-supr	
UPD-SYS	update	

All commands can be categorized into three cases:

1. those that change the provisioning database;

2. those that change the state of the system (but not the database);

3. those that check the database or state of the system.

The commands that change the provisioning database (Case 1) will report a REPT DBCHG. The security commands, although not actually changing the provisioning database, should change a database and will also report a REPT DBCHG.

The following TL1 commands and their pre-LCT/OLS R3 CIT equivalents, which are in Case 2 or Case 3, will not report a database change:

RTRV-xxx

TEST-xxx

ALW-/INH-MSG

COPY-EC1/-OC3/-OC48/-PATHTRACE

OPR-/RLS-PROTNSW

OPR-/RLS-LPBK-xxx

OPR-/RLS-ACO

OPR-/RLS-EXT-CTL

ACT-/CANC-USER

OUTPUT FORMAT

```
    sid date time
  A atag REPT DBCHG
    "umb:ccb:aid:[com_block]:[spec_block]:[state_block]"

  ;
```

Trailing commas after the last non-null parameter value within a parameter block are *not* included in the output message. Also, trailing colons after the last non-null parameter block are *not* included in the output message.

OUTPUT PARAMETERS

sid	Source identifier (or Target identifier, *tid*). This is the system name.
date	Date output message is generated. This has the format YY-MM-DD (year-month-day).
time	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
A	This indicates the message is sent autonomously.
atag	Automatic tag. The *atag* is used for message sequencing. The number is incremented by one for each autonomous message sent by the network element, on a per-OS-type basis. The network element uses only whole numbers from 000 through 999.

umb   Update Management Block. This parameter field is used for returning the
time and date of the database change, and the source ID of the command
that caused the change (when applicable). Parameters within the update
mangement block are positionally independent and are specified using a
name-defined construct of: PARAMETER=*value* in a comma separated
list. The parameters are listed and explained below.

TIME   This reflects the time that the database change occurred and is
in the form: HH-MM-SS. The time is the same as the time that is
in the REPT DBCHG message header.

DATE   This reflects the date that the database change occurred and is
in the form: YY-MM-DD. The date is the same as the date that
is recorded in the history log for the database change record.

SOURCE   If the database change occurs as a result of a TL1 command
with a non-null *ctag*, the **SOURCE** field contains this non-null
ctag value. Otherwise this parameter is not included in the
message.

ccb   Command Code Block. This is a single position defined parameter block
which indicates the trigger information of the action which created the
database update. If a TL1 command created this update, the command
code parameter is specified in the form:

         <verb>-<modifier>[-<modifier>]

If the *<verb>* of the TL1 input command is **SET**, it is **not** reported as **ENT** in
the command code block. The command code block must indicate the
input verb **SET**.

If the database change was caused by a user interface command or a
button push caused the database change, the Command Code Block
contains the equivalent TL1 command which would have had to have been
entered to make the change.

For controller reset, the *ccb* will be equal to RESET. For the UPDATE
function, the *ccb* will be equal to UPD-SYS.

aid   Access identifier. This is the address of the object entity which the database update has affected.

For line termination provisioning changes, this field contains the AID of the line which was provisioned.

For system initialization, RESET, and UPDATE events, the AID field will be null.

com_block   This field is always null.

spec_block   Specific Block. This is a name-defined field. If the database change is the result of a TL1 command which contains parameters in this block, the parameter names and values are included in this block. Parameters within the specific block are positionally independent and are specified using a name defined construct of: PARAMETER=*value* in a comma separated list. The parameter names are the same as those for the corresponding TL1 command.

All the database changes except the state change are reported in the *spec_block* as name-defined parameters (PARAMETER=*value*) whether or not the data was originally input as a position-defined parameter or name-defined parameter in the input command. The parameter names are the same as those for the corresponding TL1 command. If the input command used a name-defined parameter that causes a database change, then the **REPT DBCHG** will report it as a name-defined parameter in the specific block. If the input command used a position-defined parameter that causes a database change, then the REPT DBCHG will report this position-defined parameter as a name-defined parameter (PARAMETER=value) in the specific block.

This field is null if the value in the *ccb* is one of: UPD-SYS, PLUGIN, or UNPLUG.

If the database change is the result of a (non-TL1) user interface command which contains parameters in this block, the equivalent TL1 parameter names and values are included in this block. The parameter names are the same as those for the corresponding TL1 command.

state_block State Block. This is a position defined field. If a state change is being reported, the new state is included in this block. It contains the following parameters in the order shown:

        pst   Primary State.

EXAMPLE OUTPUT

The following message is sent when the **ENT-SUPR** message has been completed for the supervisory channel 1a:

```
   LT-OLS 93-10-01 08:00:00
A  888 REPT DBCHG
   "TIME=07-59-20,DATE=93-10-01,SOURCE=123456:ENT-SUPR:supr-1a::
   NTFCNCDE=MN,SDTHR=-6"
;
```

The following message is sent when the **SET-TH-OCHAN** message has been completed for the supervisory channel 1a:

```
   LT-OLS 93-10-01 08:00:00
A  888 REPT DBCHG
   "TIME=07-59-20,DATE=93-10-01,SOURCE=123456:SET-TH-OCHAN:ochan-1a-1::
   MONTYPE=CVL,THLEV=-9,TMPER=15-MIN,TCARPT=ENABLE"
;
```

The following message is sent when the **SET-ATTR-CONT** message has been completed
for the control point 3:

```
   LT-PF-2000 93-10-01 08:00:00
A  888 REPT DBCHG
   "TIME=07-59-20,DATE=93-10-01,SOURCE=123456:SET-ATTR-CONT:cont-3::
    CONTTYPE=\"StartGenerator\""
;
```

RELATED TL1 COMMANDS/MESSAGES

CPY-PRGM
DLT-TADRMAP
DLT-USER-SECU
ED-DAT
ED-PID
ED-USER-SECU
ENT-CID-SECU
ENT-FECOM
ENT-NE-SECU
ENT-CMS
ENT-OCHAN
ENT-SUPR
ENT-SYS
ENT-USER-SECU
INIT-REG-ALL
INIT-REG-OLINE
INIT-SYS
SET-ATTR-ALM
SET-ATTR-CONT
SET-ATTR-ENV
SET-ATTR-SUPR
SET-PM-STIME
SET-SID
SET-TH-OCHAN
SET-TH-OLINE
SET-TH-SUPR
UPD-SYS

ENT-*rr*

INIT-SYS
RESET
RTRV-AO
SET-ATTR-rr
UPD-SYS

SET-TH-rr
SET-ATTR-ALM
SET-ATTR-CONT
SET-ATTR-ENV

NAME

REPT EVT: Report Event

This autonomous message is available starting in OLS Release 1.0.

DESCRIPTION

REPT EVT messages are generated autonomously by OLS to report events (nonalarmed conditions).

If an event with a user-provisionable alarm level defaults to or is provisioned as a not alarmed (NA) level, the occurrence of that event is reported in a REPT EVT message. REPT EVT messages also occur when any such standing conditions clear, and are used to report transient conditions. Beginning with OLS Release 1.0, autonomous performance monitoring (PM) threshold crossing alert (TCA) messages are provided to the OS using this TL1 message.

The following table indicates what TL1 and CIT commands will result in what REPT EVT messages.

TL1 Command	CIT Command	REPT EVT Message
-	rtrv-baseline	Rtrv-Baseline
-	test-alm	Test-Alarm:slot()
-	test-auto-local	Test-Auto Turnup-Local:slot()
-	test-led	Test-LED
-	test-tlm-par	Test-Telemetry-Parallel
ACT-USER	-	Activate-User
ALW-MSG	alw-alm	Allow-Alarm
CANC-USER	-	Cancel-User
CPY-PRGM	cpy-pgm	Copy-Program
DLT-TADRMAP	dlt-tid	Delete-TID
DLT-USER-SECU	set-lgn-dlt	Set-Login-Delete
ED-DAT	set-date	Set-Date
ED-PID	set-passwd	Set-Password
ED-USER-SECU	set-lgn-chg	Set-Login-Change
ENT-CID-SECU	set-secu-port	Set-Security-Port:port(com)
ENT-CMS	set-state-cms	Set-State-CMS:cms
ENT-FECOM	set-fecom	Set-Far-End-Communications
ENT-NE-SECU	set-secu-ne	Set-Security-Network Element
ENT-OCHAN	set-state-ochan	Set-State-OCHAN:ochan
ENT-SUPR	set-supr	Set-SUPR:supr
ENT-SYS	set-ne	Set-Network Element

TL1 Command	CIT Command	REPT EVT Message
ENT-USER-SECU	set-login-enter	Set-Login-Enter
INH-MSG	inh-alm	Inhibit-Alarm
INIT-REG-ALL	init-pm	Initialize-PM
INIT-REG-OLINE	init-opt	Initialize-Optics
INIT-SYS (3)	init-sys	Initialize-System
INIT-SYS (9)	reset	Reset
OPR-ACO	opr-aco	Operate-Alarm-Cutoff
OPR-EXT-CONT	opr-ctl	Operate-Control:misc disc(ctl)
RLS-EXT-CONT	rls-ctl	Release-Control:misc disc(ctl)
RTRV-ALL	-	Rtrv-All
RTRV-ALM	rtrv-alm	Rtrv-Alarm (and Status)
RTRV-ALM-ENV	rtrv-alm	Rtrv-Alarm (and Status)
RTRV-ALM-NTWK	rtrv-ntalm	Rtrv-Network-Alarms
RTRV-AO	-	Rtrv-AO
RTRV-ATTR-ALM	rtrv-attr-alm	Rtrv-Attr-Alarm
RTRV-ATTR-CONT	rtrv-attr-cont	Rtrv-Attr-Control:point(cont)
RTRV-ATTR-ENV	rtrv-attr-env	Rtrv-Attr-Enironment:point(env)
RTRV-ATTR-SUPR	rtrv-supr	Rtrv-SUPR:supr
RTRV-CID-SECU	rtrv-active-user	Rtrv-Active-User:port(com)
RTRV-CID-SECU	rtrv-secu-port	Rtrv-Security-Port:port(com)
RTRV-CMS	[rtrv-state]	Rtrv-CMS:cms
RTRV-COND	rtrv-alm	Rtrv-Alarm (and Status):slot()
RTRV-DAT	rtrv-date	Rtrv-Date
RTRV-EQPT	rtrv-eqpt	Rtrv-Equipment:slot()
RTRV-FECOM	rtrv-fecom	Rtrv-Far End Communications
RTRV-HDR	-	Rtrv-HDR
RTRV-LOG	rtrv-hsty	Rtrv-History
RTRV-MAP-NEIGHBOR	rtrv-map-nei	Rtrv-Map-Neighbor
RTRV-MAP-NETWORK	rtrv-map-ntwk	Rtrv-Map-Network
RTRV-MAP-RING	rtrv-map-ring	Rtrv-Map-Ring
RTRV-NE-SECU	rtrv-secu-ne	Rtrv-Security-Network Element
RTRV-OCHAN	[rtrv-state]	Rtrv-OCHAN:ochan
RTRV-PM-ALL	-	Rtrv-PM-All
RTRV-PM-OCHAN	rtrv-pm-ochan	Rtrv-PM-OCHAN:ochan
RTRV-PM-OLINE	rtrv-pm-oline	Rtrv-PM-OLINE:oline
RTRV-PM-STIME	rtrv-pm-stime	Rtrv-PM-Start Time
RTRV-PM-SUPR	rtrv-pm-supr	Rtrv-PM-SUPR:supr

TL1 Command	CIT Command	REPT EVT Message
RTRV-RELSPR	rtrv-relspr	Rtrv-RELSPR:oline
RTRV-STATE	rtrv-state	Rtrv-State:slot()
RTRV-STATE-ALL	rtrv-state	Rtrv-State-All
RTRV-SUPR	rtrv-supr	Rtrv-SUPR:supr
RTRV-SYS	rtrv-ne	Rtrv-Network Element
RTRV-TH-ALL	-	Rtrv-Th-All
RTRV-TH-OCHAN	rtrv-pmth-ochan	Rtrv-PM-Th-OCHAN:ochan
RTRV-TH-OLINE	rtrv-pmth-oline	Rtrv-PM-Th-OLINE:oline
RTRV-TH-SUPR	rtrv-pmth-supr	Rtrv-PM-Th-SUPR:supr
RTRV-USER-SECU	rtrv-lgn	Rtrv-Login
SET-ATTR-ALM	set-attr-alm	Set-Attribute-Alarm
SET-ATTR-CONT	set-attr-cont	Set-Attribute-Control
SET-ATTR-ENV	set-attr-env	Set-Attribute-Environment
SET-ATTR-SUPR	set-supr	Set-SUPR:supr
SET-PM-STIME	set-pm-stime	Set-PM-Start Time
SET-SID	set-ne	Set-Network Element
SET-TH-OCHAN	set-pmth-ochan	Set-PM-Th-OCHAN:ochan
SET-TH-OLINE	set-pmth-oline	Set-PM-Th-OLINE:oline
SET-TH-SUPR	set-pmth-supr	Set-PM-Th-SUPR:supr
UPD-SYS	update	Update

1. One and only one REPT EVT message is generated for each command, including each CIT command set-xx, although a set-xx CIT command will internally lead to execution of a rtrv-xx and a set-xx.

2. The REPT EVT message is not generated for the CIT command surrounded by [ ].

OUTPUT FORMAT

```
    sid date time
A atag REPT EVT modifier
    "aid:condtype,condeff,ocrdat,ocrtm,[locn],[dirn],[monval],
    [thlev][,tmper]:\"conddescr\",:[,tblislt]"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

sid   Source identifier. This is the system name.

date   Date output message is generated. This has the format YY-MM-DD (year-month-day).

time   Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).

A   This indicates the nonalarmed message was sent autonomously.

atag   Automatic tag. The *atag* is used for message sequencing. The number is incremented by one for each autonomous message sent. Whole numbers from 000 through 999 are used.

modifier   This is a message modifier to the REPT EVT message and has one of the following values:

   COM   Common. This reports an event that is not an equipment or facility condition but applies to the OLS as a whole. This is also used to report miscellaneous discrete environmental nonalarmed conditions.

   OCHAN   Channel. This reports a facility-related event at the channel level in OLS.

   CMS   CMS is the incoming customer maintenance signal [OC3 format.] This reports a facility-related event on the CMS part of the telemetry pack [OC3 format.]

   EQPT   This reports an equipment-related event for an OLS.

   OLINE   This reports a facility-related event on the optical line in OLS.

   SUPR   This reports a facility-related event on the supervisory channel in the optical line in OLS.

aid   Access identifier. This is the address of the equipment component, facility, or repeater bay site ID for which an event is being reported.

condtype Condition type. This is the type of the condition. There are several types of conditions.

The values for this parameter can be found in the various **RTRV-COND** command pages associated with the *modifier* output in the message. For example, condition types associated with the **COM** *modifier* are listed in the **RTRV-COND-COM** command page.

condeff   Condition effect. This indicates the effect of the reported event on the condition of OLS and has one of the following values:

SC   Standing Condition Raised. This is a condition that is active for an extended period of time.

TC   Transient Condition. This is a condition that does not change the basic condition of the network element for an extended period of time. For example, a performance monitoring TCA message is reported as a transient condition.

CL   Standing Condition Cleared. This is a used to report when a standing condition no longer exists.

ocrdat   Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn   Location. This indicates whether the event being reported pertains to the near end or far end relative to the entity identified by the *aid*.

The *locn* may be null or have one of the following values:

NEND   Near end event or TCA report.

FEND   Far end event or TCA report.

The system will output a null value for the *locn* parameter in cases where a TCA message is being generated. A null value is to be interpreted as meaning NEND.

dirn   Direction. This indicates the direction of the event being reported relative to the entity identified by the *aid*. The system will always provide a null entry for the *dirn* parameter.

monval   Monitored value. For performance monitoring TCAs, this is the measured value of the parameter specified in *condtype* (=T-*montype*) at the time the REPT EVT TCA is reported. Otherwise this parameter is not reported.

thlev   Threshold level. If an incoming facility degradation or failure (or clear) is reported, the *thlev* parameter, applicable only for a message modifier of SUPR, is the BER threshold level, in integer form, representing the closest negative power of 10 to the BER.

tmper   Time period. For performance monitoring TCAs, this is the performance monitored time interval in which the reported threshold crossing event was observed. The values for this parameter are as follows:

15-MIN   15-minute interval

1-DAY   daily interval

Otherwise this parameter is not reported.

conddescr Condition description. This is the text description of the reported condition. The descriptions of PM TCAs are self explanatory and follow the parameter naming format specified in ANSI Draft Standard T1M1.3/92-005 (June 1992).

tblislt   Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE OUTPUT

```
    LT-OLS 96-06-07 16:28:41
A   7 REPT EVT OCHAN
    "ochan-1a-1:T-SPRC,TC,06-07,16-28-41,,,,:\\"TCA optics:Ochan QH:
SPR-C"\\",:"
;
```

The following example is for an **OPR-LPBK-T3** command that has been denied.

```
    LT-FT-2000 96-10-26 16:28:41
A   7 REPT EVT COM
    "LT01:IO-ACTY,TC,10-26,16-28-41,,,,:\\"operate-loopback-T3:
    line-1e-DENY\\",:"
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

ACT-USER: Activate User

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ACT-USER:*tid:uid:ctag::pid;*

DESCRIPTION

ACT-USER commands can be initiated to set up a session to the network element.

An active TL1 access login session is required at each NE in order to interact with that NE (including receiving autonomous message output as well as using TL1 commands).

A maximum of one active login session is allowed per network element, per access channel. Any subsequent login attempt while a session is still active is denied.

This command is available only to privileged users when the channel is in the locked state.

This command is available to reports-only users, also, for all CIT, DCC or TL1 ports on the NE.

Until a successful login attempt is complete for a given network element and virtual circuit, there is no communications (autonomous or command responses) outbound from the network element, except to DENY unsuccessful login attempts.

If a user's password has expired upon execution of the **ACT-USER** command, the **ACT-USER** will be accepted but that user will not be able to perform any function, or receive any autonomous message output until the associated password has successfully been modified.

A special banner message will be displayed as part of the command completion response, informing the user that the password has expired and must be updated (see the "Output Format" section). The only action then allowed for the user is to change the password identifier via the "**ED-PID**" command.

No response will be provided for any command with an invalid syntax or parameters (other than the *UID* and *PID*), unless the same access channel has an active login session with the Gateway Network Element. In those cases only, some other invalid commands are DENY-ed by the GNE (refer to the **RTRV-HDR** **ERROR RESPONSES** section for details.

When the network element receives an **ACT-USER** command, the given login ID will initiate a login session on the network element provided that:

— Logins are enabled on the access port,

— A provisioned login ID and correct password are entered, and

— Network element login security is enabled (for non-privileged users only).

If the X.25 link to the GNE fails, all active X.25 logins are terminated without notice to the user. Similarly, all active logins to a remote network element are terminated if a communication failure occurs between the GNE and that remote network element, or if either the GNE, the targeted remote network element or an intermediate network element is reset or initialized. Communication failures include OC-N and DCC failures, unless protected in rings, between the GNE and the targeted remote network element, also.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

               [A-Z][a-z][0-9].+-%#

uid   User identifier. This is the unique user login identifier for which the **ACT-USER** login command is intended.

               Grouping and/or ranging of *uid* values for this command is not allowed.

               Valid *uid* values for the **ACT-USER** command are case-sensitive alphanumeric strings of 1 to 10 characters which have been previously provisioned as valid login IDs in the network element.

               Login IDs for TL1 access are not treated any differently from other user login IDs. That is, a *uid* for TL1 access can have the same possible user privileges ("Privileged User", "General User", or "Reports Only User") and that login ID can be used for Craft Interface as well as OS port access.

               This includes login and password aging.

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

pid   Private identifier. This required parameter is the confidential password authenticator for a the given *uid*. Valid *pid* values consist of case-sensitive strings of six to ten alphabetic, numeric and symbolic characters where at least two are non-alphabetic and at least one is symbolic (white space is ignored).

Password strings are transmitted in unencrypted form in the **ACT-USER** command; are encrypted when stored in the network element; and are never transmitted from the network element.

Symbolic characters:
! " % ' ( ) * + - . / < > [ ] ' { | } ~

Numeric characters:
0 1 2 3 4 5 6 7 8 9

Alphabetic characters:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the login request completes successfully, the following normal completion response is returned:

```
     sid date time
  M  ctag COMPLD
     "uid:lastlog,attempts"
     /*  Lucent Technologies <system>
         <release>
         User Privilege Level: <privilege>
                   LUCENT TECHNOLOGIES - PROPRIETARY
         THIS SOFTWARE CONTAINS INFORMATION OF LUCENT TECHNOLOGIES
         AND IS NOT TO BE DISCLOSED OR USED EXCEPT IN ACCORDANCE
         WITH APPLICABLE AGREEMENTS.
         NOTICE:  THIS IS A PRIVATE COMPUTER SYSTEM.
         USE OF THIS SOFTWARE IS GOVERNED SOLELY AS EXPRESSLY
         AUTHORIZED IN THE RELEVANT AGREEMENT BETWEEN
         LUCENT TECHNOLOGIES AND CUSTOMER.
         UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
     */
  ;
```

If the network element receives a valid **ACT-USER** command and the addressed *uid* is already currently logged in on the same access channel and has the same privilege level, the network element provides a normal completion response. One of the following strings is used for the <system> value: FT-2000 OC-48 Large Capacity Terminal (LCT) or Optical Line System. The <release> string is of the form:
Release x.y.z-type
where x.y.z reflects the actual software release number and type can be LCT for Large Capacity Terminal (LCT) or OLS for Optical Line System.

uap   The <privilege> string will have one of the following values reflecting the user's privilege level:

PRIVLEGD This indicates that the user has a privileged login. A privileged login has access to all the system functional capabilities. Only the privileged logins have access to the security and access functions. These functions include assigning/changing login/passwords for other users, setting target identifier (TID) names, resetting the system, and system initialization functions.

GENERAL This indicates that the user has a general login. A general login has access to all the system functional capabilities except the security, access, system initialization, and software installation functions.

REPORTS   This indicates that the user has a reports-only login. A reports-only login has access to the **RETRIEVE-** (except **RTRV-USER-SECU**), **ED-PID** and **OPR-ACO** TL1 command/response messages.

If the login request would otherwise complete successfully, but the user's password has expired, the following completion response is returned:

```
    sid date time
M   ctag PRTL
    "uid:lastlog,attempts"
    /* Your password has expired.  Until you change your password (ED-PID)
       you will not be allowed further access to this Network Element */
;
```

Note that if the password must be changed to login successfully, only one attempt at the ED-PID is allowed. If that attempt is denied, the network element returns to a mode in which it is expecting an ACT-USER command on that access channel.

OUTPUT PARAMETERS

The output parameters *sid*, *date*, *time*, and *ctag* included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. The remainder of the output parameter variables are described below.

uid   User Identifier. This is included in the command by the OS and repeated by the network element as a confirmation that the given user identifier is successfully logged in.

lastlog   This is the date and time of the last session established by this *uid*. It is output in the format "MM-DD HH-MM-SS" with the date and time separated by one space. If no information is available regarding the last login session for this *uid* (for example, this is the first login session), this output field is null.

attempts   This is the number of unsuccessful session attempts since the last successful login session on this network element.

A user is given three tries to correctly enter their login ID and password. Three tries equals one attempt. After each incorrect try, the login is denied.

If three login attempts are denied in a row on a single port, the OS is autonomously notified via **REPT EVT** message with a condition description of "INTRUSION ALERT". The intrusion alert counter is restarted when a successful login is recorded on the port, or the "intrusion alert" message is generated, or when the network element is reset.

EXAMPLE INPUT/OUTPUT

No response message is transmitted except to convey that the login is granted (or denied). The following example shows a successful login session initiation attempt.

```
ACT-USER:LT-OLS:PeterPan:123456::N*v*rL*d3;



   LT-OLS 96-01-03 16:42:11
M  123456 COMPLD
   "PeterPan:01-03 16-39-27,1"
   /*  AT&T Optical Line System
       Release 1.0.0-OLS
       User Privilege Level: GENERAL
                AT&T - PROPRIETARY
      THIS SOFTWARE CONTAINS INFORMATION OF AT&T
      AND IS NOT TO BE DISCLOSED OR USED EXCEPT
      IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
      NOTICE:  THIS IS A PRIVATE COMPUTER SYSTEM.
      USE OF THIS SOFTWARE IS GOVERNED
      SOLELY AS EXPRESSLY AUTHORIZED IN THE
      RELEVANT AGREEMENT BETWEEN AT&T AND CUSTOMER.
      UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
   */
;
```

The following example shows a login session attempt for a user login whose password is expired.

```
ACT-USER:LT-PF-2000:PeterPan:123456::N*v*rL*d3;


   LT-PF-2000 93-10-26 16:42:11
M  123456 PRTL
   "PeterPan:10-25 16-39-27,1"
   /* Your password has expired.  Until you change your password (ED-PID)
      you will not be allowed further access to this Network Element */
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **ACT-USER** command, also.

For invalid login tries, the error response message is transmitted only after both uid and pid are provided by the session requester, irrespective of whether the uid, pid, or both are invalid.

Exception: For an **ACT-USER** command with extra punctuation *after* the pid other than an end-of-message semicolon (;), no error response is returned if there are no active logins to the network element. Usually, if non-null uid and pid values are received, the network element would provide a response.

If the network element receives an **ACT-USER** command with an invalid *uid*, invalid *pid* or both, or if a different login session is already active on the access channel or logins are disabled, the following error response is returned:

```
    sid date time
 M  ctag DENY
    DENY
    /* Login Failed */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

CANC-USER

ED-PID

DLT-USER-SECU

ENT-USER-SECU

RTRV-USER-SECU

ED-USER-SECU

NAME

ALW-MSG-EQPT: Allow Message Equipment

The privilege level for this command is GENERAL.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ALW-MSG-EQPT:*tid:aid:ctag[::,,]*;

DESCRIPTION

ALW-MSG-EQPT commands are initiated by users to resume transmission of autonomous messages, office alarms, and/or parallel telemetry from a network element if message or alarm reporting from that network element had been inhibited.

When a network element receives an **ALW-MSG-EQPT** command from a user, the network element resumes transmission of all autonomous messages, office alarms, and/or parallel telemetry if message or alarm reporting had been inhibited.

When autonomous message reporting to the user is resumed after having been inhibited, the network element reports that autonomous message reporting is allowed in an autonomous REPT EVT message.

The network element reports all active alarm and status conditions to all users, depending on OS type, in autonomous (REPT) messages, when the reporting of autonomous messages is resumed by any user after having been inhibited.

If there are no active alarm or status conditions to report, the network element returns a normal completion (COMPLD) response to the **ALW-MSG-EQPT** command and report that autonomous message reporting is allowed in an autonomous REPT EVT message.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. The *aid* value can be one of the following values: "ALL", "OFFICE-ALMS", "PAR-TLM", "TL1".

    all   This specifies that reporting for all of the parameters below is to resume on the network element.

    office-alms   This specifies that reporting of office alarms is to resume on the network element.

    par-tlm   This specifies reporting of alarms over the parallel telemetry is to resume on the network element.

    tl1   This specifies that autonomous message reporting is to resume on all TL1 ports on the network element.

    If no value is provided for *aid*, **all** is assumed.

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **ALW-MSG-EQPT** request, the following completion response is returned.

```
     sid date time
 M   ctag COMPLD
 ;
```

If the network element receives an **ALW-MSG-EQPT** command from a user when transmission of all autonomous messages, office alarms, and/or parallel telemetry, had already been enabled, the network element provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
alw-msg-eqpt:LT-OLS:all:123xyz;


IP 123xyz
<


     LT-OLS 94-06-06,09:30:49
 M   123xyz COMPLD
 ;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error response section. The error responses listed there apply to the **ALW-MSG-EQPT** command, also. If an **ALW-MSG-EQPT** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

INH-MSG-EQPT

REPT EVT EQPT

NAME

CANC-USER: Cancel User

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

CANC-USER:*tid:uid:ctag;*

DESCRIPTION

CANC-USER commands can be initiated to terminate a login session with the network element.

⇒ NOTE:
> This command is available to reports-only users, also, for all CIT, DCC or TL1 ports on the NE.

When the network element receives an **CANC-USER** command, the given login identifier will terminate a login session on the network element provided that:

— A provisioned login identifier is entered, and

— The login identifier is currently active on the access channel on which the command is received.

After the **CANC-USER** command successfully completes, an autonomous message is sent, via all access channel(s) provisioned to receive such messages and on which a login session is active, to report that the login session has been terminated.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the
             command is addressed. It must be a string of 20 or fewer characters from the
             following set:

             [A-Z][a-z][0-9].+-%#

uid   User identifier. This is the unique case sensitive user login identifier for which
             the **CANC-USER** logout command is intended.

             The *uid* value that was used to initiate a login session, even if changed or
             deleted by a system administrator while the current login session is still active,
             is the *uid* value expected in the **CANC-USER** command to terminate the login
             session.

             Grouping and/or ranging of *uid* values for this command is not allowed.

ctag   Correlation tag. This is included in the command and is repeated back by the
             network element in the response to allow association of the command and
             response messages. Valid values for *ctag* are strings of up to 6 characters
             comprised of identifiers and/or decimal numerals (a string of decimal digits with
             an optional non-trailing "."). Strings containing both numbers and letters must
             begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form
and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the logout request completes successfully, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the network element receives a valid **CANC-USER** command, but the addressed *uid* is not currently logged in on the access channel, or the addressed *uid* is invalid (for example, > 10 characters), the network element provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example shows a successful login session termination.

```
CANC-USER:LT-OLS:PeterPan:123456;


IP 123456
<


    LT-PF-2000 96-01-02 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **CANC-USER** command, also.

RELATED TL1 COMMANDS/MESSAGES

ACT-USER

ED-PID

DLT-USER-SECU

ENT-USER-SECU

RTRV-USER-SECU

ED-USER-SECU

NAME

CPY-PRGM: Copy Program

The privilege level for this command is PRIVILEGED.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

CPY-PRGM:*tid*::*ctag*::,,,*dest_tid*;

DESCRIPTION

The **CPY-PRGM** command can be initiated by users to copy the software generic contained in the memory of one network element (the source) to the memory of another network element (the destination) of the **same type**.

Copying the program (software download) occurs in the background. Once the background download is initiated, there is no mechanism provided to cancel the operation.

A maximum of 15 downloads can be in progress at any given time.

INPUT PARAMETERS

tid　　　　　Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag　　　　Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

dest_tid　Destination target identifier. This is the target identifier of the destination network element to which the program will be copied. It has no default value. A valid value must be entered.

Refer to Target Identifier (TID) under TL1-Related Provisioning section for valid alphanumeric characters allowed for the value of the TID of the destination network element.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

IMPORTANT: Execution of this command will initiate a program copy from the local network element to the specified remote network element. This command will complete on your CIT but continue to run for 20 minutes (1 copy) to 3.5 hours (15 copies) in the background. You may log-off during this time. Use the Retrieve-Alarm-Common (RTRV-ALM-COM) command for status of execution of this command.

OUTPUT FORMAT

If the network element fully complies with the **CPY-PRGM** request, the following normal completion response is returned.

```
   IP ctag
   <


      sid date time
   M ctag COMPLD
   ;
```

Since the execution and completion of the **CPY-PRGM** command will take anywhere from about 20 minutes (for a single download) to about 3.5 hours (for 15 simultaneous downloads), the command will be executed in the background.

Once the command execution starts in the background, the system will be freed up to accept and execute other commands.

Since the software download occurs in the background and takes several minutes to a few hours, the user will be allowed to log-off during this time if the user decides to do so.

The download condition (condition type IP-CPY-SW-PRGM) is reported in the REPT EVT COM message with a condition effect of SC (standing condition raised).

When the software download is completed, it is reported in the REPT EVT COM message with a condition effect of CL (standing condition cleared).

The user will be able to retrieve the active standing condition of software download in progress via the **RTRV-COND-COM** command.

If the software download is successful, it is reported in the REPT EVT COM message with a condition type (OC-CPY-SW-PRGM) that indicates the successful completion of the software download and a condition effect of TC (transient condition).

If the software download has failed, it is reported in the REPT EVT COM message with a condition type (FLT-CPY-SW-PRGM) that indicates the failure of the software download and a condition effect of TC (transient condition).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows an input and output of **CPY-PRGM** command for a PF-2000 system:

```
CPY-PRGM:LT-PF-2000::123456::,,,Node5NE;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  ctag COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the *dest_tid* is syntactically incorrect, the following error response will be returned:

```
   sid date time
M  ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid destination TID */
;
```

If communications cannot be established to the *dest_tid* because of a DCC failure condition, the following error response will be returned:

```
   sid date time
M  ctag DENY
  SROF
  /* Status, Requested Operation Failed, remote communication failure */
;
```

If the *tid* contains an unrecognizable software release, the following error response will be returned:

```
    sid date time
M  ctag DENY
   SSTP
   /* Status, SToPped, unrecognizable software */
;
```

If the *tid* is being programmed by another download program, the following error response will be returned:

```
    sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed, a SW download in progress */
;
```

The *dest_tid* cannot be the *tid*. If the *tid* is entered as the *dest_tid*, the following error response will be returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid destination TID */
;
```

If the destination tid is null, the following error response will be returned:

```
   sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, destination TID must be specified */
;
```

If communications cannot be established to the Destination network element because of an invalid tid (i. e. the destination tid is not in Local Cache/DIB), the following error response will be returned:

```
    sid date time
M   ctag DENY
    IITA
    /* Input, Invalid TArget identifier, unknown destination TID */
;
```

If executing this command would initiate a second software copy operation to the same *dest_tid*, the following error response will be returned:

```
    sid date time
M   ctag DENY
    SROF
    /* Status, Requested Operation Failed, a CPY-PRGM is already in
       progress to the same Destination Network Element from this
       Network Element */
;
```

If the *dest_tid* is already being used as a *dest_tid* for a copy operation from a different f©tid, the following error response will be returned:

```
    sid date time
  M ctag DENY
    SROF
    /* Status, Requested Operation Failed, a CPY-PRGM is already in
       progress to the Destination Network Element from a different
       Source Network Element */
  ;
```

If the *dest_tid* is already being used as a *tid* for a copy operation to a different f©dest_tid, the following error response will be returned:

```
    sid date time
  M ctag DENY
    SROF
    /* Status, Requested Operation Failed, a CPY-PRGM is already in
       progress from the Destination Network Element to a different
       Source Network Element */
  ;
```

Up to 15 downloads may be initiated from the *tid*. If executing this command would exceed this limit, the following error response will be returned:

```
    sid date time
M   ctag DENY
    SROF
    /* Status, Requested Operation Failed, Too many CPY-PRGM requests */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

DLT-TADRMAP: Delete Target_Identifier_Address_Map

The privilege level for this command is PRIVILEGED.

The OSI category for this command is CONFIGURATION.

This command is available beginning in OLS Release 2.0.

INPUT FORMAT

DLT-TADRMAP:*tid:aid:ctag[:[:]]:spec_block;*

DESCRIPTION

This command instructs a Directory Services Network Element (DSNE) to remove an entry from the network maps of all the network elements in the OSI network. The DSNE is where the network map, listing all active nodes in the network, is maintained.

When a node is removed from an OSI network, the DSNE must be updated to reflect that the node is no longer active. Entering this command at the DSNE will remove the obsolete node entry from the DSNE network map and from all **RTRV-MAP** reports at all nodes. This command will also remove any communication failure alarms related to removing the node from the network.

This command can only be executed at the DSNE and will only succeed if the communication status of the network element (NE) being deleted is "FAILED". The command **RTRV-MAP** may be used to list the communication status of a network element.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier.
	Entity: All
	Legal Values: (ALL)

ctag   Correlation tag. This is included in the command and is repeated back by
the network element in the response to allow association of the command
and response messages. Valid values for *ctag* are strings of up to 6
characters comprised of identifiers and/or decimal numerals (a string of
decimal digits with an optional non-trailing "."). Strings containing both
numbers and letters must begin with a letter.

spec_block   Specific Parameter Block. Parameters within *spec_block* are specified
using *name=value* syntax. The *spec_block* contains the following:
TID.

   DLT_TID   The TID identifies the network element to be removed from
   the DSNE's network map.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form
and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Deleting a network element from the local network element database will result
in loss of the ability to communicate with the network element. This command can only be
executed from the Directory Service Network Element (DSNE).

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion
response is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-TADRMAP:LT-PF-2000:all:123456:::tid=DELETED-NE;


IP 123456
<


    LT-PF-2000 94-03-22 16:12:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. The network element returns the following error response if the *aid* value is missing, or invalid.

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

The network element returns the following error response if the **TID** value in the *spec_block* is invalid.

```
    sid date time
M   ctag DENY
    IITA
    /* Input, Invalid Target identifier, invalid TID */
;
```

The network element returns the following error response if it is directed to a network element that is not the DSNE.

```
    sid date time
M   ctag DENY
    SNVS
    /* Status, Not in Valid State, TID is not the DSNE */
;
```

The network element returns the following error response if the TID to be deleted is not listed in the DSNE network map.

```
    sid date time
 M  ctag DENY
    SNVS
    /* Status, Not in Valid State, System name does not exist */
 ;
```

Only network elements whose communication status is "FAILED" may be removed from the network map. The network element returns the following error response if a user attempts to remove a network element whose communication status is not "FAILED".

```
    sid date time
 M  ctag DENY
    SNVS
    /* Status, Not in Valid State, Can only delete NEs with FAILED status */
 ;
```

When more than one network element is defined as the DSNE, an alarm will result. The network element returns the following error response if a user attempts to remove a network element while the network has more than one DSNE defined.

```
    sid date time
 M  ctag DENY
    SROF
    /* Status, Requested Operation Failed, Duplicate DSNE */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-MAP-NTWK

RTRV-MAP-NEIGHBOR

NAME

DLT-USER-SECU: Delete User Security

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

DLT-USER-SECU:*tid:uid:ctag;*

DESCRIPTION

⚠ **CAUTION:**

Execution of this command will remove a user account. That user will no longer be able to log in.

DLT-USER-SECU command is used by an appropriate administrator to delete the security parameters associated with a user. This is applicable where a user account is being closed. This command can not be executed by non-privileged users when the TL1 security feature is on. Privileged user accounts cannot be deleted.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
uid	This is the User Identifier of a user. Valid values are a case-sensitive alphanumeric string of 1 to 10 characters. Only a single *uid* is supported in this command.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Network element access may be affected by this command. Changes to login ID information will result in the changed login ID being logged off (if the login ID is logged in).

OUTPUT FORMAT

If the network element fully complies with the delete user security request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the uid is currently logged into the network element through any of the communication interface ports (DTE, DCE, or X.25), when this command is successfully executed, the user identified by the uid is disconnected, and the network element responds to the user who entered the **DLT-USER-SECU** with the completion message (shown above).

If the network element receives a **DLT-USER-SECU** command containing a non-existing *uid*, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
DLT-USER-SECU:LT-PF-2000:kjlee:123456;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives a **DLT-USER-SECU** command with an invalid *uid* (user identifier), the following error response is returned:

```
    sid date time
M   ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, invalid UID */
;
```

FT-2000 requires two privileged user logins to exist in the network element at all times. If the user attempts to delete a privileged user login, the following error response is returned:

```
    sid date time
M   ctag DENY
    PIFC
    /* Privilege, Illegal Field Control
    Attempting to delete a privileged login.  Two privileged user
    logins are required at all times.
    */
;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-USER-SECU

ED-USER-SECU

RTRV-USER-SECU

NAME

ED-DAT: Edit Date_and_Time

The privilege level for this command is PRIVILEGED.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ED-DAT:*tid*::*ctag*::*[date]*[,*time*][:*spec_block*];

DESCRIPTION

⚠ **CAUTION:**
Execution of this command may corrupt performance monitoring data.

ED-DAT commands can be initiated by users to request the network element to change its system date and time to a given value.

The activation time of some pending commands may be skipped or repeated as a result of changing the system date or time of the network element. Appropriate actions should be taken to ensure the proper execution of these commands.

Delayed activation is not allowed for this command.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
date	Date. This is the requested *date* in the following format: YY-MM-DD, where YY is the last two digits of the year ranging from 00 to 99; MM is the month of the year ranging from 01 to 12; and DD is the day of the month ranging from 01 to 31.

time   Time. This is the requested *time* in the following format: HH-MM-SS, where HH is the hour in a 24 hour format ranging from 00 to 23; MM is the minute ranging from 00 to 59; and SS is the second ranging from 00 to 59. If not specified, *time* remains the same.

spec_block Specific Parameter Block. The system level attributes to be modified are specified inside the *spec_block*. Parameters within *spec_block* are specified using a *name=value,name=value, . . .* type construct with no constraints on the order of the arrangement of parameters. Constructs such as *name1=value1, name2=, name3=, name4=, name5=value5, . . .* are acceptable and in this example only the parameters *name1* and *name5* will be attempted to be changed at the NE. If the current value of the parameter *name1* is already *value1* in the above example, then *name1* will not be changed.

For the **ED-DAT** command, the *spec_block* may contain one or all of more of the following parameters:

tz   Standard Time Zone. tz is a string of 3 or less characters.

strtdst Start Daylight Savings Time. strtdst is a date in the following format: MM-DD.

stopdst Stop Daylight Savings Time. stopdst is a date in the following format: MM-DD.

dstz   Daylight Savings Time Zone. dstz is a string of 3 or fewer characters.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Execution of this command may corrupt performance monitoring data.

OUTPUT FORMAT

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

sid	Source identifier. This is the system name.
date	Date output message is generated. This has the format YY-MM-DD (year-month-day).
	If this message is successful *date* equals the input date.
time	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
	If this message is successful *time* equals the input time plus the time (seconds) required to send the response message.
M	This indicates that the output message is generated in response to a manual command.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
COMPLD	This indicates that the command has been completed.

EXAMPLE INPUT/OUTPUT

```
ed-dat:LT-OLS::xyz123::96-01-06,09-30-45;



IP xyz123
<



   LT-OLS 96-01-06,09:30:49
M  xyz123 COMPLD
;0
```

⇒ **NOTE:**
The single-line command (**bold** type) below is presented in more than one line for ease of reading.

```
ed-dat:LT-PF-2000::xyz123::94-06-06:tz=est,strtdst=04-04,
   stopdst=10-31;



IP xyz123
<



   LT-PF-2000 94-06-06,09:30:49
M  xyz123 COMPLD
;0
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error response section. The error responses listed there apply to the **ED-DAT** command, also.

If the network element receives an **ED-DAT** command with an incorrectly formatted date or time, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid date or time specified */
;
```

The value of DD is also checked for sanity with MM (for example, February 30 can not exist), and for sanity with YY for MM-DD equaling 02-29 for leap years. Also, values of $HH \geq 24$, MM>59, and/or SS>59 are invalid. If an error of this type occurs, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid date or time specified */
;
```

If the network element receives an **ED-DAT** command with an incorrectly formatted `tz`, `strtdst`, `stopdst` or `dstz` *spec_block* parameter, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid spec_block parameter */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

ED-PID: Edit Private_Identifier (Password)

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ED-PID:*tid:uid:ctag::old_pid,new_pid;*

DESCRIPTION

ED-PID commands can be initiated to change the user's password (PID) on the network element.

When the network element receives an **ED-PID** command, the password associated with the given login identifier will be changed on the network element provided that:

— The login identifier is currently active on the access channel on which the command is received;

— The *old_pid* provided matches the current password for the login identifier; and

— The *new_pid* provided satisfies the password requirements of the network element.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

uid   User identifier. This is the unique case-sensitive user login identifier for which the **ED-PID** login command is intended.

Grouping and/or ranging of *uid* values for this command is not allowed.

ctag Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

old_pid Old private identifier (password). This is included in the command by the user and must exactly match the current PID for the login identifier.

new_pid Passwords consists of a string of alphabetic, numeric and symbolic characters that contains a minimum of six characters and a maximum of ten characters, where at least two are non-alphabetic and one is symbolic. Passwords are case sensitive.

    Password strings will be encrypted when stored in the network element. They will not be encrypted when transmitted between the network element and the CIT, OS or dumb terminal. Passwords are never transmitted from the network element to the PC or a TL1 channel.

    ➡ NOTE:
      The *new_pid* value must differ from the *old_pid* value in at least one character.

    Symbolic characters:
    ! " % ' ( ) * + - . / < > [ ] ' { | } ~

    Numeric characters:
    0 1 2 3 4 5 6 7 8 9

    Alphabetic characters:
    A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
    a b c d e f g h i j k l m n o p q r s t u v w x y z

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the password change request completes successfully, and transitions the state of the login procedure from the "Password_Expired" state to the "Login_Active" state, the following normal completion response is returned:

```
    sid date time
 M  ctag COMPLD
    /*  Lucent Technologies <system>
        <release>
        User Privilege Level: <privilege>
                   LUCENT TECHNOLOGIES - PROPRIETARY
        THIS SOFTWARE CONTAINS INFORMATION OF LUCENT TECHNOLOGIES
        AND IS NOT TO BE DISCLOSED OR USED EXCEPT IN ACCORDANCE
        WITH APPLICABLE AGREEMENTS.
        NOTICE:  THIS IS A PRIVATE COMPUTER SYSTEM.
        USE OF THIS SOFTWARE IS GOVERNED SOLELY AS EXPRESSLY
        AUTHORIZED IN THE RELEVANT AGREEMENT BETWEEN
        LUCENT TECHNOLOGIES AND CUSTOMER.
        UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
 ;
```

One of the following strings is used for the `<system>` value: `FT-2000 OC-48 Large Capacity Terminal (LCT)` or `Optical Line System`. The `<release>` string is of the form:

`Release x.y.z-type`

where `x.y.z` reflects the actual software release number and `type` can be `LCT` for Large Capacity Terminal (LCT) or `OLS` for Optical Line System. The `<privilege>` string will have one of the following values reflecting the user's privilege level:

~ `PRIVILEGED`
~ `GENERAL`
~ `REPORTS ONLY`

This response is provided by an FT-2000 network element or OLS only if the **ED-PID** command is being used to update an expired password upon user login (**ACT-USER**). Otherwise, the following response is provided by an FT-2000 network element or OLS. If the password change request completes successfully, the following normal completion response is returned:

```
   sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example shows a successful password change operation.

```
ED-PID:LT-PF-2000:PeterPan:123456::soup3r+,8_6oober;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **ED-PID** command, also.

If the network element receives an **ED-PID** command with a login identifier specified by *uid* that is not currently logged in on the access channel over which the command is received, the following error response is returned to the OS:

```
     sid date time
 M   ctag DENY
     PIUI
     /* Privilege, Illegal User Identity, user ID not logged in */
 ;
```

If the network element receives an **ED-PID** command with an *old_pid* value that does not match the currently provisioned *pid* for the associated user login identifier, the following error response is returned to the OS:

```
     sid date time
 M   ctag DENY
     PIUI
     /* Privilege, Illegal User Identity, invalid OLD_PID */
 ;
```

If the network element receives an **ED-PID** command with a missing *new_pid*, or a *new_pid* that does not meet the the required attributes of a valid user login identifier password, the following error response is returned to the OS:

```
    sid date time
M   ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, invalid NEW_PID */
;
```

If the network element receives an **ED-PID** command with a *new_pid* value equal to the *old_pid* value, the following error response is returned to the OS:

```
    sid date time
M   ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, NEW_PID same as OLD_PID */
;
```

If the network element receives an **ED-PID** command before the password aging time
period has expired, the following error response is returned to the OS:

```
    sid date time
 M  ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, insufficient time for
       password aging */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

ACT-USER

CANC-USER

DLT-USER-SECU

ENT-USER-SECU

RTRV-USER-SECU

ED-USER-SECU

NAME

ED-USER-SECU: Edit User Security

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ED-USER-SECU:*tid:uid:ctag*::*[new_uid],[new_pid],,[uap]* [:
keyword_block];

⇒ NOTE:
The above single-line command is presented as two lines for ease of reading.

DESCRIPTION

ED-USER-SECU command is used by an appropriate administrator to edit the security parameters associated with a user. This command enables a privileged user to edit the login ID, password, and/or user privileges of any non-privileged user, to edit the login ID and/or password of the other privileged user, and to alter a temporary visitor login.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
uid	User Identifier. Its valid values are a case-sensitive alphanumeric string of 1 to 10 characters. This is the *uid* to be changed and/or whose password and/or privilege level are to be changed.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
new_uid	New User Identifier. Its valid values are a case-sensitive alphanumeric string of 1 to 10 characters. If omitted this parameter is not changed.
new_pid	If omitted, this parameter is not changed. Passwords consists of a string of alphabetic, numeric and symbolic characters that contains a minimum of six characters and a maximum of ten characters, where at

least two are non-alphabetic and one is symbolic. Passwords are case sensitive.

Password strings will be encrypted when stored in the network element. They will not be encrypted when transmitted between the network element and the CIT, OS or dumb terminal. Passwords are never transmitted from the network element to the PC or a TL1 channel.

Symbolic characters:
! " % ' ( ) * + - . / < > [ ] ' { | } ~

Numeric characters:
0 1 2 3 4 5 6 7 8 9

Alphabetic characters:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z

uap   User Access Privilege. It takes one of the following values: **general**, or **reports**. If omitted, the User Access Privilege is not changed. See the **ACT-USER** command for more information regarding the *uap* values.

keyword_block Keyword Parameter Block. This parameter field is used for modification of temporary login attributes. Temporary login attributes are applicable to non-privileged users only. Parameters within the *keyword_block* are specified using a name defined construct of: **PARAMETER**=*value* in a comma separated list.

For the **ED-USER-SECU** command, the *keyword_block* may contain neither or both of the following parameters:

TYPE   If a temporary login is desired, this parameter must equal "VISITOR".

          visitor Visitor Login. This indicates that this login is assigned for temporary access to the network element.

EXPDAT   Expiration Date. This is the requested **EXPDAT** in the following format: YY-MM-DD, where YY is the last two digits of the year ranging from 00 to 99; MM is the month of the year ranging from 01 to 12; and DD is the day of the month ranging from 01 to 31.

          The expiration date must be set if **TYPE=visitor**.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Network element access may be affected by this command. Changes to login ID information will result in the changed login ID being logged off (if the login ID is logged in).

NOTE: User access privilege takes one of the following values: (GENERAL, REPORTS).

OUTPUT FORMAT

If the network element fully complies with the edit user security request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the *uid* is currently logged into any network element through any of the communication interface ports (DTE, DCE, or X.25), when this command is successfully executed, regardless of altering any or none of the login parameters, the user identified by the *uid* is disconnected, and the network element responds to the user who entered the **ED-USER-SECU** with the completion message (shown above).

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the OUTPUT PARAMETERS section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example changes the current *uid*, **kjlee**, to a *new_uid*, **ilf**, and assigns **ilf** a *new_pid* and an *uap*.

```
ed-user-secu:LT-PF-2000:kjlee:123456::ilf,pass12+,,general;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives an **ED-USER-SECU** command from a user trying to change his or her own *uid* (user identifier) value, the following error response is returned:

```
    sid date time
M   ctag DENY
    PICC
    /* Privilege, Illegal Command Code */
;
```

If the network element receives an **ED-USER-SECU** command from users trying to change their own pid value, the following error response is returned:

```
      sid date time
M   ctag DENY
      PICC
      /* Privilege, Illegal Command Code */
   ;
```

If the network element receives an **ED-USER-SECU** command with an invalid *uid* (user identifier) value, the following error response is returned:

```
      sid date time
M   ctag DENY
      PIUI
      /* Privilege, Illegal User Identity, invalid UID */
   ;
```

If the network element receives an **ED-USER-SECU** command with a *new_uid* (new user identifier) that matches an existing *uid* (user identifier), other than the one specified in the *uid* field, the following error response is returned:

```
    sid date time
M   ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, duplicate NEW_UID */
;
```

If the network element receives an **ED-USER-SECU** command with an invalid *new_uid* (new user identifier) value, the following error response is returned:

```
    sid date time
M   ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, invalid NEW_UID */
;
```

If the network element receives an **ED-USER-SECU** command with an invalid *new_pid* (password) value, the following error response is returned:

```
    sid date time
M   ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, invalid NEW_PID */
;
```

If the network element receives an **ED-USER-SECU** command with a **TYPE** other than **visitor**, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TYPE */
;
```

If the network element receives an **ED-USER-SECU** command with an invalid *EXPDAT*, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid EXPDAT */
 ;
```

If the network element receives an **ENT-USER-SECU** command without an **EXPDAT** when **TYPE** is specified, or without a **TYPE** when **EXPDAT** is specified in the *keyword_block*, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid keyword_block */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

ED-PID

DLT-USER-SECU

ENT-USER-SECU

RTRV-USER-SECU

NAME

ENT-CID-SECU: Enter Channel_Identifier Security

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

ENT-CID-SECU:*tid:aid:ctag::[:spec_block];*

DESCRIPTION

The **ENT-CID-SECU** command is initiated to set port security parameters for X.25, DTE, DCE, DCC, and SER_TLM1 ports.

When the **ENT-CID-SECU** command is issued to change the OS type of a port that is enabled and currently active, the session is terminated. The session should not be terminated. Filtering of OS message types should be dynamic. Any future redesign of security software should correct this if possible.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access Identifier. This is the address of the communication ports for which parameters need to be set. A null value is not allowed.
	Entity: Single Port (COM) Legal Values: (DCE, DTE, DCC, X25, SER_TLM1)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

spec_block Specific block. This optional parameter field is used for most basic capabilities of the **ENT-CID-SECU** command. Parameters set within the specific block are positionally independent and are set using a construct such as: PARAMETER=*value* in a comma-separated list. The specific block may have zero or more of the following parameters set within it. Furthermore, each parameter listed below may appear at most once within the specific block for a single **ENT-CID-SECU** command.

TMOUT   This parameter sets the time out interval for the DCE, DTE, and DCC ports. It has an integer value in the range 0-999 minutes. A value of 0 disables the time out mechanism. When a null value is provided, TMOUT is unchanged.

PORTACC   This parameter sets the port access for DTE, DCC or SER_TLM1 port and has one of the following vaules: "ENABLE" or "DISABLE". When port access to a port becomes disabled, any active session is terminated. When the port access is disabled on the DTE port, the DTR and RTS leads should be reset. Likewise, when the port access is enabled on the DTE port, the DTR and RTS leads should be asserted.

PORTTYPE This parameter sets the port type and has one of the following values: "TL1" or "CIT". This parameter is used only for the DTE port or DCE port. Disabling the DCC port does not affect TL1 commands, only CIT access to the network via the DCC port.

BAUDRATE This parameter sets the baud rate of the DTE port or DCE port if the port type is **tl1**. It has one of the following values: "1200", "2400", "4800", or "9600".

CHAN   This parameter sets the channel type of the X.25 port and has one of the following values: "PVC_1", "PVC_2", "TBL_1", "TBL_2", "TBL_3", "TBL_4", "TBL_5", "TBL_6", "TBL_7", "TBL_8", "TBL_9", "TBL_10", "TBL_11", "TBL_12", "TBL_13", "TBL_14", "TBL_15", or "TBL_16". TBL_{1-16} are the provisioning table entries of the TL1 calling address table. This parameter has no default value.

OSTYPE This parameter sets the OS type for the virtual circuit of the X.25 port. It has one of the following values (MT, MA, CMDR, OTHR, RST) for **pvc**; and (MT, MA, CMDR, OTHR, RST, NONE) for **tbl** (i.e the table entry corresponding to X.25 switched channels [**svc**] of X.25).

MT means maintenance, MA means memry-admin, CMDR means cmd-resp, OTHR means other, NONE means none, and RST means restoration.

CALLADDR This parameter sets the calling address of the OS for a table entry **tbl** corresponding to the **svc** of the X.25 port if the OS type is other than NONE. It has a value of a string of digits up to a maximum of 15 digits.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Network element access may be affected by this command. All active users on the specified port(s) will be automatically logged off when this command is executed.

OUTPUT FORMAT

If the network element fully complies with the **ENT-CID-SECU** request, the following normal completion response is returned.

```
    sid date time
M   ctag COMPLD
;
```

If the **ENT-CID-SECU** command does not alter the existing attributes, the network element will not deny the command. Instead the system will respond with the completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows an **ENT-CID-SECU** command that provisions security
parameter for a **tbl** entry corresponding to a X.25 **svc**.

≡▷ **NOTE:**

    The below single-line command (**bold** type) is presented in more than one line for
    ease of reading.

```
ENT-CID-SECU:LT-PF-2000:x25:123456:::CHAN=tbl_3,OSTYPE=MA,
    CALLADDR=0123456789;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

The following example shows an **ENT-CID-SECU** command that provisions security parameters for a DTE port.

⇒ NOTE:
> The below single-line command (**bold** type) is presented in more than one line for ease of reading.

```
ENT-CID-SECU:LT-PF-2000:dte:123456:::TMOUT=10,PORTACC=enable,
    PORTTYPE=t11,BAUDRATE=9600;



IP 123456
<



    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

The following example shows an **ENT-CID-SECU** command that provisions security parameter for a DCE port.

```
ENT-CID-SECU:LT-PF-2000:dce:123456:::TMOUT=10,PORTTYPE=cit;



IP 123456
<



    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

The following example shows an **ENT-CID-SECU** command that provisions security
parameters for a SER_TLM1 port.

```
ENT-CID-SECU:LT-PF-2000:SER_TLM1:123456:::PORTACC=enable;



IP 123456
<



    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also
apply to this command.

If the command is received with an invalid aid, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

If an **ENT-CID-SECU** command is received with an invalid TMOUT parameter, the following error response is returned:

```
    sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TMOUT parameter */
;
```

If an **ENT-CID-SECU** command is received with an invalid PORTACC parameter, the following error response is returned:

```
    sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid PORTACC parameter */
;
```

If an **ENT-CID-SECU** command is received with an invalid PORTTYPE parameter, the
following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid PORTTYPE parameter */
 ;
```

If an **ENT-CID-SECU** command is received with an invalid BAUDRATE parameter, the
following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid BAUDRATE parameter */
 ;
```

If an **ENT-CID-SECU** command is received with an invalid CHAN parameter, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid CHAN parameter */
 ;
```

If an **ENT-CID-SECU** command is received with an invalid OSTYPE parameter, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid OSTYPE parameter */
 ;
```

If an **ENT-CID-SECU** command is received with an invalid CALLADDR parameter, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid CALLADDR parameter */
;
```

If an **ENT-CID-SECU** command is received with a TMOUT which does not apply to given AID, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, TMOUT does not apply to given AID*/
;
```

If an **ENT-CID-SECU** command is received with a PORTACC which does not apply to given AID, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, PORTACC does not apply to given AID*/
 ;
```

If an **ENT-CID-SECU** command is received with a PORTTYPE which does not apply to given AID, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, PORTTYPE does not apply to given AID*/
 ;
```

If an **ENT-CID-SECU** command is received with a BAUDRATE specified for
PORTTYPE=cit or for port other than **dte** or **dce** the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, BAUDRATE does not apply to given AID*/
;
```

If an **ENT-CID-SECU** command is received with a CHAN specified for a port other than
X.25 the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, CHAN does not apply to given AID*/
;
```

If an **ENT-CID-SECU** command is received with an OSTYPE specified for a port other than **x25** the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, OSTYPE does not apply to given AID*/
 ;
```

If an **ENT-CID-SECU** command is received with a CALLADDR specified for CHAN other than **tbl-{1-16}** the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, CALLADDR does not apply to given CHAN*/
 ;
```

If an **ENT-CID-SECU** command is received with a valid TMOUT but has an AID of x25, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, TMOUT does not apply to given AID */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

ENT-CMS: Enter Customer_Maintenance_Signal

The privilege level for this command is PRIVILEGED.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ENT-CMS:*tid:aid:ctag:[:[type][::pst[,sst]]]*;

DESCRIPTION

ENT-CMS command messages can be initiated by a user to request OLS to provision various parameters of the Customer Maintenance Signal (CMS) ports.

When OLS receives an **ENT-CMS** command from the user, OLS will provision the appropriate CMS according to the parameter settings in the command.

The provisioned values remain active until modified (for example, by another command).

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. Access identifier. This is the address of the facility for which this command is intended.
	Entity: CMS Port [End Terminals] Legal Values: (CMS)-(ALL,1A,2A,3A,4A)
	Entity: CMS Port [Repeaters] Legal Values: (CMS)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
type	Type. A value for this parameter is neither expected nor allowed.

pst   Primary state. For the CMS port specified in the *aid*, the signal monitoring state is not defined and monitored in the *demux* (that is, from the high speed optical line) direction. The primary state parameter is position defined.

Similarly, OLS supports the setting of the *secondary state* using the **ENT-CMS** command to define the signal monitoring state of the CMS port in the *mux* (that is, towards the high speed optical line) direction.

OLS allows for user provisioning of 2 basic states: "AUTO" and "NMON".

sst   Secondary state. This parameter is used to set the secondary state of the OLS CMS port(s) addressed by the *aid* field for the purpose of defining the signal monitoring state of the CMS port in the *mux* (that is, towards the Optical line) direction **only**. The secondary state parameter is position defined.

⇒ NOTE:
Currently, OLS does not support the setting of the *primary state* using the **ENT-CMS** command to define the signal monitoring state of the CMS port in the *demux* (from the optical line) direction.

OLS allows for user provisioning of 2 basic states: "AUTO" and "NMON". When an OLS CMS port *sst* is provisioned in the **AUTO** state, it will automatically transition to the in-service (IS) state upon any detection on the low speed port of a valid input in the *mux* direction. When an OLS CMS port *sst* is provisioned in the NMON state, the monitoring of incoming signals is disabled in the *mux* direction. The port exits this state to the AUTO state through either another **ENT-CMS** or **UPDATE**) command. If provided at all, the *sst* must have one of the following two values:

OOS-MA-AS Out of service, memory administration, assigned. This *sst* value places the port(s) in the AUTO state (in the terminology of OLS). This is the default *sst* value.

OOS Out of service (*"for Memory Administration"* implied). This *sst* value places the port(s) in the NMON state (in the terminology of OLS).

If no value is provided for this parameter, its value is left unchanged.

A (non-provisionable) third secondary port state is supported by OLS, `IS` ("in service"). OLS CMS ports in the `AUTO` will automatically transition to the `IS` state upon detecting a valid incoming signal (towards the high speed line) of the facility type they support.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the provisioning request, the following output message is returned:

```
   sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example provisions the OLS CMS port "cms-1a" provisioning as follows:

— Secondary state of OOS-MA-AS

```
ent-cms:LT-OLS:cms-1a:123456::::,OOS-MA-AS;


IP 123456
<


    LT-OLS 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

In addition to the non-message-specific error responses listed in the **RTRV-HDR** error responses description, the following error responses are listed in the order and priority that OLS checks for each condition.

If the network element receives this command with any extra (beyond the input format specification above) command parameter blocks (:), parameters (not supported by OLS, delimited by ","), or termination characters (;), the following error response is returned:

```
    sid date time
M  ctag DENY
   IISP
   /* Input, Invalid Syntax or Punctuation */
;
```

If the network element receives this command with the same parameter specified more than once, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation, parameter(s) multiply
 defined */
 ;
```

If OLS receives this command without an *aid* value or with an *aid* value that is invalid for the *modifier* provided, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
 with modifier value */
 ;
```

If the network element receives this command with an invalid *type* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    INUP
    /* Input, Non-null Unimplemented Parameter, TYPE must be null */
 ;
```

If the network element receives this command with a *primary state* value that is not supported by the network element, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid PST */
 ;
```

If the network element receives this command with a *secondary state* value that is not supported by the network element, the following error response is returned:

```
    sid date time
M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid SST */
;
```

If the network element receives an **ENT-CMS** command with otherwise valid *spec_block* parameter(s), but for which, **CMS** and the parameter(s) are not in agreement, the following error response is returned:

```
    sid date time
M  ctag DENY
    IDNV
    /*  Input, Data Not Valid, parameter settings inconsistent with
modifier value */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-CMS

NAME

ENT-FECOM: Enter Far_End_Communications

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

ENT-FECOM:*tid*::*ctag[:::spec_block]*;

DESCRIPTION

The **ENT-FECOM** command can be initiated by users to enable/disable remote access capabilities over the DCC and alarms associated with DCC failures.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

         [A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

spec_block Specific Parameter Block. The system level attributes to be modified are specified inside the *spec_block*. Parameters within *spec_block* are specified using a *name=value,name=value,...* type construct with no constraints on the order of parameters. Constructs such as *name1=value1, name2=, name3=, name4=, name5=value5,...* are acceptable and in this example only the parameters *name1* and *name5* will be changed at the network element. If the current value of the parameter *name1* is already *value1* in the above example, *name1* will not be changed.

For the **ENT-FECOM** command, the *spec_block* may contain one or more of the following parameters:

RAR	Remote Activity Reporting. The **RAR** is the reporting of activity from other network elements in the ring via the **RTRV-ALM-NET** command and the FE ACTY LED is enabled or disabled. The allowable values for this parameter are: "ENABLED" or "DISABLED".
ROA	Remote Office Alarm. If enabled, the remote office alarms will also cause local alarms (alarm contacts). If disabled, the remote office alarms will not cause local office alarms. The allowable values for this parameter are: "ENABLED" or "DISABLED".

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Network element access may be affected by this command.

OUTPUT FORMAT

If the network element fully complies with the **ENT-FECOM** request, the following normal completion response is returned.

```
    sid date time
M   ctag COMPLD
;
```

If the **ENT-FECOM** command does not alter the existing attributes, the network element will not deny the command. Instead the system will respond with the completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a command ENT-FECOM:

```
ent-fecom:LT-PF-2000::123456:::RAR=Enabled,ROA=Enabled;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *RAR* value is invalid.

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid RAR */
;
```

The network element returns the following error response if the *ROA* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid ROA */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-FECOM

NAME

ENT-NE-SECU: Enter Network_Element Security

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

ENT-NE-SECU:*tid*::*ctag*::*spec_block*;

DESCRIPTION

The **ENT-NE-SECU** command can be initiated by *privileged users only* to set the global security parameters of the system, like password aging period, login aging period and logins allowed.

When logins are disallowed using this command, any currently active non-Privileged session will immediately be disconnected.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
spec_block	Specific Parameter Block. The system level attributes to be modified are specified inside the *spec_block*. Parameters within *spec_block* are specified using a *NAME=value,NAME=value,...* type construct with no constraints on the order of parameters. Constructs such as *NAME1=value1,NAME3=value3,...* are acceptable and in this example only the parameters *NAME1* and *NAME3* will be changed at the network element. If the current value of the parameter *NAME1* is already *value1* in the above example, *NAME1* will not be changed.

For the **ENT-NE-SECU** command, the *spec_block* must contain one or
more of the following parameters:

ALW_UID   This parameter allows or disallows non-privileged logins into
the network element. This parameter can take one of two
values: "YES" or "NO". If this parameter is omitted (null), the
currently effective value remains in effect.

When logins are disallowed using this command, any currently
active non-Privileged session will immediately be
disconnected.

PAGE   Password Aging Interval. The **PAGE** parameter specifies the
period in days after which the user has to change the
password of his or her account. It can take a value between 7
and 999 days, or 0, which disables the password aging
mechanism. If the parameter is omitted (null), the currently
effective value remains in effect.

UOUT   The **UOUT** parameter specifies the period in days during
which a user had to login at least once to retain the login. It
can take a value between 7 and 999 days, or 0, which
disables the login aging mechanism. If the parameter is
omitted (null), the currently effective   value remains in effect.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form
and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Network element access may be affected by this command. All active users on
the specified port(s) will be automatically logged off when this command is executed.

OUTPUT FORMAT

If the network element fully complies with the **ENT-NE-SECU** request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the **ENT-NE-SECU** command does not alter the existing attributes, the network element will not deny the command. Instead the system will respond with the completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows an **ENT-NE-SECU** command that provisions the network element's security parameters.

```
ent-ne-secu:LT-PF-2000::CTAG::ALW_UID=Yes,PAGE=60,UOUT=90;


IP  CTAG
<


    LT-PF-2000 93-10-26 16:42:11
M   CTAG COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **ENT-NE-SECU** command is received with an invalid *alw_uid* parameter, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid ALW_UID */
 ;
```

If an **ENT-NE-SECU** command is received with an invalid *page* parameter, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid PAGE */
 ;
```

If an **ENT-NE-SECU** command is received with an invalid *uout* parameter, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid UOUT */
 ;
```

If an **ENT-NE-SECU** command is received with a null *spec_block* parameter, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-NE-SECU

NAME

ENT-OCHAN: Enter Optical_Channel

The privilege level for this command is PRIVILEGED.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ENT-OCHAN:*tid*:*aid*:*ctag*:[:[*type*][::*pst*]]];

DESCRIPTION

ENT-OCHAN command messages can be initiated by a user to request OLS to provision various parameters of the optical channels.

When OLS receives an **ENT-OCHAN** command from the user, OLS will provision the appropriate optical channel according to the parameter settings in the command.

The provisioned values remain active until modified (for example, by another TL1 command **ENT-OCHAN** command).

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

               [A-Z][a-z][0-9].+-%#

aid   Access identifier. Access identifier. This is the address of the facility for which this command is intended.

               Entity: Optical Channel

               Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B), (OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

               Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(ALL, 1-8)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

type   Type. A value for this parameter is neither expected nor allowed.

pst   Primary state. This parameter is used to set the primary state of the OLS optical channel addressed by the *aid* field for the purpose of defining the signal monitoring state of the optical channel. The primary state parameter is position defined.

⇒ **NOTE:**
> As optical channels are unidirectional entities, OLS supports the setting of the *primary state* to define the signal monitoring state of the optical channels only.

OLS allows for user provisioning of 2 basic states: AUTO and NMON. When an OLS optical channel is provisioned in the **AUTO** state, it will automatically transition to the in-service (IS) state upon any detection on the low speed port of a valid input in the *demux* direction. AUTO is the default state. When an OLS optical channel *pst* is provisioned in the NMON state, the monitoring of incoming signals is disabled in the *demux* direction. The port exits this state to the AUTO state through either another **ENT-OCHAN** command. The *pst* may be null or have one of the following two values:

OOS-MA-AS Out of service, memory administration, assigned. This *pst* value places the port(s) in the AUTO state (in the terminology of OLS). This is the default *pst* value.

OOS   Out of service (*"for Memory Administration"* implied). This *pst* value places the port(s) in the NMON state (in the terminology of OLS).

⇒ **NOTE:**
> A (non-provisionable) third primary port state is supported by OLS, IS ("in service"). OLS optical channels in the AUTO will automatically transition to the IS state upon detecting a valid signal of the facility type they support.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Execution of this command may affect service and/or corrupt performance monitoring data.

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

If the network element fully complies with the provisioning request, the following output message is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example provisions the OLS optical channel "ochan-1a-1" provisioning as follows:

— Primary state of OOS-MA-AS

```
ent-ochan:LT-OLS:ochan-1a-1:123456::::OOS-MA-AS;


IP 123456
<


    LT-OLS 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

In addition to the non-message-specific error responses listed in the **RTRV-HDR** error responses description, the following error responses are listed in the order and priority that OLS checks for each condition.

If the network element receives this command with any extra (beyond the input format specification above) command parameter blocks (:), parameters (not supported by OLS, delimited by ","), or termination characters (;), the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
;
```

If the network element receives this command with the same parameter specified more than once, the following error response is returned:

```
    sid date time
M  ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation, parameter(s) multiply
defined */
;
```

If OLS receives this command without an *aid* value or with an *aid* value that is invalid for the *modifier* provided, the following error response is returned:

```
    sid date time
M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
with modifier value */
;
```

If the network element receives this command with an invalid *type* value, the following error response is returned:

```
      sid date time
  M   ctag DENY
      INUP
      /* Input, Non-null Unimplemented Parameter, TYPE must be null */
  ;
```

If the network element receives this command with a *primary state* value that is not supported by the network element, the following error response is returned:

```
      sid date time
  M   ctag DENY
      IDNV
      /* Input, Data Not Valid, invalid PST */
  ;
```

If the network element receives an **ENT-OCHAN** command with otherwise valid
spec_block parameter(s), but for which, **OCHAN** and the parameter(s) are not in
agreement, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /*  Input, Data Not Valid, parameter settings inconsistent with
modifier value */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-OCHAN

NAME

ENT-SUPR: Enter Supervisory

The privilege level for this command is PRIVILEGED.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ENT-SUPR:*tid*:*aid*:*ctag*:[:[*type*][:[*spec_block*]]];

DESCRIPTION

ENT-SUPR command messages can be initiated by a user to request OLS to provision various parameters of the supervisory channel.

When OLS receives an **ENT-SUPR** command from the user, OLS will provision the appropriate supervisory channel according to the parameter settings in the command.

The provisioned values remain active until modified (for example, by another command).

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the facility for which this command is intended. Entity: Supervisory Channel (End Terminals) Legal Values: (SUPR)-(ALL,1A,2A,3A,4A) Entity: Supervisory Channel [Repeaters] Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
type	Type. A value for this parameter is neither expected nor allowed.

spec_block Specific block. Parameters set within the specific block are positionally independent and are set using a construct such as: **PARAMETER**=*value* in a comma-separated list. The specific block may have zero or more of the following parameters set within it. Furthermore, each parameter listed below may appear at most once within the specific block for a single command.

For each of the parameters below there is listed one or more parameter values. If a particular parameter does not appear in the *spec_block*, its value remains unchanged as a result of this command. The use of the term "null" in the descriptions below, imply that the parameter does not appear in the command.

NTFCNCDE Notification code. The *NTFCNCDE* parameter is used to set the alarm level of supervisory channel failures serviced by the addressed (*aid*) supervisory channel.

If included in the *spec_block* at all, this parameter must have one of the following values: "CR", "MJ", "MN", "NA", "NR", or "NO".

CR Critical. If provisioned as **CR**, a facility failure on the addressed port will result in an autonomous REPT ALM message with a notification code of CR being generated and sent to the user.

MJ Major. If provisioned as **MJ**, a facility failure on the addressed port will result in an autonomous REPT ALM message with a notification code of MJ being generated and sent to the user.

MN Minor. If provisioned as **MN**, a facility failure on the addressed port will result in an autonomous REPT ALM message with a notification code of MN being generated and sent to the user.

NA Not alarmed. If provisioned as **NA**, a facility failure on the addressed port will result in an autonomous REPT EVT message being generated and sent to the user.

NR Not reported. If provisioned as **NR**, a facility failure on the addressed port will result in no autonomous message being generated and sent to the user. If this condition remains active when an appropriate **RTRV-COND** TL1 message is received by the network element, it will be reported in the response.

NO Not indicated. If provisioned as **NO**, a optical low speed facility failure on the addressed port will result in no failure indication being generated whatsoever for the underlying failure condition. No report, autonomous or otherwise will be generated and sent to the user.

SDTHR Signal degrade threshold. This parameter is used to set the signal degrade threshold in terms of Bit Error Rate (BER) for the supervisory channel(s) addresses by the *aid*

If included in the *spec_block* at all, *SDTHR* may have one of the following values: "-9", "-8", "-7", "-6", or "-5".

-9 This sets the signal degrade threshold at a BER of 10^{-9}.

-8 This sets the signal degrade threshold at a BER of 10^{-8}.

-7 This sets the signal degrade threshold at a BER of 10^{-7}.

-6 This sets the signal degrade threshold at a BER of 10^{-6}.

-5 This sets the signal degrade threshold at a BER of 10^{-5}.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Execution of this command may affect service and/or corrupt performance monitoring data.

OUTPUT FORMAT

If the network element fully complies with the provisioning request, the following output message is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example provisions the OLS supervisory signal "supr-1a" provisioning as follows:

— Signal Degrade Threshold of 10^{-6}

— Supv. Failure Alarm Level of MN

```
ent-supr:LT-OLS:supr-1a:123456:::SDTHR=-6,NTFCNCDE=MN;


IP 123456
<


    LT-OLS 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

In addition to the non-message-specific error responses listed in the **RTRV-HDR** error responses description, the following error responses are listed in the order and priority that OLS checks for each condition.

If the network element receives this command with any extra (beyond the input format specification above) command parameter blocks (:), parameters (not supported by OLS, delimited by ","), or termination characters (;), the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
;
```

If the network element receives this command with the same parameter specified more than once, the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation, parameter(s) multiply
defined */
;
```

If OLS receives this command without an *aid* value or with an *aid* value that is invalid for the *modifier* provided, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
 with modifier value */
 ;
```

If the network element receives this command with an invalid *type* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    INUP
    /* Input, Non-null Unimplemented Parameter, TYPE must be null */
 ;
```

If the network element receives this command with a *NTFCNCDE* value that is not supported by network element, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid NTFCNCDE */
 ;
```

If the network element receives an **ENT-SUPR** command with otherwise valid *spec_block* parameter(s), but for which, **SUPR** and the parameter(s) are not in agreement, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /*  Input, Data Not Valid, parameter settings inconsistent with
 modifier value */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-SUPR

NAME

ENT-SYS: Enter System

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ENT-SYS:*tid:[aid]:ctag[:::spec_block];*

DESCRIPTION

The **ENT-SYS** command can be initiated by users to modify system attributes associated with the network element at the system level or X.25 attributes, but is not associated with any particular facility or equipment unit. Only the attributes specified in the command will be changed; those attributes not in the command will remain as before.

When a network element receives an **ENT-SYS** command from a user, the network element will modify its system level or X.25 attributes with the received attributes if the received attributes are different from the currently effective attributes at the system. If the command requests a change in the **dsne** designation, both OHCTLs in LCT or the TOHCTL in OLS will restart their program.

➡ **NOTE:**
System level attributes remain in effect until modified (for example, by another execution of the TL1 command **ENT-SYS** or by the appropriate CIT command) or until overridden by system initialization.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. The *aid* value, if supplied, must have the following value:

      system   This specifies that system parameters are to be modified.

      Entity: System
      The allowable value is: (SYSTEM)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

spec_block Specific Parameter Block. The system level attributes to be modified are specified inside the *spec_block*. Parameters within *spec_block* are specified using a *name=value,name=value, . . .* type construct with no constraints on the order of parameters. Constructs such as *name1=value1, name2=, name3=, name4=, name5=value5, . . .* are acceptable and in this example only the parameters *name1* and *name5* will be changed at the network element. If the current value of the parameter *name1* is already *value1* in the above example, *name1* will not be changed.

      For the **ENT-SYS** command, the *spec_block* may contain one or more of the following parameters:

      NEW_TID   New Target Identifier. The **new_tid** is the new name of the network element to which the command is addressed.

      SYSTEM_TYPE System Type. This parameter provisions the NE for either one of two optical amplifier pump power settings: "Nx33" or "Mx24". This parameter has a value of **Nx33** indicating a 33dB configuration or of **Mx24**, indicating a 24dB configuration.

      DSNE   Directory Service-Network Element. This parameter has one of the two values: "YES" or "NO". **YES** indicates that the system specified by the *tid* is a Directory Service-Network Element (DS-NE).

AGNE

Alarm Gateway Network Element. This parameter has one of two values: "YES" or "NO". YES indicates that the system specified by the *tid* is an Alarm Gateway Network Element (AGNE). One AGNE is needed for each Alarm Group to support message communications for network element status features (FE activity, Office Alarms, Parallel Telemetry, Miscellaneous discretes, remote ACO and FE user panel status). Any member of the Alarm Group can be an AGNE but some may be preferred because of their position in the subnetwork or location near a maintenance center. Another network element of the same Alarm Group may be provisioned as a backup (dual) AGNE if required.

ALMGRP

The alarm group (also known as SONET Maintenance Sub-Branch or SMSB) has an integer value between *0* and *255* (inclusive). *0* indicates that the local network element does not exchange remote alarm information with any other network elements. Any other value for this parameter means that the local network element will exchange remote alarm information with all other network elements in the maintenance subnetwork which share the same alarm group value. All network elements in the given DCC domain (subnetwork), whether nearby or not, that have the same alarm group number are members of the same group.

All members of the alarm group will share network element Status information with each other but not with network elements of different alarm groups though they may also be in the same DCC domain. Sharing the network element status information between network elements in different alarm groups is made possible through the use of alarm servers.

X25PS

X.25 Packet Size. This parameter may be set to one of two values: "256" or "128". This parameter determines the TL1 packet size for the X.25 interface.

⇛ **NOTE:**
> Changing the X.25 packet size parameter at a network element with active X.25 link will cause that X.25 link to be reset and all active TL1 logins will be automatically dropped. All established services on the affected X.25 link will have to be reestablished.

DIRN   Direction. This parameter has one of two values: "1A-TX" or "1A-RCV". 1A-TX indicates that the optical lines 1A, 2A, 3A and 4A are carrying traffic in the transmit direction (out of OLS) and optical lines 1B, 2B, 3B and 4B are carrying traffic in receive direction that is, into OLS. This parameter is significant in OLS end terminals (but not in OLS repeaters). An OLS end terminal provisioned as 1A-TX indicates that the output from the telemetry pack is connected to (for example) 1A OA circuit pack and the input is connected to 1B OA circuit pack that is, optical line 1A is carrying traffic in transmit direction. At the other end terminal the telemetry pack should have reverse orientation in the sense, that as it is receiving traffic on line 1A its input should be connected to 1A OA circuit pack and its output should be connected to 1B OA circuit pack. Hence, this particular end terminal should be provisioned as 1A-RCV. The **dirn** values are NOT case-sensitive.

PROTOCOL

⇛ **NOTE:**
> Protocol is not a valid parameter starting in Release 2.0. The equivalent functionality is covered by **ENT-CID-SECU** command.

If the *spec_block* is null, the currently effective attributes at the network element system prevails.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Execution of this command may affect service. Network element access may be affected. The operation of other nodes in the ring may be affected. Active X.25 links will be reset and will have to be reestablished.

OUTPUT FORMAT

If the network element fully complies with the **ENT-SYS** request, the following completion response is returned.

```
    sid date time
M   ctag COMPLD
;
```

If the **ENT-SYS** command does not alter the existing system level attributes, the network element will not deny the command. Instead the system will respond with the completion message (shown above). An example of this is when the system addressed by the *tid* is already a designated **dsne** and **ENT-SYS** command is received to set that system as a **dsne**.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example shows a command to modify the **system** name to
1-BROAD-STREET-CO and make the network element the DS-NE:

```
ent-sys:LT-PF-2000:system:123456:::new_tid=1-BROAD-STREET-CO,dsne=yes;



IP 123456
<


   1-BROAD-STREET-CO 93-10-26 16:42:11
M  123456 COMPLD
;
```

Note here that changing the **dsne** designation has caused the system to restart the
program causing the response to the command to be incomplete.

The following example shows a command to modify the X.25 Packet Size:

```
ent-sys:LT-PF-2000::123456:::x25ps=128;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

The following example shows a command to alter the SMSB from its original value of 255 and to make the local NE an AGNE.

```
ent-sys:LT-PF-2000::123456:::almgrp=248,agne=yes;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

The following example shows a command to modify the **system** name to 1-BROAD-STREET-CO and provision the **dirn** parameter as 1A-RCV:

```
ent-sys:LT-OLS:system:123456:::new_tid=1-BROAD-STREET-CO,dirn=1A-RCV;


IP 123456
<


    1-BROAD-STREET-CO 93-10-26 16:42:11
M   123456 COMPLD
;
```

The following example shows a command to modify the system type:

```
ent-sys:LT-PF-2000::123456:::system_type=Mx24;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** **ERROR RESPONSE** section. The error responses listed there apply to the **ENT-SYS** command, also.

If a network element receives an **ENT-SYS** command with a **new_tid** value that is not valid, the following error response is returned:

```
   sid date time
M  ctag DENY
   IITA
   /* Input, Invalid Target Identifier, invalid NEW_TID */
;
```

If a network element receives an **ENT-SYS** command with a **dsne** value other than yes or no, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DSNE */
;
```

If a network element receives an **ENT-SYS** command with an **almgrp** value that is not an integer between 0 and 255, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid ALMGRP */
;
```

If a network element receives an **ENT-SYS** command with an **agne** value other than **yes** or **no**, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid AGNE */
;
```

If a network element receives an **ENT-SYS** command with a **x25ps** value other than 256 or 128, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid X25PS */
;
```

If an OLS End Terminal receives an **ENT-SYS** command with a **dirn** value other than
1A-TX or 1A-RCV, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DIRN */
;
```

If a network element receives an **ENT-SYS** command with a **system_type** value other
than Nx33 or Mx24, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid SYSTEM_TYPE */
;
```

If a network element that does not support **dirn** (OLS repeater) receives an **ENT-SYS** command with a **dirn** parameter, the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid spec_block parameter */
;
```

If an **ENT-SYS** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

If a network element receives an **ENT-SYS** command with a `spec_block` parameter attribute that does not match the `aid`, or that parameter is not supported by the particular software release in the receiving system, the following error response is returned:

```
    sid date time
 M  ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid spec_block parameter */
 ;
```

If the network directory in the local subnet, that is, the DIB, is locked, the following error response is returned:

```
    sid date time
 M  ctag DENY
    SROF
    /* Status, Requested Operation Failed, the local subnet's
      Network Directory is locked */
 ;
```

The DIB may be locked due to either the presence of multiple DSNEs in the local subnet or the DSNE being in the initial registration state.

RELATED TL1 COMMANDS/MESSAGES

RTRV-SYS

SET-SID

NAME

ENT-USER-SECU: Enter User Security

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

ENT-USER-SECU:*tid:uid:ctag::pid,,uap[:keyword_block];*

DESCRIPTION

ENT-USER-SECU command is used by an appropriate administrator to enter the security parameters associated with a user.

This command is available only to the users for all CIT, DCC or TL1 ports on the NE.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
uid	This is the User Identifier of a user. Valid values are a case-sensitive alphanumeric string of 1 to 10 characters.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

pid

Passwords consists of a string of alphabetic, numeric and symbolic characters that contains a minimum of six characters and a maximum of ten characters, where at least two are non-alphabetic and one is symbolic. Passwords are case-sensitive.

Password strings will be encrypted when stored in the network element. They will not be encrypted when transmitted between the network element and the CIT, OS or dumb terminal. Passwords are never transmitted from the network element to the PC or a TL1 channel.

Symbolic characters:
! " % ' ( ) * + - . / < > [ ] ' { | } ~

Numeric characters:
0 1 2 3 4 5 6 7 8 9

Alphabetic characters:
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z

uap

User Access Privilege. It takes one of the following values: (General,Reports) See the **ACT-USER** command for more information regarding the *uap* values. **privlegd** is not allowed for this parameter since privileged users cannot be created in the NE. This is a divergence from TR-833, Issue 5.

keyword_block

Keyword Parameter Block. Temporary login attributes to be modified are specified inside the *keyword_block*. Parameters within *keyword_block* are specified using a *name=value,name=value, . . .* type construct with no constraints on the order of the arrangement of parameters. Constructs such as *name1=value1, name2=, . . .* are acceptable and in this example only the parameter *name1* will be attempted to be changed at the network element. If the current value of the parameter *name1* is already *value1* in the above example, *name1* will not be changed.

For the **ENT-USER-SECU** command, the *keyword_block* may contain neither or both of the following parameters:

TYPE   If a temporary login is desired, this paramter must be "VISITOR".

visitor   Visitor Login. This indicates that this login is assigned for temporary access to the network element.

EXPDAT   Expiration Date. This is the requested **EXPDAT** in the following format: YY-MM-DD, where YY is the last two digits of the year ranging from 00 to 99; MM is the month of the year ranging from 01 to 12; and DD is the day of the month ranging from 01 to 31.

The expiration date must be set if **TYPE=visitor**.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Network element access may be affected by this command.

NOTE: User access privilege takes one of the following values: (GENERAL, REPORTS).

OUTPUT FORMAT

If the network element fully complies with the enter user security request, the following normal completion response is returned:

```
   sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
ENT-USER-SECU:LT-PF-2000:kjlee:123456::pass12+,,general;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

⇒ **NOTE:**
The single-line command (**bold** type) below is presented in more than one line for ease of reading.

```
ENT-USER-SECU:LT-PF-2000:kjlee:123456::pass12+,,general:TYPE=visitor,
   EXPDAT=93-12-31;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives an **ENT-USER-SECU** command from a user trying to enter his or her own *uid* (user identifier) and/or *uap* (privilege) value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    PICC
    /* Privilege, Illegal Command Code */
 ;
```

If the network element receives an **ENT-USER-SECU** command with an existing *uid* (user identifier) that is not that user's own *uid*, the following error response is returned:

```
    sid date time
 M  ctag DENY
    PIUI
    /* Privilege, Illegal User Identity */
 ;
```

If the network element receives an **ENT-USER-SECU** command when it already has reached its maximum user logins the following error response is returned:

```
    sid date time
M   ctag DENY
    SLEM
    /* Status, List Exceeds Maximum */
;
```

If the network element receives an **ENT-USER-SECU** command with an invalid *pid* (password) value, the following error response is returned:

```
    sid date time
M   ctag DENY
    PIUI
    /* Privilege, Illegal User Identity, invalid PID */
;
```

If the network element receives an **ENT-USER-SECU** command with an invalid *uap* (user access privilege) value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    PIUC
    /* Privilege, Illegal User Code, invalid UAP */
 ;
```

If the network element receives an **ENT-USER-SECU** command with a **TYPE** other than **VISITOR**, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TYPE */
 ;
```

If the network element receives an **ENT-USER-SECU** command with an invalid **EXPDAT**, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid EXPDAT */
 ;
```

If the network element receives an **ENT-USER-SECU** command without an **EXPDAT** when **TYPE** specified in the *keyword_block*, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid keyword_block */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

DLT-USER-SECU

ED-USER-SECU

RTRV-USER-SECU

NAME

INH-MSG-EQPT: Inhibit Message Equipment

The privilege level for this command is GENERAL.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

INH-MSG-EQPT:*tid:aid:ctag[::,,]*;

DESCRIPTION

⚠ **CAUTION:**
This command will suppress autonomous indications of failures at office alarms, parallel telemetry, and/or X.25 based OS interfaces.

INH-MSG-EQPT commands are initiated by users to inhibit transmission of all autonomous TL1 messages, office alarms, and/or parallel telemetry from a network element.

When a network element receives an **INH-MSG-EQPT** command, the network element inhibits transmission of all of its autonomous messages, except office alarms, and/or parallel telemetry, if autonomous message and alarm reporting has not already been inhibited.

When autonomous message reporting is inhibited, the network element reports an abnormal status condition in an autonomous REPT EVT message.

This REPT EVT message, containing the abnormal status condition report, would be the last autonomous message sent before the **INH-MSG-EQPT** command takes effect.

While autonomous message reporting is inhibited, the network element continues to respond fully to all command messages, specifically **RTRV-ALM** and **RTRV-COND**.

All new autonomous messages are inhibited. All autonomous messages that are in queue prior to the normal completion of the **INH-MSG-EQPT** command are reported.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid	Access identifier. The *aid* value can be one of the following values: "ALL", "OFFICE-ALMS", "PAR-TLM", or "TL1".

all	This specifies that reporting for all of the parameters below is to be inhibited on the network element.
office-alms	This specifies that reporting of office alarms is to be inhibited on the network element.
par-tlm	This specifies reporting of alarms over the parallel telemetry is to be inhibited on the network element.
tl1	This specifies that autonomous message reporting is to be inhibited on all TL1 ports on the network element.

If no value is provided for *aid*, **all** is assumed.

ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Execution of this command will suppress autonomous indications of failures at office alarms, parallel telemetry, and/or X.25 based Operations System (OS) interfaces.

OUTPUT FORMAT

If the network element fully complies with the **INH-MSG-EQPT** request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the network element receives an **INH-MSG-EQPT** command message from a user when transmission of all autonomous messages, office alarms, and/or parallel telemetry had already been inhibited, the network element provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the OUTPUT PARAMETERS section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
inh-msg-eqpt:LT-OLS:all:123xyz;


IP 123xyz
<


    LT-OLS 96-01-06,09:30:49
M   123xyz COMPLD
;
```

```
inh-msg-eqpt:LT-PF-2000:all:123xyz;



IP 123xyz
<



   LT-PF-2000 96-06-06,09:30:49
M  123xyz COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error response section. The error responses listed there apply to the **INH-MSG-EQPT** command, also.

If an **INH-MSG-EQPT** command is received with an invalid *aid* value, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

ALW-MSG-EQPT

REPT EVT EQPT

NAME

INIT-REG-ALL: Initialize Register All

The privilege level for this command is GENERAL.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

INIT-REG-ALL:*tid:[aid]:ctag::,,,,tmper[,,];*

DESCRIPTION

⚠ **CAUTION:**
Current day and/or current 15-minute performance monitoring data storage registers for the optical parameters of the addressed line will be corrupted as a result of this command.

INIT-REG-ALL commands can be initiated to request the network element to initialize all *current* day and/or all *current* 15-minute performance-monitoring (PM) storage registers.

PM registers for previous day and previous 15-minute time periods are not affected.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. Because *all* current daily and/or 15-minute PM registers are initialized, the *aid* value must be "ALL" or null (default = **ALL**).
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

tmper   Time period. This requests that performance monitoring registers for a specified time interval be initialized. This parameter must have one of the values: "15-MIN", "1-DAY", or "ALL".

> **15-MIN**   This requests that 15-minute PM registers be initialized.

> **1-DAY**   This requests that daily PM registers be initialized.

> **ALL**   This requests that 15-minute *and* daily PM registers be initialized.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Executing this command will cause all performance monitoring data collected in all current registers of the selected bin(s) to be deleted.

OUTPUT FORMAT

If the network element fully complies with the initialize register request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
INIT-REG-ALL:LT-PF-2000:all:123456::,,,,15-MIN;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives an **INIT-REG** command with a command modifier other than **ALL** or **OLINE**, the following error response is returned:

```
   sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives an **INIT-REG** command with an invalid *aid* value the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
 ;
```

If the network element receives an **INIT-REG-ALL** command with an invalid *tmper* value (that is, anything other than **15-MIN**, **1-DAY** or **ALL**), the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM

SET-TH

RTRV-TH

RTRV-BASELINE

NAME

INIT-REG-OLINE: Initialize Register Optical_Line

The privilege level for this command is GENERAL.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

INIT-REG-OLINE:*tid*:*aid*:*ctag*::*[reason,[ochan_aid]],,,[,,];*

DESCRIPTION

⚠ **CAUTION:**
Current day and/or current 15-minute performance monitoring data storage registers for the optical parameters of the addressed line will be corrupted as a result of this command.

INIT-REG-OLINE commands can be initiated to request the network element to baseline certain optical parameters for each optical line in a network element. Currently, it is used to baseline SPR-C of all optical channels and the TOPR-OL in the addressed optical line.

INIT-REG-OLINE commands will require the user to provide a "reason" for baseline. If the reason for initiating **INIT-REG-OLINE** command is a dropped optical channel, the optical channel aid is needed as well.

INIT-REG-OLINE commands will corrupt *current* day and/or *current* 15-minute performance-monitoring (PM) storage registers for **TOPR-OL** of the addressed optical line, and **SPR-C** of all optical channels in that optical line.

PM registers for previous day and previous 15-minute time periods are not affected.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid　　　　Access identifier. This identifies the optical line for which optical parameters need to be baselined.

　　　　　Entity: Optical Line
　　　　　Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag　　　Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

reason　　The reason states the reason for executing **INIT-REG-OLINE** command on the addressed optical line. This field can take one of the following values: "OA_REPLACED", "OSP_REPLACED", "OCHAN_DROPPED", "0", "1", "2", "3", "4", "5", "6", "7", "8", or "9".

ochan_aid　Optical Channel Access Identifier. If the *reason* for baseline is **OCHAN_DROPPED**, this parameter gives the optical channel access identifier of the channel dropped. This parameter has no default value when *reason* is **OCHAN_DROPPED**.

　　　　　The *ochan_aid* should be NULL if the *reason* parameter has any other valid string.

　　　　　Entity: Single Optical Channel
　　　　　Legal Values: (OCHAN)-(1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(1-8)

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Executing this command will corrupt current day and/or current 15-minute performance monitoring data storage registers for the optical parameters of the addressed optical line.

OUTPUT FORMAT

If the network element fully complies with the initialize register request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the OUTPUT PARAMETERS section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
INIT-REG-OLINE:LT-OLS:oline-1a:123456::OCHAN_dropped,ochan-1a-1;



IP 123456
<


    LT-OLS 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives an **INIT-REG** command with a command modifier other than **ALL** or **OLINE**, the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives an **INIT-REG** command with an invalid *aid* value the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

If the network element receives an **INIT-REG-OLINE** command with an invalid *reason* or a NULL entry then the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid REASON */
 ;
```

If the network element receives an **INIT-REG-OLINE** command with an invalid *ochan_aid* or a NULL entry when reason="OCHAN_dropped" then the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid OCHAN_AID */
 ;
```

If the network element receives an **INIT-REG-OLINE** command with any non-null
ochan_aid entry when "reason" is other than "OCHAN_dropped" then the following error
response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid OCHAN_AID */
 ;
```

If the network element receives an **INIT-REG-OLINE** command with an invalid *tmper*
value (that is, anything other than **NULL**, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM

SET-TH

RTRV-TH

RTRV-BASELINE

NAME

INIT-SYS: Initialize System

The privilege level for this command is GENERAL.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

INIT-SYS:*tid:aid:ctag::ph;*

DESCRIPTION

⚠ **WARNING:**
Execution of this command may affect service.

The **INIT-SYS** command with the *ph* parameter set to 9 initializes the system. The **INIT-SYS** command with the *ph* parameter set to 3 resets the system. Initializing the system initializes the provisionable parameters to their original values whereas resetting the system resets the software without changing the provisioned parameters values.

The command **INIT-SYS** with the **all** *aid* should NOT be used on an in-service system when the **ph** is set to 9. With the *ph* set to the highest level, the highest phase of initialization takes place; with this setting, this command should only be used at the end of system installation before system turnup.

⚠ **CAUTION:**
Execution of this command at any network element will also affect the OS communication with that network element and all OS users logged into that network element will be logged out.

With the phase set to the highest level (9), this command initializes provisionable parameters to their original values. The time and date parameters are not affected by this command.

To reset the system, the **INIT-SYS** command can be used with the phase parameter set to 3. This command with the phase set to 3 resets the system software without changing parameters.

⚠ CAUTION:
INIT-SYS with ph=3 will wipe out the history log.

Protection switches will be frozen until the reset is completed.

After entering the **INIT-SYS** command, with the phase set to the highest level (9), the system will show transient DCC failures that are recorded in the Alarm and History reports. This is a normal, expected system behavior.

This command is available to privileged users for both initializing the system when the phase value is set to 9 and for resetting the system when the phase value is set to 3.

This command is available to general users only for resetting the system when the phase value is set to 3 and NOT for initializing the system. If a general user attempts to initialize the system by setting the phase value to 9, the command is denied.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. *aid* is a required parameter and can have only one value, "ALL" for both system initialization (*ph*=9) and system reset (*ph*=3).
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ph   Phase. This field specifies the level of the system initialization. This parameter must be one of the following values: "3" or "9".

> **9**   This is the highest phase of initialization and specifies an initialization of system parameters and a start of systems software. This command with *ph*=**9** is used only at the end of installation of a new system and is never used on an in-service system.

> **3**   This is an interim level of initialization that resets the system software without affecting the setting of parameters. It does cause the history and performance monitoring data to be lost.

A general user is allowed to select a phase value of **3** only whereas a privileged user is allowed to select a phase value of **3** or **9**.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Network element access may be affected by this command. For PH=3, this command saves the current value of all provisioned parameters, deletes the history log, freezes the switch states, and restarts the controllers. For PH=9, this command returns all provisioned parameters to their original values. This may disrupt service. Proceed with extreme caution.

IMPORTANT: Verify that no software copy to or from this network element is in progress.

OUTPUT FORMAT

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

Since a full system initialization (phase parameter set to 9) initializes the SYSCTL or the entire system, it will drop all user sessions including the one on the X.25 interface, and COMPLD message may or may not be conveyed back to the TL1 user.

Since a full system initialization occurs in the entire system, it will drop all user sessions including the one on the X.25 interface. The following example initializes the system:

```
init-sys:LT-PF-2000:all:123456::9;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

Since a full system initialization occurs in the entire system, it will drop all user sessions including the one on the X.25 interface. The following example resets the system:

```
init-sys:LT-PF2000:all:123456::3;


IP 123456
<


    LT-PF2000 96-10-26 16:42:11
M   123456 COMPLD
;
```

Since a full system reset occurs in the entire system, it will drop all user sessions including the one on the X.25 interface.

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives an **INIT-SYS** command without an *aid* or with an *aid* field other than **all**, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
       inconsistent with modifier */
;
```

If the network element receives an **INIT-SYS** command with a missing or unsupported *ph* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid or missing PH */
;
```

If the network element receives an **INIT-SYS** command with a *ph* value of 9 from a general user, the following error response is returned:

```
    sid date time
M  ctag DENY
    IDNV
    /* Input, Data Not Valid, unallowed PH value for a general user */
;
```

If the network element receives an **INIT-SYS** command with PH=9 or PH=3 while SW download to this NE from another network element is in progress, the following error response is returned:

```
    sid date time
M  ctag DENY
    SROF
    /* Status, Requested Operation Failed
        The system is not able to access the original parameter values
        in SYSMEM because a software download is currently in progress.
        Please try again later.
    */
;
```

If an **INIT-SYS** command with PH=9 is received while a remote software copy from the NE to another NE is in progress, the command is denied with the following error response.

```
    sid date time
 M  ctag DENY
    SROF
    /* Status, Requested Operation Failed
        The system is not able to access the original parameter values
        in SYSMEM because a remote software copy from the network element
        to another network element is currently in progress.
        Please try again later.
    */
 ;
```

⇛ NOTE:

If an **INIT-SYS** command with PH=3 is received while a remote software copy from the NE to another NE is in progress, the command is completed with a normal completion response. However, the remote software copy to the other NE is disrupted and the other NE could be left in an unknown state.

If an **INIT-SYS** command with PH=9 or PH=3 is received while a remote software copy from the NE to another NE is in progress, the command is denied with the following error response.

```
    sid date time
 M  ctag DENY
    SROF
    /* Status, Requested Operation Failed
        The system is not able to access the original parameter values
        in SYSMEM because a remote software copy from the network element
        to another network element is currently in progress.
        Please try again later.
    */
 ;
```

If the network element receives an **INIT-SYS** command while the SYSMEM is corrupted with bad checksum, the command shall be denied and the following error response is returned:

```
    sid date time
M  ctag DENY
    SROF
    /* Status, Requested Operation Failed
        The execution of this command stopped because of a hardware problem
        in SYSMEM.
    */
;
```

If the network element receives an **INIT-SYS** command with $ph=9$ while the SYSCTL and SYSMEM have incompatible software versions, the following error response is returned:

```
    sid date time
M  ctag DENY
    SROF
    /* Status, Requested Operation Failed
        The execution of this command stopped because SYSCTL and SYSMEM
        have incompatible software versions.
    */
;
```

If the network element receives an **INIT-SYS** command with ph=3 while the executable code in the SYSCTL and SYSMEM are for different network element types, the following error response is returned:

```
    sid date time
M   ctag DENY
    SROF
    /* Status, Requested Operation Failed
        The execution of this command stopped because the SYSMEM and
        SYSCTL contain software for different network element types.
    */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

OPR-ACO-ALL: Operate Alarm_Cutoff All

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

OPR-ACO-ALL:*tid:[aid]:ctag;*

DESCRIPTION

OPR-ACO-ALL commands can be initiated to request the network element to operate the alarm cutoff (ACO) to silence the audible office alarms. Alarms remain silent until a new alarm condition arises.

This command is available to maintenance and reports-only users.

If this command is executed while there is an active alarm condition in the system, it will:

- Silence active audible office alarms
- Light the ACO LED on the user panel

This command is equivalent to pushing the ACO button on the user panel or activating the TBOS ACO control point.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. Because the ACO function applies to the whole system, the *aid* value must be **all** or null (default = **all**).

Entity: All
Legal Values: (ALL)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the operate ACO request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the network element receives a valid **OPR-ACO-ALL** command, but no alarm condition exists or existing alarms have already been ACO'ed, the network element provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
OPR-ACO-ALL:LT-PF-2000:all:123456;



IP 123456
<



    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **OPR-ACO-ALL** command, also.

If the network element receives an **OPR-ACO** command with a command code modifier other than **ALL**, the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives an **OPR-ACO-ALL** command with an invalid *aid* value
(that is, anything other than **all** or null), the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

OPR-EXT-CONT: Operate External Control

The privilege level for this command is GENERAL.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

OPR-EXT-CONT:*tid:aid:ctag::[dur]*;

DESCRIPTION

The **OPR-EXT-CONT** command can be initiated by users to operate an external discrete control, such as a relay activation, a fan, a light, or sprinkler.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

            [A-Z][a-z][0-9].+-%#

aid   Access identifier. The *aid* identifies the external miscellaneous discrete control for which a description is being provisioned. The *aid* value cannot be null and cannot be CONT-ALL.

            Entity: Single Point (Control)
            Legal Values: (CONT)-(1-36)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

dur   These systems can operate remote controls either continuously ("CONTS") or momentarily ("MNTRY"). The default value is **MNTRY** when parameter is null. The duration for the momentary operation is 300ms.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **OPR-EXT-CONT** request, the following normal completion response is returned.

```
    sid date time
 M  ctag COMPLD
 ;
```

If the **OPR-EXT-CONT** command does not alter the existing attributes, that is, the control referenced by the aid is already being operated, the network element will not deny the command. The system will respond with the completion message shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a command for a PF-2000 system to operate discrete control 1.

```
OPR-EXT-CONT:LT-PF-2000:CONT-1:123456::conts;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

The following example shows a command for a PF-2000 system to operate discrete control 4 using a default value (MNTRY) for *dur*.

```
OPR-EXT-CONT:LT-PF-2000:CONT-4:123456::;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **OPR-EXT-CONT** command is received with an invalid access identifier, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
 ;
```

If an **OPR-EXT-CONT** command is received with an invalid duration parameter, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DUR */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-ATTR-CONT

RLS-EXT-CONT

RTRV-ALM

NAME

RLS-EXT-CONT: Release External Control

The privilege level for this command is GENERAL.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RLS-EXT-CONT:*tid:aid:ctag;*

DESCRIPTION

The **RLS-EXT-CONT** command can be initiated by users to release an external miscellaneous discrete control, such as a generator, a fan, a light, or a sprinkler. Miscellaneous discrete controls are operated by the **OPR-EXT-CONT** command.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. The *aid* identifies the external miscellaneous discrete control for which a description is being provisioned.

Entity: Single Point (Control)
Legal Values: (CONT)-(1-36)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **RLS-EXT-CONT** request, the following normal completion response is returned.

```
   sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a command for a PF-2000 system to release miscellaneous discrete control 1.

```
RLS-EXT-CONT:LT-PF-2000:CONT-1:123456::;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

The following example shows a command for a linear PF-2000 system to release miscellaneous discrete control 4.

```
RLS-EXT-CONT:LT-PF-2000:CONT-4:123456::;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **RLS-EXT-CONT** command is received with an invalid access identifier, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-ATTR-CONT

OPR-EXT-CONT

RTRV-ALM

NAME

RTRV-ALL: Retrieve All

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALL:*tid*:*aid*:*ctag*[:*type*];

DESCRIPTION

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the report is requested. Entity: All Legal Values: (ALL)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
type	Type. A value for this parameter is neither expected nor allowed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

Because the network element supports pre-provisioning of parameters, lines are included for all applicable *aid* values in response to this command, whether or not the present equipage is capable of supporting the type of facility specified.

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here **only** for the convenience of the reader.

In response to a valid **RTRV-ALL** command, an output report is returned and is sorted as follows:

1. OCHAN data,

2. SUPR channel data,

3. CMS port data, and

4. by *aid* value.

```
    sid date time
M   ctag COMPLD
    "ochan_aid::::pst"
    "ochan_aid::::pst"
             .         .         .
             .         .         .
             .         .         .
    "ochan_aid::::pst"
    "supr_aid:::[level,]ntfcncde,sdthr"
    "supr_aid:::[level,]ntfcncde,sdthr"
             .         .         .
             .         .         .
             .         .         .
    "supr_aid:::[level,]ntfcncde,sdthr"
    "cms_aid:::[level,]ntfcncde,sdthr:,sst"
    "cms_aid:::[level,]ntfcncde,sdthr:,sst"
             .         .         .
             .         .         .
             .         .         .
    "cms_aid:::[level,]ntfcncde,sdthr:,sst"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

level   Signal level. This parameter is the signal level type being supported by the CMS port or supervisory channel specified in the addressed slot (if equipped). If equipped, the *level* parameter is reported in LEVEL=*xx* format where *xx* has the following value:

OC3   This specifies that the CMS port signal or the supervisory channel is OC3 level.

No *level* value is reported for unequipped slots.

ntfcncde   Notification code. This parameter is the alarm level provisioned for failures of facilities serviced by the addressed port or slot. The *ntfcncde* parameter is reported in NTFCNCDE=*xx* format where *xx* has one of the following values:

CR   Critical

MJ   Major

MN   Minor

NA   Not alarmed

NR   Not reported (No autonomous report will be generated.)

NO   Ignored (No autonomous or on-demand report will be generated.)

sdthr   Signal degrade threshold. This parameter is the signal degrade Bit Error Rate (BER) threshold for the facility serviced by the addressed supervisory channel. The *sdthr* parameter is reported in SDTHR=*xx* format where *xx* has one of the following values:

-9   This signifies that the signal degrade threshold is set at a BER of 10^{-9}.

-8   This signifies that the signal degrade threshold is set at a BER of 10^{-8}.

-7   This signifies that the signal degrade threshold is set at a BER of 10^{-7}.

-6   This signifies that the signal degrade threshold is set at a BER of 10^{-6}.

-5   This signifies that the signal degrade threshold is set at a BER of 10^{-5}.

Signal degrade threshold. This parameter is the signal degrade Bit Error Rate (BER) threshold for the facility serviced by the addressed CMS port. The *sdthr* parameter for CMS port is always reported as SDTHR=-6.

pst   Primary state. This parameter reports the current primary state of the
addressed optical channel (OCHAN). The *pst* will have one of the
primary states supported by OLS.

The primary state for optical channel will have one of the following values:

IS   In service. This specifies that the optical channel addressed
by *ochan_aid* is in the in service state.

OOS-MA-AS Out of service, memory administration, assigned. This
specifies that the optical channel addressed by *ochan_aid*
is in the OLS "AUTO" state and will transition to in-service
upon detection of a valid signal.

OOS   Out of service. This specifies that the optical channel
addressed by *ochan_aid* is in the OLS "NMON" state.

RDNA   Requested data not available. If the requested *pst* data for
the addressed optical channel is corrupted, this value is
reported.

sst   Secondary state. This parameter reports the current secondary state of
the addressed CMS port. The *sst* will have one of the secondary states
supported by OLS.

The CMS port secondary state will have one of the following values:

IS   In service. This specifies that the CMS port addressed by
cms_aid is in the in service state in the *mux* (from the
customer toward the optical line) direction.

OOS-MA-AS Out of service, memory administration, assigned. This
specifies that the CMS port addressed by *cms_aid* is in the
OLS "AUTO" state and will transition to in-service upon
detection of a valid incoming customer maintenance signal in
the *mux* (from the customer toward the optical line) direction.

OOS | Out of service. This specifies that the CMS port addressed by *cms_aid* is in the OLS "NMON" state in the *mux* (from the customer toward the optical line) direction.

RDNA | Requested data not available. If the requested *sst* data for the addressed CMS port is corrupted, this value is reported.

ochan_aid | Optical Channel access identifier. This is the optical channel address for which output is being reported.

supr_aid | Supervisory channel access identifier. This is the supervisory channel address for which output is being reported.

cms_aid | CMS access identifier. This is the CMS port address for which output is being reported.

EXAMPLE INPUT/OUTPUT

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here **only** for the convenience of the reader.

The following example shows the response to a query concerning all supervisory channels, all CMS ports, and all optical channels associated with all optical lines ("all").

```
rtrv-all:LT-OLS:all:123456;


IP 123456
<


   LT-OLS 93-10-26 16:42:11
M  123456 COMPLD
   "ochan-1a-1::::IS"
   "ochan-1a-2::::IS"
   "ochan-1a-3::::IS"
   "ochan-1a-4::::IS"
   "ochan-1a-5::::IS"
   "ochan-1a-6::::IS"
   "ochan-1a-7::::OOS-MA-AS"
   "ochan-1a-8::::OOS-MA-AS"
            .        .        .
            .        .        .
            .        .        .
   "ochan-4b-1::::IS"
   "ochan-4b-2::::IS"
   "ochan-4b-3::::IS"
   "ochan-4b-4::::IS"
   "ochan-4b-5::::IS"
   "ochan-4b-6::::IS"
   "ochan-4b-7::::OOS-MA-AS"
   "ochan-4b-8::::OOS-MA-AS"
   "supr-1a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "supr-1b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "supr-2a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "supr-2b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "supr-3a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "supr-3b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "supr-4a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "supr-4b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
   "cms-1a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,IS"
   "cms-1b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,IS"
   "cms-2a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,IS"
   "cms-2b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,IS"
   "cms-3a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,IS"
   "cms-3b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,IS"
   "cms-4a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,OOS-MA-AS"
   "cms-4b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6:,OOS-MA-AS"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives this command with any extra (beyond the input format specification above) null or non-null command parameter blocks (:), parameters (,), or termination characters (;), the following error response is returned:

```
   sid date time
M  ctag DENY
   IISP
   /* Input, Invalid Syntax or Punctuation */
;
```

If the network element receives a **RTRV-**rr command with a non-null command code modifier other than those indicated in the following (platform and product specific) table:

Platform / Release	Valid Modifiers
LCT R1.0	ALL, HS, LS, EC1, OC3, OC48, SWFBR or T3
LCT R2.0	ALL, HS, LS, EC1, OC3, OC48, STS3, SWFBR or T3
OLS R1.0	ALL, CMS, OCHAN or SUPR

The following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives a **RTRV** command without an aid value or with an aid value that is invalid for this command, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
       with modifier value */
;
```

If the network element receives this command with an invalid *type* value, the following
error response is returned:

```
     sid date time
 M   ctag DENY
     INUP
     /* Input, Non-null Unimplemented Parameter, TYPE must be null */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-CMS

ENT-OCHAN

ENT-OTPS

ENT-SUPR

SET-ATTR-SUPR

REPT SW

NAME

RTRV-ALM-ALL: Retrieve Alarm All

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-ALL:*tid:[aid]:ctag[::[ntfcncde],,,,,;*

DESCRIPTION

RTRV-ALM_ALL commands can be initiated by a user to retrieve all active alarms from a network element terminal. This command retrieves all active alarms pertaining to the addressed network element terminal and upstream repeater bays, reported one line per condition, similar to the autonomous messages used to report alarm (REPT ALM) conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM or REPT ALM ENV message which is active when a **RTRV-ALM-ALL** command is received, is included in the **RTRV-ALM-ALL** response message.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the current conditions are requested. No value should be entered for this parameter. If a value is transmitted as part of this command, it will be ignored by the network element.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
ntfcncde	Notification code. This is the alarm level for which the current alarms are requested, and it may have one of the values: "CR", "MJ" or "MN".

CR Critical alarm

MJ Major alarm

MN Minor alarm

If the *ntfcncde* is valid, the network element's response to the user is limited to the specified notification code. If no notification code is provided or if the notification code is not valid, the network element's response includes all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned to the OS:

```
    sid date time
M ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
             .       .       .       .       .       .       .
             .       .       .       .       .       .       .
             .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
    ;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component, facility, or repeater bay site ID for which an alarm condition is being reported.

aidtype   Access identifier type. This has one of the following values:

        COM   Common. This reports an alarm that is not an equipment or facility condition but applies to the network element as a whole.

        OCHAN   Channel. This reports a facility-related event at the channel level in OLS.

        CMS   CMS is the incoming customer maintenance signal. This reports a facility-related event on the CMS part of the telemetry pack.

        EQPT   This reports an equipment-related alarm for a network element terminal or repeater bay.

        OLINE   This reports a facility-related event on the optical line in OLS.

        SUPR   This reports a facility-related event on the supervisory channel in the optical line in OLS.

ntfcncde   Notification code. This is the alarm level and has one of the following values:

CR   Critical alarm

MJ   Major alarm

MN   Minor alarm

condtype   Condition type. This is the type of the condition. There are several types of conditions.

The values for this parameter can be found in the various **RTRV-ALM** command pages associated with the *aidtype* output in the message. For example, condition types associated with the **COM** *aidtype* are listed in the **RTRV-ALM-COM** command page.

srveff   Service effect (or condition effect). This indicates the effect of the reported alarm on service or the effect of an alarm on the condition of the network element. This parameter has one of the following values:

SA   Service-affecting alarm condition

NSA   Non-service-affecting alarm or status condition

ocrdat   Occurrence date. This indicates the date of the alarm being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr   Condition description (or Alarm message). This is the text description of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

tblislt   Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-alm-all:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M   123456 COMPLD
    "oline-3b,OLINE,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming optical
line LOS\\",,:"
    "supr-4b,SUPR,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming supr chnl
fail\\",,:"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to **RTRV-ALM-ALL** also.

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-ALM-CMS: Retrieve Alarm Customer_Maintenance_Signal

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-CMS:*tid:[aid]:ctag[::[ntfcncde],,,,,;*

DESCRIPTION

RTRV-ALM_CMS commands can be initiated by a user to retrieve facility-related events on the customer maintenance signal (CMS) part of the telemetry pack [OC3 format]. This command retrieves all active alarms pertaining to the addressed network element terminal and upstream repeater bays, reported one line per condition, similar to the autonomous messages used to report alarm (REPT ALM CMS) conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM CMS or REPT ALM ENV message which is active when a **RTRV-ALM-CMS** command is received, is included in the **RTRV-ALM-CMS** response message.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

               [A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the entity for which the current conditions are requested.

               Entity: CMS Port [End Terminals]
               Legal Values: (CMS)-(ALL,1A,2A,3A,4A)

               Entity: CMS Port [Repeaters]
               Legal Values: (CMS)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ntfcncde   Notification code. This is the alarm level for which the current alarms are requested, and it may have one of the values: "CR", "MJ" or "MN".

     CR   Critical alarm

     MJ   Major alarm

     MN   Minor alarm

If the *ntfcncde* is valid, the network element's response to the user is limited to the specified notification code. If no notification code is provided or if the notification code is not valid, the network element's response includes all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned to the OS:

```
   sid date time
M  ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned to the OS:

```
    sid date time
M ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
    ;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component, facility, or repeater bay site ID for which an alarm condition is being reported.

aidtype Access identifier type.

        CMS   CMS is the incoming customer maintenance signal. This reports a facility-related event on the CMS part of the telemetry pack.

ntfcncde Notification code. This is the alarm level and has one of the following values:

        CR   Critical alarm

        MJ   Major alarm

        MN   Minor alarm

condtype   Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **CMS** *aid* type are:

LOF   Incoming customer signal loss-of-frame

LOS   Incoming customer signal loss-of-signal

T-BERL   Incoming customer signal SD/SF

srveff   Service effect (or condition effect). This indicates the effect of the reported alarm on service or the effect of an alarm on the condition of the network element. This parameter has one of the following values:

SA   Service-affecting alarm condition.

NSA   Non-service-affecting alarm or status condition.

ocrdat   Occurrence date. This indicates the date of the alarm being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr   Condition description (or Alarm message). This is the text description of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

tblislt   Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-alm-cms:LT-OLS:all:123456;


IP 123456
   LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
   "cms-3b,CMS,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming CMS LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **RTRV-ALM** command is received with an invalid *aid* value, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-ALM-COM: Retrieve Alarm Common

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-COM:*tid*:*[aid]*:*ctag[::[ntfcncde],,,,,;*

DESCRIPTION

RTRV-ALM_COM commands can be initiated by a user to retrieve all active alarms that are not specifically equipment- or facility-related conditions but apply to the network element as a whole. This command retrieves all active alarms pertaining to the addressed network element terminal and upstream repeater bays, reported one line per condition, similar to the autonomous messages used to report alarm common (REPT ALM COM) conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM COM or REPT ALM ENV message which is active when a **RTRV-ALM-COM** command is received, is included in the **RTRV-ALM-COM** response message.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the current conditions are requested.
	No value should be entered for this parameter. If a value is transmitted as part of this command, it will be ignored by the network element.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
ntfcncde	Notification code. This is the alarm level for which the current alarms are requested, and it may have one of the values: "CR", "MJ" or "MN".

    CR   Critical alarm

    MJ   Major alarm

    MN   Minor alarm

If the *ntfcncde* is valid, the network element's response to the user is limited to the specified notification code. If no notification code is provided or if the notification code is not valid, the network element's response includes all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned to the OS:

```
   sid date time
M  ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned to the OS:

```
    sid date time
M ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component, facility, or repeater bay site ID for which an alarm condition is being reported.

aidtype   Access identifier type.

            COM   Common. This reports an alarm that is not an equipment or facility condition but applies to the network element as a whole.

ntfcncde Notification code. This is the alarm level and has one of the following values:

            CR   Critical alarm

            MJ   Major alarm

            MN   Minor alarm

condtype Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **COM** *aid* type are:

ACOMAN	Operate alarm cutoff
ADMPFL	TID address map full
AGNE-COMF	Alamr Group Network Element status communications failure
BC-LAN-FAIL	Board controller LAN failure
CONTR	Control processor failure or software download in progress
DCC-INIT	DCC start-up in progress
DSNE-NR	Directory Services Network Element not reachable
DUPL-TID	Duplicate TID defined
EOC	Incoming (from supervisory) DCC failure or remote communication failure
FLT-CPY-SW-PRGM	Copy program failed due to a fault
INHMSG	Inhibit autonomous messages to OS
INIT-1	Initialize system
INIT-2	Update system
IO-ACTY	Input/output activity
IP-CPY-SW-PRGM	Copy program in progress
MAN	User login/logout
MISC	Provisioned control point
MULT-DSNE	Multiple Directory Services Network Element defined
PIDEXPRD	Password expired
OA-LAN-FAIL	Optical amplifier LAN failure
OK-CPY-SW-PRGM	Copy program has been successfully completed
OLINEIDMM	Optical line ID mismatch
PWR	Fus/power failure
RNG-INC	Ring incomplete
RNG-INITC	Ring startup in progress

SER-TLM1-FAIL	Serial telemetry port failure
SYSBOOT	Reset in progress
UIDDLT	Login deleted
UIDEXPRD	Login expired

srveff   Service effect (or condition effect). This indicates the effect of the reported alarm on service or the effect of an alarm on the condition of the network element. This parameter has one of the following values:

    SA   Service-affecting alarm condition.

    NSA   Non-service-affecting alarm or status condition.

ocrdat   Occurrence date. This indicates the date of the alarm being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr Condition description (or Alarm message). This is the text description of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

tblislt   Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-alm-com:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
    "oline-3b,COM,MN,LOS,NSA,06-07,18-26-14,,:\\"optical line LOS\\",,:"
    "tlm-4b,COM,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming (from OLS)
OC3 AIS\\",,:"
    ;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-ALM-ENV: Retrieve Alarm Environment

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-ENV:*tid*:*[aid]*:*ctag*::*[ntfcncde]*[,];

DESCRIPTION

RTRV-ALM-ENV commands can be initiated to retrieve active environmental alarm conditions from the network element. This command retrieves active environmental alarm conditions pertaining to the addressed network element in a line-by-line format, similar to the autonomous messages used to report environmental alarm conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM ENV message, which is active when a **RTRV-ALM-ENV** command is received, is included in the **RTRV-ALM-ENV** response.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the environmental point(s), for example, **env-1** or **env-all**, for which the current alarm conditions are requested. The *aid* value may also be **all** or null (each of which is effectively equivalent to **env-all**).

If the *aid* value is invalid, the network element responds without limiting the response based on the input *aid*, if any. Entity: Point (Environmental)

Legal Values: (ENV)-(ALL, 1-144)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ntfcncde Notification code. This is the alarm level for which the current environmental alarms are requested, and it may have one of the following values: "CR", "MJ", or "MN".

    CR   Critical alarm

    MJ   Major alarm

    MN   Minor alarm

    The default is to retrieve *all* alarm levels.

    If the *ntfcncde* is valid, the network element's response is limited to the specified notification code. If no notification code is provided or if the notification code is not valid, the network element's response includes all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no environmental alarms to report, the following response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If there are environmental alarms to report, the following output report is returned:

```
    sid date time
M   ctag COMPLD
    "aid:ntfcncde,almtype,ocrdat,ocrtm,\"almmsg\""
              .        .        .        .        .        .        .
              .        .        .        .        .        .        .
              .        .        .        .        .        .        .
    "aid:ntfcncde,almtype,ocrdat,ocrtm,\"almmsg\""
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level, greatest to least.

2. By date and time, with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the
OUTPUT PARAMETERS section for **RTRV-HDR**.

aid	Access identifier. This is the address of the environmental alarm point being reported.
ntfcncde	Notification code. This is the alarm level and has one of the following values:

        CR   Critical alarm

        MJ   Major alarm

        MN   Minor alarm

almtype	Alarm type.
ocrdat	Occurrence date. This indicates the date of the condition being reported and has the format MM-DD (month-day).
ocrtm	Occurrence time. This indicates the time of the condition being reported and has the format HH-MM-SS (hours-minutes-seconds).
almmsg	Alarm message. This is the text description of the reported condition (the default is *environment* n). The text description can be modified using the **SET-ATTR-ENV** command.

EXAMPLE INPUT/OUTPUT

```
RTRV-ALM-ENV:LT-OLS:all:123456::MN;


IP 123456
<


   LT-OLS 96-06-26 16:42:11
M  123456 COMPLD
   "env-1:MN,MISC,08-18,16-30-00,\"provisioned environment alpt\""
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **RTRV-ALM-ENV** command, also.

RELATED TL1 COMMANDS/MESSAGES

REPT ALM ENV

RTRV-ALM

SET-ATTR-ENV

NAME

RTRV-ALM-EQPT: Retrieve Alarm Equipment

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-EQPT:*tid:[aid]:ctag[::[ntfcncde],,,,,;*

DESCRIPTION

RTRV-ALM-EQPT commands can be initiated by a user to retrieve active alarms of equipment-related conditions from a network element terminal. This command retrieves all active alarms pertaining to the addressed network element terminal and upstream repeater bays, reported one line per condition, similar to the autonomous messages used to report alarm (REPT ALM EQPT) conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM EQPT or REPT ALM ENV message which is active when a **RTRV-ALM-EQPT** command is received, is included in the **RTRV-ALM-EQPT** response message.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. *aid* determines slot address for this report.

Entity: All
Legal Values: (ALL)

Entity: Slot (TOHCTL)
Legal Values: (TOHCTL)

Entity: Slot (SYSCTL)
Legal Values: (SYSCTL)

Entity: Slot (SYSMEM)
Legal Values: (SYSMEM)

Entity: Slot (OA)
Legal Values: (OA)-(ALL, 1A-4B)

Entity: Slot (OU)
Legal Values: (OU)-(ALL, 1A-4B)

Entity: Slot (TLM) [End Terminals]
Legal Values: (TLM)-(ALL,1A,2A,3A,4A)

Entity: Slot (TLM) [Repeaters]
Legal Values: (TLM)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

Entity: Shelf (OLS)
Legal Values: (SHLF)-(ALL, 1-2)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ntfcncde   Notification code. This is the alarm level for which the current alarms are requested, and it may have one of the values: "CR", "MJ" or "MN".

    CR   Critical alarm

    MJ   Major alarm

    MN   Minor alarm

If the *ntfcncde* is valid, the network element's response to the user is limited to the specified notification code. If no notification code is provided or if the notification code is not valid, the network element's response includes all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: The access identifier for each type of entity has a different set of legal values. Click on "HELP" to get the complete list of allowable values for each entity used by this command, where necessary.

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned to the OS:

```
    sid date time
M ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
            .        .        .        .        .        .        .
            .        .        .        .        .        .        .
            .        .        .        .        .        .        .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN.

2. For conditions with the same alarm severity, by the value of occurrence date ($ocrdat$), and occurrence time ($ocrtm$), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the
OUTPUT PARAMETERS section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component, facility, or
             repeater bay site ID for which an alarm condition is being reported.

aidtype   Access identifier type.

             EQPT   This reports an equipment-related alarm for a network element
                     terminal or repeater bay.

ntfcncde   Notification code. This is the alarm level and has one of the following values:

             CR   Critical alarm

             MJ   Major alarm

             MN   Minor alarm

condtype   Condition type. This is the type of the condition. There are several types of
             conditions. The valid values for the condition type of the **EQPT** *aid* type are:

             AUTORESET   Circuit pack reset in progress

             CONTR   Control process failure

             IMPROPRMVL   Improper circuit pack removal

             OMUMISMTCH   Optical multiplexer/demultiplexer mismatch or missing

             PRCDRERR   Unexpected circuit pack type

             T-x   Threshold crossing alert for the indicated monitored
                                parameter (x)

srveff   Service effect (or condition effect). This indicates the effect of the reported
             alarm on service or the effect of an alarm on the condition of the network
             element. This parameter has one of the following values:

             SA   Service-affecting alarm condition.

             NSA   Non-service-affecting alarm or status condition

ocrdat   Occurrence date. This indicates the date of the alarm being reported and has
             the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr Condition description (or Alarm message). This is the text description of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

tblislt   Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-alm-eqpt:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M   123456 COMPLD
    "tlm-3b,EQPT,MJ,IMPROPRMVL,SA,06-07,18-26-14,,:\\"TLM removed\\",,:"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **RTRV-ALM** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
 inconsistent with modifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-ALM-NTWK: Retrieve Alarm Network

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-ALM-NTWK:*tid*::*ctag*;

DESCRIPTION

RTRV-ALM-NTWK command messages can be initiated by a user to retrieve a report of all network elements in the maintenance subnetwork with active alarm/or status conditions.

The information reported by the command may be misleading if the information is incomplete due to any of the following reasons:

- The OC-48 DCC channel in both the East and West direction is declared failed.

- Any OC-3 DCC channel in the local network element is declared failed.

- If "Remote Activity Reporting" is disabled.

- If one or more nodes are unreachable due to multiple failures.

This is because the report does not distinguish between missing entries and no entries due to no active alarms. To determine if the report is complete, please use this command in conjunction with **RTRV-MAP-NETWORK**, **RTRV-FECOM** and **RTRV-ALM**.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: The information displayed by this command may be incomplete. Use the Retrieve-Map-Network (RTRV-MAP-NETWORK), Retrieve-Far-End-Communications (RTRV-FECOM), and Retrieve-Alarm-All (RTRV-ALM-ALL) commands for further details.

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned:

```
    sid date time
M   ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned:

```
    sid date time
M   ctag COMPLD
    "ntfcncde,ocrdat,ocrtm,tid,prodtype,lcl_rng"
                .       .   .   .       .       .
                .       .   .   .       .       .
                .       .   .   .       .       .
    "ntfcncde,ocrdat,ocrtm,tid,prodtype,lcl_rng"
;
```

Applicable output lines are ordered as follows:

1. By highest alarm severity level CR, followed by MJ, followed by MN, followed by ABN, followed by NE_ACTY.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

ntfcncde   Notification code. This is the alarm level active at the network element for which the report is being generated. It can have one of the following values:

        CR   Critical alarm

        MJ   Major alarm

        MN   Minor alarm

        ABN   Abnormal

        NE_ACTY Near End Activity

ocrdat Occurrence date. This indicates the date of the alarm being reported and has the format MM-DD (month-day).

ocrtm Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

tid Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

prodtype Product type. This gives the category of network element for which the report is being generated. It takes one of the following values:

DDM-OC3 This indicates that the reported TID is a DDM-2000 OC-3.

DDM-OC12 This indicates that the reported TID is a DDM-2000 OC-12.

DACS This indicates that the reported TID is a DACS IV-2000.

FTADR48 This indicates that the reported TID is an FT-2000 OC-48 ADR 2-fiber ring terminal.

FTLCT This indicates that the reported TID is an FT-2000 OC-48 4-fiber ring terminal.

OLS This indicates that the reported TID is an Optical Line System End Terminal or Repeater.

FTADR192 This indicates that the reported TID is an FT-2000 OC-192 2-fiber ring terminal.

OT This indicates that the reported TID is an Optical Translator Network Element.

SLC-2000 This indicates that the reported TID is a SLC-2000.

FbrRch This indicates that the reported TID is a Fiber Reach.

? This indicates that the reported TID is unknown or not one of the product types listed above.

lcl_rng Local ring. This indicates whether or not the network element for which report is being generated represents a node in the local ring. It takes the value from the domain {yes,no}.

EXAMPLE INPUT/OUTPUT

```
rtrv-alm-ntwk:LT-PF-2000::123456;


IP 123456
>


   LT-PF-2000 96-06-07.16:42:11
M  123456 COMPLD
   "CR,06-07,16-10-14,abcdefgh1,DDM-OC3,no"
   "CR,06-07,16-26-14,abcdefgh,FTLCT,yes"
   "MJ,06-07,11-26-14,abcdefgh3,FTADR48,yes"
   "MJ,06-07,11-26-14,abcdefgh3-14,FTADR48,yes"
   "MJ,06-07,13-26-14,abcdefgh2,DDM-OC12,no"
   "MN,06-07,16-26-13,abcdefgh4,FTLCT,no"
   "ABN,06-07,16-29-14,abcdefgh5,SLC-2000,no"
   "ABN,06-07,16-29-14,abcdefgh6,FTLCT,no"
   "ABN,06-07,16-29-14,abcdefgh7,OLS,no"
   "ABN,06-07,16-29-14,abcdefgh8,OLS,no"
   "ABN,06-07,16-29-14,abcdefgh9,OT,no"
   "ABN,06-07,16-29-14,abcdefgh10,FTADR192,no"
;
```

ERROR RESPONSES

The network element returns the following error response if alarm reporting is temporarily disabled due to execution of CIT initiated Test-Auto Turnup-System command.

```
   sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed
   The system is temporarily busy, please try later
   */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-MAP-NETWORK

RTRV-FECOM

RTRV-ALM

RTRV-ALM-ENV

NAME

RTRV-ALM-OCHAN: Retrieve Alarm Optical_Channel

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-OCHAN:*tid:[aid]:ctag[::[ntfcncde],,,,,;*

DESCRIPTION

RTRV-ALM_OCHAN commands can be initiated by a user to retrieve active alarms that are facility-related events at the channel level for an OLS terminal. This command retrieves active alarms pertaining to the addressed network element terminal and upstream repeater bays, reported one line per condition, similar to the autonomous messages used to report alarm (REPT ALM OCHAN) conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM OCHAN or REPT ALM ENV message which is active when a **RTRV-ALM-OCHAN** command is received, is included in the **RTRV-ALM-OCHAN** response message.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the entity for which the current conditions are requested.

Entity: Optical Channel

Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B), (OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(ALL, 1-8)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ntfcncde   Notification code. This is the alarm level for which the current alarms are requested, and it may have one of the values: "CR", "MJ" or "MN".

        CR   Critical alarm

        MJ   Major alarm

        MN   Minor alarm

        If the *ntfcncde* is valid, the network element's response to the user is limited to the specified notification code. If no notification code is provided or if the notification code is not valid, the network element's response includes all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned to the OS:

```
   sid date time
M  ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned to the OS:

```
    sid date time
M ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
         .      .      .      .      .      .      .

         .      .      .      .      .      .      .

         .      .      .      .      .      .      .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
    ;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid Access identifier. This is the address of the equipment component, facility, or repeater bay site ID for which an alarm condition is being reported.

aidtype Access identifier type.

OCHAN Channel. This reports a facility-related event at the channel level in OLS.

ntfcncde Notification code. This is the alarm level and has one of the following values:

CR Critical alarm

MJ Major alarm

MN Minor alarm

condtype   Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **OCHAN** *aid* type are:

LOS	Incoming optical channel loss-of-signal
OCHANDTCTD	Incoming optical channel detected
OCHANRMVD	Incoming optical channel removed
T-x	Threshold crossing alert for the indicated monitored parameter (x)

srveff   Service effect (or condition effect). This indicates the effect of the reported alarm on service or the effect of an alarm on the condition of the network element. This parameter has one of the following values:

SA   Service-affecting alarm condition

NSA   Non-service-affecting alarm or status condition

ocrdat   Occurrence date. This indicates the date of the alarm being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr   Condition description (or Alarm message). This is the text description of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

tblislt   Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-alm-ochan:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M   123456 COMPLD
    "ochan-3b,OCHAN,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming optical
channel LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **RTRV-ALM** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-ALM-OLINE: Retrieve Alarm Optical_Line

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-OLINE:*tid*:*[aid]*:*ctag[*::*[ntfcncde],,,,,;*

DESCRIPTION

RTRV-ALM_OLINE commands can be initiated by a user to retrieve active alarms or facility-related events on the optical line. This command retrieves active alarms pertaining to the addressed network element terminal and upstream repeater bays, reported one line per condition, similar to the autonomous messages used to report alarm (REPT ALM OLINE) conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM OLINE or REPT ALM ENV message which is active when a **RTRV-ALM-OLINE** command is received, is included in the **RTRV-ALM-OLINE** response message.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the current conditions are requested. Entity: Optical Line Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ntfcncde   Notification code. This is the alarm level for which the current alarms are requested, and it may have one of the values: "CR", "MJ" or "MN".

CR   Critical alarm

MJ   Major alarm

MN   Minor alarm

If the *ntfcncde* is valid, the network element's response to the user is limited to the specified notification code. If no notification code is provided or if the notification code is not valid, the network element's response includes all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned to the OS:

```
    sid date time
M ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
          .       .       .       .       .       .       .
          .       .       .       .       .       .       .
          .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
    ;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid　　　　Access identifier. This is the address of the equipment component, facility, or repeater bay site ID for which an alarm condition is being reported.

aidtype　　Access identifier type.

　　　　　　OLINE　This reports a facility-related event on the optical line in OLS.

ntfcncde　Notification code. This is the alarm level and has one of the following values:

　　　　　　CR　Critical alarm

　　　　　　MJ　Major alarm

　　　　　　MN　Minor alarm

condtype   Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **OLINE** *aid* type are:

   LOS   Incoming optical line loss-of-signal

srveff   Service effect (or condition effect). This indicates the effect of the reported alarm on service or the effect of an alarm on the condition of the network element. This parameter has one of the following values:

   SA   Service-affecting alarm condition

   NSA   Non-service-affecting alarm or status condition

ocrdat   Occurrence date. This indicates the date of the alarm being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr Condition description (or Alarm message). This is the text description of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

tblislt   Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-alm-oline:LT-OLS:all:123456;


IP 123456
   LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
   "oline-3b,OLINE,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming optical
line LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **RTRV-ALM** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-ALM-SUPR: Retrieve Alarm Supervisory

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ALM-SUPR:*tid*:*[aid]*:*ctag[*::*[ntfcncde],,,,,*;

DESCRIPTION

RTRV-ALM_SUPR commands can be initiated by a user to retrieve active alarms of facility-related events on the supervisory channel in the optical line. This command retrieves active alarms pertaining to the addressed network element terminal and upstream repeater bays, reported one line per condition, similar to the autonomous messages used to report alarm (REPT ALM SUPR) conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM SUPR or REPT ALM ENV message which is active when a **RTRV-ALM-SUPR** command is received, is included in the **RTRV-ALM-SUPR** response message.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the entity for which the current· conditions are requested.

Entity: Supervisory Channel (End Terminals)
Legal Values: (SUPR)-(ALL,1A,2A,3A,4A)

Entity: Supervisory Channel [Repeaters]
Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated back by
the network element in the response to allow association of the command
and response messages. Valid values for *ctag* are strings of up to 6
characters comprised of identifiers and/or decimal numerals (a string of
decimal digits with an optional non-trailing "."). Strings containing both
numbers and letters must begin with a letter.

ntfcncde   Notification code. This is the alarm level for which the current alarms are
requested, and it may have one of the values: "CR", "MJ" or "MN".

    CR   Critical alarm

    MJ   Major alarm

    MN   Minor alarm

If the *ntfcncde* is valid, the network element's response to the user is
limited to the specified notification code. If no notification code is provided or
if the notification code is not valid, the network element's response includes
all alarm conditions.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form
and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no alarm conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are alarm conditions to report, the following output report is returned to the OS:

```
    sid date time
M ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,:
\"conddescr\",,:[,tblislt]"
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component, facility, or repeater bay site ID for which an alarm condition is being reported.

aidtype   Access identifier type.

        SUPR   This reports a facility-related event on the supervisory channel in the optical line in OLS.

ntfcncde   Notification code. This is the alarm level and has one of the following values:

        CR   Critical alarm

        MJ   Major alarm

        MN   Minor alarm

condtype Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **SUPR** *aid* type are:

APSB	DCC APS data error
FAIL	Incoming supervisory channel fail
T-x	Threshold crossing alert for the indicated monitored parameter (x)
T-BERL	Incoming supervisory channel SD/SF

srveff Service effect (or condition effect). This indicates the effect of the reported alarm on service or the effect of an alarm on the condition of the network element. This parameter has one of the following values:

SA   Service-affecting alarm condition

NSA   Non-service-affecting alarm or status condition

ocrdat Occurrence date. This indicates the date of the alarm being reported and has the format MM-DD (month-day).

ocrtm Occurrence time. This indicates the time of the alarm being reported and has the format HH-MM-SS (hours-minutes-seconds).

conddescr Condition description (or Alarm message). This is the text description of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

tblislt Trouble isolated. If a reported condition is isolated to the reported *aid*, the *tblislt* parameter value is ISLTD to indicate that the *aid* identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, this parameter is not reported.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-alm-supr:LT-OLS:all:123456;


IP 123456
   LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
   "supr-3b,SUPR,MJ,LOS,SA,06-07,18-26-14,,:\\"incoming supr chnl
LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If an **RTRV-ALM** command is received with an invalid *aid* value, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-AO: Retrieve Autonomous_Output

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-AO:`tid:[aid]:ctag[:::spec_block];`

DESCRIPTION

RTRV-AO commands can be initiated to request the network element to send copies of autonomous TL1 messages.

The content of the response to the **RTRV-AO** command depends on the OS-type assigned to the access channel, for example, the X.25 virtual circuit (VC), over which the command is received. The output is limited to the autonomous TL1 messages that are assigned to the same OS-type.

The network element saves autonomous TL1 messages in a separate file for each OS-type, thus the response to a **RTRV-AO** command is retrieved from the file for the *same OS-type only* that the **RTRV-AO** command came in on.

The copies of autonomous TL1 messages available for retrieval include those actually reported to the user as well as those that may not have reached the user due to external (for example, X.25 failures) or internal (for example, autonomous TL1 message output buffer overflow, no current login for the OS-type, or inhibited autonomous TL1 message reporting) conditions.

The network element saves a copy of each autonomous TL1 message to which an `atag` value is assigned per OS-type.

Whenever the `atag` sequence is reset for an OS-type, for example, due to system initialization or processor reset, the **RTRV-AO** log file for that OS-type is cleared.

The network element saves copies of the 50 most recent autonomous TL1 messages for the *memory administration* OS-type.

The network element saves copies of the 50 most recent autonomous TL1 messages for the *other* OS-type.

The network element saves copies of the 40 most recent autonomous TL1 messages for the *maintenance* OS-type.

The network element saves copies of the 50 most recent autonomous TL1 messages for the *restoration* OS-type.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

                  [A-Z][a-z][0-9].+-%#

aid   Access identifier. Because the **RTRV-AO** log file is not filtered by *aid*, the *aid* value must be "ALL" or omitted. If this parameter is omitted, **ALL** is assumed.

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

spec_block   Specific block. Parameters included within the specific block are positionally independent and are specified using a name-defined construct of: PARAMETER=*value*. The specific block may have one, both or none of the following parameters specified within it in a comma-separated list. Furthermore, each parameter listed below can appear at most once within the specific block for a single **RTRV-AO** command. The use of the word "null" in the descriptions below imply that the parameter does not appear or appears with no value (for example, **ATAGSEQ=**, or **MSGTYPE=**) in the command. The parameters are listed in alphabetic order.

                  ATAGSEQ   Automatic tag sequence. This is the three-digit *atag* value of the autonomous TL1 messages requested. For example, "**ATAGSEQ=010**" specifies single *atag* value "010".

                  Two *atag* values may be specified by using an "**&**" (ampersand), for example, "**ATAGSEQ=010&020**" specifies *atag* values "010" and "020".

                  A range of *atag* values may be specified by using "**&&**" (double ampersands), for example, "**ATAGSEQ=010&&020**" specifies *atag* values "010, 011, 012, ..., 020".

                  The network element's response to "**ATAGSEQ=001&&001**" is the same as for "**ATAGSEQ=001**" (or "**ATAGSEQ=001&001**"), that is, to retrieve just *one* copy of the autonomous TL1 message with *atag* "001".

A wrap-around range of *atag* values may also be specified by
using "**&&**" (double ampersands), for example,
"**ATAGSEQ=998&&2**" specifies *atag* values "998, 999, 000, 001
and 002".

The network element's support of wrap-around ranges indicates
that the order of input of *atag* values in ranges is significant.

Combinations of single ampersands (**&**) and double ampersands
(**&&**) are not allowed in the same **ATAGSEQ** parameter
specification.

If multiple or a range of *atag* values are specified by
ATAGSEQ, but *some* of the *atag* values are not available in the
network element's **RTRV-AO** log file, the network element
responds with the *atag* values that *are* available within the
specified **ATAGSEQ**. If no **ATAGSEQ** is specified (null), the
response is not limited based on *atag* value.

MSGTYPE   Message type. This is the type of autonomous messages
requested. This parameter may be null or have one of the
following values: "ALM", "COND", "EVENT", "DBCHG", or
"SW".

ALM	Report Alarm (including Report Alarm Environment)
COND	Report Condition
EVENT	Report Event
DBCHG	Report Database Change
SW	Report Switch

For example, **MSGTYPE=DBCHG** requests all REPT DBCHG
autonomous messages.

If no **MSGTYPE** is specified (null), the response is not limited by
the type of autonomous messages.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: ATAGSEQ can be 1) blank (don't filter on ATAG); 2) a number between 0 and 999 (provide output for specified ATAG); 3) 2 numbers between 0 and 999 separated by an ampersand (&) (provide output for 2 specified ATAGs); or 4) 2 numbers between 0 and 999 separated by two ampersands (&&) (provide output for specified range of ATAGs).

OUTPUT FORMAT

If there are no autonomous messages to report, the following response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the input **ATAGSEQ** *atag* or **MSGTYPE** values do not match any *atag* values or message types, respectively, in the network element's **RTRV-AO** log file, or if the **MSGTYPE** value does not match the TL1 autonomous message types provisioned for the OS-types of the current login session, the network element provides a normal completion response.

If there are autonomous messages to report, the following output report is returned:

```
   sid date time
M  ctag COMPLD
/*
complete autonomous messages except without the termination indicator (";")
*/
;
```

If there is more than one autonomous message to report, the autonomous messages are output in ascending (chronological) order by their *atag* values. The *order* of output is independent of the *order* of input of the **ATAGSEQ** *atag* values.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
RTRV-AO:LT-OLS::123456:::ATAGSEQ=11&012;


IP 123456
<


   LT-OLS 96-08-18 16:42:11
M  123456 COMPLD
/*
   LT-OLS 94-08-18 10:30:02
*  011 REPT EVT OCHNL
   "ochnl-1a:SNRSD,SC,10-25,10-30-00:\"TG3 failure\":,ISLTD"
   LT-OLS 94-08-18 10:30:03
A  012 REPT SW
   "tg-1,tg-2"
*/
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **RTRV-AO** command, also.

If the network element receives a **RTRV-AO** command with a non-null command code modifier [including any extra hyphens (-)], the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives a **RTRV-AO** command with an extra hyphen (-), the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, Network Element does not support
    command = xxxxxxxxxxxxxxxx */
;
```

where *xxxxxxxxxxxxxxxx* is the first 16 characters, or up to the end-of-message semicolon (;) if less than 16 characters, of the command received.

If the network element receives a **RTRV-AO** command with a non-null command code
modifier, the following error response is returned:

```
     sid date time
 M   ctag DENY
     ICNV
     /* Input, Command Not Valid, invalid modifier */
 ;
```

If the network element receives a **RTRV-AO** command with an invalid *aid* value (that is,
anything other than **all** or null), the following error response is returned:

```
     sid date time
 M   ctag DENY
     IIAC
     /* Input, Invalid Access Identifier */
 ;
```

If the network element receives a **RTRV-AO** command with the same parameter specified more than once, the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation, parameter(s) multiply
defined */
;
```

If the network element receives a **RTRV-AO** command with an invalid **ATAGSEQ** value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid ATAGSEQ */
;
```

If the network element receives a **RTRV-AO** command with an invalid **MSGTYPE** value, (that is, an autonomous TL1 message type that the network element doesn't support), the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MSGTYPE */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

REPT ALM

REPT ALM ENV

REPT COND

REPT DBCHG

REPT EVT

REPT SW

NAME

RTRV-ATTR-ALL: Retrieve Attribute All

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ATTR-ALL:*tid*:*aid*:*ctag*[::,,,,];

DESCRIPTION

The **RTRV-ATTR-ALL** command instructs a network element to retrieve the notification code associated with all supervisory channel failure events.

This attribute also governs whether the event notification is alarmed (reported via REPT ALM) or not alarmed (reported via REPT EVT). A no-report option is also available.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the facility for which the attributes are requested. This parameter must be set to **all** for the **RTRV-ATTR-ALL** command.

Entity: All
Legal Values: (ALL)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no attributes to report, the following normal completion response is returned:

```
   sid date time
M  ctag COMPLD
;
```

If there are attributes to report, the following output report is returned:

```
   sid date time
M  ctag COMPLD
   "aid,aidtype:ntfcncde,,locn,dirn"
           .        .        .        .
           .        .        .        .
           .        .        .        .
   "aid,aidtype:ntfcncde,,locn,dirn"
;
```

▭▷ **NOTE:**
    Output lines are sorted by *aid*.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. The remainder of the output parameters are described below.

aid   Access identifier. This is the address of the facility for which the attribute is reported.

aidtype   Access identifier type.

      SUPR   This reports attributes for the supervisory channel.

ntfcncde   Notification code. This is the alarm level associated with the addressed facility. This parameter has one of the following values:

      CR   Critical alarm

      MJ   Major alarm

      MN   Minor alarm

      NA   Not alarmed

      NR   Not reported

      NO   Not indicated (Only valid for the **SUPR** *aidtype*.)

locn   Location. This parameter always has the value NEND.

dirn   Direction. This parameter always has the value RCV.

EXAMPLE INPUT/OUTPUT

The following is an OLS example of retrieving all supervisory channel attributes for an OLS Repeater:

```
RTRV-ATTR-ALL:OLS-2000::123456;


IP 123456
<


   LT-FT-2000 93-10-26 16:42:11
M  123456 COMPLD
   "supr-1a,SUPR:CR,,NEND,RCV"
   "supr-1b,SUPR:CR,,NEND,RCV"
   "supr-2a,SUPR:CR,,NEND,RCV"
   "supr-2b,SUPR:CR,,NEND,RCV"
   "supr-3a,SUPR:CR,,NEND,RCV"
   "supr-3b,SUPR:CR,,NEND,RCV"
   "supr-4a,SUPR:CR,,NEND,RCV"
   "supr-4b,SUPR:CR,,NEND,RCV"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **RTRV-ATTR-ALL** command.

If the network element receives a **RTRV-ATTR** command with an invalid command modifier, the following error response is returned:

```
   sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives a **RTRV-ATTR** command with an invalid *aid* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

SET-ATTR-ALL

ENT-EC1

ENT-OC3

ENT-T3

RTRV-EC1

RTRV-OC3

RTRV-T3

NAME

RTRV-ATTR-ALM: Retrieve Attribute Alarm

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ATTR-ALM:*tid*::*ctag;*

DESCRIPTION

The **RTRV-ATTR-ALM** command can be initiated by general users to retrieve the values that have been set for incoming signal alarm delay (almdel), the alarm clear delay interval (clrdel). These parameters are explained in more detail below.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **RTRV-ATTR-ALM** request, the following normal completion response is returned:

```
    sid date time
 M  ctag COMPLD
    "almdel=AlarmDelay","clrdel=ClearDelay"

 ;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

almdel   is the value of the AlarmDelay (incoming signal alarm delay) parameter in seconds. It represents the time that the netwrk element will wait, after it finds an incoming signal condition, before reporting it.

clrdel   is the value of the ClearDelay (alarm clear delay) parameter in seconds. It represents the time the network element will wait after a condition clears before reporting the changed condition.

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-ATTR-ALM** command for a PF-2000 system where the AlarmDelay parameter has been provisioned to 11 seconds; the ClearDelay parameter has been provisioned to 9 seconds:

```
RTRV-ATTR-ALM:LT-PF-2000::123456;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
    "almdel=11", "clrdel=9"
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

SET-ATTR-ALM

NAME

RTRV-ATTR-CONT: Retrieve Attribute Control

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ATTR-CONT:*tid:aid:ctag[:[:[:]]]*;

DESCRIPTION

The **RTRV-ATTR-CONT** command can be executed to retrieve the provisioned description(s) associated with an external control device or devices. These descriptions are used for information purposes when a user seeks to operate or release external miscellaneous discrete controls. For example, the user may want to verify that aid=CONT-1 is associated with a fan (and not a sprinkler) before operating it.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. The *aid* identifies the external miscellaneous discrete control for which attributes are being retrieved. An *aid* value must be provided. Entity: Point (Control) Legal Values: (CONT)-(ALL, 1-36)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **RTRV-ATTR-CONT** request, the following normal completion response is returned.

```
    sid date time
 M  ctag COMPLD
    "aid:\"conttype\""
            .    .    .    .
            .    .    .    .
            .    .    .    .
    "aid:\"conttype\""
 ;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Parameters that specifically apply to this command response are defined below.

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access Identifier. The aid identifies the external control for which the provisioned names are being retrieved. When the input *aid* is equal to CONT-ALL, the output is sorted by *aid*, with CONT-1 and its description printed first and CONT-2 second, etc.
conttype	Control Type. The control type is the user provisioned description for the control identified by the aid. The description is enclosed with a pair of escaped quotes (\").

EXAMPLE OUTPUT

The following example shows a **RTRV-ATTR-CONT** command to retrieve all the provisioned names for miscellaneous discrete controls for a PF-2000 system:

```
RTRV-ATTR-CONT:LT-PF-2000:CONT-ALL:123456::;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
    "cont-1:\"startPump\""
    "cont-2:\"startGenerator\""
    "cont-3:\"startlights\""
    "cont-4:\"control4\""
;
```

The following example shows a **RTRV-ATTR-CONT** command to retrieve the description of the first miscellaneous discrete control for a PF-2000 system:

```
RTRV-ATTR-CONTR:LT-PF-2000:CONT-1:123456::;


IP 123456
<


    LT-FT-2000 93-10-26 16:42:11
M   123456 COMPLD
    "cont-1:\"startpump\""
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If a **RTRV-ATTR-CONT** command is received with an invalid (or missing) access identifier, the following error response is returned:

```
    sid date time
M   ctag DENY
   IIAC
   /* Input, Invalid Access Identifier, AID missing or
      inconsistent with modifier value */
;
```

RELATED TL1 COMMANDS/MESSAGES

SET-ATTR-CONT

NAME

RTRV-ATTR-ENV: Retrieve Attribute Environment

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ATTR-ENV:*tid:aid:ctag[::,];*

DESCRIPTION

This command can be initiated to retrieve the alarm level and description parameters for each selected miscellaneous discrete environmental input point.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the environmental points for which attributes are requested. A value is required for this parameter. Entity: Point (Environmental)

Legal Values: (ENV)-(ALL, 1-144)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the retrieve attribute environment request, the following normal completion response is returned:

```
     sid date time
  M  ctag COMPLD
     "aid:ntfcncde,\"almmsg\""
                 .        .        .        .
                 .        .        .        .
                 .        .        .        .
     "aid:ntfcncde,\"almmsg\""
  ;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. The remainder of the output parameters are described below.

aid   Access identifier. This is the address of the environmental point for which the attributes are reported.

ntfcncde   Notification code. This is the alarm level associated with the addressed environmental point, and has one of the following values:

        CR   Critical alarm

        MJ   Major alarm

        MN   Minor alarm

        NA   Not alarmed

        NR   Not reported

almmsg   Alarm message. This is the condition description associated with the addressed environmental point. The description is an alphanumeric string, upper-case and lower-case characters (spaces are allowed), up to 26 characters. The description is enclosed within a pair of escaped quotes (\").

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-ATTR-ENV** command to retrieve the tenth miscellaneous discrete environment parameter for a FT-2000 system:

```
RTRV-ATTR-ENV:LT-FT-2000:env-10:123456;



IP 123456
<



    LT-FT-2000 93-10-26 16:42:11
M   123456 COMPLD
    "env-10:MJ,\"environment 10\""

;
```

The following example shows a **RTRV-ATTR-ENV** command to retrieve all of the miscellaneous discrete environment parameters for a FT-2000 system:

```
RTRV-ATTR-ENV:LT-FT-2000:env-all:123456;



IP 123456
<



    LT-FT-2000 93-10-26 16:42:11
M   123456 COMPLD
    "env-1:NA,\"open door\""
    "env-2:MN,\"high water\""
    "env-3:MN,\"high temperature\""
    "env-4:NA,\"generator started\""
    "env-5:CR,\"battery low\""
    "env-6:MJ,\"environment 6\""
    "env-7:NR,\"environment 7\""
    "env-8:MJ,\"environment 8\""
    "env-9:MJ,\"environment 9\""
    "env-10:MJ,\"environment 10\""
    "env-11:MJ,\"environment 11\""
    "env-12:MJ,\"environment 12\""
    "env-13:MJ,\"environment 13\""
    "env-14:MJ,\"environment 14\""
    "env-15:MJ,\"environment 15\""
    "env-16:MJ,\"environment 16\""

;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **RTRV-ATTR-ENV** command, also.

If the network element receives a **RTRV-ATTR** command with an invalid command modifier, the following error response is returned:

```
    sid date time
 M  ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
 ;
```

If the network element receives an **RTRV-ATTR-ENV** command with an invalid or missing *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
       inconsistent with modifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

SET-ATTR-ENV

NAME

RTRV-ATTR-SUPR: Retrieve Attribute Supervisory

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-ATTR-SUPR:*tid*:*[aid]*:*ctag*[::,,,,];

DESCRIPTION

The **RTRV-ATTR-SUPR** command instructs a network element to retrieve the notification code associated with the selected supervisory channel failure events. This attribute also governs whether the event notification is alarmed (reported via REPT ALM) or not alarmed (reported via REPT EVT). A no-report option is also available.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the port(s) for which the attributes are requested. In addition to the values listed below, the *aid* value may be omitted. If omitted, it is interpreted as **all**).

Entity: Supervisory Channel (End Terminals)
Legal Values: (SUPR)-(ALL,1A,2A,3A,4A)

Entity: Supervisory Channel [Repeaters]
Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no attributes to report, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If there are attributes to report, the following output report is returned:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:ntfcncde,,locn,dirn"
            .       .       .       .
            .       .       .       .
            .       .       .       .
    "aid,aidtype:ntfcncde,,locn,dirn"
;
```

⇒ **NOTE:**
   Output lines are sorted by *aid*.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the
OUTPUT PARAMETERS section for **RTRV-HDR**. The remainder of the output parameters
are described below.

aid Access identifier. This is the address of the facility for which the attribute is
   reported.

aidtype Access identifier type.

   SUPR This reports attributes for the supervisory channel.

ntfcncde Notification code. This is the alarm level associated with the addressed facility.
   This parameter has one of the following values:

   CR Critical alarm

   MJ Major alarm

   MN Minor alarm

   NA Not alarmed

   NR Not reported

   NO Not indicated

locn Location. This parameter always has the value NEND.

dirn Direction. This parameter always has the value RCV.

EXAMPLE INPUT/OUTPUT

The following is an OLS example of retrieving supervisory channel attributes from
supervisory channel 1a:

```
RTRV-ATTR-SUPR:OLS-2000:supr-1a:123456;


IP 123456
<


   LT-FT-2000 93-10-26 16:42:11
M  123456 COMPLD
   "supr-1a,SUPR:CR,,NEND,RCV"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **RTRV-ATTR-SUPR** command, also.

If the network element receives a **RTRV-ATTR** command with an invalid command modifier, the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives a **RTRV-ATTR** command with an invalid *aid* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

SET-ATTR-SUPR

NAME

RTRV-BASELINE: Retrieve Baseline

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available beginning in OLS Release 2.0.

INPUT FORMAT

RTRV-BASELINE:*tid*::*ctag*;

DESCRIPTION

This command is initiated by an user to request the network element to send the time and the reason for last baseline of the optical parameters of optical lines and the constituent optical channels through an **INIT-REG-OLINE** command. The baseline data reported will contain information for all IS optical channels and optical lines.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

             [A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

After receiving a valid **RTRV-BASELINE** command, the following output message is returned:

```
    sid date time
 M  ctag COMPLD
    "aid:time,baseline"
                .           .
                .           .
                .           .
    "aid:time,baseline"
 ;
```

Applicable output lines are ordered as follows:

1. By *aid* in following order of IS optical lines (1a,1b,2a,2b,3a,3b,4a,4b)

If there is no data to return for the given valid **RTRV-BASELINE** command, the following message is returned:

```
    sid date time
 M  ctag COMPLD
 ;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the OUTPUT PARAMETERS section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid	Access identifier. This is the address of the IS optical line for which the BASELINE data is being reported. Baselining PM parameters of optical line imply baselining of PM parameters of the IS optical channels.
time	Time of Baseline. This is the time when baselining occurs in response to a valid **INIT-REG-OLINE** command. The format is "mm-dd-yy hh:mm".
baseline	Reason of baseline. The Reason of baseline includes the provisioned string from **INIT-REG-OLINE** command concatenated with the address of the entity which caused it.

EXAMPLE INPUT/OUTPUT

In the following example, the command returns baseline report for optical lines 1a, 1b, 2a, 2b.

```
rtrv-baseline:LT-OLS::314152;


IP 314152
>


   LT-PF-2000 91-10-26 17:12:31
M  314152 COMPLD
   "oline-1a:01-01-96 00:17,OCHAN_dropped:ochan-1a-1"
   "oline-1b:01-01-96 00:17,OCHAN_dropped:ochan-1b-1"
   "oline-2a:01-01-96 00:17,OA_replaced:oline-2a"
   "oline-2b:01-01-96 00:17,OA_replaced:oline-2b"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

INIT-REG-OLINE

NAME

RTRV-CID-SECU: Retrieve Channel_IDentifier Security

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-CID-SECU:*tid:aid:ctag;*

DESCRIPTION

The **RTRV-CID-SECU** command can be initiated by users to retrieve the current CIT or TL1 port provisioning like, port status, timeout, port type or OS type information. Also this command gives the users currently logged on the network element.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This parameter specifies the port address for which the user wants to retrieve information.
	Entity: Port (COM)
	Legal Values: (ALL, DCE, DTE, DCC, X25, SER_TLM1)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **RTRV-CID-SECU** request, the following normal completion response is returned.

```
    sid date time
M   ctag COMPLD
    "aid:spec_block"
            .    .    .
            .    .    .
            .    .    .
    "aid:spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

aid   The *aid* is a port address.

spec_block   Specific block. Parameters within the specific block are positionally independent and are using a construct such as: PARAMETER=*value* in a comma-separated list. The specific block may have zero or more of the following parameters set within it. A parameter will not be displayed if it has no value. Furthermore, each parameter listed below may appear at most once within the specific block.

TMOUT   This parameter sets the time out interval for the DCE, DTE, and DCC ports. It has an integer value in the range 0-999 minutes. A value of 0 disables the time out mechanism. When a null value is provided, TMOUT is unchanged. For other ports, this parameter is reported as 'blank'.

PORTSTAT This parameter gives the port status as provisioned. This parameter is reported for the DTE, DCE, Virtual channel 0 (vc-0) of DCC port, and the ser-tlm1 port.

PORTTYPE This parameter gives the port type and has a value **cit** or **tl1**. This parameter is reported only for the DTE port, DCE port and the virtual channel 0 (vc-0) of DCC port.

BAUDRATE This parameter gives the baud rate of the DTE port or DCE port as provisioned.

The BAUDRATE for DCC port is always reported as blank.

The BAUDRATE for x25 PVCs is always reported as blank.

CHAN This parameter lists the permanent virtual channels (pvc-{1-2}) and the table entries from the calling address table for switched virtual channels (tbl-{1-16}) of X.25 port. It also lists the virtual channels (vc-{0-8}) for the DCC port.

This parameter is reported as 'blank' for 'dce' and 'dte' ports.

OSTYPE This parameter gives the OS type for the virtual circuit of the X.25 port and the virtual channel (1-8) of DCC.

CALLADDR This parameter gives the calling address of the OS/user on the **svc** of the X.25 port.

The calling address for all other ports(and associated virtual channels) is always reported as a blank.

GNETID This parameter gives the tid of the gateway network element (GNE) for DCC virtual channels, vc 1-8.

For all other entries, this parameter is reported as blank.

UID This parameter gives the user ID of the user currently logged in the system.

If no user is currently logged in at the time of the report, this parameter is reported as a 'blank'.

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-CID-SECU** command for {aid=all}:

```
RTRV-CID-SECU:LT-PF-2000:all:123456;



IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "dce:TMOUT=25,PORTSTAT=enabled,PORTTYPE=cit,BAUDRATE=auto,UID=lt1"
   "dte:TMOUT=10,PORTSTAT=enabled,PORTTYPE=tl1,BAUDRATE=9600,UID=lt2"
   "dcc:CHAN=vc_0,TMOUT=15,PORTSTAT=enabled,PORTTYPE=cit,UID=lt3"
   "dcc:CHAN=vc_1,OSTYPE=ma,GNETID=another.gid1,UID=lt1"
   "dcc:CHAN=vc_2,OSTYPE=cmdr,GNETID=another.gid2,UID=lt2"
   "dcc:CHAN=vc_3,OSTYPE=rst,GNETID=another.gid3,UID=lt3"
   "dcc:CHAN=vc_4"
   "dcc:CHAN=vc_5"
   "dcc:CHAN=vc_6"
   "dcc:CHAN=vc_7"
   "dcc:CHAN=vc_8"
   "x25:CHAN=pvc_1,OSTYPE=mt,UID=NMA01"
   "x25:CHAN=pvc_2,OSTYPE=cmdr"
   "x25:CHAN=svc_1,OSTYPE=rst,CALLADDR=19089188888,UID=lt3"
   "x25:CHAN=svc_2"
   "x25:CHAN=svc_3"
   "x25:CHAN=svc_4"
   "x25:CHAN=svc_5"
   "x25:CHAN=svc_6"
   "x25:CHAN=tbl_1,OSTYPE=cmdr,CALLADDR=19089188888,UID=lt3"
   "x25:CHAN=tbl_2"
   "x25:CHAN=tbl_3"
   "x25:CHAN=tbl_4"
   "x25:CHAN=tbl_5"
   "x25:CHAN=tbl_6"
   "x25:CHAN=tbl_7"
   "x25:CHAN=tbl_8"
   "x25:CHAN=tbl_9"
   "x25:CHAN=tbl_10"
   "x25:CHAN=tbl_11"
   "x25:CHAN=tbl_12"
   "x25:CHAN=tbl_13"
   "x25:CHAN=tbl_14"
   "x25:CHAN=tbl_15"
   "x25:CHAN=tbl_16"
   "Ser_tlm1:PORTSTAT=enabled"
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. If the command is received with an invalid aid, the following error response is returned:

```
    sid date time
 M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-CMS: Retrieve Customer_Maintenance_Signal

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-CMS:*tid:aid:ctag[:type]*;

DESCRIPTION

RTRV-CMS command messages can be initiated by an user to retrieve the current provisioned state and current state of the Customer Maintenance Signal (CMS) port. This command retrieves all CMS port parameter settings that are provisionable via **ENT-CMS** commands pertaining to the addressed OLS, reported one line per CMS port.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the report is requested.
	Entity: CMS Port [End Terminals] Legal Values: (CMS)-(ALL,1A,2A,3A,4A)
	Entity: CMS Port [Repeaters] Legal Values: (CMS)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
type	Type. A value for this parameter is neither expected nor allowed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

Because the network element supports pre-provisioning of parameters, lines are included for all applicable *aid* values in response to this command, whether or not the present equipage is capable of supporting the type of facility specified.

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here **only** for the convenience of the reader.

In response to a valid **RTRV-CMS** command, the following output report is returned, sorted on CMS port data by the *cms_aid* value.

```
    sid date time
M  ctag COMPLD
    "cms_aid:::[level,]ntfcncde,sdthr:,sst"
    "cms_aid:::[level,]ntfcncde,sdthr:,sst"
            .        .        .
            .        .        .
            .        .        .
    "cms_aid:::[level,]ntfcncde,sdthr:,sst"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

cms_aid   CMS access identifier. This is the CMS port address for which output is being reported.

level

Signal level. This parameter is the signal level type being supported by the CMS port or supervisory channel specified in the addressed slot (if equipped). If equipped, the *level* parameter is reported in LEVEL=*xx* format where *xx* has the following value:

OC3   This specifies that the CMS port signal or the supervisory channel is OC3 level.

No *level* value is reported for unequipped slots.

ntfcncde

Notification code. This parameter is the alarm level provisioned for failures of facilities serviced by the addressed CMS port. The *ntfcncde* parameter is reported in NTFCNCDE=*xx* format where *xx* has one of the following values:

CR   Critical

MJ   Major

MN   Minor

NA   Not alarmed

NR   Not reported (No autonomous report will be generated.)

NO   Ignored (No autonomous or on-demand report will be generated.)

sdthr

Signal degrade threshold. This parameter is the signal degrade Bit Error Rate (BER) threshold for the facility serviced by the addressed CMS port. The *sdthr* parameter for CMS port is always reported as SDTHR=-6.

sst

Secondary state. This parameter reports the current secondary state of the addressed CMS port. The *sst* will have one of the secondary states supported by OLS.

The CMS port secondary state will have one of the following values:

IS   In service. This specifies that the CMS port addressed by *cms_aid* is in the in service state in the *mux* (from the customer toward the optical line) direction.

OOS-MA-AS   Out of service, memory administration, assigned. This specifies that the CMS port addressed by *cms_aid* is in the OLS"AUTO" state and will transition to in-service upon detection of a valid incoming customer maintenance signal in the *mux* (from the customer toward the optical line) direction.

OOS   Out of service. This specifies that the CMS port addressed
             by *cms_aid* is in the OLS "NMON" state in the *mux* (from the
             customer toward the optical line) direction.

RDNA   Requested data not available. If the requested *sst* data for
             the addressed CMS port is corrupted, this value is reported.

EXAMPLE INPUT/OUTPUT

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here
only for the convenience of the reader.

The example below shows the response to a query concerning all CMS ports associated
with all optical lines (cms-all) for an OLS repeater.

```
rtrv-cms:LT-OLS:cms-all:123456;


IP 123456
<


   LT-OLS 93-10-26 16:42:11
M  123456 COMPLD
   "cms-1a:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,IS"
   "cms-1b:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,IS"
   "cms-2a:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,IS"
   "cms-2b:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,IS"
   "cms-3a:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,IS"
   "cms-3b:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,IS"
   "cms-4a:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,OOS-MA-AS"
   "cms-4b:::LEVEL=OC3,NTFCNCDE=MN,SDTHR=-6:,OOS-MA-AS"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives this command with any extra (beyond the input format specification above) null or non-null command parameter blocks (:), parameters (,), or termination characters (;), the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
;
```

If the network element receives a **RTRV** command without an *aid* value or with an *aid* value that is invalid for this command, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
       with modifier value */
;
```

If the network element receives this command with an invalid *type* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    INUP
    /* Input, Non-null Unimplemented Parameter, TYPE must be null */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-CMS

REPT SW

NAME

RTRV-COND-ALL: Retrieve Condition All

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-COND-ALL:*tid*:*[aid]*:*ctag*::,,,;

DESCRIPTION

RTRV-COND-ALL commands can be initiated by an OS or OS users to retrieve the current state of the network element circuit pack slots and facilities. This command retrieves all active alarms and status ("non-alarmed" and "non-reported") conditions pertaining to the addressed network element, reported one line per condition, similar to the autonomous messages used to report alarm and non-alarmed conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM or REPT ALM ENV message which is active; and any status condition reported by an autonomous REPT EVT message with *condeff*=SC (standing condition), which is active when a **RTRV-COND-ALL** message is received, is included in the **RTRV-COND-ALL** response message. Conditions provisioned with an alarm level of NR (not reported) are also included in the report even though they are not included in any REPT EVT autonomous messages.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

               [A-Z][a-z][0-9].+-%#

aid   Access identifier. If provided at all, the *aid* for this command must be "ALL". If not provided, the value of "ALL" is assumed.

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no status conditions to report, the following message is returned to the OS:

```
   sid date time
M  ctag COMPLD
;
```

If there are status conditions to report, the following output report is returned to the OS:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
          .       .      .       .       .       .       .
          .       .      .       .       .       .       .
          .       .      .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN, followed by NA, followed by NR.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component or facility for which a status condition is being reported.

aidtype   Access identifier type. This has one of the following values:

COM   Common. This reports a condition that is not an equipment or facility condition but applies to the network element as a whole.

OCHAN   Channel. This reports a facility-related event at the channel level in OLS.

CMS   CMS is the incoming customer maintenance signal. This reports a facility-related event on the CMS part of the telemetry pack.

EQPT   This reports an equipment-related condition.

OLINE   This reports a facility-related event on the optical line in OLS.

SUPR   This reports a facility-related event on the supervisory channel in the optical line in OLS.

ntfcncde　Notification code. This is the alarm level and has one of the following values:

　　　　　CR　Critical

　　　　　MJ　Major

　　　　　MN　Minor

　　　　　NA　Not alarmed

　　　　　NR　Not reported

condtype　Condition type. This is the type of the condition. There are several types of conditions.

　　　　　The values for this parameter can be found in the various **RTRV-COND** command pages associated with the *aidtype* output in the message. For example, condition types associated with the **COM** *aidtype* are listed in the **RTRV-COND-COM** command page.

srveff　Service effect (or Condition effect). This indicates the effect of the reported condition on service. This parameter has one of the following values:

　　　　　SA　Service-affecting alarm condition.

　　　　　NSA　Non-service-affecting alarm or status condition.

ocrdat　Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm　Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn　Location. The location field will always be empty for the network element **RTRV-COND** responses.

dirn　Direction. The direction field will always be empty for the network element **RTRV-COND** responses.

tmper　Time period. The time period field will always be null for the network element **RTRV-COND** responses.

conddescr　Condition description (or Alarm message). This is the text description [enclosed within a pair of escaped quotes (\")] of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-cond-all:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M   123456 COMPLD
    "oline-3b,OLINE,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming optical
line LOS\\",,:"
    "dccsupr-2b,COM,MN,EOC,NSA,06-07,18-26-14,,:\\"inc. (from Supr)
DCC failure\\",,:"
;
```

ERROR RESPONSES

Refer to the non-message-specific error responses listed in the **RTRV-HDR** error responses.

RTRV-COND messages and a valid *ctag* is recognized, FT-2000 responds with **all** active status conditions.

If the network element receives a **RTRV-COND** command with a non-null invalid command modifier, the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If an **RTRV-COND** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-COND-CMS: Retrieve Condition Customer_Maintenance_Signal

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-COND-CMS:*tid:[aid]:ctag::,,,;*

DESCRIPTION

RTRV-COND-CMS commands can be initiated by an OS or OS users to retrieve status conditions of facility-related events on the CMS part of the telemetry pack [OC3 format]. This command retrieves all active alarms and status ("non-alarmed" and "non-reported") conditions pertaining to the addressed network element, reported one line per condition, similar to the autonomous messages used to report alarm and non-alarmed conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM CMS or REPT ALM ENV message which is active; and any status condition reported by an autonomous REPT EVT message with *condeff=SC* (standing condition), which is active when a **RTRV-COND-CMS** message is received, is included in the **RTRV-COND-CMS** response message. Conditions provisioned with an alarm level of NR (not reported) are also included in the report even though they are not included in any REPT EVT autonomous messages.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the current conditions are requested.
	Entity: CMS Port [End Terminals] Legal Values: (CMS)-(ALL,1A,2A,3A,4A)
	Entity: CMS Port [Repeaters] Legal Values: (CMS)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6

characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no status conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are status conditions to report, the following output report is returned to the OS:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
              .        .        .        .        .        .        .
              .        .        .        .        .        .        .
              .        .        .        .        .        .        .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN, followed by NA, followed by NR.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component or facility for which a status condition is being reported.

aidtype   Access identifier type.

        CMS   CMS is the incoming customer maintenance signal. This reports a facility-related event on the CMS part of the telemetry pack.

ntfcncde   Notification code. This is the alarm level and has one of the following values:

        CR   Critical

        MJ   Major

        MN   Minor

        NA   Not alarmed

        NR   Not reported

condtype   Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **CMS** *aid* type are:

        LOF   Incoming customer signal loss-of-frame

        LOS   Incoming customer signal loss-of-signal

        T-BERL   Incoming customer signal SD/SF

srveff   Service effect (or Condition effect). This indicates the effect of the reported condition on service. This parameter has one of the following values:

        SA   Service-affecting alarm condition.

        NSA Non-service-affecting alarm or status condition.

ocrdat   Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn   Location. The location field will always be empty for the network element **RTRV-COND** responses.

dirn   Direction. The direction field will always be empty for the network element **RTRV-COND** responses.

tmper   Time period. The time period field will always be null for the network element **RTRV-COND** responses.

conddescr   Condition description (or Alarm message). This is the text description [enclosed within a pair of escaped quotes (\")] of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-cond-cms:LT-OLS:all:123456;


IP 123456
   LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
   "cms-3b,CMS,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming CMS LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the non-message-specific error responses listed in the **RTRV-HDR** error responses.

RTRV-COND messages and a valid *ctag* is recognized, FT-2000 responds with **all** active status conditions.

If the network element receives a **RTRV-COND** command with a non-null invalid command modifier, the following error response is returned:

```
   sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, invalid modifier */
;
```

If an **RTRV-COND** command is received with an invalid *aid* value, the following error
response is returned:

```
     sid date time
 M   ctag DENY
     IIAC
     /* Input, Invalid Access Identifier, AID is missing, wrong or
 inconsistent with modifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-COND-COM: Retrieve Condition Common

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-COND-COM:*tid*:*[aid]*:*ctag*::*,,,*;

DESCRIPTION

RTRV-COND-COM commands can be initiated by an OS or OS users to retrieve all status conditions that are not specifically equipment- or facility-related conditions but apply to the network element as a whole. This command retrieves all active alarms and status ("non-alarmed" and "non-reported") conditions pertaining to the addressed network element, reported one line per condition, similar to the autonomous messages used to report alarm and non-alarmed conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM COM or REPT ALM ENV message which is active; and any status condition reported by an autonomous REPT EVT message with *condeff=SC* (standing condition), which is active when a **RTRV-COND-COM** message is received, is included in the **RTRV-COND-COM** response message. Conditions provisioned with an alarm level of NR (not reported) are also included in the report even though they are not included in any REPT EVT autonomous messages.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

              [A-Z][a-z][0-9].+-%#

aid   Access identifier. If the null value is specified in this parameter, this parameter becomes "COM".

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no status conditions to report, the following message is returned to the OS:

```
   sid date time
M  ctag COMPLD
;
```

If there are status conditions to report, the following output report is returned to the OS:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN, followed by NA, followed by NR.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component or facility for which a status condition is being reported.

aidtype   Access identifier type.

      COM   Common. This reports a condition that is not an equipment or facility condition but applies to the network element as a whole.

ntfcncde   Notification code. This is the alarm level and has one of the following values:

CR   Critical

MJ   Major

MN   Minor

NA   Not alarmed

NR   Not reported

condtype   Condition type. This is the type of the condition. There are several types of
conditions. The valid values for the condition type of the **COM** *aid* type are:

ACOMAN	Operate alarm cutoff
ADMPFL	TID address map full
AGNE-COMF	Alamr Group Network Element status communications failure
BC-LAN-FAIL	Board controller LAN failure
CONTR	Control processor failure or software download in progress
DCC-INIT	DCC start-up in progress
DSNE-NR	Directory Services Network Element not reachable
DUPL-TID	Duplicate TID defined
EOC	Incoming (from supervisory) DCC failure or remote communication failure
FLT-CPY-SW-PRGM	Copy program failed due to a fault
INHMSG	Inhibit autonomous messages to OS
INIT-1	Initialize system
INIT-2	Update system
IO-ACTY	Input/output activity
IP-CPY-SW-PRGM	Copy program in progress
MAN	User login/logout
MISC	Provisioned control point
MULT-DSNE	Multiple Directory Services Network Element defined
PIDEXPRD	Password expired

OA-LAN-FAIL	Optical amplifier LAN failure
OK-CPY-SW-PRGM	Copy program has been successfully completed
OLINEIDMM	Optical line ID mismatch
PWR	Fus/power failure
RNG-INC	Ring incomplete
RNG-INITC	Ring startup in progress
SER-TLM1-FAIL	Serial telemetry port failure
SYSBOOT	Reset in progress
UIDDLT	Login deleted
UIDEXPRD	Login expired

srveff   Service effect (or Condition effect). This indicates the effect of the reported condition on service. This parameter has one of the following values:

   SA   Service-affecting alarm condition

   NSA   Non-service-affecting alarm or status condition

ocrdat   Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn   Location. The location field will always be empty for the network element **RTRV-COND** responses.

dirn   Direction. The direction field will always be empty for the network element **RTRV-COND** responses.

tmper   Time period. The time period field will always be null for the network element **RTRV-COND** responses.

conddescr Condition description (or Alarm message). This is the text description [enclosed within a pair of escaped quotes (\")] of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-cond-com:LT-OLS:all:123456;



IP 123456
    LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
    "tlm-4b,COM,MN,EOC,NSA,06-07,18-26-14,,:\\"incoming (from OC3)
DCC failure\\",,:"
;
```

ERROR RESPONSES

Refer to the non-message-specific error responses listed in the **RTRV-HDR** error
responses.

RTRV-COND messages and a valid *ctag* is recognized, FT-2000 responds with **all** active
status conditions.

If the network element receives a **RTRV-COND** command with a non-null invalid command
modifier, the following error response is returned:

```
    sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, invalid modifier */
;
```

If an **RTRV-COND** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-COND-EQPT: Retrieve Condition Equipment

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-COND-EQPT:*tid*:*[aid]*:*ctag*::,,,;

DESCRIPTION

RTRV-COND-EQPT commands can be initiated by an OS or OS users to retrieve status conditions of equipment-related events. This command retrieves all active alarms and status ("non-alarmed" and "non-reported") conditions pertaining to the addressed network element, reported one line per condition, similar to the autonomous messages used to report alarm and non-alarmed conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM EQPT or REPT ALM ENV message which is active; and any status condition reported by an autonomous REPT EVT message with condeff=SC (standing condition), which is active when a **RTRV-COND-EQPT** message is received, is included in the **RTRV-COND-EQPT** response message. Conditions provisioned with an alarm level of NR (not reported) are also included in the report even though they are not included in any REPT EVT autonomous messages.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

              [A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the entity for which the current conditions are requested.

              Entity: All
              Legal Values: (ALL)

              Entity: Slot (TOHCTL)
              Legal Values: (TOHCTL)

              Entity: Slot (SYSCTL)
              Legal Values: (SYSCTL)

          Entity: Slot (SYSMEM)
          Legal Values: (SYSMEM)

          Entity: Slot (OA)
          Legal Values: (OA)-(ALL, 1A-4B)

          Entity: Slot (OU)
          Legal Values: (OU)-(ALL, 1A-4B)

          Entity: Slot (TLM) [End Terminals]
          Legal Values: (TLM)-(ALL,1A,2A,3A,4A)

          Entity: Slot (TLM) [Repeaters]
          Legal Values: (TLM)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

          Entity: Shelf (OLS)
          Legal Values: (SHLF)-(ALL, 1-2)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: The access identifier for each type of entity has a different set of legal values. Click on "HELP" to get the complete list of allowable values for each entity used by this command, where necessary.

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

If there are no status conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are status conditions to report, the following output report is returned to the OS:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
              .       .       .       .       .       .       .
              .       .       .       .       .       .       .
              .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN, followed by NA, followed by NR.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the
OUTPUT PARAMETERS section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid Access identifier. This is the address of the equipment component or facility
for which a status condition is being reported.

aidtype Access identifier type.

    EQPT This reports an equipment-related condition.

ntfcncde Notification code. This is the alarm level and has one of the following values:

    CR Critical

    MJ Major

    MN Minor

    NA Not alarmed

    NR Not reported

condtype Condition type. This is the type of the condition. There are several types of
conditions. The valid values for the condition type of the **EQPT** *aid* type are:

AUTORESET	Circuit pack reset in progress
CONTR	Control process failure
IMPROPRMVL	Improper circuit pack removal
OMUMISMTCH	Optical multiplexer/demultiplexer mismatch or missing
PRCDRERR	Unexpected circuit pack type
T-x	Threshold crossing alert for the indicated monitored parameter (x)

srveff   Service effect (or Condition effect). This indicates the effect of the reported condition on service. This parameter has one of the following values:

SA   Service-affecting alarm condition

NSA   Non-service-affecting alarm or status condition

ocrdat   Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn   Location. The location field will always be empty for the network element **RTRV-COND** responses.

dirn   Direction. The direction field will always be empty for the network element **RTRV-COND** responses.

tmper   Time period. The time period field will always be null for the network element **RTRV-COND** responses.

conddescr   Condition description (or Alarm message). This is the text description [enclosed within a pair of escaped quotes (\")] of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-cond-eqpt:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
    "tlm-3b,EQPT,MJ,IMPROPRMVL,SA,06-07,18-26-14,,:\\"TLM removed\\",,:"
;
```

ERROR RESPONSES

Refer to the non-message-specific error responses listed in the **RTRV-HDR** error responses.

RTRV-COND messages and a valid *ctag* is recognized, FT-2000 responds with **all** active status conditions.

If the network element receives a **RTRV-COND** command with a non-null invalid command modifier, the following error response is returned:

```
    sid date time
 M  ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
 ;
```

If an **RTRV-COND** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
 inconsistent with modifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-COND-OCHAN: Retrieve Condition Optical_Channel

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-COND-OCHAN:*tid:[aid]:ctag::,,,;*

DESCRIPTION

RTRV-COND-OCHAN commands can be initiated by an OS or OS users to retrieve status conditions of facility-related events at the channel level. This command retrieves all active alarms and status ("non-alarmed" and "non-reported") conditions pertaining to the addressed network element, reported one line per condition, similar to the autonomous messages used to report alarm and non-alarmed conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM OCHAN or /REPT ALM ENV message which is active; and any status condition reported by an autonomous REPT EVT message with *condeff=*SC (standing condition), which is active when a **RTRV-COND-OCHAN** message is received, is included in the **RTRV-COND-OCHAN** response message. Conditions provisioned with an alarm level of NR (not reported) are also included in the report even though they are not included in any REPT EVT autonomous messages.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

              [A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the entity for which the current conditions are requested.

              Entity: Optical Channel

              Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B), (OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

              Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(ALL, 1-8)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

If there are no status conditions to report, the following message is returned to the OS:

```
   sid date time
M  ctag COMPLD                          .
;
```

If there are status conditions to report, the following output report is returned to the OS:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN, followed by NA, followed by NR.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component or facility for which a status condition is being reported.

aidtype   Access identifier type.

              OCHAN   Channel. This reports a facility-related event at the channel level in OLS.

ntfcncde   Notification code. This is the alarm level and has one of the following values:

CR   Critical

MJ   Major

MN   Minor

NA   Not alarmed

NR   Not reported

condtype   Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **OCHAN** *aid* type are:

LOS	Incoming optical channel loss-of-signal
OCHANDTCTD	Incoming optical channel detected
OCHANRMVD	Incoming optical channel removed
T-x	Threshold crossing alert for the indicated monitored parameter (x)

srveff   Service effect (or Condition effect). This indicates the effect of the reported condition on service. This parameter has one of the following values:

SA   Service-affecting alarm condition

NSA   Non-service-affecting alarm or status condition

ocrdat   Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn   Location. The location field will always be empty for the network element **RTRV-COND** responses.

dirn   Direction. The direction field will always be empty for the network element **RTRV-COND** responses.

tmper   Time period. The time period field will always be null for the network element **RTRV-COND** responses.

conddescr   Condition description (or Alarm message). This is the text description [enclosed within a pair of escaped quotes (\")] of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-cond-ochan:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M   123456 COMPLD
    "ochan-3b,OCHAN,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming optical
channel LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the non-message-specific error responses listed in the **RTRV-HDR** error responses.

RTRV-COND messages and a valid *ctag* is recognized, FT-2000 responds with **all** active status conditions.

If the network element receives a **RTRV-COND** command with a non-null invalid command modifier, the following error response is returned:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If an **RTRV-COND** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-COND-OLINE: Retrieve Condition Optical Line

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-COND-OLINE:*tid:[aid]:ctag::,,,;*

DESCRIPTION

RTRV-COND-OLINE commands can be initiated by an OS or OS users to retrieve status conditions of facility-related events on the optical line. This command retrieves all active alarms and status ("non-alarmed" and "non-reported") conditions pertaining to the addressed network element, reported one line per condition, similar to the autonomous messages used to report alarm and non-alarmed conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM OLINE or REPT ALM ENV message which is active; and any status condition reported by an autonomous REPT EVT message with *condeff*=SC (standing condition), which is active when a **RTRV-COND-OLINE** message is received, is included in the **RTRV-COND-OLINE** response message. Conditions provisioned with an alarm level of NR (not reported) are also included in the report even though they are not included in any REPT EVT autonomous messages.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the current conditions are requested.
	Entity: Optical Line Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated back by
the network element in the response to allow association of the command
and response messages. Valid values for *ctag* are strings of up to 6
characters comprised of identifiers and/or decimal numerals (a string of
decimal digits with an optional non-trailing "."). Strings containing both
numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form
and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no status conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are status conditions to report, the following output report is returned to the OS:

```
    sid date time
M  ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
            .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN, followed by NA, followed by NR.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component or facility for which a status condition is being reported.

aidtype   Access identifier type.

              OLINE   This reports a facility-related event on the optical line in OLS.

ntfcncde Notification code. This is the alarm level and has one of the following values:

   CR Critical

   MJ Major

   MN Minor

   NA Not alarmed

   NR Not reported

condtype Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **OLINE** *aid* type are:

   LOS   Incoming optical line loss-of-signal

srveff Service effect (or Condition effect). This indicates the effect of the reported condition on service. This parameter has one of the following values:

   SA Service-affecting alarm condition

   NSA Non-service-affecting alarm or status condition

ocrdat Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn Location. The location field will always be empty for the network element **RTRV-COND** responses.

dirn Direction. The direction field will always be empty for the network element **RTRV-COND** responses.

tmper Time period. The time period field will always be null for the network element **RTRV-COND** responses.

conddescr Condition description (or Alarm message). This is the text description [enclosed within a pair of escaped quotes (\")] of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-cond-oline:LT-OLS:all:123456;



IP 123456
   LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
   "oline-3b,OLINE,MN,LOS,NSA,06-07,18-26-14,,:\\"incoming optical
line LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the non-message-specific error responses listed in the **RTRV-HDR** error responses.

RTRV-COND messages and a valid *ctag* is recognized, FT-2000 responds with **all** active status conditions.

If the network element receives a **RTRV-COND** command with a non-null invalid command modifier, the following error response is returned:

```
   sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, invalid modifier */
;
```

If an **RTRV-COND** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID is missing, wrong or
 inconsistent with modifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-COND-SUPR: Retrieve Condition Supervisory

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-COND-SUPR:*tid*:*[aid]*:*ctag*::,,,;

DESCRIPTION

RTRV-COND-SUPR commands can be initiated by an OS or OS users to retrieve status conditions of facility-related events on the supervisory channel in the optical line. This command retrieves all active alarms and status ("non-alarmed" and "non-reported") conditions pertaining to the addressed network element, reported one line per condition, similar to the autonomous messages used to report alarm and non-alarmed conditions when they occur.

Any alarm condition reported by an autonomous REPT ALM SUPR or REPT ALM ENV message which is active; and any status condition reported by an autonomous REPT EVT message with *condeff=SC* (standing condition), which is active when a **RTRV-COND-SUPR** message is received, is included in the **RTRV-COND-SUPR** response message. Conditions provisioned with an alarm level of NR (not reported) are also included in the report even though they are not included in any REPT EVT autonomous messages.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the current conditions are requested.
	Entity: Supervisory Channel (End Terminals) Legal Values: (SUPR)-(ALL,1A,2A,3A,4A)
	Entity: Supervisory Channel [Repeaters] Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6

characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there are no status conditions to report, the following message is returned to the OS:

```
    sid date time
M   ctag COMPLD
;
```

If there are status conditions to report, the following output report is returned to the OS:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
          .       .       .       .       .       .       .
          .       .       .       .       .       .       .
          .       .       .       .       .       .       .
    "aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,locn,dirn,tmper,
\\"conddescr\\""
    ;
```

Applicable output lines are ordered as follows:

1. By alarm severity level CR, followed by MJ, followed by MN, followed by NA, followed by NR.

2. For conditions with the same alarm severity, by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the equipment component or facility for which a status condition is being reported.

aidtype   Access identifier type.

        SUPR   This reports a facility-related event on the supervisory channel in the optical line in OLS.

ntfcncde   Notification code. This is the alarm level and has one of the following values:

        CR   Critical

        MJ   Major

        MN   Minor

        NA   Not alarmed

        NR   Not reported

condtype   Condition type. This is the type of the condition. There are several types of conditions. The valid values for the condition type of the **SUPR** *aid* type are:

APSB	DCC APS data error
FAIL	Incoming supervisory channel fail
T-x	Threshold crossing alert for the indicated monitored parameter (x)
T-BERL	Incoming supervisory channel SD/SF

srveff   Service effect (or Condition effect). This indicates the effect of the reported condition on service. This parameter has one of the following values:

        SA   Service-affecting alarm condition.

        NSA Non-service-affecting alarm or status condition.

ocrdat   Occurrence date. This indicates the date of the event being reported and has the format MM-DD (month-day).

ocrtm   Occurrence time. This indicates the time of the event being reported and has the format HH-MM-SS (hours-minutes-seconds).

locn   Location. The location field will always be empty for the network element **RTRV-COND** responses.

dirn   Direction. The direction field will always be empty for the network element **RTRV-COND** responses.

tmper   Time period. The time period field will always be null for the network element **RTRV-COND** responses.

conddescr Condition description (or Alarm message). This is the text description [enclosed within a pair of escaped quotes (\")] of the reported condition. Alarm condition descriptions can be found in the REPT ALM message page.

EXAMPLE INPUT/OUTPUT

For an OLS Repeater:

```
rtrv-cond-supr:LT-OLS:all:123456;


IP 123456
    LT-OLS 94-06-07 16:42:11
M  123456 COMPLD
    "supr-3b,SUPR,MJ,LOS,SA,06-07,18-26-14,,:\\"incoming supr chnl
LOS\\",,:"
;
```

ERROR RESPONSES

Refer to the non-message-specific error responses listed in the **RTRV-HDR** error responses.

RTRV-COND messages and a valid *ctag* is recognized, FT-2000 responds with **all** active status conditions.

If the network element receives a **RTRV-COND** command with a non-null invalid command modifier, the following error response is returned:

```
    sid date time
M  ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If an **RTRV-COND** command is received with an invalid *aid* value, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-DAT: Retrieve Date

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-DAT:*tid*::*ctag;*

DESCRIPTION

The **RTRV-DAT** command can be initiated by all users to retrieve the date and daylight savings time provisioning information.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

                [A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

When reporting the provisioning information report, the following output message is returned:

```
    sid date time
 M   ctag COMPLD
    ":OPDDB:ONDDB"
 ;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

OPDDB

The *OPDDB* is a position defined block to report various attributes. The format will be *value1,value2.....* All applicable attributes to be reported are as follows:

date   Date. date reports the current day in YY-MM-DD format.

time   Time. time reports the current time in HH-MM-SS format.

ONDDB   The *ONDDB* is a name defined block to report various attributes. The format will be *keyword1=value1,keyword2=value2.....* All applicable attributes to be reported are as follows:

tz   Standard Time Zone. tz reports the time zone designation outside of daylight savings time(i.e EST).

strtdst   Start Daylight Savings Time. strtdst is the date on which the one hour increment in the system time is to occur.

stopdst   Stop Daylight Savings Time. stopdst is the date on which one hour decrement in system time is to occur.

dstz   Daylight Savings Time Zone. dstz reports the time zone specification for the during Daylight Savings Time(that is, EDT).

EXAMPLE OUTPUT

The following example shows a command **RTRV-DAT** for a network element.

```
rtrv-dat:LT-PF-2000::CTAG;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  CTAG COMPLD
   ":93-10-26,16-42-11:TZ=EST,STRTDST=04-29,STOPDST=10-27,DSTZ=EDT"
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

ED-DAT

NAME

RTRV-EQPT: Retrieve Equipment

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-EQPT:*tid:aid:ctag;*

DESCRIPTION

This command is issued to the network element to retrieve the circuit pack and version number information for one or more slots.

When the network element receives an **RTRV-EQPT** command from the user, the network element will display the circuit pack and version number information for the requested slot(s).

Starting with OLS Release 2.0, the command provides information on OMU/ODU equipage as well for OLS End Terminals.

INPUT PARAMETERS

tid　　　　　　Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

　　　　　　　　[A-Z][a-z][0-9].+-%#

aid　　　　　　Access identifier. *aid* determines slot address for this report.

　　　　　　　　Entity: All
　　　　　　　　Legal Values: (ALL)

　　　　　　　　Entity: Slot (TOHCTL)
　　　　　　　　Legal Values: (TOHCTL)

　　　　　　　　Entity: Slot (SYSCTL)
　　　　　　　　Legal Values: (SYSCTL)

　　　　　　　　Entity: Slot (SYSMEM)
　　　　　　　　Legal Values: (SYSMEM)

Entity: Slot (OA)
Legal Values: (OA)-(ALL, 1A-4B)

Entity: Slot (OU)
Legal Values: (OU)-(ALL, 1A-4B)

Entity: Slot (TLM) [End Terminals]
Legal Values: (TLM)-(ALL,1A,2A,3A,4A)

Entity: Slot (TLM) [Repeaters]
Legal Values: (TLM)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

Entity: Shelf (OLS)
Legal Values: (SHLF)-(ALL, 1-2)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: The access identifier for each type of entity has a different set of legal values. Click on "HELP" to get the complete list of allowable values for each entity used by this command, where necessary.

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

In response to a valid **RTRV-EQPT** command, the following output report is returned to the user.

```
    sid date time
  M  ctag COMPLD
    "aid::spec_block"
              .        .        .
              .        .        .
    "aid::spec_block"
  ;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

aid   Access identifier. This is the address of the slot and shelf for which equipage is being reported.

spec_block Specific block. This parameter field is used for returning the current equipage information for the slot or quad. Parameters within the specific block are positionally independent and are specified using a name defined construct of: PARAMETER=*value* in a comma separated list. The parameters are listed and explained below.

If the SSN, CLEI, ECI, and SLN parameters do not contain any information, the parameter will not appear in the spec_block.

It should be noted, however, that the network elements will return the parameter within the *spec_block* in the following order:

FT-2000: TYPE, APP, SSN, CLEI, ECI, SLN, and VRSN

TYPE   Circuit pack type. This is the mnemonic name that identifies the general type function provided by the circuit pack. For example, optical line interface units are all named OU.

APP   Apparatus code. This parameter uniquely identifies the specific function provided by the circuit pack. Circuit packs with different APP are not interchangeable, even if they have the same name.

SSN   Series number. This parameter is used to indicate interchangeability among the circuit packs with the same circuit pack type and apparatus code, but different manufacturing versions. In general, a circuit pack can be replaced by another pack that has the same apparatus code and the same or later series number.

                  Note that the series number normally includes a colon (:). Since the colon is used as a TL1 field separator, a dash (-) is used instead.

CLEI   Common Language Equipment Identifier[†]. This parameter is a 10-character code identifying each circuit pack.

ECI   Equipment catalog item. This parameter is a 6-character code identifying each circuit pack. This code corresponds to the bar-code label on the face-plate of the circuit pack, and is uniquely equivalent to CLEI.

SLN   Serial number. This parameter is a 12-character code uniquely identifying each circuit pack and indicating the date and place of manufacture.

VRSN   Program version. This parameter is the version of the software currently stored in the circuit pack. If version data is unavailable, this parameter is reported as '-'.

[†]   COMMON LANGUAGE is a registered trademark and CLEI, CLLI, and CLFI are trademarks of Bell Communication Research, Inc.

The network element will include in its response equipage information on only equipped slots.

The network element will successfully complete the **RTRV-EQPT** command and return a COMPLD even if the *aid* in the command points to slot(s) that is/are not equipped.

If the circuit pack in an equipped slot is removed, declared failed, or replaced with a pack of different type, the TYPE of the provisioned (removed/failed) circuit pack is retained and reported in the normal fashion except in some specific cases where it is reported as specified in other requirements in this document. The CLEI value is lost and reported as a dash ("-") indicating that data is unavailable. The CLEI is reported other than a dash in some specific cases where error conditions are reported by the NE as specified in other requirements in this document.

When the *aid* of the slot in the input command is SYSCTL or SYSMEM, the network element will return the equipage information for both SYSCTL and SYSMEM *aid*s.

The program version information is reported whenever the report includes information on a circuit pack on which a downloadable program is stored.

The order and syntax of the information for the *info* field is given as:
ccccccc,aaaaaaaaa,sssss,nnnnnnnnnnnn
where,

ccccccc: is the Circuit pack type of the installed circuit pack if available, otherwise reported as a dash.

aaaaaaaaa: is the Apparatus Code of the installed circuit pack if available, otherwise reported as a dash.

sssss: is the Series Number of the installed circuit pack if available, otherwise reported as a dash.

nnnnnnnnnnnn:
        is the Serial Number of the installed circuit pack if available, otherwise reported as a dash.

If the circuit pack in an equipped slot is replaced with a pack of different but known type, the `CLEI` field for that slot or quad will be set to `installed_CP_mismatch_`*(info)*, where *info* field contains any information available on the installed CP in the order of CP type, apparatus code, series number and serial number respectively separated by commas. If any one of these pieces of information is unavailable, a dash is reported in its place. If the circuit pack in an equipped slot is replaced with a pack of different and unknown type, the `TYPE` field is set to the expected CP type and the `CLEI` field for that slot or quad is set to `installed_CP_unknown_`*(info)*, where *info* field contains any information available on the installed CP in the order of CP type, apparatus code, series number and serial number respectively separated by commas. If any one of these pieces of information is unavailable, nothing is reported.

If the CP in an equipped slot is removed, the `CLEI` is set to `CP_removed_complete_information_not_available`.

If the CP in an equipped slot is failed, and when the alternative pack is not identified by software, the CLEI is set to installed_CP_failed_alternative_CP_information_not_available.

If the CP in the slot specified by the *aid* in the user input command is declared failed and if the software is able to identify a single alternative CP to be replaced, then the `CLEI` will be set to `CP_failed_alternative_CP_`*(info)*, where *info* field contains any information available on the alternative CP in the order of slot address, CP type, and apparatus code respectively separated by commas. If any one of these three pieces on information is unavailable a dash is reported in its place.

EXAMPLE INPUT/OUTPUT

The following OLS example requests the equipage information in the *SYSCTL* slot.

```
rtrv-eqpt:LT-OLS:sysctl:123456;


IP 123456
<


    LT-OLS 93-10-26 16:42:11
M   123456 COMPLD
    "sysctl::TYPE=SYSCTL,APP=LAA23,SSN=12345,CLEI=1234567890,ECI=123456,
SLN=123456789012,VRSN=OLS_RELEASE_x.y.z-OLS"
    "sysmem::TYPE=SYSMEM,APP=LAA25,SSN=12345,CLEI=1234567890,ECI=123456,
SLN=123456789012,VRSN=OLS_RELEASE_x.y.z-OLS"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** ERROR RESPONSES section. The requirements listed there apply to the **RTRV-EQPT** command also.

If the network element receives a **RTRV-EQPT** command without an *aid* or with an invalid *aid* the following error response is returned to the user:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-FECOM: Retrieve Far_End_Communications

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available in OLS Release 2.0.

INPUT FORMAT

RTRV-FECOM:*tid*::*ctag*;

DESCRIPTION

The **RTRV-FECOM** command can be initiated by general users to retrieve the provisioned state of network element's section data communication channel (DCC) as set by the **ENT-FECOM** command.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **RTRV-FECOM** request, the following far-end communication output report is given (details on parameter values are given below):

```
    sid date time
M   ctag COMPLD
    "::rar,roa"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

rar   Remote activity reporting. This parameter indicates whether the remote activity reporting is enabled or disabled.

roa   Remote office alarms. This parameter shows whether the remote office alarms are enabled or disabled.

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-FECOM** command output.

```
RTRV-FECOM:LT-PF-2000::123456;


IP 123456
<


    LT-PF-2000 9-10-26 16:42:11
M   123456 COMPLD
    "::RAR=enabled,ROA=enabled"
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

ENT-FECOM

NAME

RTRV-HDR: Retrieve Header

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-HDR:*tid*::*ctag*;

DESCRIPTION

RTRV-HDR commands can be initiated to request that the network element return a normal completion response.

=> NOTE:
This command may be used as a "keep-alive" signal.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

The *tid* is a case insensitive character string of up to 20 characters. The allowed ASCII characters are letters "A" through "Z" and "a" through "z", numbers "0" through "9", and special characters: "#" (pound), "%" (percent), "+" (plus), "-" (hyphen), and "." (period).

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

Valid values for *ctag* include strings of up to 6 characters comprised of identifiers (alphanumerics beginning with a letter) or decimal numerals (a string of decimal digits with an optional non-trailing ".").

All position defined parameters (for example, tid and ctag) may be specified by a name=value format, or, as a value only. Therefore, **RTRV-HDR:LT-PF-2000::123;** and **RTRV-HDR:TID=LT-PF-2000::CTAG=123;** and **RTRV-HDR:TID=LT-PF-2000::123;** and **RTRV-HDR:LT-PF-2000::CTAG=123;** are equivalent.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

After receiving this command, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

sid	Source identifier (or Target identifier, *tid*). This is the system name.
date	Date output message is generated. This has the format YY-MM-DD (year-month-day).
time	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
M	This indicates the output message is generated in response to a manual command.

    ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

    COMPLD   This indicates that the command has been completed.

EXAMPLE INPUT/OUTPUT

```
RTRV-HDR:LT-PF-2000::123456;


   LT-PF-2000 94-10-26 16:42:11
M  123456 COMPLD
;
```

```
RTRV-HDR:LT-OLS::123456;


   LT-OLS 94-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

The following error conditions are not unique to the **RTRV-HDR** command but may apply to any TL1 command received by the network element. When the TL1 security feature is enabled, the GNE only responds for another addressed network element if the user is logged into the GNE; however, a user does not have to be logged into the GNE to get an error response from a remote network element.

If network element receives a command, but cannot parse the command for at least 3 colons (:) before the TL1 end-of-message semicolon (;), instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the Gateway Network Element:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
;
```

If network element receives a command, but can parse the command for more than the maximum number of colons (:) allowed for any supported TL1 command before the TL1 end-of-message semicolon (;), instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the addressed network element:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
;
```

If a GNE receives a command for which a *tid* value (non-null) is *required* but no *tid* value is included, instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the GNE:

```
     sid date time
  M  ctag DENY
     ICNV
     /* Input, Command Not Valid, TID must be specified */
  ;
```

If a GNE receives a command with a syntactically incorrect *tid* value, instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the GNE:

```
     sid date time
  M  ctag DENY
     IITA
     /* Invalid TID, unallowed characters or too long */
  ;
```

If a GNE receives a command (other than **RTRV-HDR**) with valid *tid* value but the addressed remote network element is temporarily unable to communicate with the GNE due to exhaustion of allocated resources at either the GNE or remote network element, instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the addressed network element:

```
    sid date time
M   ctag DENY
    SROF
    /* Status, Requested Operation Failed */
;
```

If the network element receives a command but cannot recognize a valid *ctag* value, instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the addressed network element:

```
    sid date time
M   0 DENY
    IICT
    /* Input, Invalid Correlation Tag (CTAG) */
;
```

If a GNE receives a command with an unknown *tid* value (a *tid* value that does not exist in the GNE's subnetwork), instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the GNE:

```
   sid date time
M  ctag DENY
   IITA
   /* Unknown TID */
;
```

If a GNE receives a command with a valid *tid* value but the addressed remote network element is temporarily unable to communicate with the GNE, instead of returning an in-progress (IP) acknowledgement, the following error response is returned, using the *sid* value of the addressed remote network element:

```
   sid date time
M  ctag DENY
   IITA
   /* Communication Failure */
;
```

If a network element receives a TL1 command other than those supported, the following error response is returned, using the *sid* value of the addressed network element:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, Network Element does not support
       Command = xxxxxxxxxxxxxxxx */
;
```

where *xxxxxxxxxxxxxxxx* is the first 16 characters of the command received (up to, but excluding, the first colon [:], semicolon [:], or null [end of message indicator]).

When the TL1 security feature is enabled, if the network element receives a command requiring a privilege higher than that of the user issuing the command, the following error response is returned, using the *sid* value of the addressed network element:

```
    sid date time
M   ctag DENY
    PICC
    /* Privilege, Illegal Command Code */
;
```

If the network element receives any TL1 command (except **RTRV-PM**) for which
it is unable to complete the request due to internal system processing problems,
the following error response is returned, using the *sid* value of the addressed
network element:

```
    sid date time
M   ctag DENY
    SROF
    /* Status, Requested Operation Failed */
;
```

If a command is received with a *modifier* which is not one of the allowed
modifiers for that command, the following error response is returned, using the
sid value of the addressed network element:

```
    sid date time
M   ctag DENY
    ICNV
    /* Input, Command Not Valid, invalid modifier */
;
```

If the network element receives a command with any extra (beyond the command-specific input format specification) null or non-null command parameter blocks (:), parameters (,), or termination characters (;), or if a command with a name-defined parameter block includes an invalid parameter *name* label, the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
;
```

≡> **NOTE:**

The network element does accept and ignore some extra non-null entries in some **RTRV** commands only.

If the network element receives a command with more than 256 characters, the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation, command too long */
;
```

If the network element strips out white space characters from all input commands before beginning to parse that command, it is acceptable if it applies the limit of 256 characters in a command after stripping out the white space characters.

The intent of this requirement is to limit the number of bytes that a TL1-GNE forwards over the DCC or IAO-LAN to a remote network element. The limit of 256 applies to the characters sent in this situation, so if the TL1-GNE strips out white space characters before forwarding, the actual number of accepted input characters may be greater than 256.

If the X.25 interface of the TL1-GNE is provisioned for a packet size of 128 bytes, this requirement implies that the TL1-GNE will process the more-bit for input commands exceeding 128 characters including the white space characters.

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-LOG: Retrieve Log

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-LOG:*tid*::*ctag*;

DESCRIPTION

The **RTRV-LOG** command can be initiated by users to generate a history log for the NE. This report contains up to 500 of the most recent events. Events include the start and end of alarm and status conditions, and all craft/OS input activities that affect or would affect the state of the network element, successfully completed or denied.

The history log displays the events in last in-first out order, and each event is time stamped.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the command is accepted, the following output message is returned:

```
    sid date time
M   ctag COMPLD
    "aid:opdpb"
    "aid:opdpb"
          .       .
          .       .
          .       .
    "aid:opdpb"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

aid   The *aid* is a source identifier. For user initiated commands the value is UID and for all other conditions the value is the source address of the event.

opdpb   The *OPDPD* is a position defined parameter block to report various attributes. The format will be *value1,value2.....* All applicable attributes are reported.

The actual attributes reported are:

date   This is the date on which the event occurred. The format used is MM-DD.

Normally the events are displayed in order of date/time-stamp with the most recent event being displayed first and the oldest being displayed last. If the system clock is reset, however the date and time stamps may be displayed in monotonically decreasing order.

time   This is the time at which the event occurred. The format used is HH-MM-SS.

almlvl   This is the alarm level of the system
immediately after the event. It takes one of
the following values:

■ CR

■ MJ

■ MN

■ ABN

■ NE_ACTY

■ FE_ACTY

■ (if_no_alarm_conditions_exist_in_the_system)

The alarm level reported is not necessarily
related to the event or condition described in
the report entry. The alarm level reported is
the highest alarm level active in the system
when the condition is reported. The intention
of the information in the history log is to give a
system level record of events.

However, the alarm level reported for each
condition listed in the Retrieve-Alarm output
report is the alarm level associated with that
particular condition. The intention of the
information in the Retrieve-Alarm output
report is to report the severity of EACH active
condition so that intelligent priority calls can
be made in those circumstances when
multiple conditions are active.

evt_desc   This is a brief event description. The
description must be enclosed using
delimiters. The delimiter to be used is \"
(that is, backslash followed by double-
quotes). Alarm condition descriptions can be
found in the REPT ALM message page.

EXAMPLE OUTPUT

The following example shows a command **RTRV-LOG** for a network element.

```
rtrv-log:LT-PF-2000::123456;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "tl1-x25:01-01,00-06-20,MJ,\"Login:LT01\""
   "cit-dce:01-01,00-05-40,MJ,\"Login:LT01\""
   "oa-1b:01-01,00-02-48,MJ,\"OA failure-cleared\""
   "tlm-1a:01-01,00-02-38,MJ,\"optical line ID mismatch\""
   "system:01-01,00-02-31,MJ,\"reset in progress-cleared\""
   "system:01-01,00-02-29,MJ,\"OLS system startup in progress\""
   "dccsupr-1b:01-01,00-02-25,MJ,\"inc. (from Supr) DCC failure\""
   "oline-3b:01-01,00-02-22,MJ,\"incoming optical line LOS\""
   "oline-3a:01-01,00-02-22,MJ,\"incoming optical line LOS\""
   "oline-2b:01-01,00-02-22,MJ,\"incoming optical line LOS\""
   "oa-1b:01-01,00-02-21,MJ,\"OA failure\""
   "system:01-01,00-00-08,MJ,\"reset in progress\""
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed
there, also apply to this command. If an **RTRV-LOG** command is received when
a **TEST-AUTO** or **TURNUP-LOCAL** (pre-LCT/OLS R3 CIT) command is being
executed, then the following error response is returned:

```
   sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-MAP-NETWORK: Retrieve Map Network

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-MAP-NETWORK:*tid*::*ctag[:[:]]*;

DESCRIPTION

This command is issued to the network element to retrieve the list of all network elements in the local SONET subnetwork, including the communication status, capabilities, the product and NE types and alarm group of each network element reachable via the DCN (SONET DCC on either the optical interfaces or IAO-LAN) from the local network element (that is, the network element to which this command is issued).

When the network element receives a **RTRV-MAP-NETWORK** command from the user, the network element will return a report containing names (target identifiers, or TIDs) of every network element in the local SONET subnetwork (set of all network elements in the same DCC domain as the network element to which the command is addressed), communication status to each one of those network elements from the local network element, the product and network element types, capabilities and alarm group the systems in the local SONET subnetwork.

⚠ **CAUTION:**
If there is a duplicate **dsne** *condition at the time that this command is executed at the addressed network element, the returned report could be incorrect.* Be sure such error conditions do not exist while attempting this command.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

In response to a valid **RTRV-MAP-NETWORK** command, the following output report is returned to the user similar to the craft interface output.

```
    sid date time
M   ctag COMPLD
    "spec_block"
    .   .   .   .   .   .   .
    .   .   .   .   .   .
    "spec_block"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

spec_block   Specific block. This parameter field is used for returning the current equipage information for the slot. Parameters within the specific block are positionally independent and are specified using a name defined construct of: PARAMETER=*value* in a comma separated list. The parameters are listed and explained in the following paragraphs:

TID   This is the target identifier of the network element. Refer to the **RTRV-HDR** INPUT PARAMETERS section. The character set requirements for *tid* listed there apply to the **TID** also. The **TID** is provisioned by the PC-CIT command **set-network element** or the TL1 command **ENT-SYS**.

DCCSTATUS   This field can take on the values of good or FAIL and indicates the status of the Data Communications Channel from the local system. This field can be omitted from the output report if the **DCCSTATUS** is good for the identified systems.

PRODTYPE   Product Type. This field is part of the DIB record for each NE in the subnetwork.

                  PF 2000 NEs shall only output the values for DDM-OC3, DDM-OC12, FTLCT, FTADR48, FTADR192, OLS, DACS IV, SLC-2000, and FbrRch. Any other value shall be reported as a "?".

NETYPE   This field can take on the values of DSNE, ASNE, DSNE/ASNE or – (dash) and indicates whether or not the system identified in the **TID** is serving as the Directory Service Network Element, as an Alarm Server, both or neither. This field can be omitted for the systems in the subnetwork that are not serving as either a **DSNE** or an **ASNE**.

ALARMGRP   This field can take on integer values from 0 or
255 and indicates the Alarm Group, or SONET
Maintenance Sub-Branch (SMSB), to which the
listed network element belongs.

The Alarm Group identifies a set of network
elements that exchange remote alarm
information via one or more Alarm Gateway
Network Elements. The value 0 is specially
designated to mean the network element does
not share alarm information with any other
remote network elements.

Beyond placing the local NE first in the report, ordering of the report is a
product-specific matter.

The topmost entry in the **RTRV-MAP-NETWORK** report represents the end-
terminal in a 1A-TX mode. Subsequent entries in the upper portion of the report
are arranged in the following sequence: the immediate neighbor next to the OLS
1A-TX terminal, followed by its immediate neighbor, and so on, until the 1A-RCV
mode end-terminal is reached.

If an open or closed ring is incomplete, the ring map only reports the local node.
This implies all other nodes in the incomplete ring will be displayed like nodes
which are not part of local ring.

The other entries in the report represent all other network elements accessible
via DCC channels (both OC-48 and OC-3) and/or Intra-Office LANs (IAO-LANs).
The entries are sorted first by network element type with FTLCT listed first,
followed by FTADR48, FTADR192, OLS, DDM-OC3, DDM-OC12, DACS IV,
SLC-2000 and FbrRch, with unrecognized network elements (represented by a
question mark) last. They are further sorted within each network element type by
TID values in alphabetical (ASCII) order.

Data which is unavailable for the report will be represented by a question ("?")
mark (for example, DCCSTATUS=?).

EXAMPLE INPUT/OUTPUT

The **RTRV-MAP-NETWORK** command is issued at ols-1. The OLS span consists of two end-terminals with three intermediate nodes:

```
rtrv-map-network:LT-PF-2000::123456;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "TID=OLS-1,DCCSTATUS=good,PRODTYPE=FT-2000,NETYPE=DSNE,ALARMGRP=56"
   "TID=OLS-2,DCCSTATUS=good,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
   "TID=OLS-3,DCCSTATUS=good,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
   "TID=OLS-4,DCCSTATUS=good,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
   "TID=OLS-5,DCCSTATUS=good,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
;
```

The **RTRV-MAP-NETWORK** command is issued at ols-1. The OLS span consists of two end-terminals with three intermediate nodes, and there is a failure between two of the repeater sites.

```
rtrv-map-network:LT-PF-2000::123456;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "TID=OLS-1,DCCSTATUS=good,PRODTYPE=FT-2000,NETYPE=DSNE,ALARMGRP=56"
   "TID=OLS-2,DCCSTATUS=good,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
   "TID=OLS-3,DCCSTATUS=FAIL,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
   "TID=OLS-4,DCCSTATUS=FAIL,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
   "TID=OLS-5,DCCSTATUS=FAIL,PRODTYPE=FT-2000,NETYPE=-,ALARMGRP=56"
;
```

The following is an example with multiple other network elements present.

```
rtrv-map-network:LT-PF-2000::123456;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
    "TID=LCT-1,DCCSTATUS=good,PRODTYPE=FTLCT,NETYPE=DSNE,ALARMGRP=56"
    "TID=LCT-2,DCCSTATUS=good,PRODTYPE=FTLCT,NETYPE=-,ALARMGRP=56"
    "TID=ADR-1,DCCSTATUS=good,PRODTYPE=FTADR48,NETYPE=-,ALARMGRP=57"
    "TID=ADR-2,DCCSTATUS=good,PRODTYPE=FTADR48,NETYPE=-,ALARMGRP=57"
    "TID=ADR-3,DCCSTATUS=good,PRODTYPE=FTADR192,NETYPE=-,ALARMGRP=5"
    "TID=OLS-1,DCCSTATUS=good,PRODTYPE=OLS,NETYPE=-,ALARMGRP=55"
    "TID=OLS-2,DCCSTATUS=good,PRODTYPE=OLS,NETYPE=-,ALARMGRP=55"
    "TID=OLS-3,DCCSTATUS=good,PRODTYPE=OLS,NETYPE=-,ALARMGRP=55"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives a **RTRV-MAP-NETWORK** with an otherwise valid set of input parameter values but the command could not be completed by the network element, the following error response is returned:

```
    sid date time
M   ctag DENY
    SROF
    /* Status, Requested Operation Failed */
;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-SYS

RTRV-SYS

RTRV-MAP-RING

RTRV-MAP-NEIGHBOR

NAME

RTRV-MAP-RING: Retrieve Map Ring

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-MAP-RING:*tid*::*ctag*;

DESCRIPTION

This command generates a report listing all network elements in the local transmission ring.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

In response to a valid **RTRV-MAP-RING** command, the following output report is returned to the user.

```
    sid date time
M   ctag COMPLD
    "spec_block"
        .       .       .       .       .       .       .
        .       .       .       .       .       .       .
    "spec_block"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

spec_block Specific block. This parameter field is used for returning the ring map information of the network. Parameters within the specific block are positionally independent and are specified using a name defined construct of: PARAMETER=*value* in a comma separated list. The parameters are listed and explained below.

It should be noted, however, that the network element will return the parameters within the *spec_block* in the following order: **TID, DSNE, DCCSTATUS, FBRCONN.**

TID	This is the target identifier of the network element. Refer to the **RTRV-HDR** INPUT PARAMETERS section. The character set requirements for *tid* listed there apply to the **TID** also. The **TID** is provisioned by the PC-CIT command **set-network element** or the TL1 command **ENT-SYS**.
DSNE	This field can take on the values of yes or no and indicates whether or not the system identified in the **TID** is serving as the Directory Service Network Element.
DCCSTATUS	This field can take on the values of good or FAIL and indicates the status of the Data Communications Channel from the local system.

FBRCONN   Fiber Connection (FBRCONN) helps indicate the direction of traffic carried by optical line 1A in the OLS subnetwork. This field can take on values of {"1A-TX", "1A-RCV", "-"}.

This parameter indicates the direction of transmission for optical lines nA(n=1-4) at each OLS and is crucial in determining the order of entries in the report.

The topmost entry in the report is the OLS end terminal provisioned in 1A-TX mode. At this terminal, FBRCONN=1A-TX and optical amplifier nA(n=1-4) should be transmitting traffic. This is followed by the OLS neighbor until the other OLS end terminal is reached. The other OLS end terminal should be provisioned in 1A-RCV mode. At this terminal, FBRCONN=1A-RCV, optical amplifier 1A should be receiving traffic.

If, at the OLS end terminal where optical amplifier 1A is receiving traffic, the DIRN value is not 1A-RCV and/or the supervisory channels on lines 1A and/or 2A are not entering the telemetry packs, then incoming DCC failure is declared at that end terminal. When this condition exists, the DCCSTATUS and FBRCONN parameters for this end terminal take on the values "FAILED" and "?", respectively, in the reports at all other nodes whose ring maps include the end terminal.

Data which is unavailable for the report will be represented by a question ("?") mark (for example, DCCSTATUS=?).

All specific requirements pertaining to the functioning of the **retrieve-map-ring** PC-CIT command are applicable to this **RTRV-MAP-RING** also.

EXAMPLE OUTPUT

The following OLS example requests the map of an OLS ring. The
RTRV-MAP-RING command is issued at ols-1, which is also provisioned in
"1A-TX" mode. The sub-network consists of two end-terminals with two
intermediate nodes:

```
rtrv-map-ring:ols-1::123456;


IP 123456
<


   OLS-1 94-06-15 12:28:133
M  123456 COMPLD
   "TID=OLS-1,DSNE=yes,DCCSTATUS=good,FBRCONN=1A-TX
   "TID=OLS-2,DSNE=no,DCCSTATUS=good,FBRCONN=-
   "TID=OLS-3,DSNE=no,DCCSTATUS=good,FBRCONN=-
   "TID=OLS-5,DSNE=no,DCCSTATUS=good,FBRCONN=1A-RCV"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed
there, also apply to this command.

If the network element receives a **RTRV-MAP-RING** with an otherwise valid set
of input parameter values but the command could not be completed by the
network element, the following error response is returned to the user:

```
   sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-MAP-NETWORK

NAME

RTRV-NE-SECU: Retrieve Network_Element Security

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-NE-SECU:*tid*::*ctag*;

DESCRIPTION

The **RTRV-NE-SECU** command can be initiated by users to retrieve network
element global security information. The user can determine whether logins are
allowed, whether the password aging interval is set and its value, and whether
the login aging interval is set and its value.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to
               which the command is addressed. It must be a string of 20 or
               fewer characters from the following set:

               [A-Z][a-z][0-9].+-%#

ctag   .   Correlation tag. This is included in the command and is repeated
               back by the network element in the response to allow association
               of the command and response messages. Valid values for *ctag*
               are strings of up to 6 characters comprised of identifiers and/or
               decimal numerals (a string of decimal digits with an optional non-
               trailing "."). Strings containing both numbers and letters must
               begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the
input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there is provisioned security information to report, the following output message is returned:

```
    sid date time
M   ctag COMPLD
    ":,:ONDPB"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

ONDPB   The ONDPB is a name defined parameter block to report various attributes. The format will be
keyword1=value1,keyword2=value2..... All applicable attributes are reported.

        alw_uid Allow user ID. This parameter shows whether or not non-privileged logins are allowed to login or not. Privileged logins are always allowed. This parameter can take one of the values: "YES", or "NO".

        page   Password aging interval. This parameter shows the password lifetime interval in days. It can take a value between 7 and 999 days, or 0. The value 0 indicates that the password aging mechanism is disabled.

        uout   User ID aging interval. This parameter shows the period in days during which each general or report-only user should login at least once to retain the login. It can take a value between 7 and 999 days, or 0. The value 0 indicates that the login aging mechanism is disabled.

EXAMPLE OUTPUT

```
rtrv-ne-secu:LT-PF-2000::123456;


IP 123456
<


   LT-PF-2000 94-03-22 16:12:12
M  123456 COMPLD
   ":,:ALW_UID=Yes,PAGE=60,UOUT=90"
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

ENT-NE-SECU

NAME

RTRV-OCHAN: Retrieve Optical_Channel

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-OCHAN:*tid:aid:ctag[:type]*;

DESCRIPTION

RTRV-OCHAN command messages can be initiated by an user to retrieve the current provisioned state and current state of the optical channel (OCHAN). This command retrieves all optical channel parameter settings that are provisionable via **ENT-OCHAN** commands pertaining to the addressed OLS, reported one line per optical channel.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the entity for which the report is requested.

Entity: Optical Channel

Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B), (OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(ALL, 1-8)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for ctag are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

type   Type. A value for this parameter is neither expected nor allowed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

Because the network element supports pre-provisioning of parameters, lines are included for all applicable *aid* values in response to this command, whether or not the present equipage is capable of supporting the type of facility specified.

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here **only** for the convenience of the reader.

In response to a valid **RTRV-OCHAN** command, the following output report is returned, sorted on OCHAN data, by the *ochan_aid* value.

```
    sid date time
M   ctag COMPLD
    "ochan_aid::::pst"
    "ochan_aid::::pst"
          .         .         .
          .         .         .
          .         .         .
    "ochan_aid::::pst"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

ochan_aid   Optical Channel access identifier. This is the optical channel address for which output is being reported.

pst   Primary state. This parameter reports the current primary state of the addressed optical channel (OCHAN). The *pst* will have one of the primary states supported by OLS.

The primary state for optical channel will have one of the following values:

IS   In service. This specifies that the optical channel addressed by *ochan_aid* is in the in service state.

OOS-MA-AS Out of service, memory administration, assigned. This specifies that the optical channel addressed by *ochan_aid* is in the OLS "AUTO" state and will transition to in-service upon detection of a valid signal.

OOS   Out of service. This specifies that the optical channel addressed by *ochan_aid* is in the OLS "NMON" state.

RDNA   Requested data not available. If the requested *pst* data for the addressed optical channel is corrupted, this value is reported.

EXAMPLE INPUT/OUTPUT

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here **only** for the convenience of the reader.

The example below shows the response to a query concerning all optical channels associated with optical line 1a (`"ochan-1a-all"`).

```
rtrv-ochan:LT-OLS:ochan-1a-all:123456;


IP 123456
<


   LT-OLS 93-10-26 16:42:11
M  123456 COMPLD
   "ochan-1a-1::::IS"
   "ochan-1a-2::::IS"
   "ochan-1a-3::::IS"
   "ochan-1a-4::::IS"
   "ochan-1a-5::::IS"
   "ochan-1a-6::::IS"
   "ochan-1a-7::::OOS-MA-AS"
   "ochan-1a-8::::OOS-MA-AS"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives this command with any extra (beyond the input format specification above) null or non-null command parameter blocks (:), parameters (,), or termination characters (;), the following error response is returned:

```
   sid date time
M  ctag DENY
   IISP
   /* Input, Invalid Syntax or Punctuation */
;
```

If the network element receives a **RTRV** command without an *aid* value or with an *aid* value that is invalid for this command, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier, AID missing or inconsistent
      with modifier value */
;
```

If the network element receives this command with an invalid *type* value, the
following error response is returned:

```
    sid date time
M   ctag DENY
    INUP
    /* Input, Non-null Unimplemented Parameter, TYPE must be null */
;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-OCHAN

REPT SW

NAME

RTRV-PM-ALL: Retrieve Performance_Monitoring All

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available beginning in OLS Release 1.0.

INPUT FORMAT

RTRV-PM-ALL:*tid:aid:ctag::[montype],[monlev],[locn],*
    [dirn],[tmper],[mondat][,montm];

⇒ NOTE:
> The above single-line command is presented as two lines for ease of
> reading.

DESCRIPTION

FT-2000 shall support the **RTRV-PM** TL1 command, as follows:

This command is initiated by an OS or OS user to request the network element
to send the current and/or historical performance-monitoring (PM) data
associated with all facilities of any type.

Performance monitoring data is retrieved for all optical channels, optical lines,
and the supervisory signal in an OLS.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the facility for which the performance-monitoring data is requested.
	Entity: All
	Legal Values: (ALL)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype   This is the PM parameter type for which PM data is requested.

This parameter must be specified for one of the following values:

"LBC-P1" (Laser Bias Current for Pump 1),
"LBC-P2" (Laser Bias Current for Pump 2),
"LBFC-P1" (Laser Backface Current for Pump 1),
"LBFC-P2" (Laser Backface Current for Pump 2),
"TOPR-OL" (Total Received Power - Optical Line),
"SPR-C" (Optical Channel Signal Power),
"CVL" (Coding violation count - Line),
"ESL" (Errored second count - Line),
"SESL" (Severely errored second count - Line),
"UASL" (Unavailable second count - Line),
"SPR-SU" (Signal power - Supervisory),
"LBC-SU" (Laser Bias Current - Supervisory).

If no value is provided for *montype*, the network element will respond with all performance monitoring data applicable to the *aid*.

monlev   Monitored parameter level. This provides the level and direction which are used to discriminate which performance monitoring data is being requested. This parameter, if specified, must have one of the following values: "1-UP", or "0-UP".

1-UP   A **1-UP** *monlev* value means that the network element reports only positive, non-zero data.

0-UP   A **0-UP** *monlev* value means that the network element reports data on all requested PM parameters without regard for their value.

⇛ NOTE 1:
        All the network element's PM data can have only non-negative values. If no value is provided for this parameter, **1-UP** is assumed.

⇒ **NOTE 2:**
The LBCL (Laser Bias Current) PM parameter is reported regardless of what the input monlev parameter value is. The monlev parameter does not apply to LBCL because LBCL is represented as a fractional number ("real-valued") and is non-zero in the nominal case.

dirn   Direction of monitoring. This parameter indicates the direction for which the performance data is being retrieved and is relative to the facility identified by the AID. This parameter, if specified, must have one of the following values: "NA", "RCV", or "AZ".

NA   Not applicable (default).

RCV   Receive direction of transmission.

AZ   A-Z direction which is functionally the same as RCV.

If no value is provided for this parameter, *NA* is assumed.

tmper   Time period. This parameter requests performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN" or "1-DAY".

15-MIN This requests PM data in 15-minute intervals (default).

1-DAY This requests daily PM data.

If no value is provided for this parameter, the network element responds using **15-MIN**.

mondat Monitored date. This requests the beginning date of the interval for which the PM data is to be reported. For a *tmper* value of 15-MIN, the maximum allowable range of valid dates supported by *mondat* include the current and previous one day. For a *tmper* value of **1-DAY**, the maximum allowable range of valid dates supported by *mondat* include the current and previous six days. This parameter, if specified, must have the values of ALL or in the format of MM-DD (month-day).

MM-DD Month-day.

ALL   Current and previous day(s), as described above.

If no value is entered for *mondat*, the current date is assumed. If the *mondat* specifies a date other than the current date or the previous day(s)'s date, as described above, the network element responds to the user using the current date as the *mondat* value.

montm   Monitored time. This specifies the beginning time of day of the requested performance-monitoring period specified in *tmper*. This parameter, if specified, must have the values of ALL or has the format HOD-MOH (hour of day-minute of hour), where HOD ranges from 00 to 23 and MOH ranges from 00 to 59.

HOD-MOH   Hour of day-minute of hour

ALL   All applicable beginning times for the given *mondat* value.

If no value is entered for *montm*, the current HOD-0 is assumed. If the *montm* value provided does not correspond exactly to the network element PM reporting boundary, the value is *rounded up* to the next applicable boundary (for example, **01-03** for a 15-minute PM data is rounded up to **01-15**). If the *tmper* value is **1-DAY** then the *montm* parameter is not used.

The table below specifies the performance-monitoring data output based on the input values of *tmper*, *mondat*, and *montm* parameters. The term "other" is used to refer to any input value that is not covered by another entry for the subject parameter. The term "any" is used to refer to any input value, including "other" and no value, for the subject parameter.

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	**ALL**	any	15 min. data from the present time to the previous 8.25 hours
15-MIN or no value	current day or no value	**ALL**	15 min. data from the present time to the previous midnight or 8.25 earlier than the present, whichever is more recent.
15-MIN or no value	previous day	**ALL**	15 min. data from the previous midnight to 8 hours earlier than the present time. If the current time is later than 8:15 A.M., return an error response (invalid MONTM).
15-MIN or no value	previous day, current day, or no value	value of MONDAT and MONTM within 8.25 hours of current time	single 15 min. interval of data beginning at MONDAT and MONTM

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	current day, previous day, or no value	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
15-MIN or no value	other	value of MONDAT and MONTM within 8.25 hours of the current time	single 15 min. interval of data beginning at MONDAT and MONTM
15-MIN or no value	other	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
1-DAY	ALL	any	current and previous 1-day data
1-DAY	current day or no value	any	current 1-day data
1-DAY	any one of the previous six days	any	appropriate previous 1-day data
1-DAY	other	any	current 1-day data
other	any	any	return error response (invalid TMPER)

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

After receiving a valid command, the following output message is returned:

```
   sid date time
M  ctag COMPLD
   "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
             .        .        .        .        .
             .        .        .        .        .
             .        .        .        .        .
   "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
;
```

If there is no data to return for the given valid command, the following message is returned:

```
   sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the facility for which the PM data is being reported.

aidtype   Access identifier type. This has one of the following values:

     OLINE   This reports performance-monitoring information at the optical lines for an OLS terminal.

     OCHAN   This reports performance-monitoring information at the optical channels for an OLS terminal.

     SUPR   This reports performance-monitoring information at the supervisory channel which is in OC3 format for an OLS terminal.

montype   Monitored parameter type.

     Digital PM parameters include: CVL, ESL, SESL, and UASL; they are collected per 15 min. bin, and 1 day bin for each SUPR channel so that each has 2 values for each supervisory channel. Optical parameters include: SPR-SU and LBC-SU, and are collected on a per channel basis.

monval   Monitored value. This contains the measured value of the parameter specified in *montype*.

stat   For **stat**, *OVFL* has a higher priority than *TCA* and *TCA* has a higher priority than *PRTL*.
Status indicator. This indicates the validity of the PM data or if threshold has been exceeded by the PM data. This parameter, if specified, must have one of the following values:

     NA   Data is not available. This includes counts not available because of trouble conditions that cause performance-monitoring to be suspended. *stat* shall be set to NA for *montype*=LBCL, LPR, and LPT when data has not yet been collected.

     OVFL   This indicates counts that overflow their registers.

     TCA   Threshold Crossing Alert.

PRTL   Data is accumulated over a complete interval but is corrupted or data is incomplete because it is not accumulated over a complete portion of the requested time period.

If the status is not specified, the data is valid and below the threshold level for that parameter.

locn   Location. The location field, if specified, must have the value (NEND).

dirn   Direction. This specifies the direction in which the PM data is to be retrieved and is relative to the facility identified by the AID.

tmper   Time period. This parameter has the value 15-MIN or 1-DAY.

mondat   Monitored date. This is the beginning date of the interval for which PM data is reported. This parameter has the format MM-DD (month-day).

montm   Monitored time. This is the beginning time of the interval for which the PM data is reported. This parameter has the format HOD-MOH (hour of day-minute of hour).

MOH Is in quarter hour increments (that is, 00, 15, 30 and 45).

EXAMPLE INPUT/OUTPUT

The command to retrieve performance monitoring data for all optical lines, optical channels, and supervisory is:

```
rtrv-pm-all:LT-OLS:all:123456::all,,,,,,;


IP 123456
<


   LT-OLS 97-07-10 15:05:54
M  123456 COMPLD
   "oline-1a,oline:LBC-P1,1.67,,,,15-MIN,07-10,15-00"
   "oline-1a,oline:LBFC-P1,1.56,,,,15-MIN,07-10,15-00"
   "oline-1a,oline:LBFC-P2,0.01,,,,15-MIN,07-10,15-00"
   "oline-1a,oline:TOPR-OL,20,TCA,,,15-MIN,07-10,15-00"
   "oline-1b,oline:LBC-P1,1.00,,,,15-MIN,07-10,15-00"
   "oline-1b,oline:LBC-P2,1.00,,,,15-MIN,07-10,15-00"
   "oline-1b,oline:LBFC-P1,1.00,,,,15-MIN,07-10,15-00"
   "oline-1b,oline:LBFC-P2,1.00,,,,15-MIN,07-10,15-00"
   "oline-2a,oline:LBC-P1,0.96,,,,15-MIN,07-10,15-00"
   "oline-2a,oline:LBC-P2,1.02,,,,15-MIN,07-10,15-00"
   "oline-2a,oline:LBFC-P1,1.00,,,,15-MIN,07-10,15-00"
   "oline-2a,oline:LBFC-P2,1.00,,,,15-MIN,07-10,15-00"
   "oline-2a,oline:TOPR-OL,30,TCA,,,15-MIN,07-10,15-00"
   "oline-2b,oline:LBC-P1,1.00,,,,15-MIN,07-10,15-00"
   "oline-2b,oline:LBC-P2,0.98,,,,15-MIN,07-10,15-00"
   "oline-2b,oline:LBFC-P1,1.00,,,,15-MIN,07-10,15-00"
   "oline-2b,oline:LBFC-P2,1.00,,,,15-MIN,07-10,15-00"
   "ochan-1a-1,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1a-2,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1a-3,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1a-4,ochan:SPR-C,80,PRTL,,,15-MIN,07-10,15-00"
   "ochan-1a-5,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1a-6,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1a-7,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1a-8,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-1,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-2,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-3,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-4,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-5,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-6,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-7,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-1b-8,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-1,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-2,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-3,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-4,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-5,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-6,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-7,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2a-8,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2b-1,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2b-2,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"

Screen continues on next page.
```

```
Screen continued from previous page.
   "ochan-2b-3,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2b-4,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2b-5,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2b-6,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2b-7,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "ochan-2b-8,ochan:SPR-C,,NA,,,15-MIN,07-10,15-00"
   "supr-1a,supr:LBC-SU,1.04,,,,15-MIN,07-10,15-00"
   "supr-1a,supr:SPR-SU,1,,,,15-MIN,07-10,15-00"
   "supr-1a,supr:UASL,361,TCA,,,15-MIN,07-10,15-00"
   "supr-2a,supr:LBC-SU,1.01,,,,15-MIN,07-10,15-00"
   "supr-2a,supr:SPR-SU,1,,,,15-MIN,07-10,15-00"
   "supr-2a,supr:UASL,363,TCA,,,15-MIN,07-10,15-00"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed
there, also apply to this command. If the network element receives this
command without an *aid* value or with an *aid* value that is invalid for the
modifier provided, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

If the network element receives this command with a *montype* value that is not supported by the network element, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

If the network element receives this command with an invalid *tmper*, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
;
```

If the network element receives this command with a *monlev* value of any
value, **0-UP** or **1-UP**, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid MONLEV */
;
```

If the network element receives this command with an invalid *dirn* value, the
following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid DIRN */
;
```

If the network element receives this command with an invalid *montm* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTM */
;
```

If the network element receives this command with an invalid *mondat* format, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONDAT */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-TH-ALL

RTRV-PM-xxxx

REPT EVT

NAME

RTRV-PM-OCHAN: Retrieve Performance_Monitoring Optical_Channel

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available beginning in OLS Release 1.0.

INPUT FORMAT

RTRV-PM-OCHAN:*tid*:*aid*:*ctag*::*[montype]*,*[monlev]*,*[locn]*,
    [dirn],*[tmper]*,*[mondat]**[,montm]*;

⮕ **NOTE:**
The above single-line command is presented as two lines for ease of reading.

DESCRIPTION

This command is initiated by an OS or OS user to request the network element to send the current and/or historical performance-monitoring (PM) data associated with one or more optical channels for an OLS terminal.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the facility for which the performance-monitoring data is requested.

Entity: Optical Channel

Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B), (OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(ALL, 1-8)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype   This is the PM parameter type for which PM data is requested.

This parameter must be specified for the following value:

"SPR-C" (Optical Channel Signal Power).

If no value is provided for *montype*, the network element will respond with all performance monitoring data applicable to the *aid.*

monlev   Monitored parameter level. This provides the level and direction which are used to discriminate which performance monitoring data is being requested. This parameter, if specified, must have one of the following values: "1-UP", or "0-UP".

1-UP   A **1-UP** *monlev* value means that the network element reports only positive, non-zero data.

0-UP   A **0-UP** *monlev* value means that the network element reports data on all requested PM parameters without regard for their value.

⇛ **NOTE 1:**
All the network element's PM data can have only non-negative values. If no value is provided for this parameter, **1-UP** is assumed.

⇛ **NOTE 2:**
The LBCL (Laser Bias Current) PM parameter is reported regardless of what the input monlev parameter value is. The monlev parameter does not apply to LBCL because LBCL is represented as a fractional number ("real-valued") and is non-zero in the nominal case.

locn   Location. This parameter indicates the location being monitored for performance. This parameter may have the following value, "NEND".

dirn   Direction of monitoring. This parameter indicates the direction for which the performance data is being retrieved and is relative to the facility identified by the AID. This parameter, if specified, must have one of the following values: "NA", "RCV", or "AZ":

   NA   Not applicable (default)

   RCV   Receive direction of transmission.

   AZ   A-Z direction which is functionally the same as RCV.

   If no value is provided for this parameter, *NA* is assumed.

tmper   Time period. This parameter requests performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN" or "1-DAY".

   15-MIN   This requests PM data in 15-minute intervals (default).

   1-DAY   This requests daily PM data.

   If no value is provided for this parameter, the network element responds using **15-MIN**.

mondat   Monitored date. This requests the beginning date of the interval for which the PM data is to be reported. For a *tmper* value of 15-MIN, the maximum allowable range of valid dates supported by *mondat* include the current and previous one day. For a *tmper* value of **1-DAY**, the maximum allowable range of valid dates supported by *mondat* include the current and previous six days. This parameter, if specified, must have the values of ALL or in the format of MM-DD (month-day).

   MM-DD   Month-day.

   ALL   Current and previous day(s), as described above.

   If no value is entered for *mondat*, the current date is assumed. If the *mondat* specifies a date other than the current date or the previous day(s)'s date, as described above, the network element responds to the user using the current date as the *mondat* value.

montm   Monitored time. This specifies the beginning time of day of the requested performance-monitoring period specified in *tmper*. This parameter, if specified, must have the values of ALL or has the format HOD-MOH (hour of day-minute of hour), where HOD ranges from 00 to 23 and MOH ranges from 00 to 59.

        HOD-MOH   Hour of day-minute of hour

        ALL   All applicable beginning times for the given *mondat* value.

If no value is entered for *montm*, the current HOD-0 is assumed. If the *montm* value provided does not correspond exactly to the network element PM reporting boundary, the value is *rounded up* to the next applicable boundary (for example, **01-03** for a 15-minute PM data is rounded up to **01-15**). If the *tmper* value is **1-DAY** then the *montm* parameter is not used.

The table below specifies the performance-monitoring data output based on the input values of *tmper*, *mondat*, and *montm* parameters. The term "other" is used to refer to any input value that is not covered by another entry for the subject parameter. The term "any" is used to refer to any input value, including "other" and no value, for the subject parameter.

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	**ALL**	any	15 min. data from the present time to the previous 8.25 hours
15-MIN or no value	current day or no value	**ALL**	15 min. data from the present time to the previous midnight or 8.25 earlier than the present, whichever is more recent.
15-MIN or no value	previous day	**ALL**	15 min. data from the previous midnight to 8 hours earlier than the present time. If the current time is later than 8:15 A.M., return an error response (invalid MONTM).
15-MIN or no value	previous day, current day, or no value	value of MONDAT and MONTM within 8.25 hours of current time	single 15 min. interval of data beginning at MONDAT and MONTM

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	current day, previous day, or no value	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
15-MIN or no value	other	value of MONDAT and MONTM within 8.25 hours of the current time	single 15 min. interval of data beginning at MONDAT and MONTM
15-MIN or no value	other	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
1-DAY	ALL	any	current and previous 1-day data
1-DAY	current day or no value	any	current 1-day data
1-DAY	any one of the previous six days	any	appropriate previous 1-day data
1-DAY	other	any	current 1-day data
other	any	any	return error response (invalid TMPER)

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the EXECUTE and CLEAR buttons:

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

After receiving a valid command, the following output message is returned:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
             .        .        .        .        .
             .        .        .        .        .
             .        .        .        .        .
    "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
;
```

Applicable output lines are ordered as follows:

1. By *aid* in order corresponding to the shelf architecture.

2. By requested time intervals, starting with the current time interval.

3. By applicable PM parameters per *aid*.

If there is no data to return for the given valid command, the following message is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid	Access identifier. This is the address of the facility for which the PM data is being reported.
aidtype	Access identifier type.

OCHAN   This reports performance-monitoring information at the optical channels for an OLS terminal.

montype   Monitored parameter type.

This parameter must be specified for the following value:

"SPR-C" (Optical Channel Signal Power).

Digital PM parameters include: CVL, ESL, SESL, and UASL; they are collected per 15 min. bin, and 1 day bin for each SUPR channel so that each has 2 values for each supervisory channel. Optical parameters include: SPR-SU and LBC-SU, and are collected on a per channel basis.

monval   Monitored value. This contains the measured value of the parameter specified in *montype*.

stat   For **stat**, *OVFL* has a higher priority than *TCA* and *TCA* has a higher priority than *PRTL*.
Status indicator. This indicates the validity of the PM data or if threshold has been exceeded by the PM data. This parameter, if specified, must have one of the following values:

NA   Data is not available. This includes counts not available because of trouble conditions that cause performance-monitoring to be suspended. *stat* shall be set to NA for *montype*=LBCL, LPR, and LPT when data has not yet been collected.

OVFL   This indicates counts that overflow their registers.

TCA   Threshold Crossing Alert.

PRTL	Data is accumulated over a complete interval but is corrupted or data is incomplete because it is not accumulated over a complete portion of the requested time period.
	If the status is not specified, the data is valid and below the threshold level for that parameter.
locn	Location. The location field, if specified, must have the value (NEND).
dirn	Direction. The direction field will always be no value.
tmper	Time period. This parameter has the value 15-MIN or 1-DAY.
mondat	Monitored date. This is the beginning date of the interval for which PM data is reported. This parameter has the format MM-DD (month-day).
montm	Monitored time. This is the beginning time of the interval for which the PM data is reported. This parameter has the format HOD-MOH (hour of day-minute of hour).

EXAMPLE INPUT/OUTPUT

The command to retrieve the optical channel signal power (SPR-C) performance monitoring data for ochan-1a-4 is:

```
rtrv-pm-ochan:LT-OLS:ochan-1a-4:123456::all,,,,,,;


IP 123456
<


   LT-OLS 97-07-10 15:02:07
M  123456 COMPLD
   "ochan-1a-4,ochan:SPR-C,80,PRTL,,,15-MIN,07-10,15-00"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. If the network element receives this command without an *aid* value or with an *aid* value that is invalid for the *modifier* provided, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

If the network element receives this command with a *montype* value that is not supported by the network element, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

If the network element receives this command with an invalid *tmper*, the following error response is returned:

```
    sid date time
M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
;
```

If the network element receives this command with a *monlev* value of any value, **0-UP** or **1-UP**, the following error response is returned:

```
    sid date time
M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONLEV */
;
```

If the network element receives this command with a invalid *dirn* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DIRN */
;
```

If the network·element receives this command with an invalid *montm* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTM */
;
```

If the network element receives this command with an invalid *mondat* format, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONDAT */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-PM-OLINE: Retrieve Performance_Monitoring Optical_Line

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available beginning in OLS Release 1.0.

INPUT FORMAT

RTRV-PM-OLINE:*tid:aid:ctag::[montype],[monlev],[locn],*
    [dirn],[tmper],[mondat][,montm];

⇒ NOTE:
The above single-line command is presented as two lines for ease of reading.

DESCRIPTION

This command is initiated by an OS or OS user to request the network element to send the current and/or historical performance-monitoring (PM) data associated with one or more optical lines for an OLS terminal.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

               [A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the facility for which the performance-monitoring data is requested.

               Entity: Optical Line
               Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype   This is the PM parameter type for which PM data is requested.

This parameter must be specified for one of the following values:

"LBC-P1" (Laser Bias Current for Pump 1),
"LBC-P2" (Laser Bias Current for Pump 2),
"LBFC-P1" (Laser Backface Current for Pump 1),
"LBFC-P2" (Laser Backface Current for Pump 2), or
"TOPR-OL" (Total Received Power - Optical Line).

If no value is provided for *montype*, the network element will respond with all performance monitoring data applicable to the *aid*.

monlev   Monitored parameter level. This provides the level and direction which are used to discriminate which performance monitoring data is being requested. This parameter, if specified, must have one of the following values: "1-UP", or "0-UP".

1-UP   A **1-UP** *monlev* value means that the network element reports only positive, non-zero data.

0-UP   A **0-UP** *monlev* value means that the network element reports data on all requested PM parameters without regard for their value.

⇒ **NOTE 1:**
All the network element's PM data can have only non-negative values. If no value is provided for this parameter, **1-UP** is assumed.

⇒ **NOTE 2:**
The LBCL (Laser Bias Current) PM parameter is reported regardless of what the input monlev parameter value is. The monlev parameter does not apply to LBCL because LBCL is represented as a fractional number ("real-valued") and is non-zero in the nominal case.

locn   Location. This parameter indicates the location being monitored for performance. This parameter may have the following value, "NEND".

dirn Direction of monitoring. This parameter indicates the direction for which the performance data is being retrieved and is relative to the facility identified by the AID. This parameter, if specified, must have one of the following values: "NA", "RCV", or "AZ":

  NA Not applicable (default).

  RCV Receive direction of transmission.

  AZ A-Z direction which is functionally the same as RCV.

  If no value is provided for this parameter, *NA* is assumed.

tmper Time period. This parameter requests performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN" or "1-DAY".

  15-MIN This requests PM data in 15-minute intervals (default).

  1-DAY This requests daily PM data.

  If no value is provided for this parameter, the network element responds using **15-MIN**.

mondat Monitored date. This requests the beginning date of the interval for which the PM data is to be reported. For a *tmper* value of **15-MIN**, the maximum allowable range of valid dates supported by *mondat* include the current and previous one day. For a *tmper* value of **1-DAY**, the maximum allowable range of valid dates supported by *mondat* include the current and previous six days. This parameter, if specified, must have the values of ALL or in the format of MM-DD (month-day).

  MM-DD Month-day

  ALL Current and previous day(s), as described above

  If no value is entered for *mondat*, the current date is assumed. If the *mondat* specifies a date other than the current date or the previous day(s)'s date, as described above, the network element responds to the user using the current date as the *mondat* value.

montm Monitored time. This specifies the beginning time of day of the requested performance-monitoring period specified in *tmper*. This parameter, if specified, must have the values of ALL or has the format HOD-MOH (hour of day-minute of hour), where HOD ranges from 00 to 23 and MOH ranges from 00 to 59.

  HOD-MOH Hour of day-minute of hour

  ALL All applicable beginning times for the given *mondat* value

If no value is entered for *montm*, the current HOD-0 is assumed. If the *montm* value provided does not correspond exactly to the network element PM reporting boundary, the value is *rounded up* to the next applicable boundary (for example, **01-03** for a 15-minute PM data is rounded up to **01-15**). If the *tmper* value is **1-DAY** then the *montm* parameter is not used.

The table below specifies the performance-monitoring data output based on the input values of *tmper*, *mondat*, and *montm* parameters. The term "other" is used to refer to any input value that is not covered by another entry for the subject parameter. The term "any" is used to refer to any input value, including "other" and no value, for the subject parameter.

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	**ALL**	any	15 min. data from the present time to the previous 8.25 hours
15-MIN or no value	current day or no value	**ALL**	15 min. data from the present time to the previous midnight or 8.25 earlier than the present, whichever is more recent.
15-MIN or no value	previous day	**ALL**	15 min. data from the previous midnight to 8 hours earlier than the present time. If the current time is later than 8:15 A.M., return an error response (invalid MONTM).
15-MIN or no value	previous day, current day, or no value	value of MONDAT and MONTM within 8.25 hours of current time	single 15 min. interval of data beginning at MONDAT and MONTM
15-MIN or no value	current day, previous day, or no value	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
15-MIN or no value	other	value of MONDAT and MONTM within 8.25 hours of the current time	single 15 min. interval of data beginning at MONDAT and MONTM

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	other	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
1-DAY	ALL	any	current and previous 1-day data
1-DAY	current day or no value	any	current 1-day data
1-DAY	any one of the previous six days	any	appropriate previous 1-day data
1-DAY	other	any	current 1-day data
other	any	any	return error response (invalid TMPER)

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

After receiving a valid command, the following output message is returned:

```
     sid date time
M    ctag COMPLD
     "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
               .         .       .        .        .
               .         .       .        .        .
               .         .       .        .        .
     "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
;
```

Applicable output lines are ordered as follows:

1. By *aid* in order corresponding to the shelf architecture.

2. By requested time intervals, starting with the current time interval.

3. By applicable PM parameters per *aid*.

If there is no data to return for the given valid command, the following message is returned:

```
     sid date time
M    ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid	Access identifier. This is the address of the facility for which the PM data is being reported.
aidtype	Access identifier type.

    OLINE   This reports performance-monitoring information at the optical lines for an OLS terminal.

montype   Monitored parameter type.

This parameter must be specified for one of the following values:

"LBC-P1" (Laser Bias Current for Pump 1),
"LBC-P2" (Laser Bias Current for Pump 2),
"LBFC-P1" (Laser Backface Current for Pump 1),
"LBFC-P2" (Laser Backface Current for Pump 2), or
"TOPR-OL" (Total Received Power - Optical Line).

Digital PM parameters include: CVL, ESL, SESL, and UASL; they are collected per 15 min. bin, and 1 day bin for each SUPR channel so that each has 2 values for each supervisory channel. Optical parameters include: SPR-SU and LBC-SU, and are collected on a per channel basis.

monval   Monitored value. This contains the measured value of the parameter specified in *montype*.

stat   For **stat**, *OVFL* has a higher priority than *TCA* and *TCA* has a higher priority than *PRTL*.
Status indicator. This indicates the validity of the PM data or if threshold has been exceeded by the PM data. This parameter, if specified, must have one of the following values:

NA   Data is not available. This includes counts not available because of trouble conditions that cause performance-monitoring to be suspended. *stat* shall be set to NA for *montype*=LBCL, LPR, and LPT when data has not yet been collected.

OVFL   This indicates counts that overflow their registers.

TCA   Threshold Crossing Alert.

PRTL   Data is accumulated over a complete interval but is corrupted or data is incomplete because it is not accumulated over a complete portion of the requested time period.

If the status is not specified, the data is valid and below the threshold level for that parameter.

locn   Location. The location field, if specified, must have the value (NEND).

dirn   Direction. The direction field will always be no value.

tmper   Time period. This parameter has the value 15-MIN or 1-DAY.

mondat   Monitored date. This is the beginning date of the interval for which PM data is reported. This parameter has the format MM-DD (month-day).

montm   Monitored time. This is the beginning time of the interval for which the PM data is reported. This parameter has the format HOD-MOH (hour of day-minute of hour).

EXAMPLE INPUT/OUTPUT

In the following example, the **RTRV-PM-OLINE** command returns Total optical power (TOPR-L) performance monitoring data for optical lines 1a, 1b, 2a, 2b at 15-minute intervals on Oct.26, starting at 17:00.

```
rtrv-pm-oline:LT-OLS:oline-all:314152::TOPR-OL,,,,15-MIN,10-26;




IP 314152
>



   LT-PF-2000 91-10-26 17:12:31
M  314152 COMPLD
   "oline-1a,OLINE:TOPR-OL,70,,,,15-MIN,10-26,17-00"
   "oline-1b,OLINE:TOPR-OL,70,,,,15-MIN,10-26,17-00"
   "oline-2a,OLINE:TOPR-OL,80,TCA,,,15-MIN,10-26,17-00"
   "oline-2b,OLINE:TOPR-OL,60,,,,15-MIN,10-26,17-00"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. If the network element receives this command without an *aid* value or with an *aid* value that is invalid for the *modifier* provided, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

If the network element receives this command with a *montype* value that is not supported by the network element, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
 ;
```

If the network element receives this command with an invalid *tmper*, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
 ;
```

If the network element receives this command with a *monlev* value of any value, **0-UP** or **1-UP**, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONLEV */
;
```

If the network element receives this command with a invalid *dirn* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DIRN */
;
```

If the network element receives this command with an invalid *montm* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTM */
;
```

If the network element receives this command with an invalid *mondat* format, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONDAT */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-PM-STIME Retrieve Performance_Monitoring Start_Time

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-PM-STIME:*tid*::*ctag*;

DESCRIPTION

The **RTRV-PM-STIME** command can be initiated by all users to retrieve the start time for measuring the day bins.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

                    [A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

When reporting the provisioning information, the following output message is returned:

```
    sid date time
M   ctag COMPLD
    ":start_hour"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

start_hour   *START_HOUR* is a position defined parameter to report the start hour for day bin measurements. It is reported in HH-00 format.

EXAMPLE OUTPUT

The following example shows a command *tid* for a network element.

```
rtrv-pm-stime:LT-PF-2000::CTAG;


IP 123456
<


    LT-PF-2000 93-10-26 16:42:11
M   CTAG COMPLD
":23-00"
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

SET-PM-STIME

NAME

RTRV-PM-SUPR: Retrieve Performance_Monitoring Supervisory

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available beginning in OLS Release 1.0.

INPUT FORMAT

RTRV-PM-SUPR:*tid:aid:ctag::[montype],[monlev],[locn],
    [dirn],[tmper],[mondat][,montm]*;

> **NOTE:**
> The above single-line command is presented as two lines for ease of reading.

DESCRIPTION

This command is initiated by an OS or OS user to request the network element to send the current and/or historical performance-monitoring (PM) data associated with the supervisory channel, which is in OC3 format, for an OLS terminal.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the facility for which the performance-monitoring data is requested. Entity: Supervisory Channel (End Terminals) Legal Values: (SUPR)-(ALL,1A,2A,3A,4A) Entity: Supervisory Channel [Repeaters] Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for ctag are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype This is the PM parameter type for which PM data is requested.

This parameter must be specified for one of the following values:

"CVL" (Coding violation count - Line),
"ESL" (Errored second count - Line),
"SESL" (Severely errored second count - Line),
"UASL" (Unavailable second count - Line),
"SPR-SU" (Signal power - Supervisory), or
"LBC-SU" (Laser Bias Current - Supervisory).

If no value is provided for montype, the network element will respond with all performance monitoring data applicable to the aid.

monlev Monitored parameter level. This provides the level and direction which are used to discriminate which performance monitoring data is being requested. This parameter, if specified, must have one of the following values: "1-UP", or "0-UP".

1-UP A 1-UP monlev value means that the network element reports only positive, non-zero data.

0-UP A 0-UP monlev value means that the network element reports data on all requested PM parameters without regard for their value.

⇒ NOTE 1:
All the network element's PM data can have only non-negative values. If no value is provided for this parameter, 1-UP is assumed.

⇒ NOTE 2:
The LBCL (Laser Bias Current) PM parameter is reported regardless of what the input monlev parameter value is. The monlev parameter does not apply to LBCL because LBCL is represented as a fractional number ("real-valued") and is non-zero in the nominal case.

locn   Location. This parameter indicates the location being monitored for performance. This parameter may have the following value, "NEND".

dirn   Direction of monitoring. This parameter indicates the direction for which the performance data is being retrieved and is relative to the facility identified by the AID. This parameter, if specified, must have one of the following values: "NA", "RCV", or "AZ".

NA   Not applicable (default).

RCV   Receive direction of transmission.

AZ   A-Z direction which is functionally the same as RCV.

If no value is provided for this parameter, *NA* is assumed.

tmper   Time period. This parameter requests performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN" or "1-DAY".

15-MIN   This requests PM data in 15-minute intervals (default).

1-DAY   This requests daily PM data.

If no value is provided for this parameter, the network element responds using **15-MIN**.

mondat   Monitored date. This requests the beginning date of the interval for which the PM data is to be reported. For a *tmper* value of 15-MIN, the maximum allowable range of valid dates supported by *mondat* include the current and previous one day. For a *tmper* value of **1-DAY**, the maximum allowable range of valid dates supported by *mondat* include the current and previous six days. This parameter, if specified, must have the values of ALL or in the format of MM-DD (month-day).

MM-DD   Month-day.

ALL   Current and previous day(s), as described above.

If no value is entered for *mondat*, the current date is assumed. If the *mondat* specifies a date other than the current date or the previous day(s)'s date, as described above, the network element responds to the user using the current date as the *mondat* value.

montm	Monitored time. This specifies the beginning time of day of the requested performance-monitoring period specified in *tmper*. This parameter, if specified, must have the values of ALL or has the format HOD-MOH (hour of day-minute of hour), where HOD ranges from 00 to 23 and MOH ranges from 00 to 59.

HOD-MOH	Hour of day-minute of hour
ALL	All applicable beginning times for the given *mondat* value.

If no value is entered for *montm*, the current HOD-0 is assumed. If the *montm* value provided does not correspond exactly to the network element PM reporting boundary, the value is *rounded up* to the next applicable boundary (for example, **01-03** for a 15-minute PM data is rounded up to **01-15**). If the *tmper* value is **1-DAY** then the *montm* parameter is not used.

The table below specifies the performance-monitoring data output based on the input values of *tmper*, *mondat*, and *montm* parameters. The term "other" is used to refer to any input value that is not covered by another entry for the subject parameter. The term "any" is used to refer to any input value, including "other" and no value, for the subject parameter.

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	**ALL**	any	15 min. data from the present time to the previous 8.25 hours
15-MIN or no value	current day or no value	**ALL**	15 min. data from the present time to the previous midnight or 8.25 earlier than the present, whichever is more recent.
15-MIN or no value	previous day	**ALL**	15 min. data from the previous midnight to 8 hours earlier than the present time. If the current time is later than 8:15 A.M., return an error response (invalid MONTM).
15-MIN or no value	previous day, current day, or no value	value of MONDAT and MONTM within 8.25 hours of current time	single 15 min. interval of data beginning at MONDAT and MONTM

RTRV-PM Output Data Relating to MONDAT, TMPER, and MONTM Input Parameters

TMPER	MONDAT	MONTM	Output PM Data
15-MIN or no value	current day, previous day, or no value	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
15-MIN or no value	other	value of MONDAT and MONTM within 8.25 hours of the current time	single 15 min. interval of data beginning at MONDAT and MONTM
15-MIN or no value	other	value of MONDAT and MONTM more than 8.25 hours before the current time, or other	return error response (invalid MONTM)
1-DAY	**ALL**	any	current and previous 1-day data
1-DAY	current day or no value	any	current 1-day data
1-DAY	any one of the previous six days	any	appropriate previous 1-day data
1-DAY	other	any	current 1-day data
other	any	any	return error response (invalid TMPER)

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

After receiving a valid command, the following output message is returned:

```
     sid date time
M    ctag COMPLD
     "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
              .        .        .        .        .
              .        .        .        .        .
              .        .        .        .        .
     "aid,aidtype:montype,monval,[stat],[locn],tmper,mondat,montm"
;
```

Applicable output lines are ordered as follows:

1. By *aid* in order corresponding to the shelf architecture.

2. By requested time intervals, starting with the current time interval.

3. By applicable PM parameters per *aid*.

If there is no data to return for the given valid command, the following message is returned:

```
     sid date time
M    ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

Additional parameters that specifically apply to this command response are defined below.

aid	Access identifier. This is the address of the facility for which the PM data is being reported.
aidtype	Access identifier type.

        SUPR   This reports performance-monitoring information at the supervisory channel, which is in OC3 format, for an OLS terminal.

montype	Monitored parameter type.

This parameter must be specified for one of the following values:

"CVL" (Coding violation count - Line),
"ESL" (Errored second count - Line),
"SESL" (Severely errored second count - Line),
"UASL" (Unavailable second count - Line),
"SPR-SU" (Signal power - Supervisory), or
"LBC-SU" (Laser Bias Current - Supervisory).

monval	Monitored value. This contains the measured value of the parameter specified in *montype*.
stat	For **stat**, *OVFL* has a higher priority than *TCA* and *TCA* has a higher priority than *PRTL*. Status indicator. This indicates the validity of the PM data or if threshold has been exceeded by the PM data. This parameter, if specified, must have one of the following values:

        NA   Data is not available. This includes counts not available because of trouble conditions that cause performance-monitoring to be suspended. *stat* shall be set to NA for *montype*=LBCL, LPR, and LPT when data has not yet been collected.

        OVFL   This indicates counts that overflow their registers.

        TCA   Threshold Crossing Alert.

PRTL   Data is accumulated over a complete interval but is corrupted or data is incomplete because it is not accumulated over a complete portion of the requested time period.

If the status is not specified, the data is valid and below the threshold level for that parameter.

locn   Location. The location field, if specified, must have the value (NEND).

dirn   Direction. The direction field will always be no value.

tmper   Time period. This parameter has the value 15-MIN or 1-DAY.

mondat   Monitored date. This is the beginning date of the interval for which PM data is reported. This parameter has the format MM-DD (month-day).

montm   Monitored time. This is the beginning time of the interval for which the PM data is reported. This parameter has the format HOD-MOH (hour of day-minute of hour).

EXAMPLE INPUT/OUTPUT

The command to retrieve performance monitoring data for supr-1a is:

```
rtrv-pm-supr:LT-OLS:supr-1a:123456::,,,,,,;


IP 123456
<


   LT-OLS 97-07-10 15:03:15
M  123456 COMPLD
   "supr-1a,supr:LBC-SU,1.04,,,,15-MIN,07-10,15-00"
   "supr-1a,supr:SPR-SU,1,,,,15-MIN,07-10,15-00"
   "supr-1a,supr:UASL,195,TCA,,,15-MIN,07-10,15-00"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. If the network element receives this command without an *aid* value or with an *aid* value that is invalid for the *modifier* provided, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

If the network element receives this command with a *montype* value that is not supported by the network element, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid MONTYPE */
;
```

If the network element receives this command with an invalid *tmper*, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
;
```

If the network element receives this command with a *monlev* value of any value, **0-UP** or **1-UP**, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONLEV */
;
```

If the network element receives this command with a invalid *dirn* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DIRN */
;
```

If the network element receives this command with an invalid *montm* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTM */
;
```

If the network element receives this command with an invalid *mondat* format, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONDAT */
;
```

RELATED TL1 COMMANDS/MESSAGES

None

NAME

RTRV-RELSPR: Retrieve Relative_Signal_Power

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-RELSPR:*tid:aid:ctag;*

DESCRIPTION

The **RTRV-RELSPR** command can be initiated by users to report instanteneous signal power of each channel in an optical line relative to the strongest signal in a scale of 0 to 100. The command can be applied at any site, but the report is meaningful only for the end terminals with OMU.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the optical line. The *aid* value may also be **all**(default value).
	Entity: Optical Line
	Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

The following output message is returned if a valid input command is issued:

```
   sid date time
M  ctag COMPLD
  "aid:OPDDB"
  "aid:OPDDB"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

aid   Access Identifier. This is the address of an optical line.

OPDDB   The *OPDDB* is a position defined block to report various attributes. The format will be *value1:value2:......* All applicable attributes are reported.

        stime   Start Time. This parameter indicates the time when the relative signal power per channel is measured. It is reported as hh-mm.

        relspr_c   Relative Signal Power per Channel. This parameter indicates the measured signal power of a channel relative to the strongest signal. It is reported in a scale of 0 to 100. If *relspr_c* data are requested on optical channels and the corresponding optical line is IS but the OA circuit pack is not inserted (or removed and no Update command issued), then the "-" will be shown in the data fields. If *relspr_c* data are requested on optical lines that are not equipped, then the "-" will be shown in the data fields.

EXAMPLE OUTPUT

The following example shows the results of a **RTRV-RELSPR** command.

```
rtrv-relspr:LT-OLS:oline-1a::123456;


IP 123456
<


   LT-OLS 93-10-26 07:35:00
M  123456 COMPLD
   "ochan-1a-1:07-35:80"
   "ochan-1a-2:07-35:70"
   "ochan-1a-3:07-35:100"
   "ochan-1a-4:07-35:70"
   "ochan-1a-5:07-35:60"
   "ochan-1a-6:07-35:60"
   "ochan-1a-7:07-35:50"
   "ochan-1a-8:07-35:50"
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. If an **RTRV-RELSPR** command is received with an invalid *aid* value, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-OCHAN

NAME

RTRV-STATE: Retrieve State

The privilege level for this command is REPORTS.

The OSI category for this command is FAULT.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

RTRV-STATE : *tid* : *[aid]* : *ctag*;

DESCRIPTION

The **RTRV-STATE** command can be initiated by users to retrieve slot, port, tributary, and line protection switching state and also switch priority information for the network element.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This is the address of the slot, port, tributary, or line for which this command is intended. The *aid* value may also be **all** or unspecified. If an *aid* is not sent to the network element, the network element responds as if the *aid* was all.

Entity: All
Legal Values: (ALL)

Entity: CMS Port [End Terminals]
Legal Values: (CMS)-(ALL,1A,2A,3A,4A)

Entity: CMS Port [Repeaters]
Legal Values: (CMS)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

Entity: Optical Line
Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

Entity: Optical Channel

Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B),
(OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(ALL, 1-8)

Entity: Supervisory Channel (End Terminals)
Legal Values: (SUPR)-(ALL,1A,2A,3A,4A)

Entity: Supervisory Channel [Repeaters]
Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: The access identifier for each type of entity has a different set of legal values. Click on "HELP" to get the complete list of allowable values for each entity used by this command, where necessary.

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

```
    sid date time
M ctag COMPLD
   "aid,[cptype]:[port_state_in],[port_state_out],[sw_state],
[actswprty],[queswprty]"
             .              .             .             .             .
             .              .             .             .             .
   "aid,[cptype]:[port_state_in],[port_state_out],[sw_state],
[actswprty],[queswprty]"
;
```

The output report is sorted as follows:

1. CMS port data

2. Optical line data

3. Supervisory channel data

4. Optical channel data

Within each group, the entries are sorted by *aid* values.

If the user selects **ochan-all**, where applicable, the output must include the following:
> ochan-1a-1,
> ochan-1b-1,
> .
> .
> .
> ochan-4b-8.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below.

aid   Access identifier. This is the address of the slot, port, tributary, or line for which state information is given.

cptype   Circuit Pack Type. This is the mnemonic name of the circuit pack. For example, tg3 is the mnemonic name of the timing generator circuit pack. 'RDNA' is a valid value, and indicates "Requested data not available". If the requested 'cptype' data for the addressed entity is corrupted, this value is reported. A null value implies that the slot is not equipped or the parameter does not apply.

port_state_in   Port State In. This is the port state in the "in" direction. Valid values are IS, OOS-MA-AS, or OOS corresponding to the "IS", "AUTO", or "NMON" states. 'RDNA' is a valid value, and indicates "Requested data not available". If the requested 'port_state_in' data for the addressed entity is corrupted, this value is reported.

This parameter is blank if it does not apply for a given *aid*.

EXAMPLE INPUT/OUTPUT

The following examples show a **RTRV-STATE** command with the system configured as End Terminal with only the optical lines 1a, 1b, 2a, and 2b equipped and other optical lines are not equipped.

```
RTRV-STATE:LT-PF-2000:ALL:CTAG;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "cms-1a,:,IS,,,"
   "cms-2a,:,IS,,,"
   "cms-3a,:,,,,"
   "cms-4a,:,,,,"
   "oline-1a,:IS,,,,"
   "oline-1b,:IS,,,,"
   "oline-2a,:IS,,,,"
   "oline-2b,:IS,,,,"
   "oline-3a,:,,,,"
   "oline-3b,:,,,,"
   "oline-4a,:,,,,"
   "oline-4b,:,,,,"
   "supr-1a,:IS,,,,"
   "supr-1b,:IS,,,,"
   "supr-2a,:IS,,,,"
   "supr-2b,:IS,,,,"
   "supr-3a,:,,,,"
   "supr-3b,:,,,,"
   "supr-4a,:,,,,"
   "supr-4b,:,,,,"
   "ochan-1a-1,:IS,,,,"
   "ochan-1a-2,:IS,,,,"
   "ochan-1a-3,:IS,,,,"
   "ochan-1a-4,:IS,,,,"
   "ochan-1a-5,:IS,,,,"
   "ochan-1a-6,:IS,,,,"
   "ochan-1a-7,:IS,,,,"
   "ochan-1a-8,:IS,,,,"
   "ochan-1b-1,:IS,,,,"
   "ochan-1b-2,:IS,,,,"
   "ochan-1b-3,:IS,,,,"
   "ochan-1b-4,:IS,,,,"
   "ochan-1b-5,:IS,,,,"
   "ochan-1b-6,:IS,,,,"
   "ochan-1b-7,:IS,,,,"
   "ochan-1b-8,:IS,,,,"
   "ochan-2a-1,:IS,,,,"
   "ochan-2a-2,:OOS-MA-AS,,,,"
   "ochan-2a-3,:IS,,,,"
   "ochan-2a-4,:IS,,,,"
   "ochan-2a-5,:IS,,,,"
   "ochan-2a-6,:IS,,,,"
   "ochan-2a-7,:OOS,,,,"

Screen continues on next page.
```

```
Screen continued from previous page.

    "ochan-2a-8,:IS,,,,"
    "ochan-2b-1,:IS,,,,"
    "ochan-2b-2,:IS,,,,"
    "ochan-2b-3,:IS,,,,"
    "ochan-2b-4,:IS,,,,"
    "ochan-2b-5,:IS,,,,"
    "ochan-2b-6,:IS,,,,"
    "ochan-2b-7,:IS,,,,"
    "ochan-2b-8,:IS,,,,"
    "ochan-3a-1,:,,,,"
    "ochan-3a-2,:,,,,"
    "ochan-3a-3,:,,,,"
    "ochan-3a-4,:,,,,"
    "ochan-3a-5,:,,,,"
    "ochan-3a-6,:,,,,"
    "ochan-3a-7,:,,,,"
    "ochan-3a-8,:,,,,"
    "ochan-3b-1,:,,,,"
    "ochan-3b-2,:,,,,"
    "ochan-3b-3,:,,,,"
    "ochan-3b-4,:,,,,"
    "ochan-3b-5,:,,,,"
    "ochan-3b-6,:,,,,"
    "ochan-3b-7,:,,,,"
    "ochan-3b-8,:,,,,"
    "ochan-4a-1,:,,,,"
    "ochan-4a-2,:,,,,"
    "ochan-4a-3,:,,,,"
    "ochan-4a-4,:,,,,"
    "ochan-4a-5,:,,,,"
    "ochan-4a-6,:,,,,"
    "ochan-4a-7,:,,,,"
    "ochan-4a-8,:,,,,"
    "ochan-4b-1,:,,,,"
    "ochan-4b-2,:,,,,"
    "ochan-4b-3,:,,,,"
    "ochan-4b-4,:,,,,"
    "ochan-4b-5,:,,,,"
    "ochan-4b-6,:,,,,"
    "ochan-4b-7,:,,,,"
    "ochan-4b-8,:,,,,"

;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. If an **RTRV-STATE** command is received with an invalid *aid* value, the following error response is returned:

```
    sid date time
 M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-PROT-rr
ENT-rr
OPR-PROTNSW-OC3
OPR-PROTNSW-OC12
OPR-PROTNSW-OC48
OPR-PROTNSW-SWFBR
OPR-PROTNSW-rr
REPT SW
RLS-PROTNSW-OC3
RLS-PROTNSW-OC12
RLS-PROTNSW-OC48
RLS-PROTNSW-SWFBR
RLS-PROTNSW-rr
RTRV-PROT-rr
SET-ATTR-rr

NAME

RTRV-SUPR: Retrieve Supervisory

The privilege level for this command is REPORTS.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-SUPR:*tid*:*aid*:*ctag[*:*type]*;

DESCRIPTION

RTRV-SUPR command messages can be initiated by an user to retrieve the
current provisioned state and current state of the supervisory (SUPR) channel.
This command retrieves all supervisory channel parameter settings that are
provisionable via **ENT-SUPR** commands pertaining to the addressed OLS,
reported one line per supervisory channel.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the entity for which the report is requested.
	Entity: Supervisory Channel (End Terminals) Legal Values: (SUPR)-(ALL,1A,2A,3A,4A)
	Entity: Supervisory Channel [Repeaters] Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
type	Type. A value for this parameter is neither expected nor allowed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

Because the network element supports pre-provisioning of parameters, lines are included for all applicable *aid* values in response to this command, whether or not the present equipage is capable of supporting the type of facility specified.

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here **only** for the convenience of the reader.

In response to a valid **RTRV-SUPR** command, the following output report is returned, sorted on SUPR channel data by the *supr_aid* value.

```
    sid date time
M   ctag COMPLD
    "supr_aid:::[level,]ntfcncde,sdthr"
    "supr_aid:::[level,]ntfcncde,sdthr"
             .       .       .
             .       .       .
             .       .       .
    "supr_aid:::[level,]ntfcncde,sdthr"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

supr_aid   Supervisory channel access identifier. This is the supervisory channel address for which output is being reported.

level   Signal level. This parameter is the signal level type being supported by the CMS port or supervisory channel specified in the addressed slot (if equipped). If equipped, the *level* parameter is reported in LEVEL=*xx* format where *xx* has the following value:

OC3   This specifies that the CMS port signal or the supervisory channel is OC3 level.

No *level* value is reported for unequipped slots.

ntfcncde   Notification code. This parameter is the alarm level provisioned for failures of facilities serviced by the addressed supervisory channel. The *ntfcncde* parameter is reported in NTFCNCDE=*xx* format where *xx* has one of the following values:

CR   Critical

MJ   Major

MN   Minor

NA   Not alarmed

NR   Not reported (No autonomous report will be generated.)

NO   Ignored (No autonomous or on-demand report will be generated.)

sdthr   Signal degrade threshold. This parameter is the signal degrade Bit Error Rate (BER) threshold for the facility serviced by the addressed supervisory channel. The *sdthr* parameter is reported in SDTHR=*xx* format where *xx* has one of the following values:

-9   This signifies that the signal degrade threshold is set at a BER of 10^{-9}.

-8   This signifies that the signal degrade threshold is set at a BER of 10^{-8}.

-7   This signifies that the signal degrade threshold is set at a BER of 10^{-7}.

-6   This signifies that the signal degrade threshold is set at a BER of 10^{-6}.

-5   This signifies that the signal degrade threshold is set at a BER of 10^{-5}.

EXAMPLE INPUT/OUTPUT

Line wrapping is not supported in the **OUTPUT FORMAT**. Output lines are broken here **only** for the convenience of the reader.

The example below shows the response to a query concerning all supervisory channels associated with all optical lines (supr-all) for an OLS End Terminal.

```
rtrv-supr:LT-OLS:supr-all:123456;


IP 123456
<


    LT-OLS 93-10-26 16:42:11
M   123456 COMPLD
    "supr-1a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-2a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-3a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-4a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
;
```

The example below shows the response to a query concerning all supervisory channels associated with all optical lines (supr-all) for an OLS Repeater.

```
rtrv-supr:LT-OLS:supr-all:123456;


IP 123456
<


    LT-OLS 93-10-26 16:42:11
M   123456 COMPLD
    "supr-1a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-1b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-2a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-2b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-3a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-3b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-4a:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
    "supr-4b:::LEVEL=OC3,NTFCNCDE=CR,SDTHR=-6"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives this command with any extra (beyond the input format specification above) null or non-null command parameter blocks (:), parameters (,), or termination characters (;), the following error response is returned:

```
    sid date time
M   ctag DENY
    IISP
    /* Input, Invalid Syntax or Punctuation */
;
```

If the network element receives a **RTRV** command without an *aid* value or with an *aid* value that is invalid for this command, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
       with modifier value */
;
```

If the network element receives this command with an invalid *type* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    INUP
    /* Input, Non-null Unimplemented Parameter, TYPE must be null */
;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-SUPR

SET-ATTR-SUPR

REPT SW

NAME

RTRV-SYS: Retrieve System

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-SYS:*tid*::*ctag;*

DESCRIPTION

Execution of this command on a network element retrieves the attributes associated with that network element's system or X.25 or CIT port. The system level and X.25 port attributes are the information that is provisioned by the **set-network element** CIT-PC command. The CIT port attributes are provisioned via the **set-security-port** CIT-PC command.

Execution of this command on a network element retrieves the attributes associated with that network element's system or X.25 ports. The system level and X.25 port attributes are the information that is provisioned by the **set-network element** CIT-PC command.

The **RTRV-SYS** command can be initiated by a user to retrieve network element attributes associated with that network element at the system level or with the X.25 or CIT port parameters that are currently in effect.

The **RTRV-SYS** command can be initiated by a user to retrieve network element attributes associated with that network element at the system level or with the X.25 port parameters that are currently in effect.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If there is system information to report, the following output message is returned:

```
sid date time


M   ctag COMPLD
    "tid=system_name, dsne=x, x25ps=x, dirn=x, system_type=x"
    "almgrp=n, agne=x"
;
```

OUTPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%# The initial value for *tid* is LT-FT-2000.
dsne	The *dsne* indicates whether or not the network element identified by the *tid* is serving as the Directory Service-Network Element in a Self Healing Ring or subnetwork. It takes the values *yes* and *no*.
x25ps	X.25 Packet Size. *x25ps* may have a value of 256 or 128. This parameter determines the TL1 packet size for the X.25 interface.
almgrp	Alarm Group, [also known as Sonet Maintenance Sub-Branch or SMSB]. *almgrp* may have an integer value between 0 and 255, inclusive. This parameter determines the set of remote NEs with which the local NE can exchange remote alarm information. 0 value indicates that no remote alarm information is exchanged.

agne Alarm Gateway Network Element. *agne* may have a value of "YES" or "NO". This parameter determines whether the local network element serves its Alarm Group or SMSB as an AGNE or not. (For further details on an AGNE's role, refer to the PF-2000 Interworking Specification Document, Section 4.4.)

dirn Direction. *dirn* has a value of 1A-TX or 1A-RCV. 1A-TX indicates that the optical lines 1A, 2A, 3A and 4A are carrying traffic in the transmit direction (out of OLS) and optical lines 1B, 2B, 3B and 4B are carrying traffic in receive direction i.e into OLS. The factory default value of the parameter is 1A-TX. This parameter is significant in OLS end terminals, but not in OLS repeaters. An OLS end terminal provisioned as 1A-TX indicates that the output from the telemetry pack is connected to, for example, 1A OA circuit pack and the input is connected to 1B OA circuit pack i.e optical line 1A is carrying traffic in transmit direction. At the other end terminal the telemetry pack should have reverse orientation in the sense, that as it is receiving traffic on line 1A its input should be connected to 1A OA circuit pack and its output should be connected to 1B OA circuit pack. Therefore, this particular end terminal should be provisioned as 1A-RCV.

⇒ **NOTE:**
A **RTRV-SYS** report on an OLS operating in the repeater mode would return dirn=-, indicating that no valid provisioned value exists.

system_type System Type. This parameter provisions the NE for either one of two optical amplifier pump power settings. System_type has a value of Nx33 indicating a 33dB configuration, or a value of Mx24, indicating a 24dB configuration.

EXAMPLE OUTPUT

```
RTRV-SYS:LT-PF-2000::123456;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "tid=LT-PF-2000, dsne=yes, x25ps=256, dirn=1A-TX"
   "almgrp=10, agne=yes"
   "dce=tl1, baud_tl1-dce=9600, dte=cit"
;
```

```
RTRV-SYS:LT-PF-2000::123456;



IP 123456
<



   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "tid=LT-PF-2000, dsne=yes, x25ps=256, dirn=1A-TX"
   "almgrp=10, agne=yes"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

RELATED TL1 COMMANDS/MESSAGES

ENT-SYS

INIT-SYS

NAME

RTRV-TH-ALL: Retrieve Threshold All

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-TH-ALL:*tid:aid:ctag::[montype],[locn][,tmper];*

DESCRIPTION

The **RTRV-TH-ALL** instructs a network element to send the current threshold level and TCA autonomous reporting status of one or more monitored parameters for which violation will trigger an automatic message for all signal types (OLINE, OCHAN, and SUPR).

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This identifies the facilities for which threshold levels are being retrieved. The only valid value for this parameter is **ALL**.

Entity: All
Legal Values: (ALL)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype Monitored parameter type. This is the PM parameter type for which a threshold is being retrieved.

This parameter must be specified for one of the following values:

"LBC-P1" (Laser Bias Current for Pump 1),
"LBC-P2" (Laser Bias Current for Pump 2),
"LBFC-P1" (Laser Backface Current for Pump 1),
"LBFC-P2" (Laser Backface Current for Pump 2),
"TOPR-OL" (Total Received Power - Optical Line),
"SPR-C" (Optical Channel Signal Power),
"CVL" (Coding violation count - Line),
"ESL" (Errored second count - Line),
"SESL" (Severely errored second count - Line),
"UASL" (Unavailable second count - Line),
"SPR-SU" (Signal power - Supervisory),
"LBC-SU" (Laser Bias Current - Supervisory).

If no value is provided for this parameter, the value of **ALL** is assumed.

locn Location. This is the location where the threshold is being retrieved and refers to the facility identified by the *aid*. The only valid location for this parameter is: "NEND".

dirn Direction of monitoring. This parameter indicates the direction for which the performance data is being retrieved and is relative to the facility identified by the AID. This parameter, if specified, must have one of the following values: "NA", "RCV", or "AZ":

NA Not applicable (default).

RCV Receive direction of transmission.

AZ A-Z direction which is functionally the same as RCV.

If no value is provided for this parameter, *NA* is assumed.

tmper Time period. This requests performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN", "1-DAY", or "ALL".

15-MIN This requests PM data in 15-minute intervals.

1-DAY This requests daily PM data.

ALL This requests all PM data for the specified facilities.

If no value is provided for this parameter, *ALL* is assumed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion response is returned:

```
   sid date time
M  ctag COMPLD
   "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
            .       .       .       .
            .       .       .       .
            .       .       .       .
   "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

aid   Access identifier. This identifies the facility for which threshold levels are being retrieved.

aidtype   The type of access identifier. Valid values for *aidtype* are as follows:

OCHAN the optical channels for OLS.

OLINE the optical line for OLS.

SUPR   the OC3 level supervisory channel for OLS.

montype   Monitored parameter for which threshold level is being retrieved. The threshold value of a *montype* will not be displayed in the output report unless it is user provisionable.

locn   Location. This is the location where the threshold is to be retrieved and refers to the facility identified by the AID. The valid locations are:

NEND   Near-end

dirn   Direction. This specifies the direction in which the PM data is to be retrieved and is relative to the facility identified by the AID.

thlev   Current threshold level for the monitored parameter. thlev for coding violations is set using BER but reported, by the associated RTRV-TH command as COUNT.

tmper   Accumulation time period for the PM information.

tcarpt   TCA report. This parameter indicates if threshold crossing alert (TCA) autonomous reporting has been enabled or disabled for the specified *montype* for the given *tmper*. A value of ENABLE means TCA autonomous reporting is enabled and a value of DISABLE indicates TCA autonomous reporting is disabled.

EXAMPLE INPUT/OUTPUT

Command to retrieve the cvl threshold parameter for all signal types:

```
rtrv-th-all:LT-FT-2000:all:123456::cvl,nend,1-day;


IP 123456
<


   LT-FT-2000 94-03-22 16:12:12
M  123456 COMPLD
   "supr-1a,SUPR:CVL,NEND,NA,140,1-DAY,DISABLE"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *aid* value is missing or invalid.

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID  missing or inconsistent
with modifier values*/
;
```

The network element returns the following error response if the *montype* value is not supported.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

The network element returns the following error response if the *locn* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid LOCN */
;
```

The network element returns the following error response if the *tmper* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-ALL

SET-TH-xxxx

REPT EVT

NAME

RTRV-TH-OCHAN: Retrieve Threshold Optical_Channel

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-TH-OCHAN:*tid:aid:ctag::[montype],[locn][,tmper];*

DESCRIPTION

The **RTRV-TH-OCHAN** instructs a network element to send the current threshold level and TCA autonomous reporting status of one or more monitored parameters for which violation will trigger an automatic message for optical channel signal types.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This identifies the facility for which threshold levels are being retrieved.

Entity: Optical Channel

Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B),
(OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)-(ALL, 1-8)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype   Monitored parameter type. This is the PM parameter type for which a threshold is being retrieved. This parameter must be specified for the following value:

"SPR-C" (Optical Channel Signal Power).

If no value is provided for this parameter, the value of **ALL** is assumed.

Applicable output lines are ordered as follows:

1. By applicable PM parameters/*montype*s per *aid*.

   The output order of *montype*s the same as in the RTRV-PM report.

2. By requested time intervals (*tmper*)s, starting with the current time interval. The output order of (cotmper is the same as in the RTRV-PM command.

locn   Location. This is the location where the threshold is being retrieved and refers to the facility identified by the *aid*. The only valid location for this parameter is: "NEND".

tmper   Time period. This requests PM data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN", "1-DAY", "ALL".

15-MIN   This requests PM data in 15-minute intervals.

1-DAY   This requests daily PM data.

ALL   This requests all PM data for the selected facilities.

If no value is provided for *tmper*, *15-MIN* is assumed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
                .        .      .        .
                .        .      .        .
                .        .      .        .
    "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

aid   Access identifier. This identifies the facility for which threshold levels are being retrieved.

aidtype   The type of access identifier. Valid values for *aidtype* are as follows:

OCHAN the optical channels for OLS.

montype   Monitored parameter for which threshold level is being retrieved. The threshold value of a *montype* will not be displayed in the output report unless it is user provisionable.

locn   Location. This is the location where the threshold is to be retrieved and refers to the facility identified by the AID. The valid locations are:

NEND   Near-end

thlev   Current threshold level for the monitored parameter.

thlev for coding violations is set using BER but reported, by the associated **RTRV-TH** command, as COUNT.

tmper   Accumulation time period for the PM information.

tcarpt   TCA report. This parameter indicates if threshold crossing alert (TCA) autonomous reporting has been enabled or disabled for the specified *montype* for the given *tmper*. A value of ENABLE means TCA autonomous reporting is enabled and a value of DISABLE indicates TCA autonomous reporting is disabled.

EXAMPLE INPUT/OUTPUT

The command to retrieve the optical channel's SPR-C threshold parameter for ochan-1a-1 is:

```
rtrv-th-ochan:LT-OLS:ochan-1a-1:123456::spr-c,,15-min;


IP 123456
<


    LT-OLS 97-07-09 10:47:56
M   123456 COMPLD
    "ochan-1a-1,OCHAN:SPR-C,NEND,NA,60,15-MIN,ENABLE"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *aid* value is missing or invalid.

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID  missing or inconsistent
with modifier values*/
;
```

The network element returns the following error response if the *montype* value is not supported.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

The network element returns the following error response if the *locn* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid LOCN */
;
```

The network element returns the following error response if the *tmper* value is invalid.

```
     sid date time
 M   ctag DENY
     IDNV
     /* Input, Data Not Valid, invalid TMPER */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-OCHAN

SET-TH-OCHAN

REPT EVT OCHAN

NAME

RTRV-TH-OLINE: Retrieve Threshold Optical_Line

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-TH-OLINE:*tid:aid:ctag*::*[montype],[locn][,tmper]*;

DESCRIPTION

The **RTRV-TH-OLINE** instructs a network element to send the current threshold level and TCA autonomous reporting status of one or more monitored parameters for which violation will trigger an automatic message for optical line signal types.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This identifies the facility for which threshold levels are being retrieved.

Entity: Optical Line
Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype   Monitored parameter type. This is the PM parameter type for which a threshold is being retrieved.

This parameter must be specified for the following value:

"TOPR-OL" (Total Received Power - Optical Line).

If no value is provided for this parameter, the value of **ALL** is assumed.

Applicable output lines are ordered as follows:

1. By applicable PM parameters/*montype*s per *aid*.

   The output order of *montype*s the same as in the RTRV-PM report.

2. By requested time intervals (*tmper*)s, starting with the current time interval. The output order of (cotmper is the same as in the RTRV-PM command.

locn   Location. This is the location where the threshold is being retrieved and refers to the facility identified by the *aid*. The only valid location for this parameter is: "NEND".

tmper   Time period. This requests PM data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN", "1-DAY", "ALL".

15-MIN   This requests PM data in 15-minute intervals.

1-DAY   This requests daily PM data.

ALL   This requests all PM data for the selected facilities.

If no value is provided for *tmper*, *15-MIN* is assumed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion response is returned:

```
     sid date time
 M   ctag COMPLD
     "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
               .       .       .       .
               .       .       .       .
               .       .       .       .
     "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
 ;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

aid
Access identifier. This identifies the facility for which threshold levels are being retrieved.

aidtype
The type of access identifier.

OLINE the optical line for OLS.

montype
Monitored parameter for which threshold level is being retrieved. The threshold value of a *montype* will not be displayed in the output report unless it is user provisionable.

locn
Location. This is the location where the threshold is to be retrieved and refers to the facility identified by the AID. The valid locations are:

NEND   Near-end

thlev
Current threshold level for the monitored parameter.

thlev for coding violations is set using BER but reported, by the associated **RTRV-TH** command, as COUNT.

tmper
Accumulation time period for the PM information.

tcarpt   TCA report. This parameter indicates if threshold crossing alert (TCA) autonomous reporting has been enabled or disabled for the specified *montype* for the given *tmper*. A value of ENABLE means TCA autonomous reporting is enabled and a value of DISABLE indicates TCA autonomous reporting is disabled.

EXAMPLE INPUT/OUTPUT

The command to retrieve the optical oline's TOPR-OL threshold parameter for oline-1a is:

```
rtrv-th-oline:LT-OLS:oline-1a:123456::topr-ol,,1-day;


IP 123456
<


    LT-OLS 97-07-09 11:42:10
M   123456 COMPLD
    "oline-1a,OLINE:TOPR-OL,NEND,NA,60,1-DAY,ENABLE"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *aid* value is missing or invalid.

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
with modifier values*/
;
```

The network element returns the following error response if the *montype* value is not supported.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

The network element returns the following error response if the *locn* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid LOCN */
;
```

The network element returns the following error response if the *tmper* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-OLINE

SET-TH-OLINE

REPT EVT OLINE

NAME

RTRV-TH-SUPR: Retrieve Threshold Supervisory

The privilege level for this command is REPORTS.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-TH-SUPR:*tid*:*aid*:*ctag*::*[montype]*,*[locn]*[,*tmper]*;

DESCRIPTION

The **RTRV-TH-SUPR** instructs a network element to send the current threshold
level and TCA autonomous reporting status of one or more monitored
parameters for which violation will trigger an automatic message for optical
carrier signal level 3 (OC-3) supervisory channel signals.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. This identifies the facility for which threshold levels are being retrieved. Entity: Supervisory Channel (End Terminals) Legal Values: (SUPR)-(ALL,1A,2A,3A,4A) Entity: Supervisory Channel [Repeaters] Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype   Monitored parameter type. This is the PM parameter type for which a threshold is being retrieved.

This parameter must be specified for one of the following values:

"CVL" (Coding violation count - Line),
"ESL" (Errored second count - Line),
"SESL" (Severely errored second count - Line), or
"UASL" (Unavailable second count - Line).

If no value is provided for this parameter, the value of **ALL** is assumed.

Applicable output lines are ordered as follows:

1. By applicable PM parameters/*montype*s per *aid*.

   The output order of *montype*s the same as in the RTRV-PM report.

2. By requested time intervals (*tmper*)s, starting with the current time interval. The output order of (cotmper is the same as in the RTRV-PM command.

locn   Location. This is the location where the threshold is being retrieved and refers to the facility identified by the *aid*. The only valid location for this parameter is: "NEND".

tmper   Time period. This requests PM data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN", "1-DAY", "ALL".

15-MIN   This requests PM data in 15-minute intervals.

1-DAY   This requests daily PM data.

ALL   This requests all PM data for the selected facilities.

If no value is provided for *tmper*, *15-MIN* is assumed.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
    "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
               .        .       .       .
               .        .       .       .
               .        .       .       .
    "aid,aidtype:montype,locn,dirn,thlev,tmper,tcarpt"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

aid   Access identifier. This identifies the facility for which threshold levels are being retrieved.

aidtype   The type of access identifier. Valid values for *aidtype* are as follows:

SUPR   the OC3 level supervisory channel for OLS.

montype   Monitored parameter for which threshold level is being retrieved. The threshold value of a *montype* will not be displayed in the output report unless it is user provisionable.

locn   Location. This is the location where the threshold is to be retrieved and refers to the facility identified by the AID. The valid locations are:

NEND   Near-end

thlev   Current threshold level for the monitored parameter.

thlev for coding violations is set using BER but reported, by the associated **RTRV-TH** command, as COUNT.

tmper   Accumulation time period for the PM information.

tcarpt   TCA report. This parameter indicates if threshold crossing alert (TCA) autonomous reporting has been enabled or disabled for the specified *montype* for the given *tmper*. A value of ENABLE means TCA autonomous reporting is enabled and a value of DISABLE indicates TCA autonomous reporting is disabled.

EXAMPLE INPUT/OUTPUT

Command to retrieve the supervisory channel's cvl threshold parameter for supr-1a and ,

```
rtrv-th-supr:LT-FT-2000:supr-1a:123456::cvl,nend,1-day;


IP 123456
<


   LT-FT-2000 94-03-22 16:12:12
M  123456 COMPLD
   "supr-1a,SUPR:CVL,NEND,NA,140,1-DAY,DISABLE"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *aid* value is missing or invalid.

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier, AID  missing or inconsistent
with modifier values*/
;
```

The network element returns the following error response if the *montype* value is not supported.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

The network element returns the following error response if the *locn* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid LOCN */
;
```

The network element returns the following error response if the *tmper* value is invalid.

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-SUPR

SET-TH-SUPR

REPT EVT SUPR

NAME

RTRV-USER-SECU: Retrieve User Security

The privilege level for this command is REPORTS.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

RTRV-USER-SECU:*tid:[uid]:ctag;*

DESCRIPTION

RTRV-USER-SECU command is used by an appropriate administrator to retrieve
the security parameters associated with a user, except for the user's password,
which cannot be retrieved.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which
             the command is addressed. It must be a string of 20 or fewer
             characters from the following set:

             [A-Z][a-z][0-9].+-%#

uid   This is the User Identifier of a user. If specified, the valid value is a
             single uid. If omitted, this command retrieves user security
             parameters for all the existing user identification.

             The word "all" could be used as a uid.

ctag   Correlation tag. This is included in the command and is repeated
             back by the network element in the response to allow association of
             the command and response messages. Valid values for *ctag* are
             strings of up to 6 characters comprised of identifiers and/or decimal
             numerals (a string of decimal digits with an optional non-trailing ".").
             Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the
input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element has logins to report, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
    "uid:,uap"
;
```

If the network element receives a **RTRV-USER-SECU** command with a non-existing *uid*, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

uid	If the network element receives a **RTRV-USER-SECU** with a null value for *uid*, it returns all the user accounts with privileged users first, followed by general users, then reports-only users.
uap	User Access Privilege. It takes one of the following values: **privlegd**, **general** or **reports**.

EXAMPLE INPUT/OUTPUT

```
RTRV-USER-SECU:LT-PF-2000:kjlee:123456;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
   "kjlee:,general"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If the network element receives a **RTRV-USER-SECU** command with an invalid *uid*, the following error response is returned:

```
   sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UID */
;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-USER-SECU

ED-USER-SECU

DLT-USER-SECU

NAME

SET-ATTR-ALM: Set Attribute Alarm

The privilege level for this command is GENERAL.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-ATTR-ALM:*tid*::*ctag*[:::*spec_block*];

DESCRIPTION

The **SET-ATTR-ALM** command can be executed to provision the incoming signal alarm delay and the alarm clear delay intervals.

INPUT PARAMETERS

tid
Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag
Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

spec_block
Specific block. Parameters included within the specific block are positionally independent and are specified using a name-defined construct of: PARAMETER=*value*. The specific block may have one, more than one or none of the following parameters specified within it in a comma-separated list. Furthermore, each parameter listed below can appear at most once within the specific block for a single **SET-ATTR-ALM** command. The parameters are listed in alphabetic order.

almdel
Alarm delay. This is the incoming signal alarm delay parameter. Legal values are 0-120 (seconds) or it may be omitted, in which case the value of the parameter is left unchanged.

        clrdel   Alarm clear delay. This is the alarm clear delay parameter. Legal values are 0-120 (seconds) or it may be omitted, in which case the value of the parameter is left unchanged.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **SET-ATTR-ALM** request, the following normal completion response is returned.

```
     sid date time
M    ctag COMPLD
;
```

If the **SET-ATTR-ALM** command does not alter the existing attributes, the network element will not deny the command. Instead the system will respond with the completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a **SET-ATTR-ALM** command that provisions the incoming signal delay to 10 seconds and provision the alarm clear delay to 30 seconds.

```
SET-ATTR-ALM:LT-PF-2000::123456:::almdel=10,clrdel=30;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

The following example shows a **SET-ATTR-ALM** command that provisions the alarm clear delay to 14 seconds.

```
SET-ATTR-ALM:LT-PF-2000::123456:::clrdel=14;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If a **SET-ATTR-ALM** command is received with an invalid almdel parameter, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid almdel parameter */
;
```

If a **SET-ATTR-ALM** command is received with an invalid clrdel parameter, the following error response is returned:

```
   sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid clrdel parameter */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-ATTR-ALM

NAME

SET-ATTR-CONT: Set Attribute Control

The privilege level for this command is GENERAL.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-ATTR-CONT:*tid:aid:ctag::conttype;*

DESCRIPTION

The **SET-ATTR-CONT** command can be executed to provision (define) the description associated with an external control.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
aid	Access identifier. The *aid* identifies the external miscellaneous discrete control for which attributes are being set. An *aid* value must be provided. Entity: Single Point (Control) Legal Values: (CONT)-(1-36)
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
conttype	Control Type. The *conttype* is the text string associated with the selected miscellaneous discrete control. It is an alphanumeric string, upper and lower case, spaces and periods allowed, up to 26 characters long. *conttype* is case sensitive and is enclosed with escaped quotes (\"). A conttype entry is required.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the **SET-ATTR-CONT** request, the following normal completion response is returned.

```
     sid date time
 M   ctag COMPLD
 ;
```

If the **SET-ATTR-CONT** command does not alter the already provisioned description, the network element will not deny the command. Instead the system will respond with the completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a **SET-ATTR-CONT** command that provisions the text string for miscellaneous discrete control 3 to \"*fan3*\" for a PF-2000 system:

```
SET-ATTR-CONT:LT-PF-2000:CONT-3:123456::\"fan3\";


IP 123456
<



    LT-PF-2000 93-10-26 16:42:11
M   123456 COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

If a **SET-ATTR-CONT** command is received with an invalid access identifier, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier */
;
```

If a **SET-ATTR-CONT** command is entered with an unimplemented parameter, the following (representative) error response is returned:

```
    sid date time
 M  ctag DENY
    INUP
    /* Input, Non-null Unimplemented Parameter */
 ;
```

If a **SET-ATTR-CONT** command is entered with an invalid conttype parameter the following error response is returned:

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid CONTTYPE */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-ATTR-CONT

NAME

SET-ATTR-ENV: Set Attribute Environment

The privilege level for this command is GENERAL.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-ATTR-ENV:*tid:aid:ctag::[ntfcncde],,almmsg;*

DESCRIPTION

SET-ATTR-ENV commands can be initiated to request the network element to set the notification code (alarm level) and alarm message (condition description) associated with environmental alarm/status points.

Environmental *alarm* conditions are reported by TL1 autonomous REPT ALM ENV messages. Environmental *status* conditions are reported by TL1 autonomous REPT EVT COM messages and periodically via REPT COND. The provisioned notification code, alarm type, and alarm message are included in the TL1 messages reporting the occurrence of an environmental condition.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:
	[A-Z][a-z][0-9].+-%#
aid	Access identifier. This is the address of the environmental points to be provisioned.
	Entity: Single Point (Environmental)
	Legal Values: (ENV)-(1-144)
	A null value is not permitted with this parameter.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ntfcncde Notification code. This is the alarm level to be associated with the addressed environmental point and may have one of the following values: "CR", "MJ", "MN", "NA", "NR", or "NO".

CR Critical alarm

MJ Major alarm

MN Minor alarm

NA Not alarmed

NR Not reported

NO Do not report any alarms

almmsg Alarm message. This is the condition description to be associated with the addressed environmental point. The description may be a string of up to 26 characters consisting of case-sensitive (upper-case and lower-case) alphanumerics, spaces, and "." (periods). The description must be enclosed using delimiters. The delimiter to be used is \" that is, backslash followed by double-quotes.

This parameter is an exception to the general rule of TL1 input parameters being case-insensitive.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the set attribute environment request, the following normal completion response is returned:

```
   sid date time
M  ctag COMPLD
;
```

If the network element receives a valid **SET-ATTR-ENV** command, but the command does not alter the existing alarm attributes, the network element provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
SET-ATTR-ENV:LT-FT-2000:env-10:123456::MJ,,\"environment 10\";




IP 123456
<



   LT-FT-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **SET-ATTR-ENV** command, also.

If the network element receives a **SET-ATTR-ENV** command with an invalid or missing *aid* value, the following error response is returned:

```
   sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier */
;
```

If the network element receives a **SET-ATTR-ENV** command with an invalid *ntfcncde* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid NTFCNCDE */
;
```

If the network element receives a **SET-ATTR-ENV** command with an invalid *almmsg* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid ALMMSG */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-ATTR-ENV

NAME

SET-ATTR-SUPR: Set Attribute Supervisory

The privilege level for this command is GENERAL.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-ATTR-SUPR:tid:aid:ctag::[ntfcncde][,,,,];

DESCRIPTION

SET-ATTR-SUPR command instructs a network element to set the notification code associated with a supervisory channel failure event.

For incoming supervisory channel signals, failure events are:

- incoming supr chnl LOF

- incoming supr chnl LOS

- incoming supr chnl SD

- incoming supr chnl SF

This attribute governs whether the event notification is alarmed (reported via REPT ALM) or not alarmed (reported via REPT EVT). A no-report option is also available.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. For the OLS terminal, this is the address of the supervisory channel.

Entity: Single Supervisory Channel [End Terminals]
Legal Values: (SUPR)-(1A,2A,3A,4A)

Entity: Supervisory Channel [Repeaters]
Legal Values: (SUPR)-(1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

ntfcncde Notification code. This is the alarm level for an incoming signal failure event and may have one of the following values: "CR", "MJ", "MN", "NA", "NR", or "NO".

CR   Critical alarm

MJ   Major alarm

MN   Minor alarm

NA   Not alarmed

NR   Not reported

NO   Not indicated (That is, no report is made at all.)

A null value defaults to **CR**.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

If the network element fully complies with the set attribute request, the following normal completion response is returned:

```
     sid date time
M   ctag COMPLD
;
```

If the network element receives a valid **SET-ATTR** command, but the command does not alter the existing alarm attributes, the network element provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following OLS example shows the input string to provision the notification code to critical of the 1a supervisory channel:

```
SET-ATTR-SUPR:OLS-2000:supr-1a:123456::CR;


IP 123456
<


     OLS-2000 94-06-02 10:25:33
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to the **SET-ATTR-SUPR** command, also.

If the network element receives a **SET-ATTR** command with an invalid or missing *aid* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID missing or inconsistent
with modifier value */
;
```

If the network element receives a **SET-ATTR** command with an invalid *ntfcncde* value, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid NTFCNCDE */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-ATTR-SUPR

NAME

SET-PM-STIME Set Performance_Monitoring Start_Time

The privilege level for this command is GENERAL.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 2.0.

INPUT FORMAT

SET-PM-STIME:*tid*::*ctag*::*start_hour*;

DESCRIPTION

The **SET-PM-STIME** command specifies the start time for the measurement of all twenty-four hour performance monitoring parameters.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

ctag   Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

start_hour Start Hour. The *start_hour* is a position defined parameter which specifies the start hour for day bin measurements. It can take the value of an integer between 0 and 23.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Execution of this command may corrupt performance monitoring data.

OUTPUT FORMAT

If the network element fully complies with the **SET-PM-STIME** request, the following normal completion response is returned.

```
     sid date time
M  ctag COMPLD
;
```

If the **SET-PM-STIME** command does not alter the existing attributes, the network element will not deny the command. Instead the system will respond with the completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a command **SET-PM-STIME** for the network element.

```
set-pm-stime:LT-PF-2000::CTAG::22;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  CTAG COMPLD
;
```

ERROR RESPONSE

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command. If an **SET-PM-STIME** command is received with an invalid START_HOUR value, the following error response is returned:

```
    sid date time
M   ctag DENY
   IDNV
   /* Input, Data Not Valid, Invalid START_HOUR */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-STIME

NAME

SET-SID: Set Source_Identification

The privilege level for this command is PRIVILEGED.

The OSI category for this command is SECURITY.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-SID:*tid*::*ctag*::*sid*;

DESCRIPTION

⚠ **CAUTION:**
Network element access is affected by this command.

This command can be initiated by an user to change the target/source identification of the network element.

When the network element receives a **SET-SID** command, the network element will update its target/source identifier as requested.

The target/source identifier remains active until changed (for example, by the TL1 command **ENT-SYS** command or by the appropriate network element Craft Interface Terminal (coT) command).

INPUT PARAMETERS

tid	Target identifier. This is the currently active name of the network element to which the command is addressed.
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.
sid	Target identifier. This is the new name of the network element to which the command is addressed.

⇒ **NOTE:**
For proper operation of the TL1 interfaces, the *sid* must be unique for each network element within a subnetwork.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

None

OUTPUT FORMAT

Refer to the **RTRV-HDR** OUTPUT FORMAT section. The requirements listed there apply to the **SET-SID** command also.

If the requested **SET-SID** command does not alter the existing condition, the network element shall not DENY the command. Instead the network element shall respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example requests a change of the target identifier to LT-FT-2000 from LT-PF-2000:

```
set-sid:LT-PF-2000::123456::LT-FT-2000;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The requirements listed there apply to the **SET-SID** command also.

If the network element receives a **SET-SID** with an otherwise valid set of input parameter values but the *sid* specified in the command is syntactically incorrect, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid SID */
;
```

If the network element receives a **SET-SID** without the *sid* parameter, the following error response is returned:

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, missing SID */
;
```

If the network element receives a **SET-SID** with an otherwise valid set of input parameter values but the command could not be completed by the network element, the following error response is returned:

```
    sid date time
M   ctag DENY
    SROF
    /* Status, Requested Operation Failed */
;
```

RELATED TL1 COMMANDS/MESSAGES

ENT-SYS

RTRV-SYS

NAME

SET-TH-OCHAN: Set Threshold Optical_Channel

The privilege level for this command is GENERAL.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-TH-OCHAN:*tid:aid:ctag::montype,[thlev],[locn],[dirn],
[tmper][,tcarpt];*

⇒ NOTE:

The above single-line command is presented as two lines for ease of
reading.

DESCRIPTION

The **SET-TH_OCHAN** command instructs a network element to set the threshold
level for optical channel monitored parameters.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set:

[A-Z][a-z][0-9].+-%#

aid	Access identifier. This identifies the facility to which the threshold applies.

Entity: Optical Channel

Legal Values: (OCHAN)-(ALL,1A,1B,2A,2B,3A,3B,4A,4B),
(OCHAN)-(1A,1B,2A,2B,3A,3B,4A,4B)-(ALL,1-8)

Web-based CIT selection options: (OCHAN)-(ALL, 1A, 1B, 2A, 2B,
3A, 3B, 4A, 4B)-(ALL, 1-8)

ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype   Monitored parameter type. This is the PM parameter type for which a threshold is being set. This parameter must be specified for the following value:

"SPR-C" (Optical Channel Signal Power).

thlev   Threshold level. This is the threshold level to be set for the particular *montype*.

Valid and original (that is, as set in the factory) threshold values for each applicable OCHAN *montype* are given below:

thlev for coding violations is set using BER but reported, by the associated **RTRV-TH** command, as COUNT.

montype	legal range for 15-MIN tmper	original value for 15-MIN tmper	legal range for 1-DAY tmper	original value for 1-DAY tmper
SPR-C	0 - 100 (by 10's)	60	0 - 100 (by 10's)	60

locn   Location. This is the location where the threshold is to be set and refers to the facility identified by the AID. The valid locations are:

NEND   Near-end

If null, the default value is **NEND**.

dirn   Direction. This specifies the direction in which the threshold is to be set and is relative to the facility identified by the access identifier. The value of direction, if specified, must be the following value: "NA". If no value is provided for *dirn*, *NA* is assumed.

tmper   Time period. The threshold is set for performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN" or "1-DAY".

15-MIN   This requests PM data in 15-minute intervals.

1-DAY   This requests daily PM data.

If no value is entered for *tmper*, **15-MIN** is assumed by the network element.

The threshold setting of optical parameters in OLS are independent of bins. As a result, any change in threshold value for these parameters shall affect PM reporting only in the bin as specified by tmper.

tcarpt   TCA report. This parameter is used to enable/disable threshold crossing alert (TCA) autonomous reporting of the specified *montype* for the specified *tmper*. This parameter, if specified, must have one of the following values: "ENABLE" or "DISABLE" where **ENABLE** enables TCA autonomous reporting and **DISABLE** disables TCA autonomous reporting. If no value is provided for *tcarpt*, it means "no changes" to this parameter value.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Executing this command may affect the automatic reporting of performance monitoring threshold crossing alerts (TCAs).

NOTE: For the AID (Access Identifier), when the construct ALL is used no other entry must appear to the right of ALL. For example, entity-ALL is valid but entity-ALL-port is invalid.

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion response is returned:

```
     sid date time
M    ctag COMPLD
;
```

If the requested **SET-TH-STS1** command does not alter the existing condition, the network element shall respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

This message will set the quarter-hour bin threshold for SPR-C for optical channel 2 in optical line 2A of the network element.

```
set-th-ochan:LT-OLS:ochan-2a-2:123456::spr-c,,,,,;


IP 123456
<



    LT-OLS 97-07-09 01:16:46
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *aid* value is missing or invalid.

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID  missing or inconsistent
with modifier values*/
;
```

The network element returns the following error response if the *montype* value is missing or not supported.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

The network element returns the following error response if the *thlev* value is out of range.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid THLEV */
;
```

The network element returns the following error response if the *locn* value is invalid or inconsistent with montype.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid LOCN */
;
```

The network element returns the following error response if the *tcarpt* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TCARPT */
;
```

The network element returns the following error response if the *dirn* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DIRN */
;
```

The network element returns the following error response if the *tmper* value is invalid or conflicts with the command code modifier.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-OCHAN

RTRV-TH-OCHAN

REPT EVT OCHAN

NAME

SET-TH-OLINE: Set Threshold Optical_Line

The privilege level for this command is GENERAL.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-TH-OLINE:*tid:aid:ctag::montype,[thlev],[locn],[dirn],*
[tmper][,tcarpt];

⇛ NOTE:
The above single-line command is presented as two lines for ease of
reading.

DESCRIPTION

The **SET-TH_OLINE** command instructs a network element to set the threshold
level for optical line monitored parameters.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which
the command is addressed. It must be a string of 20 or fewer
characters from the following set:

[A-Z][a-z][0-9].+-%#

aid   Access identifier. This identifies the facility to which the threshold
applies.

Entity: Optical Line
Legal Values: (OLINE)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag   Correlation tag. This is included in the command and is repeated
back by the network element in the response to allow association of
the command and response messages. Valid values for *ctag* are
strings of up to 6 characters comprised of identifiers and/or decimal
numerals (a string of decimal digits with an optional non-trailing ".").
Strings containing both numbers and letters must begin with a letter.

montype Monitored parameter type. This is the PM parameter type for which a threshold is being set.

This parameter must be specified for the following value:

"TOPR-OL" (Total Received Power - Optical Line).

thlev Threshold level. This is the threshold level to be set for the particular *montype*. thlev for coding violations is set using BER but reported, by the associated RTRV-TH command as COUNT.

Valid and original (that is, as set in the factory) threshold values for each applicable OLINE *montype* are given below:

montype	legal range for 15-MIN tmper	original value for 15-MIN tmper	legal range for 1-DAY tmper	original value for 1-DAY tmper
TOPR-OL	0 - 100 (by 10's)	60	0 - 100 (by 10's)	60

locn Location. This is the location where the threshold is to be set and refers to the facility identified by the AID. The valid locations are:

NEND Near-end

If null, the default value is **NEND**.

dirn Direction. This specifies the direction in which the threshold is to be set and is relative to the facility identified by the access identifier. The value of direction, if specified, must be the following value: "NA". If no value is provided for *dirn*, *NA* is assumed.

tmper Time period. The threshold is set for performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN" or "1-DAY".

15-MIN This requests PM data in 15-minute intervals.

1-DAY This requests daily PM data.

If no value is entered for *tmper*, **15-MIN** is assumed by the network element.

The threshold setting of optical parameters in OLS are independent of bins. As a result, any change in threshold value for these parameters shall affect PM reporting only in the bin as specified by tmper.

tcarpt   TCA report. This parameter is used to enable/disable threshold crossing alert (TCA) autonomous reporting of the specified *montype* for the specified *tmper*. This parameter, if specified, must have one of the following values: "ENABLE" or "DISABLE" where **ENABLE** enables TCA autonomous reporting and **DISABLE** disables TCA autonomous reporting. If no value is provided for *tcarpt*, it means "no changes" to this parameter value.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Executing this command may affect the automatic reporting of performance monitoring threshold crossing alerts (TCAs).

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion response is returned:

```
    sid date time
M   ctag COMPLD
;
```

If the requested **SET-TH-STS1** command does not alter the existing condition, the network element shall respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The optical PM parameters are not collected based on time periods.

Set the quarter hour bin threshold for TOPR-OL for the optical line 1 and enable TCA autonomous reporting.

```
set-th-oline:LT-OLS:oline-1a:123456::topr-ol,60,nend,,15-min,disable;



IP 123456
<


    LT-OLS 94-03-22 16:12:11
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *aid* value is missing or invalid.

```
    sid date time
M   ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID  missing or inconsistent
with modifier values*/
;
```

The network element returns the following error response if the *montype* value is missing or not supported.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

The network element returns the following error response if the *thlev* value is out of range.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid THLEV */
;
```

The network element returns the following error response if the *locn* value is invalid or inconsistent with montype.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid LOCN */
;
```

The network element returns the following error response if the *tcarpt* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TCARPT */
;
```

The network element returns the following error response if the *dirn* value is invalid.

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DIRN */
 ;
```

The network element returns the following error response if the *tmper* value is invalid or conflicts with the command code modifier.

```
    sid date time
 M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TMPER */
 ;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-OLINE

RTRV-TH-OLINE

REPT EVT OLINE

NAME

SET-TH-SUPR: Set Threshold Supervisory

The privilege level for this command is GENERAL.

The OSI category for this command is PERFORMANCE.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

SET-TH-SUPR:*tid:aid:ctag::montype,[thlev],[locn],[dirn],*
[tmper][,tcarpt];

⇛ NOTE:
The above single-line command is presented as two lines for ease of
reading.

DESCRIPTION

The **SET-TH_SUPR** command instructs a network element to set the threshold
level for supervisory channel monitored parameters.

The supervisory channel parameters also assess the customer maintenance
signal (CMS) when present, via PM monitoring of the CMS being received at the
telemetry pack.

INPUT PARAMETERS

tid   Target identifier. This is the name of the network element to which
               the command is addressed. It must be a string of 20 or fewer
               characters from the following set:

               [A-Z][a-z][0-9].+-%#

aid   Access identifier. This identifies the facility to which the threshold
               applies.

               The supervisory channel is provisionable in both the 1A and 1B
               directions at the OLS End Terminals, though the supervisory signal
               is applicable to only one direction (1A or 1B) at the OLS End
               Terminals. In addition, there is only one telemetry pack in slot 1A.

               Entity: Supervisory Channel (End Terminals)
               Legal Values: (SUPR)-(ALL,1A,2A,3A,4A)

Entity: Supervisory Channel [Repeaters]
Legal Values: (SUPR)-(ALL, 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B)

ctag Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for *ctag* are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

montype Monitored parameter type. This is the PM parameter type for which a threshold is being set.

This parameter must be specified for one of the following values:

"CVL" (Coding violation count - Line),
"ESL" (Errored second count - Line),
"SESL" (Severely errored second count - Line), or
"UASL" (Unavailable second count - Line).

thlev Threshold level. This is the threshold level to be set for the particular *montype*.

Valid and original (that is, as set in the factory) threshold values for each applicable SUPR *montype* are given below:

montype	legal range for 15-MIN tmper	original value for 15-MIN tmper	legal range for 1-DAY tmper	original value for 1-DAY tmper
CVL (count)	14 - 13997	140	1 - 1343693	1344
CVL (BER)	-10 - -7	-9	-12 - -7	-10
ESL	1 - 900	25	1 - 65535	250
SESL	1 - 63	10	1 - 4095	40
UASL	1 - 63	10	1 - 4095	10

locn Location. This is the location where the threshold is to be set and refers to the facility identified by the AID. The valid locations are:

NEND Near-end

If null, the default value is **NEND**.

dirn Direction. This specifies the direction in which the threshold is to be set and is relative to the facility identified by the access identifier. The value of direction, if specified, must be the following value: "NA". If no value is provided for *dirn*, *NA* is assumed.

tmper   Time period. The threshold is set for performance monitoring data information for a specified time interval. This parameter, if specified, must have one of the following values: "15-MIN" or "1-DAY".

    15-MIN   This requests PM data in 15-minute intervals.

    1-DAY   This requests daily PM data.

If no value is entered for *tmper*, **15-MIN** is assumed by the network element.

The threshold setting of optical parameters in OLS are independent of bins. As a result, any change in threshold value for these parameters shall affect PM reporting only in the bin as specified by tmper.

tcarpt   TCA report. This parameter is used to enable/disable threshold crossing alert (TCA) autonomous reporting of the specified *montype* for the specified *tmper*. This parameter, if specified, must have one of the following values: "ENABLE" or "DISABLE" where **ENABLE** enables TCA autonomous reporting and **DISABLE** disables TCA autonomous reporting. If no value is provided for *tcarpt*, it means "no changes" to this parameter value.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Executing this command may affect the automatic reporting of performance monitoring threshold crossing alerts (TCAs).

OUTPUT FORMAT

If the network element fully complies with the request, the following normal completion response is returned:

```
      sid date time
M   ctag COMPLD
;
```

If the requested **SET-TH-STS1** command does not alter the existing condition, the network element shall respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

In the *tmper* input parameter of this command, the digital PM parameters of SUPR channel are collected on a per-bin basis for each SUPR channel, whereas the optical PM parameters are not collected based on time periods. Set the quarter-hour bin threshold for CVL for the supervisory channel-2a to -9.

```
set-th-supr:LT-OLS:supr-2a:123456::cvl,-9,nend,,15-min,enable;


IP 123456
<


   LT-OLS 97-07-09 17:26:14
M   123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there, also apply to this command.

The network element returns the following error response if the *aid* value is missing or invalid.

```
    sid date time
M  ctag DENY
    IIAC
    /* Input, Invalid Access Identifier, AID  missing or inconsistent
with modifier values*/
;
```

The network element returns the following error response if the *montype* value is missing or not supported.

```
    sid date time
M  ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid MONTYPE */
;
```

The network element returns the following error response if the *thlev* value is out of range.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid THLEV */
;
```

The network element returns the following error response if the *locn* value is invalid or inconsistent with montype.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid LOCN */
;
```

The network element returns the following error response if the *tcarpt* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid TCARPT */
;
```

The network element returns the following error response if the *dirn* value is invalid.

```
    sid date time
M   ctag DENY
    IDNV
    /* Input, Data Not Valid, invalid DIRN */
;
```

The network element returns the following error response if the *tmper* value is invalid or conflicts with the command code modifier.

```
     sid date time
M   ctag DENY
     IDNV
     /* Input, Data Not Valid, invalid TMPER */
;
```

RELATED TL1 COMMANDS/MESSAGES

RTRV-PM-SUPR

RTRV-TH-SUPR

REPT EVT SUPR

NAME

UPD-SYS: Update System

The privilege level for this command is GENERAL.

The OSI category for this command is CONFIGURATION.

This command is available starting in OLS Release 1.0.

INPUT FORMAT

UPD-SYS:tid::ctag;

DESCRIPTION

⚠ **CAUTION:**
Execution of this command may affect service on a protected line or slot if the associated circuit packs are missing.

The UPD-SYS command updates the network element data base to reflect the existing configuration and incoming signals.

INPUT PARAMETERS

tid	Target identifier. This is the name of the network element to which the command is addressed. It must be a string of 20 or fewer characters from the following set: [A-Z][a-z][0-9].+-%#
ctag	Correlation tag. This is included in the command and is repeated back by the network element in the response to allow association of the command and response messages. Valid values for ctag are strings of up to 6 characters comprised of identifiers and/or decimal numerals (a string of decimal digits with an optional non-trailing "."). Strings containing both numbers and letters must begin with a letter.

WEB BROWSER-BASED CIT TEXT

The following text will appear on the Web Browser-Based CIT screen below the input form and above the **EXECUTE** and **CLEAR** buttons:

CAUTION: Executing this command can interrupt service on a protected line or slot if the associated circuit packs are missing.

OUTPUT FORMAT

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

The network element will return a COMPLD whenever it is completed even if the update resulted in no change to the database of the network element.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** OUTPUT PARAMETERS section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example illustrates the command/response associated with an update:

```
upd-sys:LT-PF-2000::123456;


IP 123456
<


   LT-PF-2000 93-10-26 16:42:11
M  123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed
there, also apply to this command.

If FT-2000, FT-2000 LCT or OLS receives a **UPD-SYS** command while the
SYSCTL and SYSMEM have incompatible software versions, the following error
response is returned:

```
    sid date time
M   ctag DENY
    SSTP
    /* Status, SToPped
       The execution of this command stopped because SYSCTL and SYSMEM
       have incompatible software versions.
    */
;
```

RELATED TL1 COMMANDS/MESSAGES

INIT-SYS

OLS Parameter Detail Tables

The following tables specify various parameter details as follows:

■ Table 3-1 TI1 Character Set definitions.

TL1 Character Set Definitions

Table 3-1 provides the TL1 character set definitions. The table separates these definitions by symbolic, numeric, and alphabetic characters.

Table 3-3. TL1 Character Set Definitions

Symbolic Characters			
Dec	**Hex**	**ASCII**	**Keystroke**
33	21	!	!
34	22	"	"
37	25	%	%
39	27	'	'
40	28	(	(
41	29	)	)
42	2A	*	*
43	2B	+	+
45	2D	-	-
46	2E	.	.
47	2F	/	/
60	3C	<	<
62	3E	>	>
91	5B	[	[
93	5D	]	]
94	5E	^	^
96	60	`	`
123	7B	{	{
124	7C	|	|
125	7D	}	}
126	7E	≈	≈

Table 3-3. TL1 Character Set Definitions (Contd)

Numeric Characters			
Dec	**Hex**	**ASCII**	**Keystroke**
48	30	0	0
49	31	1	1
50	32	2	2
51	33	3	3
52	34	4	4
53	35	5	5
54	36	6	6
55	37	7	7
56	38	8	8
57	39	9	9

Table 3-3. TL1 Character Set Definitions (Contd)

Alphabetic Characters							
Dec	Hex	ASCII	Keystroke	Dec	Hex	ASCII	Keystroke
65	41	A	A	97	61	a	a
66	42	B	B	98	62	b	b
67	43	C	C	99	63	c	c
68	44	D	D	100	64	d	d
69	45	E	E	101	65	e	e
70	46	F	F	102	66	f	f
71	47	G	G	103	67	g	g
72	48	H	H	104	68	h	h
73	49	I	I	105	69	i	i
74	4A	J	J	106	6A	j	j
75	4B	K	K	107	6B	k	k
76	4C	L	L	108	6C	l	l
77	4D	M	M	109	6D	m	m
78	4E	N	N	110	6E	n	n
79	4F	O	O	111	6F	o	o
80	50	P	P	112	70	p	p
81	51	Q	Q	113	71	q	q
82	52	R	R	114	72	r	r
83	53	S	S	115	73	s	s
84	54	T	T	116	74	t	t
85	55	U	U	117	75	u	u
86	56	V	V	118	76	v	v
87	57	W	W	119	77	w	w
88	58	X	X	120	78	x	x
89	59	Y	Y	121	79	y	y
90	5A	Z	Z	122	7A	z	z

Optical Line System (OLS)
Parallel Telemetry

4

Contents

Optical Line System (OLS) Parallel Telemetry

4

Overview

This section presents information on parallel telemetry interfaces to the operations system (OS). This includes information on provisioning and alarm and status points.

Introduction

As an alternative to TL1/X.25, the OLS supports parallel telemetry. The OLS parallel telemetry interface is dependent on the wiring of individual (parallel) leads to the telemetry remote.

Table 4-1 summarizes the OLS parallel telemetry points.

Table 4-1. OLS Parallel Telemetry Points

Point Name	Type (Note)	Point Description
CR-NE	SA	Critical Alarm - Near End
CR-FE	SA	Critical Alarm - Far End
MJ-NE	NSA	Major Alarm - Near End
MJ-FE	NSA	Major Alarm - Far End
MN-NE	NSA	Minor Alarm - Near End
MN-FE	NSA	Minor Alarm - Far End

Note: SA = service affecting; NSA = non-service affecting

Parallel telemetry wiring to a telemetry remote is only necessary at one end or the other of an Optical Line System point-to-point application, because either OLS end terminal can report the parallel telemetry for the other. The parallel telemetry updates are exchanged using the synchronous optical network (SONET) section data communications channel (DCC) in the supervisory signal. Thus, a far-end OLS parallel telemetry alarm and status information is forwarded to the telemetry remote by the near-end OLS.

There are four cases when parallel telemetry updates will not be exchanged between OLSs in a subnetwork:

a. If the section DCC channel is disabled by the OLS personal computer craft interface terminal (PC-CIT) user interface command **ENT-FECOM** (UIR Set-Far End Communication). Refer to 365-575-301, *Optical Lightwave System, User/Service Manual*.

b. If the section DCC channel (or the supervisory signal itself) fails.

c. If OLSs belong to different alarm groups.

d. Network element Status Comm Failure when AGNE cannot communicate with sudordinates.

Parallel Telemetry Test

The OLS supports parallel telemetry testing via the PC-CIT user interface command **Test-Telemetry-Parallel** (refer to 365-575-301, *Optical Lightwave System, User/Service Manual*). The parallel telemetry test consists of setting the user-specified parallel telemetry points "on" for 20 seconds and then "off" for 20 seconds. The same test may be repeated up to ten times. The user can include any one point or all points in a test.

Glossary

0x1 Line Operation

A 0x1 protection system has one service line and no protection line.

1+1 Line Protection

A 1+1 protection system has two bidirectional lines. The transmitting terminal transmits the same signal on two lines. The receiving terminal monitors two lines independently and chooses one line as the active line and the other line as the standby line. When a protection switch occurs, the receiving terminal selects the signal from the standby line which causes the standby line to be the new active line. The original active line becomes the standby line. This status remains the same (nonrevertive) after the fault clears. Also see Nonrevertive Switching.

1x1 Line Protection

A 1x1 protection system has two OC-48 high-speed lines. One line is designated as the service line, and the other line is designated as the protection line. The service line normally carries traffic. When a protection switch occurs, the protection line is selected to carry traffic. When the fault clears, the original service line is selected (revertive). Also see Revertive Switching.

1A-TX

1A-Transmit — When the direction parameter of an Optical Line System end terminal is provisioned 1A-TX, the "A" optical lines are used in the transmit direction.

1A-RCV

1A-Receive — When the direction parameter of an Optical Line System end terminal is provisioned 1A-RCV, the "A" optical lines are used in the receive direction.

A

ABN

Abnormal — A light emitting diode (LED) on the indicator strip and user panel that is lighted when a temporary condition potentially affecting transmission exists.

ACO

Alarm Cutoff — A push-button switch on the indicator strip and user panel that can be used to retire the active audible office alarm. If another alarmable condition occurs while the ACO is active, the highest level audible alarm is activated. The alarm cutoff function is also available from the CIT and from an operations system.

AGNE

Alarm Gateway Network Element — A network element that receives remote network element status information from other network elements in an alarm group and rebroadcasts the information to all network elements in the alarm group. Using AGNEs makes it unnecessary for each network element in the alarm group to communicate directly with all other network elements in the alarm group.

AID

Access Identifier — A unique identifier used to address circuit pack slots, ports, and tributaries.

AIM

Alarm Indication Message — A maintenance message transmitted downstream in a digital network that shows that an upstream failure has been detected and alarmed by some upstream equipment, if the upstream alarm has not been suppressed.

Alarm

A contact closure to the office alarm grid.

Alarm Group

A group of network elements that share remote alarm information through an alarm gateway network element (AGNE). Also refer to AGNE.

ANSI

American National Standards Institute — An organization consisting of producer, consumer, and general interest groups that establishes the procedures by which accredited organizations create and maintain voluntary industry standards in the United States.

APD

Avalanche Photodiode — A highly sensitive optical detector.

AS&C

Alarm, Status, and Control

ASCII

American Standard Code for Information Interchange — A standard 8-bit code used for exchanging information among data processing systems and associated equipment.

Asynchronous

Refers to network elements that are not timed from references traceable to a single timing source.

ATM

Asynchronous Transfer Mode — A new technology based on a simple, fixed-length packet (or cell) format that allows integrated networking of voice, data, and video traffic. The packet length is set at 53 bytes. The first 5 bytes are reserved for address and control fields, and the remaining 48 bytes carry data.

AUTO

Automatic — One possible state of a slot, customer maintenance signal (CMS) port, or optical channel. When a CMS port or optical channel is in the automatic state and the presence of a good signal is detected, the port or optical channel is automatically placed in the in-service (IS) state. When a slot is in the automatic state and the presence of a circuit pack is detected, the slot is automatically placed in the equipped (EQ) state.

Autonomous Indicators

Autonomous indicators are those indicators that are subject to incoming signal alarm delay. These include office alarm outputs, parallel telemetry outputs, TL1 autonomous messages, the alarm LEDs (CR, MJ, and MN) on the indicator strip/user panel, and the network element status field in the upper left-hand corner of the CIT.

B

BCLAN

Board Controller Local Area Network — The internal local area network that provides communications between the Line Controller circuit pack and board controllers on the circuit packs associated with an optical line.

BDFB

Battery Distribution and Fuse Bay

BER

Bit Error Rate — The ratio of bits received in error to bits sent.

Bidirectional Switching

Protection switching that is performed in the transmit and receive directions.

BIP

Bit Interleaved Parity — A method of error monitoring over a specified number of bits (BIP-3 or BIP-8).

BIP-N

Bit Interleaved Parity - N — A method of error monitoring. With even parity, an N-bit code is generated by the transmitting equipment over a specified portion of the signal in such a way that the first bit of the code provides even parity over the first bit of all N-bit sequences in the covered portion of the signal. The second bit provides even parity over the second bits of all the N-bit sequences within the specified portion, etc. Even parity is generated by setting the BIP-N bits so that there are an even number of ones in each of all the N-bit sequences including the BIP-N.

BITS

Building Integrated Timing Supply — A single clock that provides all the DS1 and DS0 synchronization references required by clocks in a building.

BOC

Bell Operating Company

Broadband Communications
Voice, data, and/or video communications at rates greater than DS1 rates (1.544 Mb/s).

BRT
Business Remote Terminal

C

CCITT
International Telephone and Telegraph Consultative Committee — An international advisory committee under United Nations sponsorship that has composed and recommended for adoption worldwide standards for international communications. Recently changed to the International Telecommunications Union (ITU) Telecommunication Standardization Sector (TSS).

CDRH
Center for Devices and Radiological Health

CEV
Controlled Environment Vault

CIT
Craft Interface Terminal — A personal computer that meets Optical Line System minimum requirements loaded with the CIT-PC software.

CO
Central Office — A telephone company building where switching and/or transmission system equipment is located.

Condition
Conditions persist in time and indicate that there is something abnormal about the system. Conditions appear in the `Local Active Alarms and Status Report` and the `Network Alarms Report.`

CMS
See Customer Maintenance Signal.

CR
Critical (alarm)

Current Value
The value currently assigned to a provisionable parameter.

Customer Maintenance Signal
The 155-Mb/s optical signal originating from the customer supplied equipment. It is carried as part of the supervisory signal. Also see "Supervisory Signal."

CV
Coding Violation — A performance-monitoring parameter. The coding violations are monitored for the optical line.

D

DACS

Digital Access and Cross-Connect System

DACS III-2000

One of Lucent Technologies' SONET-compatible Digital Access and Cross-Connect Systems.

DACS IV-2000

One of Lucent Technologies' SONET-compatible Digital Access and Cross-Connect Systems.

Data

A collection of system parameters and their associated values.

dB

Decibels — A dimensionless unit used to express the ratio between input and output voltages, powers, currents, or sound intensities.

DCC

Data Communications Channel — The embedded overhead communications channel in the optical line. This is used for end-to-end communications and maintenance. It carries alarm, control, and status information between network elements in a SONET network.

DCC Link

Data Communications Channel Link — A bidirectional point-to-point fiber connection that has the DCC bytes terminated at both ends.

DCE

Data Circuit Equipment — The equipment that provides the signal conversion and coding between the data terminating equipment and the line. The DCE may be separate equipment or a part of the data terminating equipment.

DCMS

Design Change Management System — The Design Change Management System is used to issue product change notifications (PCNs) to customers.

DDM-2000 Multiplexers

Lucent Technologies' SONET-ready network multiplexers that can function as a lightwave terminal. It is designed primarily for loop feeder and interoffice applications that will work in existing asynchronous as well as the emerging SONET networks.

DDM-FiberReach

The DDM-2000 FiberReach Multiplexer is an OC-1 low-density access product offering DS0 and DS1 services for business carrier access, fiber-in-the-loop, or private network applications. DDM-2000 FiberReach is hosted by the DDM-2000 OC-3 or OC-12 Multiplexer or the SLC®-2000 Access System with a single- or dual-homed ring or star topology.

Demultiplexing

A process applied to a multiplexed signal for recovering signals combined within it and for restoring the distinct individual channels of these signals.

DFB

Distributed Feedback

DM

Degraded Minutes — A performance-monitoring parameter.

DMA

Direct Memory Access — A data transfer technique that uses a control circuit to move data between a device and memory.

Doping

The addition of impurities in a substance to achieve desired properties.

DRAM

Dynamic Random Access Memory — Semiconductor random-access memory that requires short interval refreshing to retain its contents.

Drop Side Signal

An OC-48 optical signal suitable for transmission over the Optical Line System.

DSNE

Directory Service Network Element — The single reference point in an Optical Line System network. The Directory Service Network Element stores the IDs of the other network elements and updates the other network elements after configuration changes. The Directory Service Network Element is responsible for administering a data base that maps network element names (TIDs) to addresses (NSAPs). Also see NSAP and TID.

DTE

Data Terminating Equipment — The equipment that originates data for transmission and accepts transmitted data.

DWDM

Dense Wavelength Division Multiplexing — Allows customers to multiplex up to eight different wavelengths of drop side signals (OC-48 signals from FT-2000 OC-48 Large Capacity Terminals) onto a single fiber.

E

EC, EC-n

Electrical Carrier — The basic logical building block signal with a rate of 51.840 Mb/s for an EC-1 signal and a rate of n times 51.840 Mb/s for an EC-n signal.

EC-1

An STS-1 signal that has been shaped and encoded for transmission over electrical media. This refers to the actual physical representation of an electrical signal with an EC-1 format at a manual or electronic cross-connect interface. This signal is typically carried by coaxial cables from one equipment location to another. The term EC-1 not only refers to the organization and data rate of a signal but also to the voltage template the signal must conform to and the impedances for which the voltage template is valid.

ECI

Equipment Catalog Item

EDFA

Erbium Doped Fiber Amplifier — A form of optical amplification in which an optical signal passes through a section of erbium doped fiber and is amplified by a laser pump diode.

EEPROM

Electrically Erasable Programmable Read-Only Memory — Readable memory that is nonvolatile in nature, erased electrically, and programmed externally from the processor that uses it.

EIA

Electronic Industries Association — A trade association of the electronics industry that establishes electrical and functional standards.

EMC

Electromagnetic Compatibility

EMI

Electromagnetic Interference — High-energy, electrically induced magnetic fields that cause data corruption in cables passing through the fields.

End Terminal Site

The location of the Optical Line System equipment that terminates the optical line signals.

EPROM

Erasable Programmable Read-Only Memory — Readable memory that is nonvolatile in nature, erased by exposure to intense ultraviolet light, and programmed externally from the processor that uses it.

EQ

Equipped — A memory administrative state for OA and TLM circuit pack slots. EQ refers to an OA or TLM circuit pack slot that is fully monitored and alarmed.

Erbium

A soft, rare earth element used in metallurgy and nuclear research.

ES

Errored Seconds — A second in which one or more coding violations are detected. Errored seconds are monitored for the optical line.

ESD

Electrostatic Discharge — The discharge of static electricity into equipment that potentially causes component damage and logic errors.

Event

Events happen at a particular time (do not persist in time) and appear in the
`Maintenance History Report.`

Executable Code

The "program" that controls the operation of the system.

F

FDA

Food and Drug Administration

FE ACTY

Far-End Activity — An LED on the indicator strip and user panel that is lighted when an
alarm or status condition exists at a remote network element.

FIT

Failures in Time — Circuit pack failure rates per 10^9 hours as calculated using the
method described in TR-TSY-000332, Issue 3, *Reliability Prediction Procedure for
Electronic Equipment (RPP).*

Flash EPROM

A new technology that combines the nonvolatility of EPROM with the in-circuit
reprogrammability of electrically-erasable PROM (EEPROM).

FLS

Frame Loss Seconds

Folded Rings

Folded (collapsed) rings are ring networks without fiber diversity. The terminology
derives from the image of folding a ring into a linear segment.

G

Gb/s

Gigabits (10^9 bits) per second

GCNS-2000

Lucent Technologies' Gigabit Cell Network Switch

GNE

Gateway Network Element — A network element that serves as a single interface to the
local X.25 message-based operations system for all the Optical Line System End
Terminals and Repeaters in a network.

H

Hardware Ready
    The shelf, connector, and backplane have been designed to accept hardware (circuit packs) that is not available yet. Additional cables may be required.

I

I/O
    Input/Output

IR
    Intermediate Reach

IS
    In-Service — A memory administrative state for CMS ports and optical channels. IS refers to a CMS port or optical channel that is fully monitored and alarmed.

ITU
    International Telecommunications Union — An international advisory committee under United Nations sponsorship that has composed and recommended for adoption worldwide standards for international communications. Also refer to CCITT.

J

Jitter
    Timing jitter is defined as short-term variations of the significant instants of a digital signal from their ideal positions in time.

K

Krypton Line
    A standard laser source and a krypton line at 1.54782 μm are used as the standard for the wavelengths accepted by the Optical Line System. The frequency of the krypton line is 193.68622 Terahertz (THz).

L

LAN
Local Area Network

LBC
Laser Bias Current — A performance-monitoring parameter.

LBFC
Laser Backface Current — A performance-monitoring parameter.

LBO
Line Buildout — An equalizer network that guarantees the proper signal level. Also see optical line buildout.

LCT
FT-2000 OC-48 Large Capacity Terminal

LED
Light-Emitting Diode

Line
A bidirectional optical transmission line. In T1/Bellcore terminology, "line" refers to a transmission medium, together with the associated high-speed equipment, required to provide the means of transporting information between two consecutive network elements, one of which originates the line signal and the other terminates the line signal.

LOF
Loss of Frame — A failure to synchronize to an incoming signal.

LOS
Loss of Signal — The absence of an adequate incoming signal.

M

μm
Micrometer — 10^{-6} meters

Menu
A set of possible values for a parameter.

MJ
Major (alarm)

MML
Human-Machine Language

MN
Minor (alarm)

MTBF
Mean Time Between Failures

MTBMA
Mean Time Between Maintenance Activities

Multiplexing
The process of combining several distinct digital signals into a single composite digital signal.

N

NCDRH
National Center for Devices and Radiological Health

NE
Network Element — Refers to an Optical Line System End Terminal or Optical Line System Repeater in a network.

NE ACTY
Near-End Activity — An LED on the indicator strip and user panel that is lighted when an alarm or status condition exists at the local network element.

NEBS
Network Equipment-Building System

nm
Nanometer — 10^{-9} meters

NMA
Network Monitoring and Analysis System — Bellcore's alarm surveillance operations system.

NMON
Not Monitored — A memory administrative state for CMS ports and optical channels. This refers to a CMS port or optical channel that is not monitored and will not transition to the IS state if a good signal is detected.

Nonautonomous Indicators
The nonautonomous indicators are those indicators that are not subject to incoming signal alarm delay. These indicators include the circuit pack FAULT LEDs, all CIT reports, TL1 command response messages, and the LEDs on the indicator strip and user panel (except CR, MJ, and MN).

Nonrevertive Switching

In nonrevertive switching, there is an active and standby line, circuit pack, etc. When a protection switch occurs, the standby line, circuit pack, etc., is selected causing the old standby line, circuit pack, etc., to become the new active line, circuit pack, etc. The original active line, circuit pack, etc., becomes the standby line, circuit pack, etc. This status remains in effect when the fault clears. Therefore, this protection scheme is "nonrevertive" in that there is no switch back to the original status in effect before the fault occurred. Also see 1+1 Line Protection.

NRZ

Nonreturn to Zero

NSA

Non-Service Affecting

NSAP

Network Services Access Point — An automatically assigned number (address) that uniquely identifies a network element for the purposes of routing data communications channel messages.

Null Modem

A null modem cable allows a CIT local access to the Optical Line System via the DTE port on the interconnection panel of the End Terminal and Repeater Shelves.

O

O&M

Operation and Maintenance

OA The Optical Line System Optical Amplifier circuit pack optically amplifies an optical line signal and provides an add/drop function for the supervisory signal.

OALAN

Overhead Access Local Area Network — The internal local area network that provides communications between the System Controller circuit pack and the Overhead Controller - Tributary circuit pack.

OAM&P

Operations, Administration, Maintenance, and Provisioning

OC, OC-n

Optical Carrier — The optical signal that results from an optical conversion of an STS signal; that is, OC-1 from STS-1 and OC-n from STS-n.

ODU

The Optical Line System Optical Demultiplexing Unit provides an interface between an incoming wavelength division multiplexed optical line signal and up to eight outgoing OC-48 drop side signals.

OLS
Optical Line System — See Optical Line System.

Operations Interface
Any interface that provides information on the system behavior or control. These include the equipment LEDs, indicator strip/user panel, CIT, office alarms, and all telemetry interfaces.

OMU
The Optical Line System Optical Multiplexing Unit provides an interface between up to eight incoming OC-48 drop side signals and an outgoing wavelength division multiplexed optical line signal.

Operations Interworking
The capability to access, operate, provision, and administer remote systems through CIT access from any site in a SONET network or from a centralized operations system.

Optical Channel
A single OC-48 signal within the optical line signal. There are eight optical channels (OC-48 signals) within one optical line signal.

Optical Channel Trace
A low baud rate message that is superimposed on the tone using frequency modulation to uniquely identify the source of the drop side signal.

Optical Line Buildout
An equalizer network between the Optical Line System and the lightguide cross-connect panel (or equivalent). It guarantees the proper received signal level at the Optical Amplifier circuit pack.

Optical Line ID
The part of the supervisory signal that identifies optical lines to prevent misconnections between sites.

Optical Line Signal
A wavelength division multiplexed optical signal that consists of up to eight optical channels and one supervisory channel.

Optical Line System
The Optical Line System is a flexible, high-capacity, analog lightwave system that transports digitally encoded information contained in up to eight different wavelengths of SONET OC-48 signals (up to 32,256 voice channels each) through standard single-mode or *Truewave*™ optical fibers.

Optical Section
The part of the optical line that exists between adjacent end terminal and repeater sites or between adjacent repeater sites.

Original Value
The value given to a CIT provisionable parameter at the factory.

Original Value Provisioning
The original values are the values given to CIT provisionable parameters at the factory. At system start-up, the original values are copied and become the current values. These current values can be changed using local or remote provisioning. The original values can never be changed.

OS
Operations System — A central computer-based system used to provide operations, administration, and maintenance functions.

OSI
Open Systems Interconnection — Referring to the OSI reference model, a logical structure for network operations standardized by the International Standards Organization (ISO).

Order Wire
The part of the supervisory signal that is used for communications between sites.

P

Parameter
A characteristic of the system that affects its operation.

PC
Personal Computer

PCN
Product Change Notification — Product change notifications are issued to notify customers that in-service product changes are required to correct an existing or potential problem. Product change notifications are issued through the Design Change Management System.

Platform
In the Optical Line System, a platform is a family of equipment and software configurations designed to support a particular set of applications.

PM
Performance Monitoring — Measures the quality of service and identifies degrading or marginally operating systems (before an alarm would be generated).

POH
Path Overhead — Overhead assigned to and transported with the payload until the payload is demultiplexed. It is used for functions that are necessary to transport the payload.

Preprovisioning
The capability to provision a slot before installing a circuit pack.

Proactive Maintenance
> Refers to the process of detecting degraded conditions not severe enough to initiate protection switching or alarming, but indicative of an impending signal fail or signal degrade defect.

Provisioning
> Assigning a value to a parameter in memory.

PWR
> Power

R

Reactive Maintenance
> Refers to detecting defects/failures and clearing them.

Repeater Site
> The location of the Optical Line System equipment that optically amplifies the optical line signals.

Revertive Switching
> In revertive switching, there is a service and protection high-speed line, DCC, etc. When a protection switch occurs, the protection line, DCC, etc., is selected. When the fault clears, service "reverts" back to the original service line. Also see 1x1 Line Protection.

RF
> Radio Frequency

RMS
> Root Mean Square

RPP
> Reliability Prediction Procedure

RTAC
> Regional Technical Assistance Center — A Lucent Technologies organization that helps customers maintain installed systems.

RZ
> Return to Zero

S

SA

Service Affecting

SD

Signal Degrade — A provisionable parameter for the incoming supervisory signal (from the optical line signal) that determines the threshold at which a signal degrade condition is declared.

SDH

Synchronous Digital Hierarchy

SES

Severely Errored Seconds — A second in which the coding violations detected reach a fixed threshold. The severely errored seconds are monitored for the supervisory line.

SF

Signal Fail — Refers to a condition when an incoming signal's bit error rate exceeds a fixed value.

Single-Ended Operations

The capability to perform operations, administration, maintenance, and provisioning of remote network elements on a centralized basis.

Site Address

The unique address of each end terminal and repeater site in an optical line.

SLM

Single Longitudinal Mode

Software Ready

The software that runs on the Optical Line System will accept, run, boot, and operate normally when future hardware (circuit packs) is installed.

SONET

Synchronous Optical Network — The American National Standards Institute's optical signal standard for broadband transmission.

Status

Status means a condition that does not raise an alarm.

STS, STS-n

Synchronous Transport Signal — The basic logical building block signal with a rate of 51.840 Mb/s for an STS-1 signal and a rate of n times 51.840 Mb/s for an STS-n signal.

Subnetwork

SONET networks with data communications channel connectivity.

Supervisory Channel

A single 155-Mb/s channel within the optical line signal.

Supervisory Signal
An optical signal originating at the Telemetry Controller circuit pack that is used to communicate maintenance information. The supervisory signal consists of the supervisory overhead and the customer maintenance payload. The supervisory signal is wavelength division multiplexed onto the optical line by the Optical Amplifier circuit pack.

Synchronous
Refers to network elements that are timed from references traceable to a single timing source.

Synchronous Network
The synchronization of synchronous transmission systems with synchronous payloads to a master (network clock that can be traced to a single reference clock).

SYSCTL
The System Controller and System Memory circuit packs provide the highest level of system control for the Optical Line System. The System Controller circuit pack provides overall administrative control of the system.

SYSMEM
The System Memory and System Controller circuit packs provide the highest level of system control for the Optical Line System. The System Memory circuit pack provides memory support for the SYSCTL circuit pack.

T

T1X1 and T1M1
The ANSI committees responsible for telecommunications standards.

TA
Technical Advisory

TCA
Threshold-Crossing Alert — A condition set when a counter exceeds a user-selected high or low threshold. A TCA does not generate an alarm but is available on demand through the CIT.

TEC
Thermo-Electric Cooler

THz
Terahertz — 10^{12} hertz

TID
Target Identifier — A provisionable parameter used to identify an Optical Line System network element.

TIE
Time Interval Error — The variation of time delay of a given timing signal with respect to an ideal timing signal over a particular period of time.

TL1

Transaction Language 1 — A machine-to-machine communications language that is a subset of ITU-T's human-machine language.

TLM

The Optical Line System Telemetry Controller circuit pack provides a bidirectional interface between an IS-3 customer maintenance signal and the supervisory signal. The TLM circuit pack also performs maintenance functions that are used to monitor the performance of the optical line.

TOHCTL

The Optical Line System Overhead Controller - Tributary circuit pack provides user access to the data communications channel (DCC) bytes.

Tone

An amplitude-modulated signal in the 5- to 30-kHz range that is superimposed on the drop side signal at the end terminal site.

TR

Technical Reference

TSO

Technical Support Organization — A Lucent Technologies organization that helps customers maintain installed systems.

U

UAS

Unavailable Seconds — A second during which the monitored facility is unavailable. The unavailable seconds are monitored for the supervisory line.

Upgrade

An upgrade is the addition of new capabilities (features) to an existing platform. This requires new software and may require new hardware.

V

Value

A number, text string, or other menu selection associated with a parameter.

W

Wideband Communications
Voice, data, and/or video communications from the DS0 rate (64 kb/s) to the DS1 rate (1.544 Mb/s).

Index