

Lucent Technologies
Bell Labs Innovations



WaveStar[®] LambdaRouter 128/256 Release 2.0

Alarm Messages and Trouble-Clearing Guide

365-375-002
Issue 2
September 2001

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Alarm Messages and Trouble-Clearing Guide Release 2.0
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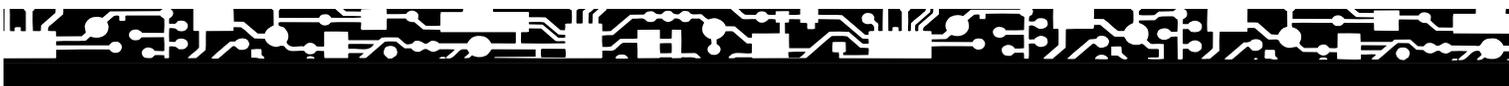
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About this information product

Purpose The *WaveStar® LambdaRouter 128/256 Release 1.0 Alarm Messages and Trouble-Clearing Guide* provides the information a user needs to clear alarm messages and trouble conditions on the WaveStar LambdaRouter 128/256, a fully optical switch from Lucent Technologies.

This guide describes the WaveStar LambdaRouter 128/256 maintenance philosophy and the alarm message and trouble-clearing process. It gives background information and step-by-step instructions for clearing alarm messages and trouble conditions.

Reason for reissue This is the first issue of this manual.

Safety labels The following safety labels are used in this manual:



WARNING

Indicates the presence of a hazard that can cause death or severe personal injury.



CAUTION

Indicates the presence of a hazard that will, or can, cause minor personal injury or property damage if the hazard is not avoided. Caution is also used for property-damage only accidents, including equipment damage, loss of software, or service interruption.



DANGER

Indicates the presence of an imminently hazardous situation that if not avoided, will result in death or serious injury.

Intended audience This manual is intended for use by all WaveStar LambdaRouter 128/256 Release 2.0 operations and maintenance technicians.

How to use this information product The *WaveStar LambdaRouter 128/256 Release 2.0 Alarm Messages and Trouble-Clearing Guide* is organized in reference and task-oriented chapters. Reference information is provided in Chapters 1 through 5. Chapters 6 through 11 contain step-by-step procedures in alphabetical order. The following table gives a brief description of each chapter in this manual:

| Ch. | Title | Contents |
|-----|--|--|
| 1 | Safety | Provides laser safety information, electrostatic discharge considerations, and other important safety information pertaining to the WaveStar LambdaRouter 128/256 Release 2.0. |
| 2 | Alarm Messages and Trouble-Clearing Introduction | Summarizes the WaveStar LambdaRouter 128/256 Release 2.0 maintenance philosophy and alarm messages and trouble-clearing process. |
| 3 | Alarm, Event, and Error Message Details | Contains detailed information such as probable cause, definition, reporting type, alarm type, and so on. |
| 4 | Alarm Messages and Trouble-Clearing Tasks Background | Provides background information for trouble-clearing tasks that need it. |

| Ch. | Title | Contents |
|----------------|--|---|
| 5 | Supporting Tasks Background | Includes background information for supporting tasks or routine tasks that require it. |
| 6 | Recovery Tasks Background | Includes background information for recovery tasks that require it. |
| 7 | Common Alarm Messages and Trouble-Clearing Tasks | Contains procedures for clearing common alarm conditions. |
| 8 | Equipment Alarm Messages and Trouble-Clearing Tasks | Contains procedures for clearing equipment alarm conditions. |
| 9 | Optical Channel Alarm Messages and Trouble- Clearing Tasks | Contains procedures for clearing optical channel alarm conditions. |
| 10 | Supporting Tasks | Contains procedures such as logging in and out of the system and replacing equipment. |
| 11 | Recovery Tasks | Contains procedures for tasks that are not associated with alarm messages, such as system or power failures. |
| Appendix A: | Abbreviations and Acronyms | Defines abbreviations and acronyms used throughout the WaveStar LambdaRouter 128/256 Release 2.0 documentation. |
| GL | Glossary | Defines terms used throughout the WaveStar LambdaRouter 128/256 Release 2.0 documentation. |
| IN | Index | Provides detailed access to the contents of this document. |

Conventions used The following typographical conventions are used in this information product:

- **Bold** type is used for emphasis and to identify WaveStar CIT graphical user interface (GUI) menu and button selections.
- **Constant-width** type is used to identify user entered information or commands.

Related documentation The *WaveStar LambdaRouter 128/256 Release 2.0 Alarm Messages and Trouble-Clearing Guide* is part of a set of documents that support the WaveStar LambdaRouter 128/256 as follows:

| Select Code | Document Title |
|-------------|--|
| 365-375-004 | <i>WaveStar LambdaRouter 128/256 Release 2.0 Installation Guide</i> Available to Lucent installers. |
| 365-375-000 | <i>WaveStar LambdaRouter 128/256 Release 2.0 Applications and Planning Guide</i> Available on paper and on the customer documentation CD-ROM. |
| 365-375-001 | <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> Available on paper and on the customer documentation CD-ROM. |
| 365-375-002 | <i>WaveStar LambdaRouter 128/256 Release 2.0 Alarm Messages and Trouble-Clearing Guide</i> Available on paper and on the customer documentation CD-ROM. |
| 365-375-003 | <i>WaveStar LambdaRouter 256 Release 2.0 Operations Systems Engineering Guide</i> Available on paper and on the customer documentation CD-ROM. |
| 365-375-006 | <i>WaveStar LambdaRouter 128 Release 2.0 Operations Systems Engineering Guide</i> Available on paper and on the customer documentation CD-ROM. |
| N/A | <i>WaveStar LambdaRouter 128/256 Release 2.0 Software Release Description</i> Available on paper. |

Additional documents that may be needed

Customers may need information from the vendor of the personal computer used for the WaveStar CIT (Craft Interface Terminal) for LambdaRouter or other operations interface, for example, the WaveStar Optical Service Manager (OSM) or the WaveStar Service Management Systems (SMS). Contact your account executive.

Related training

Lucent Technologies offers courses in various aspects of the WaveStar LambdaRouter 128/256, including an Operations and Maintenance

course based in part on this *Alarm Messages and Trouble-Clearing Guide*.

Instructor-led courses are offered at Lucent facilities in Altamonte Springs, Florida, or they may be given at customer locations.

Course Registration

To receive information about Lucent training courses, or to register for a course, call:

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International customers can reach the Lucent Technologies Customer Training Center by calling

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The WaveStar LambdaRouter 128/256 courses are listed in the table below.

| Course Number | Course |
|----------------------|---|
| LW2259 | WaveStar LambdaRouter 128/256 Release 2.0 Applications and Planning—instructor-led |
| LW2459 | WaveStar LambdaRouter 128/256 Release 2.0 Installation and Testing—instructor-led, hands-on |
| LW2659 | WaveStar LambdaRouter 128/256 Operations and Maintenance—instructor-led, hands-on |

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1 Safety

Overview

Purpose This chapter provides important laser, electrostatic discharge, and other safety information that must be read and understood to ensure the safety of the operator as well as the equipment.

Contents

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| Laser safety information | 1-2 |
| Electrostatic discharge (ESD) considerations | 1-7 |
| Important Safety Instructions | 1-9 |

Laser safety information

Overview Lightwave/lightguide systems, their associated test sets, and similar operating systems use semiconductor laser transmitters that emit infrared light at wavelengths between approximately 800 nanometers (nm) and 1600 nm. The emitted light is above the red end of the visible spectrum, which is normally not visible to the human eye. Although radiant energy at near-infrared wavelengths is officially designated invisible, some people can see the shorter wavelength energy even at power levels several orders of magnitude below any that have been shown to cause injury to the eye.

Conventional lasers can produce an intense beam of monochromatic light. The term monochromatic light means a single wavelength output of pure color that may be visible or invisible to the eye. A conventional laser produces a small-size beam of light, and because the beam size is small the power density (also called irradiance) is very high. Consequently, lasers and laser products are subject to federal and applicable state regulations, as well as international standards, for their safe operation.

A conventional laser beam expands very little over distance, or is said to be very well collimated. Thus, conventional laser irradiance remains relatively constant over distance. However, lasers used in lightwave systems have a large beam divergence, typically 10 to 20 degrees. Here, irradiance obeys the inverse square law (doubling the distance reduces the irradiance by a factor of 4) and rapidly decreases over distance.

Lasers and eye damage The optical energy emitted by laser and high-radiance LEDs in the 400-1400 nm range may cause eye damage if absorbed by the retina. When a beam of light enters the eye, the eye magnifies and focuses the energy on the retina, magnifying the irradiance. The irradiance of the energy that reaches the retina is approximately 10^5 or 100,000 times more than at the cornea and, if sufficiently intense, may cause a retinal burn.

The damage mechanism at the wavelengths used in telecommunications is thermal in origin, that is, damage caused by heating. Therefore, a specific amount of energy is required for a definite time to heat an area of retinal tissue. Damage to the retina occurs only when one looks at the light sufficiently long that the product of the retinal irradiance and the viewing time exceeds the damage threshold. Optical energies above 1400 nm cause surface and skin burns and do not affect the retina. The thresholds for injury at wavelengths greater than 1400 nm are significantly higher than those for wavelengths in the retinal hazard region.

Classification of lasers

Manufacturers of lasers and laser products in the United States are regulated by the Food and Drug Administration's Center for Devices and Radiological Health (FDA/CDRH) under 21 CFR 1040. These regulations require manufacturers to certify each laser or laser product as belonging to one of these major Classes: I, II, IIa, IIIa, IIIb, or IV.

The International Electro-technical Commission (IEC) is an international standards body that writes laser safety standards. Classification schemes are similar with Classes divided into Classes 1, 2, 3A, 3B, and 4.

Lasers are classified according to the accessible emission limits and their potential for causing injury. Lightwave systems are generally classified as Class I/1, because, under normal operating conditions, all energized laser transmitting circuit packs are terminated on optical fibers which enclose the laser energy with the fiber sheath forming a protective housing. Also, covers are in place over the circuit pack shelves. The circuit packs themselves, however, may be FDA/CDRH Class I or IIIb or IEC Class 1, 3A, or 3B.

Lightwave safety precautions

In its normal operating mode, a lightwave system is totally enclosed and presents no risk of eye injury. It is a Class I/1 system under the FDA/CDRH and IEC classifications.

The lightguide cables that interconnect various components of a lightwave system can disconnect or break, and may expose people to lightwave emission. Also, certain measures and maintenance procedures may expose the technician to emission from the semiconductor laser during installation and servicing.

Unlike more familiar laser devices, such as solid-state and gas lasers, the emission pattern of a semiconductor laser results in a highly divergent beam. In a divergent beam, the irradiance (power density) decreases rapidly with distance. The greater the distance, the less energy will enter the eye and the less potential risk for eye injury. Inadvertently viewing an unterminated fiber or damaged fiber with the unaided eye at distances greater than 5 to 6 inches normally will not cause eye injury provided the power in the fiber is less than a few milliwatts at the shorter wavelengths and a few tens of milliwatts at the longer wavelengths. However, damage may occur if an optical instrument such as a microscope, magnifying glass, or eye loupe is used to stare at the energized fiber end.

**WARNING**

Use of controls, adjustments and procedures other than those specified herein may result in hazardous laser radiation exposure.

Safety precautions for enclosed systems

Under normal operating conditions, lightwave transmission systems are completely enclosed; nonetheless, the following precautions should be observed:

- Because of the potential for eye damage, technicians should not stare into optical connectors or broken fibers.
- Under no circumstance should lightwave/lightguide operations be performed by a technician before satisfactorily completing an approved training course.
- Since viewing lightwave emission directly in excess of Class I/1 limits with an optical instrument such as an eye loupe greatly increases the risk of eye damage, an appropriate label(s) must appear in plain view, in close proximity to the optical port, on the terminal equipment.

The figure below shows the FDA Class IIIb noninterlocked protective housing label.



NC-USM-111

Safety precautions for unenclosed systems

During service, maintenance, or restoration, a lightwave transmission system is considered unenclosed. Under these conditions, follow these practices:

- Only authorized, trained personnel shall be permitted to do service, maintenance, and restoration. Avoid exposing the eye to emissions from unterminated, energized optical connectors at close distances. Laser modules associated with the optical ports of laser circuit packs are typically recessed, which limits the exposure distance. Optical port shutters and automatic power reduction (APR) are engineering controls that are also used to limit the emissions. However, technicians removing or replacing laser circuit packs should not stare or look directly into the optical port with optical instruments or magnifying lenses. (Normal eye wear or indirect viewing instruments, such as a FIND-R-SCOPE, are not considered magnifying lenses or optical instruments.)

- Only authorized, trained personnel should use the lightwave test equipment during installation or servicing since this equipment contains semiconductor lasers. [Some examples of lightguide test equipment are Optical Time Domain Reflectometers (OTDRs), Hand-Held Loss Test Sets, and Feature Finders.]
- Under no circumstances shall any personnel scan a fiber with an optical microscope without verifying that all lightwave sources on the fiber are turned off.
- All unauthorized personnel shall be excluded from the immediate area of lightwave transmission systems during installation and service.

Consult *ANSI Z136.1, American National Standard for Safe Use of Lasers in the United States or outside the United States, IEC-60825, Part 2* for guidance on the safe use of optical fiber optic communication systems in the workplace.

The following table provides the optical specifications of the internal laser circuit packs.

| Laser Circuit Pack Code | Wavelength (nm) | Output Power (mW) | Fiber Type (μm) | Connector Type | FDA Class/ IEC Class |
|--------------------------------|------------------------|--------------------------|------------------------|-----------------------|-----------------------------|
| LUU3AE | 1300 | 1.0 | SM (8.8) | LC | I/1 |
| | 1550 | 1.6 | SM (8.8) | LC | I/1 |
| LUU1AE | 1300 | 0.5 | SM (8.8) | LC | I/1 |

Lucent Technologies complies with FDA/CDRH 21 CFR 1040.10 and 1040.11 as a Class I and as an IEC-60825-1 Class 1 laser product.



Electrostatic discharge (ESD) considerations

Overview This section describes electrostatic discharge concerns.

Circuit pack/port unit handling precautions



CAUTION

Industry experience has shown that all integrated circuit packs can be damaged by static electricity that builds up on work surfaces and personnel. The static charges are produced by various charging effects of movement and contact with other objects. Dry air allows greater static charges to accumulate. Higher potentials are measured in areas with low relative humidity, but potentials high enough to cause damage can occur anywhere.

Observe the following precautions when handling circuit packs/units to prevent damage by electrostatic discharge:

- When handling circuit packs/units (storing, installing, removing, etc.) or when working on the backplane, always wear a grounded wrist strap or wear a heel strap and stand on a grounded, static-dissipating floor mat.
- Handle all circuit packs/units by the faceplate or latch and by the top and bottom outermost edges. Never touch the components, conductors, or connector pins.
- Observe all warning labels on bags and cartons. Whenever possible, do not remove circuit packs/units from antistatic packaging until ready to insert them into slots.
- If possible, open all circuit packs/units at a static-safe work position, using properly grounded wrist straps and static-dissipating table mats.
- Always store and transport circuit packs/units in static-safe packaging. Shielding is not required unless specified.

- Keep all static-generating materials such as food wrappers, plastics, and Styrofoam containers away from all circuit packs/units. When removing circuit packs/units from a cabinet, immediately place the circuit packs/units in static-safe packages.
- Whenever possible, maintain relative humidity above 20 percent.
- Always keep the electromagnetic interference (EMI)/ESD protective front covers on the shelves except during an upgrade or maintenance procedure. Once a circuit pack/unit is replaced in the shelf, immediately close the front cover.

Any connectors on the shelf interconnection panel that are not cabled should be fitted with a plastic dust cap to provide ESD protection.

Static control wrist straps

To reduce the possibility of ESD damage, shelves are equipped with grounding jacks to enable personnel to ground themselves using wrist straps, while handling circuit packs/units or working on a shelf. The wrist straps should be checked periodically with a wrist strap tester to ensure that they are working properly. The grounding jacks for connection of wrist straps are located on each user panel and the rear of the equipment bay. These jacks are labeled.



Important Safety Instructions

Overview This section provides important safety instructions that must be followed in order to ensure the safety of the operator and the equipment.

Safety instructions READ AND UNDERSTAND ALL INSTRUCTIONS.

When using this telecommunication equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Follow all warnings and instructions marked on the product.
2. Slots and openings in this product are provided for ventilation. To protect it from overheating, these openings must not be blocked or covered.
3. Opening or removing rear covers or sheet-metal parts may present exposure to high current or electrical energy levels, or to other risks.
4. Never push objects of any kind into this product through slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock. Never spill liquid of any kind on the product.
5. Refer servicing to qualified service personnel.
6. Use caution when installing and modifying telecommunications lines.
7. Never install telecommunication wiring during a lightning storm.
8. Never install telecommunication jacks in wet locations unless the jack is specifically designed for wet locations.
9. Never touch uninsulated telecommunication wires or terminals unless the telecommunication line has been disconnected at the network interface.
10. Installation must include an independent frame ground conductor to building ground. Grounding/bonding circuit continuity is vital for safe operation of this equipment. Never operate with grounding/bonding conductor disconnected.

11. This product has two -48/-60 Vdc input power feeders. Disconnecting one power feeder will not de-energize the product. To reduce the risk of injury, disconnect both power supply cables when removing power from the system.
12. Metallic telecommunication interfaces should not leave the building premises unless connected to telecommunication devices providing primary and secondary protection, as applicable.
13. For continued protection against risk of fire, replace only with same type and rating of fuse.
14. Use only Lucent Technologies manufactured, recognized circuit packs/units/modules.
15. This equipment is intended for installation in Restricted Access Locations where access is controlled or where access can only be gained by service personnel with a key or tool. Access to this equipment is restricted to qualified service personnel only.
16. Power the unit only from -48/-60 Vdc sources providing Safety Extra Low Voltage (SELV) outputs.
17. This equipment must be provided with a readily accessible input power disconnect device as part of the building installation (such as a main power disconnect switch or external circuit breaker).

SAVE THESE INSTRUCTIONS.





2 Alarm Messages and Trouble-Clearing Introduction

Overview

Purpose This chapter provides an overview of maintenance philosophy and describes types of alarm messages.

Contents This chapter includes the following sections:

| | |
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| Required Tools and Test Equipment | 2-3 |
| Alarm Message Overview | 2-5 |
| Common Alarm Messages | 2-9 |
| Equipment Alarm Messages | 2-10 |
| Optical Channel Alarm Messages | 2-11 |
| Trouble-Clearing Description | 2-12 |



Maintenance Philosophy

- Overview** The WaveStar LambdaRouter 128/256 maintenance philosophy is to provide fault management through
- Automatic fault handling and alarm handling processing, which provides defect detection, defect-to-failure determination, and alarm notification by the system
 - Operator response to alarm messages and alarm indicators as directed by trouble-clearing tasks
 - Operator performance of routine maintenance as directed by supporting tasks

Fault handling and alarm handling When the WaveStar LambdaRouter 128/256 detects a fault, a failure is declared, an alarm message is generated, and the alarm is reported to the other managing systems, User Panel, and Office Alarm System.

Response to alarm messages For every WaveStar LambdaRouter 128/256 alarm message that requires user intervention, a procedure is provided. The procedure is designed to correct the condition that generated the alarm message. These procedures are referred to as Trouble-Clearing Tasks. Refer to chapters 7, 8, and 9.

Performance of routine maintenance Routine maintenance is performed at regular intervals to keep the WaveStar LambdaRouter 128/256 functioning properly. Routine maintenance tasks include replacing filters and cleaning optical connectors. Often a routine maintenance procedure is performed in support of a trouble-clearing task. Refer to chapter 10.

Protection switching The WaveStar LambdaRouter 128/256 provides both manual and automatic protection switching for controllers and transmission elements. If a system control failure occurs, automatic protection switching completes in less than 5 minutes. (This does not apply to port switch times, which are less than 50 msec.)

Two Integrated Switch Shelves (ISWSs) provide fully redundant switch fabrics. One Integrated Switch Shelf (ISWS) is designated as side 0. The other ISWS is designated as side 1.



Required Tools and Test Equipment

- Tools and equipment list** The tasks in this guide require the following tools and equipment:
- Wavestar CIT (Craft Interface Terminal) for LambdaRouter
 - RJ-45 8-pin cable assembly
 - Electrostatic discharge (ESD) strap
 - #1 and #2 Phillips screwdrivers
 - #1 and #2 standard screwdrivers
 - 8mm socket and ratchet
 - Metral™ Press-Fit repair kit
 - Optical Power Meter with LC and MPX connectors, for example: HP8140A equipped with HP81401A (ITE# 6550) or equivalent
 - Optical Power Source, for example: TEK model TOP160 1550 nm continuous wavelength power source
 - Digital Voltage Meter (DVM), for example: Fluke 8060A Multimeter
 - Video Fiberscope, for example: Westover 200X Model FVW-209—Comcode 408463636 and probes Model FBP-S3 and Model FBP-SL-1
 - Individual pre-saturated alcohol wipes 99% pure—Comcode 901375147
 - Connector cleaner, for example: NTT-ME CLETOP Type A cassette cleaner—Comcode 901375154 with replacement tape—Comcode 901375014 and NTT-ME CLETOP Type B cassette cleaner—Comcode 901394262 with replacement tape—Comcode 901394270
 - Cables with LC connectors
 - 1.25 mm and 2.5 mm lint-free swabs, for example: Luminex Stick Port Cleaners—Comcodes 901375030 (1.25 mm) and 901375022 (2.5 mm)
 - Inert dusting gas or ionized air gun, if available
 - Blank circuit pack
 - Needle-nosed pliers
 - OXI board and cleaning pad kit—Comcode 848553657
 - Luminex cloth, 5.5 x 5.5—Comcode 901394320

- Spare fiber dust covers—Comcode 108568312 (pack of 200)
- Yellow labels for dust caps
- Fine tip permanent black markers for porous and non-porous surfaces
- Replacement components, as specified in the **Before you begin** section of each task.

Sparing recommendation

The *WaveStar LambdaRouter 128/256 Release 2.0 Applications and Planning Guide*, 365-375-000, lists spare equipment that should be kept on hand. It provides guidelines for numbers of circuit packs and other equipment, depending on the size of your system.

Maintenance access

Maintenance access is through management system GUI or TL1 commands. Refer to the *WaveStar LambdaRouter 128 Release 2.0 Operations Systems Engineering Guide*, 365-375-006, or the *WaveStar LambdaRouter 256 Release 2.0 Operations Systems Engineering Guide*, 365-375-003, for information about TL1 commands.



Alarm Message Overview

Overview There are three categories of WaveStar LambdaRouter 128/256 TL1 alarm messages:

- Common (COM)
- Equipment (EQPT)
- Optical Channel (OCH)

On the WaveStar CIT Alarm List these categories are referred to as Alarm Type. Elsewhere, the categories are referred to as Modifier. The categories are discussed in greater detail later in this chapter. An alarm message Reporting Type is standing until the condition is cleared. At that point, the system generates an alarm message with a Reporting Type of clear.

Event messages The WaveStar LambdaRouter 128/256 also detects a type of condition known as an event. Events do not have a service-affecting attribute, in other words, Service Affecting (SA) or Non-Service Affecting (NSA). Neither audible nor visible indications are generated. The exceptions are the notifications for Loopback Crossconnect (LPBKCRS), Loopback Crossconnect - Forced Simplex (LPBK-SX), and Loopback Crossconnect - Forced Duplex (LPBK-DX) conditions. Depending on the condition, a task may be required to clear it.

Though neither visible nor audible alarms are generated for the event and transient messages, they are entered in the alarm log. In some cases, these messages are the result of user activity. In this event, the user gets a response from the system.

Transient alarm messages Some WaveStar LambdaRouter 128/256 events are considered transient because they do not cause persistent alarm conditions in the WaveStar LambdaRouter 128/256. An event such as crossing a threshold triggers a transient condition without raising a standing alarm. The WaveStar LambdaRouter 128/256 logs these events in the system. Since these conditions do not generate a standing alarm, no task to clear them is associated with the message.

Specific transient alarm messages are listed in the sections for Common Alarm Messages, Equipment Alarm Messages, and Optical Channel Alarm Messages in this chapter.

The following table provides the modifier, condition description, and condition type for event and transient messages.

| Alarm Type | Description | Probable Cause |
|------------|--|-------------------|
| COM | Circuit Pack Autonomous Reset | ARST or AUTORESET |
| | Intruder Alert Alarm | SECBUFTHX |
| | System Startup Complete | NORMAL |
| | Out of Memory Error | OMERR |
| | System in Maintenance Condition | SCMMA |
| | Software Error on Circuit Pack | SWERR |
| | System Restart | SYSBOOT |
| EQPT | System is in ACO Condition | INHAUDB |
| | Alarm Test | TSA |
| OCH | Loopback Crossconnect | LPBKCRS |
| | Loopback Crossconnect —Forced Simplex | LPBK-SX |
| | Loopback Crossconnect —Forced Duplex | LPBK-DX |

Alarm List with alarm messages example

The Alarm List from the WaveStar CIT for LambdaRouter, shown in the following figure, provides details of current active alarms listed from highest to lowest priority. When there are multiple alarm messages with the same severity level, they are listed with the most recent first.

Important! The screens shown in this manual may differ slightly from those on the WaveStar CIT.

The screenshot shows a window titled "NE Alarm List - DXC-1" with a table of alarm messages. The table has the following columns: Alarm Level, AID, Date, Time, Affect on Service, Probable Cause, Alarm Type, and Description. Two rows of data are visible:

| Alarm Level | AID | Date | Time | Affect on Service | Probable Cause | Alarm Type | Description |
|-------------|-----------|-------|----------|-------------------|----------------|------------|------------------------|
| CR | ocb-1-1-1 | 06-06 | 13:21:22 | SA | LOS | OCH | Incoming Loss of S... |
| MJ | opwc-1-1 | 06-06 | 17:29:13 | NSA | CONTR | EQPT | Circuit Pack Intern... |

Below the table are buttons for "Save As", "Print", "Close", "Refresh", and "Help".

The table below provides descriptions of the Alarm List fields.

| Field | Description |
|-------------------|---|
| Alarm Level | The severity of the alarm message being reported. Values are Critical (CR), Major (MJ), or Minor (MN). |
| AID | Identifier of the equipment component or facility for which an alarm condition is being reported. |
| Date | Date when alarm message is generated. Format is MM-DD. |
| Time | Time, within the specified date, when the message is generated. Format is HH:MM:SS. |
| Affect on Service | Indicates the effect of the reported alarm on service or the effect of an alarm on the condition of the network element. Values are Service Affecting (SA), or Non-Service Affecting (NSA). |
| Probable Cause | A mnemonic description of the alarm condition. |
| Alarm Type | Type of Access Identifier used to report the alarm. Values are OCH, EQPT, and COM. |
| Description | A text description of the alarm condition. |

Alarm log The WaveStar LambdaRouter 128/256 maintains an alarm log of the last 512 entries. It contains details for all standing and clear-alarm

messages, as well as event messages and transient alarm messages. This information is useful in diagnosing problems with the system.



Common Alarm Messages

Description Common alarm messages are associated with faults that affect the entire system or are common to more than one circuit pack, such as resource usage, memory mismatch, power failures, and so on.

Tasks for clearing Common Alarm Messages are in Chapter 7, Common Alarm Messages and Trouble-Clearing Tasks.



Equipment Alarm Messages

Description Equipment alarm messages are associated with equipment failures such as transmission and control equipment. Also included in this category are service interruptions due to failures of power supply, fan assembly, or any configuration problems.

Tasks for clearing Equipment Alarm Messages are in Chapter 8, Equipment Alarm Messages and Trouble-Clearing Tasks.



Optical Channel Alarm Messages

Description Optical Channel alarm messages indicate a facility-related event at the optical channel signal level.

Because a loopback cross-connect is used for testing, the condition is not alarmed. Neither visible nor audible alarms are generated, but the Abnormal LED on the User Panel is activated. The condition is logged in the alarm log.

Tasks for clearing Optical Channel Alarm Messages are in Chapter 9, Optical Channel Alarm Messages and Trouble-Clearing Tasks.



Trouble-Clearing Description

Trouble-clearing description

Trouble-clearing is a user activity that corrects an alarmed condition. Procedures for clearing the alarmed condition are provided for each alarm message that requires user intervention. Trouble-clearing tasks include information about prerequisites, safety precautions, and step-by-step instructions. In this guide, trouble-clearing tasks are grouped by category: Common, Equipment, and Optical Channel. The title of each trouble-clearing task identifies the alarm condition it is addressing. The condition type is also included in the task title, for example, LOS. In some cases, multiple condition types are listed in the task title. In these cases, the task addresses each condition type.

Follow all local practices prior to performing any task in this manual. These practices may include obtaining the appropriate work instructions or work order.

Trouble-clearing task format

Trouble-clearing tasks

- Provide details about the circumstance that caused the failure
- Define prerequisite activities
- List related information
- Provide task activities in numbered steps

Some trouble-clearing tasks include supporting elements and/or references to Supporting Tasks in Chapter 8 or Recovery Tasks in Chapter 9.





3 Alarm, Event, and Error Message Details

Overview

Purpose The purpose of this chapter is to provide detailed information about every alarm, event, and error message generated by the WaveStar LambdaRouter 128/256.

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Alarm, Event, and Error Messages

Order of presentation Alarm and event messages are grouped by Alarm Type (for example: COM) and listed alphabetically by Probable Cause (for example: ARST). TL1 error messages follow the alarm and event messages.

The order of presentation is as follows:

1. Common (COM) alarm and event messages
2. Equipment (EQPT) alarm and event messages
3. Optical Channel (OCH) alarm and event messages
4. TL1 error messages

An error message is the response to a TL1 command that failed or was denied. Details of these error messages appear at the end of this chapter, listed alphabetically.

Type of data In addition to definitions for the fields that appear on the WaveStar CIT Alarm List, the following information is provided for each alarm and event message:

- Definition
- Interface Standard
- On-site Indicators
- Alarm Level Provisionable via Alarm Severity Assignment Profile (ASAP), which is for future use.
- Trouble-Clearing Task Associated with the Alarm Message

For each error message returned in response to a TL1 command the following information is provided:

- Error Message Text
- Definition
- Problem or Cause
- Corrective Action

Format of data The following sections describe the format of the data for alarm, event, and error messages:

Alarm and event messages data format

Alarm and event message data are presented in tables. Each alarm and event message table is preceded by the mnemonic description of the message and the text of the message. For example:

ARST Circuit pack autonomous reset

Each table contains details for the specific message as shown in the following table:

| | |
|-----------------------|--|
| Probable Cause | A mnemonic description of the alarm condition. For example: LOS. This is a field on the WaveStar CIT Alarm List. |
| Definition | A text description of the alarm condition. For example: Loss of Signal. This is the Description field on the WaveStar CIT Alarm List. |
| Reporting Type | Valid values are: <ul style="list-style-type: none"> • Standing - a persistent, continuous fault is active. A clear notification is required to clear the alarm. • Transient - a temporary condition is detected. No clear notification is required to clear this condition. |
| Alarm Type | The category of the alarm. This is a field on the WaveStar CIT Alarm List. Valid values are: <ul style="list-style-type: none"> • COM • EQPT • OCH |

| | |
|---|---|
| | |
| Type of AID Affected | The element affected. Valid values are: <ul style="list-style-type: none"> • System • Shelf • Slot or Circuit Pack • Port |
| Interface Standard | The type of signal to which this alarm applies. Valid values are: <ul style="list-style-type: none"> • SONET/SDH • Not applicable |
| Effect on Service | Either Non-applicable, Service-Affecting (SA) or Non-Service Affecting (NSA). This is the Affect on Service field on the WaveStar CIT Alarm List. |
| Alarm Level | This is a field on the WaveStar CIT Alarm List. Valid values are: <ul style="list-style-type: none"> • Critical (CR) • Major (MJ) • Minor (MN) • Not Alarmed (NA) • Non-applicable |
| On-site Indicator: User Panel | User Panel LEDs are visual indicators of the shelf status. Possible displays are: <ul style="list-style-type: none"> • CR LED • MJ LED • MN LED • No LEDs illuminated |

| | |
|---|---|
| | |
| On-site Indicator: Circuit Pack Faceplate | Circuit Pack Faceplate LEDs are visual indicators of the circuit pack status. Possible displays are: <ul style="list-style-type: none"> • Constant Green LED • Constant Red LED • Flashing Red LED • Flashing Green LED • No LEDs illuminated |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Trouble-clearing task associated with alarm message, if any. |

Error messages data format

Each error message entry begins with the mnemonic description of the error and the text of the error message. For example:

ENEQ Equipage, Entity not Equipped, circuit pack not equipped

This is followed by a table with the following entries:

| | |
|--------------------------|---|
| Definition | For example: The specified circuit pack is not equipped. |
| Problem or Cause | For example: The specified circuit pack is not provisioned or the specified AID for the target circuit pack is incorrect. |
| Corrective Action | For example: Provision the circuit pack and enter the command again or enter the command again with correct AID. |

Common Alarm and Event Messages

ARST Circuit pack autonomous reset

| | |
|---|---------------------------------|
| Probable Cause | ARST |
| Definition | The circuit pack resets itself. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicators | No LEDs illuminated |
| Provisionable Default Alarm Level via ASAP | For future use |
| Trouble-Clearing Task | None |

AUTORESET Circuit pack autonomous reset

| | |
|---|--------------------------------|
| Probable Cause | AUTORESET |
| Definition | The circuit pack reset itself. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicators | No LEDs illuminated |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

DATAFLT SNIP ID mismatch

| | | |
|---|---|-----|
| Probable Cause | DATAFLT | |
| Definition | The non-volatile memory (NVM)-based fabric-initialization-database serial number disagrees with the Switch Shelf reported SNIP. | |
| Reporting Type | Standing | |
| Alarm Type | COM | |
| Type of AID Affected | Shelf | |
| Interface Standard | Not applicable | |
| Effect on Service | SA | NSA |
| Alarm Level | CR | MN |
| On-site Indicators | No LEDs illuminated | |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | Task 103 | |

INTSFT Resource usage

| | |
|---|--|
| Probable Cause | INTSFT |
| Definition | Resource usage exceeded certain predetermined threshold. Heavy traffic, excessive failure rates, or a software fault may cause this problem. |
| Reporting Type | Standing |
| Alarm Type | COM |
| Type of AID Affected | Slot |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | Major (MJ) |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant Red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 102 |

NORMAL System startup complete

| | |
|---|------------------------|
| Probable Cause | NORMAL |
| Definition | Startup has completed. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | System |
| Interface Standard | Not Applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicators | No LEDs illuminated |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

NVMU Non-volatile memory usage

| | |
|---|--|
| Probable Cause | NVMU |
| Definition | Non-volatile memory usage condition occurs when available space is low and access times exceed maximum thresholds. |
| Reporting Type | Standing |
| Alarm Type | COM |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | Major (MJ) |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant Red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 101 |

OMERR Out of memory error

| | |
|---|--------------------------------|
| Probable Cause | OMERR |
| Definition | There was no available memory. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicators | No LEDs illuminated |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

PWR Power failure on feeder A and/or B.

| | | |
|---|--|--------|
| Probable Cause | PWR | |
| Definition | Power failure on feeder A and/or feeder B can be caused by the following conditions: <ul style="list-style-type: none"> • Defective circuit pack • Tripped circuit breaker • Faulty power filter connection • Failed power filter voltage protection (PFVP) unit | |
| Reporting Type | Standing | |
| Alarm Type | COM | |
| Type of AID Affected | Shelf | |
| Interface Standard | Not applicable | |
| Effect on Service | SA | NSA |
| Alarm Level | CR | MN |
| On-site Indicator: User Panel | CR LED | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | Task 100 | |

RU Resource usage

| | |
|---|---|
| Probable Cause | RU |
| Definition | Resource usage exceeds certain predetermined threshold. Heavy traffic, excessive failure rates, or a software fault may cause this problem. |
| Reporting Type | Standing |
| Alarm Type | COM |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 102 |

SECBUFTHX Intruder alert alarm

| | |
|---|---|
| Probable Cause | SECBUFTHX |
| Definition | An unauthorized login has been attempted. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | System |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicators | No LEDs illuminated |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

SCMMA System in maintenance condition

| | |
|---|---|
| Probable Cause | SCMMA |
| Definition | The system is in a maintenance condition. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | System |
| Interface Standard | Not applicable |
| Effect on Service | Not applicable |
| Alarm Level | Not applicable |
| On-site Indicators | Not applicable |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

SWERR Software error on circuit pack

| | |
|---|--|
| Probable Cause | SWERR |
| Definition | A software error occurred on a circuit pack. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | Not applicable |
| Alarm Level | Not applicable |
| On-site Indicators | Not applicable |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

SYSBOOT System Restart

| | |
|---|-------------------------------|
| Probable Cause | SYSBOOT |
| Definition | The system has been rebooted. |
| Reporting Type | Transient |
| Alarm Type | COM |
| Type of AID Affected | System |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicators | Not applicable |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |



Equipment Alarm and Event Messages

CONTCOM HVDAC High Voltage Cable Fault

| | |
|---|--|
| Probable Cause | CONTCOM |
| Definition | The HVDAC cable that provides the control signal for the Switch Interface Points (SWIPs) is disconnected or may be faulty. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack. |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 203 |

CONTR Controller circuit pack failure

| | |
|---|--|
| Probable Cause | CONTR |
| Definition | Controller circuit pack has failed. A circuit pack stops functioning when one or more components on the circuit pack fail. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Slot |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 200 |

CP_UNEQ Improper removal of circuit pack

| | |
|---|--|
| Probable Cause | CP_UNEQ |
| Definition | Either the SYS50D, CSIEX, PRI, EI, or DCC circuit pack was removed or unlatched. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack. |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED, if circuit pack is not fully extracted |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 204 |

CP_UNEQ Improper removal of circuit pack

| | |
|---|--|
| Probable Cause | CP_UNEQ |
| Definition | The SEC MEM circuit pack was removed or unlatched. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MN |
| On-site Indicator: User Panel | MN LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED, if circuit pack is not fully extracted |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 204 |

CPF Controller circuit pack failure

| | |
|---|--|
| Probable Cause | CPF |
| Definition | SYS50D, CSIEX, PRI, EI, or DCC circuit pack has failed. A circuit pack stops functioning when one or more components on the circuit pack fail. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 200 |

CPF Controller circuit pack failure

| | |
|---|---|
| Probable Cause | CPF |
| Definition | Secondary (SEC) NVM circuit pack has failed. A circuit pack stops functioning when one or more components on the circuit pack fail. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 200 |

CTNEQPT HVDAC circuit pack failure

| | |
|---|---|
| Probable Cause | CTNEQPT |
| Definition | HVDAC circuit pack has failed. A circuit pack stops functioning when one or more components on the circuit pack fail. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 200 |

CTNEQPT Output port loss of signal

| | | |
|---|---|----|
| Probable Cause | CTNEQPT | |
| Definition | The output port power monitor is detecting insufficient signal strength on a channel that had normal signal strength at the input port power monitor. | |
| Reporting Type | Standing | |
| Alarm Type | EQPT | |
| Type of AID Affected | Port | |
| Interface Standard | Not applicable | |
| Effect on Service | NSA | SA |
| Alarm Level | MN | CR |
| On-site Indicator: User Panel | CR LED | |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | Task 213 | |

CTNEQPT Switch interface point suspect

| | |
|---|---|
| Probable Cause | CTNEQPT |
| Definition | A Switch Interface Point (SWIP) that was previously associated with a port has been dissociated. The SWIP is now suspected of being faulty. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | SWIP |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MN |
| On-site Indicators | No LEDs illuminated |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 215 |

FACTERM Optical Cross-Connect Interface circuit pack failure

| | | |
|---|--|------------------|
| Probable Cause | FACTERM | |
| Definition | A port unit has failed. A circuit pack stops functioning when one or more components on the circuit pack fail. | |
| Reporting Type | Standing | |
| Alarm Type | EQPT | |
| Type of AID Affected | Circuit pack | |
| Interface Standard | Not applicable | |
| Effect on Service | SA | NSA |
| Alarm Level | CR | MN |
| On-site Indicator: User Panel | CR LED | MN LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | Task 200 | |

FAILTOSW Output port fail to switch

| | | |
|---|---|--------|
| Probable Cause | FAILTOSW | |
| Definition | The output port selector failed to select the fabric with sufficient signal strength when the output port power monitor has detected insufficient signal strength on the currently selected fabric. | |
| Reporting Type | Standing | |
| Alarm Type | EQPT | |
| Type of AID Affected | Port | |
| Interface Standard | Not applicable | |
| Effect on Service | SA | NSA |
| Alarm Level | CR | MJ |
| On-site Indicator: User Panel | CR LED | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | Task 214 | |

IMPROPRMVL Improper removal of circuit pack

| | | | |
|---|--|--------|--------|
| Probable Cause | IMPROPRMVL | | |
| Definition | HVDAC circuit pack was removed or unlatched or the OXI circuit pack was removed or unlatched without provisioning it out of service. | | |
| Reporting Type | Standing | | |
| Alarm Type | EQPT | | |
| Type of AID Affected | Circuit pack | | |
| Interface Standard | Not applicable | | |
| Effect on Service | SA | NSA | NSA |
| Alarm Level | CR | MJ | MN |
| On-site Indicator: User Panel | CR LED | MJ LED | MN LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED, if not fully extracted | | |
| Default Alarm Level Provisionable via ASAP | For future use | | |
| Trouble-Clearing Task | Task 204 | | |

IMPROPRMVL Improper removal of circuit pack

| | |
|---|---|
| Probable Cause | IMPROPRMVL |
| Definition | OSWIC or HSWIC circuit pack was removed or unlatched. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | MJ LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 204 |

IMPROPRMVL Improper removal of fan

| | |
|---|------------------------------|
| Probable Cause | IMPROPRMVL |
| Definition | One of the fans was removed. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Fan |
| Interface Standard | Not applicable |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicator: User Panel | CR LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | To be provided |

IMPROPRMVL Switch shelf extraction

| | | |
|---|----------------------------|--------|
| Probable Cause | IMPROPRMVL | |
| Definition | SNIP value cannot be read. | |
| Reporting Type | Standing | |
| Alarm Type | EQPT | |
| Type of AID Affected | Shelf | |
| Interface Standard | Not applicable | |
| Effect on Service | SA | NSA |
| Alarm Level | CR | MN |
| On-site Indicator: User Panel | CR LED | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | None | |

INHAUDB System is in ACO condition

| | |
|---|--------------------------------------|
| Probable Cause | INHAUDB |
| Definition | The audible alarm has been silenced. |
| Reporting Type | Transient |
| Alarm Type | EQPT |
| Type of AID Affected | System |
| Interface Standard | Not applicable |
| Effect on Service | Not applicable |
| Alarm Level | Not applicable |
| On-site Indicators: User Panel | Alarm Cut-Off (ACO) LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

INT Fan failure

| | | |
|---|----------------------------------|--------|
| Probable Cause | INT | |
| Definition | A fan failure has been detected. | |
| Reporting Type | Standing | |
| Alarm Type | EQPT | |
| Type of AID Affected | Fan | |
| Interface Standard | Not applicable | |
| Effect on Service | SA | NSA |
| Alarm Level | CR | MN |
| On-site Indicator: User Panel | CR LED | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | To be provided | |

INT-AIS-L Outgoing AIS-L /AIS-MS

| | |
|---|---|
| Probable Cause | INT-AIS-L |
| Definition | The outgoing signal has valid SONET/SDH Section/Regeneration Section overhead, but is otherwise composed of all ones. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | NSA |
| Alarm Level | MN |
| On-site Indicators: User Panel | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 207 |

INT-BER Outgoing signal degrade

| | |
|---|--|
| Probable Cause | INT-BER |
| Definition | The line bit error rate (BER) threshold has been crossed. This threshold is provisionable with values for 10^{-5} to 10^{-9} . |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | MJ |
| On-site Indicators: User Panel | MJ LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 210 |

INT-EBER Outgoing signal fail EBER

| | |
|---|---|
| Probable Cause | INT-EBER |
| Definition | The excessive bit error rate threshold has been crossed. This threshold is provisionable with values for 10^{-3} to 10^{-5} . |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicators: User Panel | CR LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 211 |

INT-LOF Outgoing loss of frame

| | |
|---|--|
| Probable Cause | INT-LOF |
| Definition | Consecutive errored framing patterns have been detected. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicators: User Panel | CR LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 208 |

INT-LOS Outgoing loss of signal

| | |
|---|---|
| Probable Cause | INT-LOS |
| Definition | An all-zeros pattern was detected. An all-zeros pattern corresponds to no light pulses for OC-N/STM-N optical interfaces. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicators: User Panel | CR LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 209 |

INT Fan failure

| | | |
|---|--|--------|
| Probable Cause | INT | |
| Definition | One or more components on the Fan Unit has failed, causing the Fan Unit to malfunction. This condition may also occur if the Power Filter Voltage Protection (PFVP) Unit for the specified shelf has failed. | |
| Reporting Type | Standing | |
| Alarm Type | EQPT | |
| Type of AID Affected | Shelf | |
| Interface Standard | Not applicable | |
| Effect on Service | SA | NSA |
| Alarm Level | CR | MN |
| On-site Indicator: User Panel | CR LED | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use | |
| Trouble-Clearing Task | Task 202 | |

INT Output port extraneous signal

| | |
|---|---|
| Probable Cause | INT |
| Definition | The output power monitor is detecting a signal when the port is not dedicated to any valid cross-connect. This alarm could be caused by a faulty Optical Cross-Connect Interface circuit packs. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Port |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MN |
| On-site Indicators: User Panel | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 212 |

NVMW Non-volatile memory failure

| | |
|---|---|
| Probable Cause | NVWM |
| Definition | The number of failed NVM data clusters exceeds a predetermined insufficient capacity threshold. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| On-site Indicator: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 206 |

PRCDRERR Invalid circuit pack

| | |
|--|---|
| Probable Cause | PRCDRERR |
| Definition | The inserted circuit pack type cannot be read or does not match the provisioned circuit pack type for the slot. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Circuit pack |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MN |
| On-site Indicator: User Panel | MN LED |
| On-site Indicators: Circuit Pack Faceplate | Constant red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 201 |

PWR Fan loss of power

| | |
|---|---|
| Probable Cause | PWR |
| Definition | A loss of power to a fan has been detected. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Fan |
| Interface Standard | Not applicable |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicator: User Panel | CR LED |
| On-site Indicators: Fan Unit Faceplate | Power On LED is off. |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | To be provided |

SWMTXMOD Improper SWIP association

| | |
|---|--|
| Probable Cause | SWMTXMOD |
| Definition | During port initialization a faulty SWIP was associated with a port. |
| Reporting Type | Standing |
| Alarm Type | EQPT |
| Type of AID Affected | Port |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 205 |

TSA Alarm test

| | |
|---|--------------------------------|
| Probable Cause | TSA |
| Definition | Alarm test has been initiated. |
| Reporting Type | Transient |
| Alarm Type | EQPT |
| Type of AID Affected | System |
| Interface Standard | SONET/SDH |
| Effect on Service | Not applicable |
| Alarm Level | NA |
| On-site Indicator: User Panel | LED consistent with test |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |



Optical Channel Alarm and Event Messages

AIS-L Incoming AIS-L/AIS-MS

| | |
|---|---|
| Probable Cause | AIS-L |
| Definition | The incoming signal has valid SONET/SDH Section/Regenerator Section overhead and otherwise is composed of all ones. There are also all ones in bits 6, 7, and 8 of the K2 byte. |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | NSA |
| Alarm Level | MN |
| On-site Indicator: User Panel | MN LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 300 |

BER Incoming signal degrade BER

| | |
|---|---|
| Probable Cause | BER |
| Definition | The line bit error rate (BER) threshold has been crossed. This threshold is provisionable with values from 10^{-5} to 10^{-9} . |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | MJ |
| On-site Indicator: User Panel | MJ LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 304 |

EBER Incoming signal fail EBER

| | |
|---|--|
| Probable Cause | EBER |
| Definition | The line excessive bit error rate (EBER) threshold has been crossed. This threshold is provisionable with values from 10^{-3} to 10^{-5} . |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicator: User Panel | CR LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 305 |

LOF Incoming loss of frame

| | |
|---|--|
| Probable Cause | LOF |
| Definition | Consecutive errored framing patterns have been detected. |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicator: User Panel | CR LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 301 |

LOS Incoming loss of signal (Optical)

| | |
|--|--|
| Probable Cause | LOS |
| Definition | This is an incoming loss of optical signal condition. A loss of signal (LOS) condition occurs when insufficient signal power is detected by the power monitor on the input port. |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | Not applicable |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicator: User Panel | CR LED |
| On-site Indicators: Circuit Pack Faceplate | Flashing red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 303 |

LOS Incoming loss of signal

| | |
|---|--|
| Probable Cause | LOS |
| Definition | An all-zeros pattern was detected. An all-zeros pattern corresponds to no light pulses for OC-N/STM-N optical interfaces. |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | SONET/SDH |
| Effect on Service | SA |
| Alarm Level | CR |
| On-site Indicator: User Panel | CR LED |
| On-site Indicators: Circuit Pack Faceplate: | Flashing red LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | Task 302 |

LPBKCRS Loopback Cross-connect

| | |
|---|----------------------------|
| Probable Cause | LPBKCRS |
| Definition | A loopback is established. |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicator: User Panel | Abnormal (ABN) LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

LPBK-SX Forced simplex loopback

| | |
|---|---|
| Probable Cause | LPBK-SX |
| Definition | A loopback is established on an input port that has an existing cross-connection in which only one switch fabric is used. |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicator: User Panel | Abnormal (ABN) LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |

LPBK-DX Forced duplex loopback

| | |
|---|---|
| Probable Cause | LPBK-DX |
| Definition | A loopback is established on an input port that has an existing cross-connection in which both switch fabrics are used. |
| Reporting Type | Standing |
| Alarm Type | OCH |
| Type of AID Affected | Port |
| Interface Standard | Not applicable |
| Effect on Service | NSA |
| Alarm Level | NA |
| On-site Indicator: User Panel | ABN LED |
| Default Alarm Level Provisionable via ASAP | For future use |
| Trouble-Clearing Task | None |



TL1 Command Error Messages

ENEQ Equipage, Entity not Equipped

| | |
|--------------------------|--|
| Definition | The specified AID is unequipped. |
| Problem or Cause | The specified AID represents a shelf on which both shelf controllers are not equipped. |
| Corrective Action | Insert at least one shelf controller and enter the command again. |

ENEQ Equipage, Entity not Equipped

| | |
|--------------------------|---|
| Definition | The specified AID is unequipped. |
| Problem or Cause | The specified AID represents a slot that is not equipped. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped

| | |
|--------------------------|---|
| Definition | The specified AID is unequipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped

| | |
|--------------------------|--|
| Definition | The specified DCC circuit pack is unequipped. |
| Problem or Cause | The specified DCC circuit pack AID represents a circuit pack that is not equipped. |
| Corrective Action | Insert the DCC circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped

| | |
|--------------------------|--|
| Definition | The specified port unit is unequipped. |
| Problem or Cause | The specified port unit AID represents a port unit that is not equipped. |
| Corrective Action | Insert the port unit and enter the command again. |

ENEQ Equipage, Entity not Equipped, HVDAC pack is not equipped

| | |
|--------------------------|--|
| Definition | The specified HVDAC circuit pack is unequipped. |
| Problem or Cause | The specified HVDAC circuit pack AID represents a circuit pack that is unequipped. |
| Corrective Action | Insert the HVDAC circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, in_aid unequipped

| | |
|--------------------------|---|
| Definition | The specified in_aid is not equipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, in_aid_1 unequipped

| | |
|--------------------------|---|
| Definition | The specified in_aid_1 is not equipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, in_aid_2 unequipped

| | |
|--------------------------|---|
| Definition | The specified in_aid_2 is not equipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, input port not equipped

| | |
|--------------------------|---|
| Definition | The specified input port is unequipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, out_aid unequipped

| | |
|--------------------------|---|
| Definition | The specified out_aid is not equipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, out_aid_1 unequipped

| | |
|--------------------------|---|
| Definition | The specified out_aid_1 is not equipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, out_aid_2 unequipped

| | |
|--------------------------|---|
| Definition | The specified out_aid_2 is not equipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ENEQ Equipage, Entity not Equipped, output port not equipped

| | |
|--------------------------|---|
| Definition | The specified output port is unequipped. |
| Problem or Cause | The specified port resides on a circuit pack that is not in its slot. |
| Corrective Action | Insert the circuit pack and enter the command again. |

ICNV Input, Command Not Valid

| | |
|--------------------------|---|
| Definition | The ACT-USER command cannot be issued within an already active session. |
| Problem or Cause | The command was issued on an already active TCP/IP connection. |
| Corrective Action | Do not issue this command if an active login session already exists. |

IDNC Input, Data Not Consistent, cct value

| | |
|--------------------------|---|
| Definition | The specified cct value differs from the cct value of the cross connection to be deleted. |
| Problem or Cause | The specified Cross-Connection Topology parameter was different from the current value contained in the cross-connection database. Valid values are 1WAY or 2WAY. |
| Corrective Action | Determine the current value of cct for the cross-connection to be deleted and enter the command again. |

IDNC Input, Data Not Consistent, inconsistent aid and ID

| | |
|--------------------------|---|
| Definition | The ED-EQPT or ENT-EQPT command specified the ID parameter for a non-shelf AID. |
| Problem or Cause | The ID parameter was specified in error. |
| Corrective Action | Enter the command again without specifying a value for the ID parameter. |

IDNC Input, Data Not Consistent, inconsistent aid and pst

| | |
|--------------------------|--|
| Definition | The ED-EQPT command specified a value for the pst parameter for one of the following entities: <ul style="list-style-type: none"> • Optical Interface Shelf (OIS) • Switch Shelf (SWS) • High-Voltage Shelf (HVS) • System Controller Shelf (SCS) • Switch Interface Point (SWIP) |
| Problem or Cause | The Primary State parameter was specified in error. |
| Corrective Action | Enter the command again without specifying a value for the pst parameter. |

IDNC Input, Data Not Consistent, inconsistent aid and SWIP

| | |
|--------------------------|--|
| Definition | The specified AID and SWIP parameters are not consistent. |
| Problem or Cause | The command specified a range of AIDs, which is not allowed with any INSWIP0, INSWIP1, OUTSWIP0, or OUTSWIP1 parameters. |
| Corrective Action | Enter the command again without any INSWIP0, INSWIP1, OUTSWIP0, or OUTSWIP1 parameters specified. |

IDNC Input, Data Not Consistent, inconsistent aid and sst

| | |
|--------------------------|---|
| Definition | The ED-EQPT command for system, shelf, slot, or SWMG specified a value for the sst parameter. |
| Problem or Cause | The Secondary State parameter was specified in error. |
| Corrective Action | Enter the command again without specifying a value for the sst parameter. |

IDNC Input, Data Not Consistent, inconsistent aid and SWIP block

| | |
|--------------------------|---|
| Definition | The specified AID and SWIP Block parameters are not consistent. |
| Problem or Cause | The specified AID was other than for an OIS. |
| Corrective Action | Enter the command again for an OIS. |

IDNC Input, Data Not Consistent, inconsistent aid and SWIP block(s)

| | |
|--------------------------|--|
| Definition | The specified AID and SWIP block(s) parameters are not consistent. |
| Problem or Cause | The specified SWIP block(s) are not allowed with the type of OIS specified by the AID parameter. |
| Corrective Action | Determine the correct values for the AID and SWIP block parameters and enter the command again. |

IDNC Input, Data Not Consistent, inconsistent aid and SYSCFG/IFDF/IODF/ISTDDFLT/USAGEDFLT

| | |
|--------------------------|--|
| Definition | The command incorrectly specified any of the following parameters without specifying a non-system AID: <ul style="list-style-type: none"> • SYSCFG • IFDF • IODF • ISTDDFLT • USAGE |
| Problem or Cause | One or more of the above mentioned parameters was specified with a non-system AID. |
| Corrective Action | Enter the command again without specifying a value for the above mentioned parameters. |

IDNC Input, Data Not Consistent, inconsistent AID values

| | |
|--------------------------|---|
| Definition | The command using an input or output AID that includes the value all did not have a corresponding blank value for the other AID. |
| Problem or Cause | The RTRV-CRS command specified a value of all and specified a value for the other AID. |
| Corrective Action | Enter the command again with the correct AID value. |

IDNC Input, Data Not Consistent, inconsistent ALMDELEQPT > CLRDELEQPT

| | |
|--------------------------|---|
| Definition | The value specified for the ALMDELEQPT parameter is greater than the value specified for the CLRDELEQPT parameter. |
| Problem or Cause | The value entered for the Alarm Delay Equipment parameter is not allowed with the current value of the Clear Delay Equipment. |
| Corrective Action | Determine the current value of the CLRDELEQPT parameter. Enter the command with the correct value for the ALMDELEQPT parameter. |

IDNC Input, Data Not Consistent, inconsistent ALMDELEQPT > CLRDELFCFLT

| | |
|--------------------------|--|
| Definition | The value specified for the ALMDELEQPT parameter is greater than the value specified for the CLRDELFCFLT parameter. |
| Problem or Cause | The value entered for the Alarm Delay Equipment parameter is not allowed with the current value of the Clear Delay Facility. |
| Corrective Action | Determine the current value of the CLRDELFCFLT parameter. Enter the command with the correct value for the ALMDELEQPT parameter. |

IDNC Input, Data Not Consistent, inconsistent ALMDELFLCT > CLRDELFLCT

| | |
|--------------------------|---|
| Definition | The value specified for the ALMDELFLCT parameter is greater than the value specified for the CLRDELFLCT parameter. |
| Problem or Cause | The value entered for the Alarm Delay Facility parameter is not allowed with the current value of the Clear Delay Facility. |
| Corrective Action | Determine the current value of the CLRDELFLCT parameter. Enter the command with the correct value for the ALMDELFLCT parameter. |

IDNC Input, Data Not Consistent, inconsistent cct and AID values

| | |
|---------------------------------|--|
| <p>Definition</p> | <p>The values specified for the cct parameter and AIDs are inconsistent.</p> |
| <p>Problem or Cause</p> | <p>The value for the Cross-Connection Topology parameter was specified as 1WAY with a Validation Check parameter of BRDG without specifying the required two AID values, one input port and one output port or,</p> <p>the value for the Cross-Connection Topology parameter was specified as 1WAY with a Validation Check parameter of MERG without specifying the required number of AID values. Either 2 AID values, one input port AID and one output port AID, or 3 AID values, two different input port AID values and one output port AID value, are required or,</p> <p>the value for the Cross-Connection Topology parameter was specified as 2WAY without specifying the required four AID values.</p> |
| <p>Corrective Action</p> | <p>Determine the correct values for the cct and valck parameters, as well as the required number of AID values. Enter the command again.</p> |

IDNC Input, Data Not Consistent, inconsistent dir and AISLSW

| | |
|--------------------------|--|
| Definition | The AISLSW parameter was specified with a dir parameter of IN. |
| Problem or Cause | The AIS-L Protection Switch parameter was specified when the Direction parameter was IN. |
| Corrective Action | Enter the command again with a dir parameter of OUT. |

IDNC Input, Data Not Consistent, inconsistent dir and BERSW

| | |
|--------------------------|--|
| Definition | The BERSW parameter was specified with a dir parameter of IN. |
| Problem or Cause | The BERSW Protection Switch parameter was specified when the Direction parameter was IN. |
| Corrective Action | Enter the command again with a dir parameter of OUT. |

IDNC Input, Data Not Consistent, inconsistent dir and EBERSW

| | |
|--------------------------|---|
| Definition | The EBERSW parameter was specified with a dir parameter of IN. |
| Problem or Cause | The EBERSW Protection Switch parameter was specified when the Direction parameter was IN. |
| Corrective Action | Enter the command again with a dir parameter of OUT. |

IDNC Input, Data Not Consistent, inconsistent dir and INSWIP

| | |
|--------------------------|--|
| Definition | The INSWIP parameter was specified with a dir parameter of OUT. |
| Problem or Cause | The ED-rr command for an output port specified the INSWIP0 or the INSWIP1 parameter. |
| Corrective Action | Enter the command again without the INSWIP0 or INSWIP1 parameter. |

IDNC Input, Data Not Consistent, inconsistent dir and IOPT

| | |
|--------------------------|--|
| Definition | The IOPT parameter is not allowed when the value specified for the dir parameter is OUT. |
| Problem or Cause | The ED-rr command for an input port specified the Direction parameter of OUT. |
| Corrective Action | Enter the command again with a dir parameter of IN. |

IDNC Input, Data Not Consistent, inconsistent dir and OUTSWIP

| | |
|--------------------------|---|
| Definition | The OUTSWIP parameter was specified with a dir parameter of IN. |
| Problem or Cause | The ED-rr command for an input port specified the OUTSWIP0 or the OUTSWIP1 parameter. |
| Corrective Action | Enter the command again without the OUTSWIP0 or OUTSWIP1 parameter. |

IDNC Input, Data Not Consistent, inconsistent dir and pstin

| | |
|--------------------------|---|
| Definition | The pstin parameter is not allowed when the value specified for the dir parameter is OUT. |
| Problem or Cause | The pstin parameter was specified with a dir of OUT. |
| Corrective Action | Enter the command again with a dir parameter of IN. |

IDNC Input, Data Not Consistent, inconsistent dir and pstout

| | |
|--------------------------|---|
| Definition | The pstout parameter is not allowed when the value specified for the dir parameter is IN. |
| Problem or Cause | The pstout parameter was specified with a dir of IN. |
| Corrective Action | Enter the command again with a dir parameter of OUT. |

IDNC Input, Data Not Consistent, inconsistent dir and PWRMDF

| | |
|--------------------------|--|
| Definition | The PWRMDF parameter is not allowed when the dir parameter is OUT. |
| Problem or Cause | The PWRMDF parameter was specified with a dir of OUT. |
| Corrective Action | Enter the command again with a dir parameter of IN. |

IDNC Input, Data Not Consistent, inconsistent IFDF and IODF

| | |
|--------------------------|--|
| Definition | The values specified for the IFDF and IODF parameters are not consistent. |
| Problem or Cause | The values for the Interface Format Default and Interface Optics Default parameters were in conflict. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the ED-EQPT TL1 command for valid values for this parameter. |
| Corrective Action | Determine the correct values for IFDF and IODF parameters and enter the command again. |

IDNC Input, Data Not Consistent, inconsistent IFMT and IOPT

| | |
|--------------------------|---|
| Definition | The values specified for the IFMT and IOPT parameters are not consistent. |
| Problem or Cause | The value for the Interface Format parameter conflicted with the value specified for the Interface Optics parameter. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the ED-rr TL1 command for valid values for this parameter. |
| Corrective Action | Determine the correct values for the IFMT and IOPT parameters and enter the command again. |

IDNC Input, Data Not Consistent, inconsistent pst and spec_block

| | |
|--------------------------|--|
| Definition | The values specified for the pst and spec_block parameters are not consistent. |
| Problem or Cause | The command specified Specific Block parameters with an Input Port Primary State or Output Port Primary State parameter. |
| Corrective Action | Enter the command again without specifying spec_block parameters. |

IDNC Input, Data Not Consistent, inconsistent startdate and starttime

| | |
|--------------------------|--|
| Definition | The values specified for the startdate and starttime parameters are not consistent. |
| Problem or Cause | The Start Date parameter was specified without the Start Time parameter or the Start Time parameter was specified without the Start Date parameter |
| Corrective Action | Enter the command again specifying the startdate and starttime parameters. |

IDNC Input, Data Not Consistent, inconsistent SWIP block and OIS type

| | |
|--------------------------|---|
| Definition | The value specified for the SWIP block parameter and the OIS type are not consistent. |
| Problem or Cause | The specified AID was for a 10G-type OIS, which is not allowed with any of the following assigned SWIP Block parameter values: <ul style="list-style-type: none"> • SIDE0BLK3 • SIDE0BLK4 • SIDE0BLK5 • SIDE0BLK6 • SIDE0BLK7 • SIDE0BLK8 • SIDE1BLK3 • SIDE1BLK4 • SIDE1BLK5 • SIDE1BLK6 • SIDE1BLK7 • SIDE1BLK8 |
| Corrective Action | Enter the command again without specifying any of the parameters listed above. |

IDNC Input, Data Not Consistent, inconsistent SWIP block assignments

| | |
|--------------------------|---|
| Definition | The specified values for the SWIP blocks are not consistent. |
| Problem or Cause | The command attempted to provision two or more SWIP block parameters with the same value. |
| Corrective Action | Determine the correct values for the SWIP block parameter and enter the command again. |

IDNC Input, Data Not Consistent, inconsistent type and SWIP block

| | |
|--------------------------|---|
| Definition | The value specified for the SWIP block parameter and the OIS type are not consistent. |
| Problem or Cause | The specified AID was for a 10G-type OIS, which is not allowed with any of the following assigned SWIP Block parameter values: <ul style="list-style-type: none"> • SIDE0BLK3 • SIDE0BLK4 • SIDE0BLK5 • SIDE0BLK6 • SIDE0BLK7 • SIDE0BLK8 • SIDE1BLK3 • SIDE1BLK4 • SIDE1BLK5 • SIDE1BLK6 • SIDE1BLK7 • SIDE1BLK8 |
| Corrective Action | Enter the command again without specifying any of the parameters listed above. |

IDNV Input, Data Not Valid

| | |
|--------------------------|--|
| Definition | The uid parameter is syntactically incorrect. |
| Problem or Cause | The CANC-USER-SECU command specified a User Identifier that was syntactically incorrect. |
| Corrective Action | Determine the correct syntax for the uid parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid AGE

| | |
|--------------------------|--|
| Definition | The value specified for the AGE parameter is invalid. |
| Problem or Cause | The Lockout Aging Period parameter was specified other than 1-999. |
| Corrective Action | Enter the command again specifying an AGE parameter of 1 to 999 minutes. |

IDNV Input, Data Not Valid, invalid AISLSW

| | |
|--------------------------|--|
| Definition | The value specified for the AISLSW parameter is not valid. |
| Problem or Cause | The AIS-L Protection Switch value is not allowed with a Direction parameter of IN. |
| Corrective Action | Enter the command again with a valid value. |

IDNV Input, Data Not Valid, invalid ALMDELEQPT

| | |
|--------------------------|--|
| Definition | The value specified for the ALMDELEQPT parameter is not valid. |
| Problem or Cause | The Alarm Delay Equipment parameter was specified other than 0, 11-60 and greater than or equal to the Clear Delay Facility parameter. |
| Corrective Action | Determine the correct value for the ALMDELEQPT parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid ALMDELFCFLT

| | |
|--------------------------|--|
| Definition | The value specified for the ALMDELFCFLT parameter is not valid. |
| Problem or Cause | The Alarm Delay Facility parameter was specified other than 0-60. |
| Corrective Action | Determine the correct value for the ALMDELFCFLT parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid ALW_LOGIN

| | |
|--------------------------|--|
| Definition | The ALW_LOGIN parameter specified is not valid. |
| Problem or Cause | The Allow Login parameter was specified other than YES. |
| Corrective Action | Enter the command again with a ALW_LOGIN parameter of YES. |

IDNV Input, Data Not Valid, invalid amount

| | |
|--------------------------|--|
| Definition | The value specified for the amount parameter is not valid. |
| Problem or Cause | The amount parameter was specified other than ALL. |
| Corrective Action | Enter the command again with an amount parameter of ALL. |

IDNV Input, Data Not Valid, invalid AUTOLOCK

| | |
|--------------------------|--|
| Definition | The value specified for the AUTOLOCK parameter is not valid. |
| Problem or Cause | The Output Port Autolock parameter was specified other than ENABLE or DISABLE. |
| Corrective Action | Enter the command again with the correct value for the AUTOLOCK parameter. |

IDNV Input, Data Not Valid, invalid BERSW

| | |
|--------------------------|--|
| Definition | The value specified for the BERSW parameter is not valid. |
| Problem or Cause | The command specified a Direction parameter of IN or the BER Protection Switch parameter was specified other than ENABLE or DISABLE. |
| Corrective Action | Enter the command again with a dir parameter of IN and the correct value for the EBER Protection Switch parameter. |

IDNV Input, Data Not Valid, invalid cct

| | |
|--------------------------|--|
| Definition | The specified cct parameter was not valid. |
| Problem or Cause | The Cross-Connect Topology was specified other than 1WAY or 2WAY. |
| Corrective Action | Determine the correct value for the cct parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid CLRDELEQPT

| | |
|--------------------------|---|
| Definition | The value specified for the CLRDELEQPT parameter is not valid. |
| Problem or Cause | The Clear Delay Facility parameter was specified other than 0-60. |
| Corrective Action | Determine the correct value for the CLRDELEQPT parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid CLRDELFCFLT

| | |
|--------------------------|--|
| Definition | The value specified for the CLRDELFCFLT parameter is not valid. |
| Problem or Cause | The Clear Delay Facility parameter was specified other than 0-60. |
| Corrective Action | Determine the correct value for the CLRDELFCFLT parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid condtype

| | |
|--------------------------|--|
| Definition | The value specified for the condtype parameter is not valid. |
| Problem or Cause | The Condition Type parameter was specified incorrectly. Refer to the Alarm/Events Table in Appendix A of the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for a complete list of valid values. |
| Corrective Action | Determine the correct value for the condtype parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid datatype

| | |
|--------------------------|---|
| Definition | The value specified for the datatype parameter is not valid. |
| Problem or Cause | The Data Type parameter was specified other than DATA, SFTWR, ALL, or CAL. |
| Corrective Action | Determine the correct value for the datatype parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid date

| | |
|--------------------------|---|
| Definition | The value specified for the date parameter is not valid. |
| Problem or Cause | The Date parameter was specified other than YY-MM-DD where YY=00-99, MM=01-12, DD=01-31, and subject to calendar rules. |
| Corrective Action | Determine the correct value for the date parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid DECXTHR

| | |
|--------------------------|---|
| Definition | The value specified for the DECXTHR parameter is not valid. |
| Problem or Cause | The Excessive Degrade Threshold parameter was specified for an SDH port or was specified other than the following: <ul style="list-style-type: none"> • -3 • -4 • -5 |
| Corrective Action | Determine the correct value for the DECXTHR parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid DEGTHR

| | |
|--------------------------|---|
| Definition | The value specified for the DEGTHR parameter is not valid. |
| Problem or Cause | The Degrade Threshold parameter was specified for an SDH port or was specified other than the following: <ul style="list-style-type: none"> • -5 • -6 • -7 • -8 • -9 |
| Corrective Action | Determine the correct value for the DEGTHR parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid dest

| | |
|--------------------------|---|
| Definition | The value specified for the dest parameter is not valid. |
| Problem or Cause | The Destination parameter was specified other than 1 or 0. |
| Corrective Action | Determine the correct value for the dest parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid dir

| | |
|--------------------------|---|
| Definition | The specified dir parameter is not valid. |
| Problem or Cause | The Direction parameter was specified with a value other than IN, OUT, or BOTH. |
| Corrective Action | Determine the correct value of the dir parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid EBERSW

| | |
|--------------------------|--|
| Definition | The value specified for the EBERSW parameter is not valid. |
| Problem or Cause | The EBER Protection Switch parameter was specified other than ENABLE or DISABLE. |
| Corrective Action | Enter the command again with the correct value for the EBER Protection Switch parameter. |

IDNV Input, Data Not Valid, invalid from

| | |
|--------------------------|---|
| Definition | The value specified for the from parameter is invalid. |
| Problem or Cause | The command specified a Source Location parameter was specified other than ACTV or SEC. |
| Corrective Action | Enter the command again with the correct value for the from parameter. |

IDNV Input, Data Not Valid, invalid ID

| | |
|--------------------------|--|
| Definition | The specified value for the ID parameter is not valid. |
| Problem or Cause | Either the value entered for the Identifier parameter was specified longer than 20 characters. |
| Corrective Action | Enter the command again with the correct value for the ID parameter. |

IDNV Input, Data Not Valid, invalid IFDF

| | |
|--------------------------|---|
| Definition | The specified value for the IFDF parameter is not valid. |
| Problem or Cause | Either the value entered for the Interface Format Default parameter was specified other than one of the following: <ul style="list-style-type: none"> • OC192/STM64 • OC48/STM16 • LSBB • HSBB • OTHER |
| Corrective Action | Enter the command again with a valid value for the IFDF parameter. |

IDNV Input, Data Not Valid, invalid IFMT

| | |
|--------------------------|--|
| Definition | The specified value for the IFMT parameter is not valid. |
| Problem or Cause | The Interface Format parameter was specified other than one of the following: <ul style="list-style-type: none"> • OC192/STM64 • OC48/STM16 • LSBB • HSBB • OTHER |
| Corrective Action | Enter the command again with a valid value for the IFMT parameter. |

IDNV Input, Data Not Valid, invalid INSWIPO

| | |
|--------------------------|---|
| Definition | The specified value for the INSWIPO parameter is not valid. |
| Problem or Cause | The Input SWIP on Fabric Side 0 was specified incorrectly. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ED-rr for valid values for these parameters. |
| Corrective Action | Enter the command again with a valid value for the INSWIPO parameter. |

IDNV Input, Data Not Valid, invalid INSWIP1

| | |
|--------------------------|---|
| Definition | The specified value for the INSWIP1 parameter is not valid. |
| Problem or Cause | The Input SWIP on Fabric Side 1 was specified incorrectly. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ED-rr for valid values for these parameters. |
| Corrective Action | Enter the command again with a valid value for the INSWIP1 parameter. |

IDNV Input, Data Not Valid, invalid INTRVL

| | |
|--------------------------|---|
| Definition | The specified value for the INTRVL parameter is not valid. |
| Problem or Cause | The Lockout Period parameter was specified other than 2-99. |
| Corrective Action | Determine the correct value for INTRVL parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid IODF

| | |
|--------------------------|---|
| Definition | The specified value for the IODF parameter is not valid. |
| Problem or Cause | The Interface Optics Default parameter was specified other than one of the following: <ul style="list-style-type: none"> • SR • IR • LR • VSR12 • OTHER • GBELX |
| Corrective Action | Enter the command again with the AID parameter of system and with valid values for the IODF and IFDF parameters. |

IDNV Input, Data Not Valid, invalid IOPT

| | |
|--------------------------|---|
| Definition | The specified value for the IOPT parameter is not valid. |
| Problem or Cause | The Interface Optics parameter was specified other than one of the following: <ul style="list-style-type: none"> • SR • IR • LR • VSR12 • OTHER • GBELX |
| Corrective Action | Enter the command again with the AID parameter of system and with valid values for the IOPT parameter. |

IDNV Input, Data Not Valid, invalid ISTD

| | |
|--------------------------|--|
| Definition | The specified value for the ISTD parameter is not valid. |
| Problem or Cause | The ISTD parameter was specified when the Direction parameter was other than BOTH. |
| Corrective Action | Enter the command again with a valid value. |

IDNV Input, Data Not Valid, invalid ISTDDFLT

| | |
|--------------------------|--|
| Definition | The specified value for the ISTDDFLT parameter is not valid. |
| Problem or Cause | The Interface Standard Default parameter was specified with an AID of other than SONET or SDH. |
| Corrective Action | Enter the command again with a valid value. |

IDNV Input, Data Not Valid, invalid lpbktype

| | |
|--------------------------|--|
| Definition | The specified value for the lpbktype parameter is not valid. |
| Problem or Cause | The Loopback Type parameter was specified other than lpbkcc or lpbkfc. |
| Corrective Action | Enter the command again with a lpbktype of lpbkcc or lpbkfc. |

IDNV Input, Data Not Valid, invalid new_pid

| | |
|--------------------------|--|
| Definition | The specified value for the new_pid parameter is not valid. |
| Problem or Cause | The New Password Identifier parameter was specified incorrectly. Refer to the Positional Input Parameter Table in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ED-USER-SECU for valid values for these parameters. |
| Corrective Action | Determine the correct value for the new_pid parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid newsid

| | |
|--------------------------|---|
| Definition | The specified value for the newsid parameter is not valid. |
| Problem or Cause | The Target/Source Identifier parameter was specified incorrectly. Refer to the Positional Input Parameter Table in the WaveStar LambdaRouter 128 Release 2.0 <i>Operations and System Engineering Guide</i> or the WaveStar LambdaRouter 256 Release 2.0 <i>Operations and System Engineering Guide</i> for the TL1 command ED-USER-SECU for valid values for this parameter. |
| Corrective Action | Determine the correct value for the newsid parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid NEWUID

| | |
|--------------------------|--|
| Definition | The specified value for the NEWUID parameter is not valid. |
| Problem or Cause | The New uid parameter was specified incorrectly. Refer to the Positional Input Parameter Table in the WaveStar LambdaRouter 128 Release 2.0 <i>Operations and System Engineering Guide</i> or the WaveStar LambdaRouter 256 Release 2.0 <i>Operations and System Engineering Guide</i> for the TL1 command ED-USER-SECU for valid values for this parameter. |
| Corrective Action | Determine the correct value for the NEWUID parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid old_pid

| | |
|--------------------------|--|
| Definition | The specified value for the old_pid parameter is not valid. |
| Problem or Cause | The Old Password Identifier parameter was specified incorrectly. Refer to the Positional Input Parameter Table in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ED-PID for valid values for this parameter. |
| Corrective Action | Determine the correct value for the old_pid parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid OUTSWIP0

| | |
|--------------------------|---|
| Definition | The specified value for the INSWIP0 parameter is not valid. |
| Problem or Cause | The Output SWIP on Fabric Side 0 was specified incorrectly. Refer to the Positional Input Parameter Table in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ED-PID for valid values for this parameter. |
| Corrective Action | Enter the command again with a valid value. |

IDNV Input, Data Not Valid, invalid OUTSWIP1

| | |
|--------------------------|--|
| Definition | The specified value for the OUTSWIP1 parameter is not valid. |
| Problem or Cause | The Input SWIP on Fabric Side 1 was specified incorrectly. Refer to the Positional Input Parameter Table in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ED-PID for valid values for this parameter. |
| Corrective Action | Enter the command again with a valid value for the OUTSWIP1 parameter. |

IDNV Input, Data Not Valid, invalid PAGE

| | |
|--------------------------|---|
| Definition | The specified value for the PAGE parameter is not valid. |
| Problem or Cause | The Password Aging Interval was specified incorrectly. Refer to the Positional Input Parameter Table in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ENT-USER-SECU for valid values for this parameter. |
| Corrective Action | Determine the correct value for the PAGE parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid pid

| | |
|--------------------------|---|
| Definition | The specified value for the pid parameter is not valid. |
| Problem or Cause | The Password Identifier parameter was specified incorrectly. Refer to the Positional Input Parameter Table in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ENT-USER-SECU for valid values for this parameter. |
| Corrective Action | Determine the correct value for the pid parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid pst

| | |
|--------------------------|---|
| Definition | The specified value for the pst parameter is not valid. |
| Problem or Cause | The Primary State parameter was specified other than IS or OOS. |
| Corrective Action | Enter the command again with a pst parameter of IS or OOS. |

IDNV Input, Data Not Valid, invalid pstin

| | |
|--------------------------|--|
| Definition | The specified value for the pstin parameter is not valid. |
| Problem or Cause | The Input Port Primary State parameter was specified other than IS or OOS. |
| Corrective Action | Enter the command again with a pstin parameter of IS or OOS. |

IDNV Input, Data Not Valid, invalid pstout

| | |
|--------------------------|---|
| Definition | The specified value for the pstout parameter is not valid. |
| Problem or Cause | The Output Port Primary State parameter was specified other than IS or OOS. |
| Corrective Action | Enter the command again with a pstout parameter of IS or OOS. |

IDNV Input, Data Not Valid, invalid PWRMDF

| | |
|--------------------------|---|
| Definition | The specified value for the PWRMDF parameter is not valid. |
| Problem or Cause | The Default Power Monitor parameter was specified with an integer value range other than -10 to +2. |
| Corrective Action | Enter the command again with valid a value. |

IDNV Input, Data Not Valid, invalid repeat

| | |
|--------------------------|--|
| Definition | The specified value for the repeat parameter is not valid. |
| Problem or Cause | The TEST-ALM or TEST-LED command specified the Repeat parameter incorrectly. Valid Repeat parameter values for the TEST-ALM command are 1-10. Valid Repeat parameter values for the TEST-LED command are 1-60. |
| Corrective Action | Determine the correct value for the repeat parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid replytype

| | |
|--------------------------|--|
| Definition | The specified value for the replytype parameter is not valid. |
| Problem or Cause | The Reply Type parameter was specified other than BROWSE or DBSYNC |
| Corrective Action | Determine the correct value for the replytype parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid RESP

| | |
|--------------------------|---|
| Definition | The specified value for the RESP parameter is not valid. |
| Problem or Cause | The Response parameter as specified other than YES or NO. |
| Corrective Action | Determine the correct value for the RESP parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid restoremode

| | |
|--------------------------|--|
| Definition | The specified value for the restoremode parameter is not valid. |
| Problem or Cause | The Restore Mode parameter was specified other than ON or OFF. |
| Corrective Action | Determine the correct value for the restoremode parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SCREEN

| | |
|--------------------------|---|
| Definition | The specified value for the SCREEN parameter is not valid. |
| Problem or Cause | The Message Screening parameter was specified incorrectly. Refer to the Positional Input Parameter Table in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 command ENT-USER-SECU for valid values for this parameter. |
| Corrective Action | Determine the correct value for the SCREEN parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SDTHR

| | |
|--------------------------|--|
| Definition | The specified value for the SDTHR parameter is not valid. |
| Problem or Cause | The Signal Degrade Threshold parameter was specified for an SDH port or was specified other than the following: <ul style="list-style-type: none"> • -5 • -6 • -7 • -8 • -9 |
| Corrective Action | Determine the correct value for the SDTHR parameter and enter the command again for a SONET port. |

IDNV Input, Data Not Valid, invalid SFTHR

| | |
|--------------------------|--|
| Definition | The specified value for the SFTHR parameter is not valid. |
| Problem or Cause | The Signal Failure Threshold parameter was specified for an SDH port or was specified other than the following: <ul style="list-style-type: none"> • -3 • -4 • -5 |
| Corrective Action | Determine the correct value for the SFTHR parameter and enter the command again for a SONET port. |

IDNV Input, Data Not Valid, invalid SIDE0BLK1

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK1 parameter is not valid. |
| Problem or Cause | The SIDE0BLK1 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE0BLK2

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK2 parameter is not valid. |
| Problem or Cause | The SIDE0BLK2 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE0BLK3

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK3 parameter is not valid. |
| Problem or Cause | The SIDE0BLK3 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE0BLK4

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK4 parameter is not valid. |
| Problem or Cause | The SIDE0BLK4 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE0BLK5

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK5 parameter is not valid. |
| Problem or Cause | The SIDE0BLK5 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE0BLK6

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK6 parameter is not valid. |
| Problem or Cause | The SIDE0BLK6 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE0BLK7

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK7 parameter is not valid. |
| Problem or Cause | The SIDE0BLK7 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE0BLK8

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE0BLK8 parameter is not valid. |
| Problem or Cause | The SIDE0BLK8 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK1

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE1BLK1 parameter is not valid. |
| Problem or Cause | The SIDE1BLK1 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK2

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE1BLK2 parameter is not valid. |
| Problem or Cause | The SIDE1BLK2 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK3

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE1BLK3 parameter is not valid. |
| Problem or Cause | The SIDE1BLK3 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK4

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE1BLK4 parameter is not valid. |
| Problem or Cause | The SIDE1BLK4 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK5

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE1BLK5 parameter is not valid. |
| Problem or Cause | The SIDE1BLK5 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK6

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE1BLK6 parameter is not valid. |
| Problem or Cause | The SIDE1BLK6 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK7

| | |
|--------------------------|--|
| Definition | The specified value for the SIDE1BLK7 parameter is not valid. |
| Problem or Cause | The SIDE1BLK7 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIDE1BLK8

| | |
|-------------------|---|
| Definition | The specified value for the SIDE1BLK8 parameter is not valid. |
|-------------------|---|

| | |
|--------------------------|--|
| Problem or Cause | The SIDE1BLK8 parameter was specified other than the following: <ul style="list-style-type: none"> • {A,B}{1-38} • UAS Unassigned (UAS) is allowed only for the ED-EQPT TL1 command. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SIGTYPE

| | |
|--------------------------|---|
| Definition | The value specified for the SIGTYPE parameter is invalid. |
| Problem or Cause | The Signal Type parameter was specified other than 1 or 4. |
| Corrective Action | Enter the command again with the correct value for the SIGTYPE parameter. |

IDNV Input, Data Not Valid, invalid srveff

| | |
|--------------------------|--|
| Definition | The specified value for the srveff parameter is not valid. |
| Problem or Cause | The Service Effect parameter was specified other than NSA (Non-Service) or SA (Service Affecting). |
| Corrective Action | Enter the command again with a srveff of NSA or SA. |

IDNV Input, Data Not Valid, invalid sst

| | |
|--------------------------|---|
| Definition | The specified value for the sst parameter is not valid. |
| Problem or Cause | The Secondary State parameter was specified other than UEQ, MT, or FLT. |
| Corrective Action | Enter the command again with a valid value for the sst parameter. |

IDNV Input, Data Not Valid, invalid startdate

| | |
|--------------------------|--|
| Definition | The specified value for the startdate parameter is not valid. |
| Problem or Cause | The Start Date parameter was specified other than YY-MM-DD where YY=00-99, MM=01-12, DD=01-31. |
| Corrective Action | Determine the correct value for the startdate parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid starttime

| | |
|--------------------------|--|
| Definition | The specified value for the starttime parameter is not valid. |
| Problem or Cause | The Start Time parameter was specified other than HH-MM-SS where HH=00-23, MM=00-59, SS=01-31. |
| Corrective Action | Determine the correct value for the starttime parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid STRCFMT

| | |
|--------------------------|--|
| Definition | The specified value for the STRCFMT parameter is not valid. |
| Problem or Cause | The Section Trace Format parameter was specified other than 1 or 16. |
| Corrective Action | Determine the correct value for the STRCFMT parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid sw_fab

| | |
|--------------------------|---|
| Definition | The specified value for the sw_fab parameter is not valid. |
| Problem or Cause | The Switch Fabric parameter was specified other than 0,1, or 2. |
| Corrective Action | Determine the correct value for the sw_fab parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid SYSCFG

| | |
|--------------------------|---|
| Definition | The specified value for the SYSCFG parameter is not valid. |
| Problem or Cause | The System Configuration parameter was specified with a value other than DD2. |
| Corrective Action | Enter the command again with a SYSCFG of DD2. |

IDNV Input, Data Not Valid, invalid THRSHL D

| | |
|--------------------------|--|
| Definition | The specified value for the THRSHL D parameter is not valid. |
| Problem or Cause | The Lockout Threshold parameter was specified other than 2-99. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid time

| | |
|--------------------------|--|
| Definition | The specified value for the time parameter is not valid. |
| Problem or Cause | The Time parameter was specified other than HH-MM-SS where HH=00-23, MM=00-59, SS=01-31. |
| Corrective Action | Determine the correct value for the time parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid TMOU

| | |
|--------------------------|---|
| Definition | The specified value for the TMOU parameter is not valid. |
| Problem or Cause | The Inactivity Timeout Parameter was specified other than 0-999. |
| Corrective Action | Determine the correct value for the TMOU parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid to

| | |
|--------------------------|---|
| Definition | The specified value for the to parameter is not valid. |
| Problem or Cause | The Destination parameter was specified other than ACTV or SEC. |
| Corrective Action | Determine the correct value for the to parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid type

| | |
|--------------------------|---|
| Definition | The specified type parameter is not valid. |
| Problem or Cause | The Port Type parameter was specified other than OCHT or OCH10GC. |
| Corrective Action | Enter the command again with the correct type parameter. |

IDNV Input, Data Not Valid, invalid uid

| | |
|--------------------------|---|
| Definition | The specified value for the uid parameter is not valid. |
| Problem or Cause | The User Identifier parameter was specified incorrectly. The uid parameter must be a case-sensitive alphanumeric string of 1 to 10 characters |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid USAGE

| | |
|--------------------------|--|
| Definition | The specified value for the USAGE parameter is not valid. |
| Problem or Cause | The Port Usage parameter was specified with a value other than Client or NNI (Network-to-Network Interface). |
| Corrective Action | Determine the correct value for the USAGE parameter and enter the command again. |

IDNV Input, Data Not Valid, invalid USAGEDFLT

| | |
|--------------------------|--|
| Definition | The specified value for the USAGEDFLT parameter is not valid. |
| Problem or Cause | The Port Usage Default parameter was specified other than CLIENT or NNI. |
| Corrective Action | Determine the correct value for the parameter and enter the command again. |

IEAE Input, Entity to be created Already Exists

| | |
|--------------------------|---|
| Definition | The specified entity already exists. |
| Problem or Cause | The ENT_EQPT TL1 command attempted to create an entity that already exists. |
| Corrective Action | Determine the correct value for the entity and enter the command again. |

IENE Input, object Entity does not Exist

| | |
|--------------------------|---|
| Definition | The specified object does not exist. |
| Problem or Cause | The specified object is not provisioned or the object was specified incorrectly. |
| Corrective Action | Determine the correct object to be modified and enter the command again or provision the object and then enter the command again. |

IENE Input, object Entity does not Exist, specified port

| | |
|--------------------------|---|
| Definition | The specified port AID was valid but does not exist. |
| Problem or Cause | The specified object is not provisioned or the object was specified incorrectly. |
| Corrective Action | Determine the correct object to be modified and enter the command again or provision the object and then enter the command again. |

IENE Input, object Entity does not Exist, SWMG does not exist

| | |
|--------------------------|---|
| Definition | The specified SWMG AID does not exist. |
| Problem or Cause | The specified object is not provisioned or the object was specified incorrectly. |
| Corrective Action | Determine the correct object to be modified and enter the command again or provision the object and then enter the command again. |

IIAC Input, Invalid Access Identifier

| | |
|--------------------------|--|
| Definition | The specified value for the AID parameter is not valid or it is not valid for that command. |
| Problem or Cause | The specified Access Identifier syntax was incorrect. Refer to the AID Parameter Tables in the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> and the allowed Input AID for each individual command. |
| Corrective Action | Determine the correct value for the AID parameter and enter the command again. |

IIAC Input, Invalid Access Identifier, in_aid

| | |
|--------------------------|--|
| Definition | The specified value for the in_aid parameter is not valid. |
| Problem or Cause | The Input Port Access Identifier was specified other than och-{1-4}-{1-32,all}-{1-4, all}. |
| Corrective Action | Determine the correct value for the in_aid parameter and enter the command again. |

IIAC Input, Invalid Access Identifier, invalid in_aid_1

| | |
|--------------------------|--|
| Definition | The specified value for the in_aid_1 parameter is not valid. |
| Problem or Cause | The Input Access Identifier #1 parameter was specified other than och-{1-4}-{1-32,all}-{1-4, all}. |
| Corrective Action | Determine the correct value for the in_aid_1 parameter and enter the command again. |

IIAC Input, Invalid Access Identifier, invalid in_aid_2

| | |
|--------------------------|--|
| Definition | The specified value for the in_aid_2 parameter is not valid. |
| Problem or Cause | The Input Access Identifier #2 parameter was specified other than och-{1-4}-{1-32,all}-{1-4, all}. |
| Corrective Action | Determine the correct value for the in_aid_2 parameter and enter the command again. |

IIAC Input, Invalid Access Identifier, out_aid

| | |
|--------------------------|---|
| Definition | The specified value for the out_aid parameter is not valid. |
| Problem or Cause | The Output Port Access Identifier was specified other than och-{1-4}-{1-32,all}-{1-4, all}. |
| Corrective Action | Determine the correct value for the out_aid parameter and enter the command again. |

IIAC Input, Invalid Access Identifier, invalid out_aid_1

| | |
|--------------------------|---|
| Definition | The specified value for the out_aid_1 parameter is not valid. |
| Problem or Cause | The Output Access Identifier #1 parameter was specified other than och-{1-4}-{1-32,all}-{1-4, all}. |
| Corrective Action | Determine the correct value for the out_aid_1 parameter and enter the command again. |

IIAC Input, Invalid Access Identifier, invalid out_aid_2

| | |
|--------------------------|---|
| Definition | The specified value for the out_aid_2 parameter is not valid. |
| Problem or Cause | The Output Access Identifier #2 parameter was specified other than och-{1-4}-{1-32,all}-{1-4, all}. |
| Corrective Action | Determine the correct value for the out_aid_2 parameter and enter the command again. |

IICM Input, Invalid Command

| | |
|--------------------------|--|
| Definition | The specified value for the Modifier parameter is not valid or the command is unsupported or unrecognized. |
| Problem or Cause | The command failed due to one of the following: <ul style="list-style-type: none"> • The Modifier parameter was specified other than ALL, OCH, COM, or EQPT • The command was specified incorrectly • The command was unrecognized or unsupported |
| Corrective Action | Determine the correct modifier parameter or specify the command correctly, and enter the command again, or do not enter the command again. |

IICT Input, Invalid Correlation Tag

| | |
|--------------------------|--|
| Definition | The ctag is not valid. |
| Problem or Cause | The Correlation Tag parameter syntax was specified incorrectly. |
| Corrective Action | Determine the correct syntax for the ctag parameter and enter the command again. |

IISP Input, Invalid Syntax or Punctuation

| | |
|--------------------------|---|
| Definition | The specified syntax or punctuation is not valid. |
| Problem or Cause | The command was specified with incorrect syntax or punctuation. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the TL1 Message Details for valid syntax and punctuation. |
| Corrective Action | Determine the correct syntax and punctuation and enter the command again. |

IITA Input, Invalid Target Identifier

| | |
|--------------------------|---|
| Definition | The specified tid is not valid. |
| Problem or Cause | The specified Target Identifier parameter syntax was not correct or was not recognized. |
| Corrective Action | Determine the correct syntax and enter the command again. |

IPMS Input, Parameter Missing, missing class

| | |
|--------------------------|--|
| Definition | The class parameter is missing. |
| Problem or Cause | The CPY-MEM TL1 command did not specify the required Class parameter. Valid values are BACKUP, RESTORE, or DOWNLOAD. |
| Corrective Action | Enter the command again specifying a class parameter. |

IPMS Input, Parameter Missing, missing datatype

| | |
|--------------------------|---|
| Definition | The datatype parameter is missing. |
| Problem or Cause | The CPY-NVM TL1 command did not specify the required Datatype parameter. Valid values are DATA, SFTWR, ALL, or CAL. |
| Corrective Action | Enter the command again specifying a datatype parameter. |

IPMS Input, Parameter Missing, missing dest

| | |
|--------------------------|---|
| Definition | The dest parameter is missing. |
| Problem or Cause | The Destination parameter was not specified. Valid values are 0 or 1. |
| Corrective Action | Determine the correct value for the dest parameter and enter the command again. |

IPMS Input, Parameter Missing, missing ftpipaddr

| | |
|--------------------------|---|
| Definition | The ftpipaddr parameter is missing. |
| Problem or Cause | The CPY-MEM TL1 command did not specify the required FTP Internet Protocol Address parameter. |
| Corrective Action | Enter the command again specifying a ftpipaddr parameter. |

IPMS Input, Parameter Missing, missing ftpuserid

| | |
|--------------------------|---|
| Definition | The ftpuserid parameter is missing. |
| Problem or Cause | The CPY-MEM TL1 command did not specify the required FTP User Name parameter. |
| Corrective Action | Enter the command again specifying a ftpuserid parameter. |

IPMS Input, Parameter Missing, missing from

| | |
|--------------------------|--|
| Definition | The from parameter is missing. |
| Problem or Cause | The CPY-MEM or the CPY-NVM TL1 command did not specify the required From Memory Type parameter. Valid values are CIT, EMS, or PRI. |
| Corrective Action | Enter the command again specifying a from parameter. |

IPMS Input, Parameter Missing, missing newsid

| | |
|--------------------------|---|
| Definition | The newsid parameter is missing. |
| Problem or Cause | The SET-SID TL1 command did not specify the required Target/ Source Identification parameter. |
| Corrective Action | Enter the command again specifying a newsid parameter. |

IPMS Input, Parameter Missing, missing password

| | |
|--------------------------|--|
| Definition | The password parameter is missing. |
| Problem or Cause | The CPY-MEM TL1 command did not specify the required Password parameter. |
| Corrective Action | Enter the command again specifying a password parameter. |

IPMS Input, Parameter Missing, pid

| | |
|--------------------------|---|
| Definition | The pid parameter is missing. |
| Problem or Cause | The ENT-USER-SECU TL1 command did not specify the required Password Identification parameter. |
| Corrective Action | Enter the command again specifying a pid parameter. |

IPMS Input, Parameter Missing, missing src

| | |
|--------------------------|--|
| Definition | The src parameter is missing. |
| Problem or Cause | The CPY-MEM TL1 command did not specify the required Source parameter. |
| Corrective Action | Enter the command again specifying an src parameter. |

IPMS Input, Parameter Missing, missing sw_fab

| | |
|--------------------------|---|
| Definition | The sw_fab parameter is missing. |
| Problem or Cause | The required Switch Fabric parameter was missing. Valid values are 0,1, or 2. |
| Corrective Action | Enter the command again specifying a sw_fab parameter. |

IPMS Input, Parameter Missing, missing to

| | |
|--------------------------|--|
| Definition | The to parameter is missing. |
| Problem or Cause | The CPY-MEM or the CPY-NVM TL1 command did not specify the required To Memory Type parameter. Valid values are CIT, EMS, or PRI. |
| Corrective Action | Enter the command again specifying a to parameter. |

IPMS Input, Parameter Missing, missing type

| | |
|--------------------------|--|
| Definition | The type parameter is missing. |
| Problem or Cause | The required Port Type parameter was missing. |
| Corrective Action | Enter the command again with a type parameter of T or 10G. |

IPNC Input, Parameter not Consistent, inconsistent parameter and ISTD

| | |
|--------------------------|---|
| Definition | The specified parameter is not allowed for the specified port type. |
| Problem or Cause | The Degrade Threshold and the Excessive Degrade Threshold parameters are valid only when the port Interface Standard is SDH. The Signal Degrade Threshold and the Signal Failure Threshold parameters are valid only when the port Interface Standard is SONET. |
| Corrective Action | Determine the correct parameter and port ISTD values and enter the command again. |

IPNC Input, Parameter not Consistent, inconsistent parameter and port type

| | |
|--------------------------|---|
| Definition | The specified parameter is not allowed for the specified port type. |
| Problem or Cause | The specified parameter is invalid for the specified port type. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the ED-rr TL1 command for valid values for parameters and port types. |
| Corrective Action | Determine the correct parameter and port type values and enter the command again. |

IPNC Input, Parameter not Consistent, inconsistent pst and spec_block

| | |
|--------------------------|---|
| Definition | The values specified for the pst and spec_block parameters are inconsistent. |
| Problem or Cause | A Specific Block parameter was specified with a pstin or pstout parameter. |
| Corrective Action | Enter the command again without specifying a pstin or pstout parameter or without specifying any spec_block parameters. |

IPNC Input, Parameter not Consistent, inconsistent SWIPs

| | |
|--------------------------|---|
| Definition | The ED-rr command specified more than one SWIP parameter. |
| Problem or Cause | More than one SWIP parameter cannot be specified within the same command. |
| Corrective Action | Enter the command again with one SWIP parameter specified. |

IPNV Input, Parameter Not Valid

| | |
|--------------------------|--|
| Definition | The specified spec_block parameter is invalid. |
| Problem or Cause | The command specified a Specific Block parameter name incorrectly. |
| Corrective Action | Determine the correct name of the parameter and enter the command again. |

PIMF Privilege, Invalid Memory File

| | |
|--------------------------|--|
| Definition | The memory file is not valid. |
| Problem or Cause | The CPY-MEM command specified a memory file that cannot be found or the user does not have appropriate privileges. |
| Corrective Action | Obtain the appropriate privilege level, verify the memory file name, and enter the command again. |

PIUC Privilege, Invalid User Code

| | |
|--------------------------|---|
| Definition | The upc is not valid. |
| Problem or Cause | The User Privilege Code was specified incorrectly. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the ED-USER-SECU and ENT-USER-SECU TL1 commands. |
| Corrective Action | Determine the appropriate upc and enter the command again. |

PIUI Privilege, Invalid User Identity

| | |
|--------------------------|--|
| Definition | The user identifier and/or password is not valid. |
| Problem or Cause | The FTP user identifier and/or password are not valid |
| Corrective Action | Determine the correct user identifier and/or password and enter the command again. |

RCBY Resource, Circuit Busy, sw_fab busy

| | |
|--------------------------|--|
| Definition | The specified sw_fab is busy. |
| Problem or Cause | The OPR-LPBK TL1 command for a forced loopback specified a switch fabric that could not be used because the output selector was forced to connect to the other fabric. |
| Corrective Action | Release the forced connection to the other switch fabric and issue the command again. |

SAAS Status, Already Assigned, input SWIP

| | |
|--------------------------|--|
| Definition | The specified input SWIP is in use. |
| Problem or Cause | The specified input SWIP has an existing maintenance cross-connection. |
| Corrective Action | Determine the correct input SWIP and enter the command again. |

SAAS Status, Already Assigned, output port in use

| | |
|--------------------------|---|
| Definition | The specified output port is in use. |
| Problem or Cause | The specified port has an existing cross-connection or the output portion of the specified port is being used for an independent 1WAY cross-connection. |
| Corrective Action | Determine the correct output port and enter the command again. |

SAAS Status, Already Assigned, output SWIP

| | |
|--------------------------|---|
| Definition | The specified output SWIP is in use. |
| Problem or Cause | The specified output SWIP has an existing maintenance cross-connection. |
| Corrective Action | Determine the correct output SWIP and enter the command again. |

SAAS Status, Already Assigned, cross-connection exists

| | |
|--------------------------|---|
| Definition | The specified port is in use. |
| Problem or Cause | The specified port has an existing cross-connection. |
| Corrective Action | Determine the correct port and enter the command again. |

SACC Status, Already Cross-Connected

| | |
|--------------------------|--|
| Definition | A cross-connection already exists between the specified ports. |
| Problem or Cause | The specified input and output ports are already cross-connected. |
| Corrective Action | Enter the command again specifying ports that are not already cross-connected. |

SADS Status, Access unit in Diagnostic State

| | |
|--------------------------|--|
| Definition | The specified port is in a loopback condition. |
| Problem or Cause | The DLT-CRS or OPR-LPBK TL1 commands specified an input and/or output port that was already in a loopback condition. |
| Corrective Action | Enter the command again specifying ports that are not in a loopback condition or remove the loopback. |

SAPR Status, Already in Protection

| | |
|--------------------------|--|
| Definition | A protection switch is already in effect. |
| Problem or Cause | A forced protection switch is in effect at the port to be used. |
| Corrective Action | Enter the command again specifying a port that is not in a forced protection switch condition. |

SARB Status, All Resources Busy

| | |
|--------------------------|--|
| Definition | There are no resources available. |
| Problem or Cause | Another instance of the command is already running or the system processing resources are currently insufficient to execute the command. |
| Corrective Action | Enter the command again later. |

SCBS Status, Channel Busy

| | |
|--------------------------|---|
| Definition | The specified port is cross-connected. |
| Problem or Cause | The IFMT, ISTD, and SIGTYPE parameters cannot be modified for a cross-connected port. The Secondary State of the specified SWIP cannot be modified because a cross-connection exists. |
| Corrective Action | Determine the correct port to be modified and enter the command again. |

SCBS Status, Channel Busy, associated port is busy

| | |
|--------------------------|--|
| Definition | The specified port is cross-connected. |
| Problem or Cause | The specified Optical Cross-Connect Interface slot cannot be deleted until the associated cross-connection is removed. |
| Corrective Action | Determine the correct Optical Cross-Connect Interface slot and enter the command again or delete the cross-connect. |

SDNA Status, Duplex Unit Not Available

| | |
|--------------------------|---|
| Definition | The specified SWMG cannot be put out of service unless the other SWMG is in service. |
| Problem or Cause | The specified SWIP maintenance group cannot be provisioned out of service because the other SWIP maintenance group is not in service. |
| Corrective Action | Ensure the other SWMG is in service and enter the command again. |

SNCC Status, Not Cross-Connected, input port AID

| | |
|--------------------------|---|
| Definition | The specified cross-connection does not exist. |
| Problem or Cause | The DLT-CRS TL1 command specified an input port for which there is no cross-connection leg. |
| Corrective Action | Determine the correct input port AID and enter the command again. |

SNCC Status, Not Cross-Connected, no loopback exists

| | |
|--------------------------|--|
| Definition | The specified loopback does not exist. |
| Problem or Cause | The RLS-LPBK TL1 command specified an AID for which there no loopback. |
| Corrective Action | Determine the correct AID and enter the command again. |

SNCC Status, Not-Cross-Connected, output port AID

| | |
|--------------------------|--|
| Definition | The specified cross-connection does not exist. |
| Problem or Cause | The DLT-CRS TL1 command specified an output port for which there is no cross-connection leg. |
| Corrective Action | Determine the correct output port AID and enter the command again. |

SNIS Status, Not In Service

| | |
|--------------------------|---|
| Definition | The specified action is not allowed. |
| Problem or Cause | The OPR-PROTNSW-FRCD or OPR-PROTNSW-MAN TL1 command failed because the Optical Cross-connect Interface circuit pack associated with the specified AID was not in service. |
| Corrective Action | Put the Optical Cross-connect Interface circuit pack associated with the specified AID in service and enter the command again. |

SNIS Status, Not In Service

| | |
|--------------------------|--|
| Definition | The specified action is not allowed. |
| Problem or Cause | The TEST-LED or TEST-ALM TL1 command failed because the target shelf was not in service. |
| Corrective Action | Put the target shelf in service and enter the command again. |

SNIS Status, Not In Service, high-voltage shelf

| | |
|--------------------------|---|
| Definition | The specified action is not allowed. |
| Problem or Cause | The DLT-CRS TL1 command failed because the HVS that is required to delete a cross-connection leg is not in service. |
| Corrective Action | Put the HVS in service and enter the command again. |

SNIS Status, Not In Service, high-voltage shelf

| | |
|--------------------------|---|
| Definition | The specified action is not allowed. |
| Problem or Cause | The RLS-LPBK TL1 command failed because the HVS that is required to release the loopback is not in service. |
| Corrective Action | Put the HVS in service and enter the command again. |

SNIS Status, Not In Service, OXI pack or port

| | |
|--------------------------|--|
| Definition | The specified action is not allowed. |
| Problem or Cause | The ENT-CRS TL1 command failed because the Optical Cross-connect Interface circuit pack or the port associated with a specified AID parameter value is not in service. |
| Corrective Action | Put the specified Optical Cross-connect Interface circuit pack or the port in service and enter the command again. |

SNIS Status, Not In Service, SWIPs not assigned

| | |
|--------------------------|--|
| Definition | The specified action is not allowed. |
| Problem or Cause | The ENT-CRS TL1 command failed because at least one of the SWIPs required to establish a simplex cross-connection leg is not assigned. |
| Corrective Action | Assign the SWIP(s) and enter the command again. |

SNIS Status, Not In Service, switch fabric shelf

| | |
|--------------------------|---|
| Definition | The specified action is not allowed. |
| Problem or Cause | The ENR-CRS or DLT-CRS command failed because the SWS that is required to establish or delete a simplex cross-connection leg is not in service. |
| Corrective Action | Put the switch shelf in service and enter the command again. |

SNIS Status, Not In Service, switch fabric shelf

| | |
|--------------------------|---|
| Definition | The specified action is not allowed. |
| Problem or Cause | The RLS-LPBK TL1 command failed because the SWS that is required to establish or delete a simplex cross-connection leg is not in service. |
| Corrective Action | Put the switch shelf in service and enter the command again. |

SNOS Status, Not manually Out of Service

| | |
|--------------------------|--|
| Definition | The system configuration cannot be changed unless it is first put manually out of service. |
| Problem or Cause | The specified entity was not in the proper state. |
| Corrective Action | Provision the system out of service and enter the command again. |

SNOS Status, Not manually Out of Service

| | |
|--------------------------|--|
| Definition | The specified slot cannot be put in service manually if it was not previously put out of service manually. |
| Problem or Cause | The specified entity was not in the proper state. |
| Corrective Action | No action required. |

SNOS Status, Not manually Out of Service

| | |
|--------------------------|--|
| Definition | The state of the specified SWIP is in service and cannot be changed unless the port association is removed (that is, execute ED-rr first). |
| Problem or Cause | The specified entity was not in the proper state. |
| Corrective Action | Remove the port association and enter the command again. |

SNSR Status, No Switch Request outstanding

| | |
|--------------------------|---|
| Definition | The specified switch does not exist. |
| Problem or Cause | The RLS-PROTNSW-FRCD or RLS-PROTNSW-MAN TL1 commands specified the release of a protection switch that was not in effect. |
| Corrective Action | None |

SNVS Status, Not In Valid State

| | |
|--------------------------|---|
| Definition | The state of the specified entity is invalid. |
| Problem or Cause | The APPLY TL1 command specified a software image that is already installed. |
| Corrective Action | No action is required. |

SNVS Status, Not In Valid State

| | |
|--------------------------|---|
| Definition | The state of the specified entity is invalid. |
| Problem or Cause | The ED-EQPT TL1 command specified <ul style="list-style-type: none"> • an OXI slot that is in the auto-insertion mode and its primary state cannot be manually changed or, • a failed SWIP that is still associated with a port or just a SWIP without training data regardless of its port association or, • an unassigned SWIP or, • a failed or good SWIP not associated with a port to be put in other than a maintenance (MT) state or, • an SWMG to modify the pst, but the current pst is other than OOS-AU |
| Corrective Action | The attempted action is not required. |

SNVS Status, Not In Valid State

| | |
|--------------------------|--|
| Definition | The state of the specified entity is invalid. |
| Problem or Cause | The RLS-LPBK TL1 command specified a loopback type that conflicts with the configured loopback type. |
| Corrective Action | Enter the command again with the correct loopback type. |

SNVS Status, Not In Valid State

| | |
|--------------------------|---|
| Definition | The state of the specified entity is invalid. |
| Problem or Cause | The RTRV-LOG TL1 command requested log entries, but none were found for the specified parameters. |
| Corrective Action | No action is required. |

SNVS Status, Not In Valid State, fault

| | |
|--------------------------|---|
| Definition | The specified in_aid or out_aid represents a SWIP that is in a failed condition. |
| Problem or Cause | The ENT-MTCECRS TL1 command specified an input or output SWIP that was in a failed condition. |
| Corrective Action | Enter the command again specifying SWIPs that are available. |

SNVS Status, Not In Valid State, in service

| | |
|--------------------------|---|
| Definition | The specified in_aid or out_aid represents a SWIP that is already in service. |
| Problem or Cause | The specified input or output SWIP was being used in a standard cross-connection. |
| Corrective Action | Enter the command again specifying SWIPs that are available. |

SNVS Status, Not In Valid State, invalid cross-connect topology

| | |
|--------------------------|---|
| Definition | The specified cct is not valid. |
| Problem or Cause | The specified Cross-Connection Topology does not match that of the existing cross-connection. |
| Corrective Action | Determine the correct cct and enter the command again. |

SNVS Status, Not In Valid State, not in unequipped state

| | |
|--------------------------|--|
| Definition | The specified Optical Cross-connection Interface slot is not unequipped. |
| Problem or Cause | The DLT-EQPT TL1 command attempted to delete an Optical Cross-connection Interface slot that was still equipped. |
| Corrective Action | Extract the Optical Cross-connection Interface circuit pack and enter the command again. |

SNVS Status, Not In Valid State, SWIPs not assigned

| | |
|--------------------------|---|
| Definition | The specified input or output port has a missing SWIP assignment. |
| Problem or Cause | The OPR-LPBK TL1 command attempted a loopback when SWIPs had not been assigned to the ports specified by the input AID or output AID parameter. |
| Corrective Action | Enter the command again specifying ports that have associated SWIPs or assigned SWIP(s). |

SNVS Status, Not In Valid State, unassigned

| | |
|--------------------------|---|
| Definition | The specified input or output SWIP is in an unassigned state; that is, there is no training data. |
| Problem or Cause | The ENT-MTCECRS TL1 command specified an input or output SWIP that was in OOS-MA, UAS state. |
| Corrective Action | Enter the command again specifying SWIPs that are available. |

SNSR Status, No Switch Request outstanding

| | |
|--------------------------|--|
| Definition | No manual or forced switch exists for the specified port. |
| Problem or Cause | The RLS-PROTNSW-FRCD or RLS-PROTNSW-MAN TL1 command attempted to release a protection switch that did not exist. |
| Corrective Action | None |

SRAC Status, Requested Access Configuration is invalid

| | |
|--------------------------|--|
| Definition | The specified input and output SWIPs are not valid. |
| Problem or Cause | The ENT-MTCECRS TL1 command specified input and output SWIPs that were not in the same fabric. |
| Corrective Action | Enter the command again specifying SWIPs that are in the same fabric. |

SRCN Status, Requested Condition already exists

| | |
|--------------------------|---|
| Definition | The requested loopback or protection switch is already in effect. |
| Problem or Cause | The command specified an input port that already has a loopback established or the specified port already has a manual or forced protection switch established or already has a loopback established. |
| Corrective Action | None |

SROF Status, Requested Operation Failed

| | |
|--------------------------|---|
| Definition | The requested operation could not be completed successfully.. |
| Problem or Cause | The command failed due to an internal software or hardware problem. |
| Corrective Action | Resolve the problem and enter the command again. |

SROF Status, Requested Operation Failed, invalid snip value

| | |
|--------------------------|--|
| Definition | The SNIP ID is not valid. |
| Problem or Cause | There was a SNIP ID mismatch between the calibration files and hardware. |
| Corrective Action | Use “Task 103: Clearing Switch Shelf SNIP ID Mismatch (DATAFLT)” (7-11) to correct this problem. |

SRQN Status, ReQuest Not valid

| | |
|--------------------------|--|
| Definition | The specified request is invalid. |
| Problem or Cause | The system configuration could not be modified because the hardware configuration was inconsistent with the type of configuration. |
| Corrective Action | Ensure that the specified system configuration is consistent with the type of configuration and enter the command again. |

SRQN Status, ReQuest Not valid

| | |
|--------------------------|--|
| Definition | The specified request is invalid. |
| Problem or Cause | The specified port already has a manual or forced protection switch established |
| Corrective Action | Ensure that the specified port is in an appropriate state before attempting to release a forced or manual protection switch and enter the command again. |

SRQN Status, ReQuest Not valid

| | |
|--------------------------|--|
| Definition | The specified request is invalid. |
| Problem or Cause | The login identifier specified by the uid is not currently logged in. |
| Corrective Action | Ensure that the specified login identifier is not currently logged in and enter the command again. |

SRQN Status, ReQuest Not valid, cross-connection rule violated

| | |
|--------------------------|---|
| Definition | The requested cross-connection violated cross-connection rules. |
| Problem or Cause | The specified leg of a new 2-way connection cannot be used to form both bridge and merge configuration. Refer to the <i>WaveStar LambdaRouter 128 Release 2.0 Operations and System Engineering Guide</i> or the <i>WaveStar LambdaRouter 256 Release 2.0 Operations and System Engineering Guide</i> for the ENT-CRS TL1 command for cross-connection rules. |
| Corrective Action | Enter the command again following cross-connection rules. |

SRQN Status, ReQuest Not valid, hierarchy not satisfied

| | |
|--------------------------|--|
| Definition | The entity specified for deletion cannot be deleted. |
| Problem or Cause | The shelf specified for deletion had existing slots. |
| Corrective Action | Delete the existing slots and enter the command again. |

SRQN Status, ReQuest Not valid, minimal equipage violation

| | |
|--------------------------|--|
| Definition | The SWMG specified for deletion cannot be deleted. |
| Problem or Cause | The SWMG specified for deletion is the last one and cannot be deleted. |
| Corrective Action | Ensure that another SWMG exists and enter the command again. |

SRQN Status, ReQuest Not valid, Superuser uid

| | |
|--------------------------|---|
| Definition | The request to delete a superuser is invalid. |
| Problem or Cause | The specified user identifier is a superuser and cannot be deleted. |
| Corrective Action | None |

SRQN Status, ReQuest Not valid, system not in UP2 configuration

| | |
|--------------------------|---|
| Definition | The SYSCFG parameter is being provisioned from a state other than 256UP2. |
| Problem or Cause | The System Configuration parameter was provisioned from a state other than 256UP2 |
| Corrective Action | None. |

SRQN Status, ReQuest Not valid, SWIP block is not free

| | |
|--------------------------|--|
| Definition | The specified SWIP block is not free. |
| Problem or Cause | The specified SWIP block cannot be assigned because it is not unassigned and unreserved. |
| Corrective Action | Enter the command again specifying a SWIP block that is free. |

SRQN Status, ReQuest Not valid, SWIP is not in valid state

| | |
|--------------------------|---|
| Definition | The specified port can be associated only with spare SWIPs. |
| Problem or Cause | Spare SWIPs must be in the OOS-MA, UEQ state. |
| Corrective Action | Determine the correct spare SWIP and enter the command again. |

SSPN Status, SPeed selected is Not correct

| | |
|--------------------------|---|
| Definition | The selected speed is incorrect. |
| Problem or Cause | The specified input and output ports have different IFMT values. |
| Corrective Action | Ensure that the specified input and output ports have compatible IFMT values. |

SSPN Status, SPeed selected is Not correct, incompatible OCHT and OEO ports

| | |
|--------------------------|--|
| Definition | The selected speeds are not compatible. |
| Problem or Cause | The specified input and output ports have incompatible rates. |
| Corrective Action | Ensure that the input port and output port rates are compatible and enter the command again. |

SSPN Status, S**P**eed selected is Not correct, incompatible O**C**H**T** ports

| | |
|--------------------------|--|
| Definition | The selected speeds are not compatible. |
| Problem or Cause | The specified input and output ports have incompatible rates. |
| Corrective Action | Ensure that the input port and output port rates are compatible and enter the command again. |

SSPN Status, S**P**eed selected is Not correct, incompatible O**C**H**10GC** ports

| | |
|--------------------------|--|
| Definition | The selected speeds are not compatible. |
| Problem or Cause | The specified input and output ports have incompatible rates. |
| Corrective Action | Ensure that the input port and output port rates are compatible and enter the command again. |

SSRD Status, Switch Request Denied

| | |
|--------------------------|--|
| Definition | The requested switch was not completed. |
| Problem or Cause | The specified port has a higher priority switch request, either automatic or forced, already active. |
| Corrective Action | None |

SSRE Status, System Resources Exceeded

| | |
|--------------------------|--|
| Definition | There are insufficient system resources to complete the request. |
| Problem or Cause | The request to add another user failed because the maximum number of users already exists or the request to copy memory failed because the specified destination lacked sufficient storage capacity. |
| Corrective Action | Ensure that there are adequate system resources and enter the command again. |

SSRE Status, System Resources Exceeded, system capacity exceeded

| | |
|--------------------------|---|
| Definition | There are insufficient system resources to complete the request. |
| Problem or Cause | The command attempted to assign more SWIP blocks than are currently available. |
| Corrective Action | Determine the amount of SWIP blocks that are in this system and assign up to that number. |

SWFA Status, Working unit Failed

| | |
|--------------------------|--|
| Definition | The specified entity has a fault condition. |
| Problem or Cause | The specified entity cannot be put into service if it is in the OOS-MA state and is also failed. |
| Corrective Action | Clear the fault condition and enter the command again. |





4 Alarm Messages and Trouble-Clearing Tasks Background

Overview

Purpose This chapter supplies background information that may be helpful to the operator's understanding of certain tasks. This information is given here and not in the task chapters because the information is not required to perform the task.

Contents This chapter contains the following sections:

| | |
|--|---------------------|
| Task 102: Clearing Resource Usage (INTSFT/RU) | 4-2 |
| Task 201: Clearing Unexpected, Illegal, or Unknown Circuit Pack (CPINV/PRCDRERR) | 4-3 |
| Task 205: Clearing Non-Volatile Memory Wearout (NVMW) | 4-4 |



Task 102: Clearing Resource Usage (INTSFT/RU)

Background The Resource Usage alarm message is generated when usage exceeds certain predetermined thresholds for the following:

- CPU utilization
- Threads of execution
- Stack overflow
- Deadlock on concurrently running processes

Heavy traffic, excessive failure rates, or a software fault may cause this problem. Normally, the system automatically recovers from this condition.



Task 201: Clearing Unexpected, Illegal, or Unknown Circuit Pack (CPINV/PRCDRERR)

Background Each circuit pack in the WaveStar LambdaRouter 128/256 has an Electrically Erasable Read Only Memory (EEPROM) chip that contains information about the circuit pack, including the circuit pack type. When the circuit pack is inserted, that circuit pack type information is compared to the system information for that slot. If the EEPROM circuit type cannot be read, or if it does not match the value expected for that slot, then the Unexpected, Illegal, or Unknown Circuit Pack alarm message is generated.



Task 205: Clearing Non-Volatile Memory Wearout (NVMW)

Background Flash EEPROM, a variant of electrically erasable programmable ROM, is used to implement Non-volatile Memory (NVM). NVM is quickly programmable and does not lose the data when power is off. There are restrictions on the number of times the NVM can be used to store information. When read-write operations exceed a certain number, the NVM becomes unusable. When that happens, the Non-volatile Memory Wearout alarm message is generated.

The NVM lifetime is vendor-dependent.



Task 213: Clearing Output Port Loss of Signal (CTNEQPT)

Background The procedure for clearing an output port loss of signal condition is a process of determining whether it is a single-sided or double-sided failure and eliminating possible causes until the alarm condition clears. This procedure is divided into supporting elements (SEs). SE 213-1 through SE 213-3 address the single-sided LOS case and SE 213-4 through SE 213-6 deal with the double-sided LOS case. The tables in SE 213-7 and SE 213-8 apply to both cases.

A summary of each supporting element follows:

- SE 213-1: Determining ports and SWIPs involved with single-sided output port LOS alarm (8-59) — Ascertains the AID of input and output ports plus the Interface Format (IFMT) and Interface Optics (IOPT) for the transparent ports. Also, determines the Switch Interface Points (SWIPs) involved with the LOS condition.
- SE 213-2: Checking condition of HVDAC circuit packs and cables (8-63) — Verifies that the HVDAC circuit packs containing the source input port and the alarmed output port have no physical damage and are properly seated.
- SE 213-3: Cleaning fiber connectors and replacing circuit packs and SWIPs (8-67) — Directs that the SWIP connectors are cleaned and the associated HVDAC circuit packs are replaced, if connector cleaning fails.
- SE 213-4: Determining ports and SWIPs involved with double-sided output port LOS alarm (8-77) — Ascertains the AID of input and output ports plus the Interface Format (IFMT) and Interface Optics (IOPT) for the SWIPs involved with the LOS condition.
- SE 213-5: Checking Condition of HVDAC Circuit Packs and Cables (8-80) — Verifies that the HVDAC circuit packs containing the source input port and the alarmed output port have no physical damage and are properly seated.
- SE 213-6: Cleaning fiber connectors and replacing circuit packs and SWIPs (8-84) — Directs that the SWIP connectors are cleaned and the associated HVDAC circuit packs are replaced, if connector cleaning fails.

- SE 213-7: Interface Formats, Optics, and Associated Power Levels Table (8-95)—Provides minimum levels of signals expected at the end of the input SWIP cable and at the output SWIP.
- SE-213-8: SWIP Association to HVDAC Circuit Pack Table (8-97)—Shows the association between the connector on an HVDAC circuit pack and a SWIP.



Task 215: Clearing Switch Interface Point Suspect (CTNEQPT)

Background The task for clearing a Switch Interface Point Suspect (CTNEQPT) condition involves tracing an optical cable from the SWIP connector on the FDP to the associated port. Use the descriptions of the types of optical cables used in the WaveStar LambdaRouter 128/256 in the following sections to assist in tracing an optical cable.

Two types of optical cables are used in the WaveStar LambdaRouter 128/256. They are

- S1-T cables
- S1-S cables

Both cables types have cable labels at both the optical interface shelf end and FDP end. At the FDP, the cable labels can be observed in the fiber organizers where the labels wrap around the individual fibers belonging to that cable. At the optical interface shelves, the cable labels can be observed at the backplane on the yellow cables themselves.

S1-T cables Cables used to connect OXI transparent ports to the FDP have an MPX connector at the optical interface shelf backplane and an LC connector at the FDP. This cable type is referred to as an S1-T cable. Each S1-T cable carries 8 fibers, corresponding to one MPX connector enclosing 8 fiber ends at the optical interface shelf backplane, and eight separate LC connectors at the FDP.

An S1-T cable derived fiber and connector for OXI transparent ports as observed at the FDP is characterized by:

- A blue (output port) or white (input port) fiber jacket color that runs the entire length of the fiber
- A short yellow sheath
- A color band on the yellow sheath at the connector, where the color indicates a port number
 - Blue for port 1
 - Orange for port 2
 - Green for port 3
 - Brown for port 4
- the grey connector

As an example, at the FDP, an S1-T cabled derived fiber connected to an input SWIP will have a white fiber jacket color. If that particular fiber has a brown color band on the yellow sheath at the connector, then the fiber is connected by an MPX connector interface to input port 4 on an OXI transparent circuit pack.

S1-S cables Cables used to connect OXI 10GC or OXI2GC optical-electrical-optical (OEO) ports to the FDP have an LC connectors at both the optical interface shelf backplane and the FDP. This cable type is referred to as an S1-S cable. Each S1-S cable carries 32 fibers, corresponding to one S1-S connector enclosing 32 fiber ends at the optical interface shelf backplane, and thirty-two separate LC connectors at the FDP.

An S1-S cable derived fiber and connector for OEO ports as observed at the FDP is characterized by:

- One of 16 fiber jacket colors that runs the entire length of the fiber, where
 - Blue
 - Orange
 - Green
 - Brown
 - Slate
 - White
 - Red
 - Yellow
 - Violet
 - Rose
 - Aqua
 - Peach
 - Sand
 - Teal
 - Magenta
 - Lime
- A short blue (output port) or white (input port) sheath at the connector
- the grey connector

As an example, at the FDP, an S1-S cable derived fiber connected to an input SWIP will have a white sheath at the connector. If that particular fiber has a brown jacket, then the OEO port to which the fiber is connected can be traced, in part, by looking for a brown jacket at the OEO shelf backplane.





5 Supporting Tasks Background

Overview

Purpose This chapter supplies background information that may be helpful to the operator's understanding of tasks that are performed in support of trouble-clearing tasks or as routine maintenance tasks. This information is given here and not in the tasks themselves because it is not needed to perform the task.

Contents This chapter contains the following sections:

| | |
|--|---------------------|
| Supporting Tasks | 5-2 |
| Routine Maintenance Tasks | 5-3 |
| Task 400: Assigning and Cabling a Spare SWIP to a Port | 5-4 |
| Task 401: Cleaning LC and MPX and Connectors | 5-7 |



Supporting Tasks

Description A supporting task is a separate task that is referred to by one or more trouble-clearing tasks. A supporting task may also be referred to by a recovery task or used as a routine maintenance task.

A supporting task should only be executed when directed by another task or as a routine maintenance task. Once a supporting task is complete, return to the original task and complete any remaining steps.

Background Background information for supporting tasks that need it is located later in this chapter. Entries in this chapter are listed by task number and title.

Routine Maintenance Tasks

Description Routine maintenance tasks are intended to be preventative and are performed at regular intervals. Some of the Supporting Tasks are also routine maintenance tasks. The table below lists the routine maintenance tasks and the intervals at which they should be performed. All Supporting Tasks are included in Chapter 10, Supporting Tasks.

Use the information in this table to plan and schedule routine maintenance tasks.

| Recommended Interval | Task Number and Title | Remarks |
|---|---|--|
| Before a port unit is inserted | Task 401: Cleaning LC and MPX Connectors (10-8) | None |
| Each time a fiber is connected to the network element | Task 401: Cleaning LC and MPX Connectors (10-8) | Both ends of the connection should be cleaned. |
| Every 6 months | Task 413: Replacing a Fan Filter (10-66) | None |

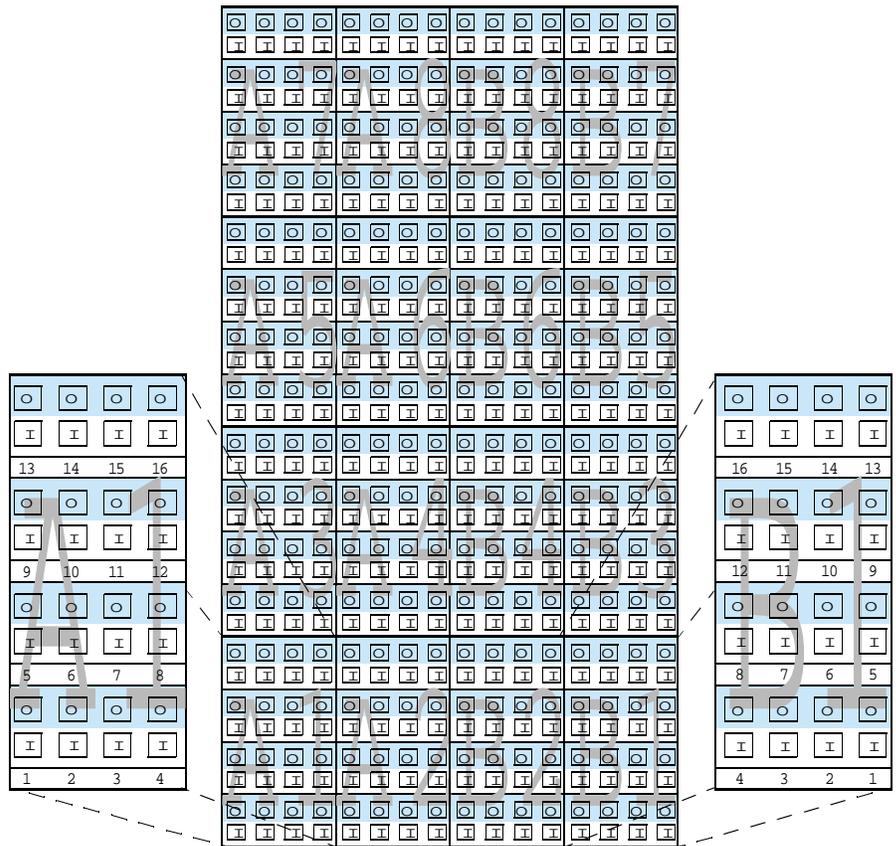


Task 400: Assigning and Cabling a Spare SWIP to a Port

Description The WaveStar LambdaRouter 128/256 provides additional Switch Interface Points (SWIPs) in the event of SWIP failure. This section provides guidelines for assigning spare SWIPs.

Spare SWIPs The Switch Shelf (SWS) provides spare ingress SWIPs and spare egress SWIPs for each fabric. Spare SWIPs are unassigned, healthy SWIPs. Spare SWIPs have a primary state of Out of service - Management (OOS-MA) and a secondary state of Unequipped (UNEQ).

In the WaveStar LambdaRouter 128, spare SWIPs must be selected from the same SWS half, A side or B side, as the failed SWIP.



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The diagram above shows the location of SWIP blocks. SWIP blocks are labeled A1 through A8 and B1 through B8. Each SWIP block provides 16 egress SWIPs and 16 ingress SWIPs.

Assignment rules

For spare SWIP assignment, some rules must be followed in order to maintain the organization of the fibers at the FDP and ensure that spare blocks are assigned properly.

The rules for assigning spare SWIPs are two-fold:

- SWIP block assignment priority
- Minimize distance and tangle

SWIP block assignment priority

The following lists the SWIP blocks in the order in which they must be used for spare SWIP assignment:

1. Reserved SWIP blocks
2. Free SWIP blocks
3. Assigned SWIP blocks

A SWIP block is considered to be *reserved* when it is not assigned and at least one of its SWIPs is in one of the following states:

- IS-NR
- OOS-MA, FLT & MEA
- OOS-MA, UAS & MEA
- OOS-MA, MT
- OOS-MA, MT & BUSY

When all the functioning SWIPs in reserved blocks are assigned to ports, use spare SWIPs in *free* blocks. A free SWIP block is unassigned and not reserved, thereby containing SWIPs only in the following states:

- OOS-MA, UEQ
- OOS-MA, UEQ & BUSY
- OOS-MA, FLT
- OOS-MA, UAS

When no free blocks exist and all the functioning SWIPs in reserved blocks are assigned to ports, use spare SWIPs in *assigned* blocks. An assigned SWIP block is a SWIP block that has been assigned to an Optical Interface Shelf (OIS). The spare SWIPs located in assigned blocks should only be used after all other functioning spare SWIPs from free and reserved blocks have been depleted.

Minimize distance and tangle

Minimize distance between the spare SWIP and the failed SWIP by using the SWIP block, determined above, that is closest to the failed SWIP. For example, when a faulty SWIP is discovered in SWIP block A1 and blocks A4 and A8 are reserved, use the nearest spare SWIP in block A4 to replace it. This also reduces the likelihood of tangled fibers.



Task 401: Cleaning LC and MPX and Connectors

Background Proper cleaning eliminates exposure to dirt that may cause permanent damage to connectors. Once a connector has been permanently damaged, cleaning will not repair the damage. A damaged connector is suspected when power remains low in the system despite rigorous cleaning. Therefore, proper cleaning is critical. If a connector is damaged, it must be replaced. Typically, both ends of the connector become damaged. This damage may be caused when connectors are engaged or disengaged while significant optical power, greater than 3.0 dBm, is present in the connection.

The procedure in this manual is the Lucent recommended method for cleaning and inspecting optical fibers and connectors using specific tools and materials that have proven to be effective in the assembly and testing of optical transmission equipment. Refer to the Required Tools and Equipment List in Chapter 2, Alarm Messages and Trouble-Clearing Introduction and in Task 401: Cleaning LC and MPX Connectors (10-8).

This procedure is recommended for connector ferrules 2.5 mm and 1.25 mm in diameter associated with ST, SC, FC, LC, and MPX connectors. The ferrule of a fiber optic connector consists of a ceramic or stainless steel cylinder with a hole running longitudinally down the center of its axis, allowing enough tolerance for a fiber to pass through.

Wet/dry method

The Wet/Dry method is used in this procedure. This method first applies a wet solvent, such as high purity alcohol, to the connector endface to dissolve and remove any organic particulate or oily films. This is followed by a dry double-clean wipe using the CLETOP cleaning cassette.

Inspection of optical connectors

After cleaning a connector, the ferrule endface must be inspected to ensure that it is free from any particulate contamination. A Westover FBP-S3 fiberscope probe is recommended for inspecting optical connectors. Exercise extreme caution when using a video fiberscope. Once a connector is cleaned it must be protected by immediate insertion into an adapter or covered with a connector dust cap.

LC connector inspection criteria table

The following table contains the inspection criteria by type of defect and area of the ferrule endface of an LC connector. The areas of the ferrule endface are identified in the diagram following this table.

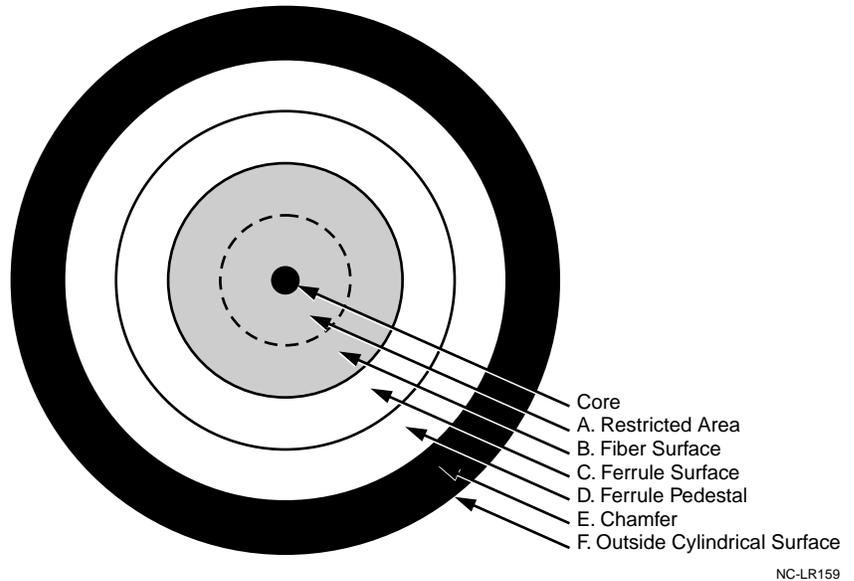
| Defect Type | A. Restricted Area | B. Fiber Surface | C. Ferrule Surface | D. Ferrule Pedestal, E. Chamfer, and F. Outside Cylindrical Surface |
|--------------------|---------------------------|---|---|--|
| Crack | Not acceptable | No cracks allowed where if extended it intersects with the core. | Not applicable | Not applicable for polished end. |
| Chip | Not acceptable | One defect up to 10 microns in diameter is acceptable. Defects smaller than 2 microns are acceptable. | Multiple defects less than 10 microns each are acceptable, but they must not touch the fiber edge. Defects smaller than 2 microns are acceptable. The sum of all defect types must be less than 30 microns. | Not applicable for polished end. |

| Defect Type | A. Restricted Area | B. Fiber Surface | C. Ferrule Surface | D. Ferrule Pedestal, E. Chamfer, and F. Outside Cylindrical Surface |
|--------------------------------|---|---|---|--|
| Pin Holes or Voids | Not applicable | Not applicable | Multiple defects less than 10 microns each are acceptable, but they must not touch the fiber edge. Defects smaller than 2 microns are acceptable. The sum of all defect types must be less than 30 microns. | Not applicable for polished end. |
| Scratches on Single Mode Fiber | No scratches in the core. Tangent to the core is acceptable, if less than 2 microns wide. | Scratches less than 2 microns wide are acceptable. | Not applicable | Not applicable |
| Ferrule Scratches | Not applicable | Not applicable | Scratches less than 2 microns wide are acceptable. | Acceptable |
| Epoxy Ring | Not applicable | Epoxy ring is acceptable if the width is less than 5 microns. No loose edge chipping. | Not applicable | Not applicable |

| Defect Type | A. Restricted Area | B. Fiber Surface | C. Ferrule Surface | D. Ferrule Pedestal, E. Chamfer, and F. Outside Cylindrical Surface |
|------------------------------------|---------------------------|---|---|---|
| Fixed Contamination or Black Spots | Not acceptable | One defect up to 10 microns in diameter is acceptable. Defects less than 2 microns wide are acceptable. | Multiple defects less than 10 microns each are acceptable, but they must not touch the fiber edge. Defects smaller than 2 microns are acceptable. The sum of all defect types must be less than 30 microns. | Acceptable |
| Raised Contamination | Not acceptable | Not acceptable | Not acceptable | Acceptable provided that the protrusion does not prohibit face-to-face contact of the connectors. |
| Loose Contamination | Not acceptable | Not acceptable | Not acceptable | Acceptable |

LC connector ferrule endface diagram

The following diagram shows the ferrule endface of an optical fiber LC connector.



The restricted area is 66 microns in diameter and the core is 8 microns in diameter.

MPX connector inspection criteria table

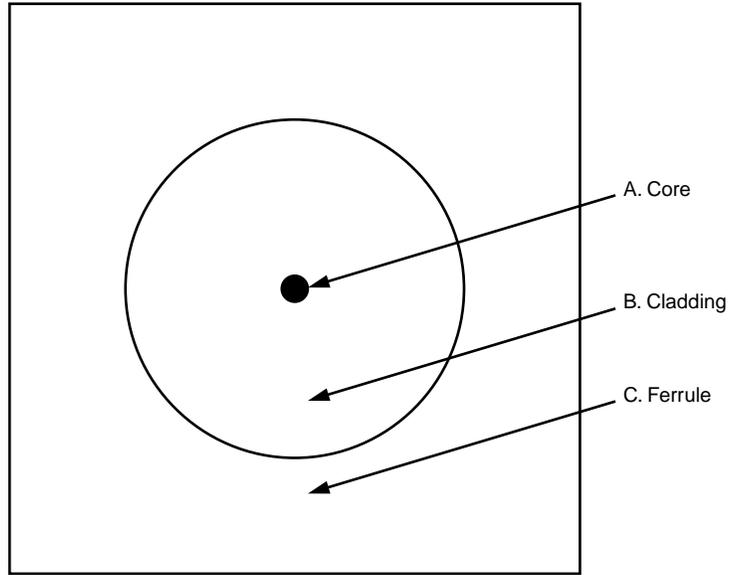
The following table contains the inspection criteria by type of defect and area of the ferrule endface of an MPX connector. The areas of the ferrule endface are identified in the diagram following this table.

| Defect Type | A. Core | B. Cladding | C. Ferrule Surface |
|--------------------------------|----------------|---|---|
| Crack | Not acceptable | Not acceptable | Not applicable |
| Chip | Not acceptable | One defect up to 10 microns in diameter is acceptable. Defects smaller than 5 microns are acceptable. | Multiple defects less than 10 microns each are acceptable, but they must not touch the fiber edge. Defects smaller than 2 microns are acceptable. The sum of all defect types must be less than 30 microns. |
| Pin Holes or Voids | Not applicable | Not applicable | Multiple defects less than 10 microns each are acceptable, but they must not touch the fiber edge. Defects smaller than 2 microns are acceptable. The sum of all defect types must be less than 30 microns. |
| Scratches on Single Mode Fiber | Not acceptable | Tangent to the core are acceptable, if less than 3 microns wide. | Not applicable |

| Defect Type | A. Core | B. Cladding | C. Ferrule Surface |
|------------------------------------|----------------|---|---|
| Ferrule Scratches | Not applicable | Not applicable | Not applicable |
| Epoxy Ring | Not applicable | Epoxy ring is acceptable if the width is less than 5 microns. No loose edge chipping. | Not applicable |
| Fixed Contamination or Black Spots | Not acceptable | One defect up to 10 microns in diameter is acceptable. Defects less than 2 microns wide are acceptable. | Multiple defects less than 10 microns each are acceptable, but they must not touch the fiber edge. Defects smaller than 2 microns are acceptable. The sum of all defect types must be less than 30 microns. |
| Protrusion | Not acceptable | Not acceptable | Not acceptable |
| Loose Contamination | Not acceptable | Not acceptable | Not acceptable |

MPX connector ferrule endface diagram

The following diagram shows the ferrule endface of an optical fiber MPX connector.



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6 Recovery Tasks Background

Overview

Purpose This chapter provides background information on recovery procedures, which address failures that are not covered by Trouble-Clearing Tasks. This information is given here and not in the tasks themselves because it is not required to perform the task.

Contents This chapter contains the following sections:

| | |
|--|---------------------|
| Recovery Tasks Overview | 6-2 |
| Task 502: Recovering From Failure of Both DCCs | 6-3 |
| Task 506: Recovering from System Power Failure | 6-4 |



Recovery Tasks Overview

Description Recovery tasks address failures that are outside the scope of alarm messages, such as failure of both SYS50Ds and system power failures.

Task 502: Recovering From Failure of Both DCCs

Background When both DCC circuit packs fail, the system loses all communication with the WaveStar CIT and external managing systems. Although alarms are generated for both DCCs, the alarms will not be communicated to the user due to the nature of the failure. However, the alarms will be recorded in the alarm log. One or both of the DCC circuit packs must be replaced in order to restore user communications with the system.

Note that the symptom of double DCC failure, lack of any communications with the system, is similar to that of a double SYS50D failure.



Task 506: Recovering from System Power Failure

Background When power to the WaveStar LambdaRouter 128/256 is cut, then restored, the system automatically returns to normal operation. This means that the following are restored:

- Same set of cross-connections
- Identical units in and out of service
- Set of alarm messages that is consistent with current state of the system

The alarm message set includes a clear message for any alarm message generated before the failure and cleared during the outage. It also includes any alarm message that was generated during the outage and persists after the system resumes operation. It does not include an alarm message that was generated during the power failure and clears before the system recovers.



7 Common Alarm Messages and Trouble-Clearing Tasks

Overview

Purpose This chapter includes trouble-clearing tasks for common alarm messages.

Contents This chapter contains the following sections:

| | |
|--|----------------------|
| Task 100: Clearing Power Failure (PWR) | 7-2 |
| Task 101: Clearing Non-Volatile Memory Usage (NVMU) | 7-6 |
| Task 102: Clearing Resource Usage (INTSFT/RU) | 7-8 |
| Task 103: Clearing Switch Shelf SNIP ID Mismatch (DATAFLT) | 7-11 |



Task 100: Clearing Power Failure (PWR)

Purpose Use this procedure to restore failed power or a tripped circuit breaker in response to a power failure alarm. This alarm can be caused by the following conditions:

- Circuit pack with bent pins
- Tripped circuit breaker
- Faulty power filter connections
- Failed power filter voltage protection (PFVP) unit.

This alarm message can have a critical (CR) or minor (MN) alarm level. If the level is critical, then the loss of both A and B power feeds has been detected. If the level is minor, then the loss of one power feed has been detected.

Before you begin Before beginning this task:

- Use the electrostatic discharge (ESD) strap.
- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of M1 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions before beginning this task

**CAUTION**

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system, use a static ground wrist strap to prevent electrostatic discharge.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 404: Extracting and Inserting an NVM Card” (10-25)
- “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45)

Task

Complete the following steps to clear a failed power/fuse condition.

- 1 Determine the alarm level by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar. Look for a power/fuse alarm.

| IF... | THEN... |
|--|--|
| the power alarm level is critical (CR), the shelf (OIS or HVS) reporting the alarm has no illuminated LED, and System Controller Shelf (SCS) User Panel has an illuminated red critical (CR) LED | that shelf has a complete power loss. Go to “Task 505: Recovering from Shelf Power Failure” (11-1). Continue to the next step. |
| the power alarm level is minor (MN) and the System Controller Shelf (SCS) User Panel has an illuminated yellow minor (MN) LED | loss of either the A or B power feed has been detected. Continue to the next step. |

- 2 Make sure that the power cable is properly connected. Check for any visible damage on the cable.

- 3 Determine if circuit breakers have tripped. Inspect the A and B circuit breakers.

| IF... | THEN... |
|---|--|
| A and B circuit breakers are not tripped and both PFVP units LEDs are illuminated | contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| A or B circuit breaker is tripped | turn off the power to the PFVP unit and reset the circuit breaker by inserting a small flat-head screwdriver into the slot on the Off side circuit breaker On/Off switch until the power turns off. Then turn the power back on by pressing the On side of the On/Off switch. Continue to the next step. |
| both A and B circuit breakers are tripped | this may mean that a circuit pack with bent pins was just inserted. Continue to Step 5 only once, then contact Lucent Technical Support. |
| neither A nor B power feed circuit breakers are tripped and neither PFVP unit has its green LED illuminated | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 4 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the power alarm is not on the Alarm List | the condition has cleared. <i>Stop! End of Task.</i> |
| A or B power feed circuit breaker is still tripped | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 5** Identify the circuit pack that was just installed, extract it and examine the connector pins on the circuit pack. Check for any physical defects.

| IF... | THEN... |
|---------------------|--|
| there is any damage | replace the circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45), then return to Step 3. |
| there is no damage | contact Lucent Technical Support. |

END OF STEPS



Task 101: Clearing Non-Volatile Memory Usage (NVMU)

Purpose Use this procedure to clear a controller non-volatile memory usage condition. A non-volatile memory usage condition can occur when available space is low and access times exceed a maximum threshold.

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element with a Privilege Code of M1 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 5, “Supporting Tasks Background”

Task Complete the following steps to clear the controller non-volatile memory usage condition.

1 At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: This lists all of the WaveStar LambdaRouter 128/256 current alarms. The Access Identifier (AID) provides the shelf and slot location of the failure.

2 Perform a system reset. At the WaveStar CIT System View, select **Fault>Reset>System** from the Main Menu bar.

-
- 3** After completion of system reset, log in again. Go to “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).
-

- 4** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|-----------------------------------|
| the resource usage alarm is not on the Alarm List | the condition has cleared. |
| the resource usage alarm is still on the Alarm List | contact Lucent Technical Support. |

END OF STEPS



Task 102: Clearing Resource Usage (INTSFT/RU)

Purpose Use this procedure to clear a controller resource usage condition. A resource usage condition can occur when consumption of resources such as CPU cycles, Dynamic Random Access Memory (DRAM) memory, or buffer pools exceed a maximum threshold. For additional information, refer to Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”.

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element with a Privilege Code of M4 and S4 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”
- Chapter 5, “Supporting Tasks Background”
- “Task 407: Logging In to the WaveStar CIT” (10-36)

Task Complete the following steps to clear the controller resource usage condition.

-
- 1 At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf and slot location of the failure.

.....

2 Determine the resource usage alarm condition type.

| IF... | THEN... |
|-------------------------------------|--------------------|
| the condition type is RU | continue to Step 3 |
| the condition type is INTSFT | continue to Step 6 |

.....

3 For an **RU** condition type (SYS50D), perform a SYS50D circuit pack reset. At the WaveStar CIT System View, select **Fault>Reset>System**.

.....

4 After completion of system reset, log in again. Go to “Task 407: Logging In to the WaveStar CIT” (10-36).

.....

5 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the resource usage alarm is not on the Alarm List | the condition has cleared. <i>Stop! End of Task.</i> |
| the resource usage alarm is still on the Alarm List | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

.....

6 For an **INTSFT** condition type (shelf controller) perform a side switch to the standby shelf controller. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22).

-
- 7** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|-----------------------------------|
| the resource usage alarm is not on the Alarm List | the condition has cleared. |
| the resource usage alarm is still on the Alarm List | contact Lucent Technical Support. |

.....
N D O F S T E P S



Task 103: Clearing Switch Shelf SNIP ID Mismatch (DATAFLT)

Purpose Use this procedure to clear a Switch Shelf (SWS) Serial Number Identification Port (SNIP) Identification (ID) mismatch. A SNIP ID mismatch can occur when system initialization, system reset, or Switch Shelf replacement causes the Non-Volatile Memory (NVM)-based fabric-initialization-database serial number to disagree with the Switch Shelf reported SNIP.

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the About this information product Chapter in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local LambdaRouter; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the LambdaRouter from the WaveStar CIT with a Privilege Code of M1 and S3; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions before beginning this task.



CAUTION

Use a static ground wrist strap whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system to prevent electrostatic discharge damage to sensitive components.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear the SWS SNIP ID mismatch condition.

-
- 1 At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: This lists all of the WaveStar LambdaRouter 128/256 current alarms. The Alarm Issue Point provides the shelf, slot, and port location of the failure.

-
- 2 After confirming the alarm type as SNIP mismatch, inspect the SNIP cable, and secure terminal connections at the Switch Shelf and corresponding HSWIC controller. Disconnect and inspect the cable and the terminal connectors at both ends. Replace the cable if damaged. The 25 pin d-sub SNIP cable replacement is accomplished through thumbscrews on the connector shells at end of the cable. Reconnect the cable.

-
- 3 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|---|
| the SNIP mismatch alarm is not on the Alarm List | the condition has cleared. <i>Stop! End of Task.</i> |
| the SNIP mismatch alarm is still on the Alarm List | continue to Step 4. |

-
- 4 Obtain the Switch Shelf serial number (SNIP ID) and compare this number to the label on the Personal Computer Memory Card International Association (PCMCIA) card that had been provided with the Switch Shelf in question.

At the Wavestar CIT System View, select **View> View Equipment Details** from the Main Menu bar.

Result: The Equipment Selection Screen appears.

-
- 5 On the Equipment Selection Screen, select the Switch Shelf in question.

Result: The Switch Shelf Details Screen appears.

.....

- 6 The SNIP ID is shown in the Serial Number field.

| IF... | THEN... |
|--|--|
| the retrieved shelf serial number is not identical to the serial number on the PCMCIA card | from the NVM card that was shipped with the currently installed fabric, re-load the Optical Mapping Database with the datatype set to calibration . Go to “SE 103-1: Copying Non-Volatile Memory” (7-14). |
| the retrieved shelf serial number is identical to the serial number on the PCMCIA card | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

.....

- 7 Wait 30 seconds and then check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the SNIP mismatch alarm is not on the Alarm List | the condition has cleared. <i>Stop! End of Task.</i> |
| the SNIP mismatch alarm is still on the Alarm List | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

.....

ND OF STEPS

.....

SE 103-1: Copying Non-Volatile Memory

Perform the following steps to copy the non-volatile memory.

-
- 1** At the Wavestar CIT System View, select **Configuration>Software>Copy NVM** from the Main Menu bar.

Result: The Copy NVM Screen appears.

-
- 2** Select the data type to be copied; **Data, Software, Calibration, or All.**

Important! The SWIP calibration files are separate when the Switch Shelf is first installed. After the files are read by the LambdaRouter software, the information is included in the database and are part of **Data**.

-
- 3** Select **Secondary to Active Primary (Restore)** for the type of copy.

| IF the Data Type to be copied is... | THEN... |
|--|---|
| Data | select whether the copy should include a restore. On —restore the database Off —copy the database, but do not restore. Continue to Step 4. |
| Software, Calibration, or All | continue to Step 4. |

-
- 4** Click **OK**.

Result: A Confirmation Screen appears.

5 Click Yes.

| IF the Data Type being copied is... | THEN... |
|--|---|
| Data , and On (Restore) was selected | the database is copied into the previous folder of the primary NVM and the system performs a reset. During the reset the database is copied into the current folder of primary NVM and becomes active. Important! During the reset the system automatically disconnects the WaveStar CIT. |
| Data , and Off was selected | the selected data is copied from the secondary NVM to the active primary NVM. |
| Software, Calibration , or All | the selected data is copied from the secondary NVM to the active primary NVM. <i>Stop! End of Task.</i> |

 ND OF STEPS





8 Equipment Alarm Messages and Trouble-Clearing Tasks

Overview

Purpose This chapter includes trouble-clearing tasks for equipment alarm messages.

Contents This chapter contains the following sections:

| | |
|--|-----------------------|
| Task 200: Clearing Circuit Pack Failure (CONTR/CPF/CTNEQPT/FACTERM) | 8-3 |
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| Task 202: Clearing Failed Fan (INT) | 8-9 |
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Task 200: Clearing Circuit Pack Failure (CONTR/CPF/CTNEQPT/FACTERM)

Purpose Use this procedure to clear a circuit pack internal failure condition. This alarm message indicates that a circuit pack has failed. A circuit pack stops functioning when one or more components on the circuit pack fails, which is indicated by the illuminated red LED on the circuit packs.

- Before you begin** Before beginning this task:
- Use the electrostatic discharge (ESD) strap.
 - Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
 - Read and follow all safety instructions in the front of this manual.
 - Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the network element with a Privilege Code of M1 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



CAUTION

Replacing circuit packs may be service-affecting if they are carrying traffic. If possible, reconfigure port traffic to spare ports. Circuit pack replacement must be scheduled and affected customers should be notified of service interruption.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45)

Task

Complete the following steps to clear a circuit pack internal failure condition.

-
- 1** Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf and slot location of the failure.

-
- 2** Replace the failed circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

-
- 3** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same circuit pack failure alarm message | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List still displays the same circuit pack failure alarm message | return to Step 2 only once. If the alarm does not clear after repeating Step 2, contact Lucent Technical Support. <i>Stop! End of Task.</i> |

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Task 201: Clearing Invalid Circuit Pack (PRCDRERR)

Purpose Use this procedure to clear a circuit pack unexpected, illegal, or unknown condition. This alarm message indicates that the circuit pack type provisioned for this slot either does not match the circuit pack type that was inserted or the circuit pack type information on the circuit pack cannot be read. For additional information, refer to Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”.

- Before you begin** Before beginning this task:
- Use the electrostatic discharge (ESD) strap.
 - Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
 - Read and follow all safety instructions in the front of this manual.
 - Connect the WaveStar CIT to the WaveStar LambdaRouter 128/256; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of M1 and S1 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



CAUTION

Replacing the Port Units or HVDAC circuit packs may be service-affecting if they are carrying traffic. If possible, reconfigure port traffic to spare ports. Circuit pack replacement must be scheduled and affected customers should be notified of service interruption.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”

Task

Complete the following steps to clear a circuit pack unexpected, illegal, or unknown condition.

-
- 1** Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: This lists all WaveStar LambdaRouter 128/256 current alarms. The AID provides the shelf and slot location of the failure.

- 2** From the Shelf View, select **View>View Equipment Details**

Result: The View Equipment Details Screen appears.

- 3** Enter the AID determined in Step 1 in the Enter AID field or select the slot from the equipment list. Click **Select**.

Result: The View Circuit Pack/Slot Details Screen appears.

- 4** Determine the circuit pack type and replace with appropriate circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

- 5 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same circuit pack unexpected, illegal, or unknown alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same circuit pack unexpected, illegal, or unknown alarm | replace the circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45) |

- 6 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|-----------------------------------|
| the Alarm List does not display the same circuit pack unexpected, illegal, or unknown alarm | the alarm condition has cleared. |
| the Alarm List displays the same circuit pack unexpected, illegal, or unknown alarm | contact Lucent Technical Support. |

END OF STEPS



Task 202: Clearing Failed Fan (INT)

Purpose Use this procedure to clear a failed fan condition. This alarm message indicates that one or more components on the Fan Unit has failed, causing the Fan Unit to malfunction. This condition may also occur if the Power Filter Voltage Protection (PFVP) Unit for the specified shelf has failed.

- Before you begin** Before beginning this task:
- Use the electrostatic discharge (ESD) strap.
 - Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
 - Read and follow all safety instructions in the front of this manual.
 - Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the network element with a Privilege Code of M1 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

- Related information** For related information, see
- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
 - Chapter 5, “Supporting Tasks Background”
 - “Task 505: Recovering from Shelf Power Failure” (11-19)

Task Complete the following steps to clear a failed fan condition.

-
- 1** Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: This lists all WaveStar LambdaRouter 128/256 current alarms. The AID provides the shelf location of the failure.

-
- 2** Verify that the PFVP units are operating normally. Both green LEDs should be on.

| IF... | THEN... |
|----------------------------------|--|
| one of the PFVP unit LEDs is off | continue to the next step. |
| both LEDs are off | there is a power failure on the shelf. Go to “Task 505: Recovering from Shelf Power Failure” (11-19). <i>Stop! End of Task.</i> |
| both LEDs are on | continue to Step 5. |

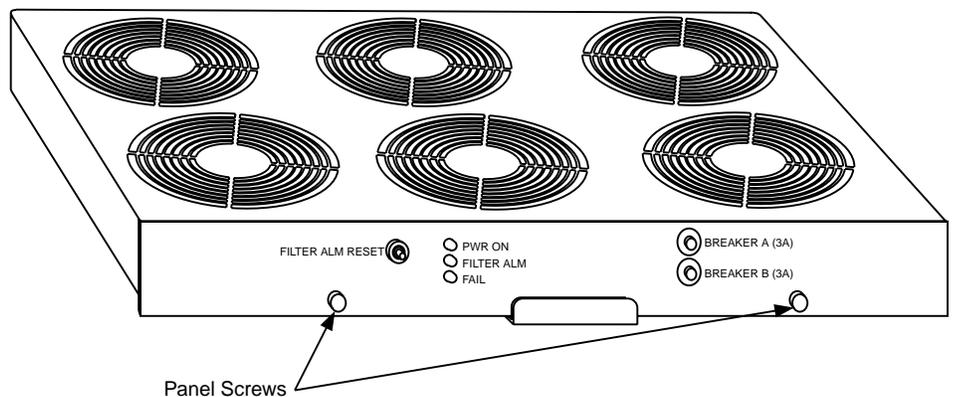
-
- 3** To reset the PFVP unit, press the reset button using a ball-point pen.

| IF... | THEN... |
|--|--|
| the PFVP unit returns to normal operation (indicated by the illuminated green LED) | continue to the next step. |
| the PFVP does not return to normal operation and the unit has not been replaced | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 4 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|---|
| the same failed fan alarm message is not on the Alarm List | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the same failed fan alarm message is still on the Alarm List | the Fan Unit has failed. Continue to the next step. |

- 5 Loosen the two panel screws on either side of the Fan Unit. The figure below shows the location of the panel screws.



NC-LR063

- 6 Remove the Fan Unit. Grasp the center-mounted handle. Pull out the Fan Unit by applying even right and left force.
- 7 Install the new Fan Unit. Grasp the center-mounted handle. Carefully push the new Fan Unit into the shelf.
- 8 Tighten the two panel screws on either side of the new Fan Unit to secure it into the shelf.

-
- 9 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|-----------------------------------|
| the same failed fan alarm message is not on the Alarm List | the alarm condition has cleared. |
| the same failed fan alarm message is still on the Alarm List | contact Lucent Technical Support. |

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Task 203: Clearing HVDAC High-Voltage Cable Disconnect (CONTCOM)

Purpose Use this procedure to clear a High-Voltage-to-Digital Analog Converter (HVDAC) high-voltage cable disconnect condition. This alarm indicates that the HVDAC cable that provides the control signal for the Switch Interface Points (SWIPs) is disconnected or may be faulty.

Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the About this information product Chapter in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local LambdaRouter; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the LambdaRouter from the Wavestar CIT; use “Task 406: Logging in to WaveStar LambdaRouter 128/256 by Cut-Through” (10-32).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an HVDAC high-voltage cable disconnect condition.

-
- 1** Determine the Access Identifier (AID) and Alarm Issue Point of the alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The Alarm Issue Point provides the shelf and slot location of the failure.

-
- 2** Locate the HVDAC cable at the rear of the High-Voltage Shelf (HVS) that contains the alarmed HVDAC circuit pack. The cable will be labeled with the HVDAC AID from the Alarm List.
-

- 3** Inspect the HVDAC cable connections at the High-Voltage Shelf (HVS) and Switch Shelf (SWS).

| IF... | THEN... |
|---------------------------------|---|
| either end is loosely connected | tighten the connection and go to Step 4. |
| both ends are firmly connected | the HVDAC high-voltage cable may be faulty. Go to Step 5. |

- 4** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|---|
| the same HVDAC high-voltage cable disconnect alarm message is no longer on the Alarm List | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the same HVDAC high-voltage cable disconnect alarm message is still on the Alarm List | the HVDAC high-voltage cable may be faulty. |

- 5** Replace the HVDAC high-voltage cable.

- 6 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the same HVDAC high-voltage cable disconnect alarm message is no longer on the Alarm List | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the same HVDAC high-voltage cable disconnect alarm message is still on the Alarm List | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

END OF STEPS



Task 204: Clearing Improper Removal of Circuit Pack (CP_UNEQ/IMPROPRMVL)

Purpose Use this procedure to clear an improper removal of circuit pack condition. This condition indicates that one of the optical cross-connect interface circuit packs was removed without first being provisioned out of service.

This condition also indicates that one of the following circuit packs was removed regardless of its status:

- SYS50D
- CSIEX
- EI
- PRI
- SEC
- DCC
- HSWIC
- OSWIC
- HVDAC

Before you begin Before beginning this task:

- Use the electrostatic discharge (ESD) strap.
- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element with a Privilege Code of M1 and P3 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety Precautions Read and understand the following safety precautions:



CAUTION

Replacing the Optical Cross-Connect Interface or HVDAC circuit packs may be service-affecting if they are carrying traffic. If possible, reconfigure port traffic to spare ports. Circuit pack replacement must be scheduled and affected customers should be notified of service interruption.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”
- Chapter 5, “Supporting Tasks Background”
- “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45)

Task Complete the following steps to clear an improper removal of circuit pack condition.

- 1 Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: This lists all of the WaveStar LambdaRouter 128/256 current alarms. The AID provides the shelf and slot location of the failure.

2 Verify whether the alarmed circuit pack is in its appropriate slot.

| IF... | THEN... |
|---|----------------------------------|
| the circuit pack is not present in the slot | continue to Step 8. |
| the circuit pack is present in the slot | the circuit pack may be damaged. |

3 If the circuit pack latch is closed, then open it. Remove the circuit pack from the slot.

4 Inspect the entire circuit pack for visible damage.

| IF... | THEN... |
|--|---|
| the circuit pack has no visible damage | insert the same circuit pack back into the equipped slot. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the circuit pack has visible damage | do not insert the circuit pack into the slot. Continue to Step 6. |

5 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|---|
| the Alarm List does not display the same improper removal of circuit pack alarm message | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the same improper removal of circuit pack alarm message is displayed | open the latch and remove the circuit pack from the slot. |

-
- 6** Replace the circuit pack with a spare circuit pack of the same type with no visible damage.

Reference: “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45)

-
- 7** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|---|
| the Alarm List does not display the same improper removal of circuit pack alarm message | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the same improper removal of circuit pack alarm message is displayed | a possible backplane problem exists. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 8**

| IF... | THEN... |
|--|--|
| the slot is a SYS50D, CSIEX, EI, PRI, SEC, DCC, HVDAC, OSWIC or HSWIC slot | the alarm cannot be cleared until a valid circuit pack is inserted into the slot and the latch is closed. Continue to the next step. |
| the slot is an OXI slot | the correct procedure was not followed for replacing the circuit pack. The slot/circuit pack should have been provisioned out of service before the extraction of the circuit pack. Continue to Step 11. |

-
- 9** Insert a spare circuit pack of the appropriate type with no visible damage into the unequipped slot.

Reference: “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45)

-
- 10** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same improper removal of circuit pack alarm message | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the same improper removal of circuit pack alarm message is displayed | open the latch and remove the circuit pack from the slot. Then return to Step 4 only once. If the alarm does not clear the second time, contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 11** Before provisioning a Port Unit out-of-service, all input ports and output ports must be provisioned out-of-service.

At the WaveStar CIT, from the System View, right-click on the optical interface shelf and select **View Shelf ois**.

Result: The Shelf View Screen appears.

-
- 12** Right-click on an input or output port and select **Provision Port OCH**.

Result: The Provision Port Screen appears.

-
- 13** Select **OOS** in the Primary State field then click **OK**.

Result: A Confirmation Screen appears.

-
- 14** Click **Yes**.

Result: The Confirmation Screen closes.

-
- 15** Repeat Step 11 through Step 14 until all input and output OCH ports on the alarmed slot are provisioned out-of-service.

16 At the WaveStar CIT, from the System View Main Menu bar, select **Configuration>Provision**.

Result: The Provision Parameters for Equipment Screen appears.

17 Highlight the Port Unit circuit pack then click **Provision**.

Result: Information about the circuit pack appears on the right side of the screen.

18 Select **OOS** in the Primary State field then click **Apply**.

Result: A Confirmation Screen appears.

19 Click **Yes**.

Result: The Confirmation Screen closes.

20 Click **Close** at the bottom of the window after the Confirmation Screen closes.

21 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|---|
| the Alarm List does not display the same improper removal of circuit pack alarm message | the alarm condition has cleared. |
| the same improper removal of circuit pack alarm message is displayed | repeat Step 15 through Step 20 only once. If the alarm does not clear the second time, contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 22** If desired, the circuit pack can now be replaced following the correct procedure. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

END OF STEPS



Task 205: Clearing Improper SWIP Association (SWMTXMOD)

Purpose Use this procedure to clear an improper Switch Interface Point (SWIP) association. This alarm message indicates that during port initialization a faulty SWIP was associated with a port. This condition implies two Mismatch of Equipment and Attributes (MEA) states: OOS-MA, UAS&MEA and OOS-MA, FLT&MEA. For more information regarding primary and secondary states refer to the TL1 command page for RTRV- EQPT in the WaveStar LambdaRouter 128 Release 2.0 *Operations and System Engineering Guide* or the WaveStar LambdaRouter 256 Release 2.0 *Operations and System Engineering Guide*.

- Before you begin** Before beginning this task:
- Use the electrostatic discharge (ESD) strap.
 - Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
 - Read and follow all safety instructions in the front of this manual.
 - Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the network element with a Privilege Code of M1 and P3 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety Precautions Read and understand the following safety precautions:



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear the improper SWIP association condition.

-
- 1** Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf and SWIP location of the failure.

-
- 2** Select **View>View Equipment Details** from the WaveStar CIT System View Main Menu bar.

Result: The Equipment Selection Screen appears.

-
- 3** Select the SWIP identified by the alarm.

Result: The View OCH Port Details Screen appears.

-
- 4** Make note of the port associated with the alarmed SWIP.

-
- 5** Reassign the the port associated with the alarmed SWIP to a functioning spare SWIP. Go to “Task 400: Assigning and Cabling a Spare SWIP to a Port” (10-3).

-
- 6** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|-----------------------------------|
| the Alarm List does not display the same improper SWIP association alarm message | the alarm has cleared. |
| the same improper SWIP association alarm message is displayed | contact Lucent Technical Support. |

END OF STEPS



Task 206: Clearing Non-Volatile Memory Failure (NVMW)

Purpose Use this procedure to clear the non-volatile memory (NVM) wearout condition. This condition occurs when the number of failed NVM data clusters exceeds a predetermined insufficient capacity threshold. When this threshold is crossed, the Non-Volatile Memory Wearout alarm is generated. For additional information, refer to Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”.

- Before you begin** Before beginning this task:
- Use the electrostatic discharge (ESD) strap.
 - Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
 - Read and follow all safety instructions in the front of this manual.
 - Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the network element with a Privilege Code of M1, S2, and P2 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).
 - Have on hand a spare, formatted NVM card supplied by Lucent Technologies. Refer to the WaveStar LambdaRouter 128 Release 2.0 *Operations and System Engineering Guide* or the WaveStar LambdaRouter 256 Release 2.0 *Operations and System Engineering Guide* for more information about the NVM card.

Safety precautions Read and understand the following safety precautions:



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”
- Chapter 5, “Supporting Tasks Background”
- “Task 404: Extracting and Inserting an NVM Card” (10-25)

Task

Complete the following steps to clear a non-volatile memory wearout condition.

-
- 1** Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf and slot location of the failure.

-
- 2** Replace the failed NVM card. Go to “Task 404: Extracting and Inserting an NVM Card” (10-25).

-
- 3** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the non-volatile memory wearout alarm is not on the Alarm List | the condition has cleared. |
| the non-volatile memory wearout alarm is still on the Alarm List | the condition has not cleared. Contact Lucent Technical Support. |

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Task 207: Clearing Outgoing AIS-L (INT-AIS-L)

Purpose Use this procedure to clear an alarm indication signal-line (INT-AIS-L) condition. This alarm message indicates that the outgoing signal has valid SONET/SDH Section/Regenerator Section overhead and otherwise is composed of all ones. There are also all ones in bits 6,7, and 8 of the K2 byte.

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. refer to “Task 416: Turning Off Audible Alarm” (10-74).
- read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element from the Wavestar CIT with a Privilege Code of M4, S2, and P2; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an outgoing loss of alarm indication signal-line (INT-AIS-L) condition.

-
- 1 Determine the Access Identifier (AID) of the INT-AIS-L alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

-
- 2** Select **Reports>Cross-Connection List** from the WaveStar CIT System View Main Menu bar.

Result: The Equipment Selection Screen appears.

- 3** Select the alarmed port that was determined in Step 1.

Result: The Cross-Connection List Screen appears.

- 4**

| IF... | THEN... |
|--|--|
| the Merge Indicator field shows a value of null | one input port is providing a signal to the alarmed output port. There is an upstream failure external to the WaveStar LambdaRouter 128/256. <i>Stop! End of Task.</i> |
| the Merge Indicator field shows a value of Merge | two input ports are providing a signal to the alarmed output port. A forced protection switch away from the INT-AIS-L failure may be necessary. Continue to the next step. |

- 5** Determine the current protection switch state of the alarmed output port. At the WaveStar CIT, select **Fault>Protection Switch** from the System View Main Menu.

Result: The switch protection details appear on the screen.

- 6** Enter the AID of the alarmed output port or use the NE Explorer to select the output port by clicking on the plus (+) sign next to each entity.
-

- 7** Click **Select**.

Result: The protection switch details appear on the screen.

8

| IF... | THEN... |
|--|---|
| the Current Protection Switch type of the alarmed port is forced (FRCD) and permission to release the protection switch has been obtained | release the forced protection switch. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22). Continue to the next step. |
| the Current Protection Switch type of the alarmed port is forced (FRCD) and permission to release the protection switch cannot be obtained | no further action will alleviate the INT-AIS-L condition. <i>Stop! End of Task.</i> |
| the Current Protection Switch type of the alarmed port is autonomous (AUTO) or manual (MAN) | continue to Step 11. |

- 9 Observe the results of the releasing the protection switch. At the WaveStar CIT System View, select **Reports>NE Protection Switch Activity Log**. Specify the start date and time for the log and click **OK**.

Result: The NE Protection Switch Activity Log appears.

- 10 Look for the alarmed port AID.

| IF... | THEN... |
|---|----------------------------|
| the output port performed an autonomous protection switch | continue to the Step 12. |
| the output port did not perform an autonomous protection switch | continue to the next step. |

- 11 Perform a forced protection switch on the alarmed port. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22).

-
- 12** Verify that the alarm condition has cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same INT-AIS-L alarm message and there are no other alarms on this port. | the condition has cleared by moving the outgoing cross-connection away from the failure. |
| the Alarm List still displays the same INT-AIS-L alarm message | both fabric sides are in an INT-AIS-L failure condition. No further action will alleviate the condition. |
| the INT-AIS-L alarm has been replaced by a more severe condition such as INT-LOS, INT-LOF, INT-EBER, or INT-BER | use a forced protection switch to move the output port selector back to the fabric side in the INT-AIS-L fabric condition. |

END OF STEPS

Task 208: Clearing Outgoing Loss of Frame (INT-LOF)

Purpose Use this procedure to clear an outgoing loss of frame (INT-LOF) condition. This alarm message indicates that the consecutive errored framing patterns have been detected

- Before you begin** Before beginning this task:
- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
 - Read and follow all safety instructions in the front of this manual.
 - Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the network element from the WaveStar CIT with a Privilege Code of M4, P2 and S2; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an outgoing loss of frame (INT-LOF) condition.

-
- 1** Determine the Access Identifier (AID) of the INT-LOF alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

-
- 2** Select **Reports>Cross-Connection List** from the WaveStar CIT System View Main Menu bar.

Result: The Equipment Selection Screen appears.

3 Select the alarmed port that was determined in Step 1.

Result: The Cross-Connection List Screen appears.

4

| IF... | THEN... |
|--|---|
| the Merge Indicator field shows a value of null | one input port is providing a signal to the alarmed output port. There is an upstream failure external to the WaveStar LambdaRouter 128/256. <i>Stop! End of Task.</i> |
| the Merge Indicator field shows a value of Merge | two input ports are providing a signal to the alarmed output port. A forced protection switch away from the INT-LOF failure may be necessary. Continue to the next step. |

5 Determine the current protection switch state of the alarmed output port. At the WaveStar CIT, select **Fault>Protection Switch** from the System View Main Menu.

Result: The Switch Protection Screen appears.

6 Enter the AID of the alarmed output port or use the NE Explorer to select the output port by clicking on the plus (+) sign next to each entity.

7 Click **Select**.

Result: The switch protection details appear on the screen.

8

| IF... | THEN... |
|---|---|
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch has been obtained | release the forced protection switch. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22). Continue to the next step. |
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch cannot be obtained | no further action will alleviate the INT-LOF condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. <i>Stop! End of Task.</i> |
| the current protection switch state of the alarmed port is autonomous (AUTO) or manual (MAN) | continue to Step 11. |

- 9 Observe the results of the releasing the protection switch. At the WaveStar CIT System View, select **Reports>NE Protection Switching Activity Log**. Specify the start date and time for the log and click **OK**.

Result: The NE Protection Switch Activity Log Screen appears.

10 Look for the alarmed port AID.

| IF... | THEN... |
|---|----------------------------|
| the output port performed an autonomous protection switch | continue to the Step 12. |
| the output port did not perform an autonomous protection switch | continue to the next step. |

11 Perform a forced protection switch on the alarmed port. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22).

- 12 Verify that the alarm condition has cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same INT-LOF alarm message and there are no other alarms for this port | the condition has cleared by moving the outgoing cross-connection away from the failure. |
| the Alarm List still displays the same INT-LOF alarm message | both fabric sides are in an INT-LOF failure condition. No further action will alleviate the condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of the problem. |
| the Alarm List displays an INT-LOS alarm message | use a forced protection switch to move the output port selector back to the fabric side in the INT-LOF fabric condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of the problem. |
| the Alarm List displays a LOS (CTNEQPT) Minor alarm | go to “Task 213: Clearing Output Port Loss of Signal (CTNEQPT)” (8-56) and perform the steps for clearing a single-sided LOS condition. |
| the Alarm List displays a less severe alarm message, such as INT-EBER, INT-BER, or INT-AIS-L | no further action will alleviate the INT-LOF condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. |

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 N D O F S T E P S

Task 209: Clearing Outgoing Loss of Signal (INT-LOS)

Purpose Use this procedure to clear an outgoing loss of signal (INT-LOS) condition. This alarm message indicates that an all-zeros pattern was detected. An all-zeros pattern corresponds to no light pulses for OC-N/STM-N optical interfaces.

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element from the WaveStar CIT with a Privilege Code of M4, P2 and S2; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an outgoing loss of signal (INT-LOS) condition.

-
- 1** Determine the Access Identifier (AID) of the INT-LOS alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

-
- 2** Select **Reports>Cross-Connection Alarm List** from the WaveStar CIT System View Main Menu bar.

Result: The Equipment Selection Screen appears.

-
- 3** Select the alarmed port that was determined in Step 1.

Result: The Cross-Connection List Screen appears.

- 4**

| IF... | THEN... |
|--|---|
| the Merge Indicator field shows a value of null | one input port is providing a signal to the alarmed output port. There is an upstream failure external to the WaveStar LambdaRouter 128/256. <i>Stop! End of Task.</i> |
| the Merge Indicator field shows a value of Merge | two input ports are providing a signal to the alarmed output port. A forced protection switch away from the INT-LOS failure may be necessary. Continue to the next step. |

- 5** Determine the current protection switch state of the alarmed output port. At the WaveStar CIT, select **Fault>Protection Switch** from the System View Main Menu.

Result: The Switch Protection Screen appears.

- 6** Enter the AID of the alarmed output port or use the NE Explorer to select the output port by clicking on the plus (+) sign next to each entity.
-

- 7** Click **Select**.

Result: The switch protection details appear on the screen.

8

| IF... | THEN... |
|---|--|
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch has been obtained | release the forced protection switch. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22). |
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch cannot be obtained | no further action will alleviate the INT-LOS condition. <i>Stop! End of Task.</i> |
| the current protection switch state of the alarmed port is autonomous (AUTO) or manual (MAN) | continue to Step 12. |

- 9 Observe the results of the releasing the protection switch. At the WaveStar CIT System View, select **Reports>NE Protection Switch Activity Log**. Specify the start date and time for the log and click **OK**.

Result: The NE Protection Switch Activity Log Screen appears

- 10 Look for the alarmed port AID.

| IF... | THEN... |
|---|----------------------------|
| the output port performed an autonomous protection switch | continue to Step 12. |
| the output port did not perform an autonomous protection switch | continue to the next step. |

- 11 Perform a forced protection switch on the alarmed port. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22).

- 12 Verify that the alarm condition has cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same INT-LOS alarm message and there are no other alarms for this port. | the condition has cleared by moving the outgoing cross-connection away from the failure. |
| the Alarm List displays same alarm | both sides are in an INT-LOS condition. No further action will alleviate the condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. |
| the Alarm List displays an LOS (CTNEQPT) Minor alarm | go to “Task 213: Clearing Output Port Loss of Signal (CTNEQPT)” (8-56) and perform the steps for clearing a single-sided LOS condition. |
| the Alarm List displays a less severe alarm message, such as INT-LOF, INT-EBER, INT-BER, or INT-AIS-L | no further action will alleviate the INT-LOS condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. |

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N D O F S T E P S
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Task 210: Clearing Outgoing Signal Degrade BER (INT-BER)

Purpose Use this procedure to clear an outgoing signal degrade BER (INT-BER) condition. This alarm message indicates that the line bit error rate (BER) threshold has been crossed. This threshold is provisionable with values for 10^{-5} to 10^{-9} .

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the WaveStar LambdaRouter 128/256 from the WaveStar CIT with a Privilege Code of M1 and S2; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an outgoing signal degrade BER (INT-BER) condition.

- 1** Determine the Access Identifier (AID) of the INT-BER alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

- 2** Select **Reports>Cross-Connection List** from the WaveStar CIT System View Main Menu bar.

Result: The Equipment Selection Screen appears.

-
- 3** Select the alarmed port that was determined in Step 1.

Result: The Cross-Connection List Screen appears.

- 4**

| IF... | THEN... |
|--|---|
| the Merge Indicator field shows a value of null | one input port is providing a signal to the alarmed output port. There is an upstream failure external to the WaveStar LambdaRouter 128/256. <i>Stop! End of Task.</i> |
| the Merge Indicator field shows a value of Merge | two input ports are providing a signal to the alarmed output port. A forced protection switch away from the INT-EBER failure may be necessary. Continue to the next step. |

-
- 5** Determine the current protection switch state of the alarmed output port. At the WaveStar CIT, select **Fault>Protection Switch** from the System View Main Menu.

Result: The Switch Protection Screen appears.

- 6** Enter AID of the alarmed output port or use the NE Explorer to select the output port by clicking on the plus (+) sign next to each entity.
-

- 7** Click **Select**.

Result: The switch protection details appear on the screen.

8

| IF... | THEN... |
|---|---|
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch has been obtained | release the forced protection switch. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22). |
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch cannot be obtained | no further action will alleviate the INT-BER condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. <i>Stop! End of Task.</i> |
| the current protection switch state of the alarmed port is autonomous (AUTO) or manual (MAN) | continue to Step 11. |

- 9 Observe the results of the releasing the protection switch. At the WaveStar CIT System View, select **Reports>NE Protection Switch Activity Log**. Specify the start date and time for the log and click **OK**.

Result: The NE Protection Switch Activity Log Screen appears.

- 10 Look for the alarmed port AID.

| IF... | THEN... |
|---|----------------------------|
| the output port performed an autonomous protection switch | continue to Step 12. |
| the output port did not perform an autonomous protection switch | continue to the next step. |

- 11 Perform a forced protection switch on the alarmed port. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22).

- 12 Verify that the alarm condition has cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same INT-BER alarm message and there are no other alarms for this port | the condition has cleared by moving the outgoing cross-connection away from the failure. |
| the Alarm List displays same alarm | both sides are in an INT-BER condition. No further action will alleviate the condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. |
| the Alarm List displays a more severe alarm condition, such as INT-LOF, INT-LOS, or INT-EBER | use a forced protection switch to move the output port selector back to the fabric side in the INT-BER fabric condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of the problem. |
| the Alarm List displays an LOS (CTNEQPT) Minor alarm | go to “Task 213: Clearing Output Port Loss of Signal (CTNEQPT)” (8-56) and perform the steps for clearing a single-sided LOS condition. |
| the Alarm List displays a less severe alarm message, such as INT-AIS-L | no further action will alleviate the INT-BER condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. |

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N D O F S T E P S
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Task 211: Clearing Outgoing Signal Fail EBER (INT-EBER)

Purpose Use this procedure to clear an outgoing signal fail EBER (INT-EBER) condition. This alarm message indicates that the excessive bit error rate threshold has been crossed. This threshold is provisionable with values for 10^{-3} to 10^{-5} .

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element from the WaveStar CIT with a Privilege Code of M1 and S2; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an outgoing signal fail EBER (INT-EBER) condition.

- 1 Determine the Access Identifier (AID) of the INT-EBER alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

- 2 Select **Reports>Cross-Connection List** from the WaveStar CIT System View Main Menu bar.

Result: The Equipment Selection Screen appears.

-
- 3** Select the alarmed port that was determined in Step 1.

Result: The Cross-Connection List Screen appears.

- 4**

| IF... | THEN... |
|--|---|
| the Merge Indicator field shows a value of null | one input port is providing a signal to the alarmed output port. There is an upstream failure external to the WaveStar LambdaRouter 128/256. <i>Stop! End of Task.</i> |
| the Merge Indicator field shows a value of Merge | two input ports are providing a signal to the alarmed output port. A forced protection switch away from the INT-EBER failure may be necessary. Continue to the next step. |

-
- 5** Determine the current protection switch state of the alarmed output port. At the WaveStar CIT, select **Fault>Protection Switch** from the System View Main Menu.

Result: The Switch Protection Screen appears.

- 6** Enter AID of the alarmed output port or use the NE Explorer to select the output port by clicking on the plus (+) sign next to each entity.
-

- 7** Click **Select**.

Result: The switch protection details appear on the screen.

8

| IF... | THEN... |
|---|--|
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch has been obtained | release the forced protection switch. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22). |
| the current protection switch state of the alarmed port is forced (FRCD) and permission to release the protection switch cannot be obtained | no further action will alleviate the INT-EBER condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. <i>Stop! End of Task.</i> |
| the current protection switch state of the alarmed port is autonomous (AUTO) or manual (MAN) | continue to Step 11. |

- 9 Observe the results of the releasing the protection switch. At the WaveStar CIT System View, select **Reports>NE Protection Switch Activity Log**. Specify the start date and time for the log and click **OK**.

Result: The NE Protection Switch Activity Log Screen appears.

- 10 Look for the alarmed port AID.

| IF... | THEN... |
|---|----------------------------|
| the output port performed an autonomous protection switch | continue to Step 12. |
| the output port did not perform an autonomous protection switch | continue to the next step. |

- 11 Perform a forced protection switch on the alarmed port. Go to “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-22).

- 12 Verify that the alarm condition has cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|---|
| the Alarm List does not display the same INT-EBER alarm message and there are no other alarms for this port | the condition has cleared by moving the outgoing cross-connection away from the failure. |
| the Alarm List displays the same INT-EBER alarm message | both fabric sides are in an INT-EBER failure condition. No further action will alleviate the condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of the problem. |
| the Alarm List displays an LOS (CTNEQPT) Minor alarm | go to “Task 213: Clearing Output Port Loss of Signal (CTNEQPT)” (8-56) and perform the steps to clear a single-sided LOS condition. |
| the Alarm List displays a less severe alarm message, such as INT-BER, or INT-AIS-L | both fabric sides are in an INT-EBER failure condition. No further action will alleviate the condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of the problem. |
| the Alarm List displays a more severe alarm message, such as INT-LOS, or INT-LOF | use a forced protection switch to move the output port selector back to the fabric side in the INT-EBER condition. No further action will alleviate the INT-LOS condition. An upstream failure external to the WaveStar LambdaRouter 128/256 is the source of this alarm. |

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N D O F S T E P S
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Task 212: Clearing Output Port Extraneous Signal (INT)

Purpose Use this procedure to clear an output port extraneous signal condition. This alarm message indicates that the output power monitor is detecting a signal when the port is not dedicated to any valid cross-connect. This alarm could be caused by a faulty Port Unit, that is Optical Cross-Connect Interface circuit packs.

Before you begin Before beginning this task:

- Use the electrostatic discharge (ESD) strap.
- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element from the WaveStar CIT with a Privilege Code of M1 and S1; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



WARNING

Unterminated optical connectors may emit invisible laser radiation. Eye damage may occur if beam is viewed directly or with improper optical instruments. Avoid direct exposure to beam.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system, use a static ground wrist strap to prevent electrostatic discharge damage to sensitive components.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an output port extraneous signal condition.

-
- 1** Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

-
- 2** Select **View>View Equipment Details** from the WaveStar CIT System View Main Menu bar.

Result: The Equipment Selection Screen appears.

-
- 3** Select the port identified by the alarm.

Result: The View OCh Port Details Screen appears populated with data for the input port. To view output port details, click on the Output Port tab.

- 4** Determine the output port **Primary State** and **Secondary State**.

| IF... | THEN... |
|---|--|
| the Primary State is OOS-AU and the Secondary State is FLT | continue with Step 5. |
| the Primary State is not OOS-AU or the Secondary State is not FLT | return to Step 7 only once. Be sure to locate the alarmed port. If Step 7 has been repeated and the Primary State is still not OOS-AU or the Secondary State is still not FLT, then contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 5** Note the values of the following fields:

Output SWIP Association - Fabric 0

Output SWIP Association - Fabric 1

- 6** Click **Close** at the bottom of the window.
-

- 7** At SWS-0, find the output SWIP indicated by the Output SWIP Association - Fabric 0 field and detach the optical fiber. Put a dust cap on the end of the fiber.

- 8 Attach an optical power meter to the Fabric 0 output SWIP and turn it on.

| IF... | THEN... |
|----------------------------------|--|
| the power level is above -26 dBm | there is a critical problem with the SWIP and the Switch Shelf (SWS). Detach and turn off the optical power meter. Attach a white dust cover with a yellow label at that output SWIP. |
| the power level is below -26 dBm | there is no extraneous signal present at the Fabric 0 SWIP. Detach and turn off the optical power meter. Attach a white dust cover at the SWIP. |

- 9 At the SWS-1, find the output SWIP indicated by the field **Output SWIP Association - Fabric 1** and detach the optical fiber. Put a dust cap on the end of the fiber.

- 10 Attach an optical power meter to the Fabric 1 output SWIP and turn it on.

| IF... | THEN... |
|----------------------------------|--|
| the power level is above -26 dBm | there is a critical problem with the SWIP and the Switch Shelf (SWS). Detach and turn off the optical power meter. Attach a white dust cover with a yellow label at that output SWIP. |
| the power level is below -26 dBm | there is no extraneous signal present at the Fabric 1 SWIP. Detach and turn off the optical power meter. Attach a white dust cover at the SWIP. |

11

| IF... | THEN... |
|---|--|
| there is no critical problem with either SWIP | continue to the next step. |
| there is a critical problem with either SWIP | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 12 Remove the dust caps from the fibers and the dust covers from the SWIPs and clean the fibers and connectors. Go to “Task 401: Cleaning LC and MPX Connectors” (10-8). Then re-attach the optical fibers to their corresponding output SWIPs.

- 13 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same output port extraneous signal alarm message | the alarm has cleared. <i>Stop! End of Task.</i> |
| the same output port extraneous signal alarm message is displayed | the power monitor of the output port is faulty. Continue to Step 14. |

- 14 Replace the Port Unit that contains the alarmed output port. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

-
- 15** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|-----------------------------------|
| the Alarm List does not display the same output port extraneous signal alarm message | the alarm condition has cleared. |
| the same output port extraneous signal alarm message is displayed | contact Lucent Technical Support. |

.....

ND OF STEPS

.....



Task 213: Clearing Output Port Loss of Signal (CTNEQPT)

Purpose Use this procedure to clear an output port loss of signal (LOS) condition. This alarm message indicates that the output port power monitor is detecting insufficient signal strength on a channel that had normal signal strength at the input port power monitor.

This condition suggests a malfunction in the switching fabric or in the mirror arrangements, but could be caused by a malfunction of any of the following:

- HVDAC circuit pack
- Port Unit (Optical Cross-Connect Interface circuit pack)
- Input/Output Switch Interface Point (SWIP)
- Switch Shelf (SWS)
- Connections
- Cabling

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of M1 and S1 from the Wavestar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



WARNING

Unterminated optical connectors may emit invisible laser radiation. Eye damage may occur if beam is viewed directly or with improper optical instruments. Avoid direct exposure to beam.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”

Task

Complete the following steps to clear an output port loss of signal (LOS).

-
- 1 Determine the Access Identifier (AID) of the alarm and the alarm severity by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar. The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

2

| IF... | THEN... |
|--|---|
| the output loss of signal alarm is Minor (MN) | there is a single-sided output port loss of signal. Insufficient signal strength has been detected from only one fabric side. Go to “SE 213-1: Determining ports and SWIPs involved with single-sided output port LOS alarm” (8-59). |
| the output loss of signal alarm is Critical (CR) | there is a double-sided output port loss of signal. Insufficient signal strength has been detected from both fabric sides. Go to “SE 213-4: Determining ports and SWIPs involved with double-sided output port LOS alarm” (8-77). |

.....
N D O F S T E P S
.....

SE 213-1: Determining ports and SWIPs involved with single-sided output port LOS alarm

Important! When modifying port-to-SWIP associations, some SWIPs will move to the alarmed Suspect state.

Use the steps below to determine the following for the input and output ports:

- Access Identifiers (AIDs)
- Port types
- Interface Formats (IFMTs) and Interface Optics (IOPTs), if necessary
- Associated SWIPs

-
- 1** Determine the Access Identifier (AID) of the Loss of Signal alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

-
- 2** Select **View>View Equipment Details** on the System View Main Menu bar.

Result: The View Equipment Details Screen appears.

-
- 3** Select the port identified by the alarm.

Result: The View Och Port Details Screen appears populated with input port information. To view output port details, click on the Output Port tab.

4 Note the value of the **active** and the **suspect fabric side** fields as follows:

| IF... | THEN... |
|---|---|
| <p>the Side 0 Status field is equal to Detection of Service (DOS) and the Side 1 Status field is equal to LOS</p> | <p>in the case of LambdaRouter 128, the SWMG-0 will be known as the active fabric side and SWMG-1 as the suspect fabric side throughout this procedure.</p> <p>In the case of LambdaRouter 256, SWS-0 will be known as the active fabric side and SWS-1 as the suspect fabric side throughout this procedure.</p> |
| <p>the Side 0 Status field is equal to LOS and the Side 1 Status field is equal to DOS</p> | <p>in the case of LambdaRouter 128, the SWMG-1 will be known as the active fabric side and SWMG-0 as the suspect fabric side throughout this procedure.</p> <p>In the case of LambdaRouter 256, SWS-1 will be known as the active fabric side and SWS-0 as the suspect fabric side throughout this procedure.</p> |
| <p>the Side 0 Status field and the Side 1 Status field are equal to LOS</p> | <p>a double-sided LOS condition exists. Clear the double-sided LOS condition by performing SE 213-4.</p> <p><i>Stop! End of Task.</i></p> |
| <p>the Side 0 Status field and the Side 1 Status field are equal to DOS</p> | <p>the condition has cleared.</p> <p>At the Wavestar CIT System View, select Fault>NE Alarm List from the Main Menu bar. If the Alarm List displays the output port loss of signal alarm, contact Lucent Technical Support.</p> <p><i>Stop! End of Task.</i></p> |

-
- 5** Note the **Output SWIP Association** for the suspect fabric side. This SWIP will be referred to as the **output SWIP** throughout the rest of the procedure.

| IF... | THEN... |
|--|---|
| the suspect fabric side is SWMG-0, in the case of a LambdaRouter 128 | the output SWIP equals the Output SWIP Association - Fabric 0 value. |
| the suspect fabric side is SWS-0, in the case of a LambdaRouter 256 | the output SWIP equals the Output SWIP Association - Fabric 0 value. |
| the suspect fabric side is SWMG-1, in the case of a LambdaRouter 128 | the output SWIP equals the Output SWIP Association - Fabric 1 value. |
| the suspect fabric side is SWS-1, in the case of a LambdaRouter 256 | the output SWIP equals the Output SWIP Association - Fabric 1 value. |

-
- 6** From the System View Main Menu bar, click on the shelf, then right-click on the port identified by the alarm.

Result: The View Cross-Connections Screen appears.

-
- 7** Note the **Source (Src)** value for the suspect fabric side where the **Destination (Dest)** value equals the AID value of the alarmed port. The **Source** value is the input port cross-connected to the alarmed output port for the suspect fabric side. This **Source** value will be referred to as the **source port** throughout the rest of the procedure. Click **Close** at the bottom of the window.

-
- 8** Select **View>View Equipment Details** on the System View Main Menu bar.

Result: The View Equipment Details Screen appears.

-
- 9** Select the source port.

Result: The View Och Port Details for och-x-x-x Screen appears.

-
- 10** Note the **Input SWIP Association** for the suspect fabric side. This SWIP will be referred to as the **input SWIP** throughout the rest of the procedure. If a transparent port is involved, also note the **Interface Format** and **Interface Optics**.

| IF... | THEN... |
|--|---|
| the suspect fabric side is SWMG-0, in the case of a LambdaRouter 128 | the input SWIP equals the Input SWIP Association - Fabric 0 value. |
| the suspect fabric side is SWS-0, in the case of a LambdaRouter 256 | the input SWIP equals the Input SWIP Association - Fabric 0 value. |
| the suspect fabric side is SWMG-1, in the case of a LambdaRouter 128 | the input SWIP equals the Input SWIP Association - Fabric 1 value. |
| the suspect fabric side is SWS-1, in the case of a LambdaRouter 256 | the input SWIP equals the input SWIP Association - Fabric 1 value. |

-
- 11** Go to “SE 213-2: Checking condition of HVDAC circuit packs and cables” (8-63).

ND OF STEPS

SE 213-2: Checking condition of HVDAC circuit packs and cables

Use the following steps to check the condition of the HVDAC circuit packs identified by the WaveStar CIT Alarm List and the HVDAC cables.

- 1 Verify that the HVDAC circuit pack associated with the input SWIP has no visible damage and is correctly inserted in its slot. The HVDAC circuit pack is located in the High-Voltage Shelf (HVS) directly above the suspect fabric side. The association of the SWIP to an HVDAC circuit pack is shown in “SE-213-8: SWIP Association to HVDAC Circuit Pack Table” (8-97).

| IF... | THEN... |
|---|--|
| the HVDAC circuit pack associated with the input SWIP has visible damage | remove the HVDAC circuit pack and insert a spare using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the input SWIP is not correctly inserted in its slot | remove the HVDAC circuit pack and insert the same circuit pack using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the input SWIP has no visible damage and is correctly inserted in its slot | no action is necessary. Continue to the next step. |

- 2 Check the Alarm List to determine if an HVDAC High-Voltage Cable Fault (CONTCOM) alarm exists for the HVDAC cable associated with the input SWIP. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|----------------------------|
| the Alarm List does not display an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the input SWIP | continue to the next step. |

| IF... | THEN... |
|--|---|
| the Alarm List displays an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the input SWIP | clear the alarm condition by going to “Task 203: Clearing HVDAC High-Voltage Cable Disconnect (CONTCOM)” (8-13). Continue to the next step. |

- 3 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same output port loss of signal alarm | the alarm condition has not cleared. Continue to the next step. |

- 4 Determine the association of output SWIP to HVDAC circuit pack. Go to “SE-213-8: SWIP Association to HVDAC Circuit Pack Table (continued)” (8-98)

| IF... | THEN.... |
|--|--|
| the output SWIP is controlled by the same HVDAC circuit pack as the input SWIP | continue to “SE 213-3: Cleaning fiber connectors and replacing circuit packs and SWIPs” (8-67). |
| the output SWIP is not controller by the same HVDAC circuit pack as the input SWIP | there may be a problem with the HVDAC circuit pack associated with the output SWIP. Continue to the next step. |

- 5 Verify that the HVDAC circuit pack associated with the output SWIP has no visible damage and is correctly inserted in its slot.

| IF... | THEN... |
|--|--|
| the HVDAC circuit pack associated with the output SWIP has visible damage | remove the HVDAC circuit pack and insert a spare using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the output SWIP is not correctly inserted in its slot | remove the HVDAC circuit pack and insert the same circuit pack using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the output SWIP has no visible damage and is correctly inserted in its slot | no action is necessary. Continue to the next step. |

- 6 Check the Alarm List to determine if an HVDAC High-Voltage Cable Fault (CONTCOM) alarm exists for the HVDAC cable associated with the output SWIP. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the output SWIP | continue to the next step. |
| the Alarm List displays an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the output SWIP | clear the alarm condition by going to “Task 203: Clearing HVDAC High-Voltage Cable Disconnect (CONTCOM)” (8-13) Continue to the next step. |

-
- 7** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List does display the same output port loss of signal alarm | the alarm condition has not cleared. Go to “SE 213-3: Cleaning fiber connectors and replacing circuit packs and SWIPs” (8-67). |

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SE 213-3: Cleaning fiber connectors and replacing circuit packs and SWIPs

Use the following steps to clean the FDP connectors.

.....

1 Locate the input SWIP connector on the suspect fabric side at the FDP. Detach and clean the optical fiber connector at the input SWIP location at the FDP. Go to “Task 401: Cleaning LC and MPX Connectors” (10-8). Attach a white dust cover to the input SWIP.

.....

2 Attach the fiber to an optical power meter. Look up the value of the **Signal Level, End of Input SWIP Cable, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values noted in Step 10 of “SE 213-1: Determining ports and SWIPs involved with single-sided output port LOS alarm” (8-59).

.....

3

| IF... | THEN... |
|--|---|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | a signal is present at the input SWIP. Continue to Step 12. |

.....

4 Clean the connectors at the input port for the suspect fabric side.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

-
- 5 At the optical power meter, check the power level at the input port backplane.

| IF... | THEN... |
|--|---|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | a signal is present at the input port backplane. The input port to input SWIP cable is faulty. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 6 Replace the Port Unit containing the **source port** with a spare Port Unit. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

-
- 7 Take another reading of the input SWIP fiber with the optical power meter at the input port backplane.

| IF... | THEN... |
|--|----------------------------|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to Step 9. |

- 8 At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List displays an incoming loss of signal (LOS) alarm against the source port | the source input port on the old circuit pack was erroneously detecting signal. Clean and reattach cables. <i>Stop! End of Task.</i> Reference: “Task 401: Cleaning LC and MPX Connectors” (10-2) |
| the Alarm List does not display an incoming loss of signal (LOS) alarm against the source port | there is a possible backplane or cabling problem. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 9 Detach the optical power meter from the input port backplane. Clean and reattach the connector to the input port backplane that it was detached from in Step 4.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

- 10 Attach the fiber from the input SWIP to the optical power meter. Check the power level.

11

| IF... | THEN... |
|--|---|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | the input port to input SWIP cable is faulty. Contact Lucent Technical Support <i>Stop! End of Task.</i> |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |

-
- 12** Detach the optical power meter, clean the input SWIP connector, and reattach it to the input SWIP.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

.....

- 13** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same output port loss of signal alarm | the output SWIP cable optical connector may be dirty. Continue to the next step. |

.....

- 14** Locate the output SWIP on the suspect fabric side at the FDP. Detach and clean the optical fiber connected to the output SWIP. Go to “Task 401: Cleaning LC and MPX Connectors” (10-8). Attach a dust cap to the end of the fiber.
-

- 15** Attach the optical power meter to the output SWIP. Look up the value of the **Signal Level, Output SWIP, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values of noted in Step 15 of “SE 213-1: Determining ports and SWIPs involved with single-sided output port LOS alarm” (8-59).

| IF... | THEN... |
|---|--|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | continue to Step 23. |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | a signal is present at the output SWIP. Continue to the next step. |

-
- 16** Detach the optical power meter from the output SWIP, clean the connector, and reattach the optical fiber to the output SWIP.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

- 17** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same output port loss of signal alarm | the alarm condition has not cleared. Continue to the next step. |

- 18** Clean the connectors at the output port circuit pack at the backplane.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

- 19** Attach the optical power meter to the end of the output SWIP to output port cable at the output port backplane. Check the power level.

| IF... | THEN... |
|---|---|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | the output SWIP to output port cable is faulty. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | detach the optical power meter, clean the connector, and reattach the optical cable to the output port backplane. Continue to the next step. Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8) |

-
- 20** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|---|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same output port loss of signal alarm | continue to the next step. |

-
- 21** Replace the Port Unit containing the **alarmed** port with a spare Port Unit. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

-
- 22** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List does display the same output port loss of signal alarm | there is a possible backplane or cabling problem. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 23** From the System View, click on the SWS, then the fabric side where the output SWIP to be disassociated is located.

Result: The SWIP Display Screen appears.

-
- 24** Right-click on the output SWIP and select **Disassociate SWIP** from the pop-up menu.

Result: The Replacement SWIP Selection Screen appears.

- 25** Select a SWIP AID in the Replacement SWIP field.

| IF... | THEN... |
|--------------------------------------|---|
| no spare SWIPs are available | click Close at the bottom of the window. Perform “Task 215: Clearing Switch Interface Point Suspect (CTNEQPT)” (8-102) procedure on suspect output SWIPs on the suspect fabric side until the procedure produces a functioning spare output SWIP. When that procedure has been successfully completed, return to the previous step. If there are no functioning spare output SWIPs after all suspect output SWIPs have been cleared, contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| at least one spare SWIP is available | Go to “Task 400: Assigning and Cabling a Spare SWIP to a Port” (10-3) to select the appropriate spare SWIP. Continue to the next step. |

-
- 26** Click **Apply**, then click **Yes** to confirm the action.

Result: A Switch Interface Point Suspect alarm will occur against the original output SWIP.

The output SWIP is referred to as the **original output SWIP** and the spare output SWIP is referred to as the **output SWIP** throughout the rest of the procedure.

- 27** Click **Close** at the bottom of the window after the confirmation box closes.

.....

28 Detach the optical fiber, if necessary, from the original output SWIP. Terminate the original output SWIP with a white dust cover with a yellow label.

.....

29 Attach the optical power meter to the output SWIP at the FDP. Look up the value of the **Signal Level, Output SWIP, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values of noted in Step 10 of “SE 213-1: Determining ports and SWIPs involved with single-sided output port LOS alarm” (8-59).

| IF... | THEN... |
|---|--|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | continue to next step. |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | a signal is present at the output SWIP. Return to Step 16. |

.....

30 From the System View, click on the SWS, then the fabric side where the input SWIP to be disassociated is located.

Result: The SWIP Display Screen appears.

.....

31 Right-click on the input SWIP and select **Disassociate SWIP** from the pop-up menu.

Result: The Replacement SWIP Selection Screen appears.

32 Select a SWIP AID in the Replacement SWIP field.

| IF... | THEN... |
|--------------------------------------|--|
| no spare SWIPs are available | <p>click Close at the bottom of the window. Perform the “Task 215: Clearing Switch Interface Point Suspect (CTNEQPT)” (8-102) procedure on suspect input SWIPs on the suspect fabric side until the procedure produces a functioning spare input SWIP. When that procedure has been successfully completed, return to the previous step.</p> <p>If there are no functioning spare input SWIPs after all suspect input SWIPs have been cleared, contact Lucent Technical Support.</p> <p><i>Stop! End of Task.</i></p> |
| at least one spare SWIP is available | Go to “Task 400: Assigning and Cabling a Spare SWIP to a Port” (10-3) to select the appropriate spare SWIP. Continue to the next step. |

33 Click **Apply**, then click **Yes** to confirm your action.

Result: A Switch Interface Point Suspect alarm occurs against the original input SWIP.

The input SWIP is referred to as the **original input SWIP** and the spare input SWIP is referred to as the **input SWIP** throughout the rest of the procedure.

34 Click **Close** at the bottom of the window after the confirmation box closes.

35 Detach the optical fiber from the original input SWIP. Terminate the original input SWIP with a white dust cover with a yellow label.

36 First clean then connect the optical fiber to the input SWIP (spare).

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

37 Attach the optical power meter to the output SWIP at the FDP. Look up the value of the **Signal Level, Output SWIP, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values of noted in Step 10 of “SE 213-1: Determining ports and SWIPs involved with single-sided output port LOS alarm” (8-59).

| IF... | THEN... |
|---|--|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | continue to Step 23 only once. If the power level is still too low, contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | a signal is present at the output SWIP. Return to Step 16. |

ND OF STEPS

SE 213-4: Determining ports and SWIPs involved with double-sided output port LOS alarm

Important! When modifying port-to-SWIP associations, some SWIPs will move to the alarmed Suspect state.

Use the steps below to determine the following for the input and output ports:

- Access Identifiers (AIDs)
- Port types
- Interface Formats (IFMTs) and Interface Optics (IOPTs), if necessary
- Associated SWIPs

- 1** Determine the Access Identifier (AID) of the Loss of Signal alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

- 2** Select **View>View Equipment Details** on the System View Main Menu bar.

Result: The View Equipment Details Screen appears.

- 3** Select the port identified by the alarm.

Result: The View Och Port Details Screen appears populated with input port information. To view output port details, click on the Output Port tab.

- 4** Note the value of the **active** and the **suspect fabric side** fields as follows:

| IF... | THEN... |
|--|--|
| the Side 0 Status field is equal to Detection of Service (DOS) and the Side 1 Status field is equal to LOS | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

| IF... | THEN... |
|---|---|
| the Side 0 Status field is equal to LOS and the Side 1 Status field is equal to DOS | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |
| the Side 0 Status field and the Side 1 Status field are equal to LOS | a double-sided LOS condition exists. In the case of LambdaRouter 128, the SWMG-0 will be known as the active fabric side and SWMG-1 as the suspect fabric side throughout this procedure. In the case of LambdaRouter 256, SWS-0 will be known as the active fabric side and SWS-1 as the suspect fabric side throughout this procedure. Continue to the next step. |
| the Side 0 Status field and the Side 1 Status field are equal to DOS | the condition has cleared. At the Wavestar CIT System View, select Fault>NE Alarm List from the Main Menu bar. If the Alarm List displays the output port loss of signal alarm, contact Lucent Technical Support. <i>Stop! End of Task.</i> |

5 Note the **Output SWIP Association-Fabric 1**. This SWIP will be referred to as the **output SWIP** throughout the rest of the procedure.

6 From the System View Main Menu bar, click on the shelf, then right-click on the port identified by the alarm.

Result: The View Cross-Connections Screen appears.

7 Note the **Source (Src)** value for the suspect fabric side where the **Destination (Dest)** value equals the AID value of the alarmed port. The **Source** value is the input port cross-connected to the alarmed output port for the suspect fabric side. This **Source** value will be referred to as the **source port** throughout the rest of the procedure. Click **Close** at the bottom of the window.

-
- 8** Select **View>View Equipment Details** on the System View Main Menu bar.

Result: The View Equipment Details Screen appears.

- 9** Select the source port.

Result: The View Och Port Details for och-x-x-x Screen appears.

- 10** Note the **Input SWIP Association-Fabric 1**. This SWIP will be referred to as the **input SWIP** throughout the rest of the procedure. If a transparent port is involved, also note the **Interface Format** and **Interface Optics**.
-

- 11** Go to “SE 213-5: Checking Condition of HVDAC Circuit Packs and Cables” (8-80).

.....
N D O F S T E P S
.....

SE 213-5: Checking Condition of HVDAC Circuit Packs and Cables

Use the following steps to check the condition of the HVDAC circuit packs identified by the WaveStar CIT Alarm List and the HVDAC cables.

- 1 Verify that the HVDAC circuit pack associated with the input SWIP has no visible damage and is correctly inserted in its slot. The HVDAC circuit pack is located in the High-Voltage Shelf (HVS) directly above the suspect fabric side. The association of the SWIP to an HVDAC circuit pack is shown in “SE-213-8: SWIP Association to HVDAC Circuit Pack Table” (8-97).

| IF... | THEN... |
|---|--|
| the HVDAC circuit pack associated with the input SWIP has visible damage | remove the HVDAC circuit pack and insert a spare using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the input SWIP is not correctly inserted in its slot | remove the HVDAC circuit pack and insert the same circuit pack using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the input SWIP has no visible damage and is correctly inserted in its slot | no action is necessary. Continue to the next step. |

- 2 Check the Alarm List to determine if an HVDAC High-Voltage Cable Fault (CONTCOM) alarm exists for the HVDAC cable associated with the input SWIP. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|----------------------------|
| the Alarm List does not display an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the input SWIP | continue to the next step. |

| IF... | THEN... |
|--|---|
| the Alarm List displays an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the input SWIP | clear the alarm condition by going to “Task 203: Clearing HVDAC High-Voltage Cable Disconnect (CONTCOM)” (8-13). Continue to the next step. |

- 3 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same critical output port loss of signal alarm | the alarm condition has not cleared. Continue to the next step. |
| the Alarm List displays a minor output port loss of signal alarm | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

- 4 Determine the association of output SWIP to HVDAC circuit pack. Go to “SE-213-8: SWIP Association to HVDAC Circuit Pack Table (continued)” (8-98)

| IF... | THEN.... |
|--|--|
| the output SWIP is controlled by the same HVDAC circuit pack as the input SWIP | continue to “SE 213-6: Cleaning fiber connectors and replacing circuit packs and SWIPs” (8-84). |
| the output SWIP is not controller by the same HVDAC circuit pack as the input SWIP | there may be a problem with the HVDAC circuit pack associated with the output SWIP. Continue to the next step. |

- 5 Verify that the HVDAC circuit pack associated with the output SWIP has no visible damage and is correctly inserted in its slot.

| IF... | THEN... |
|--|--|
| the HVDAC circuit pack associated with the output SWIP has visible damage | remove the HVDAC circuit pack and insert a spare using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the output SWIP is not correctly inserted in its slot | remove the HVDAC circuit pack and insert the same circuit pack using “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). |
| the HVDAC circuit pack associated with the output SWIP has no visible damage and is correctly inserted in its slot | no action is necessary. Continue to the next step. |

- 6 Check the Alarm List to determine if an HVDAC High-Voltage Cable Fault (CONTCOM) alarm exists for the HVDAC cable associated with the output SWIP. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|--|
| the Alarm List does not display an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the output SWIP | continue to the next step. |
| the Alarm List displays an HVDAC High-Voltage Cable Fault (CONTCOM) alarm for the HVDAC cable associated with the output SWIP | clear the alarm condition by going to “Task 203: Clearing HVDAC High-Voltage Cable Disconnect (CONTCOM)” (8-13) Continue to the next step. |

- 7 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List does display the same critical output port loss of signal alarm | the alarm condition has not cleared. Go to “SE 213-6: Cleaning fiber connectors and replacing circuit packs and SWIPs” (8-84). |
| the Alarm List displays a minor output port loss of signal alarm | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

ND OF STEPS

SE 213-6: Cleaning fiber connectors and replacing circuit packs and SWIPs

Use the following steps to clean the FDP connectors.

.....

1 Locate the input SWIP connector on the suspect fabric side at the FDP. Detach and clean the optical fiber connector at the input SWIP location at the FDP. Go to “Task 401: Cleaning LC and MPX Connectors” (10-8). Attach a white dust cover to the input SWIP.

.....

2 Attach the fiber to an optical power meter. Look up the value of the **Signal Level, End of Input SWIP Cable, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values noted in Step 10 of “SE 213-4: Determining ports and SWIPs involved with double-sided output port LOS alarm” (8-77).

.....

3

| IF... | THEN... |
|--|---|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | a signal is present at the input SWIP. Continue to Step 12. |

.....

4 Clean the connectors at the input port for the suspect fabric side.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

-
- 5 At the optical power meter, check the power level at the input port backplane.

| IF... | THEN... |
|--|---|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | a signal is present at the input port backplane. The input port to input SWIP cable is faulty. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 6 Replace the Port Unit containing the **source port** with a spare Port Unit. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

-
- 7 Take another reading of the input SWIP fiber with the optical power meter at the input port backplane.

| IF... | THEN... |
|--|----------------------------|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to Step 10. |

- 8 At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|---|
| the Alarm List displays an incoming loss of signal (LOS) alarm against the source port | the source input port on the old circuit pack was erroneously detecting signal. Clean and reattach cables at both ends. Continue to the next step. Reference: “Task 401: Cleaning LC and MPX Connectors” (10-2) |
| the Alarm List does not display an incoming loss of signal (LOS) alarm against the source port | there is a possible backplane or cabling problem. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 9 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same critical output port loss of signal alarm | Contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the Alarm List displays a minor output port loss of signal alarm | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

- 10 Detach the optical power meter from the input port backplane. Clean and reattach the connector to the input port backplane that it was detached from in Step 4.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

11 Attach the fiber from the input SWIP to the optical power meter. Check the power level.

12

| IF... | THEN... |
|--|---|
| the optical power meter detects a power level less than or equal to the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | the input port to input SWIP cable is faulty. Contact Lucent Technical Support <i>Stop! End of Task.</i> |
| the optical power meter detects a power level greater than the Signal Level, End of Input SWIP Cable, dBm value determined in Step 2 | continue to the next step. |

13 Detach the optical power meter, clean the input SWIP connector, and reattach it to the input SWIP.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

14 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same critical output port loss of signal alarm | the output SWIP cable optical connector may be dirty. Continue to the next step. |
| the Alarm List displays a minor output port loss of signal alarm | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

-
- 15** Locate the output SWIP on the suspect fabric side at the FDP. Detach and clean the optical fiber connected to the output SWIP. Go to “Task 401: Cleaning LC and MPX Connectors” (10-8). Attach a dust cap to the end of the fiber.
-

- 16** Attach the optical power meter to the output SWIP. Look up the value of the **Signal Level, Output SWIP, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values of noted in Step 10 of “SE 213-4: Determining ports and SWIPs involved with double-sided output port LOS alarm” (8-77).

| IF... | THEN... |
|---|--|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | continue to Step 24. |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | a signal is present at the output SWIP. Continue to the next step. |

-
- 17** Detach the optical power meter from the output SWIP, clean the connector, and reattach the optical fiber to the output SWIP.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

.....

- 18** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|---|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same critical output port loss of signal alarm | the alarm condition has not cleared. Continue to the next step. |

| IF... | THEN... |
|--|--|
| the Alarm List displays a minor output port loss of signal alarm | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

- 19 Clean the connectors at the output port circuit pack at the backplane.
Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

- 20 Attach the optical power meter to the end of the output SWIP to output port cable at the output port backplane. Check the power level.

| IF... | THEN... |
|---|---|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | the output SWIP to output port cable is faulty. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | detach the optical power meter, clean the connector, and reattach the optical cable to the output port backplane. Continue to the next step. Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8) |

- 21 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|---|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same critical output port loss of signal alarm | the alarm condition has not cleared. Continue to the next step. |

| IF... | THEN... |
|--|--|
| the Alarm List displays a minor output port loss of signal alarm | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

-
- 22** Replace the Port Unit containing the **alarmed** port with a spare Port Unit. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

-
- 23** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same output port loss of signal alarm | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same critical output port loss of signal alarm | there is a possible backplane or cabling problem. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the Alarm List displays a minor output port loss of signal alarm | a single-sided LOS condition exists. Clear the condition by performing SE 213-1 through SE 213-3. <i>Stop! End of Task.</i> |

-
- 24** From the System View, click on the SWS, then the fabric side where the output SWIP to be disassociated is located.

Result: The SWIP Display Screen appears.

-
- 25** Right-click on the output SWIP and select **Disassociate SWIP** from the pop-up menu.

Result: The Replacement SWIP Selection Screen appears.

26 Select a SWIP AID in the Replacement SWIP field.

| IF... | THEN... |
|--------------------------------------|--|
| no spare SWIPs are available | <p>click Close at the bottom of the window. Perform “Task 215: Clearing Switch Interface Point Suspect (CTNEQPT)” (8-102) procedure on suspect output SWIPs on the suspect fabric side until the procedure produces a functioning spare output SWIP. When that procedure has been successfully completed, return to the previous step.</p> <p>If there are no functioning spare output SWIPs after all suspect output SWIPs have been cleared, contact Lucent Technical Support.</p> <p><i>Stop! End of Task.</i></p> |
| at least one spare SWIP is available | Go to “Task 400: Assigning and Cabling a Spare SWIP to a Port” (10-3) to select the appropriate spare SWIP. Continue to the next step. |

27 Click **Apply**, then click **Yes** to confirm the action.

Result: A Switch Interface Point Suspect alarm will occur against the original output SWIP.

The output SWIP is referred to as the **original output SWIP** and the spare output SWIP is referred to as the **output SWIP** throughout the rest of the procedure.

28 Click **Close** at the bottom of the window after the confirmation box closes.

29 Detach the optical fiber, if necessary, from the original output SWIP. Terminate the original output SWIP with a white dust cover with a yellow label.

-
- 30** Attach the optical power meter to the output SWIP at the FDP. Look up the value of the **Signal Level, Output SWIP, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values of noted in Step 10 of “SE 213-4: Determining ports and SWIPs involved with double-sided output port LOS alarm” (8-77).

| IF... | THEN... |
|---|--|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | continue to the next step. |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | a signal is present at the output SWIP. Return to Step 17. |

-
- 31** From the System View, click on the SWS, then the fabric side where the input SWIP to be disassociated is located.

Result: The SWIP Display Screen appears.

-
- 32** Right-click on the input SWIP and select **Disassociate SWIP** from the pop-up menu.

Result: The Replacement SWIP Selection Screen appears.

33 Select a SWIP AID in the Replacement SWIP field.

| IF... | THEN... |
|--------------------------------------|--|
| no spare SWIPs are available | <p>click Close at the bottom of the window. Perform the “Task 215: Clearing Switch Interface Point Suspect (CTNEQPT)” (8-102) procedure on suspect input SWIPs on the suspect fabric side until the procedure produces a functioning spare input SWIP. When that procedure has been successfully completed, return to the previous step.</p> <p>If there are no functioning spare input SWIPs after all suspect input SWIPs have been cleared, contact Lucent Technical Support.</p> <p><i>Stop! End of Task.</i></p> |
| at least one spare SWIP is available | Go to “Task 400: Assigning and Cabling a Spare SWIP to a Port” (10-3) to select the appropriate spare SWIP. Continue to the next step. |

34 Click **Apply**, then click **Yes** to confirm your action.

Result: A Switch Interface Point Suspect alarm occurs against the original input SWIP.

The input SWIP is referred to as the **original input SWIP** and the spare input SWIP is referred to as the **input SWIP** throughout the rest of the procedure.

35 Click **Close** at the bottom of the window after the confirmation box closes.

36 Detach the optical fiber from the original input SWIP. Terminate the original input SWIP with a white dust cover with a yellow label.

37 First clean then connect the optical fiber to the input SWIP (spare).

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

38 Attach the optical power meter to the output SWIP at the FDP. Look up the value of the **Signal Level, Output SWIP, dBm** in “SE 213-7: Interface Formats, Optics, and Associated Power Levels Table” (8-95) that corresponds to the values of noted in Step 10 of “SE 213-4: Determining ports and SWIPs involved with double-sided output port LOS alarm” (8-77).

| IF... | THEN... |
|---|---|
| the optical power meter detects a power level less than or equal to the Signal Level, Output SWIP, dBm value | continue to Step 24 only once. If this point is reached again, contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the optical power meter detects a power level greater than the Signal Level, Output SWIP, dBm value | a signal is present at the output SWIP. Return to Step 17. |

ND OF STEPS

SE 213-7: Interface Formats, Optics, and Associated Power Levels Table

After determining the Interface Format (IFMT) and the Interface Optics (IOPT), use the information in the table below to ascertain the minimum levels of signals expected at the end of the input SWIP cable and at the output SWIP.

| Input Port IFMT | Input Port IOPT | Signal Level, End of Input SWIP Cable, dBm | Signal Level, Output SWIP, dBm |
|-------------------|-----------------|--|--------------------------------|
| OC-48/ STM-16 | SR | -16 | -20 |
| | IR | -11 | -15 |
| | LR | -8 | -16 |
| | Other | -16 | -16 |
| OC-192/ STM-64 | VSR12 | -7 | -11 |
| | SR | -12 | -16 |
| | IR | -7 | -11 |
| | LR | -8 | 12 |
| | Other | -16 | -20 |
| Other | Other | -16 | -20 |
| LSBB | LR | -9 | -13 |
| | Other | -16 | -20 |
| HSBB | LR | -7 | -11 |
| | GBELX | -17 | -21 |
| | Other | -10 | -14 |

Abbreviations for IOPT and IFMT used in the table above are defined below

- GBELX—Gigabit Ethernet
- HSBB—High-Speed Broad Band
- IR—Intermediate Reach
- LSBB—Low Speed Broad Band
- LR—Long Reach
- SR—Short Reach
- VSR12—Very Short Reach with 12 dB budget

If the input port is on an Optical-Electrical-Optical (OEO) port unit, use the information in the table below to ascertain the minimum levels of

signals expected at the end of the input SWIP cable and at the output SWIP.

| Input Port Type | Signal Level at End of Input SWIP Cable, dBm | Signal Level, Output SWIP, dBm |
|------------------------|---|---------------------------------------|
| OXI-10GC | -5 | -9 |
| OXI-2GC | -9 | -13 |

**SE-213-8: SWIP
Association to HVDAC
Circuit Pack Table**



| HVDAC Circuit Pack Number | | | | | | | |
|----------------------------------|----------|----------|----------|----------|----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A7-13 | A7-14 | A7-15 | A7-16 | A8-13 | A8-14 | A8-15 | A8-16 |
| A7-9 | A7-10 | A7-11 | A7-12 | A8-9 | A8-10 | A8-11 | A8-12 |
| A7-5 | A7-6 | A7-7 | A7-8 | A8-5 | A8-6 | A8-7 | A8-8 |
| A7-1 | A7-2 | A7-3 | A7-4 | A8-1 | A8-2 | A8-3 | A8-4 |
| A5-13 | A5-14 | A5-15 | A5-16 | A6-13 | A6-14 | A6-15 | A6-16 |
| A5-9 | A5-10 | A5-11 | A5-12 | A6-9 | A6-10 | A6-11 | A6-12 |
| A5-5 | A5-6 | A5-7 | A5-8 | A6-5 | A6-6 | A6-7 | A6-8 |
| A5-1 | A5-2 | A5-3 | A5-4 | A6-1 | A6-2 | A6-3 | A6-4 |
| A3-13 | A3-14 | A3-15 | A3-16 | A4-13 | A4-14 | A4-15 | A4-16 |
| A3-9 | A3-10 | A3-11 | A3-12 | A4-9 | A4-10 | A4-11 | A4-12 |
| A3-5 | A3-6 | A3-7 | A3-8 | A4-5 | A4-6 | A4-7 | A4-8 |
| A3-1 | A3-2 | A3-3 | A3-4 | A4-1 | A4-2 | A4-3 | A4-4 |
| A1-13 | A1-14 | A1-15 | A1-16 | A2-13 | A2-14 | A2-15 | A2-16 |
| A1-9 | A1-10 | A1-11 | A1-12 | A2-9 | A2-10 | A2-11 | A2-12 |
| A1-5 | A1-6 | A1-7 | A1-8 | A2-5 | A2-6 | A2-7 | A2-8 |
| A1-1 | A1-2 | A1-3 | A1-4 | A2-1 | A2-2 | A2-3 | A2-4 |

**SE-213-8: SWIP
Association to HVDAC
Circuit Pack Table
(continued)**

| HVDAC Circuit Pack Number | | | | | | | |
|----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| B8-16 | B8-15 | B8-14 | B8-13 | B7-16 | B7-15 | B7-14 | B7-13 |
| B8-12 | B8-11 | B8-10 | B8-9 | B7-12 | B7-11 | B7-10 | B7-9 |
| B8-8 | B8-7 | B8-6 | B8-5 | B7-8 | B7-7 | B7-6 | B7-5 |
| B8-4 | B8-3 | B8-2 | B8-1 | B7-4 | B7-3 | B7-2 | B7-1 |
| B6-16 | B6-15 | B6-14 | B6-13 | B5-16 | B5-15 | B5-14 | B5-13 |
| B6-12 | B6-11 | B6-10 | B6-9 | B5-12 | B5-11 | B5-10 | B5-9 |
| B6-8 | B6-7 | B6-6 | B6-5 | B5-8 | B5-7 | B5-6 | B5-5 |
| B6-4 | B6-3 | B6-2 | B6-1 | B5-4 | B5-3 | B5-2 | B5-1 |
| B4-16 | B4-15 | B4-14 | B4-13 | B3-16 | B3-15 | B3-14 | B3-13 |
| B4-12 | B4-11 | B4-10 | B4-9 | B3-12 | B3-11 | B3-10 | B3-9 |
| B4-8 | B4-7 | B4-6 | B4-5 | B3-8 | B3-7 | B3-6 | B3-5 |
| B4-4 | B4-3 | B4-2 | B4-1 | B3-4 | B3-3 | B3-2 | B3-1 |
| B2-16 | B2-15 | B2-14 | B2-13 | B1-16 | B1-15 | B1-14 | B1-13 |
| B2-12 | B2-11 | B2-10 | B2-9 | B1-12 | B1-11 | B1-10 | B1-9 |
| B2-8 | B2-7 | B2-6 | B2-5 | B1-8 | B1-7 | B1-6 | B1-5 |
| B2-4 | B2-3 | B2-2 | B2-1 | B1-4 | B1-3 | B1-2 | B1-1 |

Task 214: Clearing Output Port Fail to Switch (FAILTOSW)

Purpose Use this procedure to clear an output port selector protection switch failure condition. This alarm message indicates that the output port selector failed to switch as requested by a forced protection switch command. This condition suggests a possible malfunction in the fabric selection mechanism on the Port Unit (or Optical Cross-Connect Interface circuit pack).

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element with a Privilege Code of M, S2, and P3 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45)

Task Complete the following steps to clear an output port selector protection switch failure condition.

-
- 1 Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the WaveStar CIT System View, select **Fault>NE**

Alarm List from the Main Menu bar.

Result: This lists all the WaveStar LambdaRouter 128/256 current alarms. The AID provides the shelf, slot, and port location of the failure.

2 Select **Fault>Protection Switch** on the System View Main Menu bar.

Result: The Switch Protection Screen appears.

3 Select the faulty port.

Result: The details for the selected OCH port appear on the screen.

4 Verify the Active Switch Port field.

| IF... | THEN... |
|-----------------------------|---|
| the Active Switch Port is 0 | select Forced Switch to Side 1 for the Switch Type field. |
| the Active Switch Port is 1 | select Forced Switch to Side 0 for the Switch Type field. |

5 Click **Apply**, then click **Yes** to confirm the action.

6 Re-verify the Active Switch Input field.

| IF... | THEN... |
|--|---|
| the Active Switch Input did not change from Step 4 | the Port Unit may be faulty. Replace the Port Unit. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). Continue to Step 9. |
| the Active Switch Input did change from Step 4 | click Clear to release the protection switch. Return to Step 4. If Step 4 executes properly two times consecutively, then the switch is no longer malfunctioning. |

.....

7 Click **Clear** to release the forced switch.

.....

8 Click **Close** at the bottom of the window.

.....

9 Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|-----------------------------------|
| the Alarm List does not display the same output port selector protection switch failure alarm message | the alarm condition has cleared. |
| the same output port selector protection switch failure alarm message is displayed | contact Lucent Technical Support. |

.....

N D O F S T E P S



Task 215: Clearing Switch Interface Point Suspect (CTNEQPT)

Purpose Use this procedure to clear a switch interface point suspect condition. This alarm message indicates that a Switch Interface Point (SWIP) that was previously associated with a port has been dissociated. The SWIP is now suspected of being faulty. Suspect SWIPs are those with Primary State of OOS-MA (Out Of Service - Management) and a Secondary State of MT (Maintenance) or a Secondary State of MT&BUSY.

Before you begin Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the network element with a Privilege Code of M1, P3, and S2 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.



WARNING

Unterminated optical connectors may emit invisible laser radiation. Eye damage may occur if beam is viewed directly or with improper optical instruments. Avoid direct exposure to beam.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task

Complete the following steps to clear a switch interface point suspect condition.

-
- 1 Determine the Access Identifier (AID) of the switch interface point (SWIP) suspect alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: This lists all the WaveStar LambdaRouter 128/256 current alarms. The AID provides the shelf, direction, and SWIP number of the failure.

-
- 2 Select **View>View Equipment Details** on the System View Main Menu bar.

Result: The View Equipment Details Screen appears.

-
- 3 Select the Switch Shelf (SWS) on which the suspect SWIP is located.

Result: The Switch Shelf Display appears.

4 Select **View>View Equipment Details**.

Result: The View Equipment Details Screen appears showing the details of the Switch Shelf.

5 Highlight the suspect SWIP and click **Select**.

Result: The SWIP Block Details for: SWIP XX Screen appears.

6 Determine the **Primary State** and **Secondary State** of the suspect SWIP.

| IF... | THEN... |
|--|---|
| the Primary State is OOS-MA and the Secondary State is MT or MT&BUSY | continue to the next step. |
| the Primary State is not OOS-MA or the Secondary State is not MT nor MT&BUSY | return to Step 4 only once. Be sure to select the correct alarmed suspect SWIP. If Step 4 has been repeated and the Primary State is still not OOS-MA or the Secondary State is still not MT nor MT&BUSY, then contact Lucent Technical Support. <i>Stop! End of Task.</i> |

7 Click **Close** at the bottom of the window.

8 At the Fiber Distribution Panel (FDP) of the Switch Shelf (SWS), verify that the alarmed SWIP has been marked as a suspect SWIP (a white LC dust cover with a yellow label is in place).

| IF... | THEN... |
|--|--|
| a white LC dust cover with a yellow label is attached at the SWIP | the correct plug is in place. Continue to Step 19. |

| IF... | THEN... |
|--|---|
| <p>a plain white LC dust cover (no yellow label) is attached at the SWIP</p> <p><i>or</i></p> <p>nothing is attached at the SWIP</p> <p><i>or</i></p> <p>the interface cap of the two-piece LC adapter is not attached at the SWIP</p> | <p>an incorrect SWIP could have been identified. Continue to the next step.</p> |
| <p>an optical fiber is attached at the SWIP</p> | <p>determine the SWIP associated with the optical fiber. Continue to Step 12.</p> |

-
- 9** Re-determine the Access Identifier (AID) of the switch interface port suspect alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.
-

- 10** Re-verify at the Fiber Distribution Panel of the SWS that the alarmed SWIP has been marked as a suspect SWIP (a white LC dust cover with a yellow label is in place).

| IF... | THEN... |
|--|---|
| <p>a white LC dust cover with a yellow label is attached at the SWIP</p> | <p>the correct plug is in place. Continue to Step 19.</p> |
| <p>a plain white LC dust cover (no yellow label) is attached at the SWIP</p> | <p>attach a yellow label to the white dust cover. Continue to Step 19.</p> |
| <p>nothing is attached at the SWIP</p> | <p>attach a white LC dust cover with a yellow label at the SWIP. Continue to Step 19.</p> |
| <p>the interface cap of the two-piece LC adapter is not attached at the SWIP</p> | <p>attach a cap to the LC adapter and then attach a white LC dust cover with a yellow label at the SWIP. Continue to Step 19.</p> |
| <p>an optical fiber is attached at the SWIP</p> | <p>determine the SWIP associated with the optical fiber. Continue to the next step.</p> |

11

| IF... | THEN... |
|--|---|
| an Optical Interface Shelf - Transparent (OIS-T) is involved with this alarm condition | go to “SE 215-1: Tracing an MPX cable” (8-112). |
| an Optical Interface Shelf - SONET/SDH (OIS-S) is involved with this alarm condition | go to “SE 215-2: Tracing an SI cable” (8-113) |

12 Select **View>View Equipment Details** on the System View Main Menu bar.

Result: The View Equipment Details Screen appears.

13 Select the OCH port determined by Step 11.

Result: The View Och Port Details Screen appears.

14 Determine the value of the appropriate SWIP association for the appropriate direction of the port.

15 Note the value of the appropriate SWIP association for the appropriate direction of the port (determined by Step 11).

| IF... | THEN... |
|--|---|
| the port is an input port and the fiber is connected to SWS-0 | note the value of the Input SWIP Association - Fabric 0 field. |
| the port is an input port and the fiber is connected to SWS-1 | note the value of the Input SWIP Association - Fabric 1 field. |
| the port is an output port and the fiber is connected to SWS-0 | note the value of the Output SWIP Association - Fabric 0 field. |

| IF... | THEN... |
|--|---|
| the port is an output port and the fiber is connected to SWS-1 | note the value of the Output SWIP Association - Fabric 1 field. |

16 Click **Close** at the bottom of the window.

17 At the FDP, detach the fiber from the suspect SWIP and attach a white LC dust cover with a yellow label at the suspect SWIP.

18 Attach the fiber to the associated SWIP determined in Step 15. If there is no SWIP associated with the port, attach a dust cap to the end of the fiber and return it to the organizer bay.

19 Determine the AID for a second SWIP that is available for maintenance cross-connect by selecting **View>View Equipment Details** from the WaveStar CIT System View Main Menu bar.

Result: The View Equipment Details Screen appears.

20 Double-click the Switch Shelf (SWS) on which the suspect SWIP is located.

Result: The Shelf View Screen appears.

21 Select a candidate SWIP for a maintenance cross-connect. Look for an unequipped or spare SWIP, that is, a SWIP with a state of OOS-MA, UEQ. Unequipped SWIPs appear with a white circle. This candidate SWIP is referred to in the rest of this procedure as SWIP 2.

| IF... | THEN... |
|---|-------------------------------|
| the suspect SWIP (SWIP 1) is an input SWIP | SWIP 2 must be an output SWIP |
| the suspect SWIP (SWIP 1) is an output SWIP | SWIP 2 must be an input SWIP |

22 Right-click the candidate SWIP (SWIP 2) and select **View Details** from the pop-up menu. Verify that the Primary State is OOS-MA, UEQ.

23 Make note of the SWIP 2 AID.

24 Click **Close** at the bottom of the window.

25 From the WaveStar CIT System View, select **Fault>SWIP>Enter Maintenance Cross-Connection** and click **Select**.

Result: The Enter Maintenance Cross-Connection Screen appears.

26 Select the ingress SWIP block from the list on the left side of the screen.

Result: A pull-down menu for the Select SWIP field is populated with available SWIPs.

27 Select an ingress SWIP from the pull-down menu next to the Select SWIP field.

Result: The Egress SWIP Selection Block appears on the left of the screen.

28 Select an egress SWIP block.

Result: A pull-down menu for the Select SWIP field is populated with available SWIPs.

29 Select an egress SWIP from the pull-down menu.

30 Click **Apply**.

Result: A message appears advising that the request to enter a maintenance cross-connection completed successfully.

31

| IF... | THEN... |
|--|--|
| the suspect SWIP is an input SWIP (white SWIP label background) | connect an optical power source to the suspect input SWIP (SWIP 1) and an optical power meter to the spare output SWIP (SWIP 2). |
| the suspect SWIP is an output SWIP (blue SWIP label background) | connect an optical power source to the spare input SWIP (SWIP 2) and an optical power meter to the suspect output SWIP (SWIP 1). |

32 Turn on the optical power source and the optical power meter.

| IF... | THEN... |
|--|--|
| the detected value of the optical power loss is less than or equal to 4 dB | the suspect SWIP is functioning . Turn off the optical power source and disconnect it from the input SWIP and turn off the optical power meter and disconnect it from the output SWIP. Terminate both SWIPs with white LC dust covers. |
| the detected value of the optical power loss is greater than 4 dB | the suspect SWIP is faulty . Turn off the optical power source and disconnect it from the input SWIP and turn off the optical power meter and disconnect it from the output SWIP. Terminate the spare SWIP with a white LC dust cover. Remove the interface cap from the two-piece LC adapter at the suspect SWIP. |

33 From the WaveStar CIT System View, select **Fault>SWIP>Delete Maintenance Cross-Connection**.

Result: The Delete Maintenance Cross-Connection Screen appears.

34 Select the ingress SWIP block from the list on the left side of the screen.

Result: A pull-down menu for the Select SWIP field is populated with available SWIPs.

35 Select an ingress SWIP from the pull-down menu.

36 Click **Apply**.

Result: A message appears advising that the request to delete the maintenance cross-connection completed successfully.

37

| IF... | THEN... |
|--|--|
| the suspect SWIP is functioning | right click the suspect SWIP and select Provision SWIP from the pop-up menu. Then select UEQ for Secondary State. Result: The suspect SWIP becomes a spare SWIP. |
| the suspect SWIP is faulty | right click the suspect SWIP and select Provision SWIP from the pop-up menu. Then select FLT for Secondary State. Result: The suspect SWIP becomes a faulty SWIP. |

-
- 38** Check the Alarm List to determine if the condition cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|---|---|
| the Alarm List does not display the same switch interface point suspect alarm message | the alarm condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List displays the same switch interface point suspect alarm message | repeat Step 35 only once. If Step 35 has been repeated and the alarm still exists, contact Lucent Technical Support. <i>Stop! End of Task.</i> |

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N D O F S T E P S

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SE 215-1: Tracing an MPX cable

Use the following steps to trace an MPX cable from the FDP to the associated port.

.....

1 Observe the fiber jack color to determine input port (white) or output port (blue).

.....

2 Observe the color band on the yellow sheath at the SWIP connector.

.....

3 Trace the fiber as far as the appropriate fiber organizer side and look for the pertinent cable label for the group of fibers of which the fiber being traced is a member.

The MPX cable label is of the following format for the LambdaRouter 256: {0,1}-{A,B}-{1-32}. Where {0,1} refers to the switch shelf number, {A,B} refers to the organizer side, and {1-32} provides uniqueness. This scheme allows for 64 uniquely identified cables on each switch shelf. Note that the LambdaRouter 128 system has only one switch shelf, so the cable label format would be 0-{A,B}-{1-32}

.....

4 Locate the same cable label at the optical interface shelf by inspecting all yellow cable labels at each OIS-T until a match is found.

.....

5 Make note of the slot number, port and port direction. The slot number is determined by the label on the backplane where the MPX cable connects. The port number is derived from the color band at the FDP connector. The port direction is indicated by the fiber jacket color at the switch shelf, that is, white is input and blue is output.

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SE 215-2: Tracing an SI cable

Use the following steps to trace an SI cable from the FDP to the associated port.

-
- 1** Observe the short sheath at the SWIP connector to determine input port (white) or output port (blue).
-

- 2** Observe the fiber jacket color.

Reference: Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background” Task 215: Clearing Switch Interface Point Suspect (CTNEQPT) for background information.

- 3** Trace the fiber as far as the appropriate fiber organizer side and look for the pertinent cable label for the group of fibers of which the fiber being traced is a member.

The SI cable label is of the following format for the WaveStar LambdaRouter 256: {0,1}-{A,B}-{1-8}. Where {0,1} refers to the switch shelf number, {A,B} refers to the organizer side, and {1-8} provides uniqueness. This scheme allows for 16 uniquely identified cables on each switch shelf. Note that the WaveStar LambdaRouter 128 has only one switch shelf, so the cable label format would be 0-{A,B}-{1-8}

- 4** Locate the same cable label at the optical interface shelf by inspecting all yellow cable labels at each OIS-S until a match is found.
-

- 5** Make note of the slot number, port and port direction. The slot number and port are determined by the label on the backplane where the SI cable connects that matches the fiber jacket observed at the FDP connector. The port direction is indicated by the Sheath color at the switch shelf, that is, white is input and blue is output.

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9 Optical Channel Alarm Messages and Trouble-Clearing Tasks

Overview

Purpose This chapter includes trouble-clearing tasks for optical alarm messages.

Contents This chapter contains the following sections:

| | |
|--|----------------------|
| Task 300: Clearing Incoming AIS-L/AIS-MS (AIS-L) | 9-2 |
| Task 301: Clearing Incoming Loss of Frame (LOF) | 9-3 |
| Task 302: Clearing Incoming Loss of Signal (LOS) | 9-4 |
| Task 303: Clearing Incoming Loss of Signal (Optical) (LOS) | 9-10 |
| Task 304: Clearing Incoming Signal Degrade B2 (BER) | 9-17 |
| Task 305: Clearing Incoming Signal Fail B2 (EBER) | 9-18 |



Task 300: Clearing Incoming AIS-L/AIS-MS (AIS-L)

Purpose Use this procedure to clear an incoming loss of Alarm Indication Signal-Line (AIS-L)/Alarm Indication Signal-MS (AIS-MS) condition. This alarm message indicates that the incoming signal has valid SONET/SDH Section/Regenerator Section overhead and otherwise is composed of all ones.

Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an incoming loss of AIS-L condition.

-
- 1 The source of the alarm condition is not the WaveStar LambdaRouter 128/256.

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Task 301: Clearing Incoming Loss of Frame (LOF)

Purpose Use this procedure to clear an incoming loss of frame condition. This alarm message indicates that consecutive errored framing patterns have been detected.

Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an incoming loss of frame condition.

-
- 1** The source of the alarm condition is not the WaveStar LambdaRouter 128/256.

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Task 302: Clearing Incoming Loss of Signal (LOS)

Purpose Use this procedure to clear an incoming loss of signal (LOS) condition on a cross-connected OXI-10GC or OXI-2GC input port. This alarm message indicates that an all-zeros pattern was detected. An all-zeros pattern corresponds to no light pulses for OC-N/STM-N optical interfaces. This LOS condition is detected by the port SONET Framer.

Before beginning this task:

- Use the electrostatic discharge (ESD) strap.
- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the WaveStar LambdaRouter 128/256; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of M1 and S1 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



WARNING

Unterminated optical connectors may emit invisible laser radiation. Eye damage may occur if beam is viewed directly or

with improper optical instruments. Avoid direct exposure to beam.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task

Complete the following steps to clear an incoming loss of signal condition.

- 1 Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

- 2 Check the fiber connection at the port reported in the alarm message. Ensure that the connection is secure and not visibly damaged.

- 3 At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same LOS alarm message | the condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List still displays the same LOS alarm message | the alarm condition has not cleared. Continue to the next step. |

-
- 4 At the WaveStar CIT System View, select **View>View Equipment Details** from the Main Menu bar.

Result: The View Equipment Details Screen appears.

- 5 On the Equipment Selection Screen, select the port in question.

Result: The Och Port Details Screen appears.

Note the **Interface Format (IFMT)** and **Interface Optics (IOPT)** of the identified input port. Then determine the expected minimum power level for the identified input port. Go to “SE 303-1: Interface Formats, Optics, and Associated Power Levels Table” (9-15).

- 6 Disconnect the input fiber connector from the input port and connect it to the power meter.

| IF... | THEN... |
|---|---|
| the signal is less than the value determined in Step 5 | the fiber or connectors may need cleaning. Go to “Task 401: Cleaning LC and MPX Connectors” (10-2). |
| the signal is greater than the value determined in Step 5 | continue to Step 8. |

- 7 When the fiber and connectors are clean, connect the input fiber to the power meter again.

| IF... | THEN... |
|--|--|
| the signal is still less than the value determined in Step 5 | the source of the alarm condition is not the WaveStar LambdaRouter 128/256. <i>Stop! End of Task.</i> |
| the signal is greater than the value determined in Step 5 | continued to the next step. |

- 8 Clean and re-attach the connectors to the input port.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

- 9 At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same LOS alarm message | the condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List still displays the same LOS alarm message | the source of the alarm condition is not the WaveStar LambdaRouter 128/256. <i>Stop! End of Task.</i> |

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SE 303-1: Interface Formats, Optics, and Associated Power Levels Table

After determining the IFMT and the IOPT, use the information in the following table to ascertain the minimum levels of signal power expected at the input port.

| Input Port IFMT | Input Port IOPT | Input Signal Level, dBm |
|-----------------|-------------------|------------------------------------|
| OC-48 /STM-16 | SR | -10 |
| | IR | -5 |
| | LR | -2 |
| | Other | Provisioned PWRMDF parameter value |
| OC-192/STM-64 | VSR12 | -1 |
| | SR | -6 |
| | IR | -1 |
| | LR | -2 |
| | Other | Provisioned PWRMDF parameter value |
| Other | Any allowed value | Provisioned PWRMDF parameter value |
| LSBB | LR | -3 |
| | Other | Provisioned PWRMDF parameter value |
| HSBB | LR | -1 |
| | GBELX | -11 |
| | Other | Provisioned PWRMDF parameter value |

Abbreviations for IOPT and IFMT used in the table are defined below:

- GBELX—Gigabit Ethernet
- HSBB—High-Speed Broad Band
- IR—Intermediate Reach
- LSBB—Low Speed Broad Band
- LR—Long Reach
- Other—any other format or optic, including unknown or unspecified
- SR—Short Reach

- VSR12—Very Short Reach with 12 dB budget

If the input port is on an Optical-Electrical-Optical (OEO) port unit, use the information in the table below to ascertain the minimum levels of signals expected at the end of the input SWIP cable and at the output SWIP.

| Input Port Type | Signal Level at End of Input SWIP Cable, dBm | Signal Level, Output SWIP, dBm |
|------------------------|---|---------------------------------------|
| OXI-10GC | -5 | -9 |
| OXI-2GC | -9 | -13 |

Task 303: Clearing Incoming Loss of Signal (Optical) (LOS)

Purpose Use this procedure to clear an incoming loss of optical signal condition. A loss of signal (LOS) condition occurs when insufficient signal power is detected by the power monitor on the cross-connected OXI input port. This drop in power can be caused by

- A fiber cable jack that is loosely connected to the input port
- An incoming fiber problem, including broken fiber
- A faulty Port Unit
- A faulty signal source

When the power monitor detects insufficient signal power, a loss of signal alarm message is generated.

Before beginning this task:

- Use the electrostatic discharge (ESD) strap.
- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.
- Have the required equipment on hand. This equipment is listed in Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of M1 and S1 or greater from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions Read and understand the following safety precautions:



WARNING

Unterminated optical connectors may emit invisible laser radiation. Eye damage may occur if beam is viewed directly or with improper optical instruments. Avoid direct exposure to beam.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information

For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”

Task

Complete the following steps to clear an incoming loss of signal condition.

-
- 1 Determine the Access Identifier (AID) of the alarm by viewing the current Alarms List. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed. The AID provides the shelf, slot, and port location of the failure.

-
- 2 Check the fiber connection at the port reported in the alarm message. Ensure that the connection is secure and not visibly damaged.

- 3 At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same LOS alarm message | the condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List still displays the same LOS alarm message | the alarm condition has not cleared. Continue to the next step. |

- 4 At the WaveStar CIT System View, select **View>View Equipment Details** from the Main Menu bar.

Result: The View Equipment Details Screen appears.

- 5 On the Equipment Selection Screen, select the port in question.

Result: The Och Port Details Screen appears.

Note the **Interface Format (IFMT)** and **Interface Optics (IOPT)** of the identified input port. Then determine the expected minimum power level for the identified input port. Go to “SE 303-1: Interface Formats, Optics, and Associated Power Levels Table” (9-15).

- 6 Disconnect the input fiber connector from the input port and connect it to the power meter.

| IF... | THEN... |
|---|--|
| the signal is less than the value determined in Step 5 | the fiber or connectors may need cleaning. Go to “Task 401: Cleaning LC and MPX Connectors” (10-2). |
| the signal is greater than the value determined in Step 5 | continue to Step 8. |

- 7 When the fiber and connectors are clean, connect the input fiber to the power meter again.

| IF... | THEN... |
|--|---|
| the signal is still less than the value determined in Step 5 | the source of the alarm condition is not the WaveStar LambdaRouter 128/256. Clean and reattach the input fiber to input port. Go to “Task 401: Cleaning LC and MPX Connectors” (10-8). <i>Stop! End of Task.</i> |
| the signal is greater than the value determined in Step 5 | continued to the next step. |

- 8 Clean and re-attach the connectors to the input port.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

- 9 At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|--|
| the Alarm List does not display the same LOS alarm message | the condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List still displays the same LOS alarm message | the alarm condition has not cleared. The circuit pack may be faulty. |

- 10 Replace the failed circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-2).

-
- 11** Verify that the alarm condition has cleared. At the Wavestar CIT System View, select **Fault>NE Alarm List** from the Main Menu bar.

| IF... | THEN... |
|--|---|
| the Alarm List does not display LOS alarm message | the condition has cleared. <i>Stop! End of Task.</i> |
| the Alarm List still displays the same LOS alarm message | the alarm condition has not cleared. Return to Step 10 only once. If the alarm does not clear after repeating Step 10, contact Lucent Technical Support. <i>Stop! End of Task.</i> |

.....
N D O F S T E P S
.....

**SE 303-1: Interface
Formats, Optics, and
Associated Power Levels
Table**

After determining the IFMT and the IOPT, use the information in the following table to ascertain the minimum levels of signal power expected at the input port.

| Input Port IFMT | Input Port IOPT | Input Signal Level, dBm |
|------------------|-------------------|------------------------------------|
| OC-48 /STM-16 | SR | -10 |
| | IR | -5 |
| | LR | -2 |
| | Other | Provisioned PWRMDF parameter value |
| OC-192/STM-64 | VSR12 | -1 |
| | SR | -6 |
| | IR | -1 |
| | LR | -2 |
| | Other | Provisioned PWRMDF parameter value |
| Other | Any allowed value | Provisioned PWRMDF parameter value |
| LSBB | LR | -3 |
| | Other | Provisioned PWRMDF parameter value |
| HSBB | LR | -1 |
| | GBELX | -11 |
| | Other | Provisioned PWRMDF parameter value |

Abbreviations for IOPT and IFMT used in the table are defined below:

- GBELX—Gigabit Ethernet
- HSBB—High-Speed Broad Band
- IR—Intermediate Reach
- LSBB—Low Speed Broad Band
- LR—Long Reach
- Other—any other format or optic, including unknown or unspecified
- SR—Short Reach

- VSR12—Very Short Reach with 12 dB budget

If the input port is on an Optical-Electrical-Optical (OEO) port unit, use the information in the table below to ascertain the minimum levels of signals expected at the end of the input SWIP cable and at the output SWIP.

| Input Port Type | Signal Level at End of Input SWIP Cable, dBm | Signal Level, Output SWIP, dBm |
|------------------------|---|---------------------------------------|
| OXI-10GC | -5 | -9 |
| OXI-2GC | -9 | -13 |

Task 304: Clearing Incoming Signal Degrad B2 (BER)

Purpose Use this procedure to clear an incoming signal degrade B2 (BER) condition. This alarm message indicates that the line bit error rate (BER) threshold has been crossed. This threshold is provisionable with values from 10^{-5} to 10^{-9} .

Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an incoming signal degrade BER condition.

-
- 1 The source of the alarm condition is not the WaveStar LambdaRouter 128/256.

.....
N D O F S T E P S
.....



Task 305: Clearing Incoming Signal Fail B2 (EBER)

Purpose Use this procedure to clear an incoming signal fail B2 (EBER) condition. This alarm message indicates that the line excessive bit error rate (EBER) threshold has been crossed. This threshold is provisionable with values from 10^{-3} to 10^{-5} .

Before beginning this task:

- Turn off the audible alarm, if necessary. Refer to “Task 416: Turning Off Audible Alarm” (10-74).
- Read and follow all safety instructions in the front of this manual.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to clear an incoming signal fail B2 EBER condition.

-
- 1 The source of the alarm condition is not the WaveStar LambdaRouter 128/256.

.....
N D O F S T E P S
.....





10 Supporting Tasks

Overview

Purpose This chapter provides detailed procedures for performing the supporting tasks such as, logging in to and out of the system, database back up and restore, and removing and replacing equipment, on the WaveStar LambdaRouter 128/256.

Contents This chapter contains the following sections:

| | |
|---|-----------------------|
| Task 400: Assigning and Cabling a Spare SWIP to a Port | 10-3 |
| Task 401: Cleaning LC and MPX Connectors | 10-8 |
| Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256 | 10-19 |
| Task 403: Executing or Releasing a Forced or Manual Protection Switch | 10-22 |
| Task 404: Extracting and Inserting an NVM Card | 10-25 |
| Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT | 10-29 |
| Task 406: Logging in to WaveStar LambdaRouter 128/256 by Cut-Through | 10-32 |
| Task 407: Logging In to the WaveStar CIT | 10-36 |
| Task 408: Logging out from a Session and Disconnecting from WaveStar LambdaRouter 128/256 | 10-37 |
| Task 409: Logging Out of a Cut-Through Session | 10-42 |
| Task 410: Provisioning the WaveStar CIT with WaveStar LambdaRouter 128/256 TID and IP Addresses | 10-43 |
| Task 411: Removing, Inserting, or Replacing a Circuit Pack | 10-45 |
| Task 412: Removing or Replacing a Shelf Cover | 10-63 |
| Task 413: Replacing a Fan Filter | 10-66 |
| Task 414: Replacing a User Panel | 10-68 |
| Task 415: Resetting a System, Optical Interface Shelf, High-Voltage Shelf, or DCC Circuit Pack | 10-70 |
| Task 416: Turning Off Audible Alarm | 10-74 |



Task 400: Assigning and Cabling a Spare SWIP to a Port

Purpose This procedure is used to assign, and then cable a spare input Switch Interface Point (SWIP) or output SWIP to a port.

This task is performed when a port is associated with either an input SWIP or output SWIP that has failed. The port must change its association from the failed input SWIP or output SWIP to a spare input SWIP or spare output SWIP.

Refer to Chapter 5, “Supporting Tasks Background” for additional information.

Before beginning this task:

- Use the electrostatic discharge (ESD) strap.
- Read and follow all safety instructions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10- 19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10- 36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of P3 from the Wavestar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10- 29).

Safety precautions Read and understand the following safety precautions:



WARNING

Unterminated optical connectors may emit invisible laser radiation. Eye damage may occur if beam is viewed directly or with improper optical instruments. Avoid direct exposure to beam.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 412: Removing or Replacing a Shelf Cover” (10- 63)

Task Complete the following steps to assign and cable a spare input SWIP or output SWIP to a port.

1 Determine the spare SWIP to be assigned to the port. Rules for selecting the spare SWIP are in Chapter 5, “Supporting Tasks Background”.

2 At the WaveStar CIT System View, double-click on the Optical Interface Shelf (OIS) on which the port that is associated with the failed SWIP is located.

Result: The Shelf View Screen for the selected shelf appears.

-
- 3** Right-click on the port that is associated with the failed SWIP and select **Provision och port** from the pop-up menu.

Result: The Provision Port och x-x-x Screen appears.

- 4** Provision the port with the spare SWIP that was determined in Step 1.

Result: A service-affecting warning appears.

- 5** Click **Yes**.

Result: The formerly spare SWIP becomes associated with the port and the failed SWIP is automatically dissociated. In addition, a suspect SWIP alarm is raised.

Important! If a cross-connection is assigned to the port-SWIP combination involved in this task, the WaveStar LambdaRouter 128/256 will at this point begin the process of re-establishing the cross-connection on the fabric side for this SWIP. If the input port for this cross-connection has a customer signal present, an alarm may be generated for the corresponding output port because the port-to-SWIP re-cabling has not yet been completed. That alarm cannot be cleared until the re-cabling has been completed. The alarm will be for an output port loss of signal, with Condition Type CTNEQPT.

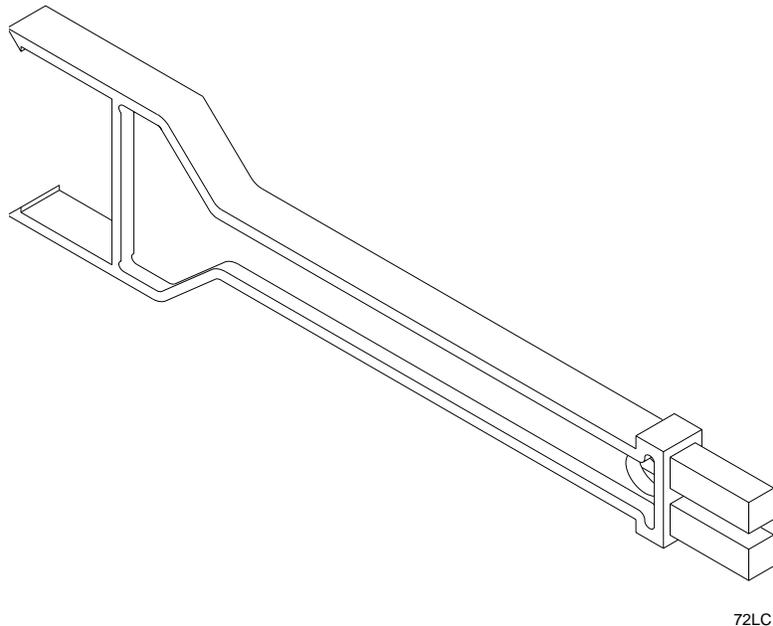
- 6** Once the spare SWIP has been assigned to the port, then the corresponding port-to-SWIP fiber must be moved from the now-suspect SWIP to the new (formerly-spare) SWIP assigned above.

At the Switch Shelf, remove the shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63).

- 7** On the Switch Shelf Fiber Distribution Panel, locate the termination point where the fiber from the associated port connects to the now-suspect input or output SWIP.

-
- 8** Use the 72LC-base to depress the plastic latches that secure the fiber connection to the adapter and pull until the fiber connector releases from the adapter. The figure below shows the tool used for disconnecting fiber connectors from the FDP.



-
- 9** Remove the white cap and clean the connector.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8)

-
- 10** Insert this fiber connector into the modular adapter that corresponds to the new (formerly-spare) SWIP for this port. The narrow end of the 72 LC base can be used push the fiber connector into the modular adapter.

-
- 11** Wrap a yellow **Suspect** label around the white modular adapter plug, and insert this plug into the adapter that corresponds to the now-suspect SWIP.

12 Replace the Switch Shelf front cover.

Reference: “Task 412: Removing or Replacing a Shelf
Cover” (10- 63).

N D O F S T E P S



Task 401: Cleaning LC and MPX Connectors

- Purpose** This procedure is used to clean LC and MPX connectors
- As directed by a trouble-clearing task
 - When adding new connections from a network element or optical component
 - Before connection to a test device
 - Anytime a dust cap is removed or a fiber is disconnected
- For additional information, including specific requirements for inspecting a cleaned connector, refer to Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”.

Important! Follow local procedures to clean LC and MPX connectors. In the absence of local procedures, use this task.

- Before you begin** Before beginning this task
- Read and follow all safety precautions in this manual.
 - Use the electrostatic discharge (ESD) strap.
 - Have a clean, dry surface on which to work
 - Have the following cleaning equipment on hand:
 - Solvent Dispenser Cleaner: VCT-184703
 - Electronic Grade Isopropyl Alcohol, greater than 99% pure and/or pre-moistened alcohol wipes, greater than 99% pure
 - NTT-ME CLETOP Type A and B Cassette Connector Cleaners and replacement cleaning tapes
 - NTT-ME CLETOP Stick Type Cleaners —1.25 mm and 2.5 mm
 - Inert dusting gas or ionized air gun, if available
 - Remove the shelf cover, if necessary. Be sure to replace it when the task is complete.

Safety precautions Read and understand the following safety precautions:

**DANGER**

Use a static ground wrist strap whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system to prevent electrostatic discharge damage to sensitive components.

**WARNING**

Do not attempt to clean optically powered connectors.

**WARNING**

Unterminated optical connectors may emit invisible laser radiation. Eye damage may occur if a beam is viewed directly or with improper optical instruments. Avoid direct exposure to a beam. Always use an optical power meter to verify that no power is present on the connector before viewing it.

**WARNING**

Alcohol is flammable and is harmful if swallowed, inhaled, or absorbed through the skin. Keep alcohol away from heat, sparks, or flames. Avoid contact with eyes, skin, and clothing.

**CAUTION**

When removing a connector or a dust cap, always grasp the housing or body of the connector or dust cap. Never pull on the fiber itself.

Related information For related information, see

- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background” for background information about “Task 401: Cleaning LC and MPX and Connectors” (5- 1)
- Chapter 5, “Supporting Tasks Background”

Task Complete the following steps to clean LC and MPX connectors.

1

| IF cleaning a connector on an... | THEN... |
|---|---|
| optical jumper | remove the dust cap, if present, from the optical connector. Then continue to the next step. |
| Optical Cross-Connect Interface faceplate | disconnect the optical fiber from the Optical Cross-Connect Interface faceplate. Continue to Step 8. |
| MPX connector at the OIS backplane | gently remove the MPX connector. Go to “SE 401-3: Cleaning MPX connector” (10-17). <i>Stop! End of Task.</i> |
| MPX connector at the back of Optical Cross-Connect Interface circuit pack | remove the Optical Cross-Connect Interface circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10- 45). Continue to Step 8. |

2 Grasp the connector housing and place the connector ferrule endface perpendicular to the pre-saturated isopropyl alcohol wipe. Rub it against the wipe three times in a figure eight pattern. This applies the alcohol solvent to the endface, which initially loosens and scrubs away organic and solid contaminants.

3

| IF cleaning a connector on an... | THEN... |
|---|----------------------------|
| optical jumper | continue to the next step. |

| IF cleaning a connector on an... | THEN... |
|---|---------------------|
| MPX connector at the back of Optical Cross-Connect Interface circuit pack | continue to step 8. |

-
- 4** Using the CLETOP Type A cleaner, clean the connector.

Reference: “SE 401-2: Cleaning LC connector using CLETOP type A cleaner” (10- 15).

-
- 5** Using an optical fiber scope, verify that the connector is clean.

Reference: “SE 401-1: Inspecting an optical connector using a video fiberscope” (10- 13).

-
- 6**

| IF the connector is... | THEN... |
|-------------------------------|--|
| clean | <i>Stop! End of Task.</i> |
| dirty | repeat Step 4 through Step 6. If the connector remains dirty after performing Step 4 through Step 6 twice, continue to the next step. |

-
- 7**

| IF... | THEN... |
|--|--|
| the fiber comes from the facility or customer side | follow local procedures to replace the fiber. <i>Stop! End of Task.</i> |
| the fiber is a port-to-FDP connection | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 8** Using electronic grade isopropyl alcohol that is equal to or greater than 99% pure, dampen one end of a lint-free stick type cleaner.

-
- 9** Insert the stick type cleaner into the connector. Rotate the stick type cleaner to loosen and scrub away contaminates.

10 Using the dry end of the swab, rotate the swab to dry connector.

11 Verify the connector is clean. Go to “SE 401-1: Inspecting an optical connector using a video fiberscope” (10- 13).

.....
N D O F S T E P S
.....

SE 401-1: Inspecting an optical connector using a video fiberscope



WARNING

Always use an optical power meter to verify that there is no optical power present on the fiber connector before viewing.

Using a video fiberscope, such as the Westover 200X Model FVW-209, perform the following steps to inspect an optical connector.

- 1 To ensure that there is no power present before inspecting the connector, do the following:

| IF the fiber to be inspected is... | THEN... |
|---|--|
| an input port-to-FDP fiber | disconnect the fiber at the input port OIS backplane. |
| the FDP-to-output port fiber | disconnect the fiber from the appropriate output SWIP at the FDP. Make sure to clean and re-attach the fiber. |
| MPX connector at the back of Optical Cross-Connect Interface circuit pack | remove the Optical Cross-Connect Interface circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10- 45) |
| MPX connector at the OIS backplane | gently remove the MPX connector. |

- 2 Follow the instructions in the manual provided with the video fiberscope to view the ferrule endface of the connector under inspection.
- 3 The ferrule endface should be free of any contaminants. The inspection criteria is provided in Chapter 5, “Supporting Tasks Background” under “Task 401: Cleaning LC and MPX and Connectors” (5- 7).

-
- 4** Look for a clean, white ferrule tip with a dark circle in the center. This is the fiber cladding and core. To confirm that the observed spots are on the connector, slowly disconnect the connector while viewing it through the fiberscope and verify that the spots fade away as the connector is removed.

5

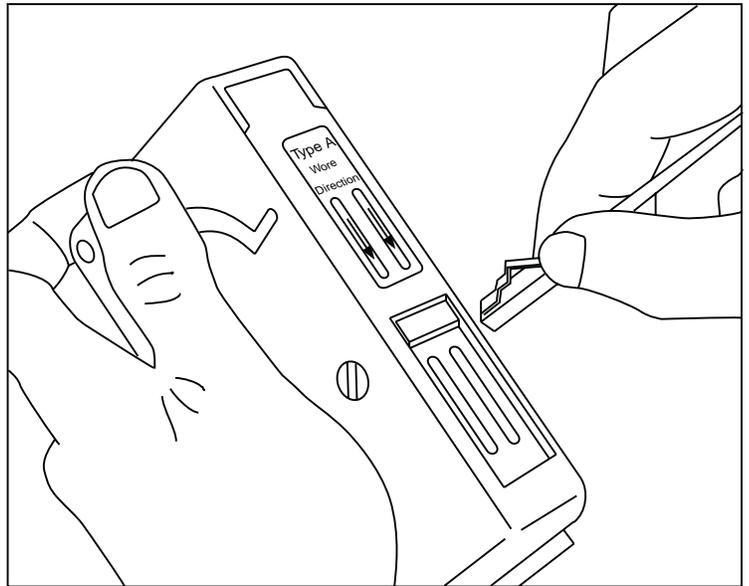
| IF inspection... | THEN... |
|-------------------------|---|
| passed | <i>Stop! End of Task.</i> |
| failed | clean the connector again. If the connector fails inspection after three cleanings, replace the circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10- 45) |

ND OF STEPS

SE 401-2: Cleaning LC connector using CLETOP type A cleaner

Complete the following steps to clean an LC connector using the CLETOP Type A cleaner.

- 1 Hold the CLETOP Type A cleaner in the palm of one hand with the cleaning side facing you.



NC-USM217

- 2 Press the lever with the thumb of the same hand all the way down and hold. This advances the cloth in the cassette and simultaneously opens the shutter door. Do not release the lever.
- 3 While holding the lever down with one hand, use the other hand to press the optical ferrule endface against the cleaning cloth in a slot and uniformly drag it in the direction indicated by the arrows on the cleaner. Make sure that the endface is in contact with the cleaning cloth at all times, and that uniform force is used while dragging it.
- 4 Lift the connector from the cloth. Rotate the connector 90 degrees and repeat the wiping procedure using the other slot.

-
- 5** Release the lever and allow it to return to its initial position.
-
- 6** Inspect the ferrule endface. Go to “SE 401-1: Inspecting an optical connector using a video fiberscope” (10- 13).

.....
N D O F S T E P S
.....

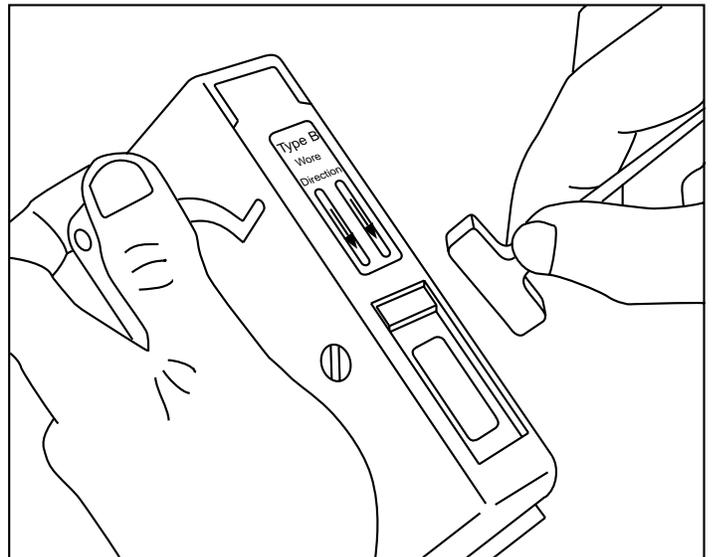
SE 401-3: Cleaning MPX connector

Complete the following steps to clean a MPX connector.

1

| IF... | THEN... |
|--|----------------------------|
| a CLETOP type B cleaner is not available | continue to Step 9. |
| a CLETOP type B cleaner is available | continue to the next step. |

2 Hold the CLETOP Type B cleaner in the palm of one hand with the cleaning side facing you.



3 Press the lever with the thumb of the same hand all the way down and hold. This advances the cloth in the cassette and simultaneously opens the shutter door. Do not release the lever.

4 Apply a drop of electronic grade isopropyl alcohol that is 99% pure to the exposed cloth using a single drop applicator.

5 While holding the lever down with one hand, use the other hand to lightly press the beveled optical ferrule endface against the cleaning

cloth at an 8 degree angle matching the angle of the endface and uniformly drag it in the direction indicated by the arrows on the cleaner. Make sure that the endface is in contact with the cleaning cloth, and that uniform pressure is used while dragging it. This initially loosens and scrubs away organic and solid contaminants.

.....

6 Advance the cloth in the cassette to a dry area. Dry the ferrule endface by dragging it against the dry cloth in the same manner as above.

.....

7 Release the lever and allow it to return to its initial position.

.....

8 Inspect the ferrule endface. Go to “SE 401-1: Inspecting an optical connector using a video fiberscope” (10- 13).

Stop! End of Task.

.....

9 Using electronic grade isopropyl alcohol that is equal to or greater than 99% pure, dampen one end of a lint-free stick type cleaner.

.....

10 Wipe the dampened end of the stick cleaner along the length of the MPX endface in a forward and backward motion.

.....

11 Immediately wipe a dry lint-free stick type cleaner along the length of the MPX endface in a similar fashion.

.....

12 Air dry the endface with inert dusting gas or use an ionized-air gun.

.....

13 Inspect the ferrule endface. Go to “SE 401-1: Inspecting an optical connector using a video fiberscope” (10- 13).

.....
N D O F S T E P S
.....



Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256

Purpose This procedure is used to connect the WaveStar CIT to, or disconnect the WaveStar CIT from, a local network element.

Before beginning this task:

- Read and follow all safety precautions in this manual.
- Obtain a WaveStar CIT 10BaseT Ethernet interface cable (CAT 3 or higher) with RJ45 connectors.

Related information For related information, see

- Chapter 5, “Supporting Tasks Background”
- Chapter 5, “Supporting Tasks Background”
- “Task 407: Logging In to the WaveStar CIT” (10- 36)
- “Task 408: Logging out from a Session and Disconnecting from WaveStar LambdaRouter 128/256” (10- 37)

Task Complete the following steps to connect the WaveStar CIT to, or disconnect the WaveStar CIT from, a local network element.

1

| IF the WaveStar CIT is being... | THEN... |
|--|--|
| connected to a network element | continue to “SE 402-1: Connecting the WaveStar CIT to the WaveStar LambdaRouter 128/256” (10- 20). |
| disconnected from a network element | continue to “SE 402-2: Disconnecting the WaveStar CIT from a network element” (10- 21). |

ND OF STEPS

**SE 402-1: Connecting the
WaveStar CIT to the
WaveStar LambdaRouter
128/256**

Complete the following steps to connect the WaveStar CIT to a network element.

-
- 1** Plug one end of the interface cable into the WaveStar CIT and the other end into the CIT port on the WaveStar LambdaRouter 128/256 System Controller Shelf User Panel.

-
- 2** Log into the WaveStar CIT and the WaveStar LambdaRouter 128/256.

Reference: “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10- 29).

.....
N D O F S T E P S
.....

**SE 402-2: Disconnecting
the WaveStar CIT from a
network element**

Complete the following steps to disconnect the WaveStar CIT from a network element.

-
- 1 Log out of all network elements and the WaveStar CIT.

Reference: “Task 408: Logging out from a Session and Disconnecting from WaveStar LambdaRouter 128/256” (10- 37).

-
- 2 Disconnect the interface cable from the CIT port on the WaveStar LambdaRouter 128/256 System Controller Shelf User Panel and from the WaveStar CIT.

ND OF STEPS



Task 403: Executing or Releasing a Forced or Manual Protection Switch

Purpose This procedure is used to execute or release a forced or manual protection switch.

A manual protection switch may be initiated on the

- System Controller Complex Protection Group (SCCPG)
- High-Voltage Shelf Controller Protection Group (HVCPG)
- Optical Interface Shelf Controller Protection Group (OICPG)
- Output port 2:1 selector

A forced protection switch may be initiated on an output port 2:1 selector.

Before beginning this task:

- Read and follow all safety precautions in this manual.
- Obtain the work instructions for this task and note the assigned AIDs.
- Connect the WaveStar CIT to the local network element.
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of S1.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to execute or release a forced or manual protection switch.

-
- 1** At the WaveStar CIT, from the System View Main Menu bar, select **Fault>Protection Switch**.

Result: The Switch Protection Screen appears.

-
- 2** Enter an AID for the desired shelf or Optical Channel (OCH) port in the AID field or use the NE Explorer to select the shelf or OCH port by clicking on the plus (+) sign next to each entity.

3 Click **Select**.

Result: Details about the Protection Switch Group appear on the screen.

4 View the current status of the selected OCH port or protection group.

Important! When a manual protection switch is operated on an OIS or HVS controller, the newly active OIS or HVS controller should not be addressed by any operations message until three system messages resulting from the controller protection switch have been received. They are as follows:

- **Complete** response to the operate protection switch command
- Report Event **initialization complete** message indicating the newly active OIS or HVS controller
- Report Database Change message indicating the formerly standby OIS or HVS controller has transitioned to active mode

Addressing the OIS or HVS controller before reception of these messages may result in unstable system operations.

5

| IF... | THEN... |
|--|--|
| releasing a forced or manual protection switch | select Clear from the Switch Type dropdown list. |
| executing a forced or manual protection switch | select the protection switch type from the available options in the Switch Type dropdown list. |

6 Click **Apply**.

Result: A Confirmation Screen appears.

7 Click **Yes**.

Result: The protection switch is executed or cleared as appropriate.

-
- 8** Click **Close** in the Protection Switching Screen.

Result: The Protection Switching Screen closes and the System View appears.

END OF STEPS



Task 404: Extracting and Inserting an NVM Card

Purpose This procedure is used to extract and insert a non-volatile memory (NVM) card.

Before beginning this task:

- Turn off the audible alarm, if necessary.
- Read and follow all safety precautions in this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10- 19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10- 36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of P3 and M4 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10- 29).

Safety precautions Read and understand the following safety precautions before beginning this task.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.



CAUTION

Never try to eject the NVM when the MEM circuit pack LED is green.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to extract and insert an NVM card.

1 Remove the System Controller Shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63).

2

| IF... | THEN... |
|------------------------|---------------------|
| extracting an NVM card | continue to Step 3. |
| inserting an NVM card | continue to Step 9. |

3

| IF extracting a... | THEN... |
|--------------------|--|
| PRI MEM NVM card | <i>Stop! End of Task.</i> |
| SEC MEM NVM card | momentarily press the push button located on top of the SEC MEM pack. Result: The NVM card ejects from the SEC MEM pack. Continue to Step 7. |

4 Put the system into maintenance condition:

From the WaveStar CIT, at the System View Main Menu bar, select **Fault>Return to/Remove from Service**.

Result: The Return to/Remove from Service Screen appears.

5 Select the system and click **Select Target**.

Result: The System Return to/Remove from Service information appears.

6 Select **Remove From Service** in the Action field and click **Apply**.

Result: A Service Affecting Warning appears.

7 Click **Yes**.

Result: The system is removed from service and the MEM circuit pack LED turns from green to red.

8 Momentarily press the push button located on top of the MEM circuit pack.

Result: The NVM ejects from the MEM circuit pack.

Stop! End of Task.

9 When the NVM needs to be inserted back in the system, gently slide the NVM card into the appropriate MEM circuit pack.

| IF inserting a... | THEN... |
|--------------------------|----------------------------|
| PRI MEM NVM card | continue to the next step. |
| SEC MEM NVM card | continue to Step 19. |

10 Return the system to an In-Service (IS) state.

From the WaveStar CIT System View Main Menu bar, select **Fault>Return to/Remove from Service**.

Result: The Return to/Remove from Service appears.

11 Select the system and click **Select Target**.

Result: The System Return to/Remove from Service information appears.

12 Select **Return To Service** in the Action field and click **Apply**.

Result: A Service Affecting Warning appears.

13 Click **Yes**.

Result: The system reboots in about 10 minutes.

.....
14 When system returns to service, log in again.

Reference: “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10- 29).

.....
15 Correct the system date and time. At the WaveStar CIT select **Administration>NE System Provisioning**.

Result: The Equipment Selection Screen appears.

.....
16 On the Equipment Selection Screen, select **System**.

Result: The System Provisioning Screen appears.

.....
17 Enter the correct date and time in the appropriate fields and click **OK**.

| IF... | THEN... |
|---|-----------------------------------|
| the system accepts the changes without any error messages | communication is re-established. |
| any error message is displayed | contact Lucent Technical Support. |

.....
18 Click **Close**.

Stop! End of Task.

.....
19 Replace the System Controller Shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63)

.....
N D O F S T E P S



Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT

Purpose This procedure is used to log into a network element from the WaveStar CIT.

Before beginning this task:

- Have a valid user ID and password on both the WaveStar CIT and the WaveStar LambdaRouter 128/256.
- Ensure that the WaveStar CIT has been provisioned with the WaveStar LambdaRouter 128/256 Target Identifier (TID) and IP address.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10- 19)
- “Task 407: Logging In to the WaveStar CIT” (10- 36)
- “Task 410: Provisioning the WaveStar CIT with WaveStar LambdaRouter 128/256 TID and IP Addresses” (10- 2)

Task Complete the following steps to log into a WaveStar LambdaRouter 128/256 from the WaveStar CIT.

1 Connect the WaveStar CIT to the local network element.

Reference: “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10- 19).

2 Log into the WaveStar CIT.

Result: The Network View Screen appears.

Reference: “Task 407: Logging In to the WaveStar CIT” (10- 36).

3

| IF... | THEN... |
|--|---|
| an icon exists in the Network View for the desired network element | double click on the network element icon. |
| an icon does not exist in the Network View for the desired network element | enter the network element TID in the Network View TID field, select the System button, then click Connect . |

4

| IF the network element... | THEN... |
|--|---|
| has been provisioned with two IP addresses | the IP Address Selection Screen appears. Continue to the next step. |
| has been provisioned with one IP address | the Network Element Login Screen appears. Continue to Step 6. |

5 Select the IP address to use for the connection and click **OK**.

Result: The Network Element Login Screen appears.

6 Enter a valid User ID and Password then click **OK**.

| IF... | THEN... |
|--|---|
| this is the first login for a new user | a message is displayed prompting for a password change. Enter a new password and click OK . Result: A Legal Notice Screen appears. |
| this is not the first login for a new user | a Legal Notice Screen appears. |

7 Click **OK**.

| IF the privilege level for the user login is... | THEN... |
|--|---|
| M0 or P0 | a message is displayed stating that certain screens will be inaccessible due to the privilege level. Click OK. Result: The System View Screen for the selected network element appears. |
| anything other than M0 or P0 | the WaveStar CIT System View Screen for the selected network element appears. |

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N D O F S T E P S
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Task 406: Logging in to WaveStar LambdaRouter 128/256 by Cut-Through

Purpose This procedure is used to log in to a network element by cut-through.

Before beginning this task:

- Have a valid user ID and password on both the WaveStar CIT and the WaveStar LambdaRouter 128/256.
- Ensure that the WaveStar CIT has been provisioned with the WaveStar LambdaRouter 128/256 Target Identifier (TID) and IP address.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
“Task 407: Logging In to the WaveStar CIT” (10- 36)

Task Complete the following steps to log in to the WaveStar LambdaRouter 128/256 by cut-through.

1 Log in to the WaveStar CIT.

Result: The Network View Screen appears.

Reference: “Task 407: Logging In to the WaveStar CIT” (10- 36).

2

| IF... | THEN... |
|--|--|
| an icon exists in the Network View for the desired network element | right-click on the network element icon and select Cut Through from the pop-up menu. |
| an icon does not exist in the Network View for the desired network element | enter the network element TID in the Network View TID field, select the Cut-Through button, then click Connect . |

3

| IF the network element... | THEN... |
|--|---|
| has been provisioned with two IP addresses | the IP Address Selection Screen appears. Continue to the next step. |
| has been provisioned with one IP address | continue to Step 5. |

4 Select the IP address to use for the connection and click **OK**.

5

| IF... | THEN... |
|---|---|
| the No Listbox File Exist error message appears | click OK to clear the message. The error message is just a warning. Cut-Through can work without the Listbox File. Continue to Step 8. |
| the Cut-Through window appears | the connection is established. Continue to Step 8. |

| IF... | THEN... |
|---|---|
| no Cut-Through window appears, the icon in the Established NE Associations Panel disappears, and the TID field gets cleared | <p>the session is not established. The TID and IP address may be incorrect or there may be a problem communicating with the network element.</p> <p>Verify that the TID and IP address are correct.</p> <p>Make corrections as necessary. Go to “Task 410: Provisioning the WaveStar CIT with WaveStar LambdaRouter 128/256 TID and IP Addresses” (10- 43).</p> <p>Return to Step 2 only once. If the connection fails a second time, continue to Step 6.</p> |

-
- 6** Click the Microsoft Windows **Start** button, then select **Programs> Command Prompt**.

Result: The Command Prompt Window appears.

-
- 7** In the command prompt window, enter **ping <IP address>** to determine if there are communications with the network element. Replace **<IP address>** with the IP address of the network element to which a connection is being attempted.

| IF the ping command... | THEN... |
|--|--|
| indicates there are no communications (a Request Timed Out error is displayed) | contact the local network administrator to clear the problem. When the problem is cleared, return to Step 2. |
| indicates there are communications (ping reply times are displayed) | <p>the problem may be in the CIT.</p> <p>Call Lucent Technical Support.</p> <p><i>Stop! End of Task</i></p> |

-
- 8** Enter **ACT-USER:<tid>:<loginid>:<ctag>::<password>**; in the TL1 Command Entry Field, or select the ACT-USER command from the Cut-Through Window List Box and edit the command line to include the

WaveStar LambdaRouter 128/256 TID and a valid User ID and Password. Click **Send**.

| IF the ACT-USER command... | THEN... |
|-----------------------------------|--|
| is successful | continue to the next step. |
| is not successful | the problem may be in the network element. Call Lucent Technical Support. |

9

| IF... | THEN... |
|--|--|
| this is the first login for a new user | a message is displayed prompting for a password change. Enter a new password and click OK . Result: The login session is established. |
| this is not the first login for a new user | the login session is established. |

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N D O F S T E P S
.....



Task 407: Logging In to the WaveStar CIT

Purpose This procedure is used to log in to the WaveStar CIT.

Before beginning this task, have a valid user ID and password on the WaveStar CIT.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”

Task Complete the following steps to log in to the WaveStar CIT.

- 1 Double-click on the WaveStar CIT icon on the *Microsoft Windows*® desktop.

Result: The WaveStar CIT Login Screen appears.

- 2 Enter a valid User ID and Password, then click **OK**.

| IF... | THEN... |
|-------------------------------------|---|
| the login is completed successfully | the Legal Notice Screen appears. |
| the login fails | verify that the user ID and password are correct and attempt to log in again. If the login has failed a second time, contact the System Administrator. <i>Stop! End of Task.</i> |

- 3 Click **OK**.

Result: The Legal Notice Screen closes and the WaveStar CIT for LambdaRouter Network View Screen appears.

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 N D O F S T E P S



Task 408: Logging out from a Session and Disconnecting from WaveStar LambdaRouter 128/256

Purpose This procedure is used to log out from a session and disconnect the WaveStar CIT from the WaveStar LambdaRouter 128/256.

Before beginning this task, be currently connected to a WaveStar LambdaRouter 128/256 from a WaveStar CIT.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10- 19)

Task Complete the following steps to log out and disconnect from a network element.

1

| IF... | THEN... |
|---|--|
| one or more network elements are still connected and all tasks are not complete | continue to the next task. <i>Stop! End of Task.</i> |
| only one network element is still connected and all tasks are complete | log out and disconnect from the WaveStar LambdaRouter 128/256. Reference: “SE 408-1: Disconnecting from One WaveStar LambdaRouter 128/256” (10- 39). |
| several network elements are connected and all tasks are completed on all of them | log out from all currently connected network elements. Reference: “SE 408-2: Disconnecting from All Network Elements” (10- 40). |
| all network elements are disconnected and all tasks are complete | log out of the WaveStar CIT. Reference: “SE 408-3: Logging Out from the WaveStar CIT” (10- 41). |

-
- 2** Disconnect the WaveStar CIT from the WaveStar LambdaRouter 128/256.

Reference: “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).

N D O F S T E P S

**SE 408-1: Disconnecting
from One WaveStar
LambdaRouter 128/256**

Complete the following steps to log out and disconnect from one network element.

1

| IF... | THEN... |
|--|---|
| the WaveStar CIT Network View is displayed | from the Main Menu bar, select Network Element>Disconnect from NE. Result: The NE Disconnect List appears. Continue to the next step. |
| the WaveStar CIT System View is displayed | from the Main Menu bar, select File>NE Disconnect. Result: A Confirmation Screen appears. Continue to Step 5. |

2 Select the WaveStar LambdaRouter 128/256 to be disconnected and click **Disconnect**.

Result: A Confirmation Screen appears.

3 Click **Yes**.

Result: The WaveStar CIT is disconnected from the selected network element and the WaveStar CIT Network View appears.

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N D O F S T E P S
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**SE 408-2: Disconnecting
from All Network Elements**

Complete the following steps to log out and disconnect from all network elements.

-
- 1** At the WaveStar CIT, from the Network View Main Menu bar, select **Network Element>Disconnect from All NEs**.

Result: A Confirmation Screen displaying a list of all currently connected network elements appears.

-
- 2** Click **Yes**.

Result: The WaveStar CIT is disconnected from all network elements and the WaveStar CIT Network View appears.

ND OF STEPS

**SE 408-3: Logging Out
from the WaveStar CIT**

Complete the following steps to log out from the WaveStar CIT.

-
- 1** At the WaveStar CIT, from the Network View Main Menu bar, select **File>Exit**.

Result: A Confirmation Screen appears.

-
- 2** Click **Yes**.

Result: The WaveStar CIT application closes and the Windows desktop appears.

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N D O F S T E P S
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Task 409: Logging Out of a Cut-Through Session

Purpose This procedure is used to log out of a cut-through session.

Before beginning this task:

- Have a valid user ID and password on both the WaveStar CIT and the WaveStar LambdaRouter 128/256.
- Ensure that a cut-through session is in effect.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”

Task Complete the following steps to log out of a cut-through session.

-
- 1** Enter `CANC-USER:<tid>::logoff`; in the TL1 Command Entry Field, or select the CANC-USER command from the Cut-Through Window List Box and edit the command line to include the WaveStar LambdaRouter 128/256 TID as appropriate. Click **Send**.

Result: The login session is terminated.

-
- 2** At the WaveStar CIT, locate the X in the upper right corner of the Cut-Through window and click it.

Result: A Confirmation Screen appears.

-
- 3** Click **Yes** to confirm the action.

Result: The cut-through session terminates.

ND OF STEPS



Task 410: Provisioning the WaveStar CIT with WaveStar LambdaRouter 128/256 TID and IP Addresses

Purpose This procedure is used to add, modify, or delete a network element Target Identifier (TID) and IP address to or from the WaveStar CIT.

Before beginning this task:

- Read and follow all safety precautions in the front of this manual.
- Obtain the work instructions for this task.
- Log into the WaveStar CIT with a Privilege Code of S3; use “Task 407: Logging In to the WaveStar CIT” (10- 36). It is not necessary to connect to a network element.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Task Complete the following steps to provision the WaveStar CIT with a network element TID and IP address.

-
- 1** At the WaveStar CIT, from the System View Main Menu bar, select **Administration>NE Name/Address Administration**.

Result: The NE Name/Address Administration Screen appears.

2

| IF... | THEN... |
|--|---|
| entering a new network element name and IP address | click Add . Result: The Add IP Address Screen appears. |

| IF... | THEN... |
|---|---|
| modifying an existing network element name and IP address | click the down arrow beside the TID field and select the TID to be modified from the list that is displayed. Click Modify . Result: The Modify IP Address Screen appears with the TID and IP Address fields populated with the current values for the selected network element. |
| deleting an existing network element name and IP address | click the down arrow beside the TID field and select the TID to be deleted from the list that is displayed. Click Delete . Result: A Confirmation Screen appears. |

3

| IF... | THEN... |
|---|--|
| adding or modifying a network element name and IP address | enter the required information in the TID and/or IP Address fields in dotted decimal format and click Apply . Result: A Successful Completion Message appears. The TID and IP Address for the WaveStar LambdaRouter 128/256 are saved locally on the WaveStar CIT. The WaveStar CIT can now access the WaveStar LambdaRouter 128/256. |
| deleting a network element name and IP address | click Yes . Result: A Successful Completion Message appears. |

4 Click **OK**.

Result: The Successful Completion Message closes and the Network View appears.

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N D O F S T E P S
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Task 411: Removing, Inserting, or Replacing a Circuit Pack

Purpose This procedure is used to remove, insert, or replace a circuit pack.

Before you begin Before beginning this task:

- Have on hand the appropriate replacement circuit pack, if applicable.
- Turn off the audible alarm, if necessary.
- Read and follow all safety precautions in this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local network element and log in with a Privilege code of M1 or greater.

Safety precautions Read and understand the following safety precautions before beginning this task.



CAUTION

Use a static ground wrist strap whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system to prevent electrostatic discharge damage to sensitive components.



CAUTION

Replacing the Port Units or HVDAC circuit packs may be service-affecting if they are carrying traffic. If possible, reconfigure port traffic to spare ports. Circuit pack replacement must be scheduled and affected customers should be notified of service interruption. Removing a DCC circuit pack will log out any user currently logged in through that DCC circuit pack.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”

Initialization Intervals Approximate initialization intervals for each entity are shown in the following table.

| Circuit Pack | Initialization Interval |
|---------------------|---|
| CSIEX | 10 seconds |
| DCC | 2 minutes |
| EI | 10 seconds |
| HSWIC | 5 minutes |
| HVDAC | 10 seconds |
| OSWIC | 5 minutes |
| Port Unit | 10 seconds |
| PRI | 10 seconds Excludes boot time for an inserted NVM. |
| SEC | 10 seconds Excludes boot time for an inserted NVM. |
| SYS50D | 5 minutes |

Task Complete the following steps to remove, insert, or replace a circuit pack.

1 Remove the shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63)

2

| IF a circuit pack is being... | THEN... |
|-----------------------------------|--|
| removed from the network element | go to “SE 411-1: Removing a circuit pack” (10- 48). |
| inserted into the network element | go to “SE 411-2: Inserting a circuit pack” (10- 51). |
| replaced in the network element | perform “SE 411-1: Removing a circuit pack” (10- 48) and then “SE 411-2: Inserting a circuit pack” (10- 51). |

3 Replace the shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63)

END OF STEPS

SE 411-1: Removing a circuit pack

Complete the following steps to remove a circuit pack.

1

| IF the circuit pack is a... | THEN... |
|------------------------------------|----------------------------|
| SYS50D, CSIEX, EI, OSWIC, or HSWIC | continue to the next step. |
| PRI MEM, SEC MEM, DCC, or HVDAC | continue to Step 5. |
| Port Unit | continue to Step 7. |
| DCC or HVDAC | continue to Step 6. |

2 At the WaveStar CIT, from the System View Main Menu bar, select **View>Protection**.

Result: The Equipment Selection Screen appears.

3 Highlight the protection group then click **Select**.

Result: The Protection Group Information Screen appears.

4 Verify that the System Controller Complex (SYS50D, CSIEX, or EI circuit pack), HSWIC, or OSWIC are not currently active before removal.

| IF the protection group... | THEN... |
|----------------------------|---|
| is not currently active | continue to Step 6. |
| is currently active | force a protection switch to the associated standby protection group then continue to the next step. Reference: “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10- 22). Continue to Step 6. |

5 Eject the NVM card.

Reference: “Task 404: Extracting and Inserting an NVM Card” (10- 25)

-
- 6** Grasp the latch on the circuit pack faceplate and lift gently to unseat the circuit pack. Slide the circuit pack out of the slot.

Stop! End of Task.

- 7** Before provisioning a Port Unit out-of-service, all input ports and output ports must be provisioned out-of-service.

At the WaveStar CIT, from the System View, right-click on the optical interface shelf and select **View Shelf ois**.

Result: The Shelf View Screen appears.

- 8** At the WaveStar CIT Shelf View, right-click on an input or output port and select **Provision Port OCH**.

Result: The Provision Port Screen appears.

- 9** Select **OOS** in the Primary State field then click **OK**.

Result: A Confirmation Screen appears.

- 10** Click **Yes**.

Result: The Confirmation Screen closes.

- 11** Repeat Step 7 through Step 10 until all input and output OCH ports on the circuit pack that is to be extracted are provisioned out-of-service.
-

- 12** The circuit pack should be provisioned out-of-service before the extraction of the pack.

At the WaveStar CIT, from the System View Main Menu bar, select **Configuration>Provision**.

Result: The Provision Parameters for Equipment Screen appears.

-
- 13** Highlight the Port Unit circuit pack; then click **Provision**.
- Result:** Information about the circuit pack appears on the right side of the screen.
-
- 14** Select **OOS** in the Primary State field then click **Apply**.
- Result:** A Confirmation Screen appears.
-
- 15** Click **Yes**.
- Result:** The Confirmation Screen closes.
-
- 16** Click **Close** at the bottom of the window after the Confirmation Screen closes.
-
- 17** Detach all of the optical fibers connected at the front of the Port Unit.
-
- 18** Place a dust cap over the end of each optical fiber.
-
- 19** Grasp the latch on the circuit pack faceplate and lift gently to unseat the circuit pack. Slide the circuit pack out of the slot.

N D O F S T E P S

SE 411-2: Inserting a circuit pack

Complete the following steps to insert a circuit pack into an empty slot.

1

| IF the circuit pack is a... | THEN... |
|--|----------------------------|
| SYS50D, CSIEX, EI, PRI MEM, SEC MEM, DCC, OSWIC, HSWIC, or HVDAC | continue to the next step. |
| Port Unit | continue to Step 3. |

2 Insert the appropriate circuit pack into the slot and close the latch.

| IF the circuit pack is a... | THEN... |
|--|--|
| SYS50D, CSIEX, EI, DCC, OSWIC, HSWIC, or HVDAC | no action is required. <i>Stop! End of Task.</i> |
| PRI MEM or SEC MEM | insert the appropriate NVM card. Go to “Task 404: Extracting and Inserting an NVM Card” (10- 25). <i>Stop! End of Task.</i> |

Result: The newly installed circuit pack takes up to five minutes to initialize. While the circuit pack is initializing, the green LED blinks. When initialization is complete, the red LED is off and the green LED lights steadily.

3

| IF the circuit pack is an... | THEN... |
|-------------------------------------|----------------------------|
| OXI-10GC or OXI-2GC circuit pack | continue to the next step. |
| OXI | continue to Step 29. |

4 Insert the OEO circuit pack into the slot. Apply even pressure to the latch at the top of the circuit pack and the faceplate at the bottom of the circuit pack. This allows the optical connector on the circuit pack to plug into the optical connector on the backplane in a straight-on manner rather than at an angle. Connection at an angle could result in a faulty connection.

-
- 5** Each input and output port on the newly inserted circuit pack must be tested to determine whether it can support a cross-connection. This is accomplished by establishing a cross-connect loopback between the port being tested and any appropriate idle port. If there is an appropriate idle port on the circuit pack being tested, both ports can be tested by one cross-connect loopback. Test the input ports first. At the WaveStar CIT Shelf View, double-click on an input port.

Result: The View Och Details Screen appears.

The Cross-Connection Status field indicates whether the port is idle. The Input Port Auto Alarm Monitoring field indicates whether AUTOMODE is enabled.

6

| IF... | THEN... |
|--|--|
| the input port is idle, that is, no cross-connection is assigned | set up a cross-connect loopback using this input port and any output port that is idle. Go to "Task 504: Establishing a Cross-Connect Loopback" (11-30) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . |
| the input port is not idle, that is, a cross-connection is assigned and AUTOMODE is enabled | set up a duplex <i>forced</i> cross-connect loopback using this input port and any output port that is idle. Go to "Task 504: Establishing a Cross-Connect Loopback" (11-30) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . |
| the input port is not idle, that is, a cross-connection is assigned and AUTOMODE is disabled | continue to Step 23. |

- 7** Remove the fiber from the input port.
-

- 8** Attach an optical power source, such as an HP8140A, to the input port and generate a signal.
-

-
- 9** At the WaveStar CIT Shelf View, double-click on the output port associated with the input port being tested.

Result: The View Och Details Screen appears.

The Side 0 Status and Side 1 Status fields indicate whether a signal is detected. Valid values for this field are *DOS*, Detection of Signal, or *LOS*, Loss of Signal.

10

| IF... | THEN... |
|---------------------------------------|--|
| both Side 0 and Side 1 Status are LOS | the circuit pack was probably inserted in a faulty manner and the backplane connector must be reset. First, release the loopback, remove the optical power source, and reattach the fiber to the input port. Then go to “SE 411-3: Resetting the backplane connector” (10- 61). Return to Step 4 only once. If the Side 0 Status and Side 1 Status fields still indicate LOS, contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| Side 0 or Side 1 Status is DOS | release the loopback, remove the optical power source, and reattach the fiber to the input port. Repeat Step 5 through Step 10 until all input ports are tested. Continue to the next step. |

- 11** Test the rest of the output ports on the newly inserted OXI-10GC or OXI-2GC circuit pack. At the WaveStar CIT Shelf View, double-click on an output port.

Result: The View Och Details Screen appears.

The Cross-Connection Status field indicates whether the port is idle. The Input Port Auto Alarm Monitoring field indicates whether AUTOMODE is enabled.

12

| IF... | THEN... |
|---|--|
| the output port is idle, that is, no cross-connection is assigned | set up a cross-connect loopback using this output port and any input port that is idle. Go to "Task 504: Establishing a Cross-Connect Loopback" (11-30) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . |
| the output port is not idle, that is, a cross-connection is assigned and AUTOMODE is enabled on the associated input port | delete the cross-connection. Go to "Task 503: Deleting a Cross-Connection" (11-27) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . Set up a cross-connect loopback using this output port and any input port that is idle. Go to "Task 504: Establishing a Cross-Connect Loopback" (11-30) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . |
| the output port is busy, that is, a cross-connection is assigned and AUTOMODE is disabled on the associated input port | continue to Step 17. |

13 Remove the fiber from the input port associated with the output port being tested.

14 Attach an optical power source, such as an HP8140A, to the input port and generate a signal.

15 At the WaveStar CIT Shelf View, double-click on the output port being tested.

Result: The View Och Details Screen appears.

The Side 0 Status and Side 1 Status fields indicate whether a signal is detected. Valid values for these fields are *DOS*, Detection of Signal, or *LOS*, Loss of Signal.

16

| IF... | THEN... |
|-------------------------------------|--|
| the Side 0 and Side 1 Status is LOS | the circuit pack was probably inserted in a faulty manner and the backplane connector must be reset. Release the loopback, remove the optical power source from the input port, and reattach the fiber. If necessary, re-establish the cross-connection. Go to "SE 411-3: Resetting the backplane connector" (10- 61). Then return to Step 4 only once. If the Side 0 Status and Side 1 Status fields still indicate LOS, contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the Side 0 or Side 1 Status is DOS | release the loopback, remove the optical power source, and reattach the fiber to the input port. If necessary, re-establish the cross-connection. Return to Step 11 until remaining output ports are tested. Then continue to Step 30. |

- 17 At the WaveStar CIT System View, select **Fault> NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed.

18

| IF... | THEN... |
|---|--|
| the Alarm List displays a critical LOS alarm for the output port being tested | delete the cross-connection. Go to "Task 503: Deleting a Cross-Connection" (11-27) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . Set up a cross-connect loopback using this output port and any input port that is idle. Go to "Task 504: Establishing a Cross-Connect Loopback" (11-30) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . |

| IF... | THEN... |
|---|---|
| the Alarm List does not display a critical LOS alarm for the output port being tested | return to Step 11 and repeat until all remaining output ports are tested. Then continue to Step 30. |

.....

19 Remove the fiber from the input port associated with the output port being tested.

.....

20 Attach an optical power source, such as an HP8140A, to the input port and generate a signal.

.....

21 At the WaveStar CIT Shelf View, double-click on the output port being tested.

Result: The View Och Details Screen appears.

The Side 0 Status and Side 1 Status fields indicate whether a signal is detected. Valid values for this field are *DOS*, Detection of Signal, or *LOS*, Loss of Signal.

.....

22

| IF... | THEN... |
|---------------------------------------|---|
| both Side 0 and Side 1 Status are LOS | the circuit pack was probably inserted in a faulty manner and the backplane connector must be reset. First, release the loopback, remove the optical power source, and reattach the fiber to the input port. If necessary, re-establish the cross-connection. Then go to “SE 411-3: Resetting the backplane connector” (10-61). Return to Step 4 only once. If the Side 0 and Side 1 Status is still LOS, contact Lucent Technical Support. |
| Side 0 or Side 1 Status is DOS | release the loopback, remove the optical power source, and reattach the fiber to the input port. If necessary, re-establish the cross-connection. Return to Step 11 and repeat until all remaining output ports are tested. Continue to Step 30. |

-
- 23** At the WaveStar CIT System View, select **Fault> NE Alarm List** from the Main Menu bar.

Result: The current alarms are listed.

-
- 24**

| IF... | THEN... |
|--|--|
| the Alarm List displays an LOS alarm for the input port being tested | set up a duplex <i>forced</i> cross-connect loopback using this input port and any output port that is idle. Go to "Task 504: Establishing a Cross-Connect Loopback" (11-30) in the <i>WaveStar LambdaRouter 128/256 Release 2.0 User Operations Guide</i> . |
| the Alarm List does not display an LOS alarm for the input port being tested | continue to Step 27. |

-
- 25** Remove the fiber from the input port associated with the output port being tested.

-
- 26** Attach an optical power source, such as an HP8140A, to the input port and generate a signal.

-
- 27** At the WaveStar CIT Shelf View, double-click on the associated output port.

Result: The View Och Details Screen appears.

The Side 0 Status and Side 1 Status fields indicate whether a signal is detected. Valid values for this field are *DOS*, Detection of Signal, or *LOS*, Loss of Signal.

28

| IF... | THEN... |
|--------------------------------------|---|
| the Side 0 and Side 1 Status are LOS | the circuit pack was probably inserted in a faulty manner and the backplane connector must be reset. If necessary, release the loopback cross-connection, remove the optical power source, and reattach the fiber to the input port. Go to “SE 411-3: Resetting the backplane connector” (10-61). Repeat Step 4 only once. If Side 0 and Side 1 Status are still LOS, contact Lucent Technical Support. |
| the Side 0 or Side 1 Status is DOS | if necessary, release the loopback cross-connection, remove the optical power source, and reattach the fiber to the input port. Return to Step 5 and repeat until all input ports are tested. Then continue to Step 11 and repeat until remaining output ports are tested. |

- 29 Insert the OXI circuit pack then clean and attach the optical fibers (up to eight) to the appropriate ports on the front of the circuit pack.

Reference: “Task 401: Cleaning LC and MPX Connectors” (10-8).

- 30 If necessary, the slot/circuit pack and its associated ports can be provisioned in service.

| IF the circuit pack and ports... | THEN... |
|--|---|
| are to be provisioned in service | continue to the next step. |
| are to stay out of service or already in service | no action is needed. <i>Stop! End of Task.</i> |

-
- 31** At the WaveStar CIT, from the System View Main Menu bar, select **Configuration>Provision**.

Result: The Equipment Selection Screen appears.

- 32** Select the slot/circuit pack from the Equipment Selection Screen then click **Provision**.

Result: The Provision OXI Slot Screen appears.

- 33** Select **IS** in the Primary State field then click **Apply**.

Result: The Confirmation Screen appears.

- 34** Click **Yes**.

Result: The Confirmation Screen closes.

- 35** Select the first existing input or output OCH port on the slot/circuit pack from the Equipment Selection Screen.

Result: The Provision Parameters for Equipment Screen appears populated with information for the selected port.

- 36** Provision the port Primary State to **IS** then click **Apply**.

Result: The Confirmation Screen appears.

- 37** Click **Yes**.

Result: The Confirmation Screen closes.

38

| IF... | THEN... |
|--|---|
| this port is not the last port on the slot/circuit pack object | select the next existing OCH port on the slot/circuit pack from the Equipment Selection Screen and return to Step 36. |
| this port is the last port on the slot/circuit pack object | click Close at the bottom of the window after the confirmation screen closes. |

END OF STEPS



SE 411-3: Resetting the backplane connector

Reset the backplane connector prior to inserting a OXI-10GC or OXI-2GC circuit pack.

- 1** Remove the circuit pack.

Reference: “SE 411-1: Removing a circuit pack” (10- 48)

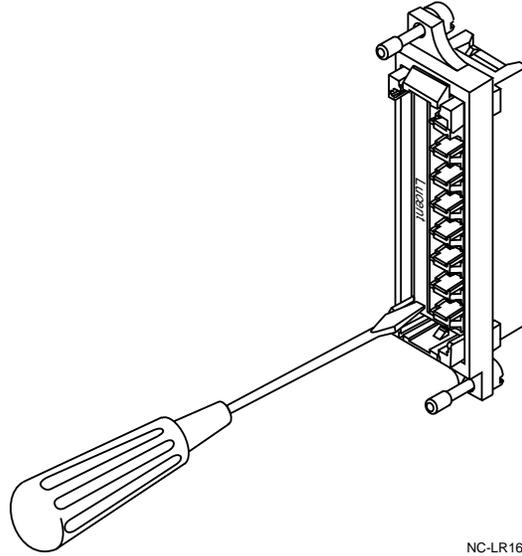
- 2** Go to the backplane and remove and BP jumpers and dust caps.
-

- 3** With uniform force, lightly press the receptacle from the bottom with a screwdriver towards the inside of the shelf until it snaps into position. Refer to “SE 411-4: Backplane receptacle figure” (10- 62). The receptacle is now reset.
-

- 4** Reinstall the BP jumpers and dustcaps.
-

.....
N D O F S T E P S
.....

**SE 411-4: Backplane
receptacle figure**



NC-LR164

Task 412: Removing or Replacing a Shelf Cover

Purpose This procedure is used to remove or replace a shelf cover.

Before beginning this task:

- Read and follow all safety precautions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Obtain a screwdriver.

Safety precautions Read and understand the following safety precautions before beginning this task.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information For related information, see

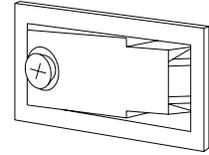
- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”

Task Complete the following steps to remove or replace the shelf cover.

1

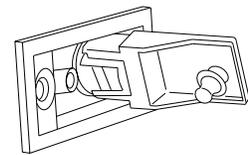
| IF the cover is being... | THEN... |
|--------------------------|-----------------------|
| removed | continue with Step 2. |
| replaced | continue with Step 7. |

2 Locate the two ¼-turn fasteners at the bottom of the shelf cover.



-
- 3** Use the appropriate size screwdriver to rotate the retaining screws counterclockwise approximately $\frac{1}{4}$ -turn until the shelf cover fasteners are released.
-

- 4** Pull the shelf cover fasteners out and rotate the fasteners $\frac{1}{4}$ -turn counterclockwise.
-



-
- 5** Grasp the bottom of the cover and pull it forward until it is horizontal (rotated 90 degrees from the closed position).
-

- 6** Lift the pivot pins located at the top of the cover, push back, and lift up on the pins again to remove the cover from the shelf, then lift the cover up until it is free from the shelf framing.

Stop! End of Task.

- 7** Position the pivot pins located at the top of the cover under the flange on the shelf framing.
-

- 8** Close the cover and rotate the two shelf cover fasteners $\frac{1}{4}$ -turn clockwise and push back into the locked position.

-
- 9** Use the appropriate size screwdriver to rotate the retaining screws clockwise approximately ¼-turn until the shelf cover fasteners are secured.

END OF STEPS



Task 413: Replacing a Fan Filter

Purpose This procedure is used to replace a Fan Filter every six months as part of routine fan maintenance or when instructed as part of a trouble-clearing task.

Before beginning this task:

- Read and follow all safety precautions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Have a replacement Fan Filter on hand.
- Remove the shelf cover, if necessary. Be sure to replace it when the task is complete.

Safety precautions Read and understand the following safety precautions before beginning this task.



CAUTION

Use a static ground wrist strap whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system to prevent electrostatic discharge damage to sensitive components.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 412: Removing or Replacing a Shelf Cover” (10- 63)

Fan Unit Figure The following figure shows the Fan Unit and its filter.

Task Complete the following steps to replace a Fan Filter.

.....
1 Remove the shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63).

.....
2 Remove the Fan Filter by grasping the two pull tabs and pulling the Fan Filter out of the shelf.

Reference: See “Fan Unit Figure” (10- 66).

.....
3 Insert the replacement Fan Filter into the shelf so that the two pull tabs are positioned at the front of the shelf.

.....
4 Replace the shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63).

.....
5 Discard the used Fan Filter.

.....
N D O F S T E P S



Task 414: Replacing a User Panel

Purpose This procedure is used to replace a User Panel.

Before beginning this task:

- Read and follow all safety precautions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Have on hand a replacement User Panel.

Safety precautions Read and understand the following safety precautions:



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 412: Removing or Replacing a Shelf Cover” (10- 63)

Task Complete the following steps to replace a User Panel.

1 Remove the shelf front cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63).

2 Remove two screws from the User Panel faceplate.

3 Pull on the faceplate to slide the User Panel assembly free from the backplane

Important! Prolonged absence of the User Panel may distort air flow and cause a fan alarm.

4 Insert a replacement User Panel known to be in good condition into the now vacated User Panel slot until secure contact is made with the backplane.

5 Attach the two screws to the User Panel faceplate.

6 Replace the associated shelf front cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63).

N D O F S T E P S



Task 415: Resetting a System, Optical Interface Shelf, High-Voltage Shelf, or DCC Circuit Pack

Purpose This procedure is used to reset an active WaveStar LambdaRouter 128/256 system, OIS, HVS, or DCC circuit pack.

Before beginning

- Read and follow all safety precautions in the front of this manual.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10- 19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10- 36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of M4 and S4 from the Wavestar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10- 29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 4, “Alarm Messages and Trouble-Clearing Tasks Background”
- Chapter 5, “Supporting Tasks Background”
- “Task 407: Logging In to the WaveStar CIT” (10- 36)

Task Complete the following steps to reset a WaveStar LambdaRouter 128/256 system, OIS, HVS, or DCC circuit pack.

1

| IF resetting a... | THEN... |
|-------------------|---|
| DCC circuit pack | <p>at the WaveStar CIT, from the System View Main Menu Bar, select Fault>Reset>Circuit Pack.</p> <p>Result: The Reset Circuit Pack Screen appears. Continue to the next step.</p> |

| IF resetting a... | THEN... |
|-------------------|---|
| OIS or HVS shelf | at the WaveStar CIT, from the System View Main Menu Bar, select Fault>Reset>Shelf . Result: The Reset Shelf Screen appears. Continue to the next step. |
| system | at the WaveStar CIT, from the System View Main Menu Bar, select Fault>Reset>System . Result: A Service Affecting Warning appears. Continue to Step 4. |

2 From the Equipment Selection Screen, enter an AID for the desired DCC circuit pack, OIS, or HVS. Alternately, use the NE Explorer to select the equipment by clicking on the plus (+) sign next to each entity.

3 Click **Select**.

Result: A Service Affecting Warning appears.

4 Click **Yes**.

| IF resetting a... | THEN... |
|---|--|
| system or the DCC circuit pack carrying the active login session | the reset terminates the WaveStar CIT login session and a Communication Failure Message appears. Continue to the next step. |
| shelf or the DCC circuit pack that is not carrying the active login session | this procedure is complete. <i>Stop! End of Task.</i> |

5 Click **OK**.

Result: The WaveStar CIT System View closes and the Network View appears.

6 Log back into the network element when the reset has completed.

Reference: “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10- 29).

7

| IF resetting a... | THEN... |
|-------------------|--|
| DCC circuit pack | this procedure is complete. <i>Stop! End of Task.</i> |
| system | continue to the next step. |

8 Correct the system date and time. At the WaveStar CIT select **Administration>NE System Provisioning**.

Result: The Equipment Selection Screen appears.

9 On the Equipment Selection Screen, select **System**.

Result: The System Provisioning Screen appears.

.....
10 Enter the correct date and time in the appropriate fields and click **OK**.

| IF... | THEN... |
|---|-----------------------------------|
| the system accepts the changes without any error messages | communication is re-established. |
| any error message is displayed | contact Lucent Technical Support. |

.....
N D O F S T E P S
.....



Task 416: Turning Off Audible Alarm

Purpose This procedure is used to turn off the audible alarm. Alarm Cutoff (ACO) buttons are provided to silence the audible office alarms. ACO buttons are located on the System Controller Shelf (SCS), User Panel, both High-Voltage Shelf (HVS) User Panels, and both Optical Interface Shelf (OIS) User Panels.

Before beginning this task:

- Read and follow all safety precautions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10- 19).
- Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10- 36).
- Log in to the WaveStar LambdaRouter 128/256 with a Privilege Code of M3 from the Wavestar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10- 29).

Safety precautions Read and understand the following safety precautions before beginning this task.



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 5, “Supporting Tasks Background”
- “Task 414: Replacing a User Panel” (10- 68)

Task Complete the following steps to turn off an audible alarm.

1 Remove the shelf cover.

Reference: “Task 412: Removing or Replacing a Shelf Cover” (10- 63)

2 Press the Alarm Cutoff (ACO) button on any User Panel.

| IF... | THEN... |
|--|--|
| the audible alarm is silenced and the ACO LED is illuminated | the system has successfully entered into the ACO condition. <i>Stop! End of Task.</i> |
| the audible alarm is still active | continue to the next step. |

3 Check the current Alarm List to make sure that no new alarm was generated in the last few seconds. A newly generated alarm returns the system to a normal audible alarm condition. At the WaveStar CIT, from the NE View Main Menu bar, select **Fault>NE Alarm List**.

Result: The current alarms are listed.

4

| IF... | THEN... |
|-----------------------------------|----------------------------|
| there is a newly generated alarm | Return to Step 2. |
| there is no newly generated alarm | Continue to the next step. |

5 Press the ACO button on a different User Panel.

| IF... | THEN... |
|---|--|
| the audible alarm is silenced and the ACO LED is illuminated. | the system has successfully entered into the ACO condition. Replace the User Panel on any shelf with an ACO button that was depressed and failed to silence the audible alarm. Go to “Task 414: Replacing a User Panel” (10- 68). <i>Stop! End of Task.</i> |
| the audible alarm is still active | use the WaveStar CIT to turn off the audible alarm. Continue to the next step. |

6 Use the WaveStar CIT to silence the local audible office alarms. From the System View Main Menu bar, select **Fault>Alarm Cut-Off**.

| IF... | THEN... |
|--|--|
| the audible alarm is silenced and the ACO LED is illuminated | the system has successfully entered into the ACO condition. Replace any User Panel that has a failed ACO button. Go to “Task 414: Replacing a User Panel” (10-68). |
| the audible alarm is still active | contact Lucent Technical Support. |

ND OF STEPS





11 Recovery Tasks

Overview

Purpose This chapter documents tasks that are not associated with alarm messages.

Contents This chapter contains the following tasks:

| | |
|---|-----------------------|
| Task 500: Establishing Communication Between the System and WaveStar CIT | 11-2 |
| Task 501: Recovering from Communication Failure Between WaveStar CIT and System | 11-6 |
| Task 502: Recovering from Failure of Both DCCs | 11-8 |
| Task 503: Recovering from Failure of Both SYS50Ds | 11-11 |
| Task 504: Recovering from LED Failure | 11-15 |
| Task 505: Recovering from Shelf Power Failure | 11-19 |
| Task 506: Recovering from System Power Failure | 11-21 |



Task 500: Establishing Communication Between the System and WaveStar CIT

Purpose Use this procedure to establish communication between the WaveStar CIT and the system.

- Before you begin** Before beginning this task:
- Read and follow all safety instructions in the front of this manual.
 - Verify that the cable connecting the CIT to the network element and its connections are in good condition.
 - Make sure that the TID and IP address of the network element is available if the information has not been provisioned in the WaveStar CIT.
 - Have the NE login ID and password available.
 - Verify that the WaveStar CIT is configured to communicate through a LAN with the NE. If necessary, contact the local data network administrator for the appropriate process.
 - Make sure that the network element is up and running by observing illuminated green LEDs on the Data Communications Controller (DCC) circuit pack and all circuit packs of the System Controller Complex.

Safety precautions Read and understand the following safety precautions:



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

- Related information** For related information, see
- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
 - Chapter 5, “Supporting Tasks Background”
 - “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19)

- “Task 407: Logging In to the WaveStar CIT” (10-36)
- “Task 410: Provisioning the WaveStar CIT with WaveStar LambdaRouter 128/256 TID and IP Addresses” (10-43)

Task Complete the following steps to establish communication between the system and the WaveStar CIT.

1 Connect the CIT to the Network Element. Go to “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).

2 Log in to the WaveStar CIT. Go to “Task 407: Logging In to the WaveStar CIT” (10-36).

| IF... | THEN... |
|--|--|
| the network element TID is included in the WaveStar CIT Network Navigator (shown as an icon) | select the network element icon. Click Connect . Then continue to Step 6. |
| the network element TID does not appear in WaveStar CIT Network Navigator (not shown as an icon) | continue to the next step. |

3 Check the network element IP address information. At the WaveStar CIT, select **Network View>Admin>NE Name/IP Address Admin**.

| IF... | THEN... |
|--|---|
| the network element is not in the list | provision the network element IP Address. Go to “Task 410: Provisioning the WaveStar CIT with WaveStar LambdaRouter 128/256 TID and IP Addresses” (10-43). Continue to the next step. |
| the network element is in the list | continue to the next step. |

4 Enter the TID in the TID field in the Network View window. Click **Connect**.

5

| IF... | THEN... |
|---|---|
| the Lucent Proprietary message displays | the login is successful. An icon of the network element appears at the Established NE Association panel. <i>Stop! End of Task.</i> |
| the login failed message appears with the NE Login Screen indicating an invalid default login ID and password | continue to the next step. |
| the login failed message appears with the NE Login Screen indicating the maximum number of login attempts has been exceeded | the login failed and no further steps can be taken until the network element condition is cleared. Contact the local data network administrator for support. <i>Stop! End of Task.</i> |
| the login failed message appears with the NE Login Screen indicating all resources busy | login to the other DCC. If that fails, no further steps can be taken until the network element condition is cleared. Wait for 5 minutes and return to Step 2. |
| an error message from Windows NT, or a Windows Application appears (as indicated by the lack of a WaveStar CIT title) | there may be a PC or LAN configuration problem. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the login failed message appears | continue to Step 7. |
| there is no response from the system | continue to the next step. |

- 6 The network element has rejected the login request because of an incorrect login ID and password. Enter the correct NE User ID and Password once more.

| IF... | THEN... |
|---|---|
| the Lucent Proprietary message displays | the login is successful. An icon of the network element appears at the Established NE Association panel. <i>Stop! end of Task.</i> |
| the login is not successful | continue to the next step. |

7

| IF... | THEN... |
|---|--|
| three or fewer attempts have been made for the login so far | return to Step 2. |
| more than three login attempts have been made so far | the network element information is not correct. Contact the data network administrator and make sure proper NE information is available. Return to Step 2. |

ND OF STEPS



Task 501: Recovering from Communication Failure Between WaveStar CIT and System

Purpose Use this procedure when communications between the WaveStar CIT and the system fail.

- Before you begin** Before beginning this task:
- Read and follow all safety instructions in the front of this manual.
 - Use the electrostatic discharge (ESD) strap.
 - Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the network element with a Privilege Code of M4 and S4 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Safety precautions



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

- Related information** For related information, see
- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
 - Chapter 6, “Recovery Tasks Background”
 - “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19)
 - “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2)

Task Complete the following steps to clear the communication problem.

- 1** Make sure that the network element is up and running by observing any illuminated LEDs on the circuit packs and User Panel of the System Controller Shelf.

| IF... | THEN... |
|----------------------------------|---|
| no LEDs are illuminated | go to “Task 505: Recovering from Shelf Power Failure” (11-19) and “Task 506: Recovering from System Power Failure” (11-21). |
| one or more LEDs are illuminated | continue to the next step. |

-
- 2** Make sure that the TID and IP address of the network element are available from the system administrator if the information has not been provisioned in the WaveStar CIT.
-

- 3** Establish communications with the system. Go to “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2).

.....
N D O F S T E P S
.....



Task 502: Recovering from Failure of Both DCCs

Purpose Use this procedure to recover from concurrent failures of both DCCs. Double DCC failures are characterized by an inability to communicate with the WaveStar LambdaRouter 128/256. For additional information about this task, refer to “Task 502: Recovering From Failure of Both DCCs” (6-3)

Before you begin Before beginning this task:

- Read and follow all safety instructions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- After any reset or side switch, log in again. Refer to “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 6, “Recovery Tasks Background”



CAUTION

This process may corrupt the system database, which may consequently affect service.

Task Complete the following steps to recover from concurrent failures of both DCCs.

- 1 Reset each DCC by pressing the recessed reset button on the circuit pack faceplate or by physically extracting and re-insertion the pack. Allow 2 to 3 minutes for the DCC circuit pack to reboot

| IF... | THEN... |
|-------------------------------|--|
| both DCCs successfully reboot | establish communications with the system. Go to “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2) <i>Stop! End of Task.</i> |

| IF... | THEN... |
|----------------------------------|---|
| one DCC successfully reboots | establish communications with the system. Go to “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2). Continue to the next step. |
| neither DCC successfully reboots | continue to Step 3. |

-
- 2** Replace the DCC circuit pack that did not boot with a known good replacement. Allow 2 to 3 minutes for the DCC circuit pack to initialize.

| IF... | THEN... |
|--------------------------------------|--|
| DCC successfully initializes | <i>Stop! End of Task.</i> |
| DCC does not successfully initialize | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 3** Replace both DCC circuit packs that did not boot with known good replacements. Allow 2 to 3 minutes for the DCC circuit pack to initialize.

4

| IF... | THEN... |
|--------------------------------------|---|
| both DCCs successfully initialize | establish communications with the system. Go to “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2) |
| one DCC successfully initializes | establish communications with the system. Go to “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2) and contact Lucent Technical Support. |
| neither DCC successfully initializes | contact Lucent Technical Support. |

END OF STEPS



Task 503: Recovering from Failure of Both SYS50Ds

Purpose Use this procedure to recover from concurrent failures of both SYS50D system controllers. Double SYS50D system controller failures are characterized by an inability to communicate with the system.

Before you begin Before beginning this task

- Read and follow all safety instructions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.
- After any reset or side switch, log in again. Refer to “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 6, “Recovery Tasks Background”
- “Task 403: Executing or Releasing a Forced or Manual Protection Switch” (10-2)
- “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-2)



WARNING

This process may corrupt the system database, which may consequently affect service.

Task Complete the following steps to recover from concurrent failures of both SYS50D System Controllers.

- 1 Reset the SYS50D side 0 circuit pack by pressing the recessed reset button on the circuit pack faceplate or by physically extracting and re-

inserting it. Allow five minutes for the SYS50D circuit pack to reboot.

| IF... | THEN... |
|--|--|
| the SYS50D side 0 circuit pack successfully reboots (indicated by the SYS50D green LED being continuously illuminated) | continue to Step 3. |
| the SYS50D side 0 circuit pack does not successfully reboot | replace the side 0 SYS50D circuit pack with a known good replacement SYS50D circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). Continue to the next step. |

2

| IF... | THEN... |
|--|----------------------------|
| the SYS50D side 0 circuit pack successfully reboots (indicated by the SYS50D green LED being continuously illuminated) | continue to the next step. |
| the SYS50D side 0 circuit pack does not successfully reboot | continue to Step 7. |

- 3** Establish communications with the WaveStar LambdaRouter 128/256. Go to “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2).

- 4** Reset the SYS50D side 1 circuit pack by pressing the recessed reset button on the circuit pack faceplate.

| IF... | THEN... |
|--|-------------------------|
| the SYS50D side 1 circuit pack successfully reboots (indicated by the SYS50D green LED being continuously illuminated) | continue to the Step 6. |

| IF... | THEN... |
|---|--|
| the SYS50D side 1 circuit pack does not successfully reboot | replace the side 1 SYS50D circuit pack with a known good replacement SYS50D circuit pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45). Continue to next step. |

5

| IF... | THEN... |
|--|---|
| the side 1 SYS50D circuit pack successfully reboots (Green LED is illuminated) | continue to the next step. |
| the side 1 SYS50D pack does not reboot | there is a problem with the side 1 SYS50D. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 6 A manual protection switch to side 0 can determine if the SYS50D side 1 replacement is OK. Refer to “Task 404: Extracting and Inserting an NVM Card” (10-25). Be sure to log in to the WaveStar LambdaRouter 128/256 after the protection switch. Go to “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).

| IF... | THEN... |
|---|--|
| protection switch to side 1 is successful | <i>Stop! End of Task.</i> |
| the side 1 SYS50D circuit pack does not successfully boot | there is a problem with side 1. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

- 7 Reset the SYS50D side 1 circuit pack by depressing the SYS50D circuit pack recessed reset button.

| IF... | THEN... |
|--|---|
| the side 0 SYS50D circuit pack successfully reboots (Green LED is illuminated) | there is a problem with the side 0 SYS50D. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

| IF... | THEN... |
|--|---|
| the side 0 SYS50D pack does not reboot | replace the side 1 SYS50D circuit pack with a known good replacement SYS50D pack. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-2). Continue to the next step. |

8

| IF... | THEN... |
|--|---|
| the side 1 SYS50D circuit pack successfully reboots (Green LED is illuminated) | there is a problem with the side 1 SYS50D. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| the side 1 SYS50D pack does not reboot | there is a problem with both SYS50D circuit packs. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |

.....
N D O F S T E P S
.....



Task 504: Recovering from LED Failure

Purpose Use this procedure to recover from an LED failure on a circuit pack or on a shelf user panel. An LED failure on a circuit pack is characterized by the green LED not being illuminated, even though the circuit pack is active; or a failure in the circuit pack does not result in the red LED being illuminated. A User Panel LED failure can be characterized by any one or all of the User Panel LEDs failing to illuminate despite an alarm being reported to the WaveStar CIT.

- Before you begin** Before beginning this task:
- Read and follow all safety instructions in the front of this manual.
 - Use the electrostatic discharge (ESD) strap.
 - Connect the WaveStar CIT to the local network element; use “Task 402: Connecting or Disconnecting the WaveStar CIT to or from WaveStar LambdaRouter 128/256” (10-19).
 - Log in to the WaveStar CIT; use “Task 407: Logging In to the WaveStar CIT” (10-36).
 - Log in to the network element with a Privilege Code of M3 from the WaveStar CIT; use “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29).
 - Have on hand a replacement circuit pack of the appropriate type and a replacement user panel, if needed.

Safety precautions Read and understand the following safety precautions:



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

- Related information** For related information, see
- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
 - Chapter 5, “Supporting Tasks Background”

- Chapter 6, “Recovery Tasks Background”
- “Task 100: Clearing Power Failure (PWR)” (7-2)
- “Task 414: Replacing a User Panel” (10-68)
- “Task 506: Recovering from System Power Failure” (11-21)

Task Complete the following steps to recover from an LED failure on either a circuit pack or shelf user panel.

-
- 1** To test either a circuit pack LED failure or user panel LED failure, depress the LED Test button on any user panel and observe the suspect LEDs.

Result: Under normal circumstances within 10 seconds of depressing the LED Test button all circuit pack LEDs and user panel LEDs illuminate.

2

| IF... | THEN... |
|---|--|
| no LEDs are illuminated system-wide | go to “Task 506: Recovering from System Power Failure” (11-21). <i>Stop! End of Task.</i> |
| no LEDs are illuminated shelf-wide for the circuit pack or user panel in question | go to “Task 100: Clearing Power Failure (PWR)” (7-2). <i>Stop! End of Task.</i> |
| a circuit pack has LEDs that fail to be illuminated (other circuit packs on the shelf have LEDs properly illuminated) | continue to the next step. |
| a user panel has LEDs that fail to be illuminated (circuit packs on the shelf have LEDs properly illuminated) | replace the User Panel. Go to “Task 414: Replacing a User Panel” (10-68). Then continue to Step 9. |
| all LEDs under surveillance are properly illuminated | <i>Stop! End of Task.</i> |

-
- 3** Replace the circuit pack whose LEDs fail to illuminate. Go to “Task 411: Removing, Inserting, or Replacing a Circuit Pack” (10-45).

After the circuit pack initializes, again test the LEDs either by depressing the LED Test button or by using the WaveStar CIT Test LED screen.

Result: Under normal circumstances within 10 seconds of depressing the LED Test button all circuit pack LEDs and user panel LEDs illuminate.

-
- 4** At the WaveStar CIT System View, select **Fault>Test>LED**.

Result: The Test LED Screen appears.

-
- 5** Select the shelf and then click **Select**.

Result: The Test LED Screen appears.

-
- 6** Select the number of iterations and click **Start**.

Result: A confirmation screen appears.

-
- 7** Click **Yes**.

Result: All LEDs except the Power On LED, are tested. During one iteration of the test, each LED is turned on for two seconds, then off for two seconds, three times. The test cycle is repeated the specified number of times.

-
- 8** Observe the replacement circuit pack LEDs.

| IF... | THEN... |
|------------------------------|---|
| the LEDs illuminate properly | the LEDs have been restored to normal operation. <i>Stop! End of Task.</i> |
| the LEDs fail to illuminate | contact Lucent Technical Support. <i>Stop! End of Task.</i> |

-
- 9** Again, press the LED Test button and observe the replacement User Panel LEDs

Result: Under normal circumstances within 10 seconds of depressing the LED Test button all circuit pack LEDs and user panel LEDs illuminate.

10

| IF... | THEN... |
|------------------------------|--|
| the LEDs fail to illuminate | contact Lucent Technical Support. |
| the LEDs illuminate properly | the LEDs have been restored to normal operation. |

ND OF STEPS



Task 505: Recovering from Shelf Power Failure

Purpose Use this procedure to recover from a power failure on a shelf.

Before you begin Before beginning this task:

- Read and follow all safety instructions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 6, “Recovery Tasks Background”
- “Task 505: Recovering from Shelf Power Failure” (11-19)

Task Complete the following steps to recover from a shelf power failure.

1 Check the shelf circuit breakers.

| IF... | THEN... |
|--|--|
| A and B circuit breakers are on, both PFVP unit LEDs are off, and there is power to the premises | the PFVP units are faulty. Contact Lucent Technical Support. <i>Stop! End of Task.</i> |
| both PFVP unit LEDs are off | power to the system has failed. Follow local procedures to restore power. <i>Stop! End of Task.</i> |
| A and B circuit breakers are off and both PFVP units are on | continue to the next step. |
| A or B circuit breaker is off and one PFVP unit LED is off | continue to the next step. Call Lucent Technical Support about replacing the failed PFVP unit. |
| A or B circuit breaker is off and both PFVP unit LEDs are on | continue to the next step. |

2 Turn off the power to the PFVP unit and reset the circuit breaker by inserting a small flat-head screwdriver into the slot on the Off side

circuit breaker On/Off switch until the power turns off. Then turn the power back on by pressing the On side of the On/Off switch.

| IF... | THEN... |
|--------------------------------------|---|
| power is restored | shelf power has been restored. |
| power is not restored | contact Lucent Technical Support. |
| the PFVP unit LEDs blink momentarily | there is a short circuit in the PFVP unit. Contact Lucent Technical Support. |

.....
N D O F S T E P S



Task 506: Recovering from System Power Failure

Purpose Use this procedure when there is a loss of the power to the network element or to the network element premises. For additional information about this task, refer to Chapter 6, “Recovery Tasks Background”.

Before beginning this task:

- Read and follow all safety instructions in the front of this manual.
- Use the electrostatic discharge (ESD) strap.

Safety precautions



CAUTION

Whenever handling circuit packs or working on a WaveStar LambdaRouter 128/256 system use a static ground wrist strap to prevent electrostatic discharge.

Related information For related information, see

- Chapter 2, “Alarm Messages and Trouble-Clearing Introduction”
- Chapter 6, “Recovery Tasks Background”
- “Task 407: Logging In to the WaveStar CIT” (10-36)
- “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2)

Task Complete the following steps to recover from a system power failure.

-
- 1** Determine the cause of the power interruption and follow local practices to restore power.
-
- 2** Re-establish connection between the WaveStar CIT and the network element. Go to “Task 500: Establishing Communication Between the System and WaveStar CIT” (11-2).

-
- 3** Log in to the WaveStar LambdaRouter 128/256.

Reference: “Task 405: Logging In to WaveStar LambdaRouter 128/256 from the WaveStar CIT” (10-29)

- 4** Correct the system date and time. At the WaveStar CIT select **Administration>NE System Provisioning**.

Result: The Equipment Selection Screen appears.

- 5** On the Equipment Selection Screen, select **System**.

Result: The System Provisioning Screen appears.

- 6** Enter the correct date and time in the appropriate fields and click **OK**.

| IF... | THEN... |
|---|-----------------------------------|
| the system accepts the changes without any error messages | communication is re-established. |
| any error message is displayed | contact Lucent Technical Support. |

N D O F S T E P S





Appendix A: Abbreviations and Acronyms

| | |
|-----------------|---|
| Numerics | 10BT 10 Base T |
| | 10G 10 Gigabits per second |
| | 100BT 100 Base T |
| | 2G/2.5G 2.5 Gigabits per second |
| A | ABN Abnormal |
| | ACO Alarm Cut-Off |
| | ACO/TST Alarm Cut-Off and Test |
| | ACT Active |
| | ACTY Activity |
| | ADC Analog-to-Digital Converter |
| | AID Access Identifier |
| | AINS Automatic In-Service |
| | AIS Alarm Indication Signal |
| | AIS-L Alarm Indication Signal-Line |

- AIS-MS** Alarm Indication Signal-Multiplex Section
- ALM** Alarm
- ANR** Abnormal
- ANSI** American National Standards Institute
- APP** Apparatus Code
- APR** Automatic Power Reduction
- ARP** Address Resolution Protocol
- ARST** Autonomous Reset
- ASCII** American Standard Code for Information Interchange
- ASIC** Application-Specific Integrated Circuit
- ATM** Asynchronous Transfer Mode
- ATTR** Attribute
- B**
- BBE** Background Block Error
- BER** Signal Degrade B2 Bit Error Rate
- BIP** Bit Interleaved Parity
- BT** Base-T
- C**
- CARES** Customer Assistance Request Entry System
- CC** Communication Client
- CCD** CTLI-D Controller Device
- CIC** Customer Information Center
- CIT** Craft Interface Terminal
- CLEI** Common Language™ Equipment Identifier
- CO** Central Office
- COM** Common
- CONTR** Controller

CP Circuit Pack

CP-ID Circuit Pack Identifier

CPF Circuit Pack Failure

CPLD Complex Programmable Logic Device

CPU Central Processing Unit

CR Critical

CSA Canadian Standards Association

CSIEX Control System Interface Expander

CSMA/CD Carrier Sense Multiple Access/Collision Detect

CSR Composite Service Request

CTL Controller

CTLI-D Control Interface to Devices

CV Coding Violation

D **DAC** Digital-to-Analog Converter

DATAFLT Database Fault

DBCHG Database Change

DCC Data Communications Controller; Data Communications Channel

DCE Data Communications Equipment

DCN Data Communications Network

DHCP Dynamic Host Configuration Protocol

DLC Download Client

DLS Download Server

DNS Domain Name Server

DOS Detection of Signal

DTE Data Terminal Equipment

DTP Data Transfer Process

DVM Digital Voltage Meter

DWDM Dense Wavelength Division Multiplexing

E **EB** Errored Block

EBER Signal Fail B2 Excessive Bit Error Rate

ECI Equipment Catalog Item

ECS Express Connection Service

EEPROM Electrically Erasable Programmable Read Only Memory

EI External Interface

EIS Engineering Information Standards

ELSR Edge Label Switched Router

EM Equipment Management

EMI Electromagnetic Interference

EMS Element Management System

EO Expansion Operations Network

EOF End of File

EOL End of Line

EOR End of Record

EPROM Electrically Programmable Read Only Memory

EQ Equipped; Equipment

EQPT Equipment

ESD Electrostatic Discharge

ETS European Telecommunications Standard

ETSI European Telecommunications Standards Institute

- F** **FCC** Federal Communications Commission; Fast Communications Channel
- FCIO** Function Controller Input/Output Device
- FDA/CDRH** Federal Drug Administration, Center for Devices and Radiological Health
- FDP** Fiber Distribution Panel
- FE** Far End
- FEND** Far End
- FI** Facility Interface
- FIFO** First In First Out
- FIT** Failure In Time
- FLT** Fault
- FM** Fault Management
- FTP** File Transfer Protocol
- G** **GBELX** Gigabit Ethernet
- GMT** Greenwich Mean Time
- GPIO** General Purpose Input/Output
- GUI** Graphical User Interface
- H** **HSBB** High-Speed Broadband
- HSWIC** High-Voltage Shelf Switch Interface Controller
- HV** High Voltage
- HVCPG** High-Voltage Shelf Controller Protection Group
- HVDAC** High-Voltage Digital-to-Analog Converter
- HVFAN** High-Voltage Shelf Fan
- HVS** High-Voltage Shelf

- I IAO** Intraoffice
- IAO LAN** Intraoffice Local Area Network
- ID** Identifier
- IDC** Insulation Displacement Connector
- IEC** International Engineering Consortium
- IEEE** Institute of Electrical and Electronics Engineers
- IETF** Internet Engineering Task Force
- IF** In Frame
- IFMT** Interface Format
- IIC** Inter-Integrated Circuit
- IMF** Infant Mortality Factor
- IMPROPRML** Improper Removal
- INTSFT** Internal Software
- I/O** Input/Output
- IOPT** Interface Optics
- IP** Internet Protocol
- IP-CPY-MEM** In Progress–Copy Memory
- IR** Intermediate Reach
- IS** In Service
- IS-NR** In Service-Normal
- ISO** International Standards Organization
- ITE** Information Technology Equipment
- ITU** International Telecommunications Union
- ITU-T** International Telecommunications Union—
Telecommunication Standardization Sector

- J** **J0** SONET/SDH Section Trace Byte
- JTAG** Joint Test Action Group
- L** **L<number>** Layer <number>
- L/MS** Line/Multiplex Section
- LAN** Local Area Network
- LBC** Laser Bias Current
- LC** Lucent Connector
- LED** Light-Emitting Diode
- LID** LED Interface Device; Logical Identifier
- LLC** Logical Link Control
- LLO** Lucent Learning Organization
- LM** Loss Parameter
- LMPTST** Lamp Test
- LOF** Loss of Frame
- LOS** Loss of Signal
- LPBKCRS** Loopback Cross-Connect
- LPBK-DX** Loopback–Duplex
- LPBK-SX** Loopback–Simplex
- LR** Long Reach
- LSAP** LLC Service Access Point
- LSBB** Low Speed Broadband
- LVDS** Low Voltage Differential Signal

- M** **M** Maintenance
- MA** Management; Messaging Agent
- MAC** Media Access Control
- MAN** Metropolitan Area Network
- MD** Mediation Device
- MEA** Mismatch of Equipment and Attributes
- MEM** Memory
- MEMS** Micro-Electromechanical System
- MIB** Management Information Base
- MJ** Major
- MMIS** Memory Mismatch
- MN** Minor
- MON** Monitoring
- MS** Multiplex Section
- MT** Maintenance
- MTBMA** Mean Time Between Maintenance Activities
- MTTF** Mean Time To Failure
- MTTR** Mean Time To Repair
- N** **NBF** Non-blocking Fabric
- NDF** New Data Flag
- NE** Near End; Network Element
- NEBS** Network Equipment-Building System
- NEDS** Network Equipment Development Standards
- NEND** Near End
- NIC** Network Interface Card

NMON Non-Monitoring

NMS Network Management System

NNI Network to Network Interface

NP Network Path

NR Not Reported

NSA Non-Service-Affecting

NVM Non-Volatile Memory

NVMU Non-Volatile Memory Usage

NVMW Non-Volatile Memory Wearout

NVRAM Non-Volatile RAM

○ **OC-n** Optical Carrier <number>

OCH Optical Channel

OEO Optical to Electrical to Optical

OICPG Optical Interface Shelf Controller Protection Group

OIFAN Optical Interface Shelf Fan

OIM Optical Interface Module

OIS Optical Interface Shelf

OIS-10G Optical Interface Shelf-10Gbps

OIS-2G Optical Interface Shelf-2.5Gbps

OIS-MX Optical Interface Shelf-Mixed

OIS-S Optical Interface Shelf-SDH/SONET

OIS-T Optical Interface Shelf-Transparent

OLS Optical Line System

OMERR Out of Memory Error

ON Operations Network

ONI Operations Network Interface

OOF Out of Frame

OOS Out of Service

OOS-MA Out of Service Management

OPI Operations Peripheral Interface

OPR Operate

OS Operations System

OSWIC Optical Interface Shelf Switch Interface Controller

OTDR Optical Time Domain Reflectometer

OTU Optical Translator Unit

OXC Optical Cross-Connect

OXI Optical Cross-Connect Interface

OXI-10GC Optical Cross-Connect Interface-10 Gbps Client

OXI-2GC Optical Cross-Connect Interface-2.5 Gbps Client

P **P** Provisioning

PCMCIA Personal Computer Memory Card International Association

PFVP Power Filter Voltage Protection

PFVP-CB Power Filter Voltage Protection with Circuit Breaker

PIC Peripheral Interface Controller

PID Password Identifier

PLD Programmable Logic Device

PMD Polarization Mode Dispersion

POR Power On Reset

PRI Primary Nonvolatile Memory

PROGFLT Program Fault

PROV Provisioned

PSCHG Protection Switch Change

PST Primary State

PU Port Unit

PWR Power

PWRM Power Monitor

Q **QoS** Quality of Service

R **RS** Regenerator Section

RTAC Regional Technical Assistance Center

RU Resource Usage

S **S** Security

SA Service-Affecting

SAP Service Access Point

SB Secondary Boot

SCC System Controller Complex

SCCPG System Controller Complex Protection Group

SCFAN System Controller Shelf Fan

SCMMA System Controller in Maintenance

SCS System Controller Shelf

SD Signal Degrade

SDH Synchronous Digital Hierarchy

SDRAM Synchronous Dynamic Random Access Memory

SEC MEM Secondary Non-Volatile Memory

SEEPROM Serial EEPROM

SELV Safety Extra Low Voltage

SF Signal Fail

SI Switch Interface

SID Source Identifier

SLN Serial Number

SMC Serial Management Controller

SMEM Secondary MEM

SMF Single Mode Fiber

SMI Serial Management Interface

SMS Service Management System

SN Serial Number

SNIP Serial Number Identification Port

SNMP Simple Network Management Protocol

SNMS SubNetwork Management System

SONET Synchronous Optical Network

SPLTR Splitter

SR Short Reach

SRC Subrack Controller

SSN Series Number

STBY Standby

STBYS Standby Switched

STCHG State Change

STM Synchronous Transfer Mode

STS Synchronous Transport Signal

SWIC Switch Interface Controller

SWIP Switch Interface Point

SWMG SWIP Maintenance Group

SWS Switch Shelf

SYSCTL System Controller

T **T** Test

TCP/IP Transmission Control Protocol/Internet Protocol

TID Target Identifier

TL1 Transaction Language 1

TMN Transport Management Network

TSA Test Alarm

TSS Technical Support Services

U **UAS** Unassigned; Unavailable Seconds

UEQ Unequipped

UI Unit Interface

UIA Unit Interface Appliance

UID User Identification

UL Underwriters Laboratories

UNEQ Unequipped

UPC User Privilege Code

V **V/V** Voltage to Voltage

VPN Virtual Private Network

VSR Very Short Reach

W **WAN** Wide Area Network

WDM Wavelength Division Multiplexing

WINS Windows Internet Network Service





Glossary

Numerics **0x1 Facility Interface**

A transmission interface without line or equipment protection switching.

0x1 Line Operation

Operation between network elements, without protection in a single bidirectional line (no protection line is available).

1+1 Client Protection

A Release 2.0 feature in which connections between and client network elements can be configured as 1+1 at the optical level.

1+1 Protection Group

A protection architecture, in which one working function is protected by one protection function. In addition, the protection function is fully synchronized with the working function. The functions are permanently bridged upstream, and one is selected downstream.

1+1 Restoration

A type of network restoration supported in . The restoration path, including the end-points, is provisioned when initial path provisioning is done. The restoration path always carries the same signal as the service path, and the egress automatically switches over to it when the service path fails.

1x1 Protection Group

A protection architecture, in which one working function is protected by one protection function. In contrast to the 1+1 Protection Group, the protection function is not fully synchronized with the working function.

A Access Identifier (AID)

A technical specification for explicitly naming entities (both physical and logical) of a network element, following Telcordia TL1 syntax.

Activation

The process of starting software or using the data in execution the first time after installation.

Active (ACT)

Indication that a circuit pack or module is in service and is currently providing service functions. *See also* Standby.

Active Path

One of two signals entering a constituent path selector. The active path is the one currently being selected.

Add/Drop Multiplexer (ADM)

A synchronous network element capable of combining signals of different rates and having those signals added to or dropped from the stream.

Air Baffle

A bay component that facilitates air intake and exhaust.

Alarm

A visible or audible signal to the operations environment that a communication, equipment, or processing failure has occurred.

Alarm Correlation

A feature that minimizes the number of alarm messages generated for a single fault condition.

Alarm Cut-Off (ACO)

A mechanism to silence local Central Office audible alarms. It is activated by a user panel button or a user command.

Alarm Indication Signal (AIS)

A code sent downstream in a network to indicate an upstream failure.

Alarm List

A status report that lists active alarms on the network element. It includes alarm level and type, affected equipment, effect on service, probable cause, and additional details of the failure, if available.

Alarm Log

A history and time sequence of the setting and clearing of alarms on the . The alarm log contains as many as 512 alarm messages. It includes the type of trouble, time of occurrence, identification of affected equipment, effect on service, alarm level, alarm condition state, and additional details of the failure, if available.

Alarm Notification Category

One of three types of alarm messages: Optical Channel, Equipment, or Common Alarm.

Alarm Severity

An attribute that defines the priority of an alarm message. The way alarms are processed depends on their severity.

American Standard Code for Information Interchange (ASCII)

A standard seven-bit code that represents letters, numbers, punctuation marks, and special characters in the interchange of data among computing and communications equipment.

Apparatus Code (APP)

A circuit pack identifier stored in EEPROM.

Asynchronous

The essential characteristic of time-scales or signals, such that their corresponding significant instants do not necessarily occur at the same average rate.

Asynchronous Transfer Mode (ATM)

A high-speed transmission technology characterized by high bandwidth and low delay. It uses a packet switching and multiplexing technique that allocates bandwidth on demand.

Authorization Level

A numeric code that determines what commands within a functional category a user may access on the . The authorization level ranges from 0 (lowest) to 5 (highest) for all functional categories except security, which ranges from 1 to 5. Assigning an authorization level of 0 disables that functional category for a particular user.

Auto-Provisioning

The capability of the to discover its hardware configuration and to create associated database entries autonomously using the original (default) or user-defined, pre-provisioned parameters. These parameters are maintained in non-volatile memory (NVM) and/or hardware registers.

Automatic Protection Switch

A protection switch that occurs automatically in response to an automatically detected fault condition.

B Backup and Restore

In , the capability to copy and restore databases between Primary Non-Volatile Memory (NVM) and Secondary NVM, Primary NVM and WaveStar SNMS, and Primary NVM and WaveStar CIT.

Bandwidth

Throughput capacity in a transmission channel.

Bandwidth Management

The capability that allows users to provision either unidirectional or bidirectional optical, or optical-electrical-optical (OEO), cross-connections for transmission paths through the switch fabric.

Bay

A hardware frame in which shelves are mounted and housed.

Bidirectional Line

A transmission path consisting of two fibers that handle traffic in both the transmit and receive directions.

Bit Error Rate (BER)

The ratio of error bits received to the total number of bits transmitted.

Blank (BLK)

The status of a circuit pack slot that contains a bus extender (blank) circuit pack; the pack itself.

Bridging

A one-way 1:2 multicast from an input port where a 1:2 splitter routes the two one-way signals through the duplicated switch fabric to two different output ports. Each one-way leg is a simplex transmission path. *See also* Merging.

Broadband Communications

Voice, data, and/or video communications at greater than 2 Mbps rates.

Busy State

Indication that a port is being used in a cross-connection.

C Calibration Database

A database that indicates initial control voltages for each Switch Shelf mirror in an array. The calibration data is delivered on a non-volatile memory (NVM) card and is installed by inserting the card into the secondary NVM (SEC MEM) on the .

Card

A removable integrated circuit board/circuit pack.

Central Office (CO)

A building in which common carriers terminate customer circuits.

Channel

A (one-way) transmission pathway from an input port to an output port in the network element, at any supported transmission rate and/or format.

Circuit Pack (CP)

A single field-replaceable electronic or opto-electronic unit. It comprises mechanical piece-parts, electronic components, and their associated connections and performs a specific function.

Circuit Pack Extraction

The process of software acknowledgement of an event associated with the physical removal of a circuit pack from a shelf slot, or the opening of its latch.

Circuit Pack Identifier (CP-ID)

A code that is derived from the circuit pack type (apparatus code), serial number, series number (version), CLEI code, and ECI code of each circuit pack. The circuit pack identifier is readable by the system upon insertion of the pack in any allowable slot.

Circuit Pack Insertion

The process of acknowledging and subsequently provisioning a valid circuit pack that has been inserted into a shelf slot. Circuit pack insertion requires equipage and latch closure acknowledgments, and a response to the insertion cannot be completed prior to the detection of the latch closure.

Client

A client network interface.

Cold Standby

A standby function that does not function simultaneously with the active function. It requires a form of initialization (provisioning) before it can assume the role of the active function.

Command Echo

The ability of to repeat the text of entered commands to a user provisioned for this feature.

Command Functional Categories

Logical groupings of commands. These include maintenance (M), provisioning (P), security (S), and test (T).

Command Group

An administrator-defined group that defines commands to which a user has access.

Common Alarm

A alarm message category that indicates a controller software fault, controller autonomous reset, data storage problem, software version mismatch, or security-related issue. Common alarm issue points are circuit pack, controller complex, shelf, or system.

Common Language Equipment Identifier (CLEI)

A Telcordia code that identifies telecommunications equipment to facilitate inventory, maintenance, investment tracking, and circuit maintenance processes. CLEI codes are stored in circuit pack EEPROM.

Compact Duplex (CD)

1. Generic term for the WaveStar LambdaRouter architecture of one logically segregated switch fabric. 2. Specific term for the WaveStar LambdaRouter Release 1.0 two-bay configuration. It comprises one Switch Shelf, one High-Voltage Shelf, one System Controller Shelf, and one Optical Interface Shelf.

Compact Duplex 2 (CD2)

Software term for the WaveStar LambdaRouter 128 Release 2.0 configuration.

Configuration Management (CM)

The activities necessary to create, modify, retrieve, and delete data that controls the configuration and operation of hardware and software. These activities include equipment provisioning, alarm monitoring and fault management, cross-connection management, and software management.

Configuration Query

A user-initiated request for a report on provisioned data.

Control Bay

The frame that contains one System Controller Shelf and up to two Optical Interface Shelves. There is one Control Bay per system.

Control System Interface Expander (CSIEX)

The circuit pack that expands the number of internal interfaces to and from the SYS50D circuit pack. It is located in the System Controller Shelf.

Controller Reset

The capability of rebooting shelf controllers locally (manually, on equipment) and through command. WaveStar CIT or WaveStar SNMS or other managing system can reset the system or shelf controllers without affecting transmission.

Craft Interface Terminal (CIT)

See WaveStar CIT (Craft Interface Terminal).

Critical (CR) Alarm

An indication of a severe, service-affecting condition.

Cross-Connection

A configurable optical, or optical-electrical-optical (OEO), transmission path interconnection between input and output ports within a single network element.

Cross-Connection Capacity

The total number of cross-connections, as measured by the number of fabric input and fabric output points. A fabric with N input points and N output points provides a cross-connection capacity of N. *See also* Non-Blocking Cross-Connection Capacity; Switch Interface Capacity.

Cross-Connection Configuration

A set of one or more associated cross-connection legs. Examples of configurations that are supported in are one-way point-to-point (one duplex leg); two-way point-to-point (two duplex legs); one-way bridge (two simplex legs); one-way merge (two simplex legs); one-way bridge and merge (three simplex legs); and two way bridge and merge (four simplex legs).

Cross-Connection Fabric

See Switch Shelf (SWS).

Cross-Connection Leg

A one-way connection provisioned from one input port to one output port within a

single network element. A leg with a transmission path through one switch fabric is called a simplex leg. A leg that has a transmission path between both fabrics is called a duplex leg.

Cross-Connection List

A WaveStar CIT for LambdaRouter status report that lists current cross-connections for the following: a specific port, all ports on a specific circuit pack, all ports on a specific shelf, or all ports in the network element. The report includes the input and output AID, cross-connection typology or loopback type, and switch fabric used.

Cross-Connection Loopback

A cross-connection, for maintenance purposes, from an input port through the switch fabric to an output port. An output port may be selected with an access identifier (AID) that is the same or different from the input AID. supports normal, forced simplex, and forced duplex loopbacks. A forced simplex loopback allows one of the transmission paths in the forward direction to remain operational.

Cross-Connection Management

The activities necessary to establish and remove cross-connections, operate and release loopback cross-connections, and retrieve cross-connection parameters.

Cross-Connection Rate

The transmission rate associated with the cross-connection, which is determined by the type of ports being used. Ports provided by transparent circuit packs allow cross-connections to be bit-rate-independent. Ports provided by optical-electrical-optical circuit packs limit cross-connections to a specific rate, such as 10 Gbps.

Cross-Connection Topology

The basic nature of a cross-connection configuration. All cross-connections can be classified into two topologies: one-way (unidirectional) and two-way (bidirectional).

Cross-Connection Type

See Cross-Connection Configuration.

Crosstalk

An unwanted signal introduced into one transmission path from another.

Cut-Through

An American Standard Code for Information Interchange (ASCII) interface to a network element (NE). It enables the user to send Transaction Language 1 (TL1) messages directly to the NE.

D Data Communications Controller (DCC)

A circuit pack that provides the interface between the system and the operations data communications network, which is physically accessed via the LAN connection on the External Interface packs. In Release 2.0 there are two DCC packs on the System Controller Shelf, for active/active service.

Database Labeling

A feature that records system target identifier (TID), date of last database modification, date backed up from the network element, and the software generic ID, for use in subsequent download operations.

Debug Support

Maintenance activity access for Lucent personnel.

Default Provisioning

The implementation of parameter values that are preprogrammed at the factory.

Defect

A limited interruption of the ability of an item to perform a required function. It may or may not lead to maintenance action, depending on the results of additional analysis. *See also* Failure.

Dense Wavelength Division Multiplexing (DWDM)

The transmitting of two or more signals of different wavelengths simultaneously over a single fiber.

Deprovisioning

The inverse order of provisioning, to manually remove or delete previously provisioned parameters.

Details Screen

A text-based display of parameter settings, states, and all other information related to the detailed item on the display.

Detection of Signal (DOS)

The detection of a signal that meets provisioned threshold values, applying to both input and output ports.

Diagnostics

In , the capability to test a range of equipment and software entities. Some diagnostics run autonomously (for example, during boot or circuit pack insertion). Others are on-demand, on either an in-service basis (for example, LED test) or out-of-service basis (for example, cable testing).

Dialog Box

A secondary WaveStar CIT window designed to allow the user to enter additional information.

Dimmed State

The condition of a graphical user interface (GUI) control whose normal functionality is not currently available to a user. This state is indicated on the WaveStar CIT screen by a greyed image.

Discovery

The process of detecting circuit pack presence during system initialization, prior to hardware interrupt enabling.

Dispersion

The phenomenon in which different wavelengths or different polarizations of light travel at different speeds through a fiber optic cable.

Dither

In , the capability to make small adjustments to the orientation of ingress and egress switch fabric mirrors in order to minimize cross-connection signal loss.

Diverse Duplex (DD)

1. Generic term for the WaveStar LambdaRouter architecture of two diverse switch fabrics separated by a bay. 2. Specific term for the WaveStar LambdaRouter [256] Release 1.0 three-bay configuration. It comprises two Switch Shelves, two High-Voltage Shelves, one System Controller Shelf, and two Optical Interface Shelves.

Diverse Duplex 2 (DD2)

Software term for the WaveStar LambdaRouter 256 Release 2.0 configuration.

Download

The process of transferring files from a managing system such as the WaveStar CIT or WaveStar SNMS to a network element, such as . Both software and data can be downloaded to the . *See also* Upload.

Downstream

At or toward the destination of the considered transmission stream.

Duplex Control

A control architecture that includes two controllers, one active, one standby, that protect each other; if the active one fails, the inactive takes over.

Duplex Cross-Connection

A cross-connection that has a transmission path through both switch fabrics.

Duplex Cross-Connection Fabric

A cross-connection fabric consisting of two identical subunits (Switch Shelves), which form a 1+1 protection group.

E Egress

The direction away from the fabric.

Electromagnetic Compatibility (EMC)

The ability of equipment or systems to operate without causing or receiving degradation from electromagnetic interference (EMI).

Electromagnetic Interference (EMI)

High-energy, electrically induced magnetic fields that cause data corruption in cables passing through the fields.

Electronic Industries Association (EIA)

A trade association of the electronic industry that establishes electrical and functional standards.

Electrostatic Discharge (ESD)

A static electrical energy potentially harmful to circuit packs.

Enabled

The state in which an equipped subsystem or component is fully capable of operation.

End Guard

A panel that is installed at ends of a bay lineup; it meets ETSI standards.

Entity

A specific piece of hardware (usually a circuit pack, slot, or module) that has been assigned a name recognized by the system.

Entity Identifier

The name used by the system to refer to a circuit pack, memory device, or communications link.

Equipage Check

A system check of equipment that results in an alarm if there is a mismatch between a circuit pack and the provisioned slot in which it is installed.

Equipment Alarm

A alarm message category that indicates transmission and control equipment failures and service interruption owing to failures in power supply, fuse, or fan assembly, or configuration problems. Equipment alarms are issued for port, circuit pack/slot, shelf, and system.

Equipment Catalog Item (ECI)

A circuit pack identifier stored in Erasable Electrical Programmable Read Only Memory (EEPROM).

Equipment Fail (EF) State

A state in which any of the protection group's circuit packs have failed, and no higher priority request (for example, Clear, Forced Switch) is present. The protection group leaves the EF state when all EF indications are cleared, or a higher priority request has been received.

Equipment List

A report, available through user request, that lists equipment for a selected shelf, circuit pack, or port in the . The report includes the AID for the selected entity and other information, such as CLEI code, serial number, and cabling information.

Equipment Protection

The protection switching for the redundant common transmission and control equipment in the network element.

Equipment Provisioning

The assigning of values to a set of parameters of the system, or any of its subsystems, to enable the expected use of the entity. Provisionable entities include system, shelves, slots/circuit packs, ports, cross-connections, and protection groups.

Equipped (EQ) Status

Indication that a circuit pack or interface module is in the system database and physically in the frame.

Event

Significant change detected by the system. Events in controlled network elements include signal failures, equipment failures, signals exceeding thresholds, and protection switch activity. When an event occurs, the controlled network element will generate an alarm or status message and send it to the management system.

External Interface (EI)

The circuit pack that provides interfaces to the Data Communications Controller (DCC) circuit pack, WaveStar CIT port, and Intraoffice (IAO) LAN. The EI provides local office alarm relay closures and miscellaneous discrete inputs and outputs. It also provides the interface to alarm closures on the System Controller Shelf (SCS) User Panel. Duplex EIs are located on the SCS.

Extraction

Physical removal of a circuit pack from a slot, causing a system-initiated removal of an entity from service.

F Fabric

The physical hardware that provides the switching function within the network element; a mesh of interconnections between inputs and outputs. In , the fabric is a set of mirrors that allows connection between any one of a set of inputs to any one of a set of outputs.

Fabric Wavelength Window

The allowable range of wavelengths transmitted by a given fabric. For , that range is from 1260 nm to 1360 nm, and from 1500 nm to 1620 nm.

Facility

A one-way or two-way circuit that carries a transmission signal.

Facility Interface (FI)

See Transmission Interface.

Facility Loopback

A loopback of the incoming facility signal to the output of the same facility, without going through a switch fabric. A facility loopback is not supported on .

Failure

A persistent defect. *See also* Software Failure.

Failures in Time (FIT)

A unit of hazard rate used to measure the reliability of non-reparable equipment. A hazard rate of 1 FIT corresponds to a Mean Time to Failure (MTTF) of one billion

hours.

Fan Filter

A field-replaceable part that keeps dust and debris out of the Fan Unit. There are two types of Fan Filters in the : OIS-S Fan Filters and SCS/HVS/OIS-T Fan Filters.

Fan Unit

A field-replaceable module that provides forced air cooling for the . There are two types of Fan Unit: SCS/HVS/OIS-T Fan Unit and OIS-S Fan Unit.

Far End (FE)

Any network element in a maintenance subnetwork other than the one at which the user is posted. Also called remote.

Fault

A generic term for anomaly, defect, and failure.

Fault Detection

The ability to identify communications, equipment, and processing failures. provides continuous, autonomous, in-service fault detection and isolation on transmission and control equipment.

Fault Management

In , capabilities that provide fault detection, isolation, reporting and facility/equipment alarms, user/alarm displays, circuit pack LEDs, office alarms, and records provisioning.

Fiber Distribution Panel (FDP)

In WaveStar LambdaRouter [256] Release 1.0 and Release 2.0, a Switch Shelf panel that contains connectors for 256 inputs and 256 outputs.

Fiber Management Unit

A Release 2.0 duct used to control and store cables and protect them from physical damage. It is used in both overhead and underfloor installations.

Fiber Organizer

A frame between bays that is used for managing fiber cables.

File Transfer Protocol (FTP)

A protocol used by for transfer of software and data between the network element and its management system and between network elements.

G General User

A WaveStar CIT user type with access to all commands except network element (NE) security administration, software installation, system initialization, and NE access capabilities.

Generic

A collection of programs and associated static data that fully support and perform all of the designed functions of the , WaveStar CIT, or element management system (EMS).

Generic Labeling

The unique identification of a software generic release so that it is recognized by the system and is available to the user upon query. The label includes the supplier name and type, version number of the generic, the date built or build number, and the date installed. The generic label information can be retrieved via the managing system or WaveStar CIT.

H Hard Failure

An unrecoverable nonsymptomatic (primary) failure that causes signal impairment or interferes with critical network functions.

High-Voltage Digital-to-Analog Converter (HVDAC)

The Release 2.0 circuit pack that provides the digital-to-analog converters and high-voltage linear amplifiers used to control a subset of the Micro-electromechanical System (MEMS) mirrors in the Switch Shelf (SWS).

High-Voltage Shelf (HVS)

The Release 2.0 shelf that houses High-Voltage Digital-to-Analog Converter (HVDAC) circuit packs.

High-Voltage Shelf/Optical Interface Shelf (HVS/OIS) User Panel

The Release 2.0 module that receives alarm status information. It provides visual indications of shelf status through LEDs and a means for generating alarm cutoff and LED test interrupts to the shelf Switch Interface Controller (SWIC) circuit packs. *See also* System Controller Shelf (SCS) User Panel.

Hot Standby

A standby function that is fully operational and acts in synchronism with an active function. It is able to take over the role of the active function without the need for initialization. *See also* Active; Cold Standby.

I Idle State

The state of a port that is not cross-connected.

Ingress

The direction toward the fabric.

Insert

The physical insertion of a circuit pack into a slot, causing a system-initiated restoral of an entity into service and/or creation of an entity and associated attributes.

Insertion Loss

The decrease in optical signal power incurred by a signal passing through the entire system.

In-Service (IS) State

An administrative state for equipment entities (ports, circuit packs). IS indicates that the entity is fully capable and allowed to perform its specified functions.

Interface Bay

The Release 2.0 frame that contains optical interface shelves.

Intermediate Reach (IR)

A standard for optics, concerning transmitters and receivers in a system, that insures that transmission can be maintained for intermediate distances (50 km). This standard constrains the output power of the transmitter and the sensitivity of the receiver for moderate haul applications (up to 50 km; a compromise between long and short reaches) without the need for regeneration. *See also* Long Reach; Short Reach; Very Short Reach.

International Telecommunications Union–Telecommunications Standards Sector (ITU-T)

One of three sectors of the ITU. The ITU-T sets global telecommunications standards.

Inventory Query

A user-initiated request for a report on all electronic equipment in the system.

J Jitter

The short-term variation of the significant instants of a digital signal from their ideal positions in time. Jitter may cause crosstalk or distortion of the original analog signal, or both, and is potentially a source of bit errors at the input ports of

digital equipment. *See also* Wander.

L Labeling

The capability to label database and software generics. *See also* Database Labeling; Generic Labeling.

Lambda

The Greek letter used to signify the wavelength of a complete cycle of signal that propagates through space. Common examples of such signals are radio waves and light waves.

LambdaRouter

See WaveStar LambdaRouter; WaveStar LambdaRouter 128; WaveStar LambdaRouter 256.

Lamp Test (LMPTST)

A user panel button used to test LEDs.

LC Connector (LC)

A Lucent-designed small form-factor plastic optical fiber connector, designed for applications where space is limited. The LC, which is half the size of other common connectors, is ferrule-based and uses the familiar insertion/release mechanism similar to an ordinary telephone plug.

Line

See Port.

Line Protection

Backup for optical interfaces. Line protection protects against failures of line facilities, including the interfaces at both ends of a line, the optical fibers, switching failures, and any equipment between the two ends.

Location

A user-provisionable identifier of the physical positioning of a specific shelf.

Log

System-maintained data of user session activity, including changes, alarms and security activity, and protection switching.

Login ID

See User ID.

Long Reach (LR)

A standard for optics, concerning transmitters and receivers in a system, that insures that transmission can be maintained for long distances (tens of kilometers). This standard constrains the output power of the transmitter and the sensitivity of the receiver for long-haul applications (up to 80 km) without the need for regeneration. *See also* Intermediate Reach; Short Reach; Very Short Reach.

Loopback

A circuit configuration used to compare an original transmitted signal with the resulting received signal. supports cross-connection loopback for maintenance purposes.

Loss of Frame (LOF)

An indication of consecutive errored framing patterns in an incoming signal.

Loss of Signal (LOS)

An indication that a signal is below the provisioned threshold values for either the input or output port.

Low-Voltage Shutdown

The capability of to detect when power drops below a predefined input voltage level and to shut down gracefully. Cross-connection maps and other provisioned data are maintained through the power loss.

M Maintenance Condition

An equipment state in which some normal service functions are suspended, either because of a problem or for special functions (copy memory) that cannot be performed while normal service is being provided.

Maintenance Cross-Connection

A diagnostic tool used to evaluate the functions of mirrors without involving ports.

Maintenance User

A WaveStar CIT user login with access to testing, retrieval of network element information, and limited service-affecting commands.

Major (MJ)

An indication of a service-affecting failure.

Manual Provisioning and Deprovisioning

User-initiated provisioning or deprovisioning by the following commands or graphical user interface (GUI) equivalent actions: create, delete, modify, remove, restore.

Manual Switch State

The events that follow the issuing of the manual switch command. While in the Manual Switch state, the system may switch the active unit automatically, if required for protection switching.

Mapping

The logical association of one set of values, such as addresses on one network, with quantities or values of another set, such as devices or addresses on another network.

Mediation Device (MD)

A device that allows for exchange of management information between managing systems and network elements.

Memory (MEM)

The circuit pack that provides the non-volatile memory (NVM) necessary to store executable code and data for the system. Two primary MEMs (PRI MEMs) are located in the System Controller Shelf and serve as duplicated NVM. They communicate with the SYS50D circuit packs. A secondary MEM (SEC MEM) provides backup to the primary MEMs and communicates with the CSIEX circuit packs. Program and configuration data are stored on a PCMCIA card, which can be accessed from the faceplate of the MEM and is removable.

Merging

The use of two simplex cross-connection legs between two different input ports and one output port where a 2:1 selector chooses one of the incoming one-way signals. The use of bridging and merging at a network element provides 1+1 path protection for two-way traffic. *See also* Bridging.

Micro-electromechanical System (MEMS)

The fabric technology, which consists of a large number of electrically configurable mirrors, fabricated on a single substrate.

Minimum Configuration

A set of network element (NE) entities that are required to exist for the NE to be operational. These entities are created automatically by the system during initialization.

Minor (MN)

An indication of a non-service-affecting failure of equipment or facility.

Module

A self-contained entity that performs a well-defined function in the system.

N Network Element (NE)

A telecommunications network node that supports network transport services and is directly manageable by a management system.

Network View

The WaveStar CIT screens and menu options used to set up an association with network elements or to administer the WaveStar CIT GUI itself.

Node

All equipment that is controlled by one system controller. A node is not always directly manageable by a management system.

Non-Blocking Cross-Connection Capacity

The service cross-connection capacity guaranteed to the user to be free from blocking.

Non-Blocking Fabric

The characteristic that no cross-connection request will be denied because of a lack of a path through the fabric, when the desired input and output ports are available.

Non-Revertive Protection Switching

A process in which an active and standby line exist. When a protection switch occurs, the standby line is selected to support traffic, thereby becoming the active line. The original active line then becomes the standby line. This status remains in effect even when the fault clears (there is no automatic switch back to the original status). *See also* Revertive Protection Switching.

Non-Volatile Memory (NVM)

Memory that retains its stored data after power has been removed; for example, a hard disk.

No Request State

The state in which no protection switching activities are occurring.

Not Monitored (NMON)

A provisioning state for equipment that is not equipped with monitors or alarms.

O Off-Board Devices

Transmission devices that are associated with a controller but are located on another circuit pack. *See also* On-Board devices.

Office Alarm Interface

An interface to the Office Alarm System for each alarm level that leads to audible or visible Central Office alarms. Audible alarm cutoff (ACO) is provided locally on the equipment and remotely through user command. Critical, Major, and Minor audible and visible alarms are supported.

On-Board Devices

Transmission devices associated with a controller and located on the same circuit pack. *See also* Off-Board devices.

One-Way Bridge and Merge Cross-Connection

A complex one-way cross-connection configuration that consists of two concatenated basic bridge and merge cross-connection configurations that share a common simplex leg.

One-Way Double Merge Cross-Connection

A complex one-way cross-connection configuration that consists of two merge cross-connections that share the same source (input) ports. It can also be considered as two bridge cross-connections that share the same destination (output) ports.

One-Way Point-to-Point Cross-Connection

A one-leg duplex interconnection between an input port and an output port. It can be set up and taken down by a single command to the network element.

One-Way Simplex Cross-Connection

A cross-connection leg with a transmission path through a single switch fabric. A simplex cross-connection leg can be added to or deleted from an existing cross-connection to form another type of cross-connection configuration. For example, a simplex leg can be deleted from an existing bridge or merge cross-connection to form a one-way point-to-point cross-connection.

Opacity

Bit-rate and format dependence. The Release 2.0 opaque interfaces are the OXI-10GC and OXI-2GC.

Open Systems Interconnection (OSI)

A seven-layer reference model, a logical structure for network operations standardized by the International Standards Organization (ISO).

Operations Interface

Any interface providing information on the system behavior or control. In , operations interfaces include equipment LEDs, user panels, WaveStar CIT, and office alarms.

Operations System (OS)

A central-computer-based system used to provide operations, administration, and maintenance functions. An example of an OS is the WaveStar SNMS (SubNetwork Management System).

Operator

User of the system with operator-level user privileges.

Optical Channel Alarms

A alarm message category that reports input signal failures and are issued against an input port. Optical channel alarms include the following fault conditions: loss of monitored input power, detection of Alarm Indication Signal-Line, SONET/SDH failures (Loss of Signal [LOS], Loss of Frame [LOF], Signal Fail B2 Excessive Bit Error Rate [EBER], Signal Degrade B2 Bit Error Rate [BER], Alarm Indication Signal-Line/Multiplex Section (AIS-L/AIS-MS)), Unequipped, and Trace Mismatch.

Optical Channel Management

A application that enables adding, dropping or connecting of services traffic through the network, through optical line systems (OLSs).

Optical Cross-Connect Interface (OXI)

1. A generic term for any transmission interface used in , including, in Release 2.0, the OXI transparent packs and the OXI-10GC and OXI-2GC opaque packs. 2. The name of the transmission interface circuit pack that performs optical splitting, power monitoring, and rate- and format-independent switching for signals to and from the network element. OXIs are located in the Optical Interface Shelf (WaveStar LambdaRouter Release 1.0) and Optical Interface Shelf-Transparent (Release 2.0). Each transparent OXI pack provides four input and four output ports.

Optical Cross-Connect Interface-2.5 Gbps Client (OXI-2GC)

A Release 2.0 circuit pack that supports 2.5 Gbps SONET/SDH signals (OC-48/STM-16). OXI-2GCs are located in the Optical Interface Shelf-2Gbps (OIS-2G) and the Optical Interface Shelf-Mixed (OIS-MX). Each OXI-2GC provides two input and two output ports.

Optical Cross-Connect Interface-10 Gbps Client (OXI-10GC)

A Release 2.0 circuit pack that supports 10 Gbps SONET/SDH signals (OC-192/STM-64). OXI-10GCs are located in the Optical Interface Shelf-10Gbps (OIS-10G) and the Optical Interface Shelf-Mixed (OIS-MX). Each OXI-10GC provides one input and one output port.

Optical Interface Shelf (OIS)

1. A generic term for any transmission interface shelf used in , including the OIS-T shelf for transparent circuit packs, the OIS-10G for OXI-10GC circuit packs, the OIS-2G for OXI-2GC circuit packs, and the OIS-MX for a combination of OXI-10GC and OXI-2GC circuit packs. 2. The name of the WaveStar LambdaRouter [256] Release 1.0 shelf that contains the Optical Cross-Connect Interface (OXI) circuit packs. The corresponding shelf in Release 2.0 is the Optical Interface Shelf-Transparent (OIS-T).

Optical Interface Shelf-2.5 Gbps (OIS-2G)

The Release 2.0 transmission interface shelf that contains 32 OXI-2GC optical-electrical-optical circuit packs and two Switch Interface Controllers (SWICs).

Optical Interface Shelf-10 Gbps (OIS-10G)

The Release 2.0 transmission interface shelf that contains 32 OXI-10GC optical-electrical-optical circuit packs and two Switch Interface Controllers (SWICs).

Optical Interface Shelf/High-Voltage Shelf (OIS/HVS) User Panel

The Release 2.0 module that receives alarm status information. It provides visual indications of shelf status through LEDs and a means for generating alarm cutoff and LED test interrupts to the shelf Switch Interface Controller (SWIC) circuit packs. *See also* System Controller Shelf (SCS) User Panel.

Optical Interface Shelf-Mixed (OIS-MX)

The Release 2.0 transmission interface shelf that contains a combination of 16 OXI-2GC circuit packs, 16 OXI-10GC circuit packs and two Switch Interface Controllers (SWICs).

Optical Interface Shelf-SDH/SONET (OIS-S)

The Release 2.0 general shelf type that contains OXI-10GC or OXI-2GC circuit packs, which provide the opaque OC-192/STM-64 and OC-48/STM-16 interfaces

between the and customer equipment. Each OIS-S contains opaque circuit packs and cannot contain transparent circuit packs.

Optical Interface Shelf-Transparent (OIS-T)

The Release 2.0 shelf that contains the transparent OXI circuit packs. Each OIS-T contains as many as 32 OXI circuit packs and two Switch Interface Controllers (SWICs).

Optical Line System (OLS)

Any system using a fiber-optic or other optical technology for transmission.

Optical Loss Budget

The allocation of allowable or necessary signal loss in a transmission system, or signal loss to connection subsections of that system.

Optical Return Loss (ORL)

The power of a signal, reflected back to its source in an optical system.

Optical Translator Unit (OTU)

The Wavestar OLS 400G/800G/1.6T module that provides wavelength translation and signal regeneration from or to the line system.

Out of Service (OOS)

A state in which an equipment entity is not allowed or is incapable of providing its intended function.

P Parameter

A variable that is given a value for a specified application, or a constant, variable, or expression that is used to pass values between components.

Personal Computer Memory Card International Association (PCMCIA) card

Non-volatile memory in a form similar to a floppy disk. program and configuration data are stored on a PCMCIA card in the MEM circuit packs.

Point-to-Point Cross-Connection

A duplex cross-connection from a single input point to a single output point. It can be either one-way or two-way.

Polarization Mode Dispersion (PMD)

Output pulse broadening due to random coupling of the two polarization modes in an optical fiber.

Port

A physical transmission interface, comprising both an input and an output, which may be used to carry traffic between network elements. (Also called line. Port emphasizes the physical interface, and line emphasizes the interconnection. Either may be used to identify the signal being carried.)

Port Pack

See Port Unit.

Port State Provisioning

A feature that allows a user to set the port state to in-service or out-of-service.

Port Unit (PU)

A transmission circuit pack that receives and transmits optical signals. The OXI, OXI-10GC, and OXI-2GC are the Release 2.0 port units.

Power Filter Voltage Protection (PFVP) Unit

A unit that receives power supply current, suppresses high-frequency emissions, and passes current through the backplane to the circuit packs. This unit also disconnects current through the power source when input voltage falls below an acceptable level, or when a short circuit occurs. PFVPs are located on the Switch Shelf, Optical Interface Shelves, and System Controller Shelf. In the OIS-10G and OIS-2G, the PFVP has an internal circuit breaker.

Pre-provisioning

The process by which a user specifies parameter values for an entity before all of the equipment is present. These parameters are stored in non-volatile memory (NVM).

Primary Non-Volatile Memory (PRI MEM)

A non-volatile MEM circuit pack designated as the primary storage device for the . *See also* Memory.

Privilege Code

See User Privilege Code.

Privileged User

A WaveStar CIT user login with access to all user capabilities, including those that are service-affecting, with the exception of security-related capabilities.

Program

The executable software code that controls the network element or WaveStar CIT.

Protection

Extra capacity (channels, circuit packs) in power or control equipment that is intended to be used not for service but rather as backup for equipment failures. In active and standby contexts, protection is used to describe a function that at power-up becomes standby.

Protection Group

Protection switching configuration. Within a protection architecture, one working function is protected by one protection function. supports protection switching with a System Controller Protection Group, High-Voltage Shelf Controller Protection Group, and Optical Interface Shelf Protection Group. *See also* Revertive Protection Switching; Non-Revertive Protection Switching.

Protection Switch Activity Log

A time-stamped list of protection switching activity that has occurred within the network element. Facility, equipment, and synchronization-related switching activity is covered. The log includes the protection group ID and the type of protection switch (manual, forced, clear, or automatic).

Protection Switching

capability to automatically switch to standby or protection circuitry in the event of failure. A manual or forced protection switch may also be initiated as part of operator fault isolation procedures.

Provisioned (PROV)

Indication that a circuit pack is ready to perform its intended function. A provisioned circuit pack can be active (ACT), in-service (IS), standby (STBY), or out-of-service (OOS).

Provisioning

The process of assigning values to a set of variable parameters of the system (or any of its subsystems) to enable or facilitate the expected use of the system (or subsystem). Provisioning of system components includes the creation of a software representation of the component and/or a record of its parameter values, as well as actual modification of the component parameters. Provisioning can be automatic or initialized by manual command. *See also* Auto-Provisioning; Manual Provisioning and Deprovisioning; Pre-Provisioning.

Q Quality of Service (QoS)

The performance specification of a communications channel.

R Rapid Network Restoration

A application that enables speedy restoration of services via alternate paths by removing the need for manual recabling operations. offers 1+1 pre-planned and pre-provisioned network restoration.

Rapid Service Provisioning

A application that enables speedy provisioning of optical-layer service, eliminating the need to dispatch craft personnel for manual facility interconnections.

Receive-Direction

The signal direction toward the network element.

Recovery

A predefined process, in response to communication, equipment, or processing failure, that results in a return to normal operation of the network element.

Recovery after Power Failure

The capability to automatically reset the system after power failure without user intervention, when input voltage rises above a pre-set level. The system returns to its provisioned state prior to the failure.

Reliability

The ability of a software system to perform its required functions under stated conditions for a stated period of time, or the probability for equipment to fulfill its function.

Remote Network Element

Any network element (NE) that is connected to the NE under consideration. *Also called* Far End.

Remote Provisioning

A feature allowing the user to provision from a remote location through a managing system and LAN.

Reports Only User

A WaveStar CIT user type with permissions to access only those capabilities that retrieve information from the system but do not modify the system.

Revertive Protection Switching

The ability of a working and protection function to revert autonomously to active and standby, respectively, upon the repair of the failure that caused a protection switch. *See also* Non-Revertive Protection Switching.

S SanDisk

A vendor Personal Computer Memory Card International Association (PCMCIA) card; a pre-formatted SanDisk is used in Release 2.0 for software installation. *See also* Personal Computer Memory Card International Association (PCMCIA) card.

Scripting

The WaveStar CIT feature that supports the ability for the user to create and edit Transaction Language 1 (TL1) scripts and save them for later use.

Secondary Non-Volatile Memory (SEC MEM)

A MEM circuit pack designated as the secondary storage device for . *See also* Memory.

Section Trace (J0 Byte) Mismatch

An indication of a defect that occurs when an Accepted Section Trace Identifier does not match the provisioned Expected Section Trace Identifier on an incoming signal.

Security Administrator

1. A WaveStar CIT or managing system user who has been assigned a security privilege level of S5 and can view existing user logins, add new users and assign user privileges, delete users, change passwords for any user, and modify user privileges. 2. A user with a privilege level of S5 who can view existing user logins, view a list of users currently logged into the network element, add new users and assign user privileges, delete users, and change passwords for any user.

Security Log

A file of all security-related events. It is stored in non-volatile memory of the network element.

Security Management

In , the administration of user accounts (login IDs, passwords, and privilege levels) and the monitoring of system security to insure that only valid users can perform allowed actions and receive authorized information.

Serial Number (SLN)

A circuit pack identifier that is stored in Electrically Erasable Programmable Read-Only Memory (EEPROM).

Serial Number Identification Port (SNIP)

A Switch Shelf interface to the High-Voltage Shelf that provides the unique 16-bit serial number of the Switch Shelf.

Series Number (SSN)

A circuit pack identifier that is stored in Electrically Erasable Programmable Read-Only Memory (EEPROM).

Session

A logical connection from the WaveStar CIT or other managing system to a network element.

Shelf

A set of circuit packs sharing a common physical housing, power source, electronic or opto-electronic backplane, and shelf controller.

Shelf View

A WaveStar CIT graphical depiction of one shelf. Selectable objects in this view are the shelf, the slots/circuit packs, and the ports.

Short Reach

A standard for optics, concerning transmitters and receivers in a system, that ensures that transmission can be maintained for short distances (10 km). *See also* Long Reach; Intermediate Reach.

Signal Degrade (SD)

A condition that triggers automatic protection switching when the line bit error rate (B2) exceeds a user-provisionable threshold.

Signal Fail (SF)

Loss of signal (LOS), loss of frame (LOF), Alarm Indication Signal-Line (AIS-L), or line bit error rate (B2) greater than the user-provisionable threshold.

Signal Injection

In Release 2.0, the capability of the system to inject a keep-alive or test signal on any output transmission interface where electrical to optical conversion is done, for the purposes that are served by Unequipped and AIS-L signals.

Signal Maintenance

In Release 2.0, the capability of the system to detect the presence or absence of optical power at input and output ports, monitor and react to maintenance signals, generate appropriate alarms, and perform fabric-path protection switching.

Signal Rate

An attribute that defines the bit rate and format of a signal.

Single-Mode Fiber (SM)

An 8.3- μ diameter low-loss, long-span optical fiber typically operating at either

1310 nm, 1550 nm, or both.

Site Address

The unique address for a network element.

Slip

A repetition or deletion of a block of bits in a bit-stream, caused by a sufficiently large discrepancy in the read and write rates at a receiver buffer.

Slot

A physical position in a shelf designed to hold a circuit pack and connect it to the backplane.

Slot Provisioned State

A transition state for circuit pack insertion. A slot will transition from empty to equipped when the circuit pack insertion is detected and validated, and the hardware registers are loaded. The slot remains so provisioned until the object is deprovisioned.

Slot State Provisioning

Modification of a slot state through a user command.

Software Backup

The process of saving an image of the current network element (NE) databases, which are contained in NE primary non-volatile memory (NVM, PRI MEM), to SEC MEM or remote storage.

Software Delivery

In , the delivery to a customer of network element generic software, WaveStar CIT software, factory data, and utilities on a CD-ROM, with accompanying documentation in hard copy and on CD-ROM.

Software Failure

A data or results error detected by the software itself during execution.

Software ID

A number that provides the software version information for the system.

Software Installation

The process of interpreting and unpacking the binary data program that was downloaded to a network element non-volatile memory (NVM) and copying the constituent data items to their designated locations in the network element.

Software Management

The activities necessary to download, upgrade, install, back up, and restore the generic software and provisionable data on the WaveStar CIT and network element.

Software Upgrade

The process that installs a new release of software.

Standby (STBY)

A state in which a circuit pack is in service but is not providing service functions. The circuit pack is ready to be used to replace a similar circuit pack either by protection or by duplex switching, in hot standby or cold standby functions. *See also* Active; Cold Standby; Hot Standby.

Start-up Configuration

1. In WaveStar LambdaRouter 256 Release 2.0, an orderable three-bay configuration that includes one System Controller Shelf (SCS), two High-Voltage Shelves (HVS), two Switch Shelves (SWS), and either one Optical Interface Shelf-Transparent (OIS-T) and one Optical Interface Shelf-SDH/SONET (OIS-S), or two Optical Interface Shelf-Transparent (OIS-T). 2. In WaveStar LambdaRouter 128 Release 2.0, an orderable two-bay configuration that includes one System Controller Shelf (SCS), one High-Voltage Shelf (HVS), one Switch Shelf (SWS), and one Optical Interface Shelf-Transparent (OIS-T).

State

A software parameter indicating the current autonomous and user-defined limitations on the behavior of the entity in question.

Status

The indication of the instantaneous condition of an equipment entity.

Strictly Non-Blocking Fabric (NBF)

Architecture that ensures unhindered signal throughput. Strictly NBF is a fabric architecture such that any incoming signal can be directed to any idle output port, without the need to rearrange any of the existing cross-connections, and without blocking, degrading, or otherwise affecting any of the remaining signals through the system.

Subnetwork

A group of interconnected/interrelated network elements.

Superuser

1. A WaveStar CIT user type with highest level of permissions to access the system. Up to two superusers logins and passwords may be created on the WaveStar CIT.
2. A user with full privileges in all functional categories. Two superuser logins and passwords are pre-installed on the system.

Suppression

A process by which alarms that have been identified as an “effect” are not displayed to a user. Alarms can be suppressed through user provisioning.

Switch Bay

In Release 2.0, the frame that houses the Switch Shelf, High-Voltage Shelf, and optical interface shelf, either the OIS-T, OIS-10G, OIS-2G, or OIS-MX.

Switch Interface Cable (SI cable)

Cable that connects the Optical Interface Shelf backplane and the Fiber Distribution Panel.

Switch Interface Capacity

The capacity in number of optical interconnection links between any one of the transmission interface shelves and the cross-connection fabric. This term applies to bidirectional capacity (for example, switch interface capacity of 128 corresponds to 128 optical links in each direction).

Switch Interface Controller (SWIC, LGH1 and LGH1AE)

A circuit pack that provides control functions for optical cross-connect interface (OXI) or High-Voltage Digital-to-Analog Converter (HVDAC) functions, and a control interface to the Control Bay. There are two types of SWICs. The SWIC for the Optical Interface Shelf-Transparent (OIS-T) and High-Voltage Shelf (HVS) is coded LGH1 and is referred to in software as *oswic* when in an OIS-T and *hswic* when in an HVS. The SWIC for the Optical Interface Shelf-SDH/SONET (OIS-S) is coded LGH1AE and is referred to in software as *oswic*.

Switch Interface Point (SWIP)

A Micro-electromechanical System (MEMS) mirror, the dedicated optical interface (connector and collimator) connected to it, and the dedicated electrical control interface (electrodes, cable connectors) for its operation. Users of software will view it as a single object in the system.

Switch Interface Point (SWIP) Maintenance Group (SWMG)

A grouping of Switch Interface Points (SWIPs) that are treated as a unit for switch maintenance. This grouping is sometimes referred to as *switch side*.

Switch Request States

State that is defined for protection groups: Forced Switch, Manual Switch Failure, and No Request.

Switch Shelf (SWS)

The component that contains the Micro-electromechanical System (MEMS) mirror arrays, optical lenses, fibers and connectors, also referred to as switch fabric.

Synchronization

The function that assures accuracy and stability of clocks used to transmit data in digital networks. In Release 2.0, clocking is used for 10 Gbps and 2.5 Gbps signals that go through optical-electrical-optical conversion for performance monitoring. The clocking is extracted from the ingress signal and used to transmit egress signal (through timing). An internal clock is used to transmit signal defect (AIS) when the clock from the ingress signal is not available. Synchronization is done on the OXI-10GC and OXI-2GC packs.

Synchronous Digital Hierarchy (SDH)

A hierarchical set of digital transport structures, standardized for the transport of suitable adapted payloads over transmission networks.

Synchronous Optical Network (SONET)

The North American standard for the rates and formats that define optical signals

and their constituents.

SYS50D

The circuit pack that provides the main system control functions. Duplex SYS50Ds are located in the System Controller Shelf and operate as an active/standby pair.

System Controller Bay

The WaveStar LambdaRouter [256] Release 1.0 bay that houses the system control circuit packs. The comparable Release 2.0 bay is the Control Bay.

System Controller Complex

The grouping of a SYS50D circuit pack, Control System Interface Expander (CSIEX), and an External Interface (EI) circuit pack, treated as a unit for controller maintenance and protection switching.

System Controller Shelf (SCS)

The middle shelf of the Control Bay. It contains the SYS50D and other control packs.

System Controller Shelf (SCS) User Panel

The Release 2.0 module that monitors the temperature of the shelf, receives alarm status information, and provides visual indications of shelf status through LEDs. The SCS User Panel provides an ESD wrist strap ground connector and a port used to connect a WaveStar CIT to the system. An NE Acty LED indicates software download, loopback, or a forced or manual switch.

System Logs

Autonomous records of system events that can be retrieved by user commands. The system provides a User Session Activity Log, Database Change Log, Alarm Log, Security Activity Log, and Protection Switch Log. Each log has a capacity to store 72 hours of data.

System View

A WaveStar CIT graphical depiction of the entire network element. Selectable objects in this view are bays and shelves in the network element.

T Target Identifier (TID)

A provisionable parameter used to identify a particular network element within a network. The parameter is a case-insensitive ASCII character string of up to 20 characters. The allowed characters are the letters *A* through *Z* and *a* through *z*, the numbers *0* through *9*, and the special characters hyphen (-) and forward slash (/). The string must not begin or end with a hyphen.

Template

A collection of parameters that define a specific network element configuration.

Through Timing

Timing derived by the network element from the ingress signal and used to transmit the egress signal.

Transaction Language 1 (TL1)

A machine-to-machine communications language that is a subset of ITU human-to-machine language. TL1 is the interface language between the WaveStar CIT and .

Transmission Control Protocol/Internet Protocol (TCP/IP)

Networking protocols used by to interface with a customer's Intraoffice Local Area Network (IAO LAN).

Transmission Interface

Also known as facility interface. The components that provide connectivity between external Optical Line Systems (OLSs) or client network elements (NEs) and the . The Release 2.0 transmission interfaces are the Optical Cross-Connect Interface (OXI) transparent bidirectional ports, and the Optical Cross-Connect Interface-10 Gbps (OXI-10GC) and Optical Cross-Connect Interface-2.5 Gbps (OXI-2GC) opaque bidirectional ports. Transmission interface functions include receipt, splitting, selection, and output of signals.

Transmission Interface Shelf

See Optical Interface Shelf entries.

Transmit-Direction

The direction away from the network element.

Transparency

Bit-rate and format independence. The Optical Cross-Connect Interface (OXI) circuit packs are the transparent interfaces.

Trouble-Clearing

Activity to correct an alarmed condition.

Two-Way Bridge/Merge Cross-Connection

A two-way cross-connection configuration that consists of a bridge cross-connection in one direction, and a merge cross-connection in the other direction.

Two-Way Double Merge Cross-Connection

A complex two-way cross-connection configuration that consists of two one-way double merge cross-connections, one in each direction of the two-way.

Two-Way Point-to-Point Cross-Connection

Two cross-connection duplex legs that interconnect two input ports and two output ports. A pair of input and output ports used for opposite directions may or may not have the same access identifier (AID). Each of the two cross-connection legs can be established by a single command to the network element and must have a compatible transmission rate.

Two-Way Simplex Cross-Connection

Two simplex cross-connection legs that interconnect two input ports and two output ports. A pair of input and output ports used for opposite directions may or may not have the same access identifier (AID). A pair of two-way simplex cross-connection legs can be added to or deleted from an existing cross-connection to form another type of cross-connection configuration. For example, a two-way simplex cross-connection can be added to an existing two-way point-to-point cross-connection to form a two-way bridge/merge cross connection.

U Unequipped (UNEQ) Signal

An indication that an incoming signal has valid SDH/SONET Section/Regenerator Section overhead with a Synchronous Payload Envelope (SPE) comprising all zeroes.

Unit Interface Appliance (UIA)

The physical device used by the person who runs WaveStar CIT software and accesses network elements. The UIA is a PC or laptop with Windows NT or Windows 2000.

Unit Interface (UI) Cable

The specified cable type used in the interface between the System Controller Shelf circuit packs and the Switch Interface Controller (SWIC) circuit packs.

Universal Coordinated Time (UTC)

Formerly called Greenwich Mean Time (GMT). A time-zone-independent indication of an event. The local time can be calculated from the Universal Coordinated Time.

Upgrade Kit

Orderable components that enable either a lower capacity WaveStar LambdaRouter system to be upgraded to a higher capacity WaveStar LambdaRouter system, or an earlier version/release WaveStar LambdaRouter system to be upgraded to a later version/release WaveStar LambdaRouter system.

Upload

The process of transferring files from a network element to a management system. can only upload data. *See also* Download.

Upstream

At or toward the source of the considered transmission stream.

User ID (UID)

A WaveStar CIT or WaveStar LambdaRouter user code that comprises one to ten alphanumeric, case-sensitive characters. Any sequence of characters is allowed, except as follows: The keyword ALL by itself, in any combination of uppercase and lowercase (that is, ALL AIL, all, and so on), is not allowed as a valid user ID. A user ID containing ALL as a substring, however, in any combination of uppercase and lowercase (such as tallman), is allowed as a valid user ID.

User Notification Registration List

A security feature that determines what messages a user is allowed to receive.

User Panels

Components on each shelf of the that monitor the temperature of shelves, receive alarm status information, and provide visual indications of shelf status through LEDs. These panels also provide a means for generating alarm cutoff and LED test interrupts to the shelf Switch Interface Controller (SWIC) circuit packs.

In addition to the status LEDs, the System Controller Shelf user panel provides an ESD wrist strap ground connector and a port used to connect a WaveStar CIT to the system.

Temperature monitoring, ESD wrist strap ground connectors, and WaveStar CIT ports are not included in the user panels for the Optical Interface Shelves and High-Voltage Shelves. They also do not support near end (NE) or far end (FE) alarms.

User Privilege Code (UPC)

Permissions assigned to each user when a login is created or modified on either the WaveStar CIT or . The UPC is an alphanumeric code of one or two letters that identify the functional category of commands the user may access, and a single digit that indicates the user authorization level for that functional category. UPCs assigned to login IDs on the WaveStar CIT do not apply to .

User Record

Data associated with each user on a WaveStar CIT or other managing system and on the network element (NE). Each record (separate on the managing system and the NE) comprises a login ID, password, user type, user privilege level, user priority level (NE only), and User Notification Registration list (NE only).

User Session Activity Log

A file of all user-initiated commands from login through logout.

User Type

Assigned privilege codes for WaveStar CIT users that determine which commands and capabilities the user may access. Predefined user types are Superuser, Privileged User, General User, Maintenance User, and Reports Only User. Users may also be assigned a type of "Other." The default user type is "Reports Only."

V Very Short Reach (VSR)

A standard for optics, concerning transmitters and receivers in a system, that insures that transmission can be maintained for very short distances. *See also* Long Reach; Intermediate Reach; Short Reach.

Virtual Private Network (VPN)

A leased network that is part of a larger network but operated independently.

Volatile Memory

A type of memory that is lost if electrical power is interrupted.

W Wander

The long-term variation of the significant instants of a digital signal from their ideal positions in time. Wander is mainly generated by the variation in transmission characteristics of the media and equipment, which includes disruption in synchronization reference distribution. Wander is a potential source of slips in synchronous networks. *See also* Jitter.

Wavelength Division Multiplexing (WDM)

A means of increasing the information-carrying capacity of an optical fiber by

simultaneously transmitting signals at different wavelengths.

Wavelength Range of Operation

A range within the infrared wavelength spectrum in which the system is designed to operate.

Wavelength Window

A standard range of wavelengths in which the intrinsic transmission loss of an optical fiber is low enough to be usable for optical transmission systems. The standard wavelength windows are approximately 850 nm (not used in telecommunications), 1310 nm, and 1550 nm.

WaveStar® CIT (Craft Interface Terminal)

The user interface terminal used by craft personnel to communicate with the network element. The WaveStar CIT runs on a PC with Windows NT® or Windows 2000 and provides graphical user interface (GUI) functionality and Transaction Language 1 (TL1) command entry through cut-through.

WaveStar® LambdaRouter

The Lucent Technologies fully optical signal switching system that uses Micro-electromechanical System (MEMS), a fabric technology consisting of arrays of electrically configurable mirrors. It supports as many as 256x256 input and output ports.

WaveStar® LambdaRouter 128

The Lucent Technologies fully optical signal switching system that uses Micro-electromechanical System (MEMS), a fabric technology consisting of arrays of electrically configurable mirrors. It supports as many as 128x128 input and output ports.

WaveStar® LambdaRouter 256

The Lucent Technologies fully optical signal switching system that uses Micro-electromechanical System (MEMS), a fabric technology consisting of arrays of electrically configurable mirrors. It supports as many as 256x256 input and output ports.

WaveStar® OLS (Optical Line System)

A Lucent Technologies lightwave transmission system, for example, WaveStar® OLS 1.6T. Using Dense Wave Division Multiplexing technology, the system combines multiple signals of different wavelengths, transmits the resulting signal over a single fiber, and then demultiplexes the signal at the receiving end.

WaveStar® SNMS (SubNetwork Management System)

A Lucent product that provides element management functionality for a variety of networking products, including .

Wizard

Form of user assistance that automates a task through a dialog with the user.

Working

Descriptor for a physical entity. In revertive switching, the working entity carries service under normal operation. In non-revertive switching the descriptor has no particular meaning. In active and standby operations, *working* indicates the function, when present and healthy, that will become active at power-up. *See also* Protection; Revertive Protection Switching; Non-Revertive Protection Switching.



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