



Alcatel Metro Optical Transport

# **1677 SONET Link Operation and Administration**

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**THIS PRODUCT COMPLIES WITH D.H.H.S. RADIATION PERFORMANCE STANDARDS 21 CFR, 1040.10, FOR A CLASS 1 LASER PRODUCT.**

### **DANGER**

**Invisible laser radiation is present when the optic connector is open. AVOID DIRECT EXPOSURE TO BEAM.**

### **WARNING**

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

### **NOTICE**

This manual applies to 1677 SONET Link R03.00 software. Release notes describing revisions to this software may impact operations described in this manual.

The product specification and/or performance levels contained in this document are for information purposes only and are subject to change without notice. They do not represent any obligation on the part of Alcatel. Such obligations will only be committed to in a written sales agreement signed by Alcatel.

### **DOCUMENTATION**

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# Introduction

## 1. OVERVIEW

**1.1** This user's guide provides step-by-step procedures to help users perform tasks. Each procedure contains important introductory information that is essential to understanding and completing the task properly. Procedures must be started at step 1, and steps must be performed in the order given. Failure to do so may cause unforeseen hazardous conditions.

## Writing Conventions

**1.2** Boldface characters indicate commands or parameters that must be entered or keys that must be pressed. Enter input parameters exactly as shown in the examples.

## Admonishments

**1.3** To avoid hazardous conditions, observe the following admonishments:

**DANGER** Possibility of personal injury.

**CAUTION** Possibility of service interruption.

**WARNING** *Possibility of equipment damage.*

## Related Documentation

**1.4** For additional system information, refer to the following related documents:

- 1677 SONET Link Product Information (PN 106263-A)
- 1677 SONET Link Installation Practices manual (PN 106035-A)
- 1677 SONET Link Turn-Up manual (PN 106034-A)
- 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A)
- 1677 SONET Link Commands and Messages manual (PN 106037-A)
- 1677 SONET Link Address and Location Guide manual (PN 106122-A)

## Document Types

**1.5** The documentation contains all instructions needed to perform a task. This manual consists of the following types of documents:

- Task Index List (IXL)
- Nontrouble Procedure (NTP)
- Detailed Level Procedure (DLP)

### Task Index List (IXL)

**1.6** IXLs group procedures by function. Each IXL lists procedures alphabetically by name and refers the user to the appropriate procedure number.

### Nontrouble Procedure (NTP)

**1.7** NTPs list the major steps required to complete a task. This list may be all an experienced user requires. For an inexperienced user, each step refers to a DLP. The steps must be performed in the order listed.



## **Detailed Level Procedure (DLP)**

**1.8** DLPs contain detailed steps and supporting information required to complete a task. When a DLP is referenced from another part of the manual, perform the DLP, then return to the point where the DLP was referenced.



## 2. COMMAND STRUCTURE AND SYNTAX

**2.1** Command syntax refers to rules that govern Transaction Language 1 (TL1) command element arrangement; that is, how elements are delimited or separated using special characters and punctuation.

**2.2** For the system to understand a command entered in Direct mode, the precise command structure and syntax must be entered.

**2.3** A complete TL1 command consists of the following elements:

- Command code: specifies an action the command performs and the object or nature of that action.
- Input parameters: directs a command to the appropriate processing environment or supplies the data required to execute the command. Parameters can be either required or optional depending on the command.
- Special characters and punctuation: identify command elements, separate each element, and end each command.

### Command Code

**2.4** The command code contains up to three elements: a verb and one or two verb modifiers. A hyphen separates each element of a command. Command codes are usually abbreviations of the meaning of the command.

An example of a command code is ENT-CRS-T3. In this example, the first element, ENT, is a verb that specifies the action Enter. Up to two modifiers can follow; these modifiers refer to data, such as a database in the system, an internal software subsystem, or a physical entity (such as an equipment or circuit type). In this case, the first modifier is CRS for cross-connection, which is the type of action. The second modifier is T3 for DS3, which is the object of the cross-connection.

**2.5** ENT-CRS-T3 connects an incoming DS3 circuit to an outgoing DS3 or STS-1 circuit in the switching environment. The command code, however, does not specify which circuits to connect. Input parameters supply the additional information needed to execute the command.

## Input Parameters

**2.6** Input parameters specify conditions under which a command executes. Parameters can be either required or optional. The form screen encloses optional parameters in brackets. Three examples of input parameters follow:

- The Access Identifier (AID) of a facility or equipment unit
- The state of a facility after provisioning
- The range of a command (if ranging is supported for that command)

**2.7** When a command contains multiple parameters of the same type in a string, the string is a parameter block. Colons ( : ) separate parameter blocks. Within a block, commas ( , ) separate individual parameters.

**2.8** The cross-connect system generally uses the following parameter types; however, the parameters in some commands do not conform to this model.

**Verb-Modifier1-Modifier2:[a]:[b]:[c]:[d]:[e]:[f]:[g];**

- a=TID – Target Identifier. The TID is an alphanumeric block of up to 20 characters, the first of which must be alphabetic. It identifies the processing location for a command. When a value is not entered, the system defaults to the uppercase Site Identifier (SID) value. When a value is entered, it must match the SID. If the entered value does not match the SID, the system denies the command.
- b=AID – Access Identifier. The AID identifies a facility port, removable equipment unit, or other object entity. Examples of parameters in this field are: From Location, To Location, and Control Port. Some commands have multiple AID fields (FROM,TO).
- c=CTAG – Correlation Tag. The CTAG is a 1 to 6 alphanumeric block that identifies a transaction. The CTAG correlates system output messages with the commands that caused the messages. The CTAG is optional; if a CTAG is not entered, the system automatically assigns one.
- d=General Block – The general block is not supported and must be empty.

- **e=Common Block** – The common block is almost always positionally defined, which means that parameters in the common block are defined by their position or sequence in the block. Brackets indicate optional parameter values. Absence of brackets indicates that the parameter value must be entered. If one or more parameter values is omitted from the end of the block, the trailing comma associated with the value may be omitted. However, if an optional parameter value is omitted with other positional parameter values following, all intervening placeholder commas must be provided to indicate that no value is being entered for that parameter. The system assumes the default or existing parameter value for omitted optional parameter values. Parameter value combinations are verified by the system whether the value is determined from a default value or explicitly entered in the command.
- **f=Specific Block** – Parameters in the keyword block are defined by a keyword parameter name. A value for a keyword parameter is specified by entering the parameter name followed by an equal sign (=) then the parameter value. Keyword parameters may be entered in any order within the keyword block, but keyword parameters must be separated by a comma. Only commas separating each keyword parameter are required in the keyword parameter block, but the keyword block may not begin or end with a comma. Brackets indicate optional parameters and their associated comma separators. Absence of brackets indicates that the parameter and any comma separator must be entered.
- **g=State Block** – The state parameter block is a positional block with parameters defined by their position or sequence in the block. The state block defines parameters that relate to the primary and/or secondary state of equipment. The state block is supported only by commands that include the state block in the input format of a command. When supported, up to two parameters are possible for the state block, the PST (primary state) parameter and the SST (secondary state) parameter. Brackets indicate optional parameter values. Absence of brackets indicates that the parameter value must be entered. If the SST parameter value is omitted from the end of the block, the trailing comma associated with it may be omitted. However, if an optional PST parameter value is omitted with an SST positional parameter value following, the intervening placeholder comma must be provided to indicate that no value is being entered for the PST parameter. The system assumes the default parameter value for omitted optional parameter values.

**2.9** Keyword parameters require a parameter name assignment with each parameter value. Enter keyword parameters in any order within a block. Positional parameters must occur in the order specified by the TL1 command.

## Special Characters

**2.10** TL1 uses characters that have special meanings depending on where the characters appear or how they are used. Refer to table 2-A for the characters used with commands, parameters, and output messages.

**Table 2-A. TL1 Special Characters**

SPECIAL CHARACTER	DESCRIPTION
< >	In syntax statements, enclosing less-than and greater-than signs indicate a value substitution. The enclosing less-than and greater-than signs are not part of the actual input command. Generally, this notation is used only to provide additional clarity in the syntax descriptions for an input command.
{ }	In syntax statements, paired braces enclose a set of values. Generally, enclosing braces are used in the notation for the non-parsable command echo line and in describing an output parameter's value set. The enclosing braces are not part of the actual input command or output message.
[ ]	In syntax statements, paired brackets enclose an optional command argument; for example: [TID]. These enclosing brackets are not part of the actual input command or output message.
<i>The following characters are entered in TL1 commands.</i>	
-	Hyphen. Separates elements of TL1 command codes. Also combines elements of a compound parameter.
,	Comma. Separates parameter values when multiple values exist.
:	Colon. Separates the command code segment from the parameters. Also separates succeeding parameter blocks.
;	Semicolon. Terminates a command entry and starts execution.
=	Equal sign. Associates a parameter name with the assigned parameter. A parameter must be entered in uppercase exactly as specified. A value of the parameter follows the equal sign.
&	Ampersand. Groups parameter values in an input command (as list of parameter values is generated), and combines parameter values in an output message.
&&	Double ampersand. Represents numeric ranging in the last argument value of a parameter (simple or compound) in an input command. It generates a sequential range of parameter values, beginning with the first term specified through the last term specified.

**2.11** When using the equal sign with positional parameters, the parameter must be entered in the correct position. If this is not done, the system rejects the command.

**2.12** Brackets [ ] indicate an optional parameter. Brackets are used in system documentation to indicate optional parameters. Brackets are not entered as part of a TL1 command.

## Ranging and Grouping

**2.13** The AID parameter of specific commands lets ranging and grouping generate a range of AID values, a list of AID values, or a combination of both. The string &&- (double ampersand and hyphen) specifies a range of AID values (&&-ranging), while &- (single ampersand and hyphen) specifies a list of AID values (&-grouping).

**2.14** The &&-ranging supports numeric ranging on multiple arguments of a compound AID parameter (the information units in the AID). The range must fully define the first AID value (for example, STS1-4-A-2-1), while the range argument must end with the numeric argument of the last AID value in the range (with the preceding hyphen after the ampersands; for example, &&-3, &&-10, and so on). The expanded range of AIDs always includes the first and last AID values of the sequential series specified by the range. AID formats cannot be combined for different entity types (that is, a DS3 AID format and an OC-12 AID format) when specifying &&-ranging.

An example of STS-1 &&-ranging is: STS1-2-A-2-1&&-3. This is understood by the system as STS1-2-A-2-1, STS1-2-A-2-2, and STS1-2-A-2-3.

**2.15** Ranged sequences increment by N, and the system default is N=1. To change the value of N, enter .++.N after the range. For example, STS1-6-AB-1-2&&-6.++.2 is understood by the system as STS1-6-AB-1-2, STS1-6-AB-1-4, and STS1-6-AB-1-6. The range ends at the highest value less than or equal to the end value; STS1-6-AB-1-2&&-7.++.2 is also understood as STS1-6-AB-1-2, STS1-6-AB-1-4, and STS1-6-AB-1-6.

**2.16** When using &-grouping, a hyphen may be used after the ampersand. An example of DS3 &-grouping is: T3-2-A-1&-2&-3. This is understood by the system as T3-2-A-1, T3-2-A-2, and T3-2-A-3.

**2.17** Ranging/Grouping capability is permitted on the last segment of an AID when that segment is numeric. Specific AID types have additional rules.





### 3. MODES

- 3.1 The direct mode is supported for TL1 command entry.

#### Direct Mode

- 3.2 In Direct mode, enter complete TL1 commands at the prompt. This mode is recommended only for users who are familiar with TL1 commands, parameters, and syntax.

#### Executing a Command in Direct Mode

- 3.3 To execute a command in Direct mode, perform the following steps:
1. At the prompt (which defaults to `agent>`), enter command code and at least all required parameters. Use precise syntax. The system will not execute a command that is entered with any syntax mistake.
  2. Press `;` (semicolon) or **Return**.

The system processes the command and displays a successful response message if the command executed properly. The next command may be entered at the next prompt.



## 4. SYSTEM MESSAGES

**4.1** When the system processes a command, it returns a specific type of message to indicate the status of the request. These message types include: successful and unsuccessful response messages, in-progress messages, and alarm messages.

### Response Messages

**4.2** When a command is entered, the system processes it and then returns either a successful response message if the command executed properly or an unsuccessful response message if the command failed. The system records all command transactions, successful and unsuccessful, in the system's Audit Log. For more information on the Audit Log, refer to the Software Reference Guide in the back of this manual.

**4.3** Successful response messages have the following general content and format:

```
System Identifier (SID) Date (YY-MM-DD) Time (HH:MM:SS)
M CTAG COMPLD
Comments or Data (as appropriate)
[/* command acknowledgment */]
;
```

For example:

```
ALCATEL-1677SL 2002-12-17 15:10:04
M 32 COMPLD
/* RTRV-HDR */
;
```

#### 4.4 Unsuccessful response messages have the following general content and format:

```
System Identifier (SID) Date (YY-MM-DD) Time (HH:MM:SS)
M CTAG DENY
  error code
  [/* command acknowledgment or error text */]
;
```

For example:

```
ALCATEL-1677SL 2002-12-17 15:10:04
M 23 DENY
  IDNV

  /* invalid count */
;
```

A single or partially successful response message contains an error code, which is a 4-character mnemonic that indicates the cause of the failure. For example, IISP means “Input, Invalid Syntax or Punctuation”; PICC means “Privilege, Illegal Command Code.” The information displayed in the successful or partially successful response message varies for different commands. Refer to the Software Reference Guide in the back of this manual for a list of error codes and definitions.

The following are a few common reasons why commands fail:

- User command privileges are invalid for the command entered.
- Command format, syntax, or parameter data is incorrect.
- Command is invalid.
- Equipment is in an invalid state for the command.

## In-Progress Messages

**4.5** If the system does not complete a command within 2 seconds, it automatically generates an in-progress message to acknowledge that the command is being processed. In-progress messages do not interrupt other output responses. The system generates additional in-progress messages until the command completes.

## Alarm Messages

**4.6** Alarm notifications are sent to active login sessions in standard TL1 format.

An example:

```
ALCATEL-1677SL 2002-12-17 15:10:04
*C 17 REPT ALM EQPT
  "IOC-5-A:CR, IMPROPRMVL, SA, 12-17, 15-10-04: \"Improper Removal\" "
;
```



## 5. PRODUCT SUPPORT INFORMATION

### Telephone Support

#### Customer Service Telephone Support

**5.1** For telephone support for the customer services mentioned in this Product Support Information, call *888-ALCATEC (888-252-2832)* or *972-519-4141*, 8:00 a.m. to 5:00 p.m., Central Time, Monday through Friday. Ask the operator for the appropriate service to be connected to a qualified representative or engineer.

**5.2** After-hours emergency telephone support is also available by calling *888-ALCATEC (888-252-2832)* or *972-519-4141*. An emergency is defined as an out-of-service, traffic-affecting problem or a nonoperating alarm system on traffic-bearing systems.

#### Quality Hotline

**5.3** A toll-free Quality Hotline (*800-553-4056*) is available to all customers to report quality issues related to products or services.

**5.4** The Quality Hotline is answered 24 hours a day, 365 days a year, and is available throughout all 50 states and Canada.

**5.5** To report quality issues, call *800-553-4056*. An operator will take the information and have an Alcatel Quality Assurance Representative respond during normal business hours (8:00 a.m. to 5:00 p.m. Central Time, Monday through Friday). The regular customer service numbers should be used for normal customer service functions.

### Product Documentation and Training

#### Product Documentation

**5.6** Product documentation is available on both paper and CD-ROM. The documentation can also be accessed through Alcatel's eBusiness web site at *http://b2b.usa.alcatel.com*. Documentation updates appear on Alcatel's eBusiness web site before they are available in any other format.

**5.7** At Alcatel's eBusiness web site, follow the on-screen instructions to register for access and obtain a login ID. In addition to accessing documentation, the Alcatel eBusiness web site allows the user to perform the following:

- View product support documents
  - Product Change Notifications (PCNs)
  - Product Information Bulletins (PIBs)
  - Urgent Product Warnings (UPWs)
- View product catalog
- Request a quote
- Configure network solutions
- Place orders electronically
- Check order status

## Training

**5.8** Equipment training is available to all customers. Crafts and maintenance personnel who are trained by Alcatel's Training department can expect more effective assistance if they need to call the Technical Assistance Center. Regularly scheduled courses are available at the training facilities in Plano and Richardson, Texas. If a customer cannot attend a standard course, the Training department can arrange a course for a specific requirement and conduct it at the customer's facility. For further information, call customer service telephone support and ask for a training coordinator or write to one of the following addresses:

**IN USA:**

Alcatel  
3400 West Plano Parkway  
Plano, Texas 75075-8011  
ATTN: Training M/S PB11-553

**IN CANADA:**

Alcatel  
Network Services Division  
P.O. Box 13600  
Ottawa, Ontario K2K 2E6

**5.9** The annual Product Training Catalog can be ordered by calling the training coordinator, or it can be viewed on-line at *<http://www.usa.alcatel.com/telecom/service/catalog>*.



## Technical Assistance Center

**5.10** The Technical Assistance Center staff is always ready to provide high-quality technical assistance. Customers can expect effective telephone assistance when their crafts and maintenance personnel have been trained by Alcatel's Training department and are equipped with adequate test equipment, spares, and documentation at the site.

**5.11** For technical assistance, call customer service telephone support.

### After-hours Emergency Telephone Support

**5.12** Emergency support is available after-hours through dispatch operators. Call customer service telephone support and ask for the Lightwave, Microwave, Operations Support System (OSS), Digital Loop Carrier (LMS), or Digital Cross-Connect emergency duty engineer.

**5.13** An emergency is defined as an out-of-service, traffic-affecting problem or a nonoperating alarm system on traffic-bearing systems.

**5.14** Nonemergency is defined as installation turn-ups, application questions, traffic cutover, routine maintenance, or other non-service-affecting maintenance. All non-service-affecting, after-hours telephone services are billable to the customer.

**5.15** Please provide the operator with the following information:

- Company name
- Caller name
- A telephone number where caller can be reached
- A brief description of the problem, including the product involved

### After-hours Nonemergency Telephone Support

**5.16** After-hours telephone support to address installation turn-ups, application questions, or other non-service-affecting issues is best served when adequate documentation and resources are planned to address these issues. For this reason, customers should *prearrange* these services with Technical Assistance Center management. Call customer service telephone support during normal business hours.

## On-site Technical Support

**5.17** On-site technical support is available on request when services cannot be rendered effectively by telephone. For the best possible response, all requests should be made *directly* to Technical Assistance Center management. Installation turn-up requests should be made to the Field Service organization.

**5.18** On-site services are *billable* to the customer. Service rates vary depending on product, product age, product status, and the time at which services are performed. Copies of on-site service rates are available by request from the Technical Assistance Center.

## Repair and Return Services

**5.19** As part of a comprehensive technical support program, Alcatel provides factory repair services for equipment. This service is available both during and after the warranty period through Alcatel's Return and Repair department.

## Spare Parts and Replacement Cards

**5.20** For spare parts, spare cards, card exchange, and in-warranty replacement on a routine or emergency basis, call customer service telephone support.

**5.21** Provide the following information:

- Company name
- Caller name
- A telephone number where caller can be reached
- A brief description of the problem, including product line, part number, and quantity of parts needed

**5.22** For emergency assistance after normal business hours, call customer service telephone support, ask the operator for Emergency Parts Assistance, and provide the operator with the required information. The operator will contact an appropriate individual to respond

## **Return for Credit or Warranty Exchange Procedure**

**5.23** Returned equipment must have a Return Authorization (RA) number. Obtain an RA number either by calling customer service telephone support or by fax (972-519-4611).

**5.24** No equipment should be returned without an RA number. The following information is required:

- Description and quantity of equipment to be returned
- Reason for return
- Order number the equipment was purchased against and approximate date of purchase

## **Service Center**

**5.25** The Service Center tests, repairs, and modifies all cards (both in and out of warranty). Cards received for repair or modification are returned promptly.

## Return for Repair Procedure

**5.26** Refer to paragraph 5.23 for information on obtaining an RA number. Notification to the Service Center and issuance of an RA number by Alcatel personnel *must be made prior to shipment of parts*. The following information must be furnished with the request for return authorization:

- Purchase order number or requisition number
- Description and quantity of equipment to be returned
- Reason for return:
  - Modification required
  - Defective equipment to be repaired
- Warranty status (in or out of warranty) and warranty date stamped on unit
- Specific nature of problem
- Name and telephone number of person who identified problem
- Special instruction/information

## **Shipping Instructions for Repair, Credit, or Warranty Exchange**

**5.27** Return equipment or parts prepaid to the address provided when the RA number was issued. The RA number must be prominently marked on the shipping label, the packing list, and any correspondence regarding the order.

- Include company name, address, and name of person to contact in case of a question.
- Include specific reason for return. (This aids prompt processing.)
- Include the same requisition number or purchase order number that was furnished with request for return authorization.
- Include type number and part number of unit.
- State whether equipment is in or out of warranty.
- Furnish shipping address for return of unit, if applicable, or other pertinent details.
- Mail purchase order, if applicable, to address shown under Return for Repair Procedure, Attention: Service Center.

## **Installation and Maintenance Services**

### **Engineering and Installation Service**

**5.28** Whether installation for specific equipment or a full turnkey network facility is needed, Installation Service can help. Alcatel has experience in central office, outside plant, and customer premises applications, and specializes in flexible scheduling and high-quality service. Qualified staff are in place nationwide, so an installation can be started and completed promptly.

### **Contract Maintenance Service**

**5.29** Field service from Alcatel offices nationwide is available if a maintenance contract is selected. Alcatel field service is well-suited for private networks of any size. For a fixed annual fee, Alcatel provides prompt response to service calls and provides scheduled preventive maintenance, including FCC-required measurements and record keeping.

**5.30** Factory-trained service technicians are qualified on similar systems before they are allowed to maintain customer equipment. They have direct access to additional technical support around the clock and to all necessary tools and test equipment.

## IXL-100

### Task Index List

Refer to table 100-A to select the type of procedure or information needed to perform tasks on the system.

**Table 100-A. Task Index List**

<b>TYPE OF PROCEDURE/INFORMATION</b>	<b>REFERENCE</b>
Auxiliary Equipment Provisioning	IXL-102
DS3 (T3) Functions	IXL-106
Equipment Provisioning and Deprovisioning	IXL-103
Gigabit Ethernet Functions	IXL-111
OC-n Functions	IXL-108
STS-n Functions	IXL-109
System Administration	IXL-105
System Information Reports	IXL-104
Transmux Functions	IXL-112
User Administration	IXL-101
VT1.5 Functions	IXL-110





## IXL-101

### User Administration

Refer to table 101-A to identify a common user administration function and the corresponding procedure.

**Table 101-A. Common User Administration Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Add New User Profile to System	DLP-205
Change User Password	DLP-102
Delete User from System	DLP-206
Log Into System	DLP-100
Log Out of System	DLP-101
Set User Security Parameters	DLP-108
Set Alarm Attributes	DLP-229



## IXL-102

### Auxiliary Equipment Provisioning

Refer to table 102-A to identify an auxiliary equipment provisioning function and the corresponding procedure.

**Table 102-A. Auxiliary Equipment Provisioning Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Configure U.S. Robotics 56K Faxmodem	DLP-119



## IXL-103

### Equipment Provisioning and Deprovisioning

Refer to table 103-A to identify an equipment provisioning or deprovisioning function and the corresponding procedure.

**Table 103-A. Equipment Provisioning and Deprovisioning Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Deprovision DS3 Card	DLP-125
Deprovision EDFA Card	DLP-259
Deprovision Gigabit Ethernet Card	DLP-244
Deprovision OC-n Card	DLP-126
Deprovision Transmux Card	DLP-246
Deprovision VT1.5 Card	DLP-251
Provision DS3 Card	DLP-123
Provision EDFA Card	DLP-258
Provision Gigabit Ethernet Card	DLP-243
Provision OC-n Card	DLP-124
Provision System Cards	DLP-121
Provision Transmux Card	DLP-247
Provision VT1.5 Card	DLP-250



## IXL-104

### System Information Reports

Refer to table 104-A to identify a system information report and the corresponding procedure for retrieval of the report.

**Table 104-A. System Information Reports**

<b>REPORT</b>	<b>REFERENCE</b>
Display Alarm Messages	DLP-120
Retrieve Log File	DLP-114
Retrieve System Configuration	DLP-106
Schedule PM Reports	DLP-166





## IXL-105

### System Administration

Refer to table 105-A to identify a system administration function and the corresponding procedure.

**Table 105-A. System Administration Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Control System Timing	DLP-113
Initialize System Processors	DLP-107
Repeat TL1 Command	DLP-103
Retrieve and Change System Date and Time	DLP-109



## IXL-106

### DS3 (T3) Functions

Refer to table 106-A to identify a DS3 function and the corresponding procedure.

**Table 106-A. DS3 (T3) Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Administer DS3 Cross-Connection	DLP-145
Administer DS3 Loopback	DLP-161
DS1 (T1) Functions	IXL-107
DS3 (T3) Deprovisioning	NTP-106
DS3 (T3) Provisioning	NTP-100
Report DS3 PM Data	DLP-167
Schedule PM Reports	DLP-166
Set Alarm Attributes	DLP-229
Set DS3 PM Threshold Levels	DLP-183
STS-n Functions	IXL-109



## IXL-107

### DS1 (T1) Functions

Refer to table 107-A to identify a DS1 function and the corresponding procedure.

**Table 107-A. DS1 (T1) Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
DS1 (T1) Deprovisioning	NTP-107
DS1 (T1) Provisioning	NTP-101
DS3 (T3) Functions	IXL-106
Schedule PM Reports	DLP-166
Set Alarm Attributes	DLP-229
STS-n Functions	IXL-109
VT1.5 Functions	IXL-110



## IXL-108

### OC-n Functions

Refer to table 108-A to identify an OC-n function and the corresponding procedure.

**Table 108-A. OC-n Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Administer OC-n BLSR	DLP-240
Administer OC-n Facility Protection Group	DLP-135
Administer OC-n Loopback	DLP-163
Administer OC-n UPSR	DLP-225
OC-n Deprovisioning	NTP-108
OC-n Provisioning	NTP-102
Report OC-n PM Data	DLP-169
Restart Laser	DLP-260
Schedule PM Reports	DLP-166
Set Alarm Attributes	DLP-229
Set OC-n PM Threshold Levels	DLP-185
Switch OC-n Line to Protection	DLP-165





## IXL-109

### STS-n Functions

Refer to table 109-A to identify an STS-n function and the corresponding procedure.

**Table 109-A. STS-n Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Administer STS-n Cross-Connection	DLP-146
DS1 (T1) Functions	IXL-107
DS3 (T3) Functions	IXL-106
Report STS-n PM Data	DLP-171
Schedule PM Reports	DLP-166
Set Alarm Attributes	DLP-229
Set STS-n PM Mode	DLP-179
Set STS-n PM Threshold Levels	DLP-187
STS-n Deprovisioning	NTP-109
STS-n Provisioning	NTP-103
Switch STS-n Path to Protection	DLP-218
VT1.5 Functions	IXL-110



## IXL-110

### VT1.5 Functions

Refer to table 110-A to identify a VT1.5 function and the corresponding procedure.

**Table 110-A. VT1.5 Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Administer VT1.5 Cross-Connection	DLP-149
Administer VT1.5 Loopback	DLP-228
DS1 (T1) Functions	IXL-107
Report VT1.5 PM Data	DLP-174
Schedule PM Reports	DLP-166
Set Alarm Attributes	DLP-229
Set VT1.5 PM Mode	DLP-182
Set VT1.5 PM Threshold Levels	DLP-190
STS-n Functions	IXL-109
VT1.5 Deprovisioning	NTP-110
VT1.5 Provisioning	NTP-104



## IXL-111

### Gigabit Ethernet Functions

Refer to table 111-A to identify a Gigabit Ethernet function and the corresponding procedure.

**Table 111-A. Gigabit Ethernet Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Administer Gigabit Ethernet Cross-connection	DLP-252
Gigabit Ethernet Deprovisioning	NTP-111
Gigabit Ethernet Provisioning	NTP-105
Report Gigabit Ethernet PM Data	DLP-256
Schedule PM Reports	DLP-166
Set Alarm Attributes	DLP-229
Set Gigabit Ethernet PM Mode	DLP-254
Set Gigabit Ethernet PM Thresholds	DLP-255



## IXL-112

### Transmux Functions

Refer to table 112-A to identify a Transmux function and the corresponding procedure.

**Table 112-A. Transmux Functions**

<b>FUNCTION</b>	<b>REFERENCE</b>
Transmux Deprovisioning	DLP-246
Transmux Provisioning	DLP-245





## NTP-100

### DS3 (T3) Provisioning

#### PURPOSE

This procedure provides instructions and sequence for DS3 provisioning.

STEP	PROCEDURE
1	<p>A DS3 port can stand alone or it can be embedded in an STS-1, which is embedded in an OC-n.</p> <p>Provision DS3 in one of the following provisioning schemes:</p> <ul style="list-style-type: none"><li>a. Stand-alone DS3.<ul style="list-style-type: none"><li>– Refer to DLP-123 to provision DS3 card.</li><li>– Refer to DLP-127 to provision DS3.</li></ul></li><li>b. OC-n - STS-1 - DS3<ul style="list-style-type: none"><li>– Refer to NTP-102 to provision OC-n.</li><li>– Refer to NTP-103 to provision STS-n.</li><li>– Refer to DLP-127 to provision DS3.</li></ul></li></ul>
2	<p><b>STOP. This procedure is complete.</b></p>



## NTP-101

### DS1 (T1) Provisioning

#### PURPOSE

This procedure provides instructions and sequence for DS1 provisioning.

STEP	PROCEDURE
1	<p>A DS1 facility is embedded in</p> <ul style="list-style-type: none"><li>– a standalone DS3</li><li>– a DS3 embedded in an STS-1, which is embedded in an OC-n</li><li>– a VT1.5</li></ul> <p>Refer to NTP-102 to provision OC-n.</p> <p>Refer to NTP-103 to provision STS-n.</p> <p>Refer to NTP-100 to provision DS3.</p> <p>Refer to DLP-134 to provision VT1.5</p> <p>Refer to DLP-247 to provision DS1.</p>
2	<p><b>STOP. This procedure is complete.</b></p>



## NTP-102

### OC-n Provisioning

#### PURPOSE

This procedure provides instructions and sequence for OC-n provisioning.

STEP	PROCEDURE
1	Provision OC-n card. For details, refer to DLP-124.
2	Provision OC-n port. For details, refer to DLP-129.
3	Provision OC-n facility protection group. For details, refer to DLP-135.
4	<b>STOP. This procedure is complete.</b>



## NTP-103

### STS-n Provisioning

#### PURPOSE

This procedure provides instructions for STS-n provisioning.

STEP	PROCEDURE
1	An STS-n port must be embedded in an OC-n. <ul style="list-style-type: none"><li>– Refer to NTP-102 to provision OC-n.</li><li>– Refer to DLP-131 to provision STS-n.</li></ul>
2	<b>STOP. This procedure is complete.</b>





## NTP-104

### VT1.5 Provisioning

#### PURPOSE

This procedure provides instructions and sequence for VT1.5 provisioning.

STEP	PROCEDURE
1	Provision VT1.5 card.  For details, refer to DLP-250.
2	A VT1.5 facility must be embedded in an STS-1.  Provision VT1.5 embedded in STS-1.  Refer to NTP-103 to provision STS-n.  Refer to DLP-134 to provision VT1.5.
3	<b>STOP. This procedure is complete.</b>



## NTP-105

### Gigabit Ethernet Provisioning

#### PURPOSE

This procedure provides instructions and sequence for Gigabit Ethernet provisioning.

STEP	PROCEDURE
1	Provision Gigabit Ethernet card. For details, refer to DLP-243.
2	Provision Gigabit Ethernet port. For details, refer to DLP-238.
3	Provision embedded Ethernet Virtual Container (EVC) facilities. For details, refer to DLP-263.
4	<b>STOP. This procedure is complete.</b>



## NTP-106

### DS3 (T3) Deprovisioning

#### PURPOSE

This procedure provides instructions and sequence for DS3 deprovisioning.

STEP	PROCEDURE
1	<p>A DS3 port can stand alone or it can be embedded in an STS-1, which is embedded in an OC-n.</p> <p>Depending on the provisioning scheme, deprovision DS3 in one of the following sequences:</p> <ul style="list-style-type: none"><li>a. Stand-alone DS3.<ul style="list-style-type: none"><li>– Refer to DLP-137 to deprovision DS3.</li><li>– If required, refer to DLP-125 to deprovision DS3 card after all facilities in card are deprovisioned.</li></ul></li><li>b. OC-n – STS-1 – DS3<ul style="list-style-type: none"><li>– Refer to DLP-137 to deprovision DS3.</li><li>– Refer to NTP-109 to deprovision STS-n.</li><li>– Refer to NTP-108 to deprovision OC-n.</li></ul></li></ul>
2	<p><b>STOP. This procedure is complete.</b></p>



## NTP-107

### DS1 (T1) Deprovisioning

#### PURPOSE

This procedure provides instructions and sequence for DS1 deprovisioning.

STEP	PROCEDURE
1	<p>A DS1 can be embedded in</p> <ul style="list-style-type: none"><li>– a standalone DS3</li><li>– a DS3 embedded in an STS-1, which is embedded in an OC-n</li><li>– a VT1.5</li></ul> <p>Refer to DLP-248 to deprovision DS1.</p> <p>Refer to NTP-106 to deprovision DS3.</p> <p>Refer to NTP-109 to deprovision STS-n.</p> <p>Refer to NTP-108 to deprovision OC-n.</p> <p>Refer to DLP-144 to deprovision VT1.5.</p>
2	<p><b>STOP. This procedure is complete.</b></p>





## NTP-108

### OC-n Deprovisioning

#### PURPOSE

This procedure provides instructions and sequence for OC-n deprovisioning.

STEP	PROCEDURE
1	Deprovision OC-n facility protection group. For details, refer to DLP-135.
2	Deprovision OC-n port. For details, refer to DLP-139.
3	If required, deprovision OC-n card after all facilities in card are deprovisioned. For details, refer to DLP-126.
4	<b>STOP. This procedure is complete.</b>



## NTP-109

### STS-n Deprovisioning

#### PURPOSE

This procedure provides instructions and sequence for STS-n deprovisioning.

STEP	PROCEDURE
1	An STS-n port must be embedded in an OC-n. <ul style="list-style-type: none"><li>– Refer to DLP-141 to deprovision STS-n.</li><li>– Refer to NTP-108 to deprovision OC-n.</li></ul>
2	<b>STOP. This procedure is complete.</b>



## NTP-110

### VT1.5 Deprovisioning

#### PURPOSE

This procedure provides instructions and sequence for VT1.5 deprovisioning.

STEP	PROCEDURE
1	<p>A VT1.5 facility must be embedded in an STS-1.</p> <p>Deprovision VT1.5 embedded in STS-1.</p> <ul style="list-style-type: none"><li>a. Refer to DLP-144 to deprovision VT1.5.</li><li>b. Refer to NTP-109 to deprovision STS-n.</li></ul>
2	<p>If required, deprovision VT1.5 card after all facilities in card are deprovisioned.</p> <p>For details, refer to DLP-251.</p>
3	<p><b>STOP. This procedure is complete.</b></p>



# NTP-111

## Gigabit Ethernet Deprovisioning

### PURPOSE

This procedure provides instructions and sequence for Gigabit Ethernet deprovisioning.

STEP	PROCEDURE
1	Deprovision embedded Ethernet Virtual Container (EVC) facilities. For details, refer to DLP-264.
2	Deprovision Gigabit Ethernet port. For details, refer to DLP-239.
3	If required, deprovision Gigabit Ethernet card after all facilities in card are deprovisioned. For details, refer to DLP-244.
4	<b>STOP. This procedure is complete.</b>





## **DLP-100**

### **Log Into System**

#### **PURPOSE**

This procedure provides the instructions to establish a session with the network element (NE) and to log in a specific user.

#### **PREREQUISITE**

The User Identification (UID) and current Password Identifier (PID) must be known before login can be accomplished.

#### **GENERAL**

ACT-USER is used to establish a session with the system and log in the specified user.

For system security, the screen displays asterisks (\*\*\*\*\*) in place of the characters entered for the password. In-progress response messages are not displayed.

A user cannot log in (using ACT-USER) on a terminal where another user is already logged in.

If a user's PID or UID has been deactivated or removed, only a System Administrator account user can enter a new user password or user account database entry.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### **COMMAND SYNTAX**

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ACT-USER:[TID]:UID:[CTAG]::PID;**

UID: {3-32 valid UID characters}

PID: {6-32 valid PID characters}

STEP	PROCEDURE
1	<p>If login attempt succeeds, system returns autonomous response to user. System also transmits message to other appropriately provisioned users logged into system.</p> <p>At prompt, type</p> <p><b>ACT-USER::UID:::PID;</b></p> <p>where:</p> <p>UID is the user identifier.</p> <p>PID is the password for that user.</p> <p>For example, <b>ACT-USER::JOHN:::XYZabc123;</b></p>
2	<p>Did system return a successful response?</p> <p style="padding-left: 40px;">If yes, login was successful, go to step 4. If no, go to step 3.</p>
3	<p>Check parameters for spelling and case-sensitive characters. Go to step 1 to retry system login.</p> <p>Three unsuccessful attempts to log in can cause terminal lockout.</p>
4	<p><b>STOP. This procedure is complete.</b></p>

# DLP-101

## Log Out of System

### PURPOSE

This procedure provides the instructions to terminate a session with the system and to log out a specific user.

### GENERAL

A user can log only their own active User Identification (UID) out of the system. A System Administrator can log any other user out of the system.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**CANC-USER:[TID]:[UID]:[CTAG];**

UID: {3-32 valid UID characters} (Default=UID of user entering command)

STEP	PROCEDURE
1	At prompt, type  <b>CANC-USER;</b>
2	Did system return a successful response?  If yes, go to step 3. If no, check for spelling errors, and then go to step 1.
3	<b>STOP. This procedure is complete.</b>



# DLP-102

## Change User Password

### PURPOSE

This procedure provides the instructions to change a user's login Password Identifier (PID).

### PREREQUISITE

The personal User Identification (UID) and current PID for the user must be known.

### GENERAL

ED-PID is used to change a user's own password, and the user must enter the current UID and PID. If a PID or UID has been deactivated or removed, only a System Administrator account user can enter a new PID or UID database entry.

ED-USER-SECU is used by a System Administrator to change the PID of any user.

The new password must be a string of 6 to 32 case-sensitive alphanumeric characters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ED-PID:[TID]:UID:[CTAG]::OLDPID,NEWPID**

UID: {3-32 valid UID characters}

OLDPID: {6-32 valid PID characters}

NEWPID: {6-32 valid PID characters}

STEP	PROCEDURE
1	Select action.  To change own password, go to step 2. To change password of another user, go to step 7.

**Change own password**

- 2 At prompt, type  
**ED-PID:OLDPID,NEWPID;**  
where:  
  
OLDPID is the old password (case-sensitive).  
  
NEWPID is the new password (case-sensitive).
- 3 Did system return a successful response?  
  
If yes, go to step 8.  
If no, go to step 4.
- 4 Check error code message.
- 5 Consider error code message, and then go to step 2 for another attempt to change password.
- 6 Go to step 8.

**Change password of another user**

- 7 At prompt, type  
**ED-USER-SECU::UID::,PID;**  
where:  
  
UID is the user identifier (case-sensitive).  
  
PID is the new password (case-sensitive).
- 8 **STOP. This procedure is complete.**

## DLP-103

### Repeat TL1 Command

#### PURPOSE

This procedure provides the instructions to repeat a TL1 command.

#### Related Documentation

Refer to the 1677 SONET Link Commands and Messages (PN 106037-A) for information about TL1 command syntax.

STEP	PROCEDURE
1	To repeat a command, use the up-arrow key.  (To edit the command, use the Backspace key. Keep in mind that the Backspace key will delete the characters.)
2	<b>STOP. This procedure is complete.</b>





# DLP-106

## Retrieve System Configuration

### PURPOSE

This procedure provides the instructions to retrieve general system level configuration information consisting of the system type and software release number.

### GENERAL

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-PRMTR-NE:[TID]::[CTAG];**

STEP	PROCEDURE
1	At prompt, type  <b>RTRV-PRMTR-NE;</b>
2	Check output for system configuration.  The following example shows output for a 1677 SONET Link.  agent> <b>RTRV-PRMTR-NE;</b>  ALCATEL-1677SL 2002-12-04 13:24:28 M 0 COMPLD ":1677SL,ADM&APS&DCS,v3.0R1.0-2,,,:" /* RTRV-PRMTR-NE */ ;  3 <b>STOP. This procedure is complete.</b>



## DLP-107

### Initialize System, System Card, or I/O Card

#### PURPOSE

This procedure provides the instructions to reset an I/O card (IOC), a system card (CCC, SWC, DCC, or TC), or the entire node (if no card is specified).

To reset an IOC, you need configure privilege; to reset any other card, you need Network Administrator privilege.

#### GENERAL

INIT-SYS is used to cold start (reset and reload with executable code) and warm start the processor-based cards: CCC, SWC, DCC, and TC. All existing cross-connections remain intact during initialization.

There are three levels of initialization, as defined by the PHASE parameter value:

- PHASE value 0: sufficient to reset an IOC.
- PHASE value 1: sufficient to reset a control card other than the main CCC.
- PHASE value 2: Required to reset the main CCC or the entire system.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**INIT-SYS:[TID]:[AID]:[CTAG]:[PHASE];**

AID: {CCC-{9,10}} Common control card,  
{DCC-{7,8}} Digital communications card (on SSC),  
{IOC-{1-6, 12-17}-{A,B,AB}} I/O card,  
{SWC-{7,8}} Switch control card (on SSC),  
{TC-11-{A,B}} Timing card (Default=Reset entire NE.)

PHASE: {0, 1, 2} (Default=0)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>INIT-SYS::AID:::PHASE;</b></p> <p>where:</p> <p>AID is the access identifier for the card type and location. (For example, <b>CCC-10</b> for a common control card in slot 10, or <b>IOC-6-A</b> for an I/O card in slot 6A.) To reset the entire system, omit this value.</p> <p>PHASE is the level of initialization.</p>
2	<p><b>STOP. This procedure is complete.</b></p>

# DLP-108

## Set User Security Parameters

### PURPOSE

This procedure provides the instructions to allow, retrieve, and set default user security parameters.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONEt Link Commands and Messages manual (PN 106037-A).

**ALW-USER-SECU:[TID]::[CTAG]::UID;**

UID: {3-32 valid characters}

**RTRV-DFLT-SECU:[TID]::[CTAG];**

**RTRV-STATUS:[TID]::[CTAG];**

**SET-ATTR-SECUDFLT:[TID]::[CTAG]::[MXINV=][,DURAL=][,TMOUT=];**

MXINV= {0-999} (Default=3)

DURAL= {1-999} (Default=5)

TMOUT= {0-71582788} (Default=20)

STEP	PROCEDURE
1	<p>Select action.</p> <p>To set system-wide security settings, go to step 2. To retrieve system-wide security settings, go to step 4. To retrieve status information for current sessions, go to step 6. To activate suspended user, go to step 8. To end this procedure, go to step 9.</p>

**Set system-wide security settings**

- 2 At prompt, type

**SET-ATTR-SECUDFLT:::::MXINV=<value>,DURAL=<value>,TMOUT=<value>;**

where:

Value of MXINV is the maximum number of failed login attempts (0-999) after which the port is locked. (The value 0 disables this option.).

Value of DURAL is the number of seconds the port remains locked (1-999).

Value of TMOUT is the number of minutes of idle time after which a session is closed (0-71582788). (The value 0 disables this option.)

- 3 Go to step 9.

**Retrieve system-wide security settings**

- 4 At prompt, type

**RTRV-DFLT-SECU;**

- 5 Go to step 9.

**Retrieve status information for current sessions**

- 6 At prompt, type

**RTRV-STATUS;**

- 7 Go to step 9.

**Activate suspended user**

- 8 At prompt, type

**ALW-USER-SECU:::::UID;**

where UID is the user ID of the suspended user (or multiple users with &-grouping).

- 9 **STOP. This procedure is complete.**

# DLP-109

## Retrieve and Change System Date and Time

### PURPOSE

This procedure provides the instructions to retrieve and change the system date, time, and time zone.

### GENERAL

The ED-DAT command sets the system date and time.

The RTRV-HDR command outputs the current site ID and system date and time.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ED-DAT:[TID]::[CTAG]::[DATE][,TIME];**

DATE= {YYYY-MM-DD: {{nnnn}-{01-12}-{01-31}}} (Default=Original value on NE)

TIME= {HH-MM-SS: {{00-23}-{00-59}-{00-59}}} (Default=Original value on NE)

**RTRV-HDR:[TID]::[CTAG];**

STEP	PROCEDURE
1	Select action.  To retrieve system date and time, go to step 2. To set or change system date and time, go to step 4. To end this procedure, go to step 5.
<b>Retrieve system date and time</b>	
2	At prompt, type  <b>RTRV-HDR;</b>
3	Go to step 1.

**Set system date and time**

- 4** At prompt, type  
**ED-DAT:.....DATE,TIME;**

where:

DATE is the date in the format *yyyy-mm-dd*.

TIME is the time in the format *hh-mm-ss*.

Leading zeros are ignored. At least one of these values must be specified.

To continue this procedure, go to step 1.

To quit this procedure, go to step 5.

- 5** **STOP. This procedure is complete.**



## DLP-113

# Control System Timing

### PURPOSE

This procedure provides the instructions to retrieve and edit BITS timing and to switch system clock synchronization from one reference to the other.

### GENERAL

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-BITS:[TID]:[AID]:[CTAG];**

AID: {TC-11-{A,B}-{1,2}, ALL} (Default=ALL)

**ED-BITS:[TID]:AID:[CTAG]:::[FMT=] [,LINECDE=][,LINELEN=]:,;**

AID: {TC-11-{A,B}-{1,2}}

FMT= {D4, ESF} (Default=ESF)

LINECDE= {AMI, B8ZS} (Default=B8ZS)

LINELEN= {0DB, 133, 266, 399, 533, 655, UNKNOWN} (Default=0DB)

**OPR-SYNCNSW:[TID]::[CTAG]::SWTYPE;**

SWTYPE: {REF, TC}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve current BITS timing parameters, go to step 2. To change BITS timing parameters, go to step 4. To change the timing reference to a different source, go to step 6. To end this procedure, go to step 8.</p> <p><b>Retrieve current BITS timing parameters</b></p>
2	<p>At prompt, type</p> <p><b>RTRV-BITS::AID;;</b></p> <p>where AID is the access identifier of the timing card (TC), or the value is omitted for all parameters.</p>
3	<p>Go to step 1.</p> <p><b>Change BITS timing parameters</b></p>
4	<p>At prompt, type</p> <p><b>ED-BITS::AID:::FMT=&lt;value&gt;,LINECDE=&lt;value&gt;,LINELEN=&lt;value&gt;;</b></p> <p>where:</p> <p>AID is the access identifier of the timing card (TC).</p> <p>Value of FMT is either <b>D4</b> or <b>ESF</b>.</p> <p>Value of LINECDE is either <b>AMI</b> or <b>B8ZS</b>.</p> <p>Value of LINELEN is the length of the T1 (DS1) line.</p>
5	<p>Go to step 1.</p>

### Change timing reference

**6** At prompt, type

**OPR-SYNCNSW:.....SWTYPE;**

where:

SWTYPE is either **REF** (switch the primary and secondary timing sources) or **TC** (switch to the other timing card unless its signal quality is less than the current TC).

**7** Go to step 1.

**8 STOP. This procedure is complete.**



# DLP-114

## Retrieve Log File

### PURPOSE

This procedure provides the instructions to retrieve the entries of the audit log, system log, or security log.

### GENERAL

The output format is the quoted name of the log followed by a number of commented lines that contain the text of the original log messages.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-AUDIT-SECULOG:[TID]::[CTAG]::[START=][,STOP=][,NTFCNCDE=];**

START= {yy-mm-dd-hh-mm-ss} (Default=Earliest available date/time.)

STOP= {yy-mm-dd-hh-mm-ss} (Default=Latest available date/time.)

NTFCNCDE= {CL, CR, MJ, MN, NA, NR, ALL} (Default=ALL)

**RTRV-LOG:[TID]::[CTAG]::LOGNAME:[START=][,STOP=][,NTFCNCDE=];**

LOGNAME: {AUDIT, SYSTEM}

START= {yy-mm-dd-hh-mm-ss} (Default=Earliest available date/time.)

STOP= {yy-mm-dd-hh-mm-ss} (Default=Latest available date/time.)

NTFCNCDE= {CL, CR, MJ, MN, NA, NR, ALL} (Default=ALL)

STEP	PROCEDURE
1	Select action.  To view the audit log, go to step 2. To view the system log, go to step 4. To view the security log, go to step 6. To end this procedure, go to step 7.

**View audit log**

- 2 At prompt, type

**RTRV-LOG::::::AUDIT:START=<value>,STOP=<value>;**

where:

Value of START is the starting timestamp in the format *yy-mm-dd-hh-mm-ss*.

Value of STOP is the end timestamp in the format *yy-mm-dd-hh-mm-ss*.

For example, the values START=02-09-18-01-30-00 and STOP=02-09-18-22-45-00 retrieve audit log entries for September 18, 2002 beginning at 1:30 a.m. and ending at 10:45 p.m.

- 3 Go to step 7.

**View system log**

- 4 At prompt, type

**RTRV-LOG::::::SYSTEM:START=<value>,STOP=<value>;**

where:

Value of START is the starting timestamp in the format *yy-mm-dd-hh-mm-ss*.

Value of STOP is the end timestamp in the format *yy-mm-dd-hh-mm-ss*.

For example, the values START=02-09-18-01-30-00 and STOP=02-09-18-22-45-00 retrieve system log entries for September 18, 2002 beginning at 1:30 a.m. and ending at 10:45 p.m.

- 5 Go to step 7.

## View security log

6 At prompt, type

**RTRV-AUDIT-SECULOG::::::START=<value>,STOP=<value>;**

where:

Value of START is the starting timestamp in the format *yy-mm-dd-hh-mm-ss*.

Value of STOP is the end timestamp in the format *yy-mm-dd-hh-mm-ss*.

For example, the values START=02-09-18-01-30-00 and STOP=02-09-18-22-45-00 retrieve security log entries for September 18, 2002 beginning at 1:30 a.m. and ending at 10:45 p.m.

7 **STOP. This procedure is complete.**





## DLP-119

### Configure U.S. Robotics 56K Faxmodem

#### PURPOSE

This procedure provides the instructions to configure a U.S. Robotics® 56K Faxmodem for use with the 1677 SONET Link.

#### PREREQUISITES

This procedure requires the following equipment:

- Terminal (VT520 or equivalent)
- RS-232 cable (not null modem), Alcatel part number 694-8483-00x
- U.S. Robotics 56K Faxmodem
- RJ11 - DB9 console cable with 9-25 pin null modem adapter

The terminal used in this procedure must be configured to operate at 9600 baud.

An originate modem is used at a remote location to provide communication to the 1677 SONET Link through a telephone line.

The setup for an answer modem configures the modem to be used to receive calls from remote locations through a telephone line. During the configuration, the only data connection is between the terminal and the modem being configured. The terminal is used only for modem setup and is removed when setup is complete.

#### Related Documentation

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

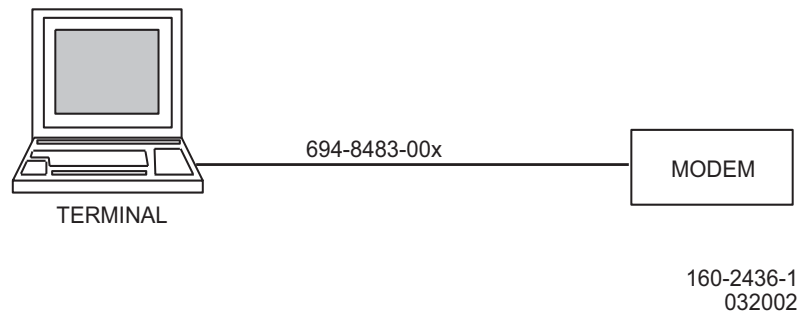
Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Connect modem to power source.
2	Connect keyboard to mini-DIN connector on rear of terminal.
3	Connect terminal to power source.

- 4 There is only one possible location for cable connection on modem.

Connect RS-232 cable between modem and terminal. Cable connects to modem at DB-25 connection labeled EIA RS-232C. Cable connects to terminal at either of the two female DB-25 connections labeled COMM1. See figure 119-1 for equipment setup.

**Figure 119-1. Modem Configuration**



### **Reset Modem to Factory Defaults**

- 5 Set DIP switch 7 down.
- 6 Turn modem on.

### **Change Default Values**

- 7 Turn modem off.
- 8 Set DIP switches 1, 3, and 8 down, and set all other DIP switches up.
- 9 Turn modem on.
- 10 At terminal, type the following command to wake up the modem:  
**atz**  
An OK message is returned.
- 11 Type the following command to disable data compression:  
**at&K0**
- 12 Type the following command to set ceiling connect speed to 9600 bps:  
**at&N6**

- 13       Type the following command to set floor connect speed to 9600 bps:  
**at&U6**
- 14       Type the following command to save these changes to the Y0 NVRAM location:  
**at&w0**
- 15       Turn the modem off, and then turn it on again.
- 16       Type the following command to view the modem settings:  
**ati4**
- 17       Type the following command to view the NVRAM Y0 and Y1 settings:  
**ati5**

#### **Connect Modem to 1677 SONET Link Console**

- 18       Turn mode off.
- 19       Set DIP switch 1 up, and set all other DIP switches down.
- 20       Connect modem to the 1677 SONET Link using the black console cable (RJ11 - DB9) and a 9-25 pin null-modem adapter. The null modem adapter is needed because the 1677 SONET Link is wired to connect to a DTE, not a DCE (modem).
- 21       Turn modem on.
- 22       **STOP. This procedure is complete.**



## DLP-120

### Display Alarm Messages

#### PURPOSE

This procedure provides the instructions to view the status of current alarms.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-ALM-ALL:[TID]::[CTAG]::[NTFCNCDE][,CONDDTYPE][,SERVEFF],,,;**

NTFCNCDE: {ALL, CL, CR, MJ, MN, NA, NR} (Default=ALL.)

CONDDTYPE: {AIS, AIS-L, AIS-P, AISFEAC, APSB, APSC, APSCDFLT, APSCIMP, APSCINCON, APSCM, APSCMM, APSCNMIS, APSCTRS, APSMM, AUTORESET, BKUPMEMP, BKUPMEMS, BKUPMEMSYNCH, CFGFLT, CFGSEC, CLFAN, CLKALM, CONTBUS-7, CONTBUS-8, CONTR, CONTR-X, CONTRDUP, DATAFLT, DBMEMTRF, DISK90, DISKFULL, DNR, DS1ISD, EQPTCOMFEAC, EQPTDS1FEAC, EQPTFEAC, FACTERM, FAILTORLS, FAILTORLS-RING, FAILTORLS-SPAN, FAILTOSW, FAILTOSW-RING, FAILTOSW-SPAN, FAILTOSW-SPAN-FE, FAILTOSW-RING-FE, FEPRLE, FERF, FPSWDIS, FPSWOF, FPSWON, FRCDWKS WBK, FRCDWKS WPR-RING, FRCDWKS WPR-RING-FE, FRCDWKS WPR-SPAN, FRCDWKS WPR-SPAN-FE, FRD, HLDVRSYN, IMPROPINS, IMPROPRMV, INHAUTOMODESW, INHMSG-CR, INHMSG-MJ, INHMSG-MN, INHMSG-NA, INHMSG-PM, INHMSG-TYPE, INHPMMON, INHSWPR, INHSWWKG, INIT, INIT-2, INT, INT-1, INT-19, INT-2, INT-4, INT-IOC-ROM, ISD, LCD, LOF, LOF-L, LOP, LOP-P, LOS, LOS-L, LOSDS1FEAC, LOSFEAC, LOSMDS1FEAC, LPBKLINE, LPBKLINE-FE, LPBKPAYLOAD, LPBKPAYLOAD-FE, MAN, MANWKS WBK, MANWKS WPR-RING, MANWKS WPR-RING-FE, MANWKS WPR-SPAN, MANWKS WPR-SPAN-FE, MON, NID-CONFL, OALCASETEMP, OALKEYLOCK, OALLBC, OALLIFE, OALLOPOW, OALPWR, OALTEMP, OARXLOCK, OATXLOCK, OCD, OOF, OOS, PDI, PDI-P, PMFLT, PROTCFG, PWR, RAI, RCVRY, RDI-L, RDI-P, RESETLIM, RFI-L, RFI-P, RNG-INC, RNG-INIT, RNG-PREEMPT, RNG-SQUELCH, RVCRY, SCMMA, SD, SECBUFTH, SF, SFI, SFT, SLMF, SNTP, SNTPFAIL, SNTPPRIDN, SNTPPRIUP, SNTPSEC, SNTPSECDN, SNTPSECUP, SQMAP-CONFL, SQMAP-INCST, SQMAP-UPD, SWEQPT, SWMTXMOD, SWTOINT, SWTOSEC, SYNC, SYNCCLK, SYNCINT, SYNCOOS, SYNCPRI, SYNCSEC, SYNCSTATCHNG, SYSBOOT, T-MONTYPE, TIM-P, TIME, UNEQ-P, WKS WBK, WKS WBK-RING, WKS WBK-SPAN, WKS WPR, WKS WPR-RING, WKS WPR-RING-FE, WKS WPR-SPAN, WKS WPR-SPAN-FE, WKS WPR-X, WTR, YEL} (Default=All condition types.)

SERVEFF: {SA, NSA} (Default=Both types.)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>RTRV-ALM-ALL;</b></p> <p>The following example retrieves all current alarms:</p> <pre>agent&gt;<b>RTRV-ALM-ALL;</b>  ALCATEL-1677SL 2002-12-04 21:02:46 M 0 COMPLD "OC48-4-A-1,OC48:MN,APSCIMP,NSA,10-17,19-34-46:\"Improper K byte received\"" "TC-SYNC,COM:MJ,SYNCOOS,SA,10-17,19-31-14:\"There is no valid network timing source available\"" /* RTRV-ALM-ALL */ ;</pre>
2	<p><b>STOP. This procedure is complete.</b></p>

## DLP-121

### Provision System Cards

#### PURPOSE

This procedure provides the instructions to provision system cards.

#### GENERAL

This procedure provisions system cards.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

Once equipment is provisioned, ED-EQPT can be used to alter parameters.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EQPT:[TID]:AID:[CTAG]:[TYPE]:[RN=][,RVRTV=]:[PST],;**

AID: {CCC-{9,10},

DCC-{7,8},

SWC-{7,8},

TC-11-{A,B}}

(Only valid AIDs shown.)

TYPE: {CCC, SSC-DCC, DCC, SSC-SWC, SWC, TC} (Default=No value.)

RN= {PRI, SEC, SX}

RVRTV= {Y,N}

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>ENT-EQPT::AID::TYPE;</b></p> <p>where:</p> <p>AID is CCC-{9,10} for a common control card, DCC-{7,8} for a digital communications card, SWC-{7,8} for a switch control card, or TC-11-{A,B} for a timing card; depending on the system card location (for example, CCC-9 for a common control card installed in slot 9).</p> <p>TYPE is one of the following:</p> <p><b>CCC</b> for common control card</p> <p><b>SSC-DCC</b> or <b>DCC</b> for DCC on STS switch card</p> <p><b>SSC-SWC</b> or <b>SWC</b> for SWC on STS switch card (SSC)</p> <p><b>TC</b> for timing card</p>
2	<p><b>STOP. This procedure is complete.</b></p>



## DLP-123

### Provision DS3 Card

#### PURPOSE

This procedure provides the instructions to provision a DS3 card.

#### GENERAL

This procedure provisions a DS3 card.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

Once a DS3 card is provisioned, ED-EQPT can be used to alter parameters.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EQPT:[TID]:AID:[CTAG]:[TYPE]:[RN=][,RVRTV=]:[PST],;**

AID: {IOC-{1-5,13-17}-{A,B}}  
(Only valid AIDs shown.)

TYPE: {DS3-12P} (Default=No value.)

RN= {PRI, SEC, SX}

RVRTV= {Y,N} (Default=Y)

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type  <b>ENT-EQPT::AID::DS3-12P;</b>  where AID is the IOC access identifier.
2	<b>STOP. This procedure is complete.</b>

## DLP-124

### Provision OC-n Card

#### PURPOSE

This procedure provides the instructions to provision an OC-n card.

#### GENERAL

This procedure provisions an OC-n card.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

Once an OC-n card is provisioned, ED-EQPT can be used to alter parameters.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EQPT:[TID]:AID:[CTAG]::[TYPE]:[RN=][,RVRTV=]:[PST],;**

AID: {IOC-{1-6,12-17}-{A,B}} (for OC-3, OC-12, and OC-48),  
{IOC-{5,6,12,13}-{AB}} (for OC-192)  
(Only valid AIDs shown.)

TYPE: {OC3-12P, OC12-4P, OC48-1P, OC192-1P} (Default=No value.)

RN= {PRI, SEC, SX}

RVRTV= {Y,N} (Default=Y)

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type  <b>ENT-EQPT::AID::TYPE;</b>  where:  AID is the IOC access identifier.  TYPE is the type of optical card.
2	<b>STOP. This procedure is complete.</b>

## DLP-125

### Deprovision DS3 Card

#### PURPOSE

This procedure provides the instructions to deprovision a DS3 card.

#### GENERAL

This procedure deprovisions a DS3 card.

The RMV-EQPT command gracefully shuts down the card to prepare it for physical removal.

The DLT-EQPT command sets the administrative type to unknown. Upon removal, the card is no longer recognized by the node.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RMV-EQPT:[TID]:AID:[CTAG];**

AID: {IOC-{1-5,13-17}-{A,B}}  
(Only valid AIDs shown.)

**DLT-EQPT:[TID]:AID:[CTAG]::;**

AID: {IOC-{1-5,13-17}-{A,B}}  
(Only valid AIDs shown.)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type <b>RMV-EQPT::AID;</b>  where AID the access identifier of the card to be removed.
2	At prompt, type <b>DLT-EQPT::AID;</b>  where AID is the same access identifier given in step 1.
3	<b>STOP. This procedure is complete.</b>

## DLP-126

### Deprovision OC-n Card

#### PURPOSE

This procedure provides the instructions to deprovision an OC-n card.

#### GENERAL

This procedure deprovisions an OC-n card.

The RMV-EQPT command gracefully shuts down the card to prepare it for physical removal.

The DLT-EQPT command sets the administrative type to unknown. Upon removal, the card is no longer recognized by the node.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RMV-EQPT:[TID]:AID:[CTAG];**

AID: {IOC-{1-6,12-17}-{A,B}} (for OC-3, OC-12, and OC-48),  
{IOC-{5,6,12,13}-{AB}} (for OC-192)  
(Only valid AIDs shown.)

**DLT-EQPT:[TID]:AID:[CTAG];::;**

AID: {IOC-{1-6,12-17}-{A,B}} (for OC-3, OC-12, and OC-48),  
{IOC-{5,6,12,13}-{AB}} (for OC-192)  
(Only valid AIDs shown.)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type <b>RMV-EQPT::AID;</b>  where AID is the access identifier of the card.
2	At prompt, type <b>DLT-EQPT::AID;</b>  where AID is the same identifier given in step 1.
3	<b>STOP. This procedure is complete.</b>



## DLP-127

### Provision DS3 Port

#### PURPOSE

This procedure provides the instructions to provision a DS3 facility. The DS3 facility can be associated with a DS3 port, or with an STS-1 facility of an optical port.

#### PREREQUISITES

When provisioning a DS3 port for a DS3 card, the DS3 card must be provisioned first. Refer to DLP-123 to provision DS3 cards.

#### GENERAL

Once a DS3 facility is provisioned, ED-T3 can be used to alter parameters. RTRV-T3 can be used to view the parameters.

Creating a DS3 facility associated with an optical STS-1 port requires a Transmux resource. If the optical STS-1 port does not have one reserved and is passing traffic, adding the Transmux will interrupt traffic.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-T3:[TID]:AID:[CTAG]:::[CKTID=][,LBO=][,FMT=][,STSMAP=][,VTCARD=][,TMUX=][,TACC][,TADB]:[PST][,SST];**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

CKTID= {String, 1-256 characters, excluding spaces or TL1 punctuation} (Default=empty string)

LBO= {0DB, or number of feet} (Default=0DB)

FMT= {ASYNCR, AUTO, CBIT, UNFR,} (Default=AUTO)

STSMAP= {ALL, ASYNCR, VTFLOAT, DS1PM, VTCRS, SUBPM} (Default=ASYNCR)

VTCARD= {AID of VT1.5 switch card} (Default=No entry.)

TMUX= {AID of Transmux card} (Default=No entry.)

TACC= {Y, N} (Default=N)

TADB= {T3-{2-5,13-16}-{A,B}-{1-12}}

PST: {IS, MA, OOS, OOS-MA} (Default=IS, unless TACC=Y)

SST: {AINS, DSBLD, NALM} (Default=No value)

**RTRV-T3:[TID]:[AID]:[CTAG];**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>ENT-T3::AID:::CKTID=&lt;value&gt;,LBO=&lt;value&gt;,FMT=&lt;value&gt;,STSMAP=&lt;value&gt;, VTCARD=&lt;value&gt;,TMUX=&lt;value&gt;,TACC=&lt;value&gt;,TADB=&lt;value&gt;:PST,SST;</b></p> <p>where:</p> <p>AID is the access identifier for the DS3 port. Ranging and grouping are supported.</p> <p>Value of CKTID is the circuit ID.</p> <p>Value of LBO is the line buildout value.</p> <p>Value of FMT is the framing format.</p> <p>Value of STSMAP is the type of payload in an STS payload envelope (DS3 ports only).</p> <p>Value of VTCARD is the AID of the VT card used for VT-level cross-connects, if applicable.</p>

Value of TMUX is the AID of the Transmux card used for signal reformatting, if applicable.

Value of TACC enables or disables Test Access for this facility.

Value of TADB is DS3 access identifier of the B Test Access facility to be associated with this facility.

PST is the primary state.

SST is the secondary state.

**2        STOP. This procedure is complete.**



## DLP-129

### Provision OC-n Port

#### PURPOSE

This procedure provides the instructions to provision an OC-3, OC-12, OC-48, or OC-192 port to receive and transmit data.

#### PREREQUISITES

An OC-n is a stand-alone signal. A OC-n card must be provisioned before OC-n ports can be provisioned. Refer to DLP-124 to provision OC-n cards.

#### GENERAL

Once an OC-n port is provisioned, ED-OCn can be used to alter parameters. RTRV-OCn can be used to view the parameters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-OCn:[TID]:AID:[CTAG]:::[CKTID=][,SDTHRESH=][,SFTHRESH=][,ADMINSTATE=][,TRC=][,FECDW=][,FECSCRAMBLE=][,NOALM=][,ALSENB=][,OPRNOM=]:[PST][,SST];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A,B}-{1-4}},  
{OC48-{1-6,12-17}-{A,B}-1}},  
{OC192-{5,6,12,13}-AB-1}}

CKTID= {String, 1-256 characters, excluding spaces or TL1 punctuation} (Default=empty string)

SDTHRESH= {Integer n (Range 5-9) where n represents 1 bit error in  $10^n$ } (Default=5)

SFTHRESH= {Integer n (Range 3-5) where n represents 1 bit error in  $10^n$ } (Default=3)

ADMINSTATE= {AUTO, DOWN, TEST, UP} (Default=AUTO)

TRC= {String, 1-15 characters} (Default=empty string)

FECDW= {Y, N} (Default=Y)

FECSCRAMBLE= {Y, N} (Default=Y)

NOALM= {Y, N} (Default=N)

ALSENB= {Y, N} (Default=Y)

OPRNOM= {nUW, nMW, nDBM} (microwatts, milliwatts, or dBm, respectively)

TXPWR= {nUW, nMW, nDBM} (microwatts, milliwatts, or dBm, respectively)

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

SST: {AINS, MT}

**RTRV-OCn:[TID]:[AID]:[CTAG];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1}},  
{OC192-{5,6,12,13}-AB-1}}}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>ENT-OCn::AID:::CKTID=&lt;value&gt;,SDTHRESH=&lt;value&gt;,SFTHRESH=&lt;value&gt;,ADMINSTATE=&lt;value&gt;,TRC=&lt;value&gt;,FECDW=&lt;value&gt;,FECSCRAMBLE=&lt;value&gt;,ALSENB=&lt;value&gt;,OPRNOM=&lt;value&gt;,TXPWR=&lt;value&gt;;PST,SST;</b></p> <p>where:</p> <p>OCn in the command name is the type of optical facility (<b>OC3, OC12, OC48, OC192</b>).</p> <p>AID is the access identifier of the OC-3, OC-12, OC-48, or OC-192 port.</p> <p>Value of CKTID is the circuit identifier.</p>

Value of SDTHRESH is the Signal Degrade threshold.

Value of SFTHRESH is the Signal Failure threshold.

Value of ADMINSTATE is the administrative state.

Value of TRC is a trace string.

Value of FECDW is whether or not to enable Forward Error Correction (FEC) digital wrapper.

Value of FECSCRAMBLE is whether or not to enable scrambling of the FEC digital wrapper frame.

Value of ALSENB is whether or not to enable Automatic Laser Shutdown.

Value of OPRNOM (for OC-48 and OC-192 only) is the optical power nominal value.

Value of TXPWR (for OC-48 and OC-192 only) is the transmit power.

PST and SST are the primary and secondary states, respectively.

**2 STOP. This procedure is complete.**





## DLP-131

### Provision STS-n Port

#### PURPOSE

This procedure provides the instructions to provision a port to receive and transmit STS-1 and STS concatenated signals.

#### PREREQUISITES

An STS-1, STS-3c, STS-12c, STS-48c, and STS-192c signal must be embedded within an OC-n port. The port must be provisioned first. Refer to DLP-129 to provision an OC-n port.

#### GENERAL

Once an STS-n port is provisioned, ED-STSn can be used to alter parameters. RTRV-STSn can be used to view the parameters.

The ENT-STSn command is used to provision STS-1 signals. Once an STS-1 signal is provisioned, ED-STSn can be used to alter parameters. RTRV-STSn can be used to view the parameters.

The ENT-STSn command is used to provision STS-3c, STS-12c, STS-48c, and STS-192c signals. Once an STSn signal is provisioned, ED-STSn can be used to alter parameters. RTRV-STSn can be used to view the parameters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-STSn:[TID]:AID:[CTAG]:::[CKTID=][,STSMAP=][,VTCARD=][,TMUX=][,TRC=][,EXPTRC=][,ENBTXPDI=][,ENBTXRDIP=][,ENBTIMP=][,TACC=][,TADB=][,TERM=][,BLSR=]:[PST][,SST];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

CKTID= {1-256 characters excluding spaces or TL1 punctuation}

STSMAP= {ALL, ASYNC, VTFLOAT, SUBPM, VTCRS} (Default=ALL)

VTCARD= {VT1-{1-6,12-17}-{A,B}}

TMUX= {TMUX-{1-6,12-17}-{A,B}}

TRC= {1-62 characters excluding spaces or TL1 punctuation}

EXPTRC= {String, 0-62 characters excluding spaces or TL1 punctuation}

ENBTXPDIP= {Y, N} (Default=N)

ENBTXRDIP= {Y, N} (Default=N)

ENBTIMP= {Y, N} (Default=N)

TACC= {Y, N} (Default=N)

TADB= {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

TERM= {LTE, PTE} (Default=LTE when STSMAP does not imply path termination; otherwise, PTE.)

BLSR= {DCP, ENUT, ET, RT, SOP, 0-15} (Default=ET)

PST: {IS, OOS} (Default=IS)

SST: {AINS}

**ENT-STSn:[TID]:AID:[CTAG]:::[CKTID=][,STSMAP=][,VTCARD=][,TMUX=][,TRC=][,EXPTRC=][,ENBTXPDIP=][,ENBTXRDIP=][,ENBTIMP=][,TACC=][,TADB=][,TERM=][,BLSR=]:[PST][,SST];**

AID: {{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55, 58,61,64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136, 139,142,145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

CKTID= {String, 1-256 characters excluding spaces or TL1 punctuation}

STSMAP= {ALL, ASYNC, 0Xxx, SUBPM, VTCRS, DS4NA, ATM, DQDB, FDDI, HDLC, IP-PPP, 10GIGE, GIGE, GFP} (Default=ALL)

VTCARD= {VT1-{1-6,12-17}-{A,B}}

TMUX= {TMUX-{1-6,12-17}-{A,B}}

TRC= {1-62 characters excluding spaces or TL1 punctuation}

EXPTRC= {String, 0-62 characters excluding spaces or TL1 punctuation}

ENBTXPDIP= {Y, N} (Default=N)

ENBTXRDIP= {Y, N} (Default=N)

ENBTIMP= {Y, N} (Default=N)

TACC= {Y, N} (Default=N)

TADB= {{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

TERM= {LTE, PTE} (Default=LTE when STSMAP does not imply path termination; otherwise, PTE.)

BLSR= {DCP, ET, SOP} (Default=ET)

PST: {IS, OOS} (Default=IS)

SST: {AINS}

**RTRV-STs1:[TID]:AID:[CTAG];**

STS1AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

**RTRV-STSn:[TID]:AID:[CTAG];**

AID: {{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To provision an STS-1 signal, go to step 2. To provision an STS-n signal, go to step 4. To end this procedure, go to step 5.

**Provision STS-1 signal**

**2** At prompt, type

```
ENT-STs1::AID:::CKTID=<value>,STSMAP=<value>,VTCARD=<value>,TMUX=<value>,  
TRC=<value>,EXPTRC=<value>,ENBTXPDIp=<value>,ENBTXRDIP=<value>,  
ENBTIMP=<value>,TACC=<value>,TADB=<value>,TERM=<value>,BLSR=<value>:PST,SST;
```

where:

AID is the access identifier of the STS-1 signal.

Value of CKTID is the circuit identifier.

Value of STSMAP is the STS payload type.

Value of VTCARD is the access identifier of the VT1.5 card.

Value of TMUX is the access identifier of the Transmux card.

Value of TRC is a trace string.

Value of EXPTRC is the expected trace string.

Value of ENBTXPDIp indicates whether or not to enable automatic PDI-P insertion on defect detected.

Value of ENBTXRDIP indicates whether or not to enable automatic RDI-P insertion on defect detected.

Value of ENBTIMP indicates whether or not to enable detection of TIM-P (reporting is controlled by SET-ATTR).

Value of TACC enables or disables Test Access for this facility.

Value of TADB is STS-1 access identifier of the B Test Access facility to be associated with this facility.

Value of TERM is LTE if STSMAP does not imply path termination, or PTE if it does.

Value of BLSR is the BLSR role.

PST and SST are the primary and secondary states, respectively.

**3** Go to step 5.

## Provision STS-n signal

4 At prompt, type

**ENT-STS<sub>n</sub>::AID:::CKTID=<value>,STSMAP=<value>,TRC=<value>,EXPTRC=<value>,  
ENBTXPDIP=<value>,ENBTXRDIP=<value>,ENBTIMP=<value>,TACC=<value>,  
TADB=<value>,TERM=<value>::PST,SST;**

where:

STS<sub>n</sub> in the command name is the signal type (**STS3C**, **STS12C**, **STS48C**, or **STS192C**).

AID is the access identifier of the STS-3c, STS-12c, STS-48c, or STS-192c signal.

Value of CKTID is the circuit identifier.

Value of STSMAP is the STS payload type.

Value of TRC is a trace string.

Value of EXPTRC is the expected trace string.

Value of ENBTXPDIP indicates whether or not to enable automatic PDI-P insertion on defect detected.

Value of ENBTXRDIP indicates whether or not to enable automatic RDI-P insertion on defect detected.

Value of ENBTIMP indicates whether or not to enable detection of TIM-P (reporting is controlled by SET-ATTR).

Value of TACC enables or disables Test Access for this facility.

Value of TADB is STS-n access identifier of the B Test Access facility to be associated with this facility.

Value of TERM is LTE if STSMAP does not imply path termination, and PTE if it does.

Value of BLSR is the BLSR role.

PST and SST are the primary and secondary states, respectively.

5 **STOP. This procedure is complete.**



## DLP-134

### Provision VT1.5 Port

#### PURPOSE

This procedure provides the instructions to provision a port to receive and transmit VT1.5.

#### PREREQUISITES

A VT1.5 must be embedded within a parent STS-1. The parent signal must be provisioned first. Refer to DLP-131 to provision an STS-1.

#### GENERAL

Once a VT1.5 port is provisioned, ED-VT1 can be used to alter parameters. RTRV-VT1 can be used to view the parameters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-VT1:[TID]:AID:[CTAG]::[CKTID=][,VTMAP=][,SDBER=]:[PST][,SST];**

AID: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

CKTID= {String, 1-256 characters, excluding spaces or TL1 punctuation} (Default=empty string)

VTMAP= {ALL, ASYNC} (Default=Previously existing value)

SDBER= {Integer in range 5 through 8} (Default=5)

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

SST: {AINS, MT}

**RTRV-VT1:[TID]:AID:[CTAG];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>ENT-VT1::AID:::CKTID=&lt;value&gt;,VTMAP=&lt;value&gt;,SDBER=&lt;value&gt;:PST,SST;</b></p> <p>where:</p> <p>AID is the access identifier of the VT1.5 port.</p> <p>Value of CKTID is the circuit identifier.</p> <p>Value of VTMAP is the VT1.5 payload type.</p> <p>Value of SDBER is the Signal Degrade bit error rate.</p> <p>PST and SST are the primary and secondary states, respectively.</p>
2	<p><b>STOP. This procedure is complete.</b></p>



## DLP-135

### Administer OC-n Facility Protection Group

#### PURPOSE

This procedure provides the instructions to retrieve information on, provision, and deprovision OC-n facility protection groups.

#### PREREQUISITE

The working OC-n ports in facility protection groups must be provisioned. Refer to DLP-129.

#### GENERAL

An OC-n facility protection group consists of a pair of adjacent OC-n ports: one protect port and one working port.

After OC-n facility protection groups are provisioned, OC-n protect port AIDs can be specified when executing RTRV-OCn and all OC-n Performance Monitoring (PM) commands.

After an OC-n facility protection group is provisioned, ED-FFP-OCn can be used to alter parameters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-FFP-OCn:[TID]:WORKING[,PROTECTING]:[CTAG];**

WORKING: {{OC3-{1,3,5,12,14,16}-{A,B}-{1-12}},  
{OC12-{1,3,5,12,14,16}-{A,B}-{1-4}},  
{OC48-{1,3,5,12,14,16}-{A,B}-1},  
{OC192-{5,6,12}-AB-1}}

PROTECTING: {{OC3-{2,4,6,13,15,17}-{A,B}-{1-12}},  
{OC12-{2,4,6,13,15,17}-{A,B}-{1-4}},  
{OC48-{2,4,6,13,15,17}-{A,B}-1},  
{OC192-{6,12,13}-AB-1}}

**ENT-FFP-OCn:[TID]:WORKING[,PROTECTING]:[CTAG]::[PTYPE=][,PSDIRN=][,APCTRC=]  
[,RVRTV=][,RVRTTIM=][,SDTHRESH=][,SFTHRESH=][,RINGMAP=][,NODEDESCR=];**

WORKING: {{OC3-{1,3,5,12,14,16}-{A,B}-{1-12}},  
{OC12-{1,3,5,12,14,16}-{A,B}-{1-4}},  
{OC48-{1,3,5,12,14,16}-{A,B}-1},  
{OC192-{5,6,12}-AB-1}}

PROTECTING: {{OC3-{2,4,6,13,15,17}-{A,B}-{1-12}},  
{OC12-{2,4,6,13,15,17}-{A,B}-{1-4}},  
{OC48-{2,4,6,13,15,17}-{A,B}-1},  
{OC192-{6,12,13}-AB-1}}

PTYPE= {LINEAR, UPSR, BLSR2, BLSR4} (Default=LINEAR)

PSDIRN= {BI, UNI} (Default=BI)

APCTRC= {Y, N} (Default= N)

RVRTV= {Y, N} (Default=Y)

RVRTTIM= {0-60,99} (Default=5)

SDTHRESH= {5-9} (Default=5)

SFTHRESH= {3-5} (Default=3)

RINGMAP= {1-16} Grouping (Default=0)

NODEDESCR= {nn characters} (Default=Null)

**RTRV-FFP-OCn:[TID]:AID:[CTAG];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A,B}-{1-4}},  
{OC48-{1-6,12-17}-{A,B}-{1}},  
{OC192-{5,6,12,13}-{AB}-{1}}}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve OC-n facility protection group, go to step 2. To provision OC-n facility protection group, go to step 5. To deprovision OC-n facility protection group, go to step 7. To quit procedure, go to step 9.

#### Retrieve OC-n Facility Protection Group

- At prompt, type  
  
**RTRV-FFP-OCn::AID;**  
  
where:  
  
OCn in the command name is the type of OC facility (**OC3**, **OC12**, **OC48**, or **OC192**).  
  
AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.
- Examine output. One line of output is returned for each OC-n specified, regardless of whether the OC-n is in a facility protection group. Output parameter ACTIVE= shows the active port of the pair.
- Go to step 1.

#### Provision OC-n Facility Protection Group

- At prompt, type  
  
**ENT-FFP-OCn::WORKING,PROTECTING::::PTYPE=<value>,PSDIRN=<value>,  
APCTRC=<value>,RVRTV=<value>,RVRTTIM=<value>,SDTHRESH=<value>,  
SFTHRESH=<value>,RINGMAP=<value>,NODEDESCR=<value>;**  
  
where:  
  
OCn in the command name is the type of OC facility (**OC3**, **OC12**, **OC48**, or **OC192**).  
  
WORKING is the AID of the working port. Ranging and grouping are supported.  
  
PROTECTING is the AID of the protect port. Ranging and grouping are supported.  
  
Refer to table 135-A for valid working and protect pairs. Protection ports must correspond within the card pair.

In remaining fields, enter parameter values, or leave fields blank for system defaults.

6 Go to step 1.

**Table 135-A. Valid OC-n Facility Protection Pairs**

<b>WORKING OC-n AIDS</b>	<b>PROTECT OC-n AIDS</b>
OC3-1-{A,B}-{1-12} (same port as protection)	OC3-2-{A,B}-{1-12} (same port as working)
OC3-3-{A,B}-{1-12} (same port as protection)	OC3-4-{A,B}-{1-12} (same port as working)
OC3-5-{A,B}-{1-12} (same port as protection)	OC3-6-{A,B}-{1-12} (same port as working)
OC3-12-{A,B}-{1-12} (same port as protection)	OC3-13-{A,B}-{1-12} (same port as working)
OC3-14-{A,B}-{1-12} (same port as protection)	OC3-15-{A,B}-{1-12} (same port as working)
OC3-16-{A,B}-{1-12} (same port as protection)	OC3-17-{A,B}-{1-12} (same port as working)
OC12-1-{A,B}-{1-4} (same port as protection)	OC12-2-{A,B}-{1-4} (same port as working)
OC12-3-{A,B}-{1-4} (same port as protection)	OC12-4-{A,B}-{1-4} (same port as working)
OC12-5-{A,B}-{1-4} (same port as protection)	OC12-6-{A,B}-{1-4} (same port as working)
OC12-12-{A,B}-{1-4} (same port as protection)	OC12-13-{A,B}-{1-4} (same port as working)
OC12-14-{A,B}-{1-4} (same port as protection)	OC12-15-{A,B}-{1-4} (same port as working)
OC12-16-{A,B}-{1-4} (same port as protection)	OC12-17-{A,B}-{1-4} (same port as working)
OC48-1-{A,B}-1	OC48-2-{A,B}-1
OC48-3-{A,B}-1	OC48-4-{A,B}-1
OC48-5-{A,B}-1	OC48-6-{A,B}-1
OC48-12-{A,B}-1	OC48-13-{A,B}-1
OC48-14-{A,B}-1	OC48-15-{A,B}-1
OC48-16-{A,B}-1	OC48-17-{A,B}-1
OC192-5-AB-1	OC192-6-AB-1
OC192-6-AB-1	OC192-12-AB-1
OC192-12-AB-1	OC192-13-AB-1

## Deprovision OC-n Facility Protection Group

**7** At prompt, type

**DLT-FFP-OCn::WORKING,PROTECTING;**

where:

OCn in the command name is the type of OC facility (**OC3**, **OC12**, **OC48**, or **OC192**).

WORKING is the AID of the working port. Ranging and grouping are supported.

PROTECTING is the AID of the protect port. Ranging and grouping are supported.

**8** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 9.

**9** **STOP. This procedure is complete.**



## **DLP-137**

### **Deprovision DS3 Port**

#### **PURPOSE**

This procedure provides the instructions to deprovision a DS3 port.

#### **PREREQUISITES**

Before deprovisioning a DS3 port, remove all cross-connects associated with the interface.

#### **GENERAL**

This procedure deprovisions a DS3 port.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### **COMMAND SYNTAX**

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-T3:[TID]:AID:[CTAG]::;**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

(Only valid AIDs shown.)

#### **Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type  <b>DLT-T3::AID;</b>  where AID is the access identifier of the DS3 port. Ranging and grouping are supported.
2	<b>STOP. This procedure is complete.</b>



## DLP-139

### Deprovision OC-n Port

This procedure provides the instructions to deprovision an OC-3, OC-12, OC-48, or OC-192 port.

#### PREREQUISITES

Before deprovisioning an OC-n port, remove all cross-connects, rings, and facility protection pairs associated with the interface.

If the OC-n port is part of a facility protection group, the group must be deprovisioned first. Refer to DLP-135.

If the OC-n port contains embedded STS signals, they must be deprovisioned first. To deprovision embedded STS-n signals, refer to DLP-141.

#### GENERAL

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-OCn:[TID]:AID:[CTAG]:;;**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1}},  
{OC192-{5,6,12,13}-AB-1}}}

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>DLT-OCn::AID;</b></p> <p>where:</p> <p>OCn in the command name is the type of OC facility (<b>OC3</b>, <b>OC12</b>, <b>OC48</b>, or <b>OC192</b>).</p> <p>AID is the access identifier of the port (for example, <b>OC48-2-A-1</b> for port 1 of an OC-48 card installed in slot 2A).</p>
2	<p><b>STOP. This procedure is complete.</b></p>

## DLP-141

### Deprovision STS-n Port

#### PURPOSE

This procedure provides the instructions to deprovision an STS-1, STS-3c, STS-12c, STS-48c, or STS-192c signal.

#### GENERAL

The DLT-STS1 command is used to deprovision STS-1 signals.

The DLT-STS<sub>n</sub> command is used to deprovision STS-3c, STS-12c, STS-48c, and STS-192c signals.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-STS1:[TID]:AID:[CTAG];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

**DLT-STS<sub>n</sub>:[TID]:AID:[CTAG];**

AID: {{STS3C-{1-6,12-17}-{A,B}-{1-12}-{1-64}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1-16}},  
{STS48C-{1-6,12-17}-{A,B,AB}-{1-4}-{1-4}},  
{STS192C-{5,6,12,13}-{AB}-{1}-{1}}}

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To dep provision an STS-1 signal, go to step 2. To dep provision an STS-n signal, go to step 4. To end this procedure, go to step 5.
<b>Deprovision STS-1 signal</b>	
2	At prompt, type  <b>DLT-ST S1::AID;</b>  where AID is the access identifier of the STS-1 signal.
3	Go to step 5.
<b>Deprovision STS-n signal</b>	
4	At prompt, type  <b>DLT-ST Sn::AID;</b>  where:  ST Sn in the command name is the type of STS concatenated signal ( <b>ST S3C</b> , <b>ST S12C</b> , <b>ST S48C</b> , or <b>ST S192C</b> ).  AID is the access identifier of the STS-3c, STS-12c, STS-48c, or STS-192c signal.
5	<b>STOP. This procedure is complete.</b>

## **DLP-144**

### **Deprovision VT1.5 Facility**

#### **PURPOSE**

This procedure provides the instructions to deprovision a VT1.5 facility.

#### **PREREQUISITES**

If the VT1.5 facility is cross-connected, the cross-connect must be deprovisioned first. To deprovision VT1.5 cross-connects, refer to DLP-149.

#### **GENERAL**

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### **COMMAND SYNTAX**

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-VT1:[TID]:AID:[CTAG]::;**

AID: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

#### **Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	At prompt, type  <b>DLT-VT1::AID;</b>  where AID is the access identifier of the VT1.5 facility.
2	<b>STOP. This procedure is complete.</b>

## **DLP-145**

### **Administer DS3 Cross-Connection**

#### **PURPOSE**

This procedure provides the instructions to retrieve information on, create, edit, and delete a cross-connection between two stand-alone DS3 ports, or between a stand-alone DS3 port and an STS-1 signal in an OC port.

#### **PREREQUISITES**

##### **Retrieve a cross-connect**

A cross-connect must be created before it can be retrieved.

##### **Create a new cross-connect or re-establish an existing cross-connect**

The following must be created before a cross-connect can be successfully created:

1. Provision equipment. Refer to DLP-123.
2. Provision a DS3 facility. Refer to DLP-127.
3. Provision an STS-n facility. Refer to DLP-131.
4. If VT1.5 cross-connect is to be created, provision a VT1.5 facility. Refer to DLP-134.

##### **Modify or delete an existing cross-connect**

A cross-connect must exist before it can be modified or deleted.

#### **GENERAL**

Two-way cross-connections can be established between two stand-alone DS3 ports, and between a stand-alone DS3 port and an STS-1 signal in an OC port.

**COMMAND SYNTAX**

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

**DLT-CRS-T3:[TID]:FROM,TO:[CTAG]::;**

FROM: {{T3-{2-5,13-16}-{A,B}-{1-12}},  
{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

TO: {{T3-{2-5,13-16}-{A,B}-{1-12}},  
{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

**ED-CRS-T3:[TID]:FROM,TO:[CTAG]::,[CKTID=],[CKTADDR=],[CKTNBR=],[SDTH=],[SFTH=]  
[SWNC=],[SWPDIP=],[SWUNEQP=],[RVRTV=],[RVRTTIM=],[ANODE1=],[ZNODE1=],[PNODE1=]  
[TTYPE=];**

FROM: {{T3-{2-5,13-16}-{A,B}-{1-12}},  
{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

TO: {{T3-{2-5,13-16}-{A,B}-{1-12}},  
{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

**ENT-CRS-T3:[TID]:FROM,TO:[CTAG]::CCT::[CKTID=],[CKTADDR=],[CKTNBR=],[SDTH=],[SFTH=]  
[SWNC=],[SWPDIP=],[SWUNEQP=],[PREFERRED=],[RVRTV=],[RVRTTIM=],[ANODE1=]  
[ZNODE1=],[PNODE1=],[TTYPE=];**

FROM: {{T3-{2-5,13-16}-{A,B}-{1-12}},  
{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

TO: {{T3-{2-5,13-16}-{A,B}-{1-12}},  
{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

CCT: {2WAY}

**RTRV-CRS-T3:[TID]:[AID]:[CTAG];**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}},  
{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}



## Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve DS3 cross-connection information, go to step 2. To create DS3 cross-connection, go to step 5. To modify DS3 cross-connection, go to step 7. To delete DS3 cross-connection, go to step 10. To leave DS3 cross-connections as provisioned, go to step 13.

## Retrieve DS3 Cross-Connection Information

- At prompt, type  
  
**RTRV-CRS-T3::AID;**  
  
where:  
  
AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.
- Examine output for cross-connection information.
- Go to step 1.

**Create DS3 Cross-Connection**

- 5 At prompt, type

**ENT-CRS-T3::FROM,TO::CCT;**

where:

FROM is the AID for receive-side port (or range of ports) (from network) of cross-connection. Ranging and grouping are supported.

TO is the AID for transmit-side port (or range of ports) (to network) of cross-connection. Ranging and grouping are supported.

CCT is the cross-connect type.

For remaining parameters, enter appropriate value, or leave blank for system default.

- 6 Go to step 1.

**Modify DS3 Cross-Connection**

- 7 CAUTION: Possibility of service interruption. Modifying an active cross-connection always affects service.

- 8 At prompt, type

**ED-CRS-T3::FROM,TO;**

where:

FROM is the AID for receive-side port (or range of ports) (from network) of cross-connection. Ranging and grouping are supported.

TO is the AID for transmit-side port (or range of ports) (to network) of cross-connection. Ranging and grouping are supported.

For remaining parameters, enter appropriate value, or leave blank for system default.

- 9 Go to step 1.

## Delete DS3 Cross-Connection

- 10 CAUTION: Possibility of service interruption. Deleting an active cross-connection always affects service.
- 11 At prompt, type  
  
**DLT-CRS-T3::FROM,TO;**  
  
where:  
  
FROM is the AID for receive-side port (or range of ports) (from network) of cross-connection. Ranging and grouping are supported.  
  
TO is the AID for transmit-side port (or range of ports) (to network) of cross-connection. Ranging and grouping are supported.
- 12 Select action.  
  
To continue this procedure, go to step 1.  
To quit this procedure, go to step 13.
- 13 **STOP. This procedure is complete.**



## **DLP-146**

### **Administer STS-n Cross-Connection**

#### **PURPOSE**

This procedure provides the instructions to retrieve information on, create, edit, and delete cross-connections between two STS-n facilities.

#### **PREREQUISITES**

##### **Retrieve a cross-connect**

A cross-connect must be created before it can be retrieved.

##### **Create a new cross-connect or re-establish an existing cross-connect**

The following actions must be performed before a cross-connect can be successfully created:

1. Provision equipment. Refer to DLP-124.
2. Provision an OC-n facility. Refer to DLP-129.
3. Provision an STS-n facility. Refer to DLP-131.
4. If VT1.5 cross-connect is to be created, provision a VT1.5 facility. Refer to DLP-134.
5. If APS pair, provision an OC-n facility protection group. Refer to DLP-135.

##### **Modify an existing cross-connect**

A cross-connect must exist before it can be modified.

##### **Delete an existing cross-connect**

A cross-connect must exist before it can be deleted.

#### **GENERAL**

The system supports 2-way STS-n cross-connections between two STS-n facilities. This procedure is used to administer cross-connections between two STS-n facilities, and is valid only when both ports are STS-n facilities of the same type (that is, STS-1, STS-3c, STS-12c, STS-48c, or STS-192c). If any port in the cross-connection is a DS3, refer to DLP-145.

#### **COMMAND SYNTAX**

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-CRS-STSn:[TID]:FROM,TO:[CTAG]:;;**

FROM: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46, 49,52,55,58,61,  
 64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

TO: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
 64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

**ED-CRS-STSn:[TID]:FROM[TO]:[CTAG]::[CKTID=][SDLOW=][SDHIGH=][SFLOW=][SFHIGH=]  
 [RVRTTIM=][RVRTV=][SWREPT=][SWALM=][SWUNEP=][SWPDIP=][ANODE1=][ZNODE1=]  
 [PNODE1=][ANODE2=][ZNODE2=][PNODE2=][SDLOW2=][SDHIGH2=][SFLOW2=]  
 [SFHIGH2=][RVRTV2=][RVRTTIM2=][SWREPT2=][SWALM2=][SWUNEP2=][SWPDIP2=]  
 [TTYPE=][INTERRING=]:,;**

FROM: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
 64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

TO: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
 64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

**ENT-CRS-STSn:[TID]:FROM[TO]:[CTAG]::CCT:[CKTID=][CKTADDR=][CKTNBR=]  
 [PREFERRED=][PREFERRED2=][SDLOW=][SDHIGH=][SFLOW=][SFHIGH=][RVRTTIM=]  
 [RVRTV=][SWREPT=][SWALM=][SWUNEP=][SWPDIP=][ANODE1=][ZNODE1=][PNODE1=]  
 [CCT2=][ANODE2=][ZNODE2=][PNODE2=][SDLOW2=][SDHIGH2=][SFLOW2=][SFHIGH2=]  
 [RVRTTIM2=][RVRTV2=][SWREPT2=][SWALM2=][SWUNEP2=][SWPDIP2=][TTYPE=]  
 [INTERRING=]:,;**

FROM: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

TO: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

CCT: {1NODE, 2WAYD, 2WAYDC, 2WAYDC-DRI, BLSRA, BLSRDRIPP, BLSRDRIPW,  
BLSRDRISP, BLSRDRISW, BLSRPT, THRU} (Default=2WAY)

**RTRV-CRS-ALL:[TID]::[CTAG];**

**RTRV-CRS-DFLT:[TID]::[CTAG];**

**RTRV-CRS-STSn:[TID]:[AID]:[CTAG];**

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

## Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve all cross-connection information, go to step 2. To retrieve cross-connection defaults, go to step 5. To retrieve STS-n cross-connection information, go to step 8. To create STS-n cross-connection, go to step 11. To modify STS-n cross-connection, go to step 13. To delete STS-n cross-connection, go to step 15. To leave STS-n cross-connections as provisioned, go to step 18.

#### Retrieve All Cross-Connection Information

- 2 At prompt, type  
**RTRV-CRS-ALL;**
- 3 Examine output for cross-connection information.
- 4 Go to step 1.

#### Retrieve Cross-Connection Defaults

- 5 At prompt, type  
**RTRV-CRS-DFLT;**
- 6 Examine output for cross-connection information.
- 7 Go to step 1.

#### Retrieve STS-n Cross-Connection Information

- 8 At prompt, type  
**RTRV-CRS-STSn::AID;**  
  
where:  
  
STSn in the command name is the STS level (**STS1**, **STS3C**, **STS12C**, **STS48C**, or **STS192C**).  
  
AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.



**9** Examine output for cross-connection information.

**10** Go to step 1.

### Create STS-n Cross-Connection

**11** At prompt, type

**ENT-CRS-STSn::FROM,TO::CCT;**

where:

STSn in the command names is the STS level (**STS1**, **STS3C**, **STS12C**, **STS48C**, or **STS192C**).

FROM is the AID for receive-side port (or range of ports) (from network) of cross-connection. Ranging and grouping are supported.

TO is the AID for transmit-side port (or range of ports) (to network) of cross-connection. Ranging and grouping are supported.

CCT is the cross-connect type.

For remaining parameters, enter appropriate value, or leave blank for system default.

**12** Go to step 1.

### Modify STS-n Cross-Connection

**13** At prompt, type

**ED-CRS-STSn::FROM,TO;**

where:

STSn in the command names is the STS level (**STS1**, **STS3C**, **STS12C**, **STS48C**, or **STS192C**).

FROM is the AID for receive-side port (or range of ports) (from network) of cross-connection. Ranging and grouping are supported.

TO is the AID for transmit-side port (or range of ports) (to network) of cross-connection. Ranging and grouping are supported.

For remaining parameters, enter appropriate value, or leave blank for system default.

**14** Go to step 1.

**Delete STS-n Cross-Connection**

- 15** CAUTION: Possibility of service interruption. Deleting an active cross-connection always affects service.
- 16** At prompt, type
- DLT-CRS-STSn::FROM,TO;**
- where:
- STSn in the command names is the STS level (**STS1**, **STS3C**, **STS12C**, **STS48C**, or **STS192C**).
- FROM is the AID for receive-side port (or range of ports) (from network) of cross-connection. Ranging and grouping are supported.
- TO is the AID for transmit-side port (or range of ports) (to network) of cross-connection. Ranging and grouping are supported.
- 17** Go to step 1.
- 18** **STOP. This procedure is complete.**

## DLP-149

### Administer VT1.5 Cross-Connection

#### PURPOSE

This procedure provides the instructions to retrieve information on, create, and delete a 2-way cross-connection between two VT1.5 ports.

#### PREREQUISITE

To establish a VT1.5 cross-connection, the required ports must be provisioned first. Refer to DLP-134 to provision VT1.5 ports.

#### GENERAL

The system supports a 2-way cross-connection between two VT1.5 ports. This procedure is used to administer cross-connections between two VT1.5 ports, and is valid only when both ports are VT1.5.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-CRS-VT1:[TID]:FROM,TO:[CTAG]::[CCT];**

FROM: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

TO: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

CCT: {2WAY} (Default=2WAY)

**ENT-CRS-VT1:[TID]:FROM,TO:[CTAG]::[CCT];**

FROM: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

TO: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

CCT: {2WAY} (Default=2WAY)

**RTRV-CRS-VT1:[TID]:[AID]:[CTAG]:[CCT];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}} (Default=ALL)

CCT: {2WAY} (Default=Any existing CCT for the specified AID)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve VT1.5 cross-connection information, go to step 2. To create VT1.5 cross-connection, go to step 4. To delete VT1.5 cross-connection, go to step 6. To leave VT1.5 cross-connections as provisioned, go to step 9.

**Retrieve VT1.5 Cross-Connection Information**

- At prompt, type  
**RTRV-CRS-VT1::AID::2WAY;**  
  
where AID is the access identifier of the VT1.5 port.
- Go to step 1.

### Create VT1.5 Cross-Connection

- 4 At prompt, type
- ENT-CRS-VT1::FROM,TO:::2WAY;**

where:

FROM is the access identifier for the receive-side port (from network) of cross-connection;

TO is the access identifier for the transmit-side port (to network) of cross-connection.

- 5 Go to step 1.

### Delete VT1.5 Cross-Connection

- 6 CAUTION: Possibility of service interruption. Deleting an active cross-connection always affects service.

- 7 At prompt, type
- DLT-CRS-VT1::FROM,TO:::2WAY;**

where:

FROM is the access identifier for the receive-side port (from network) of cross-connection;

TO is the access identifier for the transmit-side port (to network) of cross-connection.

- 8 Select action.

To continue this procedure, go to step 1.  
To quit this procedure, go to step 9.

- 9 **STOP. This procedure is complete.**



# DLP-150

## Bridge and Roll DS3 Cross-Connections

### PURPOSE

This procedure provides the instructions to roll DS3 to DS3, DS3 to STS-1, or STS-1 to DS3 cross-connections.

### GENERAL

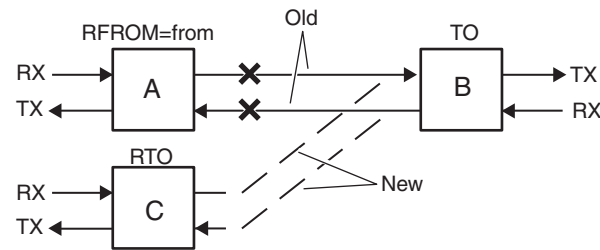
A roll connects one side of an existing cross-connection to a new destination and then releases the original connection. Refer to table 150-A for allowed combinations of original cross-connections and rolls for ENT-ROLL-T3. Only 2-way (duplex) cross-connections can be rolled. See figure 150-1.

**Table 150-A. Allowed Combinations of Original Cross-Connections and Rolls**

ORIGINAL CROSS-CONNECTION	ROLLS ALLOWED
DS3 to DS3	DS3 to DS3 DS3 to STS-1
DS3 to STS-1 or STS-1 to DS3	DS3 to DS3 DS3 to STS-1 STS-1 to DS3 STS-1 to STS-1
STS-1 to STS-1	STS-1 to DS3

Because 2-way cross-connections have two receive sides and two transmit sides, either of the ports involved in the original cross-connection can be designated as the FROM port or the TO port. In the new connection, the new port (RTO) replaces one of the ports of the original cross-connection (RFROM). The RFROM port must be the same as either the FROM port or the TO port.

**Figure 150-1. Duplex Cross-Connection Rolling**



Typical Duplex (2-way) Roll (BA to BC)

02 0102A

The rolling mode (RMODE) parameter specifies the way in which the original connection is released. The system supports the following rolling modes:

- Automatic (AUTO)-An automatic roll is initiated using ENT-ROLL-T3 with RMODE=AUTO. When a valid signal is detected, the system automatically disconnects the original cross-connection. Automatic rolls are allowed for duplex rolls.
- Manual (MAN)-A manual roll is initiated using ENT-ROLL-T3 with RMODE=MAN. When a valid signal is detected, the original cross-connection is retained until the user manually releases the original connection using DLT-ROLL-T3 with WHY=END. Manual rolls are allowed for duplex rolls.
- Fully Manual (FMAN1 and FMAN2)-A fully manual roll is initiated using ENT-ROLL-T3 with RMODE=FMAN1. A new bridge connection between FROM or TO and RTO is set up, and the original FROM-TO cross-connection remains. The fully manual roll is completed in two additional steps. First, using ENT-ROLL-T3 with RMODE=FMAN2, a receive-side switch is made to form a new 2-way cross-connection between FROM or TO and RTO, the original FROM-TO connection is released, and the original FROM-TO bridge connection remains intact. Then using DLT-ROLL-T3 with WHY=END, the original FROM-TO bridge connection is released. The original connections are released regardless of the signal condition at the new connections. Fully manual rolls are allowed only for duplex rolls.

In each type of roll, the system sets up the new cross-connection, sets the ROLLMON condition on the new port, and begins monitoring it for a valid signal. If the system detects a valid signal on the new connection, ROLLMON is released, and a REPT^EVT autonomous message is generated. If the system does not detect a valid signal, ROLLMON is not released, and the roll is left uncompleted. The roll can be aborted using DLT-ROLL-T3 with WHY=STOP.

An STS-1 port that is part of a facility protection group cannot be rolled. A drop STS-1 port that is cross-connected to an STS-1 port that is part of a facility protection group cannot be rolled to a DS3. Refer to DLP-151 to roll this type of drop STS-1 to another drop STS-1 port.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.



## COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

### **DLT-ROLL-T3:[TID]:FROM,TO:[CTAG]:::WHY=;**

FROM: {T3-{2-5,13-16}-{A,B}-{1-12}, STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

TO: {T3-{2-5,13-16}-{A,B}-{1-12}, STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

WHY= {STOP, END}

### **ENT-ROLL-T3:[TID]:FROM,TO:[CTAG]:::RFROM=,RTO=,RMODE=[,PATHERR=][,ANODE=][,ZNODE=][,PNODE=];**

FROM: {T3-{2-5,13-16}-{A,B}-{1-12}, STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

TO: {T3-{2-5,13-16}-{A,B}-{1-12}, STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

RFROM= {T3-{2-5,13-16}-{A,B}-{1-12}, STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

RTO= {T3-{2-5,13-16}-{A,B}-{1-12}, STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

RMODE= {AUTO, FMAN1, FMAN2, MAN}

PATHERR= {Y, N} (Default=N)

### **RTRV-CRS-ST51:[TID]:AID:[CTAG];**

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}  
(Only valid AIDs shown.)

### **RTRV-ROLL-T3:[TID]:AID:[CTAG];**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}}}

STEP	PROCEDURE
1	CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Do not roll a port that is a broadcast conference head. Do not roll a port that is involved in a loopback, test access operation, or terminated cross-connection.
2	Select action.  To retrieve DS3 or STS-1 cross-connection information, go to step 3. To retrieve DS3 roll information, go to step 6.

To perform automatic DS3 roll, go to step .  
To perform manual DS3 roll, go to step 15.  
To perform fully manual DS3 roll, go to step 15.  
To complete DS3 roll, go to step 19.  
To abort DS3 roll, go to step 21.  
To quit this procedure, go to step 23.

### Retrieve DS3 or STS-1 Cross-Connection Information

- 3 At prompt, type

**RTRV-CRS-STS1::AID;**

where:

AID is the DS3 or STS-1 port AID for which system will retrieve cross-connection information. Retrieve information for original connection (AID of port to be rolled from) and proposed new connection (AID of port to be rolled to). Ranging, grouping, and keyword ALL are supported.

- 4 Examine output for information on established cross-connections.
- 5 Go to step 1.

### Retrieve DS3 Roll Information

- 6 At prompt, type

**RTRV-ROLL-T3::AID;**

where:

AID is the port AID for which system will retrieve uncompleted roll information. Retrieve proposed new connection (AID of port to be rolled to). Ranging, grouping, and keyword ALL are supported.

- 7 Examine output.
- 8 Go to step 1.

### Perform Automatic DS3 Roll

- 9 CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Refer to 1677 SONET Link Commands and Messages manual (PN 106037-A).

- 10** At prompt, type

**ENT-ROLL-T3::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=AUTO;**

where:

FROM is the AID of receive side (from network) of cross-connection to be rolled.

TO is the AID of transmit side (to network) of cross-connection to be rolled.

Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.

Value of RTO is the AID of new end of cross-connection.

Value of RMODE is **AUTO** (automatic roll).

- 11** Go to step 1.

#### **Perform Manual DS3 Roll**

- 12** CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Refer to 1677 SONET Link Commands and Messages manual (PN 106037-A).

- 13** At prompt, type

**ENT-ROLL-T3::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=MAN;**

where:

FROM is the AID of receive side (from network) of cross-connection to be rolled.

TO is the AID of transmit side (to network) of cross-connection to be rolled.

Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.

Value of RTO is the AID of new end of cross-connection.

Value of RMODE is **MAN** (start manual roll).

- 14** Original cross-connection still exists. Wait for ROLLMON condition to clear, then go to step 19 to complete roll.

**Perform Fully Manual DS3 Roll**

- 15** CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Refer to 1677 SONET Link Commands and Messages manual (PN 106037-A).

- 16** At prompt, type

**ENT-ROLL-T3::FROM,TO:::RFROM=<value>,RTO=<value>,RMODE=FMAN1;**

where:

FROM is the AID of receive side (from network) of cross-connection to be rolled.

TO is the AID of transmit side (to network) of cross-connection to be rolled.

Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.

Value of RTO is the AID of new end of cross-connection.

Value of RMODE is **FMAN1** to force traffic to the original part of the bridge (original 2-way cross-connection still exists).

- 17** At prompt, type

**ENT-ROLL-T3::FROM,TO:::RFROM=<value>,RTO=<value>,RMODE=FMAN2;**

where:

FROM is the AID of receive side (from network) of cross-connection being rolled (same AID used in step 16).

TO is the AID of transmit side (to network) of cross-connection being rolled (same AID used in step 16).

Value of RFROM is the AID of existing end of cross-connection to be replaced (same AID used in step 16).

Value of RTO is the AID of new end of cross-connection (same AID used in step 16).

Value of RMODE is **FMAN2** to force traffic to the new part of the bridge.

- 18** First direction of original cross-connection is released. Other direction of original cross-connection still exists. Go to step 19 to complete roll.

### Complete DS3 Roll

**19** At prompt, type

**DLT-ROLL-T3::FROM,TO:::WHY=END;**

where:

At least one of the FROM or TO must be a T3 AID.

FROM is the original AID used in FROM parameter of ENT-ROLL-T3.

TO is the original AID used in TO parameter of ENT-ROLL-T3.

Value of WHY is **END** as reason for deleting roll.

**20** Go to step 1.

### Abort DS3 Roll

**21** At prompt, type

**DLT-ROLL-T3::FROM,TO:::WHY=STOP;**

where:

If AID of RFROM is equal to AID used in FROM field of ENT-ROLL-T3:

- FROM is the AID used in RTO parameter of ENT-ROLL-T3.
- TO is the AID used in TO parameter of ENT-ROLL-T3.

If AID of RFROM is equal to AID used in TO field of ENT-ROLL-T3:

- FROM is the AID used in FROM parameter of ENT-ROLL-T3.
- TO is the AID used in RTO parameter of ENT-ROLL-T3.

Value of WHY is **STOP** as reason for deleting roll.

**22** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 23.

**23** **STOP. This procedure is complete.**



## DLP-151

### Bridge and Roll STS-n Cross-Connections

#### PURPOSE

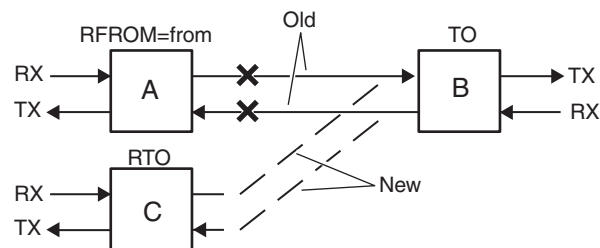
This procedure provides the instructions to roll STS-n to STS-n cross-connections.

#### GENERAL

A roll connects one side of an existing cross-connection to a new destination and then releases the original connection. ENT-ROLL-STSn is used to initiate an STS-n to STS-n roll on an STS-n to STS-n cross-connection. If one of the ports involved in the roll is a DS3 port, refer to DLP-150. Only 2-way (duplex) cross-connections are supported. See figure 151-1.

Because 2-way cross-connections have two receive sides and two transmit sides, either of the ports involved in the original cross-connection can be designated as the FROM port or the TO port. In the new connection, the new port (RTO) replaces one of the ports of the original cross-connection (RFROM). The RFROM port must be the same as either the FROM port or the TO port.

**Figure 151-1. Duplex Cross-Connection Rolling**



Typical Duplex (2-way) Roll (BA to BC)

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The rolling mode (RMODE) parameter specifies the way in which the original connection is released. The system supports the following rolling modes:

- **Automatic (AUTO)**-An automatic roll is initiated using ENT-ROLL-STSn with RMODE=AUTO. When a valid signal is detected, the system automatically disconnects the original cross-connection. Automatic rolls are allowed for duplex rolls.
- **Manual (MAN)**-A manual roll is initiated using ENT-ROLL-STSn with RMODE=MAN. When a valid signal is detected, the original cross-connection is retained until the user manually releases the original connection using DLT-ROLL-STSn with WHY=END. Manual rolls are allowed for duplex rolls.
- **Fully Manual (FMAN1 and FMAN2)**-A fully manual roll is initiated using ENT-ROLL-STSn with RMODE=FMAN1. A new bridge connection between FROM or TO and RTO is set up, and the original FROM-TO cross-connection remains. The fully manual roll is completed in two additional steps. First, using ENT-ROLL-STSn with RMODE=FMAN2, a receive-side switch is made to form a new 2-way cross-connection between FROM or TO and RTO, the original FROM-TO connection is released, and the original FROM-TO bridge connection remains intact. Then using DLT-ROLL-STSn with WHY=END, the original FROM-TO bridge connection is released. The original connections are released regardless of the signal condition at the new connections. Fully manual rolls are allowed only for duplex rolls.

In each type of roll, the system sets up the new cross-connection, sets the ROLLMON condition on the new port, and begins monitoring it for a valid signal. If the system detects a valid signal on the new connection, ROLLMON is released, and a REPT^EVT autonomous message is generated. If the system does not detect a valid signal, ROLLMON is not released, and the roll is left uncompleted. The roll can be aborted using DLT-ROLL-STSn with WHY=STOP.

An STS-1 port that is part of a facility protection group cannot be rolled. A pass-through path, 2-way cross-connection for a UPSR node cannot be rolled. A drop STS-1 port that is cross-connected to an STS-1 port that is part of a facility protection group can be rolled only to another drop STS-1 port.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

## COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).



**DLT-ROLL-STSn:[TID]:FROM,TO:[CTAG]::WHY=;**

FROM: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

TO: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

WHY= {STOP, END}

**ENT-ROLL-STSn:[TID]:FROM,TO:[CTAG]::RFROM=,RTO=,RMODE=[,PATHERR=],[ANODE=]  
[,ZNODE=],[PNODE=];**

FROM: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

TO: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

RFROM= {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

RTO= {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
 67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

RMODE= {AUTO, FMAN1, FMAN2, MAN}

PATHERR= {Y, N} (Default=N)

### RTRV-CRS-STSn:[TID]:AID:[CTAG];

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
 67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

(Only valid AIDs shown.)

### RTRV-ROLL-STSn:[TID]:AID:[CTAG];

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
 67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve STS-n cross-connection information, go to step 2.</p> <p>To retrieve STS-n roll information, go to step 5.</p> <p>To initiate STS-n roll, go to step 8.</p> <p>To perform automatic STS-n roll, go to step 9.</p> <p>To perform manual STS-n roll, go to step 12.</p> <p>To perform fully manual STS-n roll, go to step 15.</p> <p>To complete STS-n roll, go to step 19.</p> <p>To abort STS-n roll, go to step 21.</p> <p>To quit this procedure, go to step 23.</p>

## Retrieve STS-n Cross-Connection Information

- 2 At prompt, type

**RTRV-CRS-STSn::AID;**

where:

AID is the STS-n port AID for which system will retrieve cross-connection information. Retrieve information for original connection (AID of port to be rolled from) and proposed new connection (AID of port to be rolled to). Ranging, grouping, and keyword ALL are supported.

- 3 Examine output for information on established cross-connection.
- 4 Go to step 1.

## Retrieve STS-n Roll Information

- 5 At prompt, type

**RTRV-ROLL-STSn::AID;**

where:

AID is the port AID for which system will retrieve uncompleted roll information. Retrieve proposed new connection (AID of port to be rolled to). Ranging, grouping, and keyword ALL are supported.

- 6 Examine output.
- 7 Go to step 1.
- 8 CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Refer to 1677 SONET Link Commands and Messages manual (PN 106037-A).

## Perform Automatic STS-n Roll

- 9 CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Do not roll a port that is a broadcast conference head. Do not roll a port that is involved in a loopback, test access operation, or terminated cross-connection.

- 10 At prompt, type

**ENT-ROLL-STSn::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=AUTO;**

where:

FROM is the AID of receive side (from network) of cross-connection to be rolled.

TO is the AID of transmit side (to network) of cross-connection to be rolled.

Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.

Value of RTO is the AID of new end of cross-connection.

Value of RMODE is **AUTO** (automatic roll).

- 11 Go to step 1.

#### Perform Manual STS-n Roll

- 12 CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Do not roll a port that is a broadcast conference head. Do not roll a port that is involved in a loopback, test access operation, or terminated cross-connection.

- 13 At prompt, type

**ENT-ROLL-STSn::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=MAN;**

where:

FROM is the AID of receive side (from network) of cross-connection to be rolled.

TO is the AID of transmit side (to network) of cross-connection to be rolled.

Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.

Value of RTO is the AID of new end of cross-connection.

Value of RMODE is **MAN** (start manual roll).

- 14 Original cross-connection still exists. Wait for ROLLMON condition to clear, then go to step 19 to complete roll.

## Perform Fully Manual STS-n Roll

- 15** CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Do not roll a port that is a broadcast conference head. Do not roll a port that is involved in a loopback, test access operation, or terminated cross-connection.

- 16** At prompt, type

**ENT-ROLL-STSn::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=FMAN1;**

where:

FROM is the AID of receive side (from network) of cross-connection to be rolled.

TO is the AID of transmit side (to network) of cross-connection to be rolled.

Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.

Value of RTO is the AID of new end of cross-connection.

Value of RMODE is **FMAN1** to force traffic to the original part of the bridge (original 2-way cross-connection still exists).

- 17** At prompt, type

**ENT-ROLL-STSn::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=FMAN2;**

where:

FROM is the AID of receive side (from network) of cross-connection being rolled (same AID used in step 16).

TO is the AID of transmit side (to network) of cross-connection being rolled (same AID used in step 16).

Value of RFROM is the AID of existing end of cross-connection to be replaced (same AID used in step 16).

Value of RTO is the AID of new end of cross-connection (same AID used in step 16).

Value of RMODE is **FMAN2** to force traffic to the new part of the bridge.

- 18** First direction of original cross-connection is released. Other direction of original cross-connection still exists. Go to step 19 to complete roll.

**Complete STS-n Roll**

**19** At prompt, type

**DLT-ROLL-STSn::FROM,TO::::WHY=END;**

where:

FROM is the original AID used in FROM parameter of ENT-ROLL-STSn.

TO is the original AID used in TO parameter of ENT-ROLL-STSn.

Value of WHY is **END** as reason for deleting roll.

At least one of the FROM, TO or RTO must be an STS-1 AID.

**20** Go to step 1.

**Abort STS-n Roll**

**21** At prompt, type

**DLT-ROLL-STSn::FROM,TO::::WHY=STOP;**

where:

If AID of RFROM is equal to AID used in FROM field of ENT-ROLL-STSn:

- FROM is the AID used in RTO parameter of ENT-ROLL-STSn.
- TO is the AID used in TO parameter of ENT-ROLL-STSn.

If AID of RFROM is equal to AID used in TO field of ENT-ROLL-STSn:

- FROM is the AID used in FROM parameter of ENT-ROLL-STSn.
- TO is the AID used in RTO parameter of ENT-ROLL-STSn.

Value of WHY is **STOP** as reason for deleting roll.

**22** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 23.

**23** **STOP. This procedure is complete.**

## DLP-154

### Bridge and Roll VT1.5 Cross-Connections

#### PURPOSE

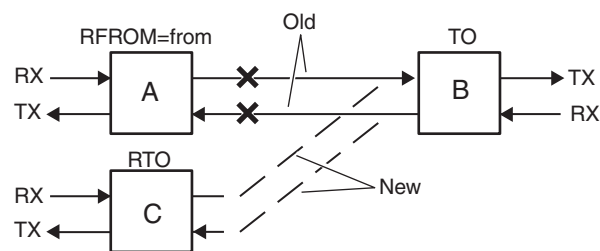
This procedure provides the instructions to roll VT1.5 to VT1.5 cross-connections.

#### GENERAL

A roll connects one side of an existing cross-connection to a new destination and then releases the original connection. ENT-ROLL-VT1 is used to initiate a VT1.5 to VT1.5 roll on a VT1.5 to VT1.5 cross-connection. If one of the ports involved in the roll is an STS-n port, refer to DLP-151. Only 2-way (duplex) cross-connections are supported. See figure 154-1.

Because 2-way cross-connections have two receive sides and two transmit sides, either of the ports involved in the original cross-connection can be designated as the FROM port or the TO port. In the new connection, the new port (RTO) replaces one of the ports of the original cross-connection (RFROM). The RFROM port must be the same as either the FROM port or the TO port.

**Figure 154-1. Duplex Cross-Connection Rolling**



Typical Duplex (2-way) Roll (BA to BC)

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The rolling mode (RMODE) parameter specifies the way in which the original connection is released. The system supports the following rolling modes:

- **Automatic (AUTO)**-An automatic roll is initiated using ENT-ROLL-VT1 with RMODE=AUTO. When a valid signal is detected, the system automatically disconnects the original cross-connection. Automatic rolls are allowed for duplex rolls.
- **Manual (MAN)**-A manual roll is initiated using ENT-ROLL-VT1 with RMODE=MAN. When a valid signal is detected, the original cross-connection is retained until the user manually releases the original connection using DLT-ROLL-VT1 with WHY=END. Manual rolls are allowed for duplex rolls.
- **Fully Manual (FMAN1 and FMAN2)**-A fully manual roll is initiated using ENT-ROLL-VT1 with RMODE=FMAN1. A new bridge connection between FROM or TO and RTO is set up, and the original FROM-TO cross-connection remains. The fully manual roll is completed in two additional steps. First, using ENT-ROLL-VT1 with RMODE=FMAN2, a receive-side switch is made to form a new 2-way cross-connection between FROM or TO and RTO, the original FROM-TO connection is released, and the original FROM-TO bridge connection remains intact. Then using DLT-ROLL-VT1 with WHY=END, the original FROM-TO bridge connection is released. The original connections are released regardless of the signal condition at the new connections. Fully manual rolls are allowed only for duplex rolls.

In each type of roll, the system sets up the new cross-connection, sets the ROLLMON condition on the new port, and begins monitoring it for a valid signal. If the system detects a valid signal on the new connection, ROLLMON is released, and a REPT^EVT autonomous message is generated. If the system does not detect a valid signal, ROLLMON is not released, and the roll is left uncompleted. The roll can be aborted using DLT-ROLL-VT1 with WHY=STOP.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

## COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-ROLL-VT1:[TID]:FROM,TO:[CTAG]::WHY=;**

FROM: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

TO: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

WHY= {STOP, END}



**ENT-ROLL-VT1:[TID]:FROM,TO:[CTAG]:::RFROM=,RTO=,RMODE=[,PATHERR=][,ANODE=]  
[,ZNODE=][,PNODE=];**

FROM: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

TO: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

RFROM= {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

RTO= {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

RMODE= {AUTO, FMAN1, FMAN2, MAN}

PATHERR= {Y, N} (Default=N)

**RTRV-CRS-VT1:[TID]:AID:[CTAG];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}  
(Only valid AIDs shown.)

**RTRV-ROLL-VT1:[TID]:AID:[CTAG];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve VT1.5 cross-connection information, go to step 2. To retrieve VT1.5 roll information, go to step 5. To perform automatic VT1.5 roll, go to step . To perform manual VT1.5 roll, go to step . To perform fully manual VT1.5 roll, go to step 15. To complete VT1.5 roll, go to step 18. To abort VT1.5 roll, go to step 20. To quit this procedure, go to step 22.</p>
<b>Retrieve VT1.5 Cross-Connection Information</b>	
2	<p>At prompt, type</p> <p><b>RTRV-CRS-STS1::AID;</b></p> <p>where:</p> <p>AID is the DS3 or STS-1 port AID for which system will retrieve cross-connection information. Retrieve information for original connection (AID of port to be rolled from) and proposed new connection (AID of port to be rolled to). Ranging, grouping, and keyword ALL are supported.</p>

3 Examine output for information on established connection.

4 Go to step 1.

### Retrieve VT1.5 Roll Information

5 At prompt, type

**RTRV-ROLL-VT1::AID;**

where:

AID is the port AID for which system will retrieve uncompleted roll information. Retrieve proposed new connection (AID of port to be rolled to). Ranging, grouping, and keyword ALL are supported.

6 Examine output.

7 Go to step 1.

8 CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Refer to 1677 SONET Link Commands and Messages manual (PN 106037-A).

### Perform Automatic VT1.5 Roll

9 CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Do not roll a port that is a broadcast conference head. Do not roll a port that is involved in a loopback, test access operation, or terminated cross-connection.

10 At prompt, type

**ENT-ROLL-VT1::FROM,TO:::RFROM=<value>,RTO=<value>,RMODE=AUTO;**

where:

FROM is the AID of receive side (from network) of cross-connection to be rolled.

TO is the AID of transmit side (to network) of cross-connection to be rolled.

Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.

Value of RTO is the AID of new end of cross-connection.

Value of RMODE is **AUTO** (automatic roll).

11 Go to step 1.

## Perform Manual VT1.5 Roll

- 12** CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Do not roll a port that is a broadcast conference head. Do not roll a port that is involved in a loopback, test access operation, or terminated cross-connection.
- 13** At prompt, type
- ENT-ROLL-VT1::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=MAN;**
- where:
- FROM is the AID of receive side (from network) of cross-connection to be rolled.
- TO is the AID of transmit side (to network) of cross-connection to be rolled.
- Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.
- Value of RTO is the AID of new end of cross-connection.
- Value of RMODE is **MAN** (start manual roll).
- 14** Original cross-connection still exists. Wait for ROLLMON condition to clear, then go to step 18 to complete roll.

## Perform Fully Manual VT1.5 Roll

- 15** CAUTION: Possibility of service interruption. Consider parameter restrictions when rolling cross-connections. Do not roll a port that is a broadcast conference head. Do not roll a port that is involved in a loopback, test access operation, or terminated cross-connection.
- 16** At prompt, type
- ENT-ROLL-VT1::FROM,TO::::RFROM=<value>,RTO=<value>,RMODE=FMAN1;**
- where:
- FROM is the AID of receive side (from network) of cross-connection to be rolled.
- TO is the AID of transmit side (to network) of cross-connection to be rolled.
- Value of RFROM is the AID of existing end of cross-connection to be replaced. RFROM parameter must equal FROM or TO port of cross-connection to be rolled.
- Value of RTO is the AID of new end of cross-connection.
- Value of RMODE is **FMAN1** (start fully manual roll).

17 At prompt, type

**ENT-ROLL-VT1::FROM,TO:::RFROM=<value>,RTO=<value>,RMODE=FMAN2;**

where:

FROM is the AID of receive side (from network) of cross-connection being rolled (same AID used in step 16).

TO is the AID of transmit side (to network) of cross-connection being rolled (same AID used in step 16).

Value of RFROM is the AID of existing end of cross-connection to be replaced (same AID used in step 16).

Value of RTO is the AID of new end of cross-connection (same AID used in step 16).

Value of RMODE is **FMAN2** to complete fully manual roll.

#### Complete VT1.5 Roll

18 At prompt, type

**DLT-ROLL-VT1::FROM,TO:::WHY=END;**

where:

At least one of the FROM or TO must be a T3 AID.

FROM is the original AID used in FROM parameter of ENT-ROLL-T3.

TO is the original AID used in TO parameter of ENT-ROLL-T3 .

Value of WHY is **END** as reason for deleting roll.

19 Go to step 1.

## Abort VT1.5 Roll

**20** At prompt, type

**DLT-ROLL-VT1::FROM,TO:::WHY=STOP;**

where:

If AID of RFROM is equal to AID used in FROM field of ENT-ROLL-VT1:

- FROM is the AID used in RTO parameter of ENT-ROLL-VT1.
- TO is the AID used in TO parameter of ENT-ROLL-VT1.

If AID of RFROM is equal to AID used in TO field of ENT-ROLL-VT1:

- FROM is the AID used in FROM parameter of ENT-ROLL-VT1.
- TO is the AID used in RTO parameter of ENT-ROLL-VT1.

Value of WHY is **STOP** as reason for deleting roll.

**21** Select action.

To continue this procedure, go to step 1.  
To quit this procedure, go to step 22.

**22** **STOP. This procedure is complete.**



## DLP-161

### Administer DS3 Loopback

#### PURPOSE

This procedure provides the instructions to administer DS3 loopbacks.

#### GENERAL

The LPBKTYPE value initiates a loopback test. The LOCN value can specify an LIU loopback test.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**OPR-LPBK-T3:[TID]:AID:[CTAG]::[LOCN],,,LPBKTYPE;**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

LOCN: {ALL, NEND, LIU} (Default=NEND)

LPBKTYPE: {LINE, PAYLOAD, TERMINAL, DUAL}

**RLS-LPBK-T3:[TID]:AID:[CTAG]::[LOCN],,,[LPBKTYPE];**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

(Only valid AIDs shown.)

LOCN: {ALL, NEND, LIU} (Default=All types)

LPBKTYPE: {LINE, PAYLOAD, TERMINAL, DUAL} (Default=All types)

**RTRV-T3:[TID]:AID:[CTAG];**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

(Only valid AIDs shown.)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	CAUTION: Possibility of service interruption. Performing loopbacks interrupts traffic.
2	Connect DS3 test equipment to selected DS3 interface on the 1677 SONET Link.
3	Set the DS3 test equipment for internal timing.
4	Review the DS3 Interface loopback diagram shown in figure 161-1 (end of this DLP).
5	Select action.  To verify loopback status, go to step 6. To initiate loopback test, go to step 8. To initiate Line Interface Unit (LIU) loopback test, go to step 10. To release loopback or LIU loopback, go to step 10.

### Verify Loopback Status

- 6 To verify the DS3 is in loopback status, type  
**RTRV-T3::AID;**  
  
where AID is the access identifier of the port. Ranging and grouping are supported.
- 7 Go to step 5.

### Initiate Loopback Test

- 8 At prompt, type  
**OPR-LPBK-T3::AID:::NEND,,,LPBKTYPE;**  
  
where:  
  
AID is the access identifier of the port.  
  
Value of LPBKTYPE is one of the following:  
**LINE** — Software loopback toward the interface  
**TERMINAL** — Software loopback toward the network
- 9 Go to step 6.



### Initiate Line Interface Unit (LIU) Loopback Test

**10** At prompt, type

**OPR-LPBK-T3::AID::LIU,,,LPBKTYPE;**

where:

AID is the access identifier of the port.

Value of LPBKTYPE is one of the following:

**DUAL** — Combination of line and inward loopback types

**LINE** — Received signal is looped back (shallow loopback penetration)

**TERMINAL** — Transmitted signal is looped back through the device

**11** Go to step 6.

### Release Loopback or LIU Loopback Test

**12** To release the DS3 loopback test when testing is complete, type

**RLS-LPBK-T3::AID::LOCN,,,LPBKTYPE;**

where:

AID is the access identifier of the port.

LOCN is the location, or is omitted for all locations.

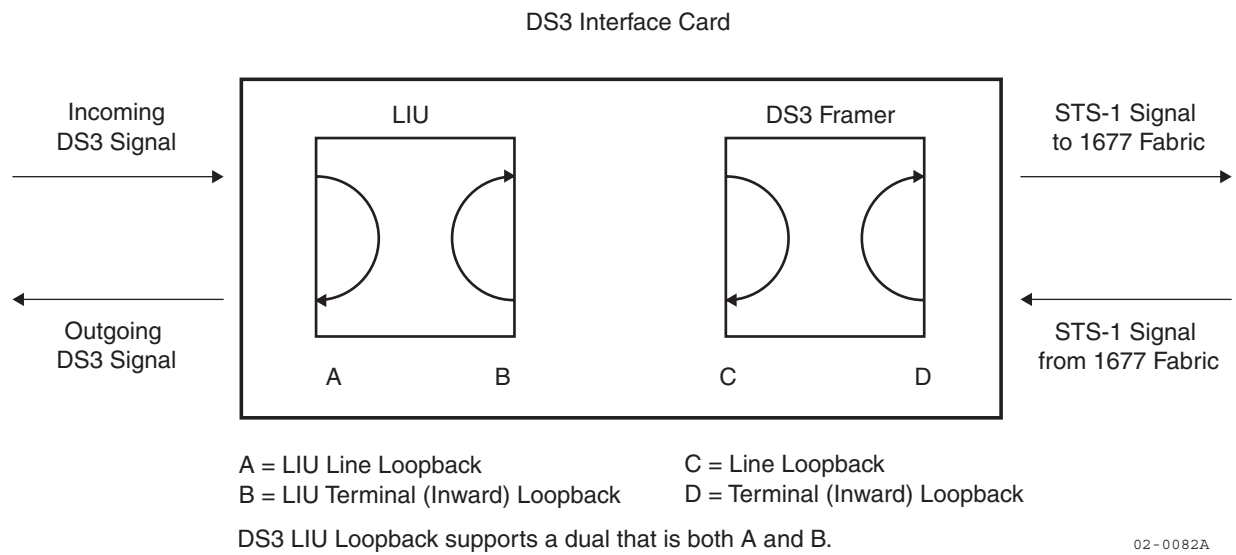
LPBKTYPE is the type of loopback, or is omitted for all types.

**13** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 14.

**14** **STOP. This procedure is complete.**

**Figure 161-1. DS3 Loopback Diagram**

## DLP-163

### Administer OC-n Loopback

#### PURPOSE

This procedure provides the instructions to administer OC-3, OC-12, OC-48, or OC-192 loopbacks.

#### GENERAL

Once an OC-n port is provisioned, the OPR-LPBK command can be used to initiate a Facility or Terminal OC-n loopback test.

The LPBKTYPE parameter set to FACILITY initiates a facility loopback test.

The LPBKTYPE parameter set to TERMINAL initiates a terminal loopback test.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**OPR-LPBK-OCn:[TID]:AID:[CTAG]::[LOCN],,,LPBKTYPE;**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12},  
{OC12-{1-6,12-17}-{A-B}-{1-4},  
{OC48-{1-6,12-17}-{A-B}-1},  
{OC192-{5,6,12,13}-AB-1}}

LOCN: {ALL, FEND, NEND} (Default=ALL)

LPBKTYPE: {FACILITY, TERMINAL}

**RLS-LPBK-OCn:[TID]:AID:[CTAG]::[LOCN],,,[LPBKTYPE];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12},  
{OC12-{1-6,12-17}-{A-B}-{1-4},  
{OC48-{1-6,12-17}-{A-B}-1},  
{OC192-{5,6,12,13}-AB-1}}

LOCN: {ALL, FEND, NEND} (Default=ALL)

LPBKTYPE: {FACILITY, TERMINAL}

**RTRV-OCn:[TID]:[AID]:[CTAG];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
 {OC12-{1-6,12-17}-{A,B}-{1-4}},  
 {OC48-{1-6,12-17}-{A,B}-1}},  
 {OC192-{5,6,12,13}-AB-1}}} (Default=All interfaces of the OCn type)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	CAUTION: Possibility of service interruption. Performing loopbacks may interrupt service if a protection line or protecting path is not available.
2	Review the OC-n interface loopback diagram (figure 163-1).
3	Select action.  To initiate Facility loopback test, go to step 4. To initiate Terminal loopback test, go to step 6.

**Initiate Facility Test**

- 4 To place the OC-n into Facility loopback status, type  
**OPR-LPBK-OCn::AID::,,,FACILITY;**  
 where:  
 OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).  
 AID is the access identifier of the OC-n port to be looped back.
- 5 Go to step 7.

## Initiate Terminal Test

- 6 To place the OC-n into Terminal loopback status, type

**OPR-LPBK-OCn::AID::,,,TERMINAL;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the OC-n port to be looped back.

## Verify Loopback Status

- 7 To verify the OC-n is in loopback status, type

**RTRV-OCn::AID;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the OC-n port that is looped back.

## Remove Facility or Terminal Loopback

- 8 To remove the OC-n loopback, type

**RLS-LPBK-OCn::AID;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

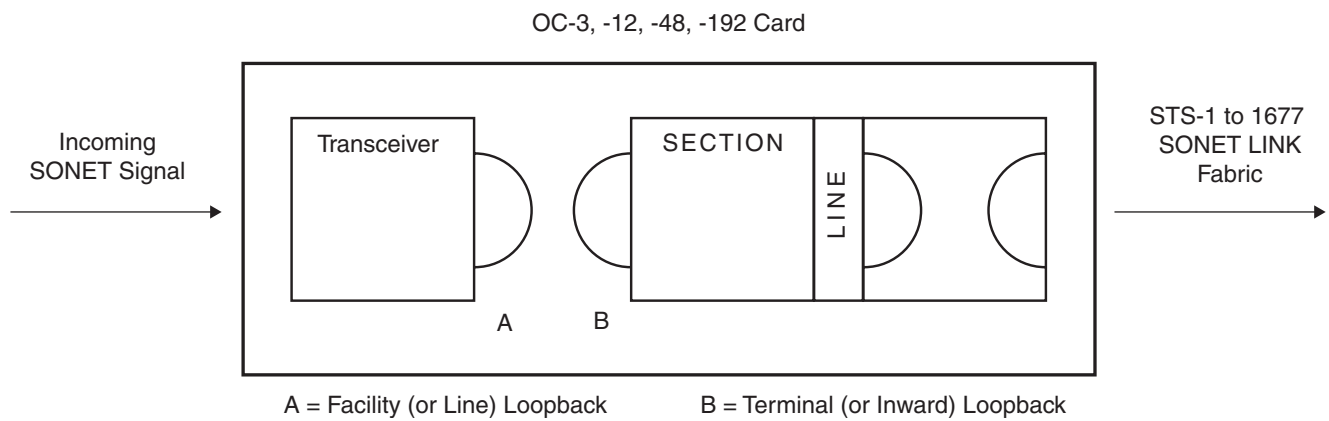
AID is the access identifier of the OC-n port that is looped back.

- 9 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 10.

- 10 **STOP. This procedure is complete.**

**Figure 163-1. OC-n Loopback Diagram**

## DLP-165

### Switch OC-n Line to Protection

#### PURPOSE

This procedure provides the instructions to initiate and release an OC-n line switch to protection.

This procedure is used for BLSR and APS 1+1 configurations.

#### PREREQUISITES

OC-n ports must be provisioned. Refer to DLP-129.

OC-n ports must be provisioned as a facility protection group (FFP). Refer to DLP-135.

#### GENERAL

When initiating a protection switch using OPR-PROTNSW-OCn, three options for the switch command (SC) parameter are available: LOCKOUT, FRCD, and MAN.

- Lockout of Protection (LOCKOUT or LOP) keeps traffic on the working port. If traffic is on the protect port when the command is issued, traffic switches to the working port and remains there until the lockout is released. When issuing this switch command, the protect AID must be specified. A Lockout overrides a Forced Switch and a Manual Switch.
- Forced Switch (FRCD) forces traffic to either the working port or the protect port. Specifying a working AID forces the traffic to the protect port, and specifying a protect AID forces traffic to the working port. A Forced Switch overrides a Manual Switch.
- Manual Switch (MAN) moves traffic to either the working port or the protect port. Specifying a working AID moves the traffic to the protect port, and specifying a protect AID moves traffic to the working port.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**OPR-PROTNSW-OCn:[TID]:AID:[CTAG]::SWTCHCMD;;**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
 {OC12-{1-6,12-17}-{A-B}-{1-4}},  
 {OC48-{1-6,12-17}-{A-B}-1}},  
 {OC192-{5,6,12,13}-AB-1}}

SWTCHCMD: For APS 1+1: {LOCKOUT, FRCD, MAN},  
 For BLSR: {EXER-R, EXER-S, FRCD-R, FRCD-S, MAN-R, LOP-A, LOP-S}

**RLS-PROTNSW-OCn:[TID]:AID:[CTAG]::[DIRN];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
 {OC12-{1-6,12-17}-{A-B}-{1-4}},  
 {OC48-{1-6,12-17}-{A-B}-1}},  
 {OC192-{5,6,12,13}-AB-1}}

DIRN= {EAST, WEST, BOTH} (Default=no value)

**RTRV-FFP-OCn:[TID]:AID:[CTAG];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
 {OC12-{1-6,12-17}-{A-B}-{1-4}},  
 {OC48-{1-6,12-17}-{A-B}-1}},  
 {OC192-{5,6,12,13}-AB-1}}

**RTRV-OCn:[TID]:AID:[CTAG];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
 {OC12-{1-6,12-17}-{A-B}-{1-4}},  
 {OC48-{1-6,12-17}-{A-B}-1}},  
 {OC192-{5,6,12,13}-AB-1}}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.



STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve information on OC-n ports and FFP, go to step 2. To initiate OC-n switch to protection, go to step 7. To release OC-n switch to protection, go to step 9. To quit this procedure, go to step 11.</p>
<b>Retrieve Information on OC-n Ports and FFP</b>	
2	<p>At prompt, type</p> <p><b>RTRV-OCn::AID;;</b></p> <p>where:</p> <p>OCn in the command name is the type of optical facility (<b>OC3</b>, <b>OC12</b>, <b>OC48</b>, or <b>OC192</b>).</p> <p>AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.</p>
3	<p>Examine output. Note states and other pertinent information.</p>
4	<p>At prompt, type</p> <p><b>RTRV-FFP-OCn::AID;;</b></p> <p>where:</p> <p>OCn in the command name is the type of optical facility (<b>OC3</b>, <b>OC12</b>, <b>OC48</b>, or <b>OC192</b>).</p> <p>AID is the access identifier of the FFP member. Ranging, grouping, and keyword ALL are supported.</p>
5	<p>Examine output. One line of output is returned for each OC-n specified, regardless of whether the OC-n is in an FFP. Output parameter ACTIVE= shows protection status for each port.</p>
6	<p>Go to step 1.</p>

**Perform OC-n Protection Switch**

**7** At prompt, type

**OPR-PROTNSW-OCn::AID::SWTCHCMD;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the protected port.

SWTCHCMD is the switch command.

**8** Go to step 1.

**Release OC-n Protection Switch**

**9** At prompt, type

**RLS-PROTNSW-OCn::AID::DIRN;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the protected port.

DIRN is direction of transmission in which a switch request is to be cleared.

**10** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 11.

**11 STOP. This procedure is complete.**

## DLP-166

### Schedule PM Reports

#### PURPOSE

This procedure provides the instructions to schedule daily Performance Monitoring (PM) reports and control PM reporting for specific ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ALW-PMREPT-ALL::[TID]::[CTAG];**

**ALW-PMREPT-COM::[TID]::[CTAG];**

**ALW-PMREPT-EVC::[TID]::[CTAG];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}-{1-24},  
{GIGE-{1-6,12-17}-{A,B}-{1-2}-ALL}}

**ALW-PMREPT-GIGE::[TID]::[CTAG];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}}

**ALW-PMREPT-OCn:[TID]:AID:[CTAG];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A,B}-{1-4}},  
{OC48-{1-6,12-17}-{A,B}-{1}},  
{OC192-{5,6,12,13}-{AB}-{1}}}

**ALW-PMREPT-OFA::[TID]::[CTAG];**

AID: {ALL, {OFA-{1-6,12-17}-{A,B}-1}}

**ALW-PMREPT-STSn:[TID]:AID:[CTAG];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19, 22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
 64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,  
 142,145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

**ALW-PMREPT-T1:[TID]:AID:[CTAG];**

AID: {{T1-{2-5,13-16}-{A,B}-{1-12}-{1-28}},  
 {T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-28}},  
 {T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

**ALW-PMREPT-T3:[TID]:AID:[CTAG];**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

**ALW-PMREPT-VT1:[TID]:AID:[CTAG];**

AID: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

**INH-PMREPT-COM::[TID]::[CTAG];****INH-PMREPT-EVC::[TID]::[CTAG];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}-{1-24}},  
 {GIGE-{1-6,12-17}-{A,B}-{1-2}-ALL}}

**INH-PMREPT-GIGE::[TID]::[CTAG];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}}

**INH-PMREPT-OCn:[TID]:AID:[CTAG];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
 {OC12-{1-6,12-17}-{A,B}-{1-4}},  
 {OC48-{1-6,12-17}-{A,B}-{1}},  
 {OC192-{5,6,12,13}-{AB}-{1}}}

**INH-PMREPT-OFA:[TID]:AID:[CTAG];**

AID: {ALL, {OFA-{1-6,12-17}-{A,B}-1}}

**INH-PMREPT-STSn:[TID]:AID:[CTAG];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}}{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,  
142,145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}}{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}

**INH-PMREPT-T1:[TID]:AID:[CTAG];**

AID: {{T1-{2-5,13-16}-{A,B}-{1-12}-{1-28}},  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-28}},  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

**INH-PMREPT-T3:[TID]:AID:[CTAG];**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

**INH-PMREPT-VT1:[TID]:AID:[CTAG];**

AID: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

**RTRV-PMSCHED-ALL:[TID]::[CTAG];**

**SCHED-PMREPT-ALL:[TID]::[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE]  
[,MONLEV],,,[TMPER][,TMOFST];**

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24};{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL, {ACTMM, AISS-P, CV-LFE, CV-PFE, CVCP-P, CVCP-PFE, CVL, CVP, CVP-P,  
CVS, ES-LFE, ES-PFE, ESA-L, ESA-P, ESA-PFE, ESACP-P, ESACP-PFE, ESAP-P, ESB-L, ESB-P,  
ESBCP-P, ESBCP-PFE, ESBP-P, ESCP-P, ESCP-PFE, ESL, ESP, ESP-P, ESS, FC-L, FC-LFE, FC-  
P, FC-PFE, FCCP-PFE, LOSS-L, SAS-P, SAS-PFE, SASCP-PFE, SEFS, SES-LFE, SES-PFE,  
SESCP-P, SESCP-PFE, SESL, SESP, SESP-P, SESS, SPC, SSC, SWC, UAS-LFE, UAS-PFE,  
UASCP-P, UASCP-PFE, UASL, UASP, UASP-P, OPRN, OPTN, LBCN, LSRTEMP}} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

**SCHED-PMREPT-EVC:[TID]:AID:[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE][,MONLEV],,,[TMPER][,TMOFST];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}-{1-24},  
{GIGE-{1-6,12-17}-{A,B}-{1-2}-ALL}}

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24}:{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL, ETH-FLME, ETH-FLMTE, ETH-JABB, ETH-LFR, ETH-SFR, ETH-SYSERR, ETH-SYMERR} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

**SCHED-PMREPT-GIGE:[TID]:AID:[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE][,MONLEV],,,[TMPER][,TMOFST];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}}

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24}:{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL, ETH-FLME, ETH-FLMTE, ETH-JABB, ETH-LFR, ETH-SFR, ETH-SYSERR, ETH-SYMERR} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

**SCHED-PMREPT-OCn:[TID]:AID:[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE][,MONLEV],,,[TMPER][,TMOFST];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A,B}-{1-4}},  
{OC48-{1-6,12-17}-{A,B}-{1}},  
{OC192-{5,6,12,13}-{AB}-{1}}}

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24}:{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule.

MONTYPE: {ALL, {CV-PFE, CVL, CVS, ES-LFE, ESL, ESS, FC-L, FC-LFE, SEFS, SESL, SESS, SPC, SSC, SWC, UAS-LFE, UASL, OPRN, OPTN, LBCN, LSRTEMP}} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

**SCHED-PMREPT-OFA:[TID]:AID:[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE][,MONLEV],,,[TMPER][,TMOFST];**

AID: {ALL, {OFA-{1-6,12-17}-{A,B}-1}}

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24};{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

**SCHED-PMREPT-STSn:[TID]:AID:[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE][,MONLEV],,,[TMPER][,TMOFST];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}}{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,  
142,145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24};{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL,AISS-P,CV-PFE,CVP,ES-PFE,ESP,FC-P,FC-PFE,  
SES-PFE,SESP,SPC,SSC,SWC,UAS-PFE,UASP} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

**SCHED-PMREPT-T1:[TID]:AID:[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE][,MONLEV],,,[TMPER][,TMOFST];**

AID: For a DS1 embedded within a DS3 port:  
{T1-{2-5,13-16}-{A,B}-{1-12}-{1-28}}

For a DS1 embedded within a DS3 embedded within an STS-1 port:  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-28}}

For a DS1 embedded within a VT1.5 embedded within an STS-1 port:  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24}:{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL, CSS-PFE, CV-L, CV-P, CV-PFE, ES-L, ES-LFE, ES-P, ES-PFE, SES-L, SES-P, SES-PFE, SAS-P, UAS-P, UAS-PFE} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

**SCHED-PMREPT-T3:[TID]:AID:[CTAG]::[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE][,MONLEV],,,[TMPER][,TMOFST];**

AID: {T3-{2-5,13-16}-{A,B}-{1-12}}

REPTINVL: {15-MIN, 1-DAY} (Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24}:{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL, {AISS-P, CV-PFE, CVCP-P, CVCP-PFE, CVL, CVP, CVP-P, ES-PFE, ESA-L, ESACP-P, ESACP-PFE, ESAP-P, ESB-L, ESBCP-P, ESBCP-PFE, ESBP-P, ESCP-P, ESCP-PFE, ESL, ESP, ESP-P, FC-P, FC-PFE, FCCP-PFE, LOSS-L, SAS-P, SASCP-PFE, SES-PFE, SESCO-P, SESCO-PFE, SESL, SESP, SESP-P, UAS-PFE, UASCP-P, UASCP-PFE, UASP, UASP-P, OPRN, OPTN, LBCN, LSRTEMP}} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)



**SCHED-PMREPT-VT1:[TID]:AID:[CTAG]:[REPTINVL][,REPTSTATM][,NUMREPT][,MONTYPE]  
[,MONLEV],,,[TMPER][,TMOFST];**

AID: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}} REPTINVL: {15-MIN, 1-DAY}  
(Default=Value of TMPER)

REPTSTATM: {HOURS-MINUTES: {1-24}:{1-60}} (Default=Next reporting time.)

NUMREPT: {0-n} (Default=Unlimited [continuous reporting].) A value of 0 will delete the schedule

MONTYPE: {ALL, CV-V, ES-V, SES-V, UAS-V, FC-V, CV-VFE, ES-VFE, SES-VFE, UAS-VFE,  
FC-VFE} (Default=ALL)

MONLEV: {LEVEL-DIRECTION:{0-255}-{DN, UP}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

TMOFST: Time offset between reporting/diagnostics/exercises (Default= No offset)

STEP	PROCEDURE
1	At prompt, type  <b>RTRV-PMSCHED-ALL;</b>
2	Examine output to determine what reports have been scheduled, if any.
3	Select action.  To schedule PM report generation and printing for all ports, go to step 4. To schedule PM report generation for a specific port, go to step 6. To disable PM report generation for a specific port, go to step 8. To enable PM report generation for a specific port, go to step 10.

**Schedule Daily PM Report for All Ports**

- 4 At prompt, type
- SCHED-PMREPT-ALL:::REPTINVL,REPTSTATM,NUMREPT,MONTYPE,MONLEV,,,TMPER;**
- where:
- REPTINVL is how often to print the report.
- REPTSTATM is the report start time, or leave blank for system default.
- NUMREPT is the number of reports, or leave blank for continuous reporting.
- MONTYPE is the type of monitored parameter to report, or leave blank for all parameters.
- MONLEV is the PM level at which PM data will be reported in PM messages, or leave blank for system default.
- TMPER is the accumulation period for the counter, or leave blank for system default.

- 5 Go to step 3.

**Schedule Daily PM Report for a Specific Port**

- 6 At prompt, type
- SCHED-PMREPT-OCn:::REPTINVL,REPTSTATM,NUMREPT,MONTYPE,MONLEV,,,TMPER;**
- where:
- REPTINVL is how often to print the report.
- REPTSTATM is the report start time, or leave blank for system default.
- NUMREPT is the number of reports, or leave blank for continuous reporting.
- MONTYPE is the type of monitored parameter to report, or leave blank for all parameters.
- MONLEV is the PM level at which PM data will be reported in PM messages, or leave blank for system default.
- TMPER is the accumulation period for the counter, or leave blank for system default.
- For example, **SCHED-PMREPT-OC3::OC3-3-A-1:::1-DAY;**

- 7 Go to step 3.

### Disable PM Report

- 8 Select port type for PM report disabling.

At prompt, enter one of the following commands, depending on selected port type:

Common:	<b>INH-PMREPT-COM;</b>
DS1:	<b>INH-PMREPT-T1::AID;</b>
DS3:	<b>INH-PMREPT-T3::AID;</b>
EVC:	<b>INH-PMREPT-EVC::AID;</b>
GIGE:	<b>INH-PMREPT-GIGE::AID;</b>
OC-n:	<b>INH-PMREPT-OCn::AID;</b>
OFA:	<b>INH-PMREPT-OFA::AID;</b>
STS-n:	<b>INH-PMREPT-STSn::AID;</b>
VT1.5:	<b>INH-PMREPT-VT1::AID;</b>

where AID is the access identifier of the port. Ranging and grouping are supported.

- 9 Go to step 3.

### Enable PM Report

- 10 Select port type for PM report enabling.

At prompt, enter one of the following commands, depending on selected port type:

Common:	<b>ALW-PMREPT-COM;</b>
DS1:	<b>ALW-PMREPT-T1::AID;</b>
DS3:	<b>ALW-PMREPT-T3::AID;</b>
EVC:	<b>ALW-PMREPT-EVC::AID;</b>
GIGE:	<b>ALW-PMREPT-GIGE::AID;</b>
OC-n:	<b>ALW-PMREPT-OCn::AID;</b>
OFA:	<b>ALW-PMREPT-OFA::AID;</b>
STS-n:	<b>ALW-PMREPT-STSn::AID;</b>
VT1.5:	<b>ALW-PMREPT-VT1::AID;</b>

where AID is the access identifier of the port. Ranging and grouping are supported.

- 11 Select action.

To continue this procedure, go to step 3.  
To quit this procedure, go to step 12.

- 12 **STOP. This procedure is complete.**



## DLP-167

### Report DS3 PM Data

#### PURPOSE

This procedure provides the instructions to report Performance Monitoring (PM) data and initialize (reset) the collection register for DS3 ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**INIT-REG-T3:[TID]:[AID]:[CTAG]::[MONTYPE][,MONVAL],,,;**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}}}

MONTYPE: {ALL, CVL, CVP, CVP-P, CVCP-P, CV-PFE, CVCP-PFE, ESP, ESP-P, ESP-PFE, ESCP-P, ESCP-PFE, ESAP-P, ESACP-P, ESACP-PFE, ESBP-P, ESBCP-P, ESBCP-PFE, SESP, SES-PFE, SESP-P, SESCO-P, SESCO-PFE, SAS-P, SASCP-PFE, AISS-P, UASP, UAS-PFE, UASP-P, UASCP-P, UASCP-PFE, FC-P, FC-PFE} (Default=ALL)

MONVAL: {Registers that count in seconds: 0-900; All other registers: 0-65535} (Default=0)

**RTRV-PM-T3:[TID]:[AID]:[CTAG]::[MONTYPE][,MONLEV],,,[TMPER][,MONDAT][,MONTM];**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}}}

MONTYPE: {ALL, CVL, CVP, CVP-P, CVCP-P, CV-PFE, CVCP-PFE, ESP, ESP-P, ESP-PFE, ESCP-P, ESCP-PFE, ESAP-P, ESACP-P, ESACP-PFE, ESBP-P, ESBCP-P, ESBCP-PFE, SESP, SES-PFE, SESP-P, SESCO-P, SESCO-PFE, SAS-P, SASCP-PFE, AISS-P, UASP, UAS-PFE, UASP-P, UASCP-P, UASCP-PFE, FC-P, FC-PFE} (Default=ALL)

MONLEV: {{0-255}-{UP, DN}} (Default=1-UP)

MONLEV: {Level-Direction: {0-255}-{UP, DN}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

MONDAT: {{01-12}-{01-31}} (Default=Current date)

MONTM: {{00-23}-{00-59}} (Default=Current time)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM data, go to step 2. To initialize PM data collection register, go to step 5. To leave registers as provisioned, go to step 7.

**Retrieve PM Data**

- 2

At prompt, type  
  
**RTRV-PM-T3::AID::MONTYPE,MONLEV,,,TMPER,MONDAT,MONTM;**  
  
where:  
  
AID is the access identifier of the DS3 port.  
  
MONTYPE is the monitored parameter type.  
  
MONLEV is the monitor level.  
  
TMPER is the PM collection period.  
  
MONDAT and MONTM are the month-day and hour-minute, respectively.
- 3

Examine output for PM information.
- 4

Go to step 1.

### Initialize PM Data Collection Register

**5** At prompt, type

**INIT-REG-T3::AID:::MONTYPE,MONVAL;**

where:

AID is the access identifier of the DS3 facility.

MONTYPE is the monitored parameter type.

MONVAL is the new value to be set in register.

**6** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

**7 STOP. This procedure is complete.**





## DLP-169

### Report OC-n PM Data

#### PURPOSE

This procedure provides the instructions to report Performance Monitoring (PM) data and initialize (reset) the collection register for OC-3, OC-12, OC-48, and OC-192 ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**INIT-REG-OCn:[TID]:AID:[CTAG]::[MONTYPE][,MONVAL],,,[TMPER],,;**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1}},  
{OC192-{5,6,12,13}-AB-1}}

MONTYPE: For OC-3 and OC-12: {ALL, CVS, ESS, SEFS, SESS, CVL, ESL, SESL, UASL, CV-LFE, ES-LFE, SES-LFE, UAS-LFE, UASL} (Default=ALL)

For OC-48 and OC-192: {ALL, CVS, ESS, SEFS, SESS, CVL, ESL, SESL, UASL, CV-LFE, ES-LFE, SES-LFE, UAS-LFE, UASL, OPRN, LBCN, OPTN, LSRTEMP} (Default=ALL)

MONVAL: Registers that count in seconds: {0-900};  
All other registers: {0-65535} (Default=0)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**RTRV-PM-OCn:[TID]:[AID]:[CTAG]::[MONTYPE][,MONLEV],,,[TMPER][,MONDAT][,MONTM];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A,B}-{1-4}},  
{OC48-{1-6,12-17}-{A,B}-1}},  
{OC192-{5,6,12,13}-AB-1}}

MONTYPE: For OC-3 and OC-12: {ALL, CVS, ESS, SEFS, SESS, CVL, ESL, SESL, UASL, CV-LFE, ES-LFE, SES-LFE, UAS-LFE, UASL} (Default=ALL)

For OC-48 and OC-192: {ALL, CVS, ESS, SEFS, SESS, CVL, ESL, SESL, UASL, CV-LFE, ES-LFE, SES-LFE, UAS-LFE, UASL, OPRN, LBCN, OPTN, LSRTEMP} (Default=ALL)

MONLEV: Level-Direction: {{0-255}-{UP, DN}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

MONDAT: Month-Day: {{01-12}-{01-31}} (Default=Current date)

MONTM: {HOUR-MINUTE:{00-23}-{00-59}} (Default=Current time)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM data, go to step 2. To initialize PM data collection register, go to step 5. To leave registers as provisioned, go to step 7.

## Retrieve PM Data

- 2 At prompt, type

**RTRV-PM-OCn::AID:::MONTYPE,MONLEV,,,TMPER,MONDAT,MONTM;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the OC-n port. Ranging, grouping, and keyword ALL are supported.

MONTYPE is the monitored parameter type.

MONLEV is the monitor level.

TMPER is the PM collection period.

MONDAT and MONTM are the starting month-day and hour-minute, respectively.

- 3 Examine output for PM information.

For example:

```
agent>RTRV-PM-OC3::OC3-4-A-1:::ALL,,,15-MIN;

      TL1-Agent 2003-01-13 20:10:45
M  0  COMPLD
      "OC3-4-A-1,OC3:ESS,489,,,15-MIN,,20-10"
      "OC3-4-A-1,OC3:FC-L,1,,,15-MIN,,20-10"
      "OC3-4-A-1,OC3:SESS,489,,,15-MIN,,20-10"
;
```

- 4 Go to step 1.

**Initialize PM Data Collection Register**

**5** At prompt, type

**INIT-REG-OCn::AID::MONTYPE,MONVAL;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier for the OC-n facility. Ranging, grouping, and keyword ALL are supported.

MONTYPE is the monitored parameter type.

MONVAL is the new value to be set in register.

For example:

```
agent>INIT-REG-OC3::OC3-4-A-1::ALL,0;  
  
    TL1-Agent 2003-01-13 20:11:34  
M   0  COMPLD  
    /* INIT-REG */  
;
```

**6** Select action.

To continue this procedure, go to step 1.  
To quit this procedure, go to step 7.

**7 STOP. This procedure is complete.**

## DLP-171

### Report STS-n PM Data

#### PURPOSE

This procedure provides the instructions to report Performance Monitoring (PM) data and initialize (reset) the collection register for STS-1, STS-3c, STS-12c, STS-48c, and STS-192c ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**INIT-REG-STSn:[TID]:AID:[CTAG]::[MONTYPE],[MONVAL],,,[TMPER],;**

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}},

MONTYPE: {ALL, CV-PFE, CVP, ES-PFE, ESP, FC-P, FC-PFE, SES-PFE, SESP, SPC, SSC, SWC,  
UAS-PFE, UASP} (Default=ALL)

MONVAL: Registers that count in seconds: {0-900};  
All other registers: {0-65535} (Default=0)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**RTRV-PM-STSn:[TID]:AID:[CTAG]::[MONTYPE][,MONLEV],,,[TMPER][,MONDAT][,MONTM];**

AID: {ALL, {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

MONTYPE: {ALL, CV-PFE, CVP, ES-PFE, ESP, FC-P, FC-PFE, SES-PFE, SESP, SPC, SSC, SWC, UAS-PFE, UASP} (Default=ALL)

MONLEV: Level-Direction: {{0-255}-{UP, DN}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

MONDAT: Month-Day: {{01-12}-{01-31}} (Default=Current date)

MONTM: {HOUR-MINUTE:{00-23}-{00-59}} (Default=Current time)

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve PM data, go to step 2. To initialize PM data collection register, go to step 5. To leave registers as provisioned, go to step 7.</p>

## Retrieve PM Data

- 2 At prompt, type

**RTRV-PM-STSn::AID:::MONTYPE,MONLEV,,,TMPER,MONDAT,MONTM;**

where:

AID is the access identifier of the STS-n port, or ALL.

MONTYPE is the monitored parameter type.

MONLEV is the monitor level.

TMPER is the PM collection period.

MONDAT and MONTM are the starting month-day and hour-minute, respectively.

- 3 Examine output for PM information.

- 4 Go to step 1.

## Initialize PM Data Collection Register

- 5 At prompt, type

**INIT-REG-STSn::AID:::MONTYPE,MONVAL,,,TMPER;**

where:

AID is the access identifier of the STS-n port.

MONTYPE is the monitored parameter type.

MONVAL is the new value to be set in register.

TMPER is the PM collection period.

- 6 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

- 7 **STOP. This procedure is complete.**





## DLP-174

### Report VT1.5 PM Data

#### PURPOSE

This procedure provides the instructions to report Performance Monitoring (PM) data and initialize (reset) the collection register for VT1.5 ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor defect conditions, and can be used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**INIT-REG-VT1:[TID]:AID:[CTAG]::[MONTYPE],[MONVAL],,,[TMPER],;**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

MONTYPE: {ALL, CV-V, ES-V, SES-V, UAS-V, FC-V, CV-VFE, ES-VFE, SES-VFE, UAS-VFE, FC-VFE} (Default=ALL)

MONVAL: Registers that count in seconds: {0-900};  
All other registers: {0-65535} (Default=0)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**RTRV-PM-VT1:[TID]:[AID]:[CTAG]::[MONTYPE],[MONLEV],,,[TMPER],[MONDAT],[MONTM];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

MONTYPE: {ALL, CV-V, ES-V, SES-V, UAS-V, FC-V, CV-VFE, ES-VFE, SES-VFE, UAS-VFE, FC-VFE} (Default=ALL)

MONLEV: Level-Direction: {{0-255}-{UP, DN}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

MONDAT: Month-Day: {{01-12}-{01-31}} (Default=Current date)

MONTM: {HOUR-MINUTE:{00-23}-{00-59}, PREV} (Default=Current time)

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM data, go to step 2. To initialize PM data collection register, go to step 5. To leave registers as provisioned, go to step 7.
<b>Retrieve PM Data</b>	
2	At prompt, type  <b>RTRV-PM-VT1::AID:::MONTYPE,MONLEV,,,TMPER,MONDAT,MONTM;</b>  where:  AID is the access identifier of the VT1.5 port, or ALL.  MONTYPE is the monitored parameter type.  MONLEV is the monitor level.  TMPER is the PM collection period.  MONDAT and MONTM are the starting month-day and hour-minute, respectively.
3	Examine output for PM information.
4	Go to step 1.

### Initialize PM Data Collection Register

5 At prompt, type

**INIT-REG-VT1::AID:::MONTYPE,MONVAL,,,TMPER;**

where:

AID is the access identifier of the VT1.5 port.

MONTYPE is the monitored parameter type.

MONVAL is the new value to be set in register.

TMPER is the PM collection period.

6 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

7 **STOP. This procedure is complete.**



## DLP-175

### Set DS3 PM Mode

#### PURPOSE

This procedure provides the instructions to set or change Performance Monitoring (PM) mode for DS3 ports. The PM mode controls the data collection for specific types of PM data (path, line, segment, intermediate node).

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-PMMODE-T3:[TID]:AID:[CTAG]::[LOCN];**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

**SET-PMMODE-T3:[TID]:AID:[CTAG]::LOCN,MODETYPE[,PMSTATE];**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}}}

LOCN: {ALL, NEND, FEND}

MODETYPE: {ALL, L, P}

PMSTATE: {OFF, ON} (Default=ON)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve PM mode parameters for DS3 port, go to step 2.            To set or change PM mode for DS3 port, go to step 5.            To quit this procedure, go to step 6.</p>

**Retrieve PM Mode Parameters**

- 2      At prompt, type  
       **RTRV-PMODE-T3::AID;**  
       where AID is the access identifier of the port. Keyword is supported.
- 3      Examine output to determine current PM mode.  
       For example:  
       agent>**RTRV-PMODE-T3::T3-2-B-1;**  
       ALCATEL-1677SL 2003-01-14 14:49:07  
       M 0 COMPLD  
       "t3-2-b-1:NEND,P&L"  
       "t3-2-b-1:FEND,P&L"  
       /\* RTRV-PMODE-T3 \*/  
       ;
- 4      Go to step 1.

## Set or Change PM Mode

5 At prompt, type

**SET-PMMODE-T3::AID:::LOCN,MODETYPE,PMSTATE;**

where:

AID is the access identifier of the port. Keyword is supported.

LOCN is the location where PM parameter is to be monitored.

MODETYPE is the PM mode type.

For embedded DS3s, only path PM is available.

For stand-alone DS3s, path and/or line PM is available:

To monitor path PM only, MODETYPE must be L, and PMSTATE must be OFF.

To monitor line PM only, MODETYPE must be P, and PMSTATE must be OFF.

PMSTATE indicates if PM collection is to be enabled or disabled for specified PM mode type, or is omitted for the system default.

6 **STOP. This procedure is complete.**





## DLP-177

### Set OC-n PM Mode

#### PURPOSE

This procedure provides the instructions to set or change Performance Monitoring (PM) mode for OC-n ports. The PM mode controls the data collection for specific types of PM data (path, line, segment, intermediate node).

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-PMMODE-OCn:[TID]:AID:[CTAG]::[LOCN];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1}},  
{OC192-{5,6,12,13}-AB-1}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

**SET-PMMODE-OCn:[TID]:AID:[CTAG]::[LOCN],MODETYPE[,PMSTATE];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1}},  
{OC192-{5,6,12,13}-AB-1}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

MODETYPE: {ALL, L, S}

PMSTATE: {OFF, ON} (Default=ON)

## Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM mode parameters for OC-n port, go to step 2. To set or change PM mode for OC-n port, go to step 5. To quit this procedure, go to step 6.

## Retrieve PM Mode Parameters

- At prompt, type  
**RTRV-PMODE-OCn::AID:::LOCN;**  
  
where:  
  
OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).  
  
AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.  
  
LOCN is the location, or leave blank for system default.
- Examine output to determine current PM mode.
- Go to step 1.

## Set or Change PM Mode

5 At prompt, type

**SET-PMMODE-OCn::AID:::LOCN,MODETYPE,PMSTATE;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.

LOCN is the location where PM parameter is to be monitored.

By default, section and line PM is enabled. To monitor only section PM, MODETYPE must be L and PMSTATE must be OFF. To monitor only line PM, MODETYPE must be S and PMSTATE must be OFF.

MODETYPE is the PM mode type.

PMSTATE indicates if PM collection will be enabled or disabled for specified PM mode type, or leave blank for system default.

6 **STOP. This procedure is complete.**



## DLP-179

### Set STS-n PM Mode

#### PURPOSE

This procedure provides the instructions to set or change Performance Monitoring (PM) mode for STS-n ports. The PM mode controls the data collection for specific types of PM data (path, line, segment, intermediate node).

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

##### **RTRV-PMMODE-STSn:[TID]:AID:[CTAG]::[LOCN];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

##### **SET-PMMODE-STSn:[TID]:AID:[CTAG]::[LOCN],MODETYPE[,PMSTATE];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

MODETYPE: {ALL}

PMSTATE: {OFF, ON} (Default=ON)

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM mode parameters for STS-n port, go to step 2. To set or change PM mode for STS-n port, go to step 5. To quit this procedure, go to step 6.

### Retrieve PM Mode Parameters

- At prompt, type  
**RTRV-PMODE-STS<sub>n</sub>::AID::LOCN;**  
  
where:  
  
AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.  
  
LOCN is the location where PM parameter is to be monitored.
- Examine output to determine current PM mode.
- Go to step 1.

## Set or Change PM Mode

5 At prompt, type

**SET-PMMODE-STSn::AID:::LOCN,MODETYPE,PMSTATE;**

where:

AID is the access identifier of the port. Ranging, grouping, and keyword ALL are supported.

LOCN is the location where PM parameter is to be monitored.

MODETYPE is the PM mode type.

PMSTATE indicates if PM collection will be enabled or disabled for specified PM mode type, or is blank for system default.

6 **STOP. This procedure is complete.**





## DLP-182

### Set VT1.5 PM Mode

#### PURPOSE

This procedure provides the instructions to set or change Performance Monitoring (PM) mode for VT1.5 ports. The PM mode controls the data collection for specific types of PM data (path, line, segment, intermediate node).

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-PMMODE-VT1:[TID]:AID:[CTAG]::[LOCN];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

**SET-PMMODE-VT1:[TID]:AID:[CTAG]::[LOCN],MODETYPE[,PMSTATE];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

MODETYPE: {ALL}

PMSTATE: {OFF, ON} (Default=ON)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM mode parameters for VT1.5 port, go to step 2. To set or change PM mode for VT1.5 port, go to step 5. To quit this procedure, go to step 6.

#### Retrieve PM Mode Parameters

- At prompt, type  
**RTRV-PMMODE-VT1::AID:::LOCN;**  
  
where:  
  
AID is the access identifier of the port, or the keyword ALL.  
  
LOCN is the location, or left blank for system default.
- Examine output to determine current PM mode.
- Go to step 1.

#### Set or Change PM Mode

- At prompt, type  
**SET-PMMODE-VT1::AID:::LOCN,MODETYPE,PMSTATE;**  
  
where:  
  
AID is the access identifier of the port, or the keyword ALL.  
  
LOCN is the location where PM parameter is to be monitored.  
  
MODETYPE is the PM mode type.  
  
PMSTATE indicates if PM collection is to be enabled or disabled for specified PM mode type, or is blank for system default.
- STOP. This procedure is complete.**

## DLP-183

### Set DS3 PM Threshold Levels

#### PURPOSE

This procedure provides the instructions to set Performance Monitoring (PM) threshold levels for DS3 ports.

#### GENERAL

PM commands operate only on provisioned ports.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

The SET-TH-T3 command is used to designate PM threshold levels for DS3 ports. For each type of error (parameter) being monitored, a threshold level with either a 15-minute or 24-hour period may be set. If the number of errors collected exceeds the threshold level within the time selected, the system generates a Threshold Crossing Alert (TCA).

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-TH-T3:[TID]:[AID]:[CTAG]::[MONTYPE],,,[TMPER];**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}}}

MONTYPE: {ALL, AISS-P, CVCP-P, CVCP-PFE, CVL, CVP-P, ESACP-P, ESACP-PFE, ESA-L, ESAP-P, ESBCP-P, ESBCP-PFE, ESB-L, ESL, ESBP-P, ESCP-P, ESCP-PFE, ESP-P, FCCP-PFE, FC-P, LOSS-L, SASCP-PFE, SAS-P, SESCP-P, SESCP-PFE, SESL, SESP-P, UASCP-P, UASCP-PFE, UASP-P} (Default=ALL)

TMPER: {15-MIN} (Default=15-MIN)

**SET-TH-T3:[TID]:AID:[CTAG]::[MONTYPE][,THRESH],,,[TMPER];**

AID: {ALL, {T3-{2-5,13-16}-{A,B}-{1-12}}}

MONTYPE: {ALL, AISS-P, CVCP-P, CVCP-PFE, CVL, CVP-P, ESACP-P, ESACP-PFE, ESA-L, ESAP-P, ESBCP-P, ESBCP-PFE, ESB-L, ESL, ESBP-P, ESCP-P, ESCP-PFE, ESP-P, FCCP-PFE, FC-P, LOSS-L, SASCP-PFE, SAS-P, SESCO-P, SESCO-PFE, SESL, SESP-P, UASCP-P, UASCP-PFE, UASP-P} (Default=ALL)

THRESH: {DFLT,  
For ES, SES, UAS, SAS: {1-900},  
For CV: {1-16383}} (Default=Standard default)

TMPER: {15-MIN} (Default=15-MIN)

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve current threshold levels for DS3 port, go to step 2. To set threshold levels for DS3 port, go to step 5. To leave as provisioned, go to step 7.</p>

### Retrieve Current Threshold Levels

- 2 At prompt, type
 

**RTRV-TH-T3::AID::MONTYPE,,,TMPER;**

where:

AID is the access identifier of the DS3 port.

MONTYPE is the monitored parameter type.

TMPER is the PM collection period.

**3** Examine output for threshold information.

**4** Go to step 1.

#### **Set Threshold Levels**

**5** At prompt, type

**SET-TH-T3::AID:::MONTYPE,THRESH,,,TMPER;**

where:

AID is the access identifier of the DS3 port.

MONTYPE is the monitored parameter type.

THRESH is the threshold level, or enter **DFLT** to set threshold level to system-defined default.

TMPER is the PM collection period.

**6** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

**7** **STOP. This procedure is complete.**



## DLP-185

### Set OC-n PM Threshold Levels

#### PURPOSE

This procedure provides the instructions to set Performance Monitoring (PM) threshold levels for OC-n ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

The SET-TH-OCn command is used to designate PM threshold levels for OC-n ports. For each type of error (parameter) being monitored, a threshold level with either a 15-minute or 24-hour period may be set. If the number of errors collected exceeds the threshold level within the time selected, the system generates a Threshold Crossing Alert (TCA).

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-TH-OCn:[TID]:[AID]:[CTAG]::[MONTYPE],[,TMPER];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1}},  
{OC192-{5,6,12,13}-AB-1}}

MONTYPE: {ALL, CVS, ESS, SEFS, SESS, CVL, ESL, SESL, UASL, CV-LFE, ES-LFE, SES-LFE,  
UAS-LFE, UASL} (Default=ALL)

For OC-192 only {OPTN}

For OC-48 and OC-192 {OPRN, LBCN, LSRTEMP}

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**SET-TH-OCn:[TID]:AID:[CTAG]::[MONTYPE][,THRESH],,[,TMPER];**

AID: {ALL, {OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1}},  
{OC192-{5,6,12,13}-AB-1}}

MONTYPE: {ALL, CVS, ESS, SEFS, SESS, CVL, ESL, SESL, UASL, CV-LFE, ES-LFE, SES-LFE,  
UAS-LFE, UASL} (Default=ALL)  
For OC-192 only {OPTN}  
For OC-48 and OC-192 {OPRN, LBCN, LSRTEMP}

THRESH: {DFLT,  
For ES, SES, UAS, SEFS: {1-900},  
For CV: {1-16383}} (Default=Standard default)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve current threshold levels for OC-n port, go to step 2. To set threshold levels for OC-n port, go to step 5. To leave as provisioned, go to step 7.



## Retrieve Current Threshold Levels

- 2 At prompt, type

**RTRV-TH-OCn::AID:::MONTYPE,,,TMPER;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the OC-n port.

MONTYPE is the threshold name, or is omitted for all thresholds.

TMPER is the PM collection period.

- 3 Examine output for threshold information.

- 4 Go to step 1.

## Set Threshold Levels

- 5 At prompt, type

**SET-TH-OCn::AID:::MONTYPE,THRESH,,,TMPER;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, **OC192**).

AID is the port access identifier of the OC-n port.

MONTYPE is the threshold name.

THRESH is the threshold value, or enter **DFLT** to set threshold value to system-defined default.

TMPER is the PM collection period.

- 6 Select action.

To continue this procedure, go to step 1.  
To quit this procedure, go to step 7.

- 7 **STOP. This procedure is complete.**



## DLP-187

### Set STS-n PM Threshold Levels

#### PURPOSE

This procedure provides the instructions to set Performance Monitoring (PM) threshold levels for STS-n ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

The SET-TH-STSn command is used to designate PM threshold levels for STS-n ports. For each type of error (parameter) being monitored, a threshold level with either a 15-minute or 24-hour period may be set. If the number of errors collected exceeds the threshold level within the time selected, the system generates a Threshold Crossing Alert (TCA).

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-TH-STSn:[TID]:AID:[CTAG]::[MONTYPE],[TMPER];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

MONTYPE: {ALL, CV-P, ES-P, SES-P, UAS-P, CV-PFE, ES-PFE, SES-PFE, UAS-PFE}  
(Default=ALL)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**SET-TH-STSn:[TID]:AID:[CTAG]::MONTYPE,THLEV,,,[TMPER];**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
{STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,  
64,67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
{STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
{STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
{STS192C-{5,6,12,13}-AB-1-1}}}

MONTYPE: {ALL, CV-P, ES-P, SES-P, UAS-P, CV-PFE, ES-PFE, SES-PFE, UAS-PFE}  
(Default=ALL)

THLEV: For ES, SES, UAS: {1-900},  
For CV: {1-16383}

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve current threshold levels for STS-n port, go to step 2. To set threshold levels for STS-n port, go to step 5. To leave as provisioned, go to step 7.</p>
<b>Retrieve Current Threshold Levels</b>	
2	<p>At prompt, type</p> <p><b>RTRV-TH-STSn::AID;</b></p> <p>where AID is the access identifier of the port.</p>
3	<p>Examine output for threshold information.</p>

- 4 Go to step 1.

#### Set Threshold Levels

- 5 At prompt, type

**SET-TH-STSn::AID:::MONTYPE,THLEV,,,TMPER;**

AID is the access identifier of the port.

MONTYPE is the monitored parameter type.

THLEV is the threshold level, or enter **DFLT** to set threshold level to system-defined default.

TMPER is the PM collection period.

- 6 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

- 7 **STOP. This procedure is complete.**



## DLP-190

### Set VT1.5 PM Threshold Levels

#### PURPOSE

This procedure provides the instructions to set Performance Monitoring (PM) threshold levels for VT1.5 ports.

#### GENERAL

PM commands operate on provisioned ports only.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

The SET-TH-VT1 command is used to designate PM threshold levels for VT1.5 ports. For each type of error (parameter) being monitored, a threshold level with a 15-minute period may be set. If the number of errors collected exceeds the threshold level within the time selected, the system generates a Threshold Crossing Alert (TCA).

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-TH-VT1:[TID]:[AID]:[CTAG]::[MONTYPE],,[TMPER];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

**SET-TH-VT1:[TID]:AID:[CTAG]::MONTYPE,THRESH,,,[TMPER];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

MONTYPE: {ALL, CV-V, ES-V, SES-V, UAS-V, FC-V, CV-VFE, ES-VFE, SES-VFE, UAS-VFE, FC-VFE} (Default=ALL)

THRESH: {DFLT,  
For ES, SES, UAS: {1-900},  
For CV: {1-16383}} (Default=Standard default)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve current threshold levels, go to step 2. To set threshold levels, go to step 5. To leave as provisioned, go to step 7.

**Retrieve Current Threshold Levels**

- At prompt, type  
**RTRV-TH-VT1::AID;**  
  
where AID is the access identifier of the VT1.5 port.
- Examine output.
- Go to step 1.



## Set Threshold Levels

5 At prompt, type

**SET-TH-VT1::AID:::MONTYPE,THRESH,,,TMPER;**

where:

AID is the access identifier of the VT1.5 port.

MONTYPE is the monitored parameter type.

THRESH is threshold level, or enter **DFLT** to set threshold level to system-defined default.

TMPER is the PM collection period.

6 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

7 **STOP. This procedure is complete.**



## **DLP-205**

### **Add New User Profile to System**

#### **PURPOSE**

This procedure provides the instructions to create a new user's profile in for a specified User Identification (UID).

#### **GENERAL**

Only a user with the security privilege can create a user profile entry. If ENT-USER-SECU executes successfully, the system accepts any association of the UID with a TCP/IP port number and server IP address. The 1677 SONET Link uses port 3083 for telnet port and port 3082 for raw port.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### **COMMAND SYNTAX**

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-USER-SECU:[TID]:UID:[CTAG]::PID,,UAP;**

UID: {3-32 valid UID characters}

PID: {6-32 valid PID characters}

UAP: {CONF, NETADMIN, PROV, READ, SEC, TEST}

**RTRV-USER-SECU:[TID]:[UID]:[CTAG];**

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>ENT-USER-SECU::UID::PID,,UAP;</b></p> <p>where:</p> <p>UID is the identifier of user to be created. Valid value for PID is a string of 3 through 32 case-sensitive alphanumeric characters.</p> <p>PID is the password of the user. Valid value for PID is a string of 6 through 32 case-sensitive alphanumeric characters.</p> <p>UAP is the user access privilege. Grouping is supported.</p> <p>For example, <b>ENT-USER-SECU::JEAN::*****,,PROV;</b></p>
2	<p>To verify the user profile information, type</p> <p><b>RTRV-USER-SECU::UID;</b></p> <p>where UID is the user identifier specified in step 1.</p> <p>For example,</p> <pre>agent&gt;<b>RTRV-USER-SECU::JEAN;</b>  ALCATEL-1677SL 2002-12-10 19:54:40 M 0 COMPLD "JEAN: , PROV:STATE=ACTIVE, PCND=0, UOUT=0, LOGFAIL=0, PWCHG=2002-12-10- 19-54-32, LAST=1970-01-01-00-00-00" /* RTRV-USER-SECU */ ;</pre>
3	<p><b>STOP. This procedure is complete.</b></p>

## DLP-206

### Delete User from System

#### PURPOSE

This procedure provides the instructions to delete a user's profile for a specified User Identification (UID).

#### PREREQUISITE

The UID must be known before it can be deleted.

#### GENERAL

Only the system administrator can delete a user profile entry. If DLT-USER executes successfully, the system deletes any association of the UID with a TCP/IP port number and server IP address.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-USER-SECU:[TID]:UID:[CTAG];**

UID: {3-32 valid UID characters}

**RTRV-USER-SECU:[TID]:[UID]:[CTAG];**

STEP	PROCEDURE
1	Select action.  To retrieve user profile, go to step 2. To delete user profile, go to step 3. To end this procedure, go to step 4.

**Retrieve User Profile**

- 2** To verify the user profile information, type

**RTRV-USER-SECU::UID;**

where UID is the user identifier to be deleted.

For example,

agent>**RTRV-USER-SECU::JEAN;**

```
ALCATEL-1677SL 2002-12-10 19:54:40
M 0 COMPLD
"JEAN: , PROV:STATE=ACTIVE, PCND=0, UOUT=0, LOGFAIL=0, PWCHG=2002-12-10-
19-54-32, LAST=1970-01-01-00-00-00"
/* RTRV-USER-SECU */
;
```

**Delete User Profile**

- 3** At prompt, type

**DLT-USER-SECU::UID;**

where UID is the user identifier to be deleted.

For example, **DLT-USER-SECU::JEAN;**

To continue this procedure, go to step 1.

To quit this procedure, go to step 4.

- 4** **STOP. This procedure is complete.**

## DLP-218

### Switch STS-n Path to Protection

#### PURPOSE

This procedure provides the instructions to initiate and release an STS-n path switch to protection.

This procedure is used for UPSR and DRI configurations.

#### PREREQUISITES

STS-n ports must be provisioned. Refer to DLP-131.

#### GENERAL

When initiating a protection switch using OPR-PROTNSW-STSn, five options for the switch command (SWTCHCMD) parameter are available: LOCKOUT, FRCDWKSWPR, FRCDWKSWBK, MANWKSWPR, and MANWKSWBK.

- Lockout of Protection (LOCKOUT) keeps traffic on the preferred path. If traffic is on the protect port when the command is issued, traffic switches to the working port and remains there until the lockout is released. When issuing this switch command, the protect AID must be specified. A Lockout overrides a Forced Switch and a Manual Switch.
- Forced Switch forces traffic from working path to protection (FRCDWKSWPR) or protection path to working (FRCDWKSWBK). Specifying a working AID with FRCDWKSWPR forces the traffic to the protect port, and specifying a protect AID with FRCDWKSWBK forces traffic to the working port. A Forced Switch overrides a Manual Switch.
- Manual Switch moves traffic from working path to protection (MANWKSWPR) or protection path to working (MANWKSWBK). Specifying a working AID with MANWKSWPR moves the traffic to the protect port, and specifying a protect AID with MANWKSWBK moves traffic to the working port.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**OPR-PROTNSW-STSn:[TID]:AID:[CTAG]::SWTCHCMD::**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
 67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

SWTCHCMD: {LOCKOUT, FRCDWKSWPR, FRCDWKSWBK, MANWKSWPR, MANWKSWBK}

**RLS-PROTNSW-STSn:[TID]:AID:[CTAG]::**

AID: {{STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
 67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

**RTRV-FFP-OCn:[TID]:AID:[CTAG];**

AID: {ALL, {OC3-{1-6, 12-17}-{A,B}-{1-12}},  
 {OC12-{1-6, 12-17}-{A,B}-{1-4}},  
 {OC48-{1-6,12-17}-{A,B}-1},  
 {OC192-{5,6,12,13}-AB-1}}}

**RTRV-STSn:[TID]:AID:[CTAG];**

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
 67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}

**RTRV-XCON-STSn:[TID]:AID:[CTAG];**

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}},  
 {STS3C-{1-6,12-17}-{A,B,AB}-{1-12}-{1,4,7,10,13,16,19,22,25,28,31,34,37,40,43,46,49,52,55,58,61,64,  
 67,70,73,76,79,82,85,88,91,94,97,100,103,106,109,112,115,118,121,124,127,130,133,136,139,142,  
 145,148,151,154,157,160,163,166,169,172,175,178,181,184,187,190}},  
 {STS12C-{1-6,12-17}-{A,B,AB}-{1-4}-{1,13,25,37,49,61,73,85,97,109,121,133,145,157,169,181}},  
 {STS48C-{1-6,12-17}-{A,B,AB}-1-{1,49,97,145}},  
 {STS192C-{5,6,12,13}-AB-1-1}}}



## Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve information on STS-n timeslots and FFP, go to step 2. To retrieve information to determine active STS-n timeslots, go to step 7. To initiate STS-n switch to protection, go to step 10. To release STS-n switch to protection, go to step 12. To quit this procedure, go to step 14.

## Retrieve Information on STS-n Timeslots and FFP

- At prompt, type  
**RTRV-STSn::AID;;**  
  
where AID is the access identifier of the timeslot. Ranging, grouping, and keyword ALL are supported.
- Examine output. Note states and other pertinent information.
- At prompt, type  
**RTRV-FFP-OCn::AID;;**  
  
OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).  
  
AID is the access identifier of the FFP member. Ranging, grouping, and keyword ALL are supported.
- Examine output. One line of output is returned for each specified STS-n, regardless of whether the STS-n is part of an FFP. Output parameter ACTIVE= shows protection status for each port.

- 6 Go to step 1.

#### Retrieve Information to Determine Active STS-n Timeslots

- 7 At prompt, type

**RTRV-XCON-STSn::AID;;**

where AID is the access identifier of the tributary set associated with the cross-connect. Ranging, grouping, and keyword ALL are supported.

- 8 Examine output. Note active cross-connects.

- 9 Go to step 1.

#### Perform STS-n Protection Switch

- 10 At prompt, type

**OPR-PROTNSW-STSn::AID:::SWTCHCMD;;**

where:

AID is the access identifier of the STS signal.

SWTCHCMD is the switch command.

- 11 Go to step 1.

#### Release STS-n Protection Switch

- 12 At prompt, type

**RLS-PROTNSW-STSn::AID::;**

where:

AID is the access identifier of the STS signal.

- 13 Select action.

To continue this procedure, go to step 1.  
To quit this procedure, go to step 14.

- 14 **STOP. This procedure is complete.**

## DLP-221

### Clean Fiberoptic Connectors and Ports

#### PURPOSE

Before connecting a fiberoptic cable or fiberoptic attenuator to a fiberoptic port, inspect, and when necessary, clean its fiber. Follow this procedure to clean single mode (SM) fiberoptic cable connectors, a fiberoptic ports, or a fiberoptic attenuators. The procedure is applicable for MT-RJ, SC-, LC-, FC-, and ST-type connectors (figure 221-1) and their ports. Note that this cleaning procedure does not apply to multimode (MM) ports, which generally do not require cleaning.

**CAUTION:** Possibility of service interruption. Failure to clean an attenuator, a fiberoptic cable connector, or the mating fiberoptic port before connecting them together could cause optical-insertion loss and optical-fiber or receiver damage, resulting in transmission errors or major network disruption.

#### PREREQUISITE

Anyone who performs this procedure must be familiar with cleaning fiberoptic connectors and with the specific system on which the procedure is to be performed.

This procedure must not be performed on traffic-carrying equipment. If a system is in service, remove the traffic before beginning this cleaning procedure.

Make sure the following tools and supplies are available for this procedure:

- To inspect a fiberoptic connector:  
An optical fiber scope (Noyes Fiber Systems, OFS300-200C or comparable eye-safe inspection scope)
- To inspect a fiberoptic ports:  
An optical fiber microscope with MT-RJ, SC, LC, FC, and ST port adapters (Westover Scientific, WS00-309-1016; Aerotech AWT200 or AWT300; or another comparable eye-safe inspection scope)
- 99% pure isopropyl alcohol (local supplier)
- Port-cleaner swabs as follows:
  - For LC and MT-RJ ports use  
Port swabs, 1.25 mm diameter, Optimark 14100401 (200 qty.) or equivalent.
  - For FC, SC, and ST ports use  
Port swabs, 2.50 mm diameter, Optimark 14100400 (200 qty.) or equivalent.
- Cletop fiber cleaner (Flextronics CLE100 or equivalent)
- Lint-free wipes (Flextronics WIPES or equivalent)

STEP	PROCEDURE
1	<b>DANGER: Possibility of personal injury. Class 3b Invisible Laser Radiation present. To prevent serious eye damage, avoid direct eye exposure to the invisible laser beam. Never stare into the laser beam or view the beam directly with an optical instrument that is not eye safe. As a general precaution, never look directly into the fiber end of any fiberoptic cable, fiberoptic connector, or fiberoptic adapter.</b>
2	Select action.  If you want to clean a fiberoptic cable connector, go to step 3. If you want to clean a fiberoptic port, go to step 16.
<b>Clean a Fiberoptic Cable Connector</b>	
3	Insert the fiber-end face of the cable connector into the Noyes optical fiber scope.
4	Focus the scope until you can clearly see the fiber-end face.
5	Compare what you see in the scope with the pass or fail photos in figure 221-2 and figure 221-3.
6	Select action.  If the fiber looks like any of the sample photos in figure 221-2, the fiber end-face passes. Go to step 30. If the fiber looks like any of the sample photos in figure 221-2 but has a small amount of contaminants, go to step 9. If the fiber looks like any of the sample photos in figure 221-3, go to step 7.
7	Moisten a lint-free wipe with 99% isopropyl alcohol.
8	Wipe the sides of the ferrule, then firmly wipe across the fiber-end face. Dry the ferrule and fiber-end face with a new lint-free wipe. Go to step 3. Or if you have repeated this step three times, replace the cable and go to step 3.
9	Select action.  If you want to clean the fiber using a dry wipe, go to step 10. If you want to clean the fiber using a Cletop cassette, go to step 13.
10	Fold the wipe over itself once.
11	Hold the connector's fiber-end face so that it is flat against the wipe. Then lightly drag the wipe over the fiber once.

- 12 Rotate the fiber-end face 90-degrees, and then firmly drag the wipe over the fiber once. Then repeat step 3.
- 13 Hold open the lever on the Cletop cassette to expose the two blue strips.
- 14 Hold the connector's fiber-end face so that it is flat against one of the blue strips. Then drag it along the blue strip once.
- 15 Rotate the fiber-end face 90-degrees. Hold it flat against the other blue strip and drag it along that strip once. Then repeat step 3.

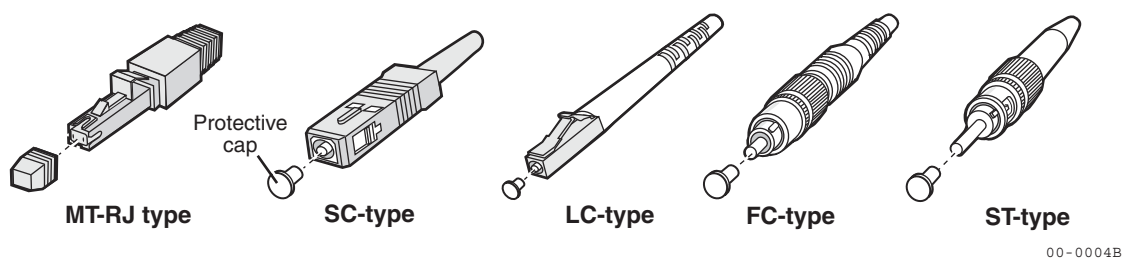
### **Clean a Fiberoptic Port**

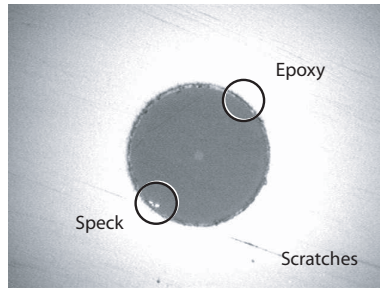
- 16 Locate the fiberoptic port that you want to clean.
- 17 Is a fiberoptic cable installed in the port?
  - If yes, go to step 18.
  - If no, go to step 19.
- 18 Grasp the fiberoptic cable's connector and gently pull it from the card's port. If you plan to clean more than one port, remove only one cable, clean it, and reinstall it before you go to the next one.
- 19 Insert the port probe of the Westover scope into the port.

Make sure you are using the correct type of port adapter. If you are unfamiliar with the operation of a Westover scope or its port adapters, refer to the instructions that came with the scope or the adapter.
- 20 Focus the Westover scope until you can see the port's fiber-end face clearly.
- 21 Compare what you see in the scope with the pass or fail photos in figure 221-2 and figure 221-3.
- 22 Select action.
  - If the port's fiber-end face looks like any of the photos in figure 221-2, the fiber passes. Go to step 30.
  - If the port's fiber-end face looks like any of the photos in figure 221-3, go to step 23.
- 23 Select action.
  - If you are cleaning an MT-RJ port, go to step 24.
  - If you are cleaning any other type of port, go to step 25.

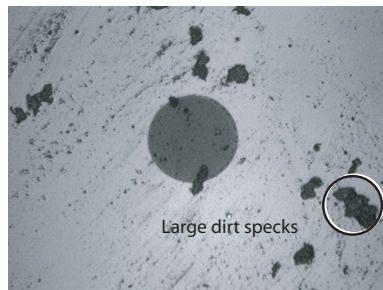
- 24 Slowly insert the swab into each port and draw it out with a brushing motion. Go to step 26.
- 25 Slowly insert a clean swab into the sleeve of the port with a twisting motion until it touches the fiber-end face. Apply light pressure to the fiber-end face of the fiber, while twisting the swab.
- 26 Remove and dispose of the swab. Never reuse a swab.
- 27 Inspect the fiber-end face again, using the Westover scope.
- 28 Compare what you see in the scope with the pass or fail photos in figure 221-2 and figure 221-3.
- 29 Select action.
  - If the fiber looks like any of the photos in figure 221-2, the fiber passes. Go to step 30.
  - If the fiber looks like any of the photos in figure 221-3, repeat step 23.
  - If the port does not pass after repeating step 23 three times, contact us as described in the preface for further advice.
- 30 Once the port passes inspection, do not leave the port uncovered. Either install a clean fiberoptic cable immediately, install a dust cap, or make sure the shutter closes tightly.
- 31 **STOP. This procedure is complete.**

**Figure 221-1. Fiberoptic Connector Types**

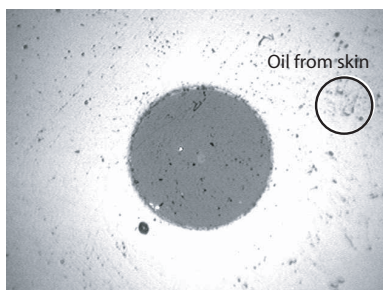


**Figure 221-2. SM and MM Fiber that Pass Inspection****Single-Mode Fiber-End Faces**

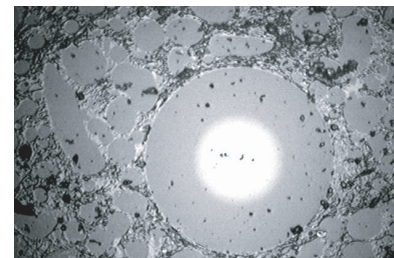
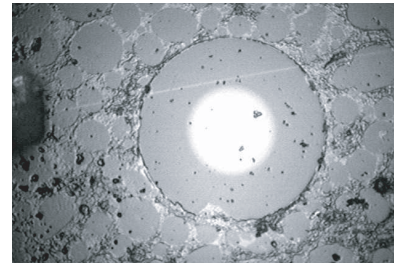
Notice the heavy amount of epoxy at the outer edge of the cladding. Also notice the number of scratches and the white speck of dirt. These surface flaws cause excessive insertion loss.



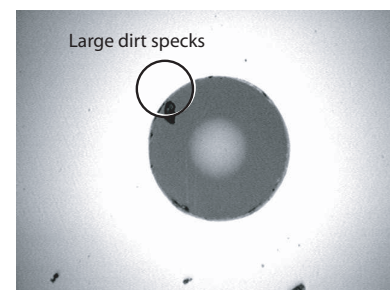
Notice the heavy amount of dirt on the surface, which can cause excessive insertion loss and damage to the mating fiber.



Oil from your skin leaves a residue that causes insertion loss. After cleaning the fiber-end face, either install it immediately or place a clean protective cap over it.

**Multi-Mode Fiber-End Faces**

The surfaces of both of these fiber-end faces have greatly deteriorated, possibly from moisture, cleaning alcohol that was not wiped off, or because of repeatedly connecting them to other dirty fiber. You probably cannot clean these fiber-end faces well enough to pass inspection.



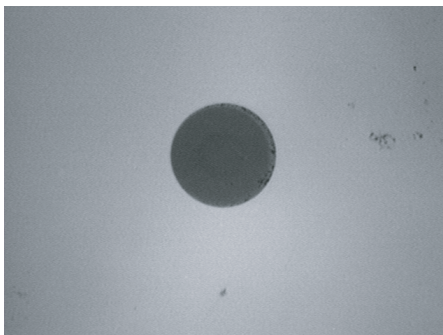
Dirt and other contaminants will cause excessive insertion loss and possible fiber-end damage when connected to another fiber.

02-0096A

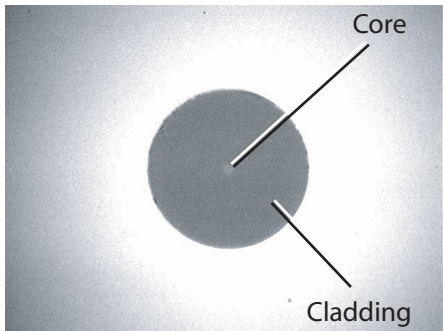


**Figure 221-3. SM and MM Fiber that Fail Inspection**

**Single-Mode Fiber-End Face**  
(low magnification)

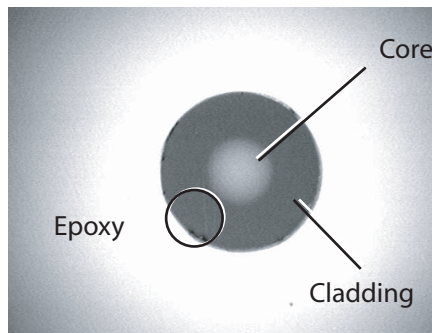


(high magnification)



Notice how clean the core and cladding are: no dust, pits, nor scratches.

**Multi-Mode Fiber-End Face**



The small amount of epoxy at the edge of the cladding is okay. The rest of the core and cladding surface is clean: no dust, pits, nor scratches.

02-0097A



## DLP-225

### Administer OC-n UPSR

#### PURPOSE

This procedure provides the instructions to retrieve information on, provision, and deprovision a Unidirectional Path Switched Ring (UPSR) in which two fiber facilities are used to transport traffic between nodes of a ring. The two UPSR facilities interface with an OC-n UPSR. Add/drop traffic at the 1677 SONET Link ring node is connected to other facilities through the 1677 SONET Link matrix.

#### PREREQUISITES

Two OC-3, OC-12, OC-48, or OC-192 facilities must be provisioned as a UPSR node using the ENT-FFP-OCn command before path protection groups can be established.

ENT-FFP-OCn will execute if a pair of OC-n facilities in adjacent slots (that is, 1 and 2, 3 and 4, 5 and 6, 12 and 13, 14 and 15, or 16 and 17) of the 1677 SONET Link node have been previously provisioned, and are not currently operating as a 1+1 APS protection group. The pair of OC-n facilities must be on the same port of each slot (for example, oc3-1-a-1,oc3-2-a-1).

The valid AID values for OC-n facilities B1 and B2 using the ENT-FFP-OCn are listed in table 225-A.

**Table 225-A. OC-n UPSR Nodes B1 and B2 Pairs**

OC-n	UPSR B1 AND B2 PAIRS	
	B1 AID	B2 AID
OC-3	OC3-{1,3,5,12,14,16}-{A,B}-{1-12}	OC3-{2,4,6,13,15,17}-{A,B}-{1-12}
OC-12	OC12-{1,3,5,12,14,16}-{A,B}-{1-4}	OC12-{2,4,6,13,15,17}-{A,B}-{1-4}
OC-48	OC48-{1,3,5,12,14,16}-{A,B}-1	OC48-{2,4,6,13,15,17}-{A,B}-1
OC-192	OC192-{5,12}-AB-1	OC192-{6,13}-AB-1

#### GENERAL

The 1677 SONET Link node supports up to 144 UPSR nodes (if only OC-3 facilities are used).

Features of the UPSR are as follows:

- One to 144 OC-n UPSR nodes within the same 1677 SONET Link node.
- OC-n UPSR nodes may co-exist with other BLSR protection groups, other 1+1 protection groups or other unprotected OC-n facilities in the same 1677 SONET Link node.
- Each OC-n UPSR node is provided with the following features:
  - STS-1, STS-3c, STS-12c, STS-48c, and STS-192c paths can be configured as path protection groups by using ENT-CRS-STSn command.
  - STS-1, STS-3c, STS-12c, STS-48c, and STS-192c paths can be cross-connected between two OC-ns of a UPSR as a pass-through connection.
  - The working and protection paths of each 2WAY path are monitored. Defects which initiate path switching are: AIS-P, LOP-P, UNEQ-P, EBER-P, SDBER-P, and PDILM-P.
  - Path switching occurs within 50 msec after a defect is detected. Total switching time will not exceed 60 msec.
  - Nonrevertive and revertive switching are supported.
  - External switch commands (OPR-PROTNSW-STSn) can be entered to manually control each path of the UPSR. Refer to DLP-218 for procedures to switch STS-n path from working to protection and protection to working.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

## COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-OCn:[TID]:AID:[CTAG]::;**

AID: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

**DLT-FFP-OCn:[TID]:AID1,AID2:[CTAG]::;**

AID1: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

AID2: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

**ENT-OCn:[TID]:AID:[CTAG]:::[CKTID=][,SDTHRESH=][,SFTHRESH=][,ADMINSTATE=][,TRC=][,FECDW=][,FECSCRAMBLE=][,NOALM=][,ALSENB=][,OPRNOM=][,TXPWR=]:[PST][,SST];**

AID: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

CKTID= {1-256 ASCII printable characters}

SDTHRESH= {5-9} (Default=5)

SFTHRESH= {3-5} (Default=3)

ADMINSTATE= {AUTO,DOWN,TEST,UP} (Default=AUTO)

TRC= {1-15 ASCII printable characters}

FECDW= {Y, N} (Default=Y)

FECSCRAMBLE= {Y, N} (Default=Y)

NOALM= {Y, N} (Default=N)

ALSENB= {Y, N} (Default=Y)

OPRNOM= {+/-n.nnnndBm, nn.nnnnmW, nnnnnuW,DFLT}(n can be any digit between 0-9, only applicable for OC-192 and OC-48, Default=DFLT, which is 0.158mW for OC-192 and 0.126mW for OC-48)

TXPWR= {+/-n.nnnndBm, nn.nnnnmW, nnnnnuW,DFLT}(n can be any digit between 0-9, only applicable for OC-192 Default=DFLT, which is 1mW)

PST: {IS, MA, OOS, OOS-AU, OOS-MA} (Default=IS)

SST: {AINS, MT} (Default=AINS)

**ENT-FFP-OCn:[TID]:AID1,AID2:[CTAG]:::[PTYPE=][,PSDIRN=][,APCTRC=][,RVRTV=][,RVRTTIM=][,SDTHRESH=][,SFTHRESH=][,RINGMAP=][,NODEDESCR=:,;**

AID1: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

AID2: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

PTYPE= {BLSR2, LINEAR, NOPROTECTION, TRANSPONDER, UNSPECIFIED, UPSR} (Default=LINEAR)

PSDIRN= {UNI, BI} (applies only when PTYPE=LINEAR) (Default=UNI)

APCTRC= {Y, N} (Default= N)

RVRTV= {Y, N} (when PTYPE=UPSR, Default=N; when PTYPE=BLSR, Default=Y; when PTYPE=LINEAR, Default=Y)

RVRTTIM= {0-60, and 99 if ptype=BLSR} {Default=5}

SDTHRESH= {5-9} (Default=N/A)

SFTHRESH= {3-5} (Default=N/A)

RINGMAP= {{1-16}&{-16}.....}{up to 16 listable integers, Default=N/A}

NODEDESCR= {ASCII printable character string}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To provision OC-n UPSR facilities, go to step 2. To deprovision OC-n UPSR facilities, go to step 12.</p>
<b>Provision OC-n UPSR Facilities</b>	
2	<p>To provision working facility B1 slots, type</p> <p><b>ENT-OCn::AID;</b></p> <p>where:</p> <p>OCn in the command name is the type of optical facility (<b>OC3</b>, <b>OC12</b>, <b>OC48</b>, or <b>OC192</b>).</p> <p>AID is the access identifier of the OC facility.</p> <p>None of the remaining entry fields in ENT-OCn apply to UPSR feature.</p>
3	<p>Repeat step 2 for OC-n facilities in protection B2 slots.</p>

**4** Select action.

If additional slots are to be provisioned, repeat steps 2 and 3 until all path entities have been provisioned.

If no additional slots are to be provisioned, go to step 5.

**5** To provision UPSR node application, type

**ENT-FFP-OCn::AID1,AID2:::PTYPE=<value>,RVRTV=<value>,RVRTTIM=<value>,  
SDTHRESH=<value>,SFTHRESH=<value>;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID1 and AID2 are the OC facility access identifiers for the B1 working and B2 protection pair (refer to Table 1 for valid B1 and B2 pairs).

Value of PTYPE is UPSR.

Value of RVRTV is Y or N depending if revertive switching is desired. Non-revertive mode is the default.

Value of RVRTTIM is 0-60 if Y is entered for RVRTV.

Value of SDTHRESH is the signal degrade threshold value.

Value of SFTHRESH is the signal failure threshold value.

None of the remaining parameters are applicable to UPSR feature.

**6** When an STS-n entity in the working slot is provisioned, the associated STS-n entity having the same port number is automatically provisioned in the protection slot with the same parameter values, provision all STS-n entities in OC-n working slot. Refer to NTP-100.

**7** Select action.

If an STS-n pair is to be configured as a THRU connection, go to step 8.  
If an STS-n pair is to be configured as a 2WAY protection group, go to step 10.

**Configure a Pair of Path Entities as a Pass-Through Connection**

- 8 A THRU connection is established using ENT-CRS-STSn command. The THRU connection occurs when there is an STS-n entity in the working slot and an STS-n in the protection slot, and both slots have the same port number in the AID field.

Establish the THRU connection. To administer cross-connections, refer to DLP-146 with parameter CCT=THRU.

- 9 Select action.

If other pass-through connections are to be established, repeat step 8 for each connection.

If no additional THRU connections are required, go to step 17.

**Configure 2WAY Cross Connections.**

- 10 Using ENT-CRS-STSn, cross-connect FROM and TO parameters. To administer cross-connections terminated add/drop connection to/from the ring, refer to DLP-146 with parameter CCT=2WAY.

- 11 Are additional STS-n 2WAY cross connections to be established?

If yes, repeat step 10 for each STS-n to be established.

If no, go to step 17.

**Deprovision OC-n UPSR Facilities**

- 12 Delete all pass-through connections using DLT-CRS-STSn command. Refer to DLP-146.

- 13 Delete all 2WAY connections using DLT-CRS-STSn command. refer to DLP-146.

- 14 When an STS-n entity in the working slot is removed, the associated STS-n entity having the same port number is automatically removed in the protection slot. Delete all STS-n entities using DLT-STSn command. Refer to NTP-106.

- 15 To deprovision UPSR node application, type

**DLT-FFP-OCn::AID1,AID2;;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID1 and AID2 are the OC facility access identifiers for the B1 working and B2 protection pair. Refer to Table 1 for valid B1 and B2 pairs.



**16**        Select action.

To continue this procedure, go to step 1.  
To quit this procedure, go to step 17.

**17**        **STOP. This procedure is complete.**



## DLP-228

### Administer VT1.5 Loopback

#### PURPOSE

This procedure provides the instructions to administer VT1.5 loopbacks.

#### GENERAL

Once a VT1.5 port is provisioned, the OPR-LPBK command can be used to initiate a Facility VT1.5 loopback test.

The LPBKTYPE parameter set to FACILITY initiates a facility loopback test.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**OPR-LPBK-T1:[TID]:AID:[CTAG]::[LOCN],,,LPBKTYPE;**

AID: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

LOCN: {ALL, FEND, NEND}

LPBKTYPE: {FACILITY}

**RLS-LPBK-T1:[TID]:AID:[CTAG]::[LOCN],,,[LPBKTYPE];**

AID: {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

LOCN: {ALL, FEND, NEND}

LPBKTYPE: {FACILITY}

**RTRV-T1:[TID]:AID:[CTAG];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}} (Default-ALL)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	CAUTION: Possibility of service interruption. Performing loopbacks interrupts traffic.
2	Review the VT1.5 interface loopback diagram (figure 228-1).

**Initiate Facility Test**

- 3 Place the VT1.5 into Facility loopback status by typing

**OPR-LPBK-VT1::AID::,,,FACILITY;**

where AID is the access identifier of the VT1.5 port to be looped back.

For example:

```
agent>OPR-LPBK-VT1::VT1-12-B-6-1-7-4:100::,,,FACILITY;
```

```
ALCATEL-1677SL 2003-02-14 20:42:20
```

```
M 100 COMPLD
```

```
/* OPR-LPBK-VT1 */
```

```
;
```

```
ALCATEL-1677SL 2003-02-14 20:42:20
```

```
A 10796 REPT DBCHG
```

```
"TIME=20-42-20,DATE=2003-02-14,SOURCE=100,USERID=AROGAN,
```

```
DBCHGSEQ=2587:OPR-LPBK-VT1:VT1-12-B-6-1-7-4:,,,FACILITY"
```

```
;
```

## Verify Loopback Status

- 4 Verify the VT1.5 is in loopback status by typing

**RTRV-VT1::AID;**

where AID is the access identifier specified in step 3.

For example:

agent>**RTRV-VT1::VT1-12-B-6-1-7-4;**

```
ALCATEL-1677SL 2003-02-14 20:42:53
M 0 COMPLD
"VT1-12-B-6-1-7-4::VTMAP=ALL, SDBER=: IS, BUSY&LPBK"
/* RTRV-VT1 */
;
```

## Remove Facility or Terminal Loopback

- 5 Remove the VT1.5 loopback by typing

**RLS-LPBK-VT1::AID;**

where AID is the access identifier specified in step 3.

For example:

agent>**RLS-LPBK-VT1::VT1-12-B-6-1-7-4;**

```
ALCATEL-1677SL 2003-02-14 20:43:01
M 0 COMPLD
/* RLS-LPBK-VT1 */
;

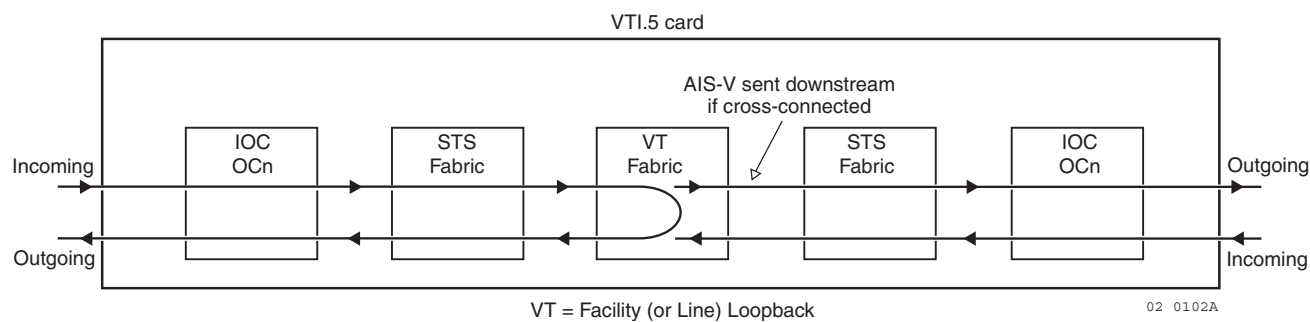
ALCATEL-1677SL 2003-02-14 20:43:01
A 10798 REPT DBCHG
"TIME=20-43-01, DATE=2003-02-14, SOURCE=0, USERID=AROGAN,
DBCHGSEQ=2588:RLS-LPBK-VT1:vt1-12-B-6-1-7-4:"
;
```

- 6 Select action.

To continue this procedure, go to step 1.  
To quit this procedure, go to step 7.

- 7 **STOP. This procedure is complete.**

Figure 228-1. VT1.5 Loopback Diagram



## DLP-229

### Set Alarm Attributes

#### PURPOSE

This procedure provides the instructions to set alarm condition attributes for ports.

#### GENERAL

This procedure provides instructions to set alarm condition attributes for OC-n, STS-n, DS3, and VT1.5.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**SET-ATTR-OCn:[TID]:AID:[CTAG]::NTFCNCDE,[CONDTYPE],,,;**

AID: {ALL, {OC3-{1-6, 12-17}-{A,B}-{1-12}},  
{OC12-{1-6, 12-17}-{A,B}-{1-4}},  
{OC48-{1-6,12-17}-{A,B}-1},  
{OC192-{5,6,12,13}-AB-1}}

NTFCNCDE: {CR, MJ, MN, NA, NR}

CONDTYPE: {AIS-L, LCD, LOF, LOP, LOS, RDI-L, SD, SF}  
(Default=All applicable condition types listed)

**SET-ATTR-OFA:[TID]:AID:[CTAG]::[NTFCNCDE],[CONDTYPE],,,;**

AID: {ALL, {OFA-{1-6,12-17}-{A,B}-1}}

NTFCNCDE: {CR, DFLT, MJ, MN, NA, NR}

CONDTYPE: {AIS-P, LOP-P, PLM-P, RFI-P, TIM-P, UNEQ-P} (Default=All applicable condition types listed)

**SET-ATTR-STS<sub>n</sub>: [TID]:AID:[CTAG]::NTFCNCDE,[CONDTYPE],,,,[SRVEFF];**

AID: {ALL, {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}}

NTFCNCDE: {CR, DFLT, MJ, MN, NA, NR}

CONDTYPE: {AIS-P, LOP-P, PLM-P, RFI-P, TIM-P, UNEQ-P} (Default=All applicable condition types listed)

**SET-ATTR-T3:[TID]:AID:[CTAG]::NTFCNCDE,[CONDTYPE],,,,[SRVEFF];**

AID: {ALL, {T3-{2-5, 13-16}-{A,B}-{1-12}}}

NTFCNCDE: {CR, MJ, MN, NA, NR}

CONDTYPE: {AIS-L, AIS-P, LOF-L, LOS-L, PDI-P, RAI, RDI-P, SLMF, TIM-P} (Default=All applicable condition types listed)

**SET-ATTR-VT1:[TID]:AID:[CTAG]::NTFCNCDE,[CONDTYPE],,,,[SRVEFF];**

AID: {ALL, {VT1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

NTFCNCDE: {CR, MJ, MN, NA, NR}

CONDTYPE: {AIS-V, LOP-V, PLM-V, RFI-V, UNEQ-V, SDBER-V} (Default=All applicable condition types listed)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To set OC-n alarm attributes, go to step 2.            To set STS-n alarm attributes, go to step 4.            To set DS1 alarm attributes, go to step 6.            To set DS3 alarm attributes, go to step 8.            To set VT1.5 alarm attributes, go to step 10.</p>



To set EDFA alarm attributes, go to step 12.  
To leave as provisioned, go to step 14.

### Set OC-n Alarm Attributes

- 2** This step sets the notification code generated by system for standing conditions pertaining to specified OC-n port.

At prompt, type

**SET-ATTR-OCn::AID::NTFCNCDE,CONDTYPE;**

where:

OCn in the command name is the type of optical facility (**OC3**, **OC12**, **OC48**, or **OC192**).

AID is the access identifier of the port to set alarm attribute.

NTFCNCDE is the notification code to be generated by system upon occurrence of event specified by CONDTYPE.

CONDTYPE is the appropriate condition type to be retrieved.

- 3** Go to step 1.

### Set STS-n Alarm Attributes

- 4** This step sets notification code generated by system for standing conditions pertaining to specified STS-n port.

At prompt, type

**SET-ATTR-STSn::AID::NTFCNCDE,CONDTYPE;**

where:

STSn in the command name is the type of STS facility (**STS1**, **STS3C**, **STS12C**, **STS48C**, or **STS192C**).

AID is the access identifier of the port to set alarm attribute.

NTFCNCDE is the notification code to be generated by system upon occurrence of event specified by CONDTYPE.

CONDTYPE is the appropriate condition type to be retrieved.

- 5** Go to step 1.

**Set DS1 Alarm Attributes**

- 6** This step sets notification code generated by system for standing conditions pertaining to specified DS1 facility.

At prompt, type

**SET-ATTR-T1::AID::NTFCNCDE,CONDTYPE;**

where:

AID is the access identifier of facility to set alarm attribute.

NTFCNCDE is the notification code to be generated by system upon occurrence of event specified by CONDTYPE.

CONDTYPE is the appropriate condition type to be retrieved.

- 7** Go to step 1.

**Set DS3 Alarm Attributes**

- 8** This step sets notification code generated by system for standing conditions pertaining to specified DS3 port.

At prompt, type

**SET-ATTR-T3::AID::NTFCNCDE,CONDTYPE;**

where:

AID is the access identifier of port to set alarm attribute.

NTFCNCDE is the notification code to be generated by system upon occurrence of event specified by CONDTYPE.

CONDTYPE is the appropriate condition type to be retrieved.

- 9** Go to step 1.

### Set VT1.5 Alarm Attributes

- 10** This step sets notification code generated by system for standing conditions pertaining to specified VT1.5 port.

At prompt, type

**SET-ATTR-VT1::AID:::NTFCNCDE,CONDTYPE;**

where:

AID is the access identifier of port to set alarm attribute.

NTFCNCDE is the notification code to be generated by system upon occurrence of event specified by CONDTYPE.

CONDTYPE is the appropriate condition type to be retrieved.

- 11** Go to step 1.

### Set EDFA Alarm Attributes

- 12** This step sets notification code generated by system for standing conditions pertaining to specified optical fiber amplifier port.

At prompt, type

**SET-ATTR-OFA::AID:::NTFCNCDE,CONDTYPE;**

where:

AID is the access identifier of optical fiber amplifier port to set alarm attribute.

NTFCNCDE is the notification code to be generated by system upon occurrence of event specified by CONDTYPE.

CONDTYPE is the appropriate condition type to be retrieved.

- 13** Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 14.

- 14** **STOP. This procedure is complete.**



## DLP-238

### Provision Gigabit Ethernet Port

#### PURPOSE

This procedure provides the instructions to provision a port to receive and transmit Gigabit Ethernet lines.

#### PREREQUISITES

A Gigabit Ethernet card must be provisioned before Gigabit Ethernet ports can be provisioned. Refer to DLP-121 to provision equipment.

#### GENERAL

Once a Gigabit Ethernet port is provisioned, ED-GIGE can be used to alter parameters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-GIGE:[TID]:AID:[CTAG]::[CKTID=][,MAP=][,ECHECK=][,JUMBO=][,NEGOTN=][,IPG=]:[PST][,SST];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}}

CKTID= {1-256 ASCII printable characters}

MAP= {Integer value(s) for EVC} Grouping and ranging supported.

ECHECK= {Y, N} (Default=N)

JUMBO= {Y, N} (Default=Y)

NEGOTN= {AUTO, DISABLED, NO-PAUSE, ASYMMETRIC-PAUSE, SYMMETRIC-PAUSE, BOTH-PAUSE} (Default=AUTO)

IPG= {Integer in the range 64-456} (Default=96)

PST: {IS, MA, OOS, OOS-AU, OOS-MA} (Default=IS)

SST: {AINS, MT} (Default=AINS)

**RTRV-GIGE:[TID]:AID:[CTAG];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>RTRV-GIGE::AID;</b></p> <p>where AID is the access identifier of the Gigabit Ethernet port.</p>
2	<p>Examine provisioning information for port. Ensure that port is in valid state for provisioning (OOS-MA,UAS).</p>
3	<p>At prompt, type</p> <p><b>ENT-GIGE::AID::::CKTID=&lt;value&gt;,MAP=&lt;value&gt;,ECHECK=&lt;value&gt;,JUMBO=&lt;value&gt;,NEGOTN=&lt;value&gt;,IPG=&lt;value&gt;:PST,SST;</b></p> <p>where:</p> <p>AID is the access identifier of the Gigabit Ethernet facility.</p> <p>Value of CKTID is the circuit identifier.</p> <p>Value of MAP is a ranged list of integers representing the EVC facilities to be virtually concatenated in the specified order.</p> <p>Value of ECHECK indicates if Ethernet frames will be checked for errors.</p>

Value of JUMBO indicates if jumbo frames (9600 bytes) are permitted on the Ethernet port.

Value of NEGOTN is the type of negotiation to be used at either end of the SONET link.

Value of IPG is the interpacket gap in nanoseconds.

PST and SST are the primary and secondary states, respectively.

In remaining fields, enter parameter values, or leave fields blank for system defaults.

**4 STOP. This procedure is complete.**





## DLP-239

# Deprovision Gigabit Ethernet Port

This procedure provides the instructions to deprovision a Gigabit Ethernet port.

### PREREQUISITES

If the Gigabit Ethernet port contains embedded EVCs, they must be deprovisioned first. To deprovision embedded EVC facilities, refer to DLP-264.

### GENERAL

Deprovisioning a Gigabit Ethernet port clears all condition types, current Performance Monitoring (PM) data, and registers associated with the port.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-GIGE:[TID]:AID:[CTAG];**

AID: {GIGE-{1-6,12-17}-{A,B}}

**RTRV-GIGE:[TID]:AID:[CTAG];**

AID: {ALL, {GIGE-{1-6,12-17}-{A,B}}}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	At prompt, type  <b>RTRV-GIGE::AID;</b>  where AID is the access identifier of the Gigabit Ethernet port.
2	Examine output parameters. Ensure that port is in valid state for deprovisioning.
3	At prompt, type  <b>DLT-GIGE::AID;</b>  where AID is the access identifier specified in step 1. Ranging and grouping are supported.
4	<b>STOP. This procedure is complete.</b>

## DLP-240

### Administer OC-n BLSR

#### PURPOSE

This procedure provides the instructions to retrieve information on, provision, and deprovision a Bidirectional Line Switched Ring (BLSR) in which two fiber facilities are used to transport traffic between nodes of a ring. The two BLSR facilities interface with an OC-n BLSR. Add/drop traffic at the 1677 SONET Link ring node is connected to other facilities through the 1677 SONET Link matrix.

#### PREREQUISITES

Two OC-48 or OC-192 facilities must be provisioned as a BLSR node using the ENT-FFP-OCn command, before protection groups can be established.

ENT-FFP-OCn will execute if a pair of OC-n facilities in adjacent slots of the 1677 SONET Link node have been previously provisioned, and are not currently operating as a 1+1 APS protection group. The paired OC-n facilities must be on the same port of each slot; for example, OC48-1-A-1 and OC48-2-A-1.

The valid AID values for OC-n facilities B1 and B2 using the ENT-FFP-OCn are listed in table 240-A.

**Table 240-A. OC-n BLSR Nodes B1 and B2 Pairs**

OC-n	BLSR B1 AND B2 PAIRS	
	B1 AID	B2 AID
OC-48	OC48-{1,3,5,12,14,16}-{A,B}-1	OC48-{2,4,6,13,15,17}-{A,B}-1
OC-192	OC192-{5,12}-AB-1	OC192-{6,13}-AB-1

#### GENERAL

The 1677 SONET Link node supports as many as 12 BLSR nodes (if only OC-48 facilities are used).

Features of the BLSR are as follows:

- One to 12 OC-n BLSR nodes within the same 1677 SONET Link node.
- OC-n BLSR nodes may co-exist with other UPSR protection groups, other 1+1 protection groups or other unprotected OC-n facilities in the same 1677 SONET Link node.
- Each OC-n BLSR node is provided with the following features:
  - STS-1, STS-3c, STS-12c, and STS-48c paths can be configured as protection groups by using ENT-CRS-STSn command.
  - STS-1, STS-3c, and STS-12c, and STS-48c paths can be cross-connected between two OC-ns of a BLSR as a pass-through connection, 2WAY connection, 2WAYDC connection, or DRI connection.
  - BLSR Switch initiation criteria includes external initiated switching commands, and automatic initiated switching request.
  - Automatic switching is initiated by the 1677 SONET Link node detecting either APS channel signaled commands including LP-S, FS-R, MS-R, EXER-R, and automatic initiated requests including SF-R, SD-R, RR-R, and WTR.
  - External switch commands (OPR-PROTNSW-OCn) can be entered to manually initiate protection switching of BLSR. Refer to DLP-165 for procedures to switch OC-n line from working to protection and vice versa.
  - Line switching occurs within 50 msec after a defect is detected. Total switching time will not exceed 60 msec.
  - Nonrevertive and revertive switching are supported.
  - BLSR Ring Interconnection using Working protection capacity. Provisioning and deprovisioning of this feature is discussed in DLP-241.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

## COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-OCn:[TID]:AID:[CTAG]::;**

AID: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

**DLT-FFP-OCn:[TID]:AID1,AID2:[CTAG]::;**

AID1: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

AID2: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

**ENT-OCn:[TID]:AID:[CTAG]:::[CKTID=][,SDTHRESH=][,SFTHRESH=][,ADMINSTATE=][,TRC=][,FECDW=][,FECSRAMBLE=][,NOALM=][,ALSENB=][,OPRNOM=]:[PST][,SST];**

AID: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

CKTID= {1-256 ASCII printable characters}

SDTHRESH= {5-9} (Default=5)

SFTHRESH= {3-5} (Default=3)

ADMINSTATE= {AUTO,DOWN,TEST,UP} (Default=AUTO)

TRC= {1-15 ASCII printable characters}

FECDW= {Y, N} (Default=Y)

FECSRAMBLE= {Y, N} (Default=Y)

NOALM= {Y, N} (Default=N)

ALSENB= {Y, N} (Default=Y)

OPRNOM= {+/-9.9999dBm, 99.9999mW, 99999uW,DFLT}(9 can be any digit between 0-9, only applicable for OC192 and OC48, Default=DFLT, which is 0.158mW for OC192 and 0.126mW for OC48)

TXPWR= {+/-9.9999dBm, 99.9999mW, 99999uW,DFLT}(9 can be any digit between 0-9, only applicable for OC192 Default=DFLT, which is 1mW)

PST: {IS, MA, OOS, OOS-AU, OOS-MA} (Default=IS)

SST: {AINS, MT} (Default=AINS)

**ENT-FFP-OCn:[TID]:AID1,AID2:[CTAG]:::[PTYPE=][,PSDIRN=][,APCTRC=][,RVRTV=]  
[,RVRTTIM=][,SDTHRESH=][,SFTHRESH=][,RINGMAP=][,NODEDESCR=]:,;**

AID1: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

AID2: {OCn-{1-6, 12-17}-{A, B}-{1-12}}

PTYPE= {BLSR2, LINEAR, NOPROTECTION, TRANSPONDER, UNSPECIFIED}  
(Default=LINEAR)

PSDIRN= {UNI, BI} (applies only when PTYPE=LINEAR) (Default=UNI)

APCTRC= {Y, N} (Default= N)

RVRTV= {Y, N} (when PTYPE=BLSR,Default=N; when PTYPE=BLSR, Default=Y; when  
PTYPE=LINEAR, Default=Y )

RVRTTIM={0-60, and 99 if ptype=BLSR}: {Default=5}

SDTHRESH={5-9} (Default=N/A)

SFTHRESH={3-5} (Default=N/A)

RINGMAP={{1-16}&{-16}.....}{up to 16 listable integers, Default=N/A}

NODEDESCR={ASCII printable character string}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To provision OC-n BLSR facilities, go to step 2. To deprovision OC-n BLSR facilities, go to step 12.</p>

## Provision OC-n BLSR Facilities

- 2 To provision working facility B1 slots, type

**ENT-OCn::AID;**

where:

OCn in the command name is the type of optical facility (**OC48** or **OC192**).

AID is the access identifier of the optical facility.

None of the remaining parameters are applicable to BLSR feature.

- 3 Repeat step 2 for OC-n facilities in protection B2 slots.

- 4 Select action.

If additional slots are to be provisioned, repeat steps 2 and 3 until all path entities have been provisioned.

If no additional slots are to be provisioned, go to step 5.

- 5 To provision BLSR node application, type

**ENT-FFP-OCn::AID1,AID2:::PTYPE=BLSR,RVRTV=<value>,RVRTTIM=<value>,  
SDTHRESH=<value>,SFTHRESH=<value>,RINGMAP=<value>,NODEDESCR=<value>;;**

where:

OCn in the command name is the type of optical facility (**OC48** or **OC192**).

AID1 and AID2 are the access identifiers for the B1 working and B2 protection pair (refer to table 240-A for valid B1 and B2 pairs).

The value of RVRTV is Y or N depending if revertive switching is desired.

The value of RVRTTIM is 0-60 if RVRTV=Y, or 99 if RVRTV=N.

The value of SDTHRESH is the signal degrade threshold value.

The value of SFTHRESH is the signal failure threshold value.

The value of RINGMAP is the list of NODE IDS of nodes around the ring in a easterly fashion, for example 2&3&6&9.

The value of NODEDESCR is a character string that describes the BLSR ring.

- 6 When an STS-n entity in the working slot is provisioned, the associated STS-n entity having the same port number is automatically provisioned in the protection slot with the same parameter value. Provision all STS-n entities in OC-n working slot. Refer to NTP-100.
- 7 Select action.
  - If an STS-n pair is to be configured as a THRU connection, go to step 8.
  - If an STS-n pair is to be configured as a 2WAY protection group, go to step 10.
  - If an STS-n pair is to be configured as a DRI protection group, refer to DLP-241.

### Configure a Pair of Path Entities as a Pass-Through Connection

- 8 A THRU connection is established using ENT-CRS-STSn command. The THRU connection occurs when there is an STS-n entity in the working slot and an STS-n in the protection slot, and both slots have the same port number in the AID field.

Establish the THRU connection. To administer cross-connections, refer to DLP-146 with parameter CCT=THRU.
- 9 Select action.
  - If other pass-through connections are to be established, repeat step 8 for each connection.
  - If no additional THRU connections are required, go to step 17.

### Configure 2WAY Cross Connections

- 10 Using ENT-CRS-STSn, cross-connect FROM and TO parameters. To administer cross-connections terminated add/drop connection within the ring, refer to DLP-146 with parameter CCT=2WAY.
- 11 Are additional STS-n cross connections to be established?
  - If yes, repeat step 10 for each STS-n to be established.
  - If no, go to step 17.

### Deprovision OC-n BLSR Facilities

- 12 Delete all pass-through connections using DLT-CRS-STSn command. Refer to DLP-146.
- 13 Delete all 2WAY connections using DLT-CRS-STSn command. Refer to DLP-146.
- 14 Delete all DRI connections pertinent to this OC-n BLSR. Refer to DLP-241.



- 15 When an STS-n entity in the working slot is removed, the associated STS-n entity having the same port number is automatically removed in the protection slot. Delete all STS-n entities using DLT-STSn command. Refer to NTP-141.
- 16 To dep provision BLSR node application, type  
**DLT-FFP-OCn::AID1,AID2;;**  
  
where:  
  
OCn in the command name is the type of optical facility (**OC48** or **OC192**).  
  
AID1 and AID2 are the access identifiers for the B1 working and B2 protection pair (refer to table 240-A for valid B1 and B2 pairs).
- 17 Select action.  
  
To continue this procedure, go to step 1.  
To quit this procedure, go to step 18.
- 18 **STOP. This procedure is complete.**



## **DLP-241**

### **Administer Dual Ring Interconnect (DRI)**

#### **PURPOSE**

This procedure provides the instructions to retrieve information on, provision, and deprovision Dual Ring Interconnect (DRI) cross-connections in which one, two (nodes are connected to both rings), or four (two nodes on each ring) 1677 SONET Link nodes are used to transport traffic between two rings. The interconnected rings may be BLSR ring to BLSR ring, BLSR ring to UPSR ring, or UPSR ring to UPSR ring.

#### **PREREQUISITES**

For each ring, two facilities must be provisioned as a ring node using the ENT-FFP-OCn command, before Dual Ring Interconnect protection groups can be established. Depending on the ring type to which the 1677 SONET Link node is connected, the ring node may be provisioned as a BLSR node or a UPSR node. In the case of using one or two 1677 SONET Link nodes to transport traffic between two rings, two ring nodes must be provisioned on the 1677 SONET Link node, one for each ring, Refer to DLP-225 to provision the node as UPSR node, and refer to DLP-240 to provision the node as BLSR node.

#### **GENERAL**

The 1677 SONET Link node supports one-node DRI, two-node DRI, and four-node DRI.

Features of the DRI include:

- DRI may be a simple or composite cross-connect, depending on DRI type.
- One- and two-node DRI contain composite cross-connect for each DRI, and four-node DRI contains one simple cross-connect for each DRI.
- Each cross-connect may be BLSR or UPSR in the case of simple cross-connect, or it may be BLSR/UPSR, BLSR/BLSR, or UPSR/UPSR in the case of composite cross-connect.
- DRI may co-exist with other BLSR protection groups, other UPSR protection groups, other 1+1 protection groups, or other unprotected OC-n facilities in the same 1677 SONET Link node.

Each DRI is provided with the following features:

- STS-1, STS-3c, STS-12c, and STS-48c paths can be configured as DRI protection groups by using ENT-CRS-STSn command.
- The combination of Drop and Continue and service selector functionality is supported for two- and four-node DRIs.
- The following features are specific to DRIs on the BLSR ring node side:
  - Support drop and continue using working capacity.
  - 1677 SONET Link node may be provisioned as the primary or secondary node for a two- or four-node DRIs on the BLSR ring node side.
  - Service selectors will select the interconnecting line as its default path unless it is provisioned otherwise.
  - A hold off timer of 100 ms at the service selector is initiated at the detection of any failure. No switch will occur when the timer expires and the failure which triggers the timer is no longer present.
- For each path, intermediate nodes are permitted between ring interconnecting nodes.
- The working and protection paths of each DRI path are monitored. Defects which initiate path switching are: AIS-P, LOP-P, UNEQ-P, EBER-P, SDBER-P, and PDI-P
- External switch commands (OPR-PROTNSW-STSn) can be entered to manually control each path of the DRI. Refer to DLP-218 for procedures to switch STS-n path from working to protection and vice versa.
- Nonrevertive and revertive switching of the service selector are supported.

The valid AID values for STS facilities using ENT-CRS-STSn are listed in table 241-A.

**Table 241-A. STS Tributaries**

<b>OC-n</b>	<b>STS-1</b>	<b>STS-3c</b>	<b>STS-12c</b>	<b>STS-48c</b>	<b>STS-192c</b>
OC-3	STS1- {1-6,12-17}- {A,B}-{1-12}-{1-3}	STS3C- {1-6,12-17}- {A,B}-{1-12}-1			
OC-12	STS1- {1-6,12-17}- {A,B}-{1-4}-{1-12}	STS3C- {1-6,12-17}- {A,B}-{1-4}- {1,4,7,10}	STS12C- {1-6,12-17}- {A,B}-{1-4}-1		
OC-48	STS1- {1-6,12-17}- {A,B}-{1-4}-{1-48}	STS3C- {1-6,12-17}- {A,B}-1- {1,4,7,10,13,16, 19,22,25,28,31, 34,37,40,43,46}	STS12C- {1-6,12-17}- {A,B}-1- {1,13,25,37}	STS48C-{1-6,12- 17}-{A,B}-1-1	
OC-192	STS1- {5,6,12,13}-AB-1- {1-192}	STS3C- {5,6,12,13}-AB-1- {1,4,7,10,13,16, 19,22,25,28,31, 34,37,40,43,46, 49,52,55,58,61, 64,67,70,73,76, 79,82,85,88,91, 94,97,100,103, 106,109,112,115, 118,121,124,127, 130,133,136,139, 142,145,148,151, 154,157,160,163, 166,169,172,175, 178,181,184,187, 190}	STS12C- {5,6,12,13}-AB-1- 12C{1,13,25,37, 49,61,73,85,97, 109,121,133,145, 157,169,181}	STS48C- {5,6,12,13}-AB-1- {1,49,97,145}	STS192C- {5,6,12,13}-AB- 1-1}

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

**COMMAND SYNTAX**

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-CRS-STSn:[TID]:AID1,AID2:[CTAG]::[CCT][,CCT1][,CCT2]:[CKTID=][,CKTADDR=][,CKTNBR=][,SDTHRESH=][,SFTHRESH=][,SWREPT=][,SWALM=][,SWUNEQP=][,SWPDIP=][,PREFERRED=][,RVRTV=][,RVRTTIM=][,ANODE1=][,ZNODE1=][,PNODE1=][,SDTHRESH2=][,SFTHRESH2=][,SWREPT2=][,SWALM2=][,SWUNEQP2=][,SWPDIP2=][,PREFERRED2=][,RVRTV2=][,RVRTTIM2=][,ANODE2=][,ZNODE2=][,PNODE2=][,TTYTYPE=];;**

AID1: Refer to table 241-A for all allowable STS tributaries.

AID2: Refer to table 241-A for all allowable STS tributaries.

CCT: {THRU, 2WAY, 2WAYDC, 2WAYDCP, SRIW, SRIP, DRI}

CCT1: {2WAYDC, 2WAYDCP, SRIW, SRIP}

CCT2: {2WAYDC, 2WAYDCP, SRIW, SRIP}

CKTID= {0-255 ASCII printable characters}

CKTADDR= {{0-9,A-F}{0-9,A-F}{0-9,A-F}{0-9,A-F}{0-9,A-F}{0-9,A-F}{0-9,A-F}{0-9,A-F}{0-9,A-F}{0-9,A-F}} (Default=00-00-00-00-00-00)

CKTNBR= {0-4294967295} (Default=0)

SDTHRESH= SDTHRESH2= {5-9} (Default=6)

SFTHRESH= SFTHRESH2= {3-5} (Default=3)

SWREPT= SWREPT2= {Y, N} (Default=N)

SWALM= SWALM2= {Y, N} (Default=N)

SWUNEQP= SWUNEQP2= {Y, N} (Default=N)

SWPDIP= SWPDIP2= {Y, N} (Default=Y, if BLSR service selector. Default=N, if non-BLSR service selector)

PREFERRED= PREFERRED2= {the preferred path for service selector, in STS\_AID format}

RVRTV= RVRTV3= {Y, N} (Default=Y, if BLSR service selector. Default=N, if non-BLSR service selector)

RVRTTIM= RVRTTIM2= {0-60 minutes, when 0 is specified, it is implemented as 10 seconds} (Default=5 minutes)

ANODE1= ANODE2= (an integer between 1-16)

ZNODE1= ZNODE2= (an integer between 1-16)

PNODE1= PNODE2= (an integer between 1-16)

TTYPE= {EXTRA,REGULAR} (Default=REGULAR)

**DLT-CRS-STSn:[TID]:AID1,AID2:[CTAG]:;;;**

AID1: Refer to table 241-A for all allowable STS tributaries.

AID2: Refer to table 241-A for all allowable STS tributaries.

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To provision DRI one-node UPSR/UPSR facilities, go to step 3. To provision DRI one-node UPSR/BLSR facilities, go to step 6. To provision DRI one-node BLSR/BLSR facilities, go to step 10. To provision DRI two-node UPSR/UPSR facilities, go to step 14. To provision DRI two-node UPSR/BLSR facilities, go to step 17. To provision DRI two-node BLSR/BLSR facilities, go to step 20. To provision DRI four-node facilities, go to step 22. To deprovision DRI facilities, go to step 24.

**Provision DRI One-Node Facilities – UPSR to UPSR**

2 Review the UPSR to UPSR one-node DRI diagram shown in figure 241-1.

3 To provision UPSR to UPSR one-node DRI, type

```
ENT-CRS-STSn::AID1,AID2::CCT,CCT1,CCT2:CKTID=<value>,
CKTADDR=<value>,CKTNBR=<value>,SDTHRESH=<value>,SFTHRESH=<value>,
SWREPT=<value>,SWALM=<value>,SWUNEQP=<value>,SWPDIP=<value>,
PREFERRED=<value>,RVRTV=<value>,RVRTTIM=<value>,ANODE1=<value>,
ZNODE1=<value>,PNODE1=<value>,SDTHRESH2=<value>,SFTHRESH2=<value>,
SWREPT2=<value>,SWALM2=<value>,SWUNEQP2=<value>,SWPDIP2=<value>,
PREFERRED2=<value>,RVRTV2=<value>,RVRTTIM2=<value>,ANODE2=<value>,
ZNODE2=<value>,PNODE2=<value>,TTYPE=<value>:,:;
```

where:

AID1 is the STS tributary access identifier as listed in table 241-A. It can be either port of the UPSR ring pair for one ring.

AID2 is the STS tributary access identifier as listed in table 241-A. It can be either port of the UPSR ring pair for the other ring.

CCT is **2WAY**.

*Configure NMS circuit identification*

The value of CKTID is a character string that uniquely identifies the circuit to which this cross-connect belong.

The value of CKTADDR is a circuit address to identify a circuit, six pairs of hexadecimal digits (0-9, A-F), separated by hyphens.

The value of CKTNBR is the circuit number.

*Configure service selection features for one ring*

The value of SDTHRESH is the signal degrade threshold value.

The value of SFTHRESH is the signal failure threshold value.

The value of SWREPT is Y or N, depending if node should report a path switch

The value of SWALM is Y or N. This field is ignored when SWREPT=N. If SWREPT=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.



The value of SWUNEQP is Y or N, depending if node should perform a path switch for the DRI upon detecting an UNEQ-P signal.

The value of SWPDIP is Y or N, depending if node should perform a path switch for the DRI upon detecting an PDI-P signal.

The value of PREFERRED is the STS tributary that is specified in AID1 field, or the other ring port for this ring, as the preferred path that the selector will select. If omitted, the default will be the ring port specified in the AID1 field.

The value of RVRTV is Y or N, depending if revertive switching is desired.

The value of RVRTTIM should be WTR (Wait-to-Restore) time if RVRTV=Y.

*Configure service selector features for the other ring*

The value of SDTHRESH2 is the signal degrade threshold value.

The value of SFTHRESH2 is the signal failure threshold value.

The value of SWREPT2 is Y or N, depending if node should report a path switch as an event pertinent to this DRI.

The value of SWALM2 is Y or N. This field is ignored when SWREPT2=N. If SWREPT2=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP2 is Y or N, depending if node should perform a path switch for the DRI upon detecting an UNEQ-P signal.

The value of SWPDIP2 is Y or N, depending if node should perform a path switch for the DRI upon detecting an PDI-P signal.

The value of PREFERRED2 is the STS tributary that is specified in AID2 field, or the other ring port for this ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in the AID2 field.

The value of RVRTV2 is Y or N, depending if revertive switching is desired.

The value of RVRTTIM2 is WTR (Wait-to-Restore) time if RVRTV2=Y.

None of the remaining entry fields are applicable to UPSR to UPSR one-node DRI.

**4** Select action.

If additional UPSR to UPSR one-node DRIs are to be provisioned, repeat step 3 until all UPSR to UPSR one-node DRI entities have been provisioned.

If no additional DRIs are to be provisioned, go to step 29.  
 To provision DRI one-node UPSR/BLSR facilities, go to step 6.  
 To provision DRI one-node BLSR/BLSR facilities, go to step 10.  
 To provision DRI two-node UPSR/UPSR facilities, go to step 14.  
 To provision DRI two-node UPSR/BLSR facilities, go to step 17.  
 To provision DRI two-node BLSR/BLSR facilities, go to step 20.  
 To provision DRI four-node facilities, go to step 22.

**Provision DRI One-Node Facilities – UPSR to BLSR Single Homed Arc****5** Review the UPSR to BLSR one-node DRI diagram shown in figure 241-2.**6** To provision UPSR to BLSR one node DRI (single-homed arc), type

```
ENT-CRS-STSn::AID1,AID2::CCT,CCT1,CCT2:CKTID=<value>,
CKTADDR=<value>,CKTNBR=<value>,SDTHRESH=<value>,SFTHRESH=<value>,
SWREPT=<value>,SWALM=<value>,SWUNEQP=<value>,SWPDIP=<value>,
PREFERRED=<value>,RVRTV=<value>,RVRTTIM=<value>,ANODE1=<value>,
ZNODE1=<value>,PNODE1=<value>,SDTHRESH2=<value>,SFTHRESH2=<value>,
SWREPT2=<value>,SWALM2=<value>,SWUNEQP2=<value>,SWPDIP2=<value>,
PREFERRED2=<value>,RVRTV2=<value>,RVRTTIM2=<value>,ANODE2=<value>,
ZNODE2=<value>,PNODE2=<value>,TTY=<value>:.,;
```

where:

AID1 is the STS tributary access identifier as listed in table 241-A. It can be either port of the UPSR ring pair for the UPSR ring.

AID2 is the STS tributary access identifier as listed in table 241-A. It should be the BLSR ring port that is accessed.

CCT is **2WAY**.

*Configure NMS circuit identification*

The value of CKTID is a character string that uniquely identifies the circuit to which this cross-connect belong.

The value of CKTADDR is circuit address to identify a circuit, six pairs of hexadecimal digits (0-9, A-F), separated by hyphens.

The value of CKTNBR is a circuit number

*Configure service selection features for UPSR ring*

The value of SDTHRESH is the signal degrade threshold value.

The value of SFTHRESH is the signal failure threshold value.

The value of SWREPT is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM is Y or N. This field is ignored when SWREPT=N. If SWREPT=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP is Y or N, depending if node should perform a path switch for the DRI upon detecting an UNEQ-P signal.

The value of SWPDIP is Y or N, depending if node should perform a path switch for the DRI upon detecting an PDI-P signal.

The value of PREFERRED filed, enter the STS tributary that is specified in the AID1 field, or the other ring port for the UPSR ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in the AID1 field.

The value of RVRTV is Y or N, depending if revertive switching is desired.

The value of RVRTTIM is WTR (Wait-to-Restore) time if RVRTV=Y.

*Configure squelch table entries for BLSR ring*

The value of ANODE2 is the NODE ID of the node where traffic enters the BLSR ring for the circuit to which this DRI pertains.

The value of ZNODE2 is the NODE ID of the node where traffic exits the BLSR ring for the circuit to which this DRI pertains.

The value of PNODE2 should be empty.

The value of TTYPE is the type of traffic depending on type of timeslot used for transporting the traffic. If protection timeslots are used, enter EXTRA; if otherwise, enter REGULAR.

None of the remaining entry fields are applicable to UPSR to BLSR one-node DRI.

- 7** If additional UPSR to BLSR one-node DRIs are to be provisioned, repeat step 6 until all UPSR to BLSR one-node DRI entities have been provisioned.

**8** Select action.

If no additional DRIs are to be provisioned, go to step 29.  
 To provision DRI one-node BLSR/BLSR facilities, go to step 10,  
 To provision DRI two-node UPSR/UPSR facilities, go to step 14.  
 To provision DRI two-node UPSR/BLSR facilities, go to step 17.  
 To provision DRI two-node BLSR/BLSR facilities, go to step 20.  
 To provision DRI four-node facilities, go to step 22.

**Provision DRI One-Node Facilities – BLSR to BLSR One-Node DRI****9** Review the BLSR to BLSR one-node DRI diagram shown in figure 241-3.**10** To provision BLSR to BLSR one node DRI, type

```
ENT-CRS-STSn::AID1,AID2::CCT,CCT1,CCT2:CKTID=<value>,
CKTADDR=<value>,CKTNBR=<value>,SDTHRESH=<value>,SFTHRESH=<value>,
SWREPT=<value>,SWALM=<value>,SWUNEQP=<value>,SWPDIP=<value>,
PREFERRED=<value>,RVRTV=<value>,RVRTTIM=<value>,ANODE1=<value>,
ZNODE1=<value>,PNODE1=<value>,SDTHRESH2=<value>,SFTHRESH2=<value>,
SWREPT2=<value>,SWALM2=<value>,SWUNEQP2=<value>,SWPDIP2=<value>,
PREFERRED2=<value>,RVRTV2=<value>,RVRTTIM2=<value>,ANODE2=<value>,
ZNODE2=<value>,PNODE2=<value>TTYPE=<value>;;
```

where:

AID1 is STS tributary access identifier as listed in table 241-A. It should be the ring port that is accessed on one BLSR ring.

AID2, is STS tributary access identifier as listed in table 241-A. It should be the ring port that is accessed on the other BLSR ring.

CCT should be 2WAY.

*Configure NMS circuit identification*

The value of CKTID is a character string that uniquely identifies the circuit to which this cross-connect belong.

The value of CKTADDR is a circuit address to identify a circuit, six pairs of hexadecimal digits (0-9, A-F), separated by hyphens.

The value of CKTNBR is the circuit number.

*Configure squelch table entries for one ring*

The value of ANODE1 is the NODE ID of the node where traffic enters the BLSR ring for the circuit to which this DRI pertains.

The value of ZNODE1 is the NODE ID of the node where traffic exits the BLSR ring for the circuit to which this DRI pertains.

The value of PNODE1 is empty.

*Configure squelch table entries for BLSR ring*

The value of ANODE2 is the NODE ID of the node where traffic enters the BLSR ring for the circuit to which this DRI pertains.

The value of ZNODE2 is the NODE ID of the node where traffic exits the BLSR ring for the circuit to which this DRI pertains.

The value of PNODE2 is empty.

The value of TTYPE is the type of traffic depending on type of timeslot used for transporting the traffic. If protection timeslots are used, enter EXTRA; if otherwise, enter REGULAR.

None of the remaining entry fields are applicable to BLSR to BLSR one-node DRI.

- 11** If additional BLSR to BLSR one-node DRIs are to be provisioned, repeat step 10 until all BLSR to BLSR one-node DRI entities have been provisioned.

- 12** Select action.

If no additional DRIs are to be provisioned, go to step 29.  
To provision DRI two-node UPSR/UPSR facilities, go to step 14.  
To provision DRI two-node UPSR/BLSR facilities, go to step 17.  
To provision DRI two-node BLSR/BLSR facilities, go to step 20.  
To provision DRI four-node facilities, go to step 22.

**Provision DRI Two-Node Facilities – UPSR to UPSR Triangle interconnect.**

**13** Review the UPSR to UPSR two-node DRI diagram shown in figure 241-4.

**14** To provision UPSR to UPSR two-node DRI, type

```
ENT-CRS-STSn::AID1,AID2::CCT,CCT1,CCT2:CKTID=<value>,
CKTADDR=<value>,CKTNBR=<value>,SDTHRESH=<value>,SFTHRESH=<value>,
SWREPT=<value>,SWALM=<value>,SWUNEQP=<value>,SWPDIP=<value>,
PREFERRED=<value>,RVRTV=<value>,RVRTTIM=<value>,ANODE1=<value>,
ZNODE1=<value>,PNODE1=<value>,SDTHRESH2=<value>,SFTHRESH2=<value>,
SWREPT2=<value>,SWALM2=<value>,SWUNEQP2=<value>,SWPDIP2=<value>,
PREFERRED2=<value>,RVRTV2=<value>,RVRTTIM2=<value>,ANODE2=<value>,
ZNODE2=<value>,PNODE2=<value>,TTYPE=<value>:,:;
```

where:

AID1 is STS tributary access identifier as listed in table 241-A. It should be the port of source of the continue traffic for one UPSR ring

AID2 is STS tributary access identifier as listed in table 241-A. It should be the port where the dropped traffic is sent on the other UPSR ring.

CCT is 2WAYDC.

*Configure NMS circuit identification*

The value of CKTID is a character string that uniquely identifies the circuit to which this cross-connect belong.

The value of CKTADDR is circuit address to identify a circuit, six pairs of hexadecimal digits (0-9, A-F), separated by hyphens.

The value of CKTNBR is the circuit number.

*Configure service selection features for one ring*

The value of SDTHRESH is the signal degrade threshold value.

The value of SFTHRESH is the signal failure threshold value.

The value of SWREPT is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM is Y or N. This field is ignored when SWREPT=N. If SWREPT=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP is Y or N, depending if node should perform a path switch for the DRI upon detecting an UNEQ-P signal.

The value of SWPDIP is Y or N, depending if node should perform a path switch for the DRI upon detecting an PDI-P signal.

The value of PREFERRED is the STS tributary that is specified in AID1, or the other ring port for the UPSR ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in the AID1.

The value of RVRTV is Y or N, depending if revertive switching is desired.

The value of RVRTTIM should be WTR (Wait-to-Restore) time if RVRTV=Y.

*Configure service selector features for the other ring*

The value of SDTHRESH2 is the signal degrade threshold value.

The value of SFTHRESH2 is the signal failure threshold value.

The value of SWREPT2 is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM2 is Y or N. This field is ignored when SWREPT2=N. If SWREPT2=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP2 is Y or N, depending if node should perform a path switch for the DRI upon detecting an UNEQ-P signal.

The value of SWPDIP2 is Y or N, depending if node should perform a path switch for the DRI upon detecting an PDI-P signal.

The value of PREFERRED2 is the STS tributary that is specified in AID2, or the other ring port for the UPSR ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in AID2.

The value of RVRTV2 is Y or N, depending if revertive switching is desired.

The value of RVRTTIM2 should be WTR (Wait-to-Restore) time if RVRTV=Y.

None of the remaining entry fields are applicable to UPSR to UPSR two-node DRI.

If additional UPSR to UPSR two-node DRIs are to be provisioned, repeat step 14 until all UPSR to UPSR two-node DRI entities have been provisioned.

**15** Select action.

If no additional DRIs are to be provisioned, go to step 29.  
To provision DRI two-node UPSR/BLSR facilities, go to step 17.  
To provision DRI two-node BLSR/BLSR facilities, go to step 20.  
To provision DRI four-node facilities, go to step 22.

**Provision DRI Two-Node Facilities – UPSR to BLSR**

**16** Review the UPSR to BLSR two-node DRI diagram shown in figure 241-5.

**17** To provision UPSR to BLSR two-node DRI, type

```
ENT-CRS-STSn::AID1,AID2::CCT,CCT1,CCT2:CKTID=<value>,
CKTADDR=<value>,CKTNBR=<value>,SDTHRESH=<value>,SFTHRESH=<value>,
SWREPT=<value>,SWALM=<value>,SWUNEQP=<value>,SWPDIP=<value>,
PREFERRED=<value>,RVRTV=<value>,RVRTTIM=<value>,ANODE1=<value>,
ZNODE1=<value>,PNODE1=<value>,SDTHRESH2=<value>,SFTHRESH2=<value>,
SWREPT2=<value>,SWALM2=<value>,SWUNEQP2=<value>,SWPDIP2=<value>,
PREFERRED2=<value>,RVRTV2=<value>,RVRTTIM2=<value>,ANODE2=<value>,
ZNODE2=<value>,PNODE2=<value>,TTYPER=<value>:.,;
```

where:

AID1 is STS tributary access identifier as listed in table 241-A. It should be the port of source of the continue traffic for the UPSR ring.

AID2 is STS tributary access identifier as listed in table 241-A. If provisioning the node on the left of Figure 5 UPSR-to-BLSR two-node ring Interconnect, it should be the port of source of the continue traffic for the BLSR ring. If should. If provisioning the node on the right of Figure 5 UPSR-to-BLSR two-node ring Interconnect, it should be the ring port accessed on the BLSR ring.

CCT is DRI.

CCT1 is 2WAYDC for UPSR ring side.

CCT2 is either 2WAYDC or 2WAYDCP if node is the primary node for this DRI on the BLSR ring. Enter 2WAYDC if working timeslots are to be used for the secondary circuit, and enter 2WAYDCP if protection timeslots are used.



CCT2 is either SRIW or SRIP if node is the secondary node for this DRI on the BLSR ring. Enter SRIW if working timeslots are to be used for the secondary circuit, and enter SRIP if protection timeslots are used.

*Configure NMS circuit identification*

The value of CKTID is a character string that uniquely identifies the circuit to which this cross-connect belong.

The value of CKTADDR is circuit address to identify a circuit, six pairs of hexadecimal digits (0-9, A-F), separated by hyphens.

The value of CKTNBR is a circuit number

*Configure service selector features for UPSR ring*

The value of SDTHRESH is the signal degrade threshold value.

The value of SFTHRESH is the signal failure threshold value.

The value of SWREPT is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM is Y or N. This field is ignored when SWREPT=N. If SWREPT=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP is Y or N, depending if node should perform a path switch for the DRI upon detecting an UNEQ-P signal.

The value of SWPDIP is Y or N, depending if node should perform a path switch for the DRI upon detecting an PDI-P signal.

The value of PREFERRED is the STS tributary that is specified in the AID1 field, or the other ring port for the UPSR ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in the AID1 field.

The value of RVRTV is Y or N, depending if revertive switching is desired.

The value of RVRTTIM should be WTR (Wait-to-Restore) time if RVRTV=Y.

*Configure service selector features for BLSR ring*

Configure the following service selector features for the BLSR ring if node is the primary node for this DRI. If node is the secondary node for this DRI, skip these parameters and go to *Configure squelch table entries for BLSR ring*.

The value of SDTHRESH2 is the signal degrade threshold value.

The value of SFTHRESH2 is the signal failure threshold value.

The value of SWREPT2 is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM2 is Y or N. This field is ignored when SWREPT2=N. If SWREPT2=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP2 is Y.

The value of SWPDIP2 is Y.

The value of PREFERRED2 is the STS tributary that is specified in AID2, or the other ring port for the BLSR ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in AID2.

The value of RVRTV2 is Y or N, depending if revertive switching is desired.

The value of RVRTTIM2 is WTR (Wait-to-Restore) time if RVRTV=Y. The value entered should be the same as RVRTTIM specified in the ENT-FFP-OCn command used to provision the BLSR OC-N facility. Refer to DLP-240.

*Configure squelch table entries for BLSR ring*

The value of ANODE2 is the node ID of the node where traffic enters the BLSR ring for the circuit to which this DRI pertains.

The value of ZNODE2 is the node ID of the node where traffic exits the BLSR ring for the circuit to which this DRI pertains.

The value of PNODE2 is primary node's node ID if protection timeslots are used for secondary circuit between primary and secondary. Otherwise, nothing needs to be entered.

The value of TTYPE is the type of traffic depending on type of timeslot used for transporting the traffic. If protection timeslots are used, enter EXTRA; if otherwise, enter REGULAR.

None of the remaining entry fields are applicable to UPSR to BLSR two-node DRI.

**18** Select action.

If additional UPSR to BLSR two-node DRIs are to be provisioned, repeat step 17 until all UPSR to BLSR two-node DRI entities have been provisioned.

If no additional DRIs are to be provisioned, go to step 29.

To provision DRI two-node BLSR/BLSR facilities, go to step 20.

To provision DRI four-node facilities, go to step 22.

**Provision DRI two-node Facilities – BLSR to BLSR**

**19** Review the BLSR to BLSR two-node DRI diagrams shown in figures 241-6 and 241-7.

**20** To provision BLSR to BLSR two-node DRI, type

```
ENT-CRS-STSn::AID1,AID2::CCT,CCT1,CCT2:CKTID=<value>,  
CKTADDR=<value>,CKTNBR=<value>,SDTHRESH=<value>,SFTHRESH=<value>,  
SWREPT=<value>,SWALM=<value>,SWUNEQP=<value>,SWPDIP=<value>,  
PREFERRED=<value>,RVRTV=<value>,RVRTTIM=<value>,ANODE1=<value>,  
ZNODE1=<value>,PNODE1=<value>,SDTHRESH2=<value>,SFTHRESH2=<value>,  
SWREPT2=<value>,SWALM2=<value>,SWUNEQP2=<value>,SWPDIP2=<value>,  
PREFERRED2=<value>,RVRTV2=<value>,RVRTTIM2=<value>,ANODE2=<value>,  
ZNODE2=<value>,PNODE2=<value>,TTYE=<value>:.,;
```

where:

AID1 is STS tributary access identifier as listed in table 241-A. If provisioning the primary node on the BLSR ring, it should be the port of source of the continue traffic for ring. Otherwise, it should be the port accessed on the ring.

AID2 is STS tributary access identifier as listed in table 241-A. If provisioning the primary node on the BLSR ring, it should be the port of source of the continue traffic for ring. Otherwise, it should be the port accessed on the ring.

CCT is DRI.

CCT1 is either 2WAYDC or 2WAYDCP, if node is the primary node for this DRI on BLSR ring 1. Enter 2WAYDC if working timeslots are to be used for the secondary circuit, and enter 2WAYDCP if protection timeslots are used. Enter either SRIW or SRIP, if node is the secondary node for this DRI on the BLSR ring. Enter SRIW if working timeslots are to be used for the secondary circuit, and enter SRIP if protection timeslots are used.

CCT2 is either 2WAYDC or 2WAYDCP, if node is the primary node for this DRI on BLSR ring 2. Enter 2WAYDC if working timeslots are to be used for the secondary circuit, and enter 2WAYDCP if protection timeslots are used. Enter either SRIW or SRIP, if node is the secondary node for this DRI on the BLSR ring. Enter SRIW if working timeslots are to be used for the secondary circuit, and enter SRIP if protection timeslots are used.

*Configure NMS circuit identification*

The value of CKTID is a character string that uniquely identifies the circuit to which this cross-connect belong.

The value of CKTADDR is circuit address to identify a circuit, six pairs of hexadecimal digits (0-9, A-F), separated by hyphens.

The value of CKTNBR is a circuit number

*Configure service selector features for BLSR ring 1*

If node is the primary node for this DRI on BLSR ring 1, configure the following service selector features. If node is the secondary node for this DRI on ring 1, skip these parameters and go to *Configure squelch table entries for BLSR ring 1*.

The value of SDTHRESH is the signal degrade threshold value.

The value of SFTHRESH is the signal failure threshold value.

The value of SWREPT is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM is Y or N. This field is ignored when SWREPT=N. If SWREPT=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP is Y.

The value of SWPDIP is Y.

The value of PREFERRED is the STS tributary that is specified in AID1, or the other ring port on the ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in AID1.

The value of RVRTV is Y or N, depending if revertive switching is desired.

The value of RVRTTIM should be WTR (Wait-to-Restore) time if RVRTV=Y. The value entered should be the same as RVRTTIM specified in the ENT-FFP-OCn command used to provision the BLSR OC-N facility. Refer to DLP-240.

*Configure squelch table entries for BLSR ring 1*

The value of ANODE1 is the node ID of the node where traffic enters the BLSR ring for the circuit to which this DRI pertains.

The value of ZNODE1 is the node ID of the node where traffic exits the BLSR ring for the circuit to which this DRI pertains.

The value of PNODE1 is primary node's node ID if protection timeslots are used for secondary circuit between primary and secondary. Otherwise, nothing needs to be entered.

*Configure service selector features for BLSR ring 2*

If node is the primary node for this DRI on BLSR ring 2, configure the following service selector features. If node is the secondary node for this DRI on ring 2, skip these parameters and go to *Configure squelch table entries for BLSR ring 2*.

The value of SDTHRESH2 is the signal degrade threshold value.

The value of SFTHRESH2 is the signal failure threshold value.

The value of SWREPT2 is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM2 is Y or N. This field is ignored when SWREPT2= N. If SWREPT2=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP2 is Y.

The value of SWPDIP2 is Y.

The value of PREFERRED2 is the STS tributary that is specified in the AID1 field, or the other ring port on the ring, as the preferred path that the DRI will select. If omitted, the default will be the ring port specified in the AID1 field.

The value of RVRTV2 is Y or N, depending if revertive switching is desired.

The value of RVRTTIM2 is WTR (Wait-to-Restore) time if RVRTV=Y. The value entered should be the same as RVRTTIM specified in the ENT-FFP-OCn command used to provision the BLSR OC-n facility. Refer to DLP-240.

*Configure squelch table entries for BLSR ring 2*

The value of ANODE2 is the NODE ID of the node where traffic enters the BLSR ring for the circuit to which this DRI pertains.

The value of ZNODE2 is the NODE ID of the node where traffic exits the BLSR ring for the circuit to which this DRI pertains.

The value of PNODE2 is primary node's node ID if protection timeslots are used for secondary circuit between primary and secondary. Otherwise, nothing needs to be entered.

The value of TTYPE is the type of traffic depending on type of timeslot used for transporting the traffic. If protection timeslots are used, enter EXTRA; if otherwise, enter REGULAR.

If additional BLSR to BLSR two-node DRIs are to be provisioned, repeat step 20 until all BLSR to BLSR one-node DRI entities have been provisioned.

**21**      Select action

If no additional DRIs are to be provisioned, go to step 29.  
To provision DRI four-node facilities, go to step 22.

**Provision DRI Four-Node Facilities****22**      To provision a node in a four-node DRI, type

```
ENT-CRS-STSn::AID1,AID2::CCT,CCT1,CCT2:CKTID=<value>,
CKTADDR=<value>,CKTNBR=<value>,SDTHRESH=<value>,SFTHRESH=<value>,
SWREPT=<value>,SWALM=<value>,SWUNEQP=<value>,SWPDIP=<value>,
PREFERRED=<value>,RVRTV=<value>,RVRTTIM=<value>,ANODE1=<value>,
ZNODE1=<value>,PNODE1=<value>,SDTHRESH2=<value>,SFTHRESH2=<value>,
SWREPT2=<value>,SWALM2=<value>,SWUNEQP2=<value>,SWPDIP2=<value>,
PREFERRED2=<value>,RVRTV2=<value>,RVRTTIM2=<value>,ANODE2=<value>,
ZNODE2=<value>,PNODE2=<value>,TTYPE=<value>:;,;
```

where:

AID1 is STS tributary access identifier as listed in table 241-A. If provisioning the primary node on the BLSR ring, it should be the port of source of the continue traffic for ring. Otherwise, it should be the port accessed on the ring.

AID1 is STS tributary access identifier as listed in table 241-A. If provisioning the primary node on the BLSR ring, it should be the port of source of the continue traffic for ring. Otherwise, it should be the port accessed on the ring.

CCT is one of the following:

2WAYDC — UPSR drop and continue

2WAYDC — BLSR drop and continue on working

2WAYDCP — BLSR drop and continue on protection

SRIW — BLSR secondary over working

SRIP — BLSR secondary over protection

*Configure NMS circuit identification*

The value of CKTID is a character string that uniquely identifies the circuit to which this cross-connect belong.

The value of CKTADDR is circuit address to identify a circuit, six pairs of hexadecimal digits (0-9, A-F), separated by hyphens.

The value of CKTNBR is circuit number

*Configure service selector features if CCT1 is 2WAYDC, 2WAYDCP, or SRIP*

Configure service selector features if CCT1 is 2WAYDC, 2WAYDCP, or SRIP. Otherwise go to *Configure squelch table entries for BLSR ring (if BLSR DRI)*.

The value of SDTHRESH is the signal degrade threshold value.

The value of SFTHRESH is the signal failure threshold value.

The value of SWREPT is Y or N, depending if node should report a path switch pertinent to this DRI.

The value of SWALM is Y or N. This field is ignored when SWREPT=N. If SWREPT=Y, node will report a path switch pertinent to this DRI as an alarm if Y is entered in this field, otherwise node will report a path switch as an event.

The value of SWUNEQP is Y or N, depending if node should perform a path switch for the DRI upon detecting an UNEQ-P signal. It should always be Y when provisioning a BLSR DRI.

The value of SWPDIP is Y or N, depending if node should perform a path switch for the DRI upon detecting an PDI-P signal. It should always be Y when provisioning a BLSR DRI.

The value of PREFERRED is the STS tributary that is specified in AID1 or AID2 as the preferred path that the selector will select.

The value of RVRTV is Y or N, depending if revertive switching is desired.

The value of RVRTTIM is WTR (Wait-to-Restore) time if RVRTV=Y. If this is a BLSR DRI. The value entered should be the same as RVRTTIM specified in the ENT-FFP-OCn command used to provision the BLSR OC-n facility. Refer to DLP-240.

*Configure squelch table entries for BLSR ring (if BLSR DRI)*

The value of ANODE1 is the NODE ID of the node where traffic enters the BLSR ring for the circuit to which this DRI pertains.

The value of ZNODE1 is the NODE ID of the node where traffic exits the BLSR ring for the circuit to which this DRI pertains.

The value of PNODE1 is primary node's node ID if CCT is SRIP and protection timeslots are used for secondary circuit between primary and secondary. Otherwise, leave this parameter empty.

The value of TTYPE is the type of traffic depending on type of timeslots used for transporting the traffic. If protection timeslots are used, enter EXTRA; if otherwise, enter REGULAR.

**23** Select action.

If additional four-node DRIs are to be provisioned, repeat step 22 until all BLSR to BLSR one-node DRI entities have been provisioned.  
If no additional DRIs are to be provisioned, go to step 29.

## Deprovision DRI Facilities

**24** To de-provision DRI, type

**DLT-CRS-STSn::AID1,AID2::;**

where AID1 and AID2 are STS tributary access identifiers as listed in table 241-A.

**25** Select action.

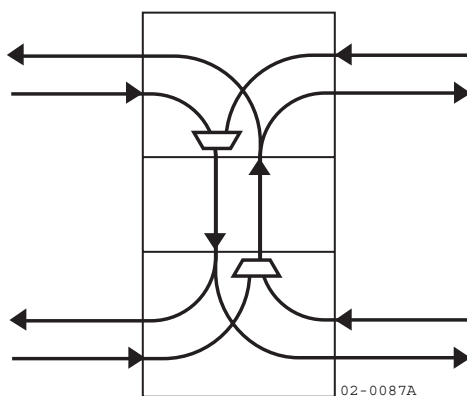
To continue this procedure, go to step 26.  
To quit this procedure, go to step 29.

**26** If required, delete 2WAY cross-connect facility in working slot. Refer to DLP-146 for STS-n.

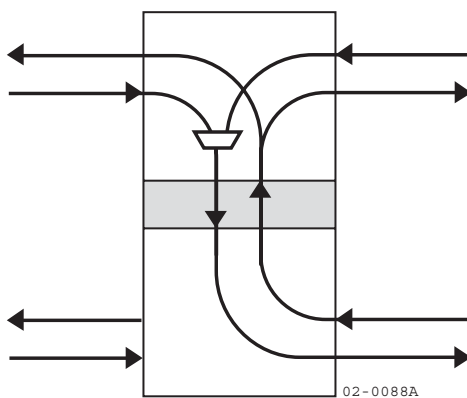


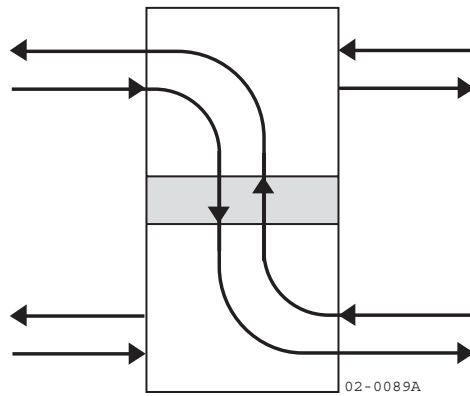
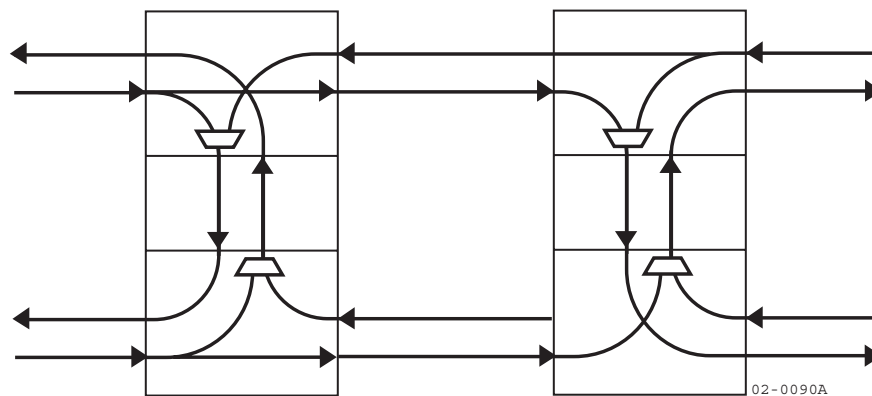
- 27** If required, delete STS<sub>n</sub> path entities within OC-n working slot. Refer to DLP-141 for STS-1.
- 28** Select action.
- To continue this procedure, go to step 1.  
To quit this procedure, go to step 29.
- 29** **STOP. This procedure is complete.**

**Figure 241-1. UPSR to UPSR One Node DRI**

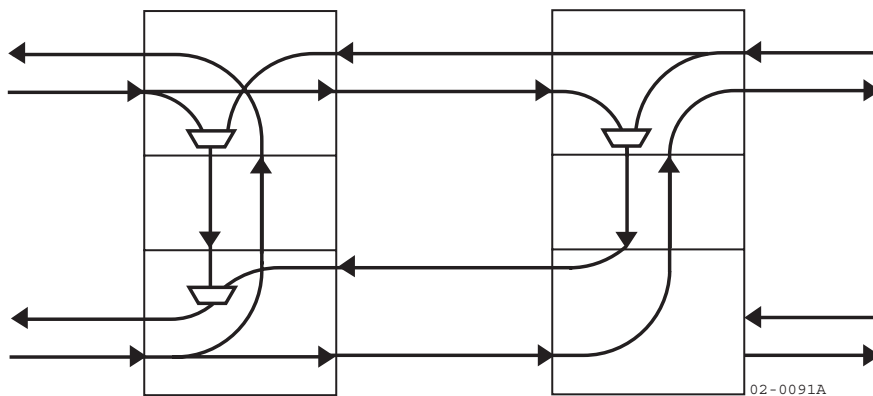


**Figure 241-2. UPSR to BLSR Single Homed Arc**

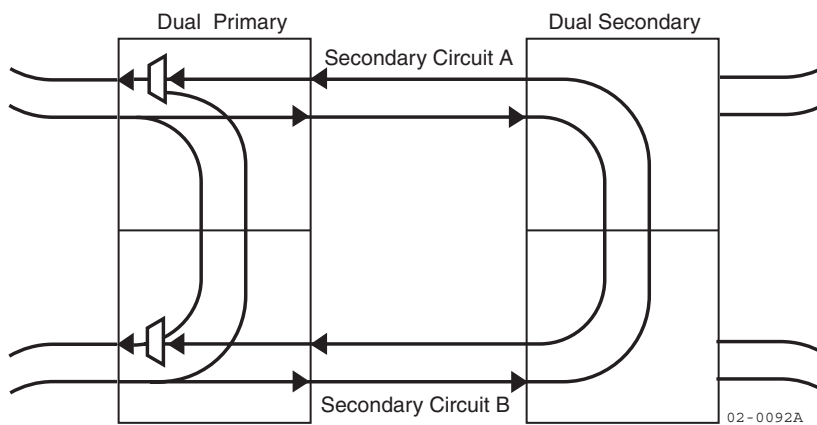


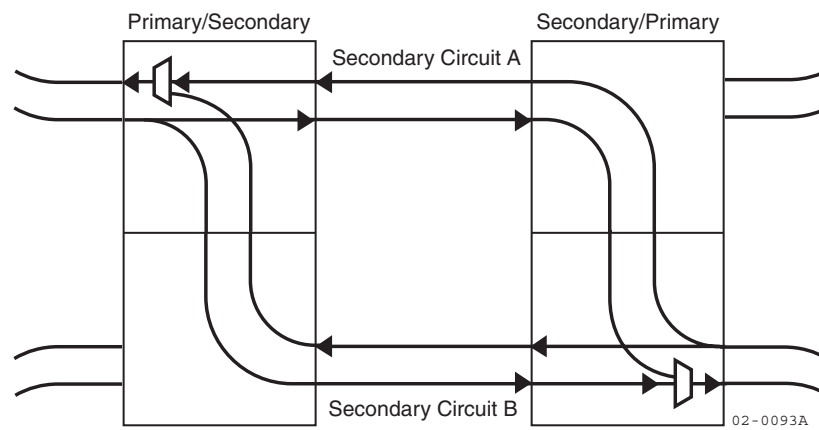
**Figure 241-3. BLSR Access to BLSR Access****Figure 241-4. UPSR to UPSR Triangle Interconnect**

**Figure 241-5. UPSR to BLSR Two-Node Ring Interconnect**



**Figure 241-6. BLSR to BLSR DRI Using Same-Side Routing**



**Figure 241-7. BLSR to BLSR DRI Using Opposite-Side Routing**

## DLP-243

### Provision Gigabit Ethernet Card

#### PURPOSE

This procedure provides the instructions to provision a Gigabit Ethernet card.

#### GENERAL

This procedure provisions a Gigabit Ethernet card.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EQPT:[TID]:AID:[CTAG]::[TYPE]:[RN=][,RVRTV=]:[PST],;**

AID: {IOC-{1-6,12-17}-{A,B}}  
(Only valid AIDs shown.)

TYPE: {GIGE-2P}

RN= {PRI, SEC, SX}

RVRTV= {Y,N}

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type  <b>ENT-EQPT::AID::GIGE-2P;</b>  where AID is the access identifier of the card.
2	<b>STOP. This procedure is complete.</b>

## DLP-244

### Deprovision Gigabit Ethernet Card

#### PURPOSE

This procedure provides the instructions to deprovision a Gigabit Ethernet card. It is used when reconfiguring a shelf or physically moving a shelf during system maintenance.

#### PREREQUISITES

This procedure is service-affecting if any ports on the card are cross-connected. All cross-connections must be deleted. Once cross-connections are deleted, ports associated with card must be deprovisioned. Refer to table 244-A for appropriate procedures.

**Table 244-A. Procedures Required for Deprovisioning Gigabit Ethernet Card**

PORT TYPE	DELETE CROSS-CONNECTIONS	DEPROVISION PORTS
Gigabit Ethernet	Refer to DLP-252.	Refer to DLP-239.
EVC	Refer to DLP-252.	Refer to DLP-264.
STS-1	Refer to DLP-252.	Refer to DLP-141.

#### GENERAL

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-EQPT:[TID]:AID:[CTAG];**

AID: {IOC-{1-6,12-17}-{A,B}}

**RMV-EQPT:[TID]:AID:[CTAG]::[MODE];**

AID: {IOC-{1-6,12-17}-{A,B}}

MODE: {NORM, FRCD} (Default=NORM)

**RTRV-EQPT:[TID]:AID:[CTAG];**

AID: {IOC-{1-6,12-17}-{A,B}}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type  <b>RTRV-EQPT::AID;</b>  where AID is the access identifier of the Gigabit Ethernet card.
2	Examine output. Ensure that card is in valid state for deprovisioning.
3	At prompt, type  <b>DLT-EQPT::AID;</b>  where AID is the access identifier of the Gigabit Ethernet card.
4	Are there any alarms in system?  If yes, refer to 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms. If no, go to step 5.
5	<b>STOP. This procedure is complete.</b>



## DLP-245

### Provision Transmux Card

#### PURPOSE

This procedure provides the instructions to provision a Transmux card.

#### GENERAL

This procedure provisions a TMUX card.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

Once a TMUX card is provisioned, ED-EQPT can be used to alter parameters.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EQPT:[TID]:AID:[CTAG]::[TYPE]:[RN=][,RVRTV=:[PST],;**

AID: {IOC-{1-6,12-17}-{A,B}}  
(Only valid AIDs shown.)

TYPE: {TRANSMUX or TMUX} (Default=No value.)

RN= {PRI, SEC, SX}

RVRTV= {Y,N} (Default=N for Transmux card)

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type  <b>ENT-EQPT::AID:::TMUX;</b>  where AID is the IOC access identifier.
2	<b>STOP. This procedure is complete.</b>

## DLP-246

### Deprovision Transmux Card

#### PURPOSE

This procedure provides the instructions to deprovision a Transmux card. It is used when reconfiguring a card or physically moving a card during system maintenance.

#### GENERAL

This procedure deprovisions a TMUX card.

The RMV-EQPT command gracefully shuts down the card to prepare it for physical removal.

The DLT-EQPT command sets the administrative type to unknown. Upon removal, the card is no longer recognized by the node.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RMV-EQPT:[TID]:AID:[CTAG];**

AID: {IOC-{1-6,12-17}-{A,B}}  
(Only valid AIDs shown.)

**DLT-EQPT:[TID]:AID:[CTAG]::;**

AID: {IOC-{1-6,12-17}-{A,B}}  
(Only valid AIDs shown.)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

---

STEP	PROCEDURE
------	-----------

---

**Deprovision ECMs**

- 1** At prompt, type  
**RMV-EQPT::AID;**  
where AID is the access identifier of the IOC card to be removed.
- 2** At prompt, type  
**DLT-EQPT::AID;**  
where AID is the access identifier specified in step 1.
- 3** **STOP. This procedure is complete.**

## DLP-247

### Provision DS1 Facility

#### PURPOSE

This procedure provides the instructions to provision a facility to receive and transmit a T1 signal.

#### PREREQUISITES

A DS1 must be embedded within a parent DS3 or VT1.5. The parent signal must be provisioned first. Refer to DLP-127 to provision a DS3 port or DLP-134 to provision a VT1.5 port.

#### GENERAL

Once a T1 facility is provisioned, ED-T1 can be used to alter parameters. RTRV-T1 can be used to view the parameters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-T1:[TID]:AID:[CTAG]:::[CKTID=][,FMT=]:[PST][,SST];**

AID: For a DS1 embedded within a DS3 port:

{T1-{2-5,13-16}-{A,B}-{1-12}-{1-28}}

For a DS1 embedded within a DS3 embedded within an STS-1 port:

{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-28}}

For a DS1 embedded within a VT1.5 embedded within an STS-1 port:

{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}

CKTID= {String, 1-256 characters, excluding spaces or TL1 punctuation} (Default=empty string)

FMT= {SF, ESF, UNFR} (Default=ESF)

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

SST: {AINS, MT}

**RTRV-T1:[TID]:AID:[CTAG];**

AID: {ALL,  
{T1-{2-5,13-16}-{A,B}-{1-12}-{1-28}},  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-28}},  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>ENT-T1::AID:::CKTID=&lt;value&gt;,FMT=&lt;value&gt;:PST,SST;</b></p> <p>where:</p> <p>AID is the access identifier of the DS1 facility.</p> <p>Value of CKTID is the circuit identifier.</p> <p>Value of FMT is the T1 payload type.</p> <p>PST and SST are the primary and secondary states, respectively.</p>
2	<p><b>STOP. This procedure is complete.</b></p>

# DLP-248

## Deprovision DS1 Facility

This procedure provides the instructions to deprovision a DS1 facility.

### GENERAL

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-T1:[TID]:AID:[CTAG];**

AID: {ALL, {T1-{2-5,13-16}-{A,B}-{1-12}-{1-28}},  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-28}},  
{T1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}-{1-7}-{1-4}}}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	At prompt, type  <b>DLT-T1::AID;</b>  where AID is the access identifier of the DS1 facility.
2	<b>STOP. This procedure is complete.</b>





## DLP-249

### Enable TL1 gateway

#### PURPOSE

This procedure provides the instructions to enable a TL1 gateway. A TL1 IP gateway simplifies the management of a ring. With a TL1 gateway, a ring of network elements can be administered by creating a single TCP session with the assigned gateway NE, which directs incoming TL1 commands to the appropriate NE using the target identifier (TID) supplied with the command. (The optional TID field, if omitted, defaults to the gateway NE.)

The gateway NE uses DCC to forward TL1 commands within the ring and to return messages to the originating management system.

Nodes serviced by a gateway are called subtended nodes. The gateway is sometimes referred to as the subtending node.

Within a ring, each node must have a unique TL1 system identifier (SID), which enables the gateway NE to forward commands to the appropriate target.

#### PREREQUISITE

Each node in a ring must have a unique TID/SID.

The node that is designated as the gateway must be able to reach all subtended nodes. To forward incoming commands to the appropriate NE, the gateway uses a mapping table. Each entry in this table associates a target identifier (TID) with an IP address and port number. Use the commands ENT-MAP, ED-MAP, DLT-MAP, and RTRV-MAP to create, edit, delete, and retrieve maps.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ED-NE-TL1:[TID]::[CTAG]:::[RAWPORT=][,TELPORT=][,CONMDE=][,PRMPT=][,CONDITVL=][,GWENB=];**

GWENB= {Y, N} (Default=N)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Log in to the node that will become the gateway.
2	At prompt, type <b>ED-NE-TL1::::::GWENB=Y;</b>
3	<b>STOP. This procedure is complete.</b>

## DLP-250

### Provision VT1.5 Card

#### PURPOSE

This procedure provides the instructions to provision a VT1.5 card.

#### GENERAL

This procedure provisions a VT1.5 card.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

Once a VT1.5 card is provisioned, ED-EQPT can be used to alter parameters.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EQPT:[TID]:AID:[CTAG]::[TYPE]:[RN=][,RVRTV=]:[PST],;**

AID: {IOC-{1-6,12-17}-{A,B}}  
(Only valid AIDs shown.)

TYPE: {VT10-SWC or VTSC} (Default=No value.)

RN= {PRI, SEC, SX}

RVRTV= {Y,N} (Default=N for VT1.5 card)

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type  <b>ENT-EQPT::AID::VTSC;</b>  where AID is the IOC access identifier.
2	<b>STOP. This procedure is complete.</b>

## **DLP-251**

### **Deprovision VT1.5 Card**

#### **PURPOSE**

This procedure provides the instructions to deprovision a VT1.5 card.

#### **GENERAL**

This procedure deprovisions a VT1.5 card.

The RMV-EQPT command gracefully shuts down the card to prepare it for physical removal.

The DLT-EQPT command sets the administrative type to unknown. Upon removal, the card is no longer recognized by the node.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### **COMMAND SYNTAX**

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RMV-EQPT:[TID]:AID:[CTAG];**

AID: {IOC-{1-6,12-17}-{A,B}}  
(Only valid AIDs shown.)

**DLT-EQPT:[TID]:AID:[CTAG]::;**

AID: {IOC-{1-6,12-17}-{A,B}}  
(Only valid AIDs shown.)

#### **Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type <b>RMV-EQPT::AID;</b>  where AID is the IOC access identifier of the VT1.5 card to be removed.
2	At prompt, type <b>DLT-EQPT::AID;</b>  where AID is the access identifier specified in step 1.
3	<b>STOP. This procedure is complete.</b>

## DLP-252

### Administer Gigabit Ethernet Cross-Connection

#### PURPOSE

This procedure provides the instructions to retrieve information on, create, edit, and delete a cross-connection between two Gigabit Ethernet ports.

#### PREREQUISITES

To establish a Gigabit Ethernet cross-connection, the required equipment and appropriate ports must be provisioned. Refer to DLP-243 to provision equipment. Refer to DLP-238 to provision Gigabit Ethernet ports.

#### GENERAL

The system supports 2-way cross-connections between an EVC facility on a Gigabit Ethernet port and an STS-1 facility on an OC-n facility.

An established cross-connection cannot be edited. To change any parameter of an existing cross-connection, the cross-connection must first be deleted (using DLT-CRS-GIGE), and then a new cross-connection must be created with different parameter settings (using ENT-CRS-GIGE).

Cross-connects to all the EVC timeslots specified in the MAP configuration of the GIGE facility should be provisioned for the traffic to pass.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

**DLT-CRS-GIGE:[TID]:FROM,TO:[CTAG]::[CCT];**

FROM: {EVC-{1-6,12-17}-{A,B}-{1-2}-{1-24}}

TO: {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

CCT: {2WAY} (Default=2WAY)

**ENT-CRS-GIGE::FROM,TO:[CTAG]::[CCT];**

FROM: {EVC-{1-6,12-17}-{A,B}-{1-2}-{1-24}}

TO: {STS1-{1-6,12-17}-{A,B,AB}-{1-12}-{1-192}}

CCT: {2WAY} (Default=2WAY)

**RTRV-CRS-GIGE:[TID]:[AID]:[CTAG];**

AID: {ALL, {EVC-{1-6,12-17}-{A,B}-{1-2}-{1-24}}}

### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve Gigabit Ethernet cross-connection information, go to step 2. To create Gigabit Ethernet cross-connection, go to step 5. To delete Gigabit Ethernet cross-connection, go to step 7. To leave cross-connections as provisioned, go to step 10.

### Retrieve Gigabit Ethernet Cross-Connection Information

- At prompt, type  
**RTRV-CRS-GIGE::AID;**  
  
where AID is the access identifier of the EVC. Ranging, grouping, and keyword ALL are supported.
- Examine output for cross-connection information.
- Go to step 1.



## Create Gigabit Ethernet Cross-Connection

- 5 At prompt, type

**ENT-CRS-GIGE::FROM,TO:::2WAY;**

where:

FROM is the access identifier for the EVC (or range of EVCs). Ranging and grouping are supported.

TO is the access identifier for the STS-1 (or range of STS-1s). Ranging and grouping are supported.

- 6 Go to step 1.

## Delete Gigabit Ethernet Cross-Connection

- 7 CAUTION: Possibility of service interruption. Deleting an active cross-connection always affects service. Execute a roll on port to switch traffic to new port before breaking existing cross-connection.

- 8 At prompt, type

**DLT-CRS-GIGE::FROM,TO:::2WAY;**

where:

FROM is the AID for receive-side (from network) port of cross-connection. Ranging and grouping are supported.

TO is the AID for transmit-side (to network) port of cross-connection. Ranging and grouping are supported.

- 9 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 10.

- 10 **STOP. This procedure is complete.**



## DLP-254

### Set Gigabit Ethernet PM Mode

#### PURPOSE

This procedure provides the instructions to set or change Performance Monitoring (PM) mode for Gigabit Ethernet ports. The PM mode controls the data collection for specific types of PM data (path, line, segment, intermediate node).

#### GENERAL

PM commands operate only on provisioned ports.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-PMODE-GIGE:[TID]:AID:[CTAG]::LOCN;**

AID: {ALL, {GIGE-{1-6,12-17}-{A,B}-{1-2}}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

**SET-PMODE-GIGE:[TID]:AID:[CTAG]::LOCN,MODETYPE[,PMSTATE];**

AID: {ALL, {GIGE-{1-6,12-17}-{A,B}-{1-2}}}

LOCN: {ALL, NEND, FEND} (Default=ALL)

MODETYPE: {ALL}

PMSTATE: {OFF, ON} (Default=ON)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM mode parameters for port, go to step 2. To set or change PM mode for port, go to step 5. To quit this procedure, go to step 6.

#### Retrieve PM Mode Parameters

- At prompt, type  
**RTRV-PMMODE-GIGE::AID:::LOCN;**  
  
where:  
  
AID is the access identifier of the port, or the keyword ALL.  
  
LOCN is the location.
- Examine output to determine current PM mode.
- Go to step 1.

#### Set or Change PM Mode

- At prompt, type  
**SET-PMMODE-GIGE::AID:::LOCN,MODETYPE,PMSTATE;**  
  
where:  
  
AID is the access identifier of the port, or the keyword ALL.  
  
LOCN is the location where PM parameter is to be monitored.  
  
MODETYPE is the PM mode type.  
  
PMSTATE indicates if PM collection will be enabled or disabled for specified PM mode type, or leave blank for system default.
- STOP. This procedure is complete.**

## DLP-255

### Set Gigabit Ethernet PM Threshold Levels

#### PURPOSE

This procedure provides the instructions to set Performance Monitoring (PM) threshold levels for Gigabit Ethernet ports.

#### GENERAL

PM commands operate only on provisioned ports.

PM commands are used to monitor signal overhead that is used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

The SET-TH-GIGE command is used to designate PM threshold levels for Gigabit Ethernet ports. For each type of error (parameter) being monitored, a threshold level with either a 15-minute or 24-hour period may be set. If the number of errors collected exceeds the threshold level within the time selected, the system generates a Threshold Crossing Alert (TCA).

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-TH-GIGE:[TID]:[AID]:[CTAG]::[MONTYPE],,[TMPER];**

AID: {ALL, {GIGE-{1-6,12-17}-{A,B}-{1-2}}}

MONTYPE: {ALL, ETH-FLME, ETH-FLMTE, ETH-JABB, ETH-LFR, ETH-SFR, ETH-SYSERR, ETH-SYMERR, ETH-FCS, ETH-FRAG, ETHLENERR} (Default=ALL)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**SET-TH-GIGE:[TID]:AID:[CTAG]::MONTYPE,THRESH,,,[TMPER];**

AID: {ALL, {GIGE-{1-6,12-17}-{A,B}-{1-2}}}

MONTYPE: {ALL, ETH-FLME, ETH-FLMTE, ETH-JABB, ETH-LFR, ETH-SFR, ETH-SYSERR, ETH-SYMERR, ETH-FCS, ETH-FRAG, ETHLENERR} (Default=ALL)

THRESH: {DFLT, For ES, SES, UAS: {1-900}, For CV: {1-16383}} (Default=Standard default)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

## Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve current threshold levels, go to step 2. To set threshold levels, go to step 5. To leave as provisioned, go to step 7.

## Retrieve Current Threshold Levels

- At prompt, type  
**RTRV-TH-GIGE::AID:::MONTYPE,,TMPER;**  
  
where:  
  
AID is the access identifier of the port.  
  
MONTYPE is the monitored parameter type.  
  
TMPER is the PM collection interval.
- Examine output.
- Go to step 1.

## Set Threshold Levels

- 5 At prompt, type

**SET-TH-GIGE::AID::MONTYPE,THRESH,,,TMPER;**

where:

AID is the access identifier of the port.

MONTYPE is the monitored parameter type.

THRESH is threshold level, or enter **DFLT** to set threshold level to system-defined default.

TMPER is the PM collection interval.

- 6 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

- 7 **STOP. This procedure is complete.**





## DLP-256

### Report Gigabit Ethernet PM Data

#### PURPOSE

This procedure provides the instructions to report Performance Monitoring (PM) data and initialize (reset) the collection register for Gigabit Ethernet ports.

#### GENERAL

PM commands operate only on provisioned ports.

PM commands are used to monitor defect conditions, and can be used to track system efficiency. By tracking efficiency, users can recognize gradual deterioration of system performance.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**INIT-REG-GIGE:[TID]:AID:[CTAG]::[MONTYPE][,MONVAL],,,[TMPER],,;**

AID: {ALL, {GIGE-{1-6,12-17}-{A,B}-{1-2}}}

MONTYPE: {ALL, ETH-FLME, ETH-FLMTE, ETH-JABB, ETH-LFR, ETH-SFR, ETH-SYSERR, ETH-SYMERR, ETH-FCS, ETH-FRAG, ETHLENERR} (Default=ALL)

MONVAL: Registers that count in seconds:{0-900},  
All other registers: {0-65535} (Default=0)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

**RTRV-PM-GIGE:[TID]:[AID]:[CTAG]::[MONTYPE][,MONLEV],,,[TMPER][,MONDAT][,MONTM];**

AID: {ALL, {GIGE-{1-6,12-17}-{A,B}-{1-2}}}

MONTYPE: {ALL, ETH-FLME, ETH-FLMTE, ETH-JABB, ETH-LFR, ETH-SFR, ETH-SYSERR, ETH-SYMERR, ETH-FCS, ETH-FRAG, ETHLENERR} (Default=ALL)

MONLEV: Level-Direction: {{0-255}-{UP, DN}} (Default=1-UP)

TMPER: {15-MIN, 1-DAY} (Default=15-MIN)

MONDAT: Month-Day: {{01-12}-{01-31}, PREV} (Default=Current date)

MONTM: {HOUR-MINUTE:{00-23}-{00-59}, PREV} (Default=Current time)

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve PM data, go to step 2. To initialize PM data collection register, go to step 5. To leave registers as provisioned, go to step 7.
<b>Retrieve PM Data</b>	
2	At prompt, type  <b>RTRV-PM-GIGE::AID:::MONTYPE,MONLEV,,,TMPER,MONDAT,MONTM;</b>  where:  AID is the access identifier of the Gigabit Ethernet facility, or the keyword ALL.  MONTYPE is the monitored parameter type.  MONLEV is the discriminating level of the monitored parameter.  TMPER is the PM collection period.  MONDAT and MONTM are the starting month-day and hour-minute, respectively.
3	Examine output for PM information.
4	Go to step 1.

## Initialize PM Data Collection Register

- 5 At prompt, type

**INIT-REG-GIGE::AID:::MONTYPE,MONVAL,,,TMPER;**

where:

AID is the access identifier of the Gigabit Ethernet port.

MONTYPE is the monitored parameter type.

MONVAL is the new value to be set in register.

TMPER is the PM collection period.

- 6 Select action.

To continue this procedure, go to step 1.

To quit this procedure, go to step 7.

- 7 **STOP. This procedure is complete.**



## DLP-258

### Provision EDFA Card

#### PURPOSE

This procedure provides the instructions to provision an EDFA card. The EDFA is a half-high, double-wide IOC card that requires two adjacent half-high slots. EDFA card can be installed in the following half-high (A or B) recommended slot pairs: 1&2, 3&4, 5&6, 12&13, 14&15, 16&17.

#### GENERAL

This procedure provisions an EDFA card.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

Once an EDFA card is provisioned, ED-EQPT can be used to alter parameters.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EQPT:[TID]:AID:[CTAG]::[TYPE]:[RN=][,RVRTV=]:[PST],;**

AID: {IOC-{1-5,12-15}-{A,B}}

(Only valid AIDs shown.)

TYPE: {EDFA} (Default=No value.)

RN= {PRI, SEC, SX}

RVRT= {Y,N}

PST: {IS, MA, OOS, OOS-MA} (Default=original value)

**ENT-OFA:[TID]:AID:[CTAG]::[OPRNOM=][,OPRCAL=][,OPTNOM=][,TXPWR=]:[PST],;**

AID: {OFA-{1-6,12-17}-{A,B}-1}

(Only valid AIDs shown.)

OPRNOM= {*n*UW, *n*MW, *n*DBM} (microwatts, milliwatts, or dBm, respectively)

OPRCAL= {0-9,A-F}

OPTNOM= {*n*UW, *n*MW, *n*DBM} (microwatts, milliwatts, or dBm, respectively)

TXPWR= {*n*UW, *n*MW, *n*DBM} (microwatts, milliwatts, or dBm, respectively)

PST: {IS,OOS}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>ENT-EQPT::AID:::EDFA;</b></p> <p>where AID is the access identifier of the IOC.</p>
2	<p>At prompt, type</p> <p><b>ENT-OFA::AID:::OPRNOM=&lt;value&gt;,OPRCAL=&lt;value&gt;,OPTNOM=&lt;value&gt;, TXPWR=&lt;value&gt;;IS,;</b></p> <p>where:</p> <p>AID is the access identifier of the EDFA port.</p> <p>Value of OPRNOM is the optical power nominal value.</p> <p>Value of OPRCAL is the optical power calibration value.</p> <p>Value of OPTNOM is the optical power transmit nominal value.</p> <p>Value of TXPWR is the transmit power.</p>
3	<p><b>STOP. This procedure is complete.</b></p>

## DLP-259

### Deprovision EDFA Card

#### PURPOSE

This procedure provides the instructions to deprovision an EDFA card.

#### GENERAL

This procedure deprovisions an EDFA card.

The RMV-EQPT command gracefully shuts down the card to prepare it for physical removal.

The DLT-EQPT command sets the administrative type to unknown. Upon removal, the card is no longer recognized by the node.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RMV-EQPT:[TID]:AID:[CTAG];**

AID: {IOC-{1-5,12-16}-{A,B}}  
(Only valid AIDs shown.)

**DLT-EQPT:[TID]:AID:[CTAG]::;**

AID: {IOC-{1-5,12-16}-{A,B}}  
(Only valid AIDs shown.)

**DLT-OFA:[TID]:AID:[CTAG]::;**

AID: OFA-{1-6,12-17}-{A,B}-1  
(Only valid AIDs shown.)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	At prompt, type <b>RMV-EQPT::AID;</b>  where AID is the access identifier of the EDFA card.
2	At prompt, type <b>DLT-EQPT::AID;</b>  where AID is the same access identifier given in step 1.
3	At prompt, type <b>DLT-OFA::AID;</b>  where AID is the access identifier of the optical fiber amplifier port.
4	<b>STOP. This procedure is complete.</b>



## DLP-260

### Restart Laser for OC-n Facility

#### PURPOSE

This procedure provides the instructions to restart the laser for an OC-n facility disabled by the automatic laser shutoff (ALS) system.

#### GENERAL

This procedure allows the laser to be pulsed under manual control. The pulse allows the far end to detect that a broken fiber has been repaired. When the far end turns its laser on, the current end can keep the laser on.

RESTART mode briefly enables the laser to attempt to restart in both directions. TEST mode enables the laser for a longer period for testing purposes.

If the laser is not currently disabled by the ALS system, this procedure completes successfully, but has no effect.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**OPR-ALS-OCn:[TID]:AID:[CTAG]::[MODE];**

AID: {{OC3-{1-6,12-17}-{A,B}-{1-12}},  
{OC12-{1-6,12-17}-{A-B}-{1-4}},  
{OC48-{1-6,12-17}-{A-B}-1},  
{OC192-{5,6,12,13}-AB-1}}  
(Only valid AIDs shown.)

MODE: {RESTART, TEST} (Default=RESTART)

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>OPR-ALS-OCn::AID::MODE;</b></p> <p>where:</p> <p>OCn in the command name is the type of optical facility (<b>OC3</b>, <b>OC12</b>, <b>OC48</b>, or <b>OC192</b>).</p> <p>AID is the access identifier of the port.</p> <p>MODE is the laser restart mode, or is omitted for the default value.</p>
2	<p><b>STOP. This procedure is complete.</b></p>

## DLP-263

### Provision Ethernet Virtual Container (EVC)

#### PURPOSE

This procedure provides the instructions to provision an Ethernet Virtual Container (EVC) within a Gigabit Ethernet port. An EVC carries Ethernet bandwidth equivalent of an STS-1 facility.

#### PREREQUISITES

A Gigabit Ethernet port must be provisioned before EVC facilities can be provisioned. Refer to DLP-238 to provision Gigabit Ethernet port.

#### GENERAL

EVC and the MAP configuration in the Gigabit Ethernet facility are independent. The relation is only when cross-connects to all the EVC timeslots specified in the MAP option are configured for the traffic to pass. The user can create facilities on any timeslot (1-24), and any number of them. Each Gigabit Ethernet port can be provisioned with 24 different addressable EVC facilities.

Once an EVC is provisioned, ED-EVC can be used to alter parameters.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**ENT-EVC:[TID]:AID:[CTAG]:;;**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}-{1-24},  
{GIGE-{1-6,12-17}-{A,B}-{1-2}-ALL}}

**RTRV-EVC:[TID]:AID:[CTAG];**

AID: {EVC-{1-6,12-17}-{A,B}-{1-2}-{1-24},  
{GIGE-{1-6,12-17}-{A,B}-{1-2}-ALL}}

**RTRV-GIGE:[TID]:AID:[CTAG];**

AID: {GIGE-{1-6,12-17}-{A,B}-{1-2}}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	At prompt, type  <b>RTRV-GIGE::AID;</b>  where AID is the access identifier of the Gigabit Ethernet port.
2	Examine provisioning information for port. Ensure that port is in valid state for provisioning (OOS-MA,UAS).
3	At prompt, type  <b>ENT-EVC::AID;</b>  where:  AID is the access identifier of the EVC facility.
4	<b>STOP. This procedure is complete.</b>

## **DLP-264**

### **Deprovision Ethernet Virtual Container (EVC)**

This procedure provides the instructions to deprovision an Ethernet Virtual Container (EVC) facility.

#### **GENERAL**

Deprovisioning an EVC clears all condition types, current Performance Monitoring (PM) data, and registers associated with the facility.

In this procedure, enter parameter values only for indicated fields. Leave remaining fields blank for system defaults.

#### **COMMAND SYNTAX**

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-EVC:[TID]:AID:[CTAG];**

AID: {EVC-{1-6,12-17}-{A,B}-{1-2}-{1-24},  
EVC-{1-6,12-17}-{A,B}-{1-2}-ALL}

#### **Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>At prompt, type</p> <p><b>DLT-EVC::AID;</b></p> <p>where AID is the access identifier of the EVC facility. Ranging and grouping are supported.</p>
2	<p><b>STOP. This procedure is complete.</b></p>

## DLP-265

### Administer TL1 Gateway Map

#### PURPOSE

This procedure provides the instructions to administer the mapping used by a TL1 gateway. A TL1 IP gateway simplifies the management of a network. With a TL1 gateway, a group of DCC-interconnected network elements can be administered by creating a single TCP session with the assigned gateway NE, which directs incoming TL1 commands to the appropriate NE using the target identifier (TID) supplied with the command. (The optional TID field, if omitted, defaults to the gateway NE.)

The gateway NE uses DCC to forward TL1 commands and to return messages to the originating management system.

Nodes serviced by a gateway are called subtended nodes. The gateway is sometimes referred to as the subtending node.

The node that is designated as the gateway must be able to reach all subtended nodes. To forward incoming commands to the appropriate NE, the gateway uses a mapping table. Each entry in this table associates a target identifier (TID) with an IP address and port number.

Once the TL1 gateway mapping is defined, refer to DLP-249 to enable the gateway.

#### PREREQUISITE

Each node in a ring must have a unique TID/SID. Refer to DLP-266.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**DLT-MAP:[TID]:MTID:[CTAG];**

MTID= {String of as many as 20 alphanumeric characters or hyphens. The string must begin with an alphabetic character. Upper- and lowercase alphabets are equivalent.}

**ED-MAP:[TID]:MTID:[CTAG]::[IPADDR][,PORT=];**

MTID= {String of as many as 20 alphanumeric characters or hyphens. The string must begin with an alphabetic character. Upper- and lowercase alphabets are equivalent.}

IPADDR= {IP address in nnn.nnn.nnn.nnn format}

PORT= {Port number} (Default=3082)

**ENT-MAP:[TID]:MTID:[CTAG]::[IPADDR][,PORT=];**

MTID= {String of as many as 20 alphanumeric characters or hyphens. The string must begin with an alphabetic character. Upper- and lowercase alphabetics are equivalent.}

IPADDR= {IP address in nnn.nnn.nnn.nnn format}

PORT= {Port number} (Default=3082)

**RTRV-MAP:[TID]:[MTID]:[CTAG];**

MTID= {String of as many as 20 alphanumeric characters or hyphens. The string must begin with an alphabetic character. Upper- and lowercase alphabetics are equivalent.}

**Related Documentation**

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	<p>Select action.</p> <p>To retrieve gateway mapping table entries, go to step 2.                      To create a gateway mapping table entry, go to step 4.                      To change a gateway mapping table entry, go to step 6.                      To delete a gateway mapping table entry, go to step 8.                      To end this procedure, go to step 10.</p>



## Retrieve TL1 Gateway Mapping Entries

- 2 At prompt, type

**RTRV-MAP::MTID;**

where MTID is the identifier of the NE, or is omitted to retrieve all mapping entries.

For example:

```
agent>RTRV-MAP::BOSTON-95;
```

```
ALCATEL-1677SL 2003-01-24 13:50:02
M 0 COMPLD
  "BOSTON-95:128.251.48.130,3082,S"
/* RTRV-MAP */
;
```

- 3 Go to step 1.

## Create TL1 Gateway Mapping Entry

- 4 At prompt, type

**ENT-MAP::MTID:::IPADDR,PORT;**

where:

MTID is the identifier of the NE to be accessed through the TL1 gateway.

IPADDR is the IP address of that NE.

PORT is the TL1 raw-mode IP port number to be used; if this value is omitted, port 3082 is used.

For example,

```
agent>ENT-MAP::BOSTON-95:::128.251.48.130;
```

```
ALCATEL-1677SL 2003-01-24 13:50:02
M 0 COMPLD
/* ENT-MAP */
;
```

- 5 Go to step 1.

**Change TL1 Gateway Mapping Entry**

6 At prompt, type

**ED-MAP::MTID::IPADDR,PORT;**

where:

MTID is the identifier of the NE to be accessed through the TL1 gateway.

IPADDR is the IP address of that NE.

PORT is the TL1 raw-mode IP port number to be used; if this value is omitted, port 3082 is used.

For example,

```
agent>ED-MAP::BOSTON-95::128.251.48.130,3081;
```

```
ALCATEL-1677SL 2003-01-24 13:52:19
M 0 COMPLD
/* ED-MAP */
;
```

7 Go to step 1.

**Delete TL1 Gateway Mapping Entry**

8 At prompt, type

**DLT-MAP::MTID;**

where MTID is the identifier of the NE to be accessed through the TL1 gateway.

For example,

```
agent>DLT-MAP::BOSTON-95;
```

```
ALCATEL-1677SL 2003-01-24 14:06:20
M 0 COMPLD
/* DLT-MAP */
;
```

9 Go to step 1.

10 **STOP. This procedure is complete.**

## DLP-266

### Retrieve/ Change Site Identifier

#### PURPOSE

Follow this procedure to retrieve or change the unique identifier for the NE. The site identifier appears in command response messages, and is used as the target identifier when addressing an NE through a TL1 gateway.

For the 1677 SONET Link, the default site identifier is **ALCATEL-1677SL**.

#### COMMAND SYNTAX

The syntax of each command used in this procedure follows. This syntax is followed by options and ranges for applicable input parameters. For more information, refer to the Software Reference Guide in the back of this manual and to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**RTRV-HDR:[TID]::[CTAG];**

**SET-SID:[TID]::[CTAG]::SID;**

SID= {String of as many as 20 alphanumeric characters or hyphens. The string must begin with an alphabetic character. Upper- and lowercase alphabetics are equivalent.}

#### Related Documentation

Refer to the 1677 SONET Link Address and Location Guide (PN 106122-A) for equipment entities and Access Identifiers (AIDs).

Refer to the 1677 SONET Link Maintenance and Trouble Clearing manual (PN 106112-A) for procedures to clear alarms.

Refer to the 1677 SONET Link Turn-Up manual (PN 106034-A) for ESD precaution procedures.

Refer to the 1677 SONET Link Installation Practices manual (PN 106035-A) for installation information.

STEP	PROCEDURE
1	Select action.  To retrieve current site identifier, go to step 2. To change site identifier, go to step 5. To end this procedure, go to step 7.
<b>Retrieve Site Identifier</b>	
2	At prompt, type  <b>RTRV-HDR;</b>
3	Examine output to determine current site identifier, which appears on the first line.  The following example shows the default site identifier (ALCATEL-1677SL):  agent> <b>RTRV-HDR;</b>  ALCATEL-1677SL 2003-01-24 14:09:16 M 0 COMPLD /* RTRV-HDR */ ;  4 Go to step 1.

## Change Site Identifier

5 At prompt, type

**SET-SID:.....SID;**

where SID is the new identifier for this NE.

The following example changes the site identifier from ALCATEL-1677SL to BOSTON-95:

agent>**SET-SID:.....BOSTON-95;**

BOSTON-95 2003-01-28 14:29:32

M 0 COMPLD

/\* SET-SID \*/

;

ALCATEL-1677SL 2003-01-28 14:29:32

A 307 REPT DBCHG

"DATE=2003-01-28,TIME=14-29-32,SOURCE=0,USERID=rich,DBCHGSEQ=69:SET-SID:BOSTON-95"

;

agent>

BOSTON-95 2003-01-28 14:29:33

A 308 REPT EVT COM

"CHASSIS:TOPOLOGY-CHANGED,,01-28,14-29-33,,,,,:\"Topology Changed Event\\\""

;

6 Go to step 1.

7 **STOP. This procedure is complete.**



# Software Reference Guide

## 1. INTRODUCTION

**1.1** This Software Reference Guide provides supplementary information to be used with the User's Guide for the 1677 SONET Link.

- Section 2 (States) defines primary and secondary states for equipment and facilities.
- Section 3 (Codes) lists all codes including condition types, errors, and equipment- and facility-level default conditions.
- Section 4 (Security) explains system security, which prevents unauthorized access to system commands and determines each user's access level.
- Section 5 (Performance Monitoring) lists PM parameters supported in the system, parameter maximum values and threshold levels, and factory defaults for each parameter.
- Section 6 (Test Access) describes test access and shows example test access setups.





## 2. STATES

**2.1** This section defines the Primary States (PSTs) and Secondary States (SSTs) used in the 1677 SONET Link.

### State Names

**2.2** The system uses entity states to indicate the availability of an entity in providing its functions. (The term *entity* represents the resource or service generally identified by the Access Identifier [AID] parameter.) If an entity is not available, the entity states indicate the cause of the unavailability and what action can be taken to make the entity available. An entity's state is described by two parameters, the PST (primary state) and the SST (secondary state).

### Primary State Values

**2.3** The PST indicates the current overall service condition of an entity. Refer to table 2-A for the PST values used in the system.

**Table 2-A. Primary State Values**

STATE NAME	DEFINITION
IS	In Service - The entity currently can provide all its provisioned functions.
OOS-AU	Out Of Service-Autonomous - The entity currently cannot perform any service functions due to the occurrence of an unsolicited event.
OOS-AUMA	Out Of Service-Autonomous and Management - The entity is intentionally suspended by an external management command (from an OS or user interface) from performing its provisioned functions, and is unable to perform any service functions due to the occurrence of an unsolicited event.
OOS-MA	Out Of Service-Management - The entity is intentionally suspended by an external management command (from an OS or user interface) from performing its provisioned functions; however, it may still be operationally capable of performing its provisioned functions when assigned with resource/service parameters.

**2.4** If an entity is out of service (OOS), the PST indicates whether the out-of-service condition is due to an external management command (from an OS or user interface) or is caused by the system because of an internal event, or both.

**2.5** When provisioning an entity and specifying a PST value in a command, the PST name is shortened to IS (in service) or OOS, but the full PST name (for example, OOS-AUMA) is used when provided in output response messages.

Most commands will accept any of OOS, OOS-MA, and MA as synonyms for out-of-service; OOS is the preferred input format.

## Secondary State Values

**2.6** The SST provides additional information pertaining to the PST. Multiple SST values may apply to an entity at a particular instant. If more than one SST value applies to an entity, the SST values are grouped with an ampersand (&) in the output response message (for example, FAF&SGEO).

Refer to table 2-B for SST values used in the system.

**Table 2-B. Secondary State Values**

STATE NAME	DEFINITION
AINS	Automatic In-Service - The entity can transition to IS state if it is operationally capable.
BUSY	Busy - The entity is has been cross-connected.
DSBLD	Disabled - The facility is prohibited from carrying traffic. When a line facility is manually disabled, the line signal (optical or electrical) is shut off and all alarms and performance monitoring are disabled. A facility may be disabled only in the OOS-MA or OOS-AUMA states.
FAF	Facility Failure - The associated facility entity has failed.
FLT	Fault - The entity is OOS due to at least one hardware fault.
LPBK	Loopback - The entity is in a loopback operation.
MEA	Mismatch of Equipment and Attributes - The entity is installed with incorrect equipment or card, or the correct equipment is installed, but it has improper attributes assigned.
NALM	The reporting of alarms and events such as threshold crossing alerts has been inhibited indefinitely. Fault and performance monitoring will continue internal to the entity, and fault and performance monitoring information is available on request.
NBK	No Backup - For entity provisioned with backup, its backup entity is OOS, therefore no further backup is available.
PMI	Performance Monitoring Inhibited - All Performance Monitoring (PM) is temporarily inhibited for the entity.
PRI	Protection Release Inhibited - The protection entity is inhibited from automatic release from protection.
PSI	Protection Switching Inhibited - The working entity is inhibited from automatically switching to protection.

**Table 2-B. Secondary State Values (cont.)**

<b>STATE NAME</b>	<b>DEFINITION</b>
ROLL	Roll - The entity is currently in a roll connection. The state is temporary if the roll mode is automatic. If the roll mode is manual, the entity remains in the state until the roll operation is manually completed.
SDEE	Supported Entity Exists - The entity is currently supporting other entities.
SGEO	Supporting Entity Outage - The associated supporting entity has failed or is out of service due to management action.
STBYH	Standby, Hot - The entity is backing up another entity and it is synchronized with the backed up entity. A hot standby entity can assume the role of the backed up entity with no need for initialization.
STBYI	Standby Inhibited - The standby entity is inhibited from taking over from the backed-up entity. This state is the result of the INH-SWTOPTN command.
STBYS	Standby Switched - This value indicates that the standby entity has taken over for the backed-up entity.
TRM	Terminated - The facility entity has been given termination parameters (or a subordinate entity has a secondary state of BUSY). Note that TRM is set for STS1 entities that are cross-connected to T3, or that have had at least one embedded VT1.5 or T1 cross-connected. TRM is also set on GigE facilities that have had all of their required Ethernet Virtual Concatenation entities cross-connected.
TS	Test - Test access activity is currently being performed on or by the entity.
UAS	Unassigned - The entity has not been assigned with necessary provisioning data.
UEQ	Unequipped - The equipment entity is not equipped with necessary hardware, or software entity is not loaded with necessary data or code.
WRK	Working - The redundant entity is currently providing service.



### 3. CODES

#### Condition Type Codes

**3.1** Refer to table 3-C for condition type codes. The DESCRIPTION column defines the conditions or alarms that can occur.

**Table 3-C. Condition Type Codes**

CONDITION TYPE	DESCRIPTION
AIS	Alarm indication signal detected.
AIS-L	AIS Line
AIS-P	AIS Path
AISFEAC	AIS reported by DS3 far-end alarm & control.
ALS	Automatic Laser Shutdown
APSB	Protection switching byte failure.
APSC	Automatic protection switch channel failure.
APSCDFLT	Default K bytes.
APSCIMP	Improper K bytes.
APSCINCON	Inconsistent APS codes.
APSCM	Protection switching channel match failure.
APSCMM	BLSR protection switching mode mismatch.
APSCNMIS	Node ID mismatch.
APSCTRS	Transient improper K bytes.
APSDFLT	Automatic Protection Switch Default.
APSINCON	Twelve consecutive frames occurred and no 3 consecutive frames contained identical APS bytes.
APSMM	Protection switching mode mismatch.
AUTORESET	Automatic system reset
BERL	Bit Error Ratio Line crossed.
BKUPMEMP	Redundant nonvolatile backup memory failure
BKUPMEMS	Physical nonvolatile backup memory failure
BKUPMEMSYNCH	Redundant disk synchronization is underway.
CFGFLT	Configuration file is invalid.
CFGSEC	Attempt to switch to unconfigured secondary control processor.
CLFAN	Fan failure
CLKALM	Clock alarm detected on non-system-control processor.
CONTBUS-7	No valid message bus A arbiter could be selected
CONTBUS-8	No valid message bus B arbiter could be selected
CONTR	Control processor failure.

**Table 3-C. Condition Type Codes (cont.)**

<b>CONDITION TYPE</b>	<b>DESCRIPTION</b>
CONTR-X	Control processor failure [-x distinguishes various problems].
CONTRDUP	Failure of duplex control processor.
DATAFLT	Data integrity fault.
DBMEMTRF	Database memory transfer failed.
DISK90	Disk is 90% full.
DISKFULL	Disk is completely full.
DNR	SONET line is in Do Not Revert state.
DS1ISD	DS1 idle signal detected (DS3 FEAC) .
EQPTCOMFEAC	DS3 FEAC reports common equipment failure.
EQPTDS1FEAC	DS3 FEAC reports DS1 equipment failure.
EQPTFEAC	DS3 FEAC reports equipment failure.
FACTERM	Facility/circuit termination equipment failure
FAILTORLS	Failure to release protection switch
FAILTORLS-RING	Failure to release protection switch - BLSR ring
FAILTORLS-SPAN	Failure to release protection switch - BLSR span
FAILTOSW	Failure to switch to protection
FAILTOSW-RING	Failure to switch to protection - BLSR ring
FAILTOSW-SPAN	Failure to switch to protection - BLSR span
FAILTOSW-SPAN-FE	Failure to switch to protection - BLSR span, far end
FAILTOSW-RING-FE	Failure to switch to protection - BLSR ring, far end
FEPRLF	Far end protection line failure
FERF	Line far end failure
FPSWDIS	Front panel switch disables card
FPSWOFF	Front panel switch is off
FPSWON	Front panel switch is on
FRCD	Forced
FRCD-RING	A forced BLSR ring switch request is in effect
FRCDWKSWBK	Working facility/equipment forced to switch back to working
FRCDWKSWPR-RING	Forced BLSR ring switch completed
FRCDWKSWPR-RING-FE	Forced BLSR ring switch completed by far end
FRCDWKSWPR-SPAN	Forced BLSR span switch completed
FRCDWKSWPR-SPAN-FE	Forced BLSR span switch completed by far end
FRD	Fraud detected
HLDOVRSYNC	Holdover synchronization
IMPROPINS	Improper insertion
IMPROPRMVL	Improper removal
INHAUTOMODESW	Inhibition of automatic mode switch

**Table 3-C. Condition Type Codes (cont.)**

<b>CONDITION TYPE</b>	<b>DESCRIPTION</b>
INHEX-RING	Inhibit Exercise Tests (BLSR).
INHMSG-CR	Inhibition of automatic messages of notification code CR
INHMSG-MJ	Inhibition of automatic messages of notification code MJ
INHMSG-MN	Inhibition of automatic messages of notification code MN
INHMSG-NA	Inhibition of automatic messages of notification code NA
INHMSG-PM	Inhibition of performance monitoring (PM) messages
INHMSG-TYPE	Inhibition of automatic messages of type TYPE
INHPMMON	Collection of performance monitoring data is inhibited
INHPMREPT	Inhibit PM Reports.
INHSWPR	Switching to protection is inhibited
INHSWWKG	Switch to working (release from protection) is inhibited
INIT	Card or system initialization
INIT-2	Resetting control card
INT	Internal hardware fault or failure
INT-1	No valid oscillator could be selected
INT-19	I/O card ID ROM improperly programmed
INT-2	No valid system clock could be selected
INT-4	Local oscillator alarm state will not clear
INT-IOC-ROM	I/O card optical configuration misprogrammed
ISD	DS3 FEAC idle signal detected
LCD	Loss of ATM cell delineation
LINENA	Line Not Available.
LOCKOUTOFPR	Lockout of Protection.
LOCKOUT-LOWR	A BLSR ring lockout switch request is in effect for the local NE.
LOCKOUT-LPS	A BLSR ring lockout switch request is in effect for the entire ring.
LOF	Loss of frame
LOF-L	Loss of frame, line
LOP	Loss of pointer
LOP-P	Loss of pointer, path
LOS	Loss of signal
LOS-L	Loss of signal, line
LOSDS1FEAC	DS3 FEAC reports single DS1 LOS
LOSFEAC	DS3 FEAC reports LOS
LOSMDS1FEAC	DS3 FEAC reports multiple DS1 LOS
LPBKLINE	Loopback, line
LPBKLINE-FE	Loopback, line, far-end
LPBKPAYLOAD	Loopback, payload

**Table 3-C. Condition Type Codes (cont.)**

<b>CONDITION TYPE</b>	<b>DESCRIPTION</b>
LPBKPAYLOAD-FE	Loopback, payload, far-end
LPR	Low laser power (receiver)
MAN	Manually caused abnormal condition
MAN-RING	A BLSR ring request was made manually to switch from working to protection channels.
MANWKSWBK	Working facility/equipment manually switched back to working
MANWKSWPR-RING	Manual BLSR ring switch completed
MANWKSWPR-RING-FE	Manual BLSR ring switch completed by far end
MANWKSWPR-SPAN	Manual BLSR span switch completed
MANWKSWPR-SPAN-FE	Manual BLSR span switch completed by far end
MON	Failure of monitoring equipment or communications
MTCE	Maintenance. An OC facility was placed in maintenance service state.
NID-CONFL	BLSR Node identification conflict
OALCASETEMP	Optical unit case temperature alarm
OALKEYLOCK	EDFA key lock
OALLBC	Laser bias current level excessive
OALLIFE	Laser life exceeded
OALLOPOW	Optical loss of output power
OALPWR	Received laser power excessive
OALTEMP	Laser temperature excessive
OARXLOCK	Laser receiver lock error
OATXLOCK	Laser transmitter lock error
OCD	Out of cell delineation (ATM)
OOF	Out of framing
OOS	Out of service
PDI	Payload defect indication
PDI-P	Payload defect indication, SONET path
PMFLT	Fault or failure gathering performance monitoring (PM) statistics
PROTCFG	Failover to configured protection card
PWR	Power failure
RAI	Remote alarm indication
RCVRY	Automatic recovery or service protection action initiated
RDI-L	Remote defect indication - line
RDI-P	Remote defect indication - path
RESETLIM	Reset limit reached; card has been reset too frequently
RFI	Remote failure indication
RFI-L	Remote failure indication - line
RFI-P	Remote failure indication - path



**Table 3-C. Condition Type Codes (cont.)**

<b>CONDITION TYPE</b>	<b>DESCRIPTION</b>
RNG-INC	BLSR ring incomplete
RNG-INIT	BLSR ring initializing
RNG-PREEMPT	BLSR ring extra traffic has been preempted
RNG-SQUELCH	BLSR ring traffic has been squelched due to ring segmentation
RVCRY	Automatic recovery or service protection action initiated
SCMMA	State change due to manual maintenance action
SD	Signal degrade (SONET)
SECBUFTHX	Security buffer threshold exceeded
SECTRCERR	The section trace data (SCNTRCDATA) is the same on both the incoming and outgoing section trace.
SECTRCMF	Section Trace Mismatch. Expected section trace and the incoming section trace are different.
SF	Signal failure (SONET)
SFI	Synchronization failure indication
SFT	Software failure or fault
SLMF	Signal label mismatch failures - SONET
SNTP	The time-of-day clock has been set to the primary server time
SNTPFAIL	Failed to set the time through SNTP at a regularly scheduled polling interval
SNTPPRIDN	Failed to ping the primary SNTP server
SNTPPRIUP	The primary SNTP server has been successfully pinged
SNTPSEC	The time-of-day clock has been set to the secondary server time
SNTPSECDN	Failed to ping the secondary SNTP server
SNTPSECUP	The secondary SNTP server has been successfully pinged
SQMAP-CONFL	Squelch map conflict
SQMAP-INCST	Squelch map inconsistent
SQMAP-UPD	Squelch map update
SWEQPT	Protection switching equipment failure
SWMTXMOD	Switching matrix model failure
SWTOINT	Switch to internal timing
SWTOSEC	Switch to secondary timing
SWEX-RING	A BLSR span switch exercise, automatic or manual, has failed.
SYNC	Loss of timing on a protected synchronization link
SYNCCLK	Synchronization unit failure
SYNCINT	The internal timing source has been selected
SYNCLEVINFAIL	Synchronization Level Input Failure.
SYNCOOS	Loss of timing synchronization on primary and secondary links
SYNCPRI	Loss of timing synchronization on primary link
SYNCSEC	Loss of timing synchronization on secondary link

**Table 3-C. Condition Type Codes (cont.)**

CONDITION TYPE	DESCRIPTION
SYNCSTATCHNG	Synchronization status change
SYSBOOT	System has rebooted
T-CVL	Coding violations - Line TCA
T-CVS	Coding violations - Section TCA
T-ESL	Errored seconds - Line TCA
T-ESS	Errored seconds - Section TCA
TIM-P	SONET trace identifier message defect - path
TIME	The time-of-day clock has been manually changed
T-MONTYPE	Placeholder for thresholded monitor types
T-SEFS	Severely errored framing seconds TCA
T-SESL	Severely errored seconds - Line TCA
T-SESS	Severely errored seconds - Section TCA
T-UASL	Unavailable seconds - Line TCA
UNEQ-P	Unequipped - STS
WKSWBK	Working facility/equipment switched back to working
WKSWBK-RING	Working facility/equipment switched back to working - BLSR ring
WKSWBK-SPAN	Working facility/equipment switched back to working - BLSR span
WKSWPR	Working facility/equipment switched to protection unit
WKSWPR-RING	Automatic BLSR ring switch completed
WKSWPR-RING-FE	Automatic BLSR ring switch completed by far end
WKSWPR-SPAN	Automatic BLSR span switch completed
WKSWPR-SPAN-FE	Automatic BLSR span switch completed by far end
WKSWPR-X	Working facility/equipment switched to protection unit x, or because of condition x
WTR	SONET line is in wait-to-restore state
YEL	Yellow alarm received

## Notification Codes

**3.2** Refer to table 3-D for notification codes reported by the system. Codes are listed in order of significance.

**Table 3-D. Notification Codes**

NOTIFICATION CODE	DEFINITION
All	All codes
CL	Cleared. Never used in provisioning requests or returned in RTRVs - only active conditions are available through the RTRV-EVT/COND/ALM messages; by definition their notification codes are never CL/CLEAR.
CR	Critical - reported through REPT^ALM

**Table 3-D. Notification Codes**

NOTIFICATION CODE	DEFINITION
MJ	Major - reported through REPT^ALM
MN	Minor - reported through REPT^ALM
NA	Not alarmed - reported through REPT^EVT. Used only in provisioning requests.
NR	Not reported. Used only in provisioning requests. Conditions with this notification code are not considered alarms and are not reported using REPT^EVT; however, they are available through the REPT^COND and RTRV-COND messages.

## Service Affect Codes

**3.3** Refer to table 3-E for service affect codes that indicate whether a condition is service-affecting or non-service-affecting.

**Table 3-E. Service Affect Codes**

SERVICE AFFECT	DEFINITION
SA	Service-affecting, immediate action required
NSA	Non-service-affecting, action required

## Response (Error) Codes

**3.4** Refer to table 3-F for a list of response (error) codes used in unsuccessful response messages by the system.

**Table 3-F. Response (Error) Codes**

CODE	ERROR CATEGORY	DEFINITION
EANS	EQUIPAGE	Access Not Supported
EATN	EQUIPAGE	Not Valid for Access Type
EFON	EQUIPAGE	Feature Option Not Provided
EN2T	EQUIPAGE	Not 2-Wire Terminate and Leave
ENAC	EQUIPAGE	Not Equipped with Alarm Cutoff
ENAD	EQUIPAGE	Not Equipped with Audit Capability
ENAR	EQUIPAGE	Not Equipped with Automatic Reconfiguration
ENAT	EQUIPAGE	Request Not Valid for Access Type
ENDG	EQUIPAGE	Not Equipped with Diagnostic Capability
ENDS	EQUIPAGE	Not Equipped with Duplex Switching
ENEA	EQUIPAGE	Not Equipped with Error Analysis Capability
ENEQ	EQUIPAGE	Not Equipped

**Table 3-F. Response (Error) Codes (cont.)**

<b>CODE</b>	<b>ERROR CATEGORY</b>	<b>DEFINITION</b>
ENEX	EQUIPAGE	Not Equipped with Exercise Capability
ENFE	EQUIPAGE	Feature Not Provided
ENFE	EQUIPAGE	Feature Not Provided
ENFL	EQUIPAGE	Not Equipped for Fault Locating
ENHN	EQUIPAGE	Not Hybrid Network
ENMB	EQUIPAGE	Not Multipoint Bridge
ENMD	EQUIPAGE	Not Equipped with Memory Device
ENPM	EQUIPAGE	Not Equipped for Performance Monitoring
ENPS	EQUIPAGE	Not Equipped with Protection Switching
ENRE	EQUIPAGE	Not Recognized Equipage
ENRI	EQUIPAGE	Not Equipped for Retrieving Specified Information
ENRS	EQUIPAGE	Not Equipped for Restoration
ENSA	EQUIPAGE	Not Equipped for Scheduling Audit
ENSG	EQUIPAGE	Not Software Generic
ENSI	EQUIPAGE	Not Equipped for Setting Specified Information
ENSS	EQUIPAGE	Not Equipped with Synchronization Switching
ENTL	EQUIPAGE	Not Terminate and Leave
ERLC	EQUIPAGE	Red-Lined Circuit
ERNS	EQUIPAGE	RTU Does Not Support Command
ESPG	EQUIPAGE	Software Program
ETNS	EQUIPAGE	TSC Does Not Support Command
FNCR	FAULT	NE Failure - Circuit Restored to Last Condition - Monitor or Terminate
FNDT	FAULT	No Dial Tone Detected
FNEC	FAULT	NTE Has Lost 8-kHz Byte Clock
FNSC	FAULT	NTE Has Lost 16-kHz Byte Clock
FRCE	FAULT	RTU Component or Configuration Error
FRDA	FAULT	RTU Does Not Answer the Call
FREC	FAULT	RTU 8-kHz Byte Clock Lost
FRNR	FAULT	RTU Does Not Reply
IBEX	INPUT	Block Extra
IBMS	INPUT	Block Missing
IBNC	INPUT	Block Not Consistent
ICNC	INPUT	Command Not Consistent
ICNV	INPUT	Command Not Valid
IDMS	INPUT	Data Missing
IDNC	INPUT	Data Not Consistent
IDNV	INPUT	Data Not Valid

**Table 3-F. Response (Error) Codes (cont.)**

<b>CODE</b>	<b>ERROR CATEGORY</b>	<b>DEFINITION</b>
IDRG	INPUT	Data Range Error
IEAE	INPUT	Entity To Be Created Already Exists
IENE	INPUT	Specified Object Entity Does Not Exist
IIAC	INPUT	Invalid Access Identifier (AID)
IICM	INPUT	Invalid Command
IICT	INPUT	Invalid Correlation Tag
IIDT	INPUT	Invalid Data Parameter
IIFM	INPUT	Invalid Data Format
IIPG	INPUT	Invalid Parameter Grouping
IISP	INPUT	Invalid Syntax or Punctuation
IITA	INPUT	Invalid Target Identifier
INAC	INPUT	Access Number Not Correct
INDV	STATUS	Invalid AID
INUP	INPUT	Non-null Unimplemented Parameter
IPEX	INPUT	Parameter Extra
IPMS	INPUT	Parameter Missing
IPNC	INPUT	Parameter Not Consistent
IPNV	INPUT	Parameter Not Valid
ISCH	INPUT	Syntax Invalid Character
ISPC	INPUT	Syntax Punctuation
ITSN	INPUT	Invalid/Inactive Test Session Number
MERR	STATUS	Multiple Error
PICC	PRIVILEGE	Illegal Command Code
PIFC	PRIVILEGE	Illegal Field Code
PIMA	PRIVILEGE	Invalid Memory Address
PIMF	PRIVILEGE	Invalid Memory File
PIRC	PRIVILEGE	Illegal Record Control
PIUC	PRIVILEGE	Illegal User Code
PIUI	PRIVILEGE	Illegal User Identity, Invalid UID
PLNA	PRIVILEGE	Login Not Active
RABY	RESOURCE	All Taps Busy
RALB	RESOURCE	All Units of Requested Type Are Busy
RANB	RESOURCE	Access Network Busy
RCBY	RESOURCE	Circuit Busy
RCIN	RESOURCE	Requested Circuit ID Does Not Exist
RNAN	RESOURCE	Requested NE Access Number Does Not Exist
RNAU	RESOURCE	Requested NE Access Number Unassigned

**Table 3-F. Response (Error) Codes (cont.)**

<b>CODE</b>	<b>ERROR CATEGORY</b>	<b>DEFINITION</b>
RNBY	RESOURCE	NE Is Busy
RRCP	RESOURCE	Unit Specified by Routing Code Busy
RRNG	RESOURCE	Requested Changes Exceeds Range
RTBY	RESOURCE	Requested Tap Busy
RTEN	RESOURCE	Requested Tab Does Not Exist
RTUB	RESOURCE	Test Unit Busy
SAAL	STATUS	Already Allowed
SAAS	STATUS	Already Assigned
SABT	STATUS	Aborted
SACS	STATUS	Access Unit Cannot Sync on Facility Signal
SADC	STATUS	Already Disconnected
SADS	STATUS	Access Unit in Diagnostic State
SAIN	STATUS	Already Inhibited
SAIS	STATUS	Already In Service
SAMS	STATUS	Already in Maintenance State
SAOP	STATUS	Already Operated
SAOS	STATUS	Already Out of Service
SAPF	STATUS	Access Path Continuity Check Failed
SAPR	STATUS	Already in Protection State
SARB	STATUS	All Resources Busy
SATF	STATUS	Automatic Test Failed
SCAT	STATUS	Circuit is Already Connected to Another Tap
SCBS	STATUS	Channel Busy
SCIS	STATUS	Circuit in Split Condition
SCNA	STATUS	Command Not Able To Be Aborted
SCNF	STATUS	Command Not Found
SCNS	STATUS	Circuit Not in Split Condition
SCOS	STATUS	Channel Out of Service
SCSD	STATUS	Cannot Split DS0B Circuit
SCSN	STATUS	Invalid Command Sequence
SDAS	STATUS	Diagnosis Already Started
SDBE	STATUS	Internal Database Error
SDFA	STATUS	Duplex Unit Failed
SDLD	STATUS	Duplex Unit Locked
SDNA	STATUS	Dumple Unit Not Available
SDNC	STATUS	Data Not Consistent
SDNR	STATUS	Data Not Ready

**Table 3-F. Response (Error) Codes (cont.)**

<b>CODE</b>	<b>ERROR CATEGORY</b>	<b>DEFINITION</b>
SDNS	STATUS	Diagnosis Not Started Yet
SEOS	STATUS	NTE Is Out of Service
SFAS	STATUS	Fault Locating Already Started
SFNS	STATUS	Fault Locating Not Started Yet
SFYA	STATUS	Facility Reports Yellow Alarm
SLBM	STATUS	List Below Minimum
SLEM	STATUS	List Exceeds Maximum
SLNS	STATUS	Log Not Started Yet
SLOS	STATUS	TSC to RTU Link Out of Service
SNCC	STATUS	Not Cross-connected
SNCN	STATUS	NTE Unable to Execute Command
SNDS	STATUS	NTE Is in a Diagnostic State
SNIM	STATUS	NTE Access Complete, Circuit Was in Monitor State
SNIS	STATUS	Not in Service
SNML	STATUS	No Monitor Line Established
SNNB	STATUS	NTE Could Not Sync on DS0B Signal
SNNS	STATUS	NTE Could Not Sync on DS1 Signal
SNOS	STATUS	NTE Is Out of Service
SNPR	STATUS	Not in Protection State
SNRM	STATUS	Systsem Not in Restoration Mode
SNRS	STATUS	Not Reserved
SNSR	STATUS	No Switch Request Outstanding
SNVS	STATUS	Not in Valid State
SNYA	STATUS	NTE Has Detected a Yellow Alarm
SOSE	STATUS	Operating System Error
SOST	STATUS	Out of Service, Testing
SPFA	STATUS	Protection Unit Failed
SPLD	STATUS	Protection Unit Locked
SPNA	STATUS	Process Not Able To Be Aborted
SPNF	STATUS	Process Not Found
SRAC	STATUS	Requested Access Configuration Is Invalid
SRAN	STATUS	Unable to Release Access System
SRCI	STATUS	Requested Command(s) Inhibited
SRCN	STATUS	Requested Condition Already Exists
SROF	STATUS	Requested Operation Failed
SROS	STATUS	Required RTU Out of Service
SRQN	STATUS	Invalid Request

**Table 3-F. Response (Error) Codes (cont.)**

<b>CODE</b>	<b>ERROR CATEGORY</b>	<b>DEFINITION</b>
SRTN	STATUS	Unable to Release Tap
SRTO	STATUS	Reply Timeout Occurred
SSCE	STATUS	Systemic (SNIDER) Communications Error
SSNG	STATUS	Subrate Selected Is Incorrect
SSNP	STATUS	Test Signal Not Pseudo-Random
SSNQ	STATUS	Test Signal Not QRS
SSPN	STATUS	Speed Selected Is Incorrect
SSRD	STATUS	Switch Request Denied
SSRE	STATUS	System Resources Exceeded
SSTP	STATUS	Stopped
STAB	STATUS	Test Aborted
STLC	STATUS	Tap Unable to Locate Channel
STNO	STATUS	TSC/RTU to TAU Link Out of Service
STOS	STATUS	Test Access Unit Out of Service
STTI	STATUS	Tap Idle
SVNS	STATUS	Not in Valid State
SWFA	STATUS	Working Unit Failed
SWLD	STATUS	Working Unit Locked



## 4. SECURITY

**4.1** TL1 commands are used to control the 1677 SONET Link and to optimize its operation and maintenance. Unauthorized use of these commands can degrade or completely destroy the functionality of the system. Security is concerned with two major sources of inappropriate use of system commands:

- Intruders (also called hackers) who may maliciously take control of the system with the intent of damaging or disabling the system
- Authorized users who use commands with which they are either unfamiliar or that are outside their scope of responsibility

**4.2** System security, when properly set up, effectively prevents unauthorized users from accessing system commands, responses, and messages. This includes both preventing intruders from accessing the system and restricting authorized users from using TL1 commands that are outside their scope of responsibility.

**4.3** The security scheme is based on setting up security values to restrict access to the system and its resources. This section describes how the system administrator uses security measures to proactively establish and maintain local security policies and practices.

**4.4** All new systems are shipped with default security values. Before customizing the security scheme by altering default values, the system administrator should read this section completely. Major topics include the following:

- Controlling system access
- Controlling access to system resources
- Maintaining security when using Auto Login
- Obtaining security audit information

### Controlling System Access

**4.5** The 1677 SONET Link can be accessed only through local or remote terminals connected to system Control Ports (CPORTs). System access requires every user to correctly enter the ACT-USER command using a valid UID and its corresponding PID within a preset number of attempts. (An exception to this requirement is CPORTs set up as Auto Login, described later in this section.)

**4.6** To prevent an unauthorized bystander from viewing a user's PID, local CPORTs display (as the user types) a series of asterisks (\*\*\*\*\*) in place of the PID as it is typed. The system also prevents a PID from being discovered on a local CPORT by using the F20 key to scroll back through recently entered commands.

**4.7** Remote CPORTs do not encrypt the PID on the external link between the user and the CID port on the system. It is possible that the ACT-USER command, including the UID and PID, may be discovered during a legitimate, authorized attempt to log into the system.

**4.8** When a login is attempted, the system verifies that the command was entered using the correct syntax and that the UID/PID combination matches encrypted records set up in the internal security database. If the UID and PID are acceptable, the user can access the system. A provisionable warning message displays with the date and time of the last successful session. The warning message is created and edited using the SET-WARN-MSG command. An example of a typical message is:

Warning: This system is restricted to authorized users for business purposes. Unauthorized access is a violation of the law. This service is being monitored for administrative and security reasons. By proceeding, you consent to this monitoring.

**4.9** If the UID and PID are not acceptable, the system denies access. The response to a denied login intentionally provides no additional information to the user. This prevents a hacker from discovering the ACT-USER command syntax, then repeatedly attempting login until a valid UID and corresponding PID is discovered.

## Entering New Users

**4.10** The system administrator sets up and controls the security database. The ENT-USER command is used to establish a security record for each person or network entity (such as an operations support system) that is allowed to access the system.

**4.11** A UID, a PID, and a Command Code Authorization Level (CCAL) are required for every user. Users must not share a UID/PID. (The CCAL is described in detail later in this section.) The UID must be unique within the system. The PID is not required to be unique in the system. This means that two or more users can have the same password at the same time. The system requires that PIDs be complex and meet the following requirements:

- It must be at least six and no more than 12 characters long.
- It must contain at least two alphabetic characters and at least one numeric character.
- Special characters %, +, #, and \_ (underscore) are allowed.
- It cannot be the same as the UID, the reverse of the UID, a circular shift of the UID, or a circular shift of the reverse of the UID.

**4.12** The user-security database is limited to 512 users. New systems are shipped with three pre-existing users: Alcatel user, system administrator, and system printer user. Thus, a new system can accommodate 509 new UIDs.

## User Aging

**4.13** The system uses UID aging to prevent inactive users from logging into the system after a period of disuse. This feature is enabled by setting the DISUSER parameter of the ED-SECU command to a nonzero number. This system-wide parameter applies to all users except the system administrator and Alcatel user. This number specifies the number of days in which there is no login for a user. If DISUSER is set to 180 days, a UID is disabled after about 6 months of inactivity. If DISUSER is set to 0, UID aging is not used within the system and UIDs are never disabled because of inactivity.

## Password Aging

**4.14** The system uses PID aging to require users to change their passwords periodically. This feature is enabled by setting the Password Aging Interval (PAGE) parameter of the ED-SECU command to a nonzero number. This system-wide parameter applies to all users except the system administrator and Alcatel user. This number specifies the number of days that a user's PID is aged before the system prompts the user to change to a new password. The user must use the ED-PID command to enter a new PID before the session in which the user receives this prompt is terminated. If the password is not changed during that session, the user's PID is deactivated.

**4.15** The system also tracks the number of days in which a password is inactive and, upon reaching a preset number of days, deactivates the PID. The DISUSER parameter of the ED-SECU command specifies the number of days in which there is no login for a user. This system-wide parameter applies to all users except the system administrator and Alcatel user.

**4.16** If a user's PID is deactivated by PAGE or DISUSER, the user's account can only be reactivated by the system administrator.

## User Control of Password

**4.17** Authorized users can change their own passwords, using the ED-PID command, at any time before the passwords expire. (If the password expires due to password aging, the system administrator must change the password.) To change the password, the user must be logged into the system using the current UID and PID. To change the PID, the user must know the UID and the old PID. This prevents an unauthorized person from inappropriately changing the currently logged-in user's password.

The command syntax is:

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

**4.18** To prevent PID discovery through trial and error, PIDs must be complex and meet the following requirements:

- It must be at least six and no more than 12 characters long.
- It must contain at least two alphabetic characters and at least one numeric character.
- Special characters %, +, #, and \_ (underscore) are allowed.
- It cannot be the same as the old PID.
- Password toggling (password1 → password2 → password1) is not allowed.
- It cannot be the same as the UID, the reverse of the UID, a circular shift of the UID, or a circular shift of the reverse of the UID.

## Setting Lockout for Unsuccessful Login Attempts

**4.19** To deter repeated attempts to breach login security, the system restricts the number of unsuccessful logins from each CPORT. When a potential user enters more than one invalid UID/PID, the system compares the number of attempts with a SUSPEND parameter stored in the security database. Setting SUSPEND to 0 indicates that this feature is disabled. If the number of further unsuccessful login attempts exceeds the SUSPEND parameter, the associated CPORT is locked out. Lockout duration is controlled by setting the SPERIOD parameter.

**4.20** When a CPORT is locked out, the system continues to prompt as usual. No indication is given to the person or entity attempting login that the system is locked out.

**4.21** The RTRV-SECU command is used to retrieve the SUSPEND and SPERIOD parameters. The ED-SECU command is used to change these two parameters. This command is also used to change other global system parameters that affect the security system, including X.25 parameters for remote CPORTs. By default, ED-SECU can be executed only by the system administrator.

## Automatic Logout

**4.22** The system automatically logs out inactive CPORTs after a specified period of inactivity. Inactivity is defined as no user input. The TMOUT parameter of the SET-ATTR-SECUDFLT command specifies whether the user is to be automatically logged out when the inactivity interval (period which triggers log out) expires (10 minutes is the default; 0 indicates disabled). The DURAL parameter of the SET-ATTR-SECUDFLT command specifies the number of seconds the port remains locked (1-999).

**4.23** Remote CIDs, in addition to being automatically logged out on inactivity, are logged out automatically upon loss of the link. The user must log in again using a valid UID and PID.

## Controlling Access to System Resources

**4.24** An important part of system security involves restricting the commands that users are allowed to execute, the output responses they are allowed to view, and the system messages they are allowed to receive.

**4.25** The following paragraphs describe system command security, the considerations for assigning privileges and categories, and the tasks required to accomplish resource control.

## **System Control of Command Use**

**4.26** The Permission filter compares Command Code Authorization Levels (CCALs) assigned to commands with CCALs assigned to users. If a user enters a restricted command, the comparison fails and the command is denied. This control is established through the UAP parameter of the ENT-USER-SECU and ED-USER-SECU commands.

## **Privilege and Category Assignments**

**4.27** Command usage is controlled in two ways:

- By assigning access privileges for each command. These assignments restrict the command to certain individuals.
- By assigning access privileges for each user. These assignments establish individual authorization levels.

**4.28** The following criteria are used to determine the security mix for a typical system:

- Determine command system-wide impact.
- Decide which commands users are allowed to issue.

**4.29** The security mix allows a wide degree of control over command use. If the workforce is relatively small and experienced with job assignments broadly defined, only a few functional categories and privilege levels may need to be defined. However, if individual work assignments are specialized, and workforce personnel have varying degrees of experience and qualifications, a more highly structured system of command categories and privilege levels may be needed.

**4.30** The system administrator UID defaults allow access to commands needed to establish user-security database records and change parameters affecting system security. In the absence of a system administrator account, commands that directly affect system security cannot be executed.

## Establishing User Privileges and Functional Categories

**4.31** To set or edit individual user command privileges, the UAP parameter of the ENT-USER-SECU and ED-USER-SECU commands is used. Values for this parameter should correlate with the structure established for assigning command privilege requirements.

## Obtaining Security Audit Information

**4.32** The system maintains an Audit Secure Log for security audit that records the following for each recorded event:

- The UID of the user entering the command
- The port on which the command was entered
- The date and time the command was entered
- The command that was entered
- Information as to whether the command was successful

**4.33** When the Audit Secure Log records any command in which a PID is entered or changed (ACT-USER, ENT-USER-SECU, ED-PID, or ED-USER-SECU), the PID is never shown in plain text. This prevents discovery of a user's password using the Audit Secure Log.

**4.34** The Audit Secure Log is read-only. It cannot be edited, deleted, or backed up and restored. This prevents anyone, including the security administrator, from tampering with the data in the log. The RTRV-AUDIT-SECULOG command can be used to retrieve information from the log.





## 5. PERFORMANCE MONITORING

**5.1** The system uses internal equipment monitoring to detect faults and card failures, and to issue appropriate alarms, alerting users of troubles. Equipment monitoring does not, however, detect deteriorating conditions that could lead to service-affecting failures. Performance Monitoring (PM) provides this important function. PM continuously monitors selected parameters of incoming traffic, detects errors, counts the detected errors, and reports daily error accumulations and at 15-minute intervals. PM also compares the error counts with user-defined thresholds and issues a REPT^EVT (report event) message when any error count crosses its defined threshold.

**5.2** The system performs PM on the following facility types:

- DS3
- OC-3
- OC-12
- OC-48
- OC-192
- STS-1
- STS-3c
- STS-12c
- STS-48c
- STS-192c
- VT1.5
- EDFA
- GigE

**5.3** The system monitors and reports several performance parameters that let the user distinguish between a system internal failure and an incoming facility failure. Refer to the Monitored Parameters subsection in this section for lists and definitions of the parameters monitored for each facility type.

**5.4** SET-TH-rr commands (where rr is the facility type: OC3, OC12, OC48, OC192, STS1, STS3C, STS12C, STS48C, OC192, DS3, VT1, or GigE) are used to define performance parameter thresholds for each circuit. The user can select the parameter type and threshold level, and initialize the error count register on a daily or 15-minute basis. These user-defined thresholds are stored in the circuit-provisioning database. RTRV-TH-rr commands cause the defined parameter thresholds to display on the Video Display Terminal (VDT).

## Storage Registers

**5.5** Refer to table 5-G for a list of the types and numbers of storage registers provided for each PM parameter monitored.

**Table 5-G. Number of Registers for Each PM Parameter Monitored**

REGISTER TYPE	NUMBER OF REGISTERS PER MONITORED PARAMETER	
	15-MINUTE	1-DAY
Current	1	1
Previous	1	1
Recent	31	0

## Register Initialization

**5.6** Current registers for 15-minute and 1-day counts accumulate error and event counts. When the count in any of these registers reaches a maximum value, the register remains full until either it is reset or the value is transferred to the Previous register. Current registers initialize in the following circumstances:

- Automatically every 15 minutes or 1 day (24 hours) (register value set to 0)
- Automatically upon initialization of subsystem where Current registers reside (register value set to 0)
- Manually using the INIT-REG-rr command at any time (register value set to any integer from 0 to 900 for registers that count in seconds, 0 to 65535 for all other registers)

**5.7** The INIT-REG-rr commands let the user reset selected error count registers to a desired value (default=0). The register's value then increments from that value as new errors are counted. When the end of the time period for the register (1-DAY or 15-MIN) is reached, its count is automatically initialized to 0.

## Validity Flags

**5.8** Each register marks accumulation data with an associated validity (VLDTY) flag. The system sets the VLDTY flag to one of the following values:

- ADJ - Adjusted, data has been manually adjusted or initialized
- NA - Not available, data not available
- COMPL - Complete, data accumulated during the entire accumulation period

**5.9** The ADJ validity flag is set if the PM data was adjusted or initialized using an INIT-REG-rr command.

**5.10** The NA validity flag is set if monitoring of the corresponding parameter is prevented for the entire accumulation period due to one of the following conditions:

- Presence of higher-level defect or failure during the accumulation period
- Disabling of PM data collection by the SET-PMMODE-rr command
- Failure of level-3 processor
- Completion of cold start of I/O cards (due to INIT-SYS phase 3) during or after the accumulation period

**5.11** The COMPL validity flag is set under all other conditions. It indicates that data was accumulated over the entire period.

## Threshold Registers

**5.12** Two threshold register a 15-minute threshold register a daily threshold registers are provided for each parameter monitored. Threshold registers are supported for DS3, OC-3, OC-12, OC-48, OC-192, STS-1, STS-3c, STS-12c, STS-48c, STS-192c, VT1.5, and GigE PM parameters.

**5.13** Use the SET-TH-rr command to set threshold register values and use RTRV-TH-rr to retrieve them. Minimum threshold register size is equal to the corresponding storage register size.

## Threshold Crossing Alerts

**5.14** A threshold value is crossed when a current value register reaches or exceeds the set value in the corresponding threshold register. When a threshold crossing is recognized, Threshold Crossing Alerts (TCAs) are generated using REPT^EVT messages.

**5.15** During an accumulation period, only one TCA is sent for each threshold setting on a Current register, unless the Current register is reset. In that case, the reset Current register must again reach or exceed its value before another TCA is sent.

**5.16** A threshold is not crossed (and no TCA is generated) if a register value that has reached a threshold value is reduced to less than the threshold value when unavailability is declared.

**5.17** Setting a threshold register value to zero inhibits the corresponding TCA from being generated or reported. This effectively disables that TCA for that entity.

## Scheduling Daily PM Report

**5.18** The SCHED-PMREPT command is used to enable automatic printing of the daily PM report; however, use of this command does not enable the report itself. Scheduled reports include all DS3, OC-3, OC-12, OC-48, OC-192, STS-1, STS-3c, STS-12c, STS-48c, STS-192c, VT1.5, and GigE PM data. The daily PM registers record system PM data from midnight to midnight. If the PMREPT is enabled, the daily PM report automatically prints at the time specified in the REPTSTATM parameter (the default is next reporting time). To schedule printing at a time other than midnight, enter the desired hour and minute in the REPTSTATM field. The start and end times of the surveillance period, however, cannot be changed.

**5.19** The RTRV-PMSCHED-ALL command displays on the VDT the current PM mode status and the designated time of the daily PM report defined by the SCHED-PMREPT-ALL command.

## Suppressing Scheduled PM Reporting

**5.20** The INH-PMREPT-ALL command can be used to suppress printing of the daily PM report. The stats remain in storage for 32 15-MIN intervals, then rolled over into the 1-DAY stats. It can then be retrieved using the RTRV-PM-rr command. When printing of the daily PM report is suppressed, a message appears on the VDT at midnight to indicate the report will not print.

## Retrieving Selective PM Data

**5.21** The RTRV-PM-rr commands are used to retrieve PM data on selected ports. These commands are used to let the user receive PM reports on specified ports immediately.

**5.22** RTRV-PM-rr can be used to automatically execute and display 15-minute and daily reports as follows:

- Immediately or at a designated date and time
- At a single port, range of ports, or all ports

**5.23** The user can also request up to one of the preceding 24-hour PM report or up to 32 of the preceding 15-minute reports.

## Monitored Parameters

Parameters monitored by the system (MONTYPES) vary according to facility.

- For a list of DS3 PM parameters, refer to table 5-H.
- For a list of OC-3 PM parameters, refer to table 5-I.
- For a list of OC-12 PM parameters, refer to table 5-J.
- For a list of OC-48 PM parameters, refer to table 5-K.
- For a list of OC-192 PM parameters, refer to table 5-L.
- For a list of STS-1 PM parameters, refer to table 5-M.
- For a list of STS-3c PM parameters, refer to table 5-N.
- For a list of STS-12c PM parameters, refer to table 5-O.
- For a list of STS-48c PM parameters, refer to table 5-P.
- For a list of STS-192c PM parameters, refer to table 5-Q.
- For a list of VT1.5 PM parameters, refer to table 5-R.
- For a list of EDFA PM parameters, refer to table 5-S.
- For a list of GigE parameters, refer to table 5-T.
- For a list of other PM parameters, refer to table 5-U.

For each facility type and MONTYPE there are default and maximum threshold levels. Refer to the 1677 SONET Link Commands and Messages manual (PN 106037-A).

**5.24** Refer to table 5-U for other parameters monitored by the system that may be associated with various facilities. They do not have threshold values and therefore do not cause TCAs.

**Table 5-H. DS3 PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Line PM Parameters for DS3	
CVL	Coding Violations
ESA-L	Errored Seconds Type A
ESB-L	Errored Seconds Type B
ESL	Errored Second Count
LOSS-L	Loss of Signal Seconds
SESL	Severely Errored Seconds
Near-End Path PM Parameters for DS3 or DS3 in SONET Path	
AISS-P	AIS Second Count
CVP-P, CVP	Coding Violations
ESAP-P	Errored Seconds Type A
ESBP-P	Errored Seconds Type B
ESP-P	Errored Seconds
SAS-P	SEF/AIS Seconds
SESP-P, SESP	Severely Errored Seconds
UASP-P, UASP	Unavailable Seconds
Near-End CP-Bit Path PM Parameters for DS3	
CVCP-P	Coding Violations
ESACP-P	Errored Seconds Type A
ESBCP-P	Errored Seconds Type B
ESCP-P	Errored Seconds
SESCP-P	Severely Errored Seconds
UASCP-P	Unavailable Seconds
Far-End CP-Bit Path PM Parameters for DS3	
CVCP-PFE	Coding Violations
ESACP-PFE	Errored Seconds Type A
ESBCP-PFE	Errored Seconds Type B
ESCP-PFE	Errored Seconds
SASCP-PFE	SEF/AIS Seconds
SESCP-PFE	Severely Errored Seconds
UASCP-PFE	Unavailable Seconds
Far-End Path PM Parameters for DS3 in SONET Path	
CV-PFE	Coding Violations
ES-PFE	Errored Seconds
SES-PFE	Severely Errored Seconds
UAS-PFE	Unavailable Seconds

**Table 5-I. OC-3 PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Section PM Parameters for OC-3	
CVS	Coding Violations
ESS	Error Second Count
SEFS	Severely Errored Frame Seconds
SESS	Severely Errored Seconds
Near-End Line PM Parameters for OC-3	
CVL	Coding Violations
ESL	Errored Seconds
SESL	Severely Errored Seconds
UASL	Unavailable Seconds
Far-End Line PM Parameters for OC-3	
CV-LFE	Coding Violations
ES-LFE	Errored Seconds
SES-LFE	Severely Errored Seconds
UAS-LFE	Unavailable Seconds

**Table 5-J. OC-12 PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Section PM Parameters for OC-12	
CVS	Coding Violations
ESS	Error Second Count
SEFS	Severely Errored Frame Seconds
SESS	Severely Errored Seconds
Near-End Line PM Parameters for OC-12	
CVL	Coding Violations
ESL	Errored Seconds
SESL	Severely Errored Seconds
UASL	Unavailable Seconds
Far-End Line PM Parameters for OC-12	
CV-LFE	Coding Violations
ES-LFE	Errored Seconds
SES-LFE	Severely Errored Seconds
UAS-LFE	Unavailable Seconds



**Table 5-K. OC-48 PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Section PM Parameters for OC-48	
CVS	Coding Violations
ESS	Error Second Count
SEFS	Severely Errored Frame Seconds
SESS	Severely Errored Seconds
Near-End Line PM Parameters for OC-48	
CVL	Coding Violations
ESL	Errored Seconds
SESL	Severely Errored Seconds
UASL	Unavailable Seconds
Far-End Line PM Parameters for OC-48	
CV-LFE	Coding Violations
ES-LFE	Errored Seconds
SES-LFE	Severely Errored Seconds
UAS-LFE	Unavailable Seconds
Optical PM Parameters for OC-48 (supported for OC-48 Drop and Continue cards only)	
OPRN	Optical Power Receive Normalized
LBCN	Laser Bias Current Normalized
LSRTEMP	Laser Temperature

**Table 5-L. OC-192 PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Section PM Parameters for OC-192	
CVS	Coding Violations
ESS	Error Second Count
SEFS	Severely Errored Frame Seconds
SESS	Severely Errored Seconds
Near-End Line PM Parameters for OC-192	
CVL	Coding Violations
ESL	Errored Seconds
SESL	Severely Errored Seconds
UASL	Unavailable Seconds
Far-End Line PM Parameters for OC-192	
CV-LFE	Coding Violations
ES-LFE	Errored Seconds
SES-LFE	Severely Errored Seconds
UAS-LFE	Unavailable Seconds

**Table 5-L. OC-192 PM Parameters (cont.)**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Optical PM Parameters for OC-192 (supported for OC-192 Drop and Continue cards only)	
OPRN	Optical Power Receive Normalized
LBCN	Laser Bias Current Normalized
LSRTEMP	Laser Temperature
OPTN	Optical Power Transmit Normalized

**Table 5-M. STS-1 PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Path PM Parameters for STS1	
CV-P	Coding Violations
ES-P	Errored Seconds
SES-P	Severely Errored Seconds
UAS-P	Unavailable Seconds
Far-End Path PM Parameters for STS1	
CV-PFE, CVPFE	Coding Violations
ES-PFE, ESPFE	Errored Seconds
SES-PFE, SESPFE	Severely Errored Seconds
UAS-PFE, UASPFE	Unavailable Seconds

**Table 5-N. STS-3c PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Path PM Parameters for STS-3c	
CV-P	Coding Violations
ES-P	Errored Seconds
SES-P	Severely Errored Seconds
UAS-P	Unavailable Seconds
Far-End Path PM Parameters for STS-3c	
CV-PFE, CVPFE	Coding Violations
ES-PFE, ESPFE	Errored Seconds
SES-PFE, SESPFE	Severely Errored Seconds
UAS-PFE, UASPFE	Unavailable Seconds

**Table 5-O. STS-12c PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Path PM Parameters for STS-12c	
CV-P	Coding Violations

**Table 5-O. STS-12c PM Parameters (cont.)**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
ES-P	Errored Seconds
SES-P	Severely Errored Seconds
UAS-P	Unavailable Seconds
Far-End Path PM Parameters for STS-12c	
CV-PFE, CVPFE	Coding Violations
ES-PFE, ESPFE	Errored Seconds
SES-PFE, SESPFE	Severely Errored Seconds
UAS-PFE, UASPFE	Unavailable Seconds

**Table 5-P. STS-48c PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Path PM Parameters for STS-48c	
CV-P	Coding Violations
ES-P	Errored Seconds
SES-P	Severely Errored Seconds
UAS-P	Unavailable Seconds
Far-End Path PM Parameters for STS-48c	
CV-PFE, CVPFE	Coding Violations
ES-PFE, ESPFE	Errored Seconds
SES-PFE, SESPFE	Severely Errored Seconds
UAS-PFE, UASPFE	Unavailable Seconds

**Table 5-Q. STS-192C PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Path PM Parameters for STS-192c	
CV-P	Coding Violations
ES-P	Errored Seconds
SES-P	Severely Errored Seconds
UAS-P	Unavailable Seconds
Far-End Path PM Parameters for STS-192c	
CV-PFE, CVPFE	Coding Violations
ES-PFE, ESPFE	Errored Seconds
SES-PFE, SESPFE	Severely Errored Seconds
UAS-PFE, UASPFE	Unavailable Seconds

**Table 5-R. VT1.5 PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Near-End Path PM Parameters for VT1.5	
CV-V	Coding Violations
ES-V	Errored Seconds
SES-V	Severely Errored Seconds
UAS-V	Unavailable Seconds
Far-End Path PM Parameters for VT1.5	
CV-VFE	Coding Violations
ES-VFE	Errored Seconds
SES-VFE	Severely Errored Seconds
UAS-VFE	Unavailable Seconds

**Table 5-S. EDFA PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
Optical PM Parameters	
OPRN	Optical Power Receive Normalized
LBCN	Laser Bias Current Normalized
LSRTEMP	Laser Temperature
OPTN	Optical Power Transmit Normalized

**Table 5-T. GigE PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
ETH-FCS	Ethernet Frame Checksum Errors Received
ETH-FLME	Ethernet Frames Lost Due to MAC Error (Receive)
ETH-FLMTE	Ethernet Frames Lost Due to MAC Transmit Error
ETH-FRAG	Ethernet Fragments Received
ETH-JABB	Ethernet Jabbers Received
ETH-LENERR	Ethernet Length Errors
ETH-LFR	Ethernet Too-Long Frame Count
ETH-SFR	Ethernet Short Frame Count
ETH-SYMERR	Ethernet Receive Symbol Errors
ETH-SYSERR	Ethernet Transmit System Errors

**Table 5-U. Other PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
FC-L	Failure Count Line
FC-LFE	Failure Count Line (Far-End)

**Table 5-U. Other PM Parameters**

<b>MONTYPE PARAMETER</b>	<b>DEFINITION</b>
FC-P	Failure Count Path
FC-PFE	Failure Count Path (Far-End)
FC-V	Failure Count VT
FC-VFE	Failure Count VT (Far-End)
PSC	Protection Switching Count



## 6. TEST ACCESS

**6.1** Test access allows for the monitoring, injection, and isolation of signals to isolate facility and/or equipment faults. The user can assign any DS3, OC-3, OC-12, OC-48, or OC-192 port to function as a test access Facility Access Digroup (FAD) to monitor incoming or outgoing DS3, STS-1, STS-3c, STS-12c, STS-48c, or STS-192c signals. Two DS3 signals are assigned as FAD A and FAD B to form a Test Access Port Pair (TAPP). Restrictions are as follows:

TAD B must be manually provisioned on any port of appropriate type/bandwidth of the Alcatel 1677 SONET Link by means of the TL1 commands ENT-T3/STS<sub>n</sub> or ED-T3/STS<sub>n</sub>, where STS<sub>n</sub> is STS1, STS3C, STS12C, STS48C, or SCS192C. These commands allow a port to be provisioned as a Test Access Digroup (TAD), and will allow the identification and association of TAD A with TAD B.

**6.2** The Test Access Path (TAP) can be manipulated locally or remotely through software control. The system acts as a Digital Test Access Unit (DTAU) to a Generic Test System (GTS). The GTS uses a Remote Test Unit (RTU) to interface through the TAP to the system's TAPP. The system supports monitor, split, and loop test access connections.

**6.3** The ENT-T3 or ED-T3 command is used to assign any two DS3 ports as a TAPP (FAD A and FAD B) by manually provisioning both the FADA and FAD B parameters. The CONN-TACC-T3 command is then used to establish a test access connection to probe the cross-connection established between two other DS3 ports or another DS3 standalone port utilizing the TAPP ports for the test access path. The Equipment side and Facility side ports of the cross-connection are identified by the <AID> and <AID1> parameters of the TL1 command.

**6.4** The ENT-STS<sub>n</sub> command is used to assign any two STS-1, STS-3c, STS-12c, STS-48c, or STS-192c signals respectively, as a TAPP (TAD A and TAD B). The CONN-TACC-STS<sub>n</sub> command is used to establish a test access connection to probe the cross-connection established between two other STS-1, STS-3c, STS-12c, STS-48c, or STS-192c ports or another STS-1, STS-3c, STS-12c, STS-48c, or STS-192c standalone port utilizing the TAPP ports for the test access path. Equipment-side (AID) and facility-side (AID1) ports are defined in the CONN-TACC-T3/STS<sub>n</sub> commands. Note that explicit definition of AID1 is optional. AID1 can be deduced automatically if not supplied in the CONN-TACC command.

**6.5** The CONN-TACC-T3/STS<sub>n</sub> command may be used to set the test mode to monitor, split, or loop. The CHG-ACCMD-T3/STS<sub>n</sub> command is used to change the test access mode to a different mode at a later time. The RTRV-TACC command is used to retrieve information on configured test access ports.

## Monitor Connections

**6.6** Monitor connections establish a bridged connection with a DS3, STS-1, STS-3c, STS-12c, STS-48c, or STS-192c circuit, but normal signal transmission continues with the test access connection transparent to the signal. The incoming signal passes through the designated port and the assigned TAP simultaneously, and the unused direction of the test port automatically terminates.

**6.7** Monitor connections are not service affecting.

**6.8** Monitor connections can be provisioned when the test access connection is established using CONN-TACC-T3/STS<sub>n</sub>, or it can be changed using CHG-ACCMD-T3/STS<sub>n</sub>. There are three monitor test modes (TMODEs):

1. MONE (monitor equipment side): Connects the equipment-side transmission path (A-side path) to FAD A or TAD A. See figure 6-1.
2. MONF (monitor facility side): Connects the facility-side transmission path (B-side path) to FAD A or TAD A. See figure 6-2.
3. MONEF (monitor equipment and facility sides): Connects the equipment-side path (A-side path) to FAD A or TAD A and the facility-side path (B-side path) to FAD B or TAD B. See figure 6-3.

## Split Connections

**6.9** Split connections separate the connection between a specified test port and the targeted port.

**6.10** Split connections are service affecting.



Figure 6-1. MONE Test Access Connection

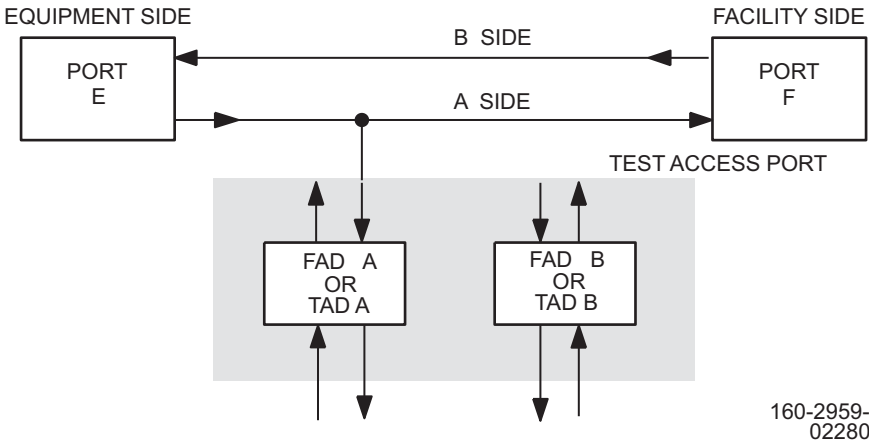
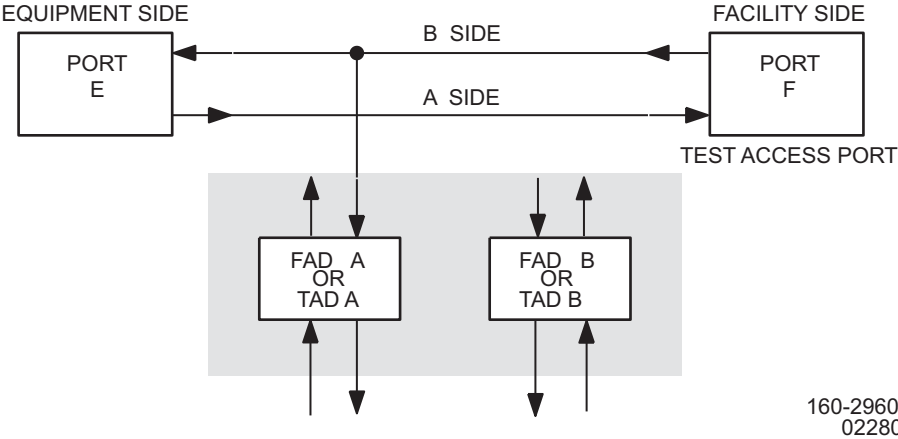
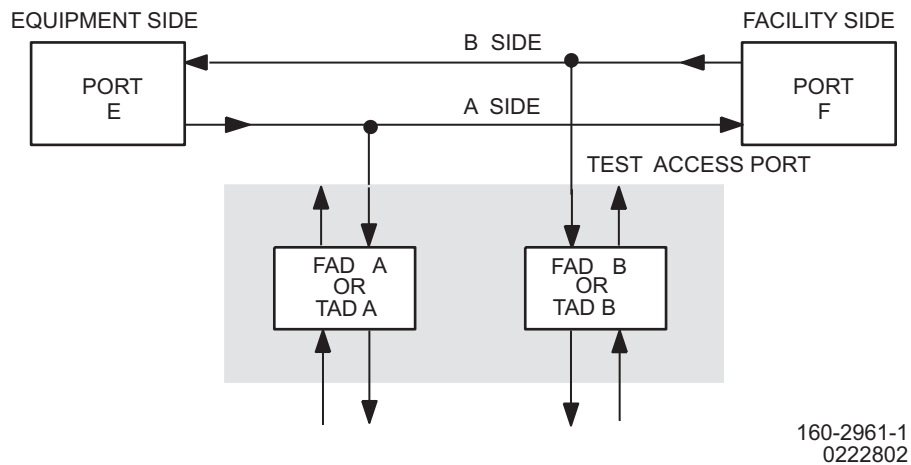


Figure 6-2. MONF Test Access Connection



**Figure 6-3. MONEF Test Access Connection**



**6.11** Split connections can be established or changed using CONN-TACC-T3/STS<sub>n</sub> or CHG-ACCMD-T3/STS<sub>n</sub>. There are five split test modes (TMODE) listed below:

1. **SPLTA (split A side):** Splits the equipment-side transmission path (A-side path) and routes it into and out of a FAD A or TAD A. See figure 6-4.
2. **SPLTB (split B side):** Splits the facility-side transmission path (B-side path) and routes it into and out of a FAD A or TAD A. See figure 6-5.
3. **SPLTE (split equipment side):** Provides a full-duplex connection between FAD A or TAD A and the equipment-side port. If the facility-side port is connected to the equipment-side port, the A-side and B-side paths are split, and a keep-alive signal (AIS) is inserted into the outgoing facility-side signal, and the incoming facility-side signal is terminated. See figure 6-6.
4. **SPLTF (split facility side):** Provides a full-duplex connection between FAD A or TAD A and the facility-side port. The A-side and B-side paths of the facility-side port are split, and a keep-alive signal (AIS) is inserted into the outgoing equipment-side signal, and the incoming equipment-side signal is terminated. See figure 6-7.
5. **SPLTEF (split equipment and facility sides):** Provides a full-duplex connection between the equipment-side port and FAD A or TAD A and a full-duplex connection between the facility-side port and FAD B or TAD B. See figure 6-8.

Figure 6-4. SPLTA Test Access Connection

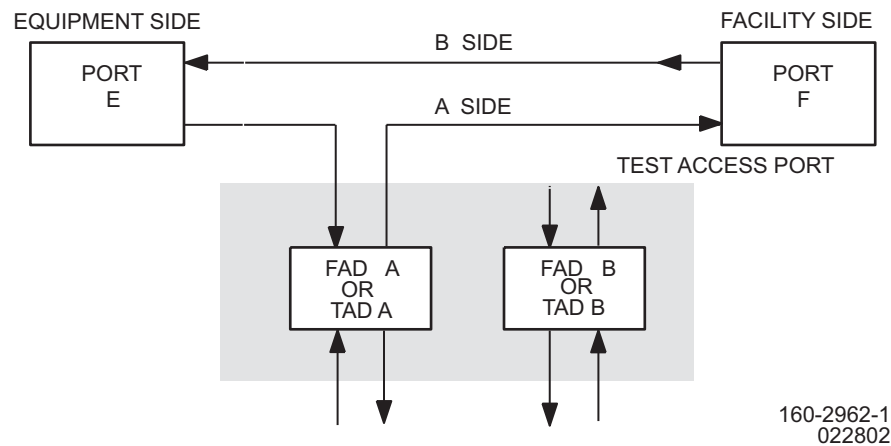
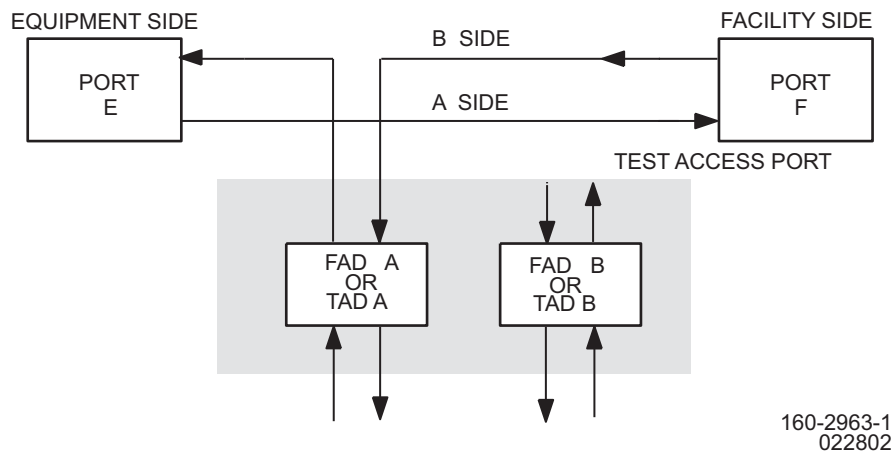
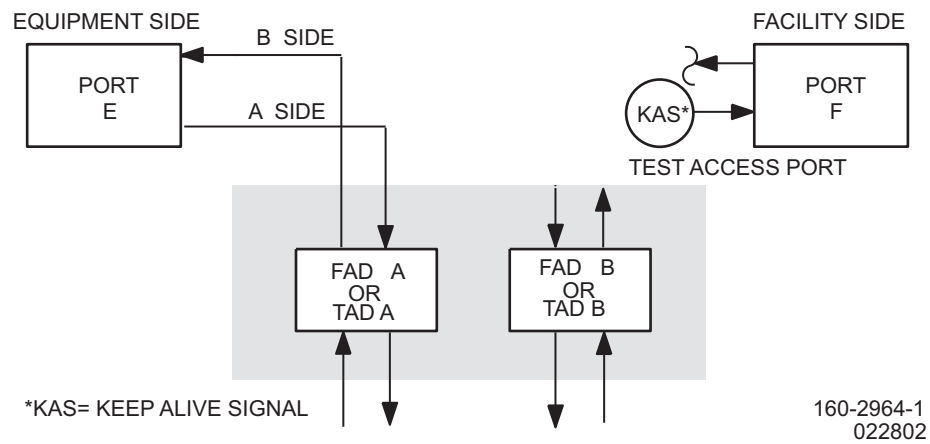


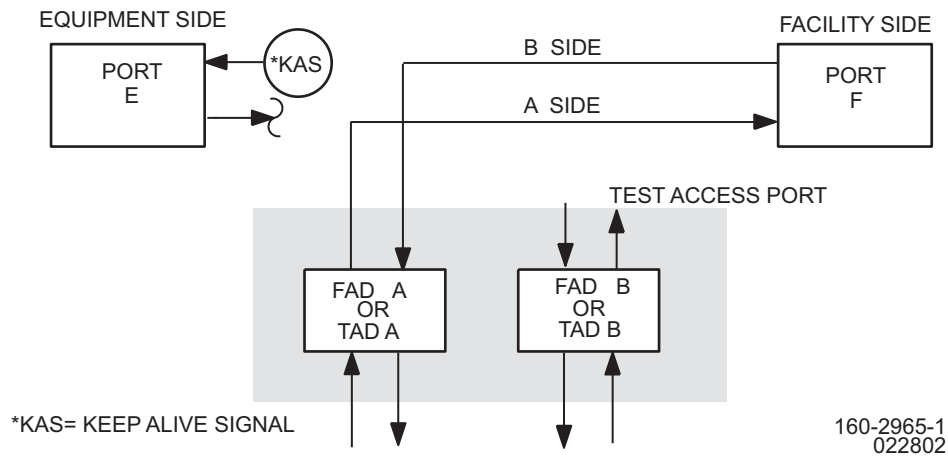
Figure 6-5. SPLTB Test Access Connection



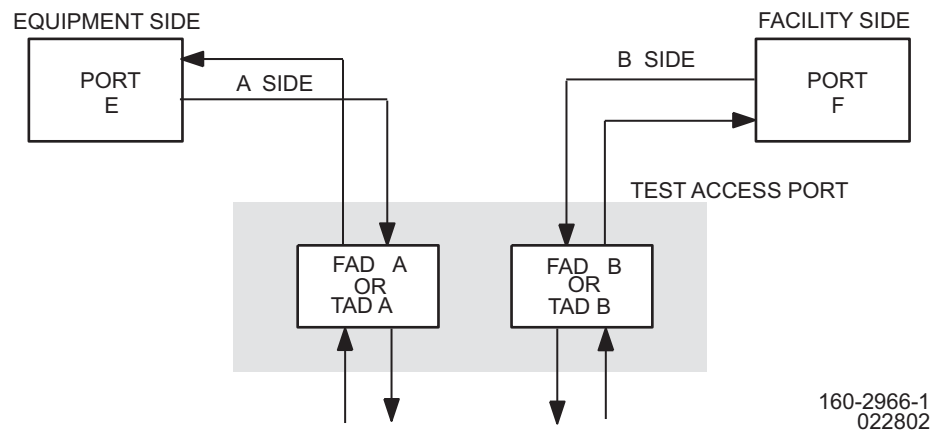
**Figure 6-6. SPLTE Test Access Connection**



**Figure 6-7. SPLTF Test Access Connection**



**Figure 6-8. SPLTEF Test Access Connection**



## Loop Connections

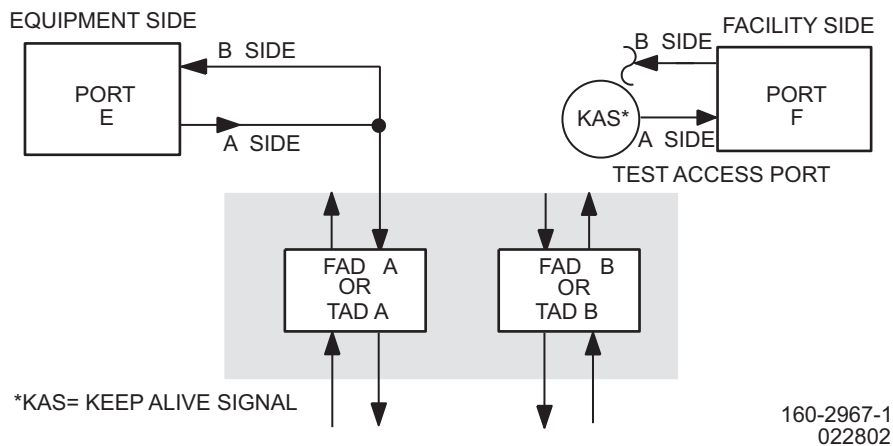
**6.12** Loop connections route the incoming signal back to its output and monitors the looped signal with FAD A or TAD A.

**6.13** Loop connections are service affecting.

**6.14** Loop connections can be established or changed using CONN-TACC-T3/STS<sub>n</sub> or CHG-ACCMD-T3/STS<sub>n</sub>. There are two loop test modes (TMODE):

1. **LOOPE (loop equipment-side):** Loops the equipment-side incoming signal to its output and monitors the looped signal with FAD A or TAD A. If the facility-side port is connected to the equipment-side port, the A-side and B-side paths are split, and a keep-alive signal (AIS) is inserted into the outgoing facility-side signal, and the incoming facility-side signal is terminated. See figure 6-9.
2. **LOOPF (loop facility-side):** Loops the facility-side incoming signal to its output and monitors the looped signal with FAD A or TAD A. The A-side and B-side paths of the facility-side port are split, and a keep-alive signal (AIS) is inserted into the outgoing equipment-side signal, and the incoming equipment-side signal is terminated. See figure 6-10.

**Figure 6-9. LOOPE Test Access Connection**



**Figure 6-10. LOOPF Test Access Connection**

