

Lucent Technologies
Bell Labs Innovations



**DDM-2000 FiberReach
Wideband Shelf
Software Release Description**

TARP Release 3.1.2

363-206-324
Issue 2
October 1999

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DDM-2000 FiberReach Wideband Shelf Software Release Description TARP Release 3.1.2

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1. Overview

1.01 The purpose of this software release description (SRD) is to provide information about Software Release 3.1.2 and its interaction with the DDM-2000 FiberReach Wideband Shelf (WBS). This document contains the following parts:

- **Software Release 3.1.2 Features:** This part provides a description of the features provided by Release 3.1.2.
- **Operating Issues Resolved:** This part provides the list of issues (problems) which existed in previous software releases that were resolved with this issue of software.
- **Operating Issues:** This part provides information about the existing issues (problems) in Release 3.1.2 that may become evident during the operation of the DDM-2000 FiberReach WBS.
- **DDM-2000 Interworking:** This part provides a description of the optical connections that are supported between DDM-2000 FiberReach WBS, DDM-2000 OC-3, and DDM-2000 OC-12 shelves and the software releases that can coexist in the same subnetwork.
- **Implementation Procedure:** This part provides the information required to install the DDM-2000 WBS software, Release 3.1.2.

⇒ NOTE:

Read all parts of this practice before implementing the DDM-2000 FiberReach WBS software.

1.02 This practice is issued to provide information for DDM-2000 FiberReach Software Release 3.1.2. 363-206-324, Issue 1, provided the coverage for Software Release 3.1.1.

1.03 Lucent Technologies welcomes your comments on this practice. Your comments will aid in improving the quality and usefulness of Lucent Technologies documentation. Please use the Feedback Form provided at the end of this practice.

1.04 Any difficulty encountered while implementing Release 3.1.2 may be resolved by contacting the Regional Technical Assistance Center in your area. Dial 1-800-225-RTAC (7822).

1.05 A tab designated **Software Release Description** has been provided in 363-206-305, *DDM-2000 FiberReach Multiplexer, Wideband/Narrowband Shelf, TARP Release 3, User/Service Manual*, for convenient storage of this practice.

1.06 This practice is issued by Lucent Technologies Customer Training and Information Products organization.

2. Software Release 3.1.2 Features

2.01 DDM-2000 FiberReach Release 3.1.2 supports multi-vendor Operations Interworking (OI) and new transmission features in addition to the transmission features of Release 3.0 and 2.1.2 (OC-3 in Main).

2.02 The features described below are for DDM-2000 FiberReach Release 3.1.2.

A. Administration

- **Windows NT:** Starting with FiberReach Release 3.1.2, users can use the Windows NT Command Prompt for installing software (**ins-prog**). Prior to this release, FiberReach required the DOS mode of the Windows 3.1 or Windows 95/98 operating systems to install FiberReach software.

B. Transmission

- **OC-3 OLIU (28G-U) in Main Slots:** The **28G-U** provides an OC-3 SONET compliant long reach MLM interface for the DDM-2000 FiberReach shelf, providing an OC-3 VT path switched ring interface. The **28G-U** combines the OC-3 section and line termination, VT1.5, STS-1, and STS-3c cross-connection and ring switching functions as provided by the 26-type OLIU with the VT multiplexing and timing functions. Up to 28 VT1.5s on the OC-3 interface can be selected for VT cross-connection to Low Speed units. Up to 84 VT channels can be VT cross-connected as pass-throughs on the OC-3 ring. Up to three STS-1 channels can be STS-1 cross-connected as pass-throughs ONLY on the OC-3 ring. All of the same options for dropping the traffic at low speed ports that were supported on a DDM-2000 FiberReach system equipped with the 26-type OLIU and running Release 3.0.1, continue to be supported when the **28G-U** OLIU's are used in the Main slots.

A DDM-2000 FiberReach shelf equipped with the **28G-U** OLIU can be linked with other similarly equipped FiberReach shelves and at least one non-FiberReach DDM-2000 OC-3 or OC-12 shelf. In addition, the Ring-on-Ring configuration between OC-12 and a FiberReach shelf equipped with the **28G-U** (OC-3 interface) can be supported. Also a FiberReach shelf equipped with OC-3 interface can be interconnected with FT-2000 OC-48 rings via the OC-3 0X1 interfaces.

- **Support for DS3 Circuit Packs (BBG4, BBG4B) in FUNCTION UNIT Slots:** Starting with DDM-2000 FiberReach Release 3.1.1, the Function Unit of the DDM-2000 FiberReach shelf supports the DS3 (**BBG4/BBG4B**) circuit pack. The DS3 circuit pack provides bidirectional transport of one DS3 signal through the DDM-2000 FiberReach in either Clear Channel (CC), Violation Monitor and Removal (VMR) mode, or Violation Monitor (VM) mode, by mapping the DS3 into an STS-1 signal. Maintenance and provisioning functions associated with the STS-1 and DS3 signals provides access to the STS-1 path overhead. Cross-connections are done at the STS-1 rate, and they are the traditional two-way DS3 cross-connections. All of the same options for dropping traffic at the STS-1 rate using the DS3 (**BBG4/BBG4B**) circuit packs in Function Unit slots of the DDM-2000 OC-3 product, will be supported in FiberReach Release 3.1.2.
- **Support for 22-Type OC-3 OLIUs in FUNCTION UNIT Slots:** The Release 3.1.2 FiberReach shelf equipped with **28G-U** OLIU circuit packs in Main and OC-3 (22-type) OLIUs in Function Units can support the STS-3c 0X1 application interface for Broadband applications (ATM). The new 0X1 OC-3c Optical interface provides the ability of transporting STS-3c services on OC-3c low-speed Function Units provisioned for 0X1. The CIT `ent-crs-sts3c` or TL1 `ENT-CRS-STs3C` command is used with a two-way cross-connect option.
- **High Density Digital Subscriber Line (HDSL):** DDM-2000 FiberReach 3.1.2 supports the **BBF8 HDSL** circuit pack. The **BBF8 HDSL** provides rapid deployment of DS1 payloads over metallic twisted pairs. The **BBF8** circuit pack fits into a low speed slot and provides two, four-wire (2 pair) HDSL interfaces. These interfaces are compatible with PairGain HDSL equipment which may be located up to 12,000 feet away. Each interface provides a full DS1 payload capacity which is mapped to a SONET VT1.5. Once in SONET, the DS1 payload is treated as a normal DS1. Due to the increased power needs of the **BBF8**, only three **BBF8s** can be used in a function group. Pack mixing with other DS1 type circuit packs (**BBF1**, **BBF2B**, **BBF3**, **BBF3B**, or **BBF6**) is not allowed. The **BBF8** interface does not support line powering. When using the **BBF8**, a lightning protection shelf and primary lightning protection must also be used. The lightning protection shelf is the same as used with the **BBF6** (T1 extension).
- **BBG19 DS3 Services Circuit Pack:** Starting with DDM-2000 FiberReach Release 3.1.1, the Function Unit supports **BBG19** DS3 Data Services circuit packs. The **BBG19** circuit pack provides front access using faceplate BNC connectors and the same Performance Monitoring and DS3 Loopback capability as the **BBG4B** DS3 circuit pack.

C. Applications

- **STS-3c 0X1 Application Interface for Broadband Applications (ATM):**
The Release 3.1.2 FiberReach shelf provides an 0X1 OC-3c Optical interface when the shelf is equipped with **28G-U** OLIU circuit packs in Main and OC-3 (22-type) OLIUs in Function Units. The internal system's application default value for OC-3 OLIU (22-type) in the Function Unit is 0x1.

Ring path switching is not done on the DDM-2000 FiberReach ring, but rather STS-3c switching is done elsewhere in the network. For example, when the FiberReach ring is used to transport ATM STS-3c traffic, path switching (rerouting) is normally executed through the external ATM-based router. In the STS-3c 0x1 configuration, each FiberReach node provisions the same STS-3c time slots as the other FiberReach nodes on the same ring. With 0x1 application, the FiberReach ring passes the contents of the STS-3c time slots between the low-speed OC-3 lines and the OC-3 high-speed lines without terminating them or performing path protection switching on them.
- **Data Service Interface:** Starting with DDM-2000 FiberReach Release 3.1.1, the Function Unit of the DDM-2000 FiberReach shelf will support the **BBG19** DS3 Data Services Interface circuit pack. The Data Services circuit pack provides the DDM-2000 interface to external Local Area Network (LAN) router/Asynchronous Transfer Mode (ATM) switch for providing Native Mode LAN or general data services via the SONET network.
- **High Density Digital Subscriber Line (HDSL):** Starting with Release 3.1.1, FiberReach shelves support **BBF8 HDSL** circuit packs and the four-wire (2 pair) HDSL interface. HDSL is used for rapid deployment of T1 extensions in Business Carrier Services.

D. Operations

- **ITM SNC and CPro-2000 Support:** DDM-2000 FiberReach WBS Release 3.1.2 is supported by ITM SNC Release 5.0 and CPro-2000 Release 7.0 and later.

E. Maintenance

- **DS3 Loopback:** When the Function Unit slots are equipped with DS3 circuit packs, the **BBF4/BBF4B** circuit packs support DS3 loopback to Fiber or DSX. Loopback user control is through the `opr-lpbk-t3` and `rls-lpbk-t3` CIT commands (and `OPR-LPBK-T3` and `RLS-LPBK-T3` TL1 commands) and accept the `AID: f`. The loopback is a bridged loopback and does not affect DS3 transmission in the transmit direction. Either the facility or terminal loopback, but not both, can be set at any time for a port.

F. Performance Monitoring

- **OC-3 Section and Line Performance Monitoring:** OC-3 section and line performance data will be collected and reported for the **28G-U** in the same manner as they are for other OC-3 OLIUs in OC-3 shelves.
- **DS3 Performance Monitoring:** When the Function Unit slots are equipped with DS3 circuit packs and **28G-U** equipped in the Main slots, the following DS3 Performance Monitoring features currently provided for the **BBG4** and **BBG4B** DS3 Circuit Packs in the OC-3 shelf are available in the Release 3.1.2 FiberReach shelf.
- **Enhanced P-Bit DS3 PM (from DSX):** Enhanced P-Bit DS3 PM calculates and provides counts of DS3 P-Bit CV, ES, SES, and UAS incoming from the DSX and results are retrieved using the `rtrv-pm-t3` command. This feature requires the **BBF4B** circuit pack. Quarter hour and current day bins are provided with provisionable TCAs by using the `set-pmthres-t3` command. The TCA is provisionable on a shelf basis.
- **F&M-Bit DS3 PM (from DSX):** F&M-Bit DS3 PM calculates and provides counts of DS3 CV, ES, SES, and UAS incoming from the DSX, and the results are retrieved using the `rtrv-pm-t3` command. This feature requires the **BBF4B** circuit pack. Quarter hour and current day bins are provided with provisionable TCAs by using the `set-pmthres-t3` command. The TCA is provisionable on a shelf basis.
- **C-Bit DS3 PM:** C-Bit DS3 PM calculates and provides C-Bit parity near-end and far-end (FEBE) coding violations (CV-P, CV-PFE), errored seconds (ES-P, ES-PFE) severely errored seconds (SES-P, SES-PFE) and unavailable seconds (UAS-P, UAS-PFE) incoming from the DSX and the fiber. This feature requires the **BBF4B** circuit pack. This type of PM option must be provisioned for cbit frame and cpbit format using the `set-t3` command. The service can be provisioned in VM or VMR modes. If provisioned for VM C-bit errors will not be corrected, however P-bit parity errors will be corrected as usual. Quarter hour and current day bins are provided with provisionable TCAs by using the `set-pmthres-t3` command. The TCA is provisionable on a shelf basis. Severely errored frame seconds (SEFS) counts are also provided. The two X bits in the DS3 frame are used to indicate far-end SEFS counts.
- **DS3 Line PM:** DS3 line PM provides the ability of storing, monitoring, and reporting line coding violations (CVL), errored seconds (ESL), and severely errored seconds (SESL) on incoming DS3 B3ZS violations from the DSX. This feature requires the **BBF4B** circuit pack. Quarter hour and current day bins are provided with provisionable TCAs by using the `set-pmthres-t3` command.

G. Provisioning

- **STS Path Trace:** The STS path trace signal is provided in the STS-1 path trace byte (J1) of the path overhead. The path trace signal is used to verify path continuity by repetitively transmitting a fixed 64 byte length string. The value of the transmit and receive expected path trace signal is provisionable. The value of the provisionable receive expected path trace signal is compared to the actual received path trace signal to verify the continuity. The `set-trace-sts1` command should set the transmitted and expected received path traces. The `rtrv-trace-sts1` command should show expected value, received value, transmit value, and mismatch. The STS path trace feature requires the **BGG4B** DS3 circuit pack.

H. Enhancements

- **TARP Identification of Neighbors in Other Areas:** Starting with FiberReach 3.1.1 and future DDM-2000 software releases, the `rtrv-map-neighbor` command will recognise neighbors in Level 1 areas and the following shows the changes and additions to the report content.
 - Starting with FiberReach 3.1.1 a new parameter `DCC` is added to the `rtrv-map-neighbor` report. It is used to indicate whether DCC communication between two neighboring network elements (in two neighboring Level 1 areas) is functional or not. This parameter can have either of two values: "NO" indicates that DCC communications is not really functional. A blank " " indicates that DCC communications is functioning properly.

⇒ NOTE:

This new parameter can highlight potential provisioning errors and reporting the neighbor's NSAP can help identify the needed corrections (e.g, when the local NE is a Level 1 IS and its neighbor is in a different Level 1 area, "DCC" will be equal to "NO").

- Also starting with FiberReach 3.1.1, the Level 2 IS parameter can have the value of "?" (question mark) in cases where the local NE is a Level 1 IS and its neighbor is in a different area; as a result, the output value "?" would be expected for this parameter (i.e., the neighbor's Level in such cases cannot be determined).

⇒ NOTE:

If the local NE is Level 2 IS and its neighbor is in a different area; the local NE is expected to know its neighbor is a Level 2 IS, otherwise the local NE can deduce that the neighbor is a Level 1 IS.

- **Protection Switching**
 - **Function Unit Protection Switching when FiberReach shelf equipped with BBG4 or BBG4B DS3 circuit packs:** When the FiberReach shelf is equipped with 28-type OLIUs in Main and DS3 circuit packs in the Function unit slots, the `switch-fn` command with the value `fn` as the valid address, provides function unit protection switching.

3. Operating Issues Resolved

3.01 For information on TARP Release 3.0.1, refer to 363-206-323, Issue 1, *DDM-2000 FiberReach Wideband Shelf, Software Release Description, TARP Release 3.0.1*.

⇒ NOTE:

It is possible a problem listed below as resolved may not have appeared in previous issues of the SRD because the problem was discovered between the time of the release of that SRD and the release of this software.

(1) ISSUE:

When a DDM-2000 ring contains two adjacent FiberReach shelves equipped 28G-U OLIUs, and S1-byte is enabled, the sync input message shows "undefined" as the message received on the interface between the FiberReach shelves. A sync message of undefined prevents `SyncAutoreconfiguration` from switching timing to the alternate timing reference.

(2) ISSUE:

Multiple `cpy-prog` executions in the same subnetwork may result in interactions that cause one or more of the executions to fail.

(3) ISSUE:

Under heavy TL1 traffic conditions, combining any two of the following RNE-GNE message traffic types on a single VC may cause some of the messages not to be sent to the OS:

- Command response messages
- PM-related autonomous messages
- Other autonomous messages

Unsent autonomous messages may still be retrieved using the `RTRV-AO` TL1 command.

(4) ISSUE:

Under some circumstances, one or more alarms indicating the presence of maintenance signals (such as AIS) will be reported even though the maintenance signal either is not or should not be present.

(5) ISSUE:

If a WBS is dropping traffic from its **MAIN** OLIUs to one or more DS1/T1 circuit packs in low speed slots, and BOTH **MAIN** OLIUs are removed (thereby disrupting transmission) and then re-inserted, transmission will not be restored unless the shelf is reset.

3.02 This part lists the operating issues (problems) which existed in the previous release, but are resolved in Release 3.1.2.

⇒ NOTE:

It is possible a problem listed below as resolved may not have appeared in previous issues of the SRD because the problem was discovered between the time of the release of that SRD and the release of this software.

(6) ISSUE:

When a remote DDM-2000 is reset, a DDM-2000 TL1/X.25 GNE may take up to 15 minutes to drop the TL1 logins to the remote DDM-2000. Therefore, there is a delay of approximately 10 minutes after the typical DDM-2000 reset duration of 5 minutes before the OS can login again to that remote DDM-2000 through the same TL1/X.25 GNE.

4. Operating Issues

4.01 This part lists information pertaining to recognized operating issues (problems) existing in Release 3.1.2. Suggestions to work around the operating issues are mentioned, if available.

4.02 The current plan calls for a resolution to the following operating issues in future DDM-2000 FiberReach WBS software releases. Information and procedures developed subsequent to the release of this practice will be made available to users via the diagnostic dictionary in the Lucent Technologies COACH system. To obtain a COACH login or additional information, please write or call:

COACH Software Development
Lucent Technologies
1600 Osgood Street
North Andover, MA 01845
Telephone: 1-800-238-4021

4.03 The following list contains known problems in the software:

A. **Maintenance**

(1) **ISSUE:**

When the FiberReach 3.1.2 WBS is equipped with a **BBG4** or **BBG4B** DS3 circuit pack in the FUNCTION UNIT, the CIT command `rtrv-pm-stst1` with the `AID: m-1` is not accepted. Similarly, the TL1 command `sched-pmrept-sts1` is denied for the `AID: m-1`.

WORK AROUND:

Use the ring identifier as the AID.

CIT examples of work around:

- `rtrv-pm-stst1:m1-1`
- `rtrv-pm-stst1:m2-1`
- `rtrv-pm-stst1:all`

TL1 examples of work around:

- `rsched-pmrept-sts1:m1-1`
- `sched-pmrept-sts1:m2-1`

5. DDM-2000 Interworking

⇒ NOTE:

Interworking between products (DDM-2000 FiberReach WBS and DDM-2000 OC-3) is evolving with OC-1 interfaces. Care must be taken to check correct software releases and to check interface provisioning.

5.01 Table A lists the DDM-2000 FiberReach WBS software compatibility and interconnections with the DDM-2000 OC-3 Multiplexers. All configurations listed support IO. The table lists all possible software combinations. Combinations not listed are not supported.

Table A. DDM-2000 OC-3 and DDM-2000 FiberReach WBS Software Compatibility and Interconnections

Software Release		Interconnecting Circuit Pack	
DDM-2000 FiberReach	DDM-2000 OC-3	DDM-2000 FiberReach	DDM-2000 OC-3
3.0 (Ring)	13.0 (Ring)	26G2-U OLIU	26G2-U/27G2-U OLIU
3.1 (Ring)	13.0 (Ring)	28G-U OLIU in Main	22-Type OLIU in Main
		26G2-U OLIU	26G2-U/27G2-U OLIU

5.02 Table B lists the DDM-2000 FiberReach WBS software compatibility and interconnections with the DDM-2000 OC-12 Multiplexers. All configurations listed support IO. The table lists all possible software combinations. Combinations not listed are not supported.

Table B. DDM-2000 OC-12 and DDM-2000 FiberReach WBS Software Compatibility and Interconnections

Software Release		Interconnecting Circuit Pack	
DDM-2000 FiberReach	DDM-2000 OC-12	DDM-2000 FiberReach	DDM-2000 OC-3
3.0 (Ring)	7.0 (Ring)	Note 1	Note 1
3.1 (Ring)	7.0 (Ring)	28G-U OLIU	21G-U OLIU in Fn

Note 1: Direct interface to DDM-2000 OC-12 is not supported by FiberReach Release 3.0.

6. Implementation Procedure

⇒ NOTE 1:

Before installing Release 3.0.1 software, the following hardware versions *must* be in place at all sites before continuing with the implementation procedure:

BBG8B SYSCTL: Series 1:1 or higher

⇒ NOTE 2:

While attempting to upgrade a Network Element's software version using the Enhanced software upgrade procedure, the software upgrade (using the **Apply** command) will fail if the dormant software is missing or corrupted. In addition, the **copy-prog** command will fail if the dormant software is missing or corrupted.

⇒ NOTE 3:

In network configurations where both Lucent Technologies DDM-2000 and FUJITSU FLM products co-exist (or where both are planned to co-exist) in the same subnetwork, the TIDs used on the Lucent DDM-2000 network elements must be at least seven (7) characters long.

6.01 For Releases 3.0.1 and higher, the following parameters should be provisioned to support OSI interworking over the SONET DCC:

- The appropriate User Side/Network Side parameters on opposite ends of any optical span need to be set to opposite values with the **set-fecom** command. For instructions about setting the User Side/Network Side parameters, refer to TOP in LTP 363-206-301, *DDM-2000 FiberReach Multiplexer, Wideband/Narrowband Shelf, User/Service Manual*, Issue 2.

Software Installation Procedure

DLP-536 and DLP-537 contain the latest information and procedures needed for upgrading a DDM-2000 FiberReach System running any upgradable version of FiberReach software. DLP-525 contains the latest information and procedures needed for installing software in new shelf installations where the **SYCTL** and **OHCTL** are new and contain no software.

This release of software takes approximately 15 to 25 minutes to download to a local shelf using a newer PC with the autobaud feature. This release of software takes approximately 45 minutes to download to a local shelf using an older PC set to 9600 baud. This release of software takes approximately 20 minutes to copy from one shelf in the subnetwork to another shelf if the DCC traffic is not excessive from other shelves. The download time will be longer (even without excessive DCC traffic) when there are additional spans between the source and target network elements.

Use the attached copies of DLP-525, DLP-536, or DLP-537 to install the new software.

How Are We Doing?

Document Title: *DDM-2000 FiberReach Wideband Shelf, Software Release Description, TARP Release 3.1.2*

Document No.: 363-206-324

Issue 2

Date: October 1999

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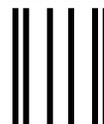
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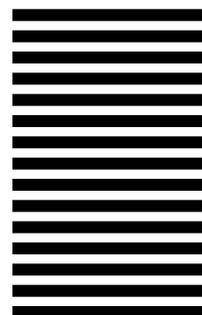
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Install Software Generic Program - New Shelf Installation Only BBG8/BBG8B SYSCTL Installed

1.



NOTE:

This procedure is used to install a software program in a new DDM-2000 FiberReach shelf equipped only with the **BBG8/BBG8B SYSCTL** circuit pack. The circuit pack may be new from the factory or a circuit pack used previously that may already be loaded with software. For procedures to download software locally to a fully equipped in-service shelf, see **DLP-536**. For procedures to download software remotely to a fully equipped in-service shelf, see **DLP-537**.



NOTE:

It is assumed that the **BBG8/BBG8B SYSCTL** circuit pack has been installed per **DLP-539**.



NOTE:

If you are using a PC operating in a *Windows* environment, you must **exit Windows** and restart your PC in MS-DOS mode before performing these download procedures. For example, if your PC is running *Windows 95* you must exit *Windows* by clicking on the **Start** button, then **Shut Down**, then **Restart the computer in MS-DOS mode**.

Obtain equipment, check software, and connect PC for download.

Reference: **DLP-541**.

2. Observe one of the following indications on the FE ID display. Note the indication and follow the suggested procedure.

A. **Letter "P" in FE ID Display:**

Indicates no software installed in **SYCTL**. Software must be downloaded locally using these procedures.

Continue with **Step 3**.

B. **Letter "P." in FE ID Display:**

Letter "P" followed by a period (.) indicates a previous download attempt has failed. New software must be downloaded locally using these procedures.

Proceed to **Step 6**.

C. **Letter "U" in FE ID Display:**

Indicates **SYCTL** switches **S1** and **S2** are not set properly for type of shelf being equipped.

Remove **SYCTL**. Repeat procedures of **DLP-539** to correct switch settings and to install **SYCTL**.

D. **Letter "E" in FE ID Display:**

Indicates **SYCTL** must be replaced.

Get replacement **SYCTL** and repeat procedures of **DLP-539**.

E. **Letter "F" in FE ID Display:**

Indicates **SYCTL** faceplate latch is not fully latched.

Unplug **SYCTL** and repeat procedures of **DLP-539**. Ensure you properly latch the faceplate when installing **SYCTL**.

F. **Flashing Letter "L" in FE ID Display:**

Indicates a low voltage condition (brownout) on the shelf.

Clear trouble using **Trouble Clearing: TAP-119**.

Letter "P" in FE ID Display

3. Ensure PC is connected to the front CIT (CIT-1) connector of shelf receiving software. If floppies are being used, ensure the first (number 1) diskette is installed in floppy drive. If hard drive is being used, ensure you are in the correct directory.

4.



NOTE:

After the terminal emulator (`term`) is started, the software download automatically begins. The download may take up to 45 minutes.

Enter `term` or `term COMn` command, where $n = 1$ or 2 . If `term` is entered without the `COMn` option, then **COM1** will be selected by default. Disregard message "Can't find script <init>" if you see it after starting the terminal emulator.

Response: Two brief messages are printed and you are instructed to `Press any key to continue...` after the second message. After you press any key, the terminal emulator is loaded and the terminal responds as follows within 2 minutes:

```
Interface ready. (Type Alt-h for help.)  
Communications established.
```

```
Searching for optimal transfer rate. Handshake  
established at <baudrate> baud.
```

```
In progress . . . .
```

The dots continue to print until program installation is complete. If using floppies, insert each diskette when prompted. After installation is completed, the PC prints the following completion message:

```
ins-prog:TID COMPLD  
/* Generic a.b.c is installed */
```

The **SYSCTL** resets and the terminal is logged off the system.

5. Was response correct?

If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.** If **NO**, then proceed to **Step 10.**

Letter "P." in FE ID Display:

6. Ensure PC is connected to the front CIT (CIT-1) connector of shelf receiving software. If floppies are being used, ensure the first (number 1) diskette is installed in floppy drive. If hard drive is being used, ensure you are in the correct directory.
7. Enter `term` or `term COMn` command, where $n = 1$ or 2 . If `term` is entered without the `COMn` option, then **COM1** will be selected by default. If after starting the terminal emulator you see the message "Can't find script <init>", disregard it.

Two brief messages are printed and you are instructed to Press any key to continue . . . after the second message. After you press any key, the terminal emulator is loaded and the terminal responds as follows:

```
Interface ready. (Type Alt-h for help.)  
Communications established.
```

8. Unplug and reseal the **SYSCTL** and immediately push and hold the **FE SEL** and **UPD/INIT** buttons at the same time until a **P** appears in the **FE ID** display (approximately 15 seconds). Software download may take up to 45 minutes.

Response: PC starts download and prints the following message:

```
Searching for optimal transfer rate. Handshake  
established at <baudrate> baud.
```

```
In progress . . . .
```

The dots continue to print until program installation is complete. If using the floppy disks, insert each diskette when prompted. After installation is completed, the PC prints the following completion message:

```
ins-prog:TID COMPLD  
/* Generic a.b.c is installed */
```

The **SYSCTL** resets and the terminal is logged off the system. After approximately three minutes, you can log into the system.

9. Was response correct?

If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.** If **NO**, then continue with **Step 10.**

10. Did the download start as indicated by the `In Progress` message and rows of dots?

If **NO**, then continue with **Step 11.**

If **YES**, then proceed to **Step 18.**

11. Check that the DDM-2000 is connected to the PC through the **COM** port. If it is not, reconnect the PC to DDM-2000 using the **COM** port and repeat the procedure.

If the download still does not start, as indicated by the `In progress` message and rows of dots, within 2 minutes after the **P** appears in the **FE ID** display, change the CTRM baud rate as follows and repeat this procedure. If the baud rate is currently set to 9600, change it to 4800 or if the baud rate is currently set to 4800, change it to 9600. The baud rate is changed by:

1. Momentarily depress the "Alt C" keys.
2. Using the RETURN key to move to the "Speed" field.
3. Pressing the "Space" bar until the desired rate appears.
4. Momentarily depressing the "Escape/Esc" key to activate the new baud rate.

12. Ensure first (number 1) disk of program being installed is inserted, if using floppies.

13. Ensure diskette is inserted in correct drive.

14. Ensure the proper command was used to go to the drive with the diskette or to the proper directory containing the software.

15. Check for invalid COM port. Exit TERM (Alt-F2); then restart TERM using **term COM1** or **term COM2.**

16. If the download still does not start, refer to **Trouble Clearing: TAP-116.**

17. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

18. If the download *starts and fails* during its progress, exit `term` (Alt-F2) and repeat this procedure from **STEP 6**.
19. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

Install New Software Generic Program In-Service System Local Shelf Download

1. Before beginning the software installation, refer to the "Software Installation and Upgrade Procedure" section of the Software Release Description. This section contains a description of any special considerations required when installing this version of software.
 2.  **NOTE:**
This procedure is used to install a new software program in a local in-service DDM-2000 FiberReach shelf. For procedures to download software in a new shelf (initial installation), see **DLP-525**. For procedures to download software to a remote shelf (using `ins-prog` or `cpy-prog` command), see **DLP-537**.
-  **NOTE:**
If upgrading from earlier software releases to Release 3.1, after the first shelf is upgraded, single ended operations will not be available and major alarms (`section DCC channel failed`) will exist until all shelves are upgraded. The node farthest away should be upgraded first, working back to the local node. See Table A.

Verify that no DCC failures or transmission failures (OC-1 LOS, OC-3 LOS, flashing **OLIUFault** LEDs, etc.) are present on the network element or system receiving the program.

Table A – DDM-2000 OC-3 Inservice Software Upgrade Compatibility (Note)

Current Release	Upgrade to*
	3.1 (OC-3)
1.0.n (OC-1)	U†
2.0.n (OC-1)	U†
2.1.n (OC-1)	U†
2.2.n (OC-3)	U†
3.0.n (OC-1)	C

Note: All DDM-2000 FiberReach shelves in a subnetwork should be using TARP Release 3.0 software, and the DDM-2000 OC-3 host shelf should be using TARP Release 13.0 software.

C Indicates software compatibility.

* When doing an upgrade, it is recommended that the latest point release of software be used, if possible.

U Requires local software download only to upgrade the system.

† Incompatible OSI stack requires special considerations. See LTP 824-102-144, *Lucent Technologies 2000 Product Family, Operations Interworking Guide* for TARP Releases, for special considerations.

3.  **NOTE:**
If you are using a PC operating in a *Windows*¹ environment, you must **exit Windows** and restart your PC in *MS-DOS*² mode before performing these download procedures. For example, if your PC is running *Windows 95* you must exit Windows by clicking on the **Start** button, then **Shut Down**, then Restart the **computer in MS-DOS mode**.

Obtain equipment, check software, and connect PC for download.

Reference: **DLP-541**

1. Registered Trademark of Microsoft Corporation.
2. Registered Trademark of Microsoft Corporation.

4. **Observe one of the following indications on the FE ID display.** Note the indication and follow the suggested procedure.

A. **Letter "P" in FE ID Display**

Indicates no software installed in **SYCTL**. Software must be downloaded locally using these procedures.

Continue with **Step 5**.

B. **Letter "P." in FE ID Display**

Letter "P" followed by a period (P.) indicates a previous download attempt has failed. New software must be downloaded locally using these procedures.

Proceed to **Step 17**.

C. **FE ID Display Blank:**

Indicates compatible software is installed in the **SYCTL**. This procedure assumes the installed software version is not the correct version. (Depress **ACO** button for longer than 2 seconds to display software version on the **FE ID** display.)

Proceed to **Step 8**.

D. **Letter "U" in FE ID Display:**

Indicates **SYCTL** Switch **S1** is not set properly for type of shelf being equipped.

Remove **SYCTL**. Repeat procedures of **DLP-501** to correct switch settings and to reinstall **SYCTL**.

E. **Letter "E" in FE ID Display:**

Indicates **SYCTL** must be replaced.

Get replacement **SYCTL** and repeat procedures of **DLP-501**.

F. **Letter "F" in FE ID Display:**

Indicates **SYSCTL** faceplate latch is not fully seated. If **SYSCTL** has just been replaced, unplug **SYSCTL** and repeat procedures of **DLP-501**. If original **SYSCTL** has just been unplugged and resealed, properly seat the faceplate latch. (A reset occurs after the faceplate is seated.)

G. **Flashing Letter "L" in FE ID Display:**

Indicates a low voltage condition (brownout) on the shelf.

Clear trouble using Trouble Clearing: **TAP-119**.

Letter "P" in FE ID Display

5.  **CAUTION:**
If PC hard drive is being used, ensure you are in the correct directory. If floppies are being used, ensure the first (number 1) diskette is installed in floppy drive. Ensure PC is connected to the front CIT (CIT-1) connector.

 **NOTE:**
After the terminal emulator (`term`) is started, the software download automatically begins. The download may take up to 45 minutes.

Enter `term` or `term COMn` command, where $n = 1$ or 2 . If `term` is entered without the `COMn` option, then `COM1` will be selected by default. Disregard message "Can't find script <init>" if you see it after starting the terminal emulator.

Response: Two brief messages are printed and you are instructed to Press any key to continue . . . after the second message. After you press any key, the terminal emulator is loaded and the terminal responds as follows within 2 minutes:

```
Interface ready. (Type Alt-h for help.)  
Communications established.
```

```
Searching for optimal transfer rate.  
Handshake established at <baudrate> baud.
```

```
In progress . . . .
```

The dots continue to print until program installation is complete. If using floppies, insert each diskette when prompted. After installation is completed, the PC prints the following completion message:

```
ins-prog:TID COMPLD  
/* Generic a.b.c is installed */
```

The **SYSCTL** resets and the terminal is logged off the system.

6. Was response correct?

If **YES**, **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
If **NO**, then proceed to **Step 19.**

FE ID Display Blank

7.  **CAUTION:**
If PC hard drive is being used, ensure you are in the correct directory. If floppies are being used, ensure the first (number 1) diskette is installed in floppy drive.

Enter **term** or **term COMn** command, where n = 1 or 2. If **term** is entered without the **COMn** option, then **COM1** will be selected by default. Disregard message "Can't find script <init>" if you see it after starting the terminal emulator.

Response: Two brief messages are printed and you are instructed to Press any key to continue . . . after the second message. After you press any key, the terminal emulator is loaded and the terminal responds as follows:

```
Interface ready. (Type Alt-h for help.)  
Communications established.
```

8.  **NOTE:**
The default shelf is the shelf physically connected to the PC. To set baud rate automatically, enter two carriage returns (<cr>), two lower case "a"s (**aa**), or two upper case "A"s (**AA**). All other characters are ignored.

Enter two carriage returns. PC prompts with:

```
/* Enter a shelf number from 1 to 8 */  
shelf [default] =
```

9. Was response correct?
If **YES**, then continue with **Step 10**.
If **NO**, then proceed to **Step 20**.

10. Enter the shelf number for the shelf being used for new program download.

Response: PC responds with:

```
login<
password<

/***** *
*          Lucent Technologies          *
*      DDM-2000 FiberReach Multiplexer  *
*                                          *
*                                          *
*          Release a.b.c                *
*                                          *
*****/

*
*
*

TID date time

M rtrv-alm: all COMPLD

/* Active Alarms and Status Report
```

11.  **NOTE:** After the system prompt (<), the system will respond normally to commands entered. The "Commands and Reports" section of Volume 1 of this manual gives a description of the commands.

Use **rtrv-ne** command to retrieve the name (*tid*) of the shelf having new program installed or see TID in response above.

12. Enter the command `ins-prog:tid`

"Where tid" the target identifier (shelf name) for the DDM-2000 shelf having the new program installed.

Response: `/* Testing For Program Installation... */`

After several seconds, the PC prints a Caution! message followed by the prompt:

Execute? `y/n =.`

13. Was response correct?

If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
If **NO**, then do **Trouble Clearing: TAP-116.**

14. Enter a `y` or `yes` and a carriage return to execute the program. Software download may take up to 45 minutes.

Response: **ABN** LED lights on User Panel and a **P** is displayed in **SYSTL FE ID** display in the shelf receiving the program. PC starts download and prints the following message:

`Searching for optimal transfer rate.
Handshake established at <baudrate> baud.`

`In progress`

The dots continue to print until program installation is complete. If floppy disks are being used, insert each diskette when prompted. After installation is completed, the PC prints the following completion message:

`ins-prog:TID COMPLD
/* Generic a.b.c. is installed */`

15. Was response correct?

If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
If **NO**, then do **Trouble Clearing: TAP-116.**

Letter "P." only in FR in FE ID Display

16.  **CAUTION:**
If PC hard drive is being used, ensure you are in the correct directory. If floppies are being used, ensure the first (number 1) diskette is installed in floppy drive. Ensure PC is connected to the front CIT (CIT-1) connector.

Enter **term** or **term** COM n command, where $n = 1$ or 2 . If **term** is entered without the COM n option, then **COM1** will be selected by default. Disregard message "Can't find script <init>" if you see it after starting the terminal emulator.

Response: Two brief messages are printed and you are instructed to Press any key to continue . . . after the second message. After you press any key, the terminal emulator is loaded and the terminal responds as follows:

```
Interface ready. (Type Alt-h for help.)  
Communications established.
```

17. Unplug and reseal the **SYSCTL** and immediately push and hold the **FE SEL** and **UPD/INIT** buttons at the same time until a **P** appears in the FE ID display (takes approximately 15 seconds). The software download automatically begins and may take up to 45 minutes.

Response: PC starts download and prints the following message:

```
Searching for optimal transfer rate.  
Handshake established at <baudrate> baud.
```

```
In progress . . . .
```

The dots continue to print until program installation is complete. If using the floppy disks, insert each diskette when prompted. After installation is completed, the PC prints the following completion message:

```
ins-prog:TID COMPLD  
/* Generic a.b.c is installed */
```

The **SYSCTL** resets and the terminal is logged off the system.

18. Was response correct?

If **YES**, then **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

If **NO**, then proceed to **Step 19.**

19. Did the download start as indicated by the `In progress` message and rows of dots?

If **NO**, then continue with **Step 20.**

If **YES**, then proceed to **Step 22.**

20. Perform the following:

- A. Check that the DDM-2000 is connected to the PC through the **COM** port. If it is not, reconnect the PC to DDM-2000 using the **COM** port and repeat this procedure.
- B. Ensure first (number 1) disk of program being installed is inserted, if using floppies.
- C. Ensure diskette is inserted in correct drive.
- D. Ensure the proper command was used to go to the drive with the diskette or to the proper directory containing the software.
- E. Check for invalid COM port. Exit TERM (Alt-F2), then restart TERM using **term COM1** or **term COM2**.
- F. If the download still does not start, as indicated by the `In progress` message and rows of dots, within 2 minutes after the **P** appears in the **FE ID** display, change the baud rate as follows and repeat this procedure: if the baud rate is currently set to 9600, change it to 4800 or if the baud rate is currently set to 4800, change it to 9600. The baud rate is changed by:
 1. Momentarily depress the "Alt C" keys.
 2. Use the RETURN key to move to the "Speed" field.
 3. Press the "Space" bar until the desired rate appears.
 4. Momentarily depress the "Escape/Esc" key to activate the new baud rate.
- G. If the download still does not start, refer to **Trouble Clearing: TAP-116.**

21. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

22. If the download *starts and fails* during its progress, exit term (Alt-F2) and then restart a new term session.
23. Unplug and reseal the **SYSCTL** and immediately push and hold the **FE SEL** and **UPD/INIT** buttons at the same time until a **P** appears in the **FE ID** display (takes approximately 15 seconds).

If the download still does not complete, refer to **Trouble Clearing: TAP-116**.

24. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

Install New Software Generic Program In-Service System Remote Shelf Download

1. Before beginning the software installation, refer to the "Software Installation and Upgrade Procedure" section of the Software Release Description. This section contains a description of any special considerations required when installing this version of software.
 2.  **NOTE:**
This procedure uses the `cpy-prog` or `ins-prog` commands to install a new software program in a remote in-service DDM-2000 FiberReach shelf. It is assumed that the local shelf has already been upgraded and the software is running normally or has been installed as a dormant copy. For procedures to download software in a new shelf (initial installation), see **DLP-525**. For procedures to download software locally to a shelf, see **DLP-536**.
-  **NOTE:**
If upgrading from earlier software releases to TARP Release 3.1, after the first shelf is upgraded, single-ended operations will not be available and major alarms (`section DCC channel failed`) will exist until all shelves are upgraded. The node farthest away should be upgraded first, working back to the local node. See Table A.

Verify that no DCC failures or transmission failures (OC-1 LOS, OC-3 LOS, flashing **OLIU FAULT** LEDs, etc.) are present on the network element or system receiving the program.

3. Use `rtrv-fecom/set-fecom` command to verify/enable far-end communications (fecom).

Table A – DDM-2000 OC-1/OC-3 Inservice Software Upgrade Compatibility (Note)

Current Release	Upgrade to*
	3.1 (OC-3)
1.0.n (OC-1)	U†
2.0.n (OC-1)	U†
2.1.n (OC-1)	U†
2.2.n (OC-3)	U†
3.0.n (OC-1)	C

Note: All DDM-2000 FiberReach shelves in a subnetwork should be using TARP Release 3.1 software, and the DDM-2000 OC-3 shelf should be using TARP Release 13.0 software.

- C** Indicates software compatibility.
- *** When doing an upgrade, it is recommended that the latest point release of software be used, if possible.
- U** Requires local software download only to upgrade the system.
- †** Incompatible OSI stack requires special considerations. See LTP 824-102-144, *Lucent Technologies 2000 Product Family, Operations Interworking Guide* for TARP Releases, for special considerations.

4. **⇒ NOTE:**
If you want to load new software to a remote shelf (if allowed) directly **from a PC**, use the `ins-prog:tid` command where the TID entered is that of the remote shelf where you want to install the new software. After using the `ins-prog:tid` command to download software to one shelf, you must exit `term` (Alt F2) and re-execute `term` before starting a second `ins-prog:` command. If `term` is not exited, it will stop running if a second `ins-prog:` is started within the same `term` session. The PC will not respond or return any message and the `ins-prog:` will not progress.

⇒ NOTE:
If remote software downloading is allowed and you want to load new software to a remote site via the DCC **from a local shelf** which already contains the new software, log in (either locally or remotely) to the shelf containing the new software, and then enter the `cpy-prog:tid` command (where *tid* = the tid of the shelf in which you want to install the software). [The tid is the name given to a shelf (network element) using the `set-ne:` command.] The `cpy-prog:tid` command will only copy software from a local controller to a remote controller; it is not used to download software from a PC.

⇒ NOTE:
The download time will be longer (even without excessive DCC traffic) when there are additional spans between the source and target network elements. To minimize the download time and reduce DCC traffic, it is recommended that multi-span software downloading be avoided by remotely logging into the nearest shelf of the same type and remotely downloading the new program from that shelf.

⇒ NOTE:
When upgrading from releases without synchronization messaging to releases with this feature, it is suggested to upgrade first the shelves which are provisioned for "external timed" or "external mult" timed. This is to prevent timing "holdover" conditions at nodes that derive timing from the OC-3 line.

⇒ NOTE:
If you are using a PC operating in a *Windows* environment, you must **exit Windows** and restart your PC in *MS-DOS* mode before performing these download procedures. For example, if your PC is running *Windows 95* you must exit *Windows* by clicking on the **Start** button, then **Shut Down**, then **Restart the computer in MS-DOS mode**.

Obtain equipment, check software, and connect PC for download.

Reference: DLP-566

5. Are you using `ins-prog` or `cpy-prog` command to download software to far-end shelf?

If `cpy-prog`, then continue with **Step 6**.

If `ins-prog`, then proceed to **Step 13**.

6.  **CAUTION:**
Only one `cpy-prog` procedure at a time should be performed in the same maintenance subnetwork. Simultaneous `cpy-prog` procedures in the same network may fail.

Connect and establish session with local shelf being used as a source for the new remote program download.

Reference: **DLP-521**

7. Enter the command `cpy-prog:tid`

Where `tid` = the target identifier (shelf name) for the remote DDM-2000 shelf receiving the new program.

Response: `/* Testing For Program Installation . . . */`

After several seconds, the PC prints a Caution! message followed by the prompt:

`Execute? y/n =.`

8. Was response correct?

If **YES**, then continue with **Step 9**.

If **NO**, then do **Trouble Clearing: TAP-116**.

9. Enter a *y* or *yes* and a carriage return to execute the program. Software download may take up to 20 minutes. .

Response: **ABN** LED lights on User Panel. A "**P.**" is displayed in SYSCTL FE ID display in the far-end shelf receiving the program (for uncompressed executing copy download, not if dormant copy is being loaded). At DDM-2000 shelves connected directly to the shelf receiving the program, **MJ** and **NE ACTY** LEDs light on User Panel. At other shelves in the same control system, **MJ** and **FE ACTY** LEDs light on User Panel. Download begins and the following message is displayed:

```
In progress . . . .
```

The dots continue to print until program installation is complete. After installation is completed, the PC prints the following completion message:

```
ins-prog:TID COMPLD  
/* Generic a.b.c is installed */
```

The LEDs go off on the User Panel and SYSCTL.

10. Was response correct?

If **YES**, then proceed to **Step 26**.

If **NO**, then continue with **Step 11**.

11. Wait approximately 10 minutes for network to stabilize then repeat this procedure from Step 7. If the second attempt to download software fails, then do **Trouble Clearing: TAP-116**. You may have to go to the remote site.

12. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

13. **⇒ NOTE:**

The **FE ID** display on the remote **SYSCTL** must show one of the following preceding software installation. Other conditions represent failure conditions or conditions that will not allow a remote software download.

- A. The letter (**P.**) displayed in the **FE ID** display indicates that a previous software download has failed and you can only download software locally. Try again to download software from same shelf. If there is no period after the (**P.**), the software can only be downloaded locally using the procedures of **DLP-532**.

- B. Nothing displayed in the **FE ID** display indicates that compatible software is installed in the **SYCTL** and you may download software remotely if remote software downloading is permitted for this release.

Ensure PC is connected to the front CIT (CIT-1). If floppies are being used, ensure the first (number 1) diskette is installed in floppy drive. If hard drive is being used, ensure you are in the correct directory.

14. Enter **term** or **term COMn** command, where $n = 1$ or 2 . If **term** is entered without the **COMn** option, then **COM1** will be selected by default. If after starting the terminal emulator you see the message "Can't find script <init>", disregard it.

Response: Two brief messages are printed and you are instructed to Press any key to continue . . . after the second message. After you press any key, the terminal emulator is loaded and the terminal responds as follows:

```
Interface ready. (Type Alt-h for help.)
Communications established.
```

15. **⇒** **NOTE:**
The default shelf is the shelf physically connected to the PC. To set baud rate automatically, enter two carriage returns (<cr>), two lower case "a"s (**aa**), or two upper case "A"s (**AA**). All other characters are ignored.

Enter two carriage returns.

Response: PC prompts with:

```
/* Enter a shelf number from 1 to 8 */
shelf [default] =
```

16. Was response correct?

If **YES**, then proceed to **Step 19**.

If **NO**, then continue with **Step 18**.

17. Check PC to **CIT** port connections. Make sure the cable is connected between the PC **COM()** port and the **CIT** connector on the DDM-2000. If the rear **CIT** connector is being used on the DDM-2000, make sure a null modem is installed on the port. Check term setup and make sure the com port selected matches the port (**COM()**) on the PC that is connected to the **CIT** port on the shelf.

Exit **term** (Alt-F2) and repeat this procedure from Step 14.

18. Enter the shelf number for the local shelf being used for new program download.

Response: PC responds with:

```
login<
password<

/***** *
*          Lucent Technologies          *
*      DDM-2000 FiberReach Multiplexer  *
*                                          *
*                                          *
*          Release a.b.c                *
*                                          *
*****/

*
*
*

TID date time

M rtrv-alm: all COMPLD

/* Active Alarms and Status Report
```

19.  **NOTE:**
After the system prompt (<), the system will respond normally to commands entered. The Commands and Reports section of this manual gives a description of the commands.

Use **rtrv-map-network** command to retrieve the name (*tid*) of the remote shelf having new program installed.

20. Enter the command **ins-prog:tid**

Where *tid* = the target identifier (shelf name) for the far-end DDM-2000 shelf having the new program installed.

Response: /* Testing For Program Installation... */

After several seconds, the PC prints a Caution! message followed by the prompt:

Execute? y/n =.

21. Was response correct?

If **YES**, then continue with **Step 22**.

If **NO**, then do **Trouble Clearing: TAP-116**.

22. Enter a *y* or *yes* and a carriage return to execute the program. Software download may take up to 45 minutes.

Response: **ABN** LED lights on User Panel. A "P." is displayed in **SYSCTL FE ID** display in the far-end shelf receiving the program (for uncompressed executing copy download, not if dormant copy is being loaded).

```
Searching for optimal transfer rate.  
Handshake established at <baudrate> baud.
```

```
In progress . . . .
```

The dots continue to print until program installation is complete. If floppy disks are being used, insert each diskette when prompted. After installation is completed, the PC prints the following completion message:

```
ins-prog:TID COMPLD  
/* Generic a.b.c is installed */
```

The **SYSCTL** resets, and the terminal is logged off the system. The LEDs go off on the User Panel and **SYSCTL**.

23. Was response correct?

If **YES**, then proceed to **Step 26**.

If **NO**, then continue with **Step 24**.

24. Wait approximately 10 minutes for the network to stabilize, exit term, then repeat this procedure from **Step 14**. If the second attempt to download software fails, do **Trouble Clearing: TAP-116**. You may have to go to the remote site.

25. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

26. Wait approximately 5 minutes then verify communications can be reestablished with far-end shelf using `rtrv-map-network` command. Verify that *Comm. Status* is good (not *FAILED*) as indicated by a blank in the report.
27. Is communication status good between local and remote shelf?
If **YES**, then proceed to **Step 29**.
If **NO**, then continue with **Step 28**.
28. Dispatch technician to remote site and perform local software download procedures.
Reference: **DLP-532**
29. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**

