

Lucent Technologies
Bell Labs Innovations



DDM-2000 OC-12 Multiplexer Software Release Description

Release 3.1.4

363-206-247
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DDM-2000 OC-12 Multiplexer Software Release Description Release 3.1.4

Contents	Page
1. Overview	<u>1</u>
2. Software Release 3.1.4 Features	<u>2</u>
3. Operating Issues Resolved	<u>3</u>
4. Operating Issues	<u>7</u>

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Contents **Page**

5. DDM-2000 OC-3/OC-12 Interworking	<u>8</u>
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6. Implementation Procedure	<u>9</u>
Software Installation and Upgrade Procedure	<u>10</u>

Tables

A. DDM-2000 OC-3 and OC-12 Interconnections (Note 1)	<u>8</u>
B. DDM-2000 OC-12 In-Service Upgrade Compatibility (Note)	<u>11</u>

1. Overview

1.01 The purpose of this software release description (SRD) is to provide information about Software Release 3.1.4 and its interaction with the DDM-2000 OC-12 System. This practice contains the following parts:

- **Software Release 3.1.4 Features:** This part provides a description of the features provided by Release 3.1.4.
- **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 3.1.4 that may become evident during the operation of the DDM-2000 OC-12 System.
- **DDM-2000 OC-3/OC-12 Interworking:** This part provides a description of the optical connections that are supported between OC-3 and 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 OC-3 System software, Release 3.1.4.

⇒ NOTE:

Read all parts of this practice before implementing the DDM-2000 OC-12 System software update.

1.02 This practice, Issue 4, supersedes the previous Issue 3. Issue 4 provides updated information for Software Release 3.1.4. The updated information is included in the Operating Issues Resolved (Sections 3.05 and 3.06) section of this practice. Margin bars are used to denote the added information. 363-206-247, *DDM-2000 OC-3 Multiplexer, Software Release Description, Release 3.1.3*, Issue 3 provided the coverage for Software Release 3.1.3.

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 3.1.4 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 AT&T 363-206-207 *DDM-2000 OC-12 Multiplexer And OC-12 Regenerator User/Service Manual*, Issue 3A, for convenient storage of this practice.

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

2. Software Release 3.1.4 Features

2.01 A brief listing of the features provided in Release 3.1.4 is as follows:

- DS3 Dual Ring Interworking with STS-1 drop and continue cross-connections supports enhanced ring applications and interworking with other transmission products.
- Enhanced performance monitoring of DS3 interfaces using P and F & M-bits.
- VT1.5 path protection switching in an OC-12 ring using a DDM-2000 OC-3 shelf with Release 7.1.
- Additional TL-1 provisioning commands to interface with Bellcore's Operations Systems/Intelligent Network Elements (OPS/INE).
- Interworking with DDM-2000 OC-3 Release 7.1 via dual 0x1 optical interfaces.
- Interworking with *SLC*[®]-2000 Releases 3.1 and 3.2.
- Channel state provisioning to provide Auto, In-Service, and NMON states for STS-1 channels that are dropped and terminated in the shelf.
- Synchronization source selection via the `switch-sync` command when synchronization autoreconfiguration is enabled.
- Because of the spinoff of Lucent Technologies from AT&T, the default login ids and software download banners have been changed.
 - Users who receive software upgrades or new **SYSCTL** circuit packs from the factory may find that a new default login (LUC01 or LUC02) is needed to allow access into the system. If none of the new default logins permits access to the system, the user should try one of the old default logins (ATT01 or ATT02).

If the CIT command `init-sys:sysctl` (or the TL1 command `INIT-SYS`) has been performed on the system, the new default login IDs will be active. However, it is not necessary to activate the new LUC default login IDs; the old ATT default login IDs can still be used.

**CAUTION:**

Execution of the `init-sys:sysctl` command may affect service. The command should **NOT** be used on an in-service system. (In in-service systems, the user is encouraged to use the `set-lgn` command to customize the new logins, if needed).

The `init-sys:sysctl` command should only be used at the end of installation before system turnup. This command should only be used after a **SYSCTL** is replaced.

- The DDM-2000 TL1 login banner has been changed to include:
 - Lucent Technologies <system>, replacing AT&T <system>
 - LUCENT TECHNOLOGIES - PROPRIETARY, replacing AT&T - PROPRIETARY in the login proprietary banner.
- The DDM-2000 CIT login banner has been changed to include:
 - Lucent Technologies, replacing AT&T
 - LUCENT TECHNOLOGIES - PROPRIETARY, replacing AT&T - PROPRIETARY in the login proprietary banner.
- The reference to AT&T in the PC software download banner has been changed to Lucent Technologies.

3. Operating Issues Resolved

- 3.01 For information on Release 3.1.1, refer to AT&T 363-206-247, *DDM-2000 OC-12 Multiplexer, Software Release Description, Release 3.1.1*, Issue 1.
- 3.02 This part lists the operating issues (problems) which existed in the previous release but are resolved in Release 3.1.2.
 - **ISSUE:**
If the Permanent Virtual Circuit (PVC) 2 has not been established on the X.25 interface, then the `REPT ALM` messages will not output on the Switched Virtual Circuit (SVC).
 - **ISSUE:**
The `REPT PM` message, which outputs over the TL1 as a result of executing the `sched-pmrept` command, should contain a ":" after the `aid` field. In addition, the modifier (for example, `OC3`, `T3`, etc.) should not appear after the `aid` field.
 - **ISSUE:**
The `REPT EVT` message, which outputs over the TL1 to report events which do not require alarmed notifications, does not contain the appropriate number of documented fields.

- **ISSUE:**
If automated scripts are used to send TL1 login commands right after the X.25 link reset, it can result in a "lockup" of the communication of incoming messages to all remote nodes. However, communication with the GNE and the outgoing messages from remote nodes will not be affected.
- **ISSUE:**
The TL1 login banner has been shortened to fix a problem with interleaving X.25 packets in response to multiple **ACT-USER** commands.
- **ISSUE:**
To explain this issue, let's suppose that the twelve STS-1 high speed channels are defined in groups as following:
 - Group 1 - mb-1, mb-2, mb-3
 - Group 2 - mb-4, mb-5, mb-6
 - Group 3 - mb-7, mb-8, mb-9
 - Group 4 - mb-10, mb-11, mb-12

When a **FUNCTION UNITS (FN)** slot is equipped with an OC-3 OLIU circuit pack and is provisioned for "0x1" application, deleting an STS-1 cross connection to that **FN** OLIU circuit pack will convert the internal behavior of the **FN** to "1+1" mode if the remaining STS-1 cross connections to that same **FN** are part of a different high speed STS-1 group.

If the OC-12 system where the STS-1 "0x1" cross connect is being deleted is part of a VT pass through connection (via a co-located OC-3 ring shelf), this problem will result in a high speed ring loopback. An interruption of service will occur when this ring is selected as the "active" STS-1 path at the terminating node receiving the looped back signal.

If the OC-12 system where the STS-1 "0x1" cross connect is being deleted is part of a VT terminating connection (via a co-located OC-3 ring shelf), the effect of the problem is that the service will be received from one OC-12 ring only, hence making it an unprotected service.

This issue only arises after the deletion of such cross connect in the scenario explained. Otherwise, service is uninterrupted as long as these cross connections are maintained.

- **ISSUE:**
Following some network rearrangements or failed DCC link recoveries, the **rtrv-map** report may show a good communication status to some other nodes when, in fact, remote login attempts to those nodes will fail.
- **ISSUE:**
The **REPT DBCHG** messages returned for **ENT-T3** TL1 provisioning commands do not reflect the changes made.

- **ISSUE:**
Occasionally, after a reset of a network element, single-ended operations (SEO) functionality may be lost. A node may become isolated from the network due to the reset activity, and it may be a node other than the one actually being reset. When isolated, the node may not properly send alarm activity to its neighbors, it may not properly respond to TL1 communications, and it may not respond to remote login requests.
 - **ISSUE:**
When the `set-sync:mdsw` command is executed successfully, the completion message may contain an incorrect warning - `source selected currently is unusable for timing.`
- 3.03** For information on Release 3.1.2, refer to AT&T 363-206-247, *DDM-2000 OC-12 Multiplexer, Software Release Description, Release 3.1.2, Issue 2.*
- 3.04** This part lists the operating issues (problems) which existed in the previous release but are resolved in Release 3.1.3.
- **ISSUE:**
For a pair of External or Line Timed **TGS** circuit packs, the Holdover condition alarm on the standby **TGS** circuit pack was not reported. A failure on the active **TGS** circuit pack causes a protection switch to the standby circuit pack that was already in Holdover condition, thereby, causing service degradation over a period of time.
 - **ISSUE:**
When accessing an NE from TL1, it requires the user to enter a password starting with an alphabetical character.
 - **ISSUE:**
Resetting an externally timed shelf with the DS1 sync out mode, causes the DS1 output source of the **BBF2B TGS** circuit pack to switch to the default source (`main-b-1`) if the provisioned source prior to the reset was `main-b-2`.
 - **ISSUE:**
The `inc. (from fiber)` DS3 AIS is not reported in the alarm and history reports when for the first time the DS3 port transitions to in-service (IS) state, unless the update (`upd`) command is used.
 - **ISSUE:**
The TL1 command `RTRV-PM-T3` returns incorrect parameters and invalid Mon types.

3.05 For information on Release 3.1.3, refer to 363-206-247, *DDM-2000 OC-12 Multiplexer, Software Release Description, Release 3.1.3*, Issue 3.

3.06 This part lists the operating issues (problems) which existed in the previous release but are resolved in Release 3.1.4.

⇒ 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.

▪ **ISSUE:**

If an STS-3c pass-through cross-connect is active and a **23G-U OLIU** circuit pack is removed from a **MAIN B** slot, and then reinserted; a **TSI** circuit pack will be declared as Failed for the duration of 10 seconds and then the failure clears.

▪ **ISSUE:**

If one OLIU circuit pack is removed from a **MAIN B** slot, and then the second OLIU in a **MAIN B** slot fails due to both **TSI** circuit packs receiving parity errors; when the removed OLIU is replaced, both OLIU circuit packs are declared as failed, and transmission is lost on the active ring.

4. Operating Issues

4.01 This part lists information pertaining to recognized operating issues (problems) existing in Release 3.1.4. 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 OC-12 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:

(1) **ISSUE:**

Whenever the **ACO** pushbutton is executed preceded by a **reset** command, the audible alarms at the target Network Element will not be silenced.

WORK AROUND:

Attempt to clear the alarm conditions. Once the condition is cleared the audible alarms will also be silenced.

(2) **ISSUE:**

Powering up a DDM-2000 OC-12 shelf may cause other OC-12 shelves optically connected within the same ring to report an *inc. STS-1 unequipped* alarm that does not clear. This condition is not service affecting but should be cleared to allow proper operation of the path protection switched ring.

WORK AROUND:

At the shelf reporting the *inc. STS unequipped* alarm, reseal the "active-fn" **BCP3 TSI** circuit pack or disconnect the receive direction of the optical interface associated with the channels reporting the STS-1 unequipped condition.

(3) **ISSUE:**

OC-12 software Release 3.1.4 is incompatible with CPro-2000 Release 3.0.

WORK AROUND:

CPro-2000 Release 5.0 will include any change needed to accommodate the compatibility between CPro and DDM-2000 OC-12 Release 3.1.4, and therefore CPro-2000 Release 5.0 should be deployed with the DDM-2000 Release 3.1.4.

5. DDM-2000 OC-3/OC-12 Interworking

5.01 Table A describes which optical connections are supported between DDM-2000 OC-3 and DDM-2000 OC-12 shelves for the current software releases.

Table A. DDM-2000 OC-3 and OC-12 Interconnections (Note 1)

OC-3 Release	OC-12 Release	Interconnection (Note 2) Method	SEO (Note 3) Supported	Notes
None	1.0.n	None	None	Not compatible with other OC-3/OC-12 releases.
3.0.n	None	None	None	Not compatible with other OC-3/OC-12 releases.
3.1.n	1.1.n	22F-Type* or 21G-Type OLIU	Yes	Supports OC-3/OC-12 interworking
3.2.n	1.2.n	21D-Type†, 22F-Type*, or 21G-Type OLIU	Yes	21D-Type OLIU may be used for short reach interconnections.
6.0.n	2.0.n	21D-Type†, 22F-Type*, or 21G-Type OLIU	Yes	Not compatible with previous OC-3/OC-12 releases
6.1.n	2.1.n	21D-Type†, 22F-Type*, 22D-U‡, 22G-Type§, or 21G-Type OLIU	Yes	Not compatible with previous OC-3/OC-12 releases
6.2.n	2.2.n	21D-Type†, 22F-Type*, 22D-U‡, 22G-Type§, or 21G-Type OLIU	Yes	Not compatible with previous OC-3/OC-12 releases
7.0.n	2.1.n	22F-Type*, 22D-U‡, 22G-Type§, 21D-Type†, or 21G-Type OLIU	Yes	OC-3 optical extensions to OC-12 point to point
7.0.n	2.2.n	22F-Type*, 22D-U‡, 22G-Type§, 21D-Type†, or 21G-Type OLIU	Yes	OC-3 optical extensions to OC-12 point to point
7.1.n	2.1.n	22F-Type*, 22D-U‡, 22G-Type§, 21D-Type†, or 21G-Type OLIU	Yes	OC-3 optical extensions to OC-12 point to point
7.1.n	2.2.n	22F-Type*, 22D-U‡, 22G-Type§, 21D-Type†, or 21G-Type OLIU	Yes	OC-3 optical extensions to OC-12 point to point
7.1.n	3.1.n	22F-Type*, 22D-U‡, 22G-Type§, 21D-Type†, or 21G-Type OLIU	Yes	VT1.5 ring on OC-12 ring via dual 0x1 ring

Note 1: All DDM-2000 OC-3 non-ring shelves in a subnetwork should be running the same version of software. Similarly, all DDM-2000 OC-12 shelves in a subnetwork should be running the same version of software. "n" is the latest point release available.

Note 2: The OLIU types referenced in Table A are as follows:
 21D-Type - 21D and 21D-U, 21G-Type - 21G, 21G-U, and 21G2-U,
 22F-Type - 22F, 22F-U, and 22F2-U, and 22G-Type - 22G-U, 22G2-U,
 and 22G3-U.

Note 3: Single-Ended Operation (SEO)

Table A. DDM-2000 OC-3 and OC-12 Interconnections (Contd)

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- * The 22D-U, 22F-Type, and 22G-Type OLIU must be used in the DDM-2000 OC-3 shelf.
 - † The 21D-Type OLIU can be used in the DDM-2000 OC-12 shelf in place of the 21G-Type OLIU for short reach applications.
 - ‡ The 22D-U OLIU can be used in the DDM-2000 OC-3 shelf in place of the 22F-Type OLIU for short reach applications.
 - § The 22G-Type OLIU can be used in the DDM-2000 OC-3 shelf in place of the 22F-Type OLIU for long reach applications.
-

6. Implementation Procedure

NOTE 1:

The same version of software should be installed in all path switched ring DDM-2000 OC-12 Systems that are connected to each other by optical interfaces. After this software is installed in one system, it should also be installed in all associated far-end systems without unnecessary delays to ensure normal operation of all single-ended operations functions.

NOTE 2:

Before installing Release 3.1.4 software, the following hardware versions *must* be in place at all sites before continuing with the implementation procedure:

BBG5 (SYSCTL): Series 2:2 or higher
BCP1 (OHCTL): Series 2:5 or higher.

For BCP1 OHCTL circuit packs with earlier vintages than Series 2:5, upgrade the BCP1 OHCTL circuit packs by sending them (with a repair order that states "Modification per CCN N41017MV") to:

Lucent Technologies Network Systems
Merrimack Valley Works
1600 Osgood Street
North Andover, MA 01845

CAUTION:

A special upgrade sequence is required when upgrading a Release 2.0.n network to a Release 3.1.n network from a central location. See Steps 5 and 35 in the following procedure for details.

- 6.01** For Releases 3.1.n and higher, the following parameters should be provisioned to support OSI interworking over the SONET DCC:
- The appropriate user-side/network-side switches on the BCP1 OHCTL circuit packs on opposite ends of any optical span need to be set to opposite values. For instructions about installing or replacing the OHCTL circuit pack, refer to TOP **DLP-500** in AT&T 363-206-207, *DDM-2000 OC-12 Multiplexer And OC-12 Regenerator User/Service Manual*, Issue 3A.
 - One of the DDM-2000 shelves in the subnetwork must be designated as the gateway network element (GNE) by having its GNE parameter set to "yes" to provide target identifier (TID) to OSI network service access point (NSAP) network address translation. This is required even when the X.25 interface is not used for interfacing with an operations system.

Software Installation and Upgrade Procedure

This section contains the information and procedures needed for upgrading a DDM-2000 OC-12 System running any upgradable version of OC-12 software. This procedure can also be used to install software in new shelf installations where the SYSCTL and OHCTL are new and contain no software. In the unlikely event that the installed software needs to be backed out, proceed to **Step 33**.

Use the boxes to check off the steps as they are completed.

1.  **CAUTION:**
Although software downloading does not affect transmission, alarm reporting and system control functions will be suspended throughout software download procedures. Therefore, it is strongly suggested that software downloading to an in-service system be performed during light traffic conditions.

Verify that no DCC failures or transmission failures (OC-12 LOS, flashing OLIU **FAULT** LEDs, flashing OHCTL **FAULT** LED, etc.) are present on the network element receiving the program.

2.  **CAUTION:**
*Transmission configuration information is stored on the **TGS** circuit pack in **TIMING** slot 1. In some instances (for example, during some upgrades or during system tests), if the version of software being installed is not compatible with the current transmission configuration (see Table B), it may be necessary to remove the **TGS** circuit pack in **TIMING** slot 1 in order to force the system to run the software you are trying to download. If both **TGS** circuit packs are not installed, removal of the only **TGS** circuit pack would cause service interruption.*

Table B. DDM-2000 OC-12 In-Service Upgrade Compatibility (Note)

Current Release in Shelf	Software Release To Be Installed
	3.1.n
1.0.n	C
1.1.n	OK
1.2.n	OK
2.0.n	OK
2.1.n	OK
2.2.n	OK
3.0.n	OK
3.1.n	OK

Note: All DDM-2000 OC-12 shelves in a subnetwork should be using the same version of software. "n" is the latest point release available. When doing an upgrade, it is recommended that the latest point release of software be used, if possible. If a far-end shelf is already running Release 3.1.n software, a CIT terminal or a PC running terminal emulation software may be used to remotely install another version of Release 3.1.n software to the far-end shelf. If the far-end shelf is not running Release 3.0.n or later software, a PC must be used to locally install Release 3.1.n software to the far-end shelf.

C - Indicates software incompatibility. The newly installed software will not support the transmission configuration that is stored in the **TGS** circuit pack in **TIMING** slot 1. You will have to force the system to run the installed software.

OK - Indicates software compatibility. Normal download procedures should occur without having to force the system to run the newly installed software.

Before performing this procedure, it is strongly suggested that both **TGS** circuit packs be installed in the shelf and the **switch-sync: s=circuitpack,pri>manual** command be used to switch to the protection **TGS** circuit pack in **TIMING** slot 2. Use **rtrv-sync:** command to verify that the **TGS** circuit pack in **TIMING** slot 2 is active. Use the **switch-sync: s=circuitpack,pri=inhibit** command to freeze the protection switching mechanism.

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- 3. Obtain the following equipment:
 - (a) AT&T PC6300 compatible personal computer (PC) running an *MS-DOS** computer program operating system, Release 2.1 or later.
 - (b) RS-232 cable to connect PC **COM** port to User Panel **CIT** port.

⇒ NOTE:

The PC may be connected to either the front or rear CIT port or remotely through a dial-up modem. If connected to the rear **CIT** port, a null modem is required between the RS-232 cable and the rear **CIT** port.

- (c) Working copies of the new system generic program diskette(s).

-
- 4. Before beginning this procedure, the following is strongly suggested:
 - (a) Become familiar with the characteristics and operating procedures of your PC and the *MS-DOS* operating system.
 - (b) Use care when handling circuit packs; make use of ESD wrist straps and static-safety bags.
 - (c) Follow proper procedures in handling the diskette(s) (floppies).
 - (d) Make working copies and backup copies of the original new generic program diskettes. For additional information on how to make copies of the software, refer to TOP **DLP-527** in AT&T 363-206-207, *DDM-2000 OC-12 Multiplexer And OC-12 Regenerator User/Service Manual*, Issue 3A.
 - (e) Obtain diskettes that have the *old* software and/or a spare **SYSCTL** and **OHCTL** with the *old* software in the unlikely event that the new program installation fails or the new software operation is unacceptable and a backout to the old software becomes necessary.
 - (f) Read the README file accompanying the software for the latest information on the software to be installed. The README file is a text file that could be displayed using the DOS **more** command or a text editor.

* Registered trademark of Microsoft Corporation.

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- 5. **⇒ NOTE 1:**
This procedure may be used to install Release 3.1.n (through a PC connected to the **CIT** port) to a local DDM-2000 shelf with or without software. Since new **BBG5 SYSCTL** and **BCP1 OHCTL** circuit packs have no software on board, a new installation requires a local download of the software into the system.

- ⇒ NOTE 2:**
This procedure may also be used to upgrade (via the DCC) a far-end system running Release 3.1.n software or having the letter **P** and a dot (**P.**) displayed in the **FE ID** display to a version of Release 3.1.n software. The far-end system must be upgraded from the GNE shelf after the GNE has been loaded with the Release 3.1.n software locally.
See **Step 35**.

- ⇒ NOTE 3:**
This procedure may also be used to upgrade (via the DCC) a far-end system running Release 3.1.n software to another version of Release 3.1.n software. Although multispan software download is supported for up to three spans, to minimize the download time and reduce DCC traffic, it is recommended that multispan software downloading be avoided by remotely logging into the nearest shelf of the same type and remotely downloading the new program from that shelf. See **Step 35**.

Observe the **BBG5 SYSCTL FE ID** display. The **FE ID** display may be one of the following:

- (a) The letter **P** displayed in the **FE ID** display indicates that no software is installed in the **SYSCTL**. For Release 2 and later, if the **P** is followed by a period (**P.**), it means the software may be downloaded either locally or remotely using the `ins-prog:tid` or `cpy-prog:tid` command. If there is no period (**P**), the software can only be downloaded locally. (For Release 1.2 and earlier, the **P** without the period means the software may be downloaded either locally or remotely.) Continue with **Step 6**.
- (b) The letter **C** displayed in the **FE ID** display indicates that software is installed in the **OHCTL** and **SYSCTL**, but the software will not support the current shelf transmission configuration. See **Step 22**.
- (c) The letter **d** displayed in the **FE ID** display indicates the **OHCTL** has no software or that the software in the **OHCTL** and **SYSCTL** is incompatible. You must perform the button sequence in **Step 24** to force a program download.

- (d) Nothing displayed in the **FE ID** display indicates that compatible software is installed in the **OHCTL** and **SYSCTL**. Continue with **Step 6**.
- (e) The letter **E** displayed in the **FE ID** display indicates that open systems interconnection (OSI) software is installed and the **OHCTL** is a series **S2:2** or earlier. A series **S2:3** (linear) or **S2:5** (ring) **OHCTL** must be installed for Release 2 (R3) or later software.

6. **⇒ NOTE 1:**

For a local PC download without modems, the PC and the shelf will attempt to download at the highest baud rate possible regardless of the baud rate setting. However, if modems are used, download will be performed according to the baud rate set at the **SYSCTL**. A high baud rate setting will reduce the time required to download the new generic program.

⇒ NOTE 2:

For local PC download without modems using a newer PC with the autobaud feature, this program installation will take approximately 25 minutes. For local PC download without modems using an older PC without the autobaud feature, this program installation will take approximately 45 minutes.

⇒ NOTE 3:

For remote download over three or fewer DCC spans, this program installation will take approximately 30 minutes.

Ensure **SYSCTL** baud rate is set to the desired baud rate. Baud rate switch setting for 9600 at the front port is **S3-1 ON, S3-2 OFF, and S3-3 OFF**. Baud rate switch setting for 9600 at the rear port is **S3-4 ON, S3-5 OFF, and S3-6 OFF**.

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7. **⇒ NOTE 1:**
The rear access CIT port is configured for a modem. A null modem is required to use this port with the PC.

⇒ NOTE 2:
The cable from the **CIT** port on the DDM-2000 shelf must be connected to the **COM (COM1 or COM2)** RS-232 port of the PC.

Connect the PC to **CIT** port by connecting one end of an RS-232 cable to the **COM()** port of the PC and the other end of the cable to the front or rear DDM-2000 **CIT** port. Turn on the PC.

8. **⇒ NOTE:**
This procedure assumes the installation will be done using the diskette(s). Local operating procedures must be established to use a PC and a hard disk containing the necessary program files. You can **copy** all files on the source diskettes to a directory (such as **GEN_ver**, where **ver** should be the program generic version, for example, 314 for generic version 3.1.4) on the hard disk and load the generic from that directory.

Start *MS-DOS* operating system on the PC.

Response: PC displays the prompt (**A>**, **A: /DOS>**, etc.) determined by the PC.

9. **⇒ NOTE:**
The new generic program may be on many floppy disks. The PC will prompt you to insert disks as needed after the first disk is installed.

Insert the first (number 1) floppy disk into the PC drive (if not using the hard drive).

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10. Use the appropriate *MS-DOS* command (for example, **a:** or **b:**) to go to the drive with the floppy disk installed (or **cd** to the appropriate hard drive directory).

Response: PC displays the appropriate prompt (A>, B>, or C>).

Comment: If you get a disk error message, verify the drive latch is locked and that you have the proper diskette installed in the drive.

11.  **NOTE:**
The **checkpgm** command may take several minutes to complete.

Execute the **checkpgm** command to check the version number and integrity of the program you are installing. Insert each diskette when prompted.

Response: PC has DDM-2000 program version a.b.c
Checking files . . .

12. Reinstall the first (number 1) diskette and 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. If an incorrect **COM_n** is selected, exit the terminal emulator (ALT-F2) and reenter **term COM_n** command. If, after starting the terminal emulator, you see the message "Can't find script <init>", then disregard it.

Response: A brief message is printed and you are instructed to Press any key to continue . . . 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.
```

13. Was the response correct?
If **YES**, then proceed to **Step 16**.
If **NO**, then continue with **Step 14**.
-

14. Ensure first (number 1) disk of program being installed is inserted. Ensure diskette is inserted in correct drive and that the right command was used to go to the drive with the diskette installed.
-

-
15.  **NOTE:**
The default data rate for the TERM terminal emulator is 9600 baud.
- If the data rate switches on the **SYCTL** are set to other than 9600 baud, enter **Alt-c** and follow the instructions on the TERM screen to set the terminal emulator data rate to match the selected data rate switch settings on the **SYCTL**.
-
16.  **NOTE:**
The default shelf is the shelf physically connected to the PC.
- Enter a question mark (?) or RETURN.
Response: PC prompts with:
/* Enter a shelf number from 1 to 8 */
shelf [default] =
-
17. Was the response correct?
If **YES**, then proceed to **Step 19**.
If **NO**, then continue with **Step 18**.
-
18. Check PC to **CIT** port connections. Make sure the cable is connected between the PC **COM()** port and the **CIT** port on the DDM-2000 OC-12 shelf.
- If the rear **CIT** port is being used on the DDM-2000 OC-12 shelf, make sure a null modem is installed on the port. Ensure baud rate is set the same on **SYCTL** as on TERM terminal emulator. Check TERM setup and make sure **COM** port is configured for the correct port. (See **Steps 12** through **17**.)
-
19. Choose one of the following **FE ID** displays and continue with the indicated step:
- (a) If the display has the letter **P** displayed, continue with **Step 20**.
 - (b) If the letter **C** is displayed, proceed to **Step 22**.
 - (c) If the letter **d** is displayed, proceed to **Step 24**.
 - (d) If the letter **E** is displayed, see **NOTE 2** in the "Implementation Procedure" part of this practice.
 - (e) If the display is blank, proceed to **Step 26**.
-

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

Response: PC starts download and prints the following message:

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

The dots continue to print until program installation is complete. 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.

21. Was the response correct?
If **YES**, then proceed to **Step 33**.
If **NO**, then proceed to **Step 32**.
-

22.  **CAUTION:**
*If the system is in service and is forced to run the current software that is displaying a **C**, service interruption may result.*

 **NOTE:**

Indications are that there may be a problem with the version of software you are installing or you are trying to install a version of software that will not support the system transmission configuration that you have. Under normal upgrade procedures, this indication should not occur. But, if you are downloading an older version of software or upgrading to a new version of software which is incompatible with the version that you have (for example, upgrading a Release 1.2 or 2.0 point-to-point system to a Release 3 ring configuration), this indication may occur. If this occurs, you can load another version of software or *force* the system to run the current software.

You must decide if you want the system to run this current version of software or if you want to download another version (original version or new version) of software.

Do you want to run the current version of software in the **SYSCTL**?

If **YES**, then continue with **Step 23**.
If **NO**, then proceed to **Step 24**.

-
23. To *force* the system to run the current software, perform the following:
- (a) Ensure that a **TGS** circuit pack is installed in **TIMING** slot **2**.
 - (b) Check that **TGS** circuit pack in **TIMING** slot **2** is active (**ACTIVE** LED lighted).
 - (c) Remove the **TGS** circuit pack in **TIMING** slot **1** and reset (unplug and reseal) the **SYSCTL** circuit pack.
 - (d) After the current software is up and running (no alarm LEDs lighted or you can log into the shelf), reinstall the **TGS** circuit pack in **TIMING** slot **1**.
 - (e) Use the `switch-sync:s=circuitpack,pri=reset` command to clear active switch request.
 - (f) Proceed to **Step 34**.

-
24. Connect PC to front CIT port. Find the proper version of software, insert the first diskette (**Steps 9** through **16**), then 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).

Response: PC starts download and prints the following message:

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

The dots continue to print until program installation is complete. 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.

-
25. Was the response correct?
- If **YES**, then continue with **Step 33**.
 - If **NO**, then continue with **Step 32**.
-

26. Enter the shelf number for the shelf being used for new program download and enter login and password.

Response: PC responds with:

```

/*****
*
*      Lucent Technologies      *
*      DDM-2000 OC-12 Multiplexer  *
*
*      Release a.b.c          *
*
*****/

      .
      .
      .

TID date time
M rtrv-alm: all COMPLD
/* Active Alarms and Status Report

```

27.  **NOTE:**
After the system prompt (<), the system will respond normally to commands entered.

If necessary, use the **rtrv-nmap** command to retrieve the name (*tid*) of the shelf having new program installed.

28. Check that disk is installed, then enter the command **ins-prog:tid**.
Where *tid* = the target identifier (shelf name) for the DDM-2000 shelf having the new program installed. See response in **Step 26** or use the **rtrv-nmap** command to get the *tid* for this shelf.
Response: /* Testing For Program Installation... */
After several seconds, a **Caution!** message is displayed followed by:
Execute? y/n =.

-
29. Was the response correct?
If **YES**, then continue with **Step 30**.
If **NO**, then do TOP **TAP-116** in AT&T 363-206-207,
*DDM-2000 OC-12 Multiplexer And OC-12 Regenerator
User/Service Manual*, Issue 3A.
-
30. Enter a *y* or *yes* and a carriage return to start program installation.
Response: **ABN** LED lights on User Panel and a **P** is displayed in
SYSCTL FE ID display in the shelf receiving the program. At
DDM-2000 shelves connected directly to the shelf receiving the
program, **MJ** and **NE ACTY** LEDs light on User Panel and **FAULT**
LED flashes on **OHCTL**. At other shelves in the same control
system, **MJ** and **FE ACTY** LEDs light on User Panel. PC starts
download and prints the following message:

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 **SYSCTL** resets and the terminal is logged off the system. The
LEDs go off on the User Panel and **SYSCTL**.
-
31. Was the response correct?
If **YES**, then proceed to **Step 33**.
If **NO**, then continue with **Step 32**.
-
32. Did a **C** or **E** appear in the **FE ID** display after the software
download?

(a) If **C** appeared, then proceed to **Step 22**.
(b) If **E** appeared, see **NOTE 2** in the
"Implementation Procedure" part of this practice.
(c) If **C** or **E** do not appear, then do TOP **TAP-116** in
AT&T 363-206-207, *DDM-2000 OC-12 Multiplexer
And OC-12 Regenerator User/Service Manual*, Issue 3A.
-

33. **⇒ NOTE:**
If it is desired to back out to the *old* software, replace the **OHCTL** and **SYSCTL** with spares containing *old* software, or repeat the software download procedure beginning with **Step 9** using diskettes that have the *old* software.

If **Step 23** was not performed during this procedure, then use the `switch-sync:s=circuitpack,pri=reset` command to clear active switch request.

34. Has new program been installed to all DDM-2000 shelves in the subnetwork?
If **NO**, then continue with **Step 35**.
If **YES**, then proceed to **Step 36**.

35. **⇒ NOTE 1:**
If a far-end shelf is not running Release 3.1.n or later software, or not having the letter P and a dot (**P.**) displayed in the **FE ID** display, then a PC must be used to install Release 3.1.n software locally to the far-end shelf.

⇒ NOTE 2:
If a far-end shelf is already running Release 3.1.n or later software, a CIT terminal or a PC running terminal emulation software may be used to install a version of Release 3.1.n software remotely to the far-end shelf using the `cpy-prog:tid` command. Far-end communications (fecom) must be enabled using the `set-fecom:address:com=enabled` command.

To upgrade a subnetwork running Release 3.1.n software to a version of Release 3.1.n software, the following order of installation must be followed:

- (1) At the GNE shelf, use the `rtrv-nmap` command locally and remotely to determine the network topology from the GNE perspective.
- (2) Use a PC to install the Release 3.1.n software locally to the GNE shelf.
- (3) Use the `cpy-prog:tid` command at the GNE shelf to install the same Release 3.1.n software remotely to the far-end shelves, starting from the shelf farthest from the GNE and back toward the GNE.

If it is desired to back out to the *old* software, replace the **OHCTL** and **SYSCTL** with spares containing *old* software or use a PC to install the *old* software locally to the shelf.

To upgrade a subnetwork running Release 3.1.n software to another version of Release 3.1.n software, use `cpy-prog:tid` command to install the new software to other shelf or shelves. If it is desired to back out to the *old* software, first replace the **OHCTL** and **SYSCTL** with spares containing *old* software or use a PC to install the *old* software to a local shelf, then use the `cpy-prog:tid` command at the local shelf to back out the far-end shelves.

-
- 36. Log out and disconnect PC.
-
- 37. **STOP. YOU HAVE COMPLETED THIS PROCEDURE.**
-

How Are We Doing?

Document Title: *DDM-2000 OC-12 Multiplexer, Software Release Description, Release 3.1.4*

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Issue 4

Date: February 1998

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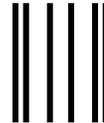
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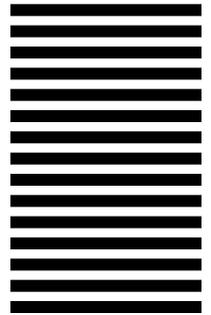
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