

Model 3550 2-Port TDM/Flex Upgrade Feature Number 3550-F1-202 Installation Instructions Document Number 3550-A2-GZ50-10

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Overview

The 2-port time division multiplexer (TDM/Flex) upgrade for the Model 3550 (standalone) DSU includes a circuit card that rests in an expanded base with an expanded rear panel. With this upgrade installed, each port (Port 1 or Port 2) can be configured independently to operate as an EIA-232 or V.35 interface via the diagnostic control panel (DCP) or 6700 Series network management system (NMS).

The 2-port TDM/Flex upgrade consists of the following items:

- One circuit card with expanded rear panel resting in an expanded base, and the pre-folded flat cable
- Two thread-cutting screws
- One screw with a captive-lock washer

If any item is missing, contact your service representative.

If connecting a port to data communications equipment (DCE), a crossover cable is required (feature number 3211-178F for a V.35 Crossover Cable or feature number 4951-035F for an EIA-232 Crossover Cable). *If using V.35 operation, a V.35 Interconnect Cable (feature number 3000-F1-510) is required for Port 2; the V.35 connector on the DSU is used for Port 1.*

Before You Start

Refer to Chapters 4 and 5, *Operating the DSU* and *Configuring the Unit*, of the user's guide if needed.

Procedure

1. Make a copy of the Configuration Worksheet with Full Mode enabled (Appendix B of the user's guide).
2. Access **Stat** (Status branch), then **ID** (Identity subbranch).
3. Record the unit's serial number at the top of Page 1 of the Configuration Worksheet.
4. Access **Config** (Configuration branch).
5. Verify that Full Mode (*Menu* subbranch) is enabled.
6. Record the configuration option settings for each option set (DSU, Diag, etc.) on the Configuration Worksheet.
7. Record all Backup Directory entries on the worksheet if a DBM is installed.
8. Record the unit's local telephone number (Phone) if a DBM is installed.

Getting Started

Refer to [Figure 1](#) as you follow these steps.

Procedure

1. Unplug the table-top ac transformer from the ac outlet, then disconnect the power cord from the DSU's rear panel (labeled POWER).
2. Disconnect the DDS interface cable (labeled LINE) from the DSU.
3. Disconnect the DBM and NMS interface cables (labeled BACKUP and CC/DC, respectively), if installed.
4. Disconnect the EIA-232-D/V.24 or V.35 interface cable from the DSU.

If a TDM/Flex is being replaced, disconnect the Port 2 interface cable, as well.

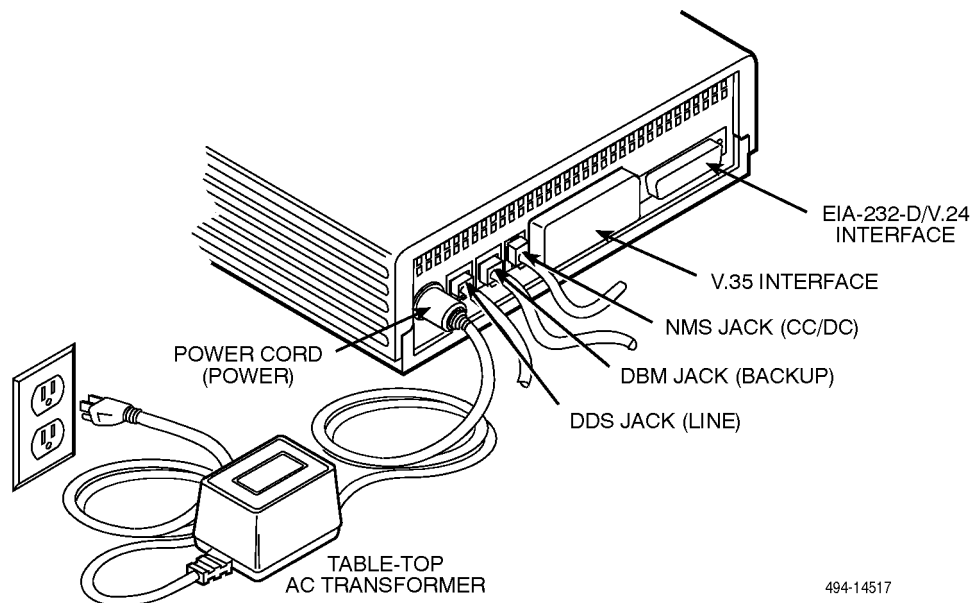


Figure 1. Disconnecting the DSU

Opening the Unit

HANDLING PRECAUTIONS FOR STATIC SENSITIVE DEVICES

This product is designed to protect sensitive components from damage due to electrostatic discharge (ESD) during normal operation. When performing installation procedures, however, take proper static control precautions to prevent damage to equipment. If you are not sure of the proper static control precautions, contact your nearest sales or service representative.

Refer to [Figure 2](#) as you follow these steps.

Procedure

1. Turn the unit upside down.
If a TDM/Flex is being replaced, the unit does not have to be turned over in order to open the case.
2. Using a small flat-head screwdriver, release the four snap tabs holding the base in place.
3. Carefully separate the cover from the base, and return the unit to an upright position.
4. Fold the DSU's cover over (from the rear of the DSU toward the front).

Be careful not to pull the LCD and keypad flat cables from their connectors.

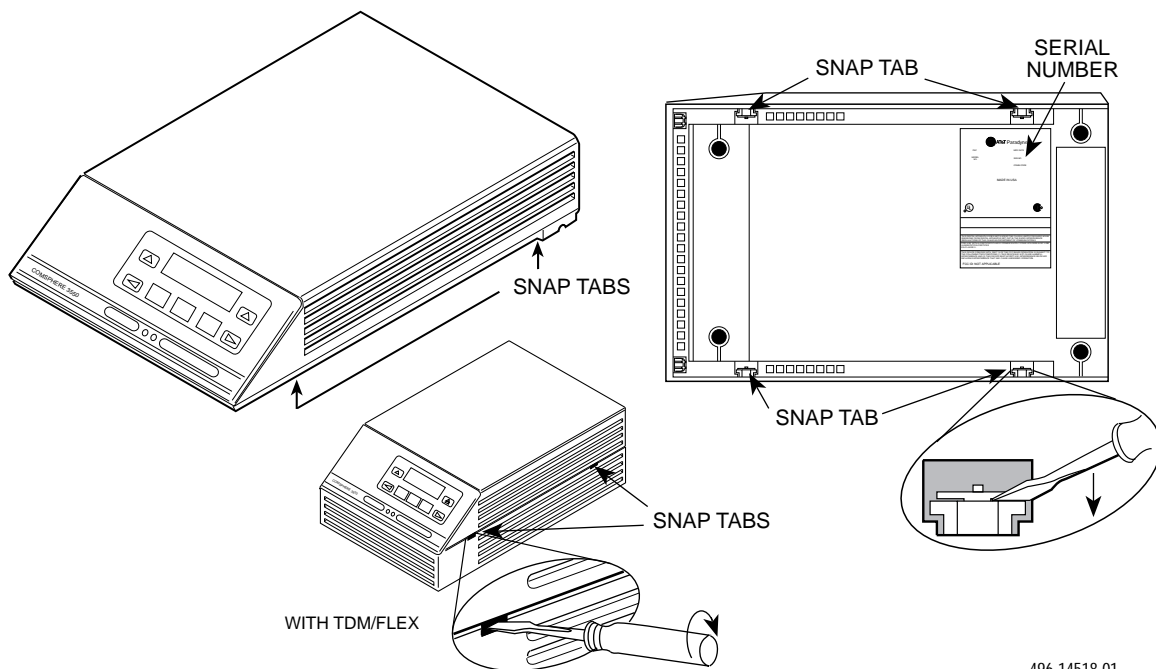


Figure 2. Opening the DSU

Removing the DSU from Its Base

Refer to [Figure 3](#) as you follow these steps. If replacing a TDM/Flex, refer to this figure as you de-install the current TDM/Flex

Procedure

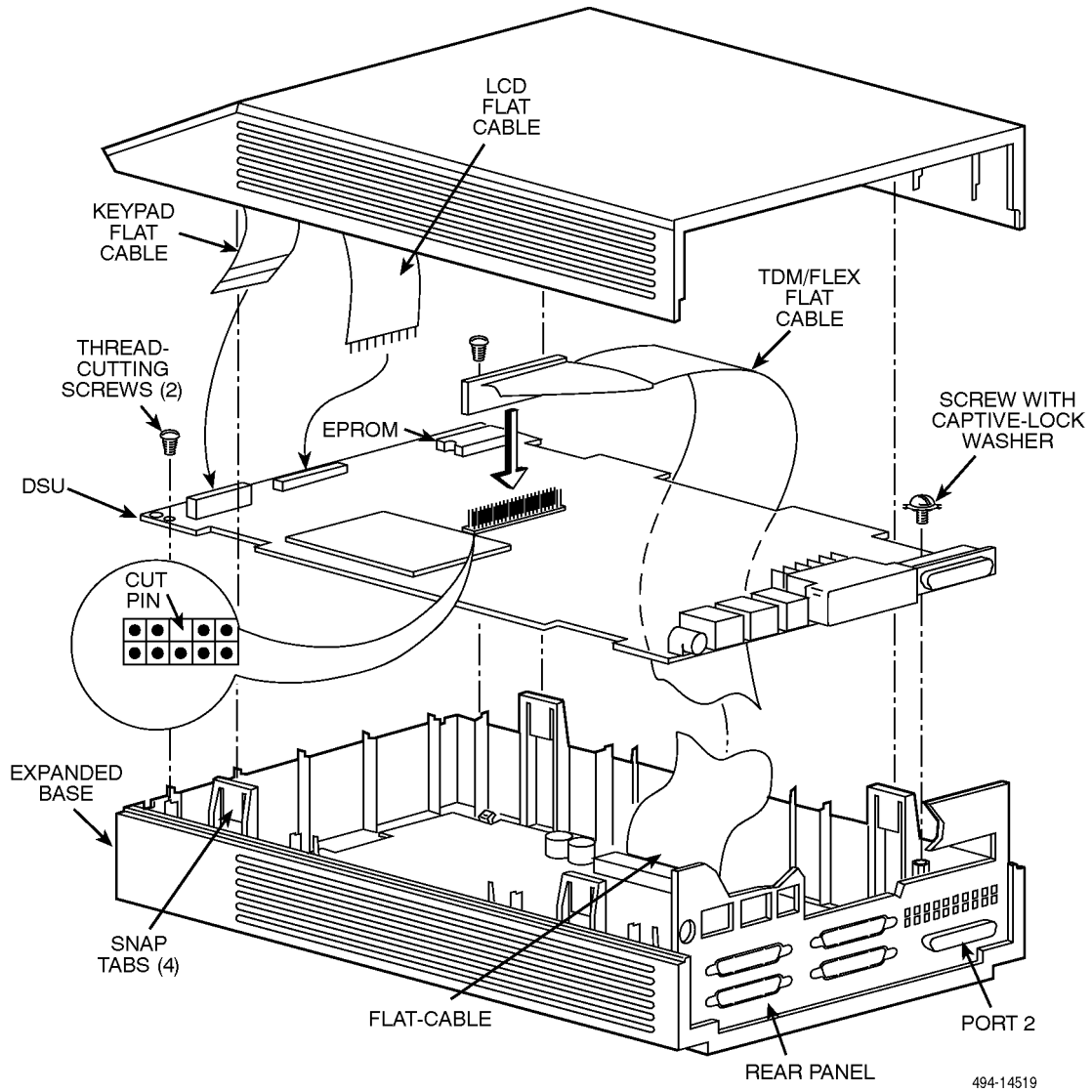
1. Disconnect the keypad flat cable from the DSU. *Squeeze the small black latches on each side of the cable and gently pull up, carefully lifting the cable up and out of the connection.*
2. Disconnect the LCD flat cable from the DSU circuit card. Carefully and gently work the cable (**not the connector**) out from the connector. *Be careful not to bend any of the cable pins.*
3. If a TDM/Flex is being replaced, disconnect the TDM/Flex flat cable's pre-folded 40-position header from the DSU, and fold the TDM/Flex flat cable out over the side of the expanded base.
4. If a TDM/Flex is being replaced, remove the two #4 thread-cutting screws at the front corners, and the #4 screw with captive-lock washer at the rear corner of the DSU.
5. Remove the DSU from the existing base. Carefully lift the DSU up until its connectors are free of the rear panel. Set the DSU on a clean ESD (anti-static) workpad.
6. Write the serial number from the existing base onto the new TDM/Flex expanded base using indelible ink (see [Figure 2](#)). Discard the existing base and rear panel.

Installing the TDM/Flex

The TDM/Flex is shipped so that it rests in the expanded base; the DSU is installed onto the expanded base. Refer to [Figure 3](#) as you install the DSU onto the new expanded base.

Procedure

1. Fold the TDM/Flex flat cable out over the side of the new expanded base.
2. Position the DSU over the new expanded base.
3. Secure the DSU to the expanded base using the two #4 thread-cutting screws at the front corners, and the #4 screw with captive-lock washer at the rear corner (make sure this screw is tightened).
4. Connect the TDM/Flex flat cable's pre-folded 40-position header to the DSU, as shown. *Make sure the pins are correctly aligned with the connector (one pin hole on the connector is blocked).*
5. Reconnect the keypad flat cable by inserting the cable into its connector as far as it will go, then pushing down on the tiny latching mechanism.
6. *Being careful not to bend the pins*, align the LCD flat cable to its connector, then gently push the cable pins back into place.



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Figure 3. Installing the TDM/Flex

Reassembling the Unit

Refer to [Figure 3](#) as you close the unit and to [Figure 1](#) to reconnect cables.

Procedure


1. Align the cover over the expanded base and rear panel. Make sure the four snap tabs are over their corresponding slots (two in front and two in back).
2. Apply pressure at the four snap tab connecting points, pressing together until all four tabs snap securely into their slots.
3. Reconnect the power cord to the DSU (labeled POWER), referring back to [Figure 1](#).
4. Plug the table-top ac transformer into the ac outlet.

On power-up, the DSU determines what options (DBM, MUX – TDM/Flex) are installed.

A Device Test is automatically initiated on the DSU and each option installed. During the tests, all indicators on the diagnostic control panel (DCP) light briefly, and the LCD displays the message **Power-up Tests**.

When the Device Tests are complete, the LCD momentarily displays messages indicating that each device (DSU and MUX, or DBM if installed) has passed the power-up test. *This test takes approximately 20 seconds to complete.*

Note that the red Alarm LED lights, indicating that there is no DDS signal.

5. Perform a DSU Device Test from the DCP to ensure that the unit is functioning properly.
Press the  key to return to the top-level menu, then select Local → Test → DSU → Devic.
6. If the keypad and/or LCD functions fail, check that the Keypad and LCD flat cables are installed properly. Perform the Device Test again.

If the Device Test fails again, call your service representative for assistance. Otherwise, continue with this procedure.

Reconfiguring the Unit

First load a factory-set configuration. Configure each port for either EIA-232 or V.35 operation, then customize the configuration loaded based upon the completed Configuration Worksheet and site requirements.

Procedure

1. Load the appropriate factory-loaded configuration: PTPC (point-to-point control), MPTC (multipoint control), PTPT (point-to-point tributary), or MPTT (multipoint tributary).

Select the \triangle key → Local → the \triangleright key (if a DBM is installed) → Config → Opts → *Load from* → (e.g.) PTPC → *Save to* → Activ.

2. Make any desired configuration changes in the DSU, Diag, DBM, ExtBU, Gen, Bkup, MUX, and PrtSp option sets.

For information on these option sets, refer to the user's guide.

To verify that the TDM/Flex is enabled:

1. Press the \triangle key until the *Edit/Save* menu appears, then select **MUX**.
2. Select **Setup** (F2).
3. If *MUX Funct* is not set to Enab, select **Enab**. (The selected setting appears on the first line of the display.)
4. Press the \triangle key to return to the *MUX* submenu.

To configure each port for EIA-232 or V.35 operation:

1. Select **Prt1** (F3).

DTE Port appears, with the configuration option's current setting displayed on the first line.

2. Select **V.35** (F3), if needed.

The setting changes from EIA-232 to V.35.

3. Press the \triangle key until you return to the *Edit/Save* menu.

To complete the unit's configuration:

1. Based upon the DSU's configuration prior to the installation as recorded on the Configuration Worksheets, make changes to the unit's configuration options.

Refer to the Configuration Option Tables in Chapter 5 of the user's guide to determine whether the DSU's previous settings are still appropriate.

2. Press the \triangle key to return to the *Edit/Save* menu when finished customizing the unit's configuration.
3. Press the F1 key below **SAVE**.

4. Select **area** (Activ, Remt, Usr1) on the *Save to* screen.

- If **Activ** is selected, your changes take effect immediately.
- If **Usr1** is selected, your changes are stored for future use.
- If the unit is a control and **Remt** is selected, the complete configuration (all option sets available to the unit and their configuration option settings) is sent to the tributary and saved to its *Activ* area.

Remember that you cannot save to the factory-loaded configurations. *Command Complete* appears when the configuration has been saved.

5. Reconnect the DDS interface cable to the DSU (labeled LINE).

6. Reconnect the NMS (labeled CC/DC) and DBM (labeled BACKUP) interface cables to the DSU's rear panel, if installed.

7. Perform a Digital Test on each port.

Select the $\hat{=}$ key → Local → Test → DSU → the \triangleright key → DT → Start → (e.g.) Prt1 → enter *Address* → RunTim (hh:mm:ss).

Command Complete appears at the conclusion of the test.

8. Press the \triangle key, then select **Displ** to see the results of the Test.

9. Press the \triangleright key to scroll the results.

Refer to the *Digital Test* section in Chapter 4 of the user's guide for the results you should expect. Refer to Chapter 2 of the user's guide to verify network and DBM operation.

10. Reconnect the EIA-232-D/V.24 or V.35 interface cable to the DSU. Connect the Port 2 interface cable to the DSU, then to the DTE.

If the TDM/Flex port is to be connected to a DCE, attach a 15-foot crossover cable (feature number 4951-035F) to the port, and connect it to the appropriate DCE.

If configuring Port 2 for V.35 operation, attach the V.35 Interconnect Cable (feature number 3000-F1-510) to the port, then to the DTE.