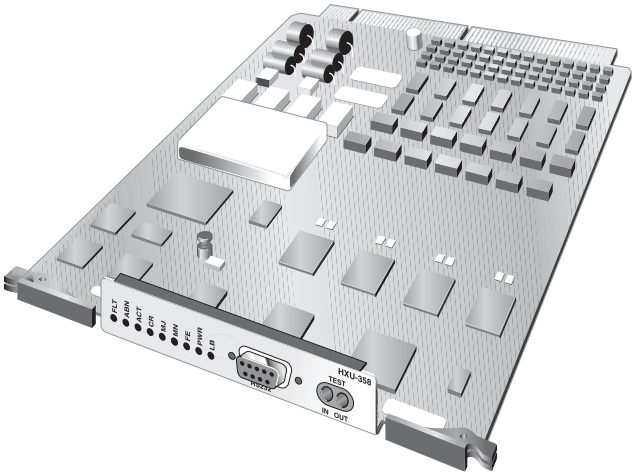
HiGain

QUICK INSTALLATION



HXU-358 V1.04
MULTIPLEXER UNIT

ADC

THE HXU-358 V1.04

The HiGain® Multiplexer Unit, HXU-358, is the multiplexing component of the Soneplex® Wideband 3190. It can also be installed in a HiGain Access Concentrator Express (ACE) chassis, single-rack enclosure. The HXU-358 multiplexes 28 T1 lines or 21 E1 lines (or a mixed combination of T1 or E1 line groups) into a single DS3 data channel using G.747 standards.

When two HXU-358s reside in a Wideband 3190 or an ACE, one board functions as the active board, and the other is a standby in the event of failure.

FEATURES

- Front-panel status indicators, including office alarms (Major, Minor, Far-End, Critical)
- Front-panel test jacks
- Digital Access Cross-connect Switching (DACS) at the DS1 level
- Complete software provisioning
- Password protection
- Front-panel RS-232 craft port for direct connection to a maintenance terminal
- Backplane test interface
- Dual multiplexer applications support protection switching
- Support for T1 and E1 line interfaces
- Advanced management by way of the HiGain HMU-319
- Internal test head functionality

SPECIFICATIONS

Operating Temperature	-40°F to +149°F (-40°C to +65°C)
Operating Humidity	5% to 95%, non-condensing
Input Voltage Range	-41.5 Vdc to -56.3 Vdc
Power Input Source	Redundant Battery A/Battery B sources in the Wideband 3190 or ACE shelf
DS3	Pulse amplitude of 0.36 V to 0.85 V with an unbalanced line impedance of 75 Ω ±5 Ω
T1	Pulse amplitude of 3.0 V to 0.60 V with an balanced line impedance of 100 Ω ±5% operating at 1.544 MHz%
E1	Pulse amplitude of 0.36 V to 0.85 V with an balanced line impedance of 120 Ω ±5% operating at 2.048 MHz

1 INSTALLATION

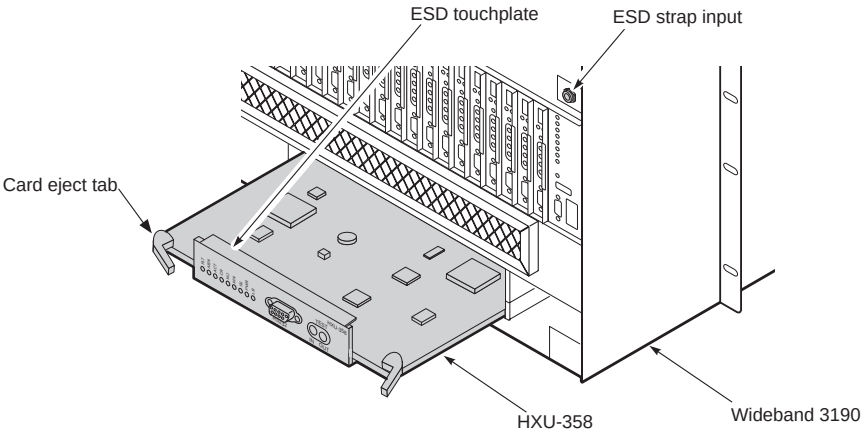


Figure 1. *Installing an HXU-358 Card*

If you are installing an HXU-358 in a Wideband 3190 or ACE shelf that has a different multiplexer model, contact Customer Service. Do not mix multiplexers in a system.

Take standard precaution to prevent component damage due to electrostatic discharge (ESD). Connect an ESD strap to the ESD strap input on the enclosure.

HXU-358 multiplexer cards are installed in the front of the Wideband 3190 or ACE chassis.

1 Unscrew the two hold-down lugs on each side of the chassis front cover. The cover folds down.

2 Connect your ESD wrist strap to the ESD strap input above the HMU slot. An ESD touchplate is integrated on top of the card's front panel for added protection.

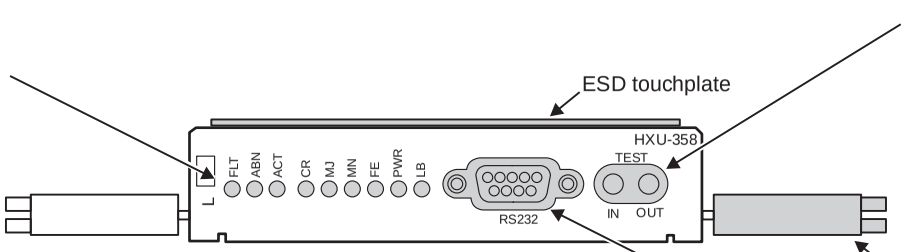
3 Align the edges of the replacement card with the slot guides in the multiplexer tray.

4 Grasping the card eject tabs and gently push the card into the bay.

Continued

Status LEDs

Name		Color
CR	Critical Error	Red
MJ	Major Error	Red
MN	Minor Error	Yellow
FE	Far End Error	Yellow
PWR	Power On	Green
LB	Loopback	Yellow
FLT	Fault	Red
ABN	Abnormal	Yellow
ACT	Active	Green



T1/E1 test access jacks

Provides monitoring and split access to any DSX-1 tributary. Using these test access jacks disrupts test access on the backplane of the HMS shelf. These jacks must be configured through the craft port.

Card-eject tab

Craft port

To access all system maintenance, provisioning and performance screens, connect a standard 9-pin terminal cable between the serial port on a PC and the HXU or HMU craft port. The craft port on the HXU is disabled if an HMU is present in the shelf.

Logon Menu Tree for the HXU-358 Interface

- **Main** (System status)
- **Monitor**
  - PM Monitor
  - Active Alarms
  - Circuit IDs
  - Clear TMS Count
- **History**
  - PM History
  - Alarms History
  - Event Log
- **Config**
  - T1/E1 Ports
  - DS3 Port
  - Password
  - Date and Time
  - Card ID
  - SW Download
  - X-Connect
  - Autologout Time
  - Maintenance Port
  - Circuit IDs
  - Restore Defaults
- **Test**
  - T1/E1 Loopback
  - DS3 Loopback
  - Test Head Access
  - Protection Switch
- **Inventory** (Product information)
- **Quit** (Logoff)
- **Help** (Customer Services)

5 Firmly press in on the tabs until the card snaps into place.

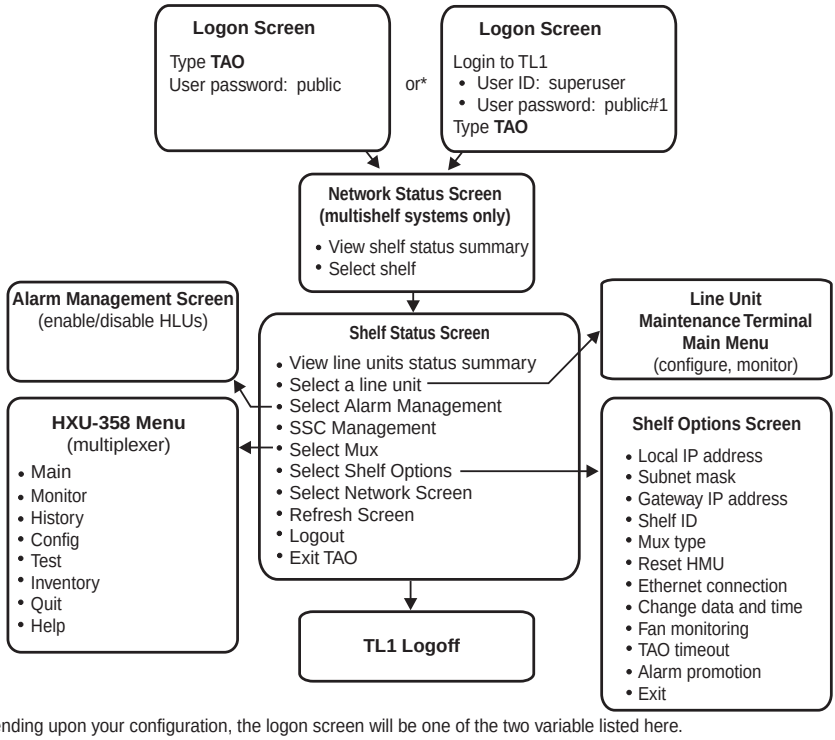
The green LEDs flash momentarily when the multiplexer card is installed. The power LED and active LED on the active multiplexer remain illuminated. The LEDs on the inactive (standby) multiplexer should be off, except for the PWR LED.

Once installed in a working system, the replacement HXU-358 is automatically configured for that system by the active HXU-358 in the shelf.

2 MANAGEMENT INTERFACE OVERVIEW

The following shows an overview of the management interface for the Wideband 3190:

- If you are installing the HXU-358 in a Wideband 3190, proceed to "Accessing the Management Interface Through a Wideband 3190".
- If you are installing the HXU-358 in an ACE, proceed to "Accessing the Management Interface Through the ACE"



* Depending upon your configuration, the logon screen will be one of the two variable listed here. Please refer to the HMU-319 technical practice for more information.

Accessing the Management Interface Through a Wideband 3190

Connect a maintenance terminal to the craft port of the HMU. (The HXU craft port is disabled when there is an HMU in the Wideband 3190 shelf.) The communications settings are 9600 baud, 8 data bits, no parity, 1 stop bit, and VT100 terminal emulation. Refer to the HMU-319 and the Wideband 3190 documentation for more information.

To log on to the management interface:

1 Once the maintenance terminal is connected to the HMU and a banner (headline) appears on the screen, press **ENTER**.

2 When the **Enter TID** field appears to the left of the cursor, press **ENTER**.

3 Type `superuser` in the **Enter Username** field, then press **ENTER**.

4 Type `public#1` in the **Enter Password** field, then press **ENTER**.

5 Type TAO at the prompt, then press ENTER. This opens the Terminal Access Option (TAO) interface.

6 From the Network Status screen (for multishelf configurations), type the number of the desired shelf ID (1 through 32), and then press ENTER.

7 From the Shelf Status screen, select the **Shelf Options**, then select **Mux Type** and select HXU-358 as the type of multiplexer.

8 From the Shelf Status screen, select M to log onto the HXU-358.

Accessing the Management Interface Through the ACE

Connect a maintenance terminal to the craft port of the HXU craft port or common craft port on the rear of the ACE shelf. The modem settings are 38400 baud, 8 data bits, no parity, 1 stop bit, and VT100 terminal emulation.

To log on to the HXU-358:

1 Once the maintenance terminal is connected to the HXU and a banner (headline) appears on the screen, press ENTER.

2 Type `public#1` in the **Enter Password** field, then press ENTER.

3 PROVISIONING

The HXU-358 menus can be navigated by using the arrow and ENTER keys.

1 Select the **Config** menu and perform the following setup tasks:

   a Choose **Date and Time** and enter the correct information.

   b Enter the system name under **Card ID**.

2 Configure the HXU DS3 interface by selecting **DS3 Port** from the **Config** menu.

   a Select **Service Mode**, press the SPACEBAR to select MEM-ADMIN, then press ENTER. No configuration changes can be made unless the Service Mode is configured as MEM-ADMIN.

   b If this is a dual multiplexer application, change **Protection Mode** to PROTECTED.

   c In most applications, **Operating Mode** should be set to M13.

   d Set **Line Buildout** to 100FT or 450FT depending on your application.

   e In most applications, **Transmit Timing** should be set to LOCAL.

   f Set the **BER Threshold** to E-03 (default), E-06, or E-09 depending on your application.

3 When you are finished configuring the DS3 Port, select **Service Mode** and change it to IN SERVICE.

4 Select the T1/E1 Ports menu. To configure any of the 28 ports, select the port and change **Srvc Mode** to MEM-ADMIN.

5 Configure the type of service (T1/E1), the line code (Code), and line buildout (LBO) options for the channel. (Use the SPACEBAR to cycle through the options and press ENTER to activate.)

6 Place the channel in service (IN-SRVC).

For more detailed information about the HXU-358 software screens, refer to the HXU-358 V1.04 technical practice, catalog number LTPH-TP-1044-xx.

FCC Class A Compliance

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

Limited Warranty

Product warranty is determined by your service agreement. Contact your sales representative or Customer Service for details.

Modifications

Any changes or modifications made to this device that are not expressly approved by ADC DSL Systems, Inc. voids the user's warranty.

All wiring external to the products should follow the provisions of the current edition of the National Electrical Code.

Standards Compliance

This equipment has been tested and verified to comply with the applicable sections of the following safety standards:

- GR 63-CORE - Network Equipment-Building System (NEBS) Requirements
- GR 1089-CORE - Electromagnetic Compatibility and Electrical Safety
- Binational standard, UL-1950/CSA-C22.2 No. 950-95: Safety of Information Technology Equipment

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ISO 9001
DNV
DNV Certification, Inc.
Certificated Firm

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