MODEL HR12 HDSL REMOTE SHELF INSTALLATION/MAINTENANCE

CONTENTS

FIGURES

TABLES

Figure 1. HR12 HDSL Remote Shelf

1. GENERAL

1.1 This section provides installation and maintenance procedures for the ADTRAN HR12 List 1 HDSL System Shelf. **Figure 1** is a photograph of the shelf. The part number and basic features of the ADTRAN HR12 HDSL Remote Shelf are provided in **Table A**.

TABLE A. HDSL Remote Shelf Features

Unit	Part No.	Features
HR12 HDSL Remote Shelf List 1	1242007L1	Connectorized terminations 12 unit capacity Side brackets for mounting in a 19-inch rack

1.2 Revisions to this practice will be summarized in this paragraph.

1.3 The ADTRAN HR12 shelf is designed for use in applications where it is beneficial to replace a series of T1 repeaters with HDSL transceiver technology. The shelf is designed to accept up to 12 ADTRAN HTU-R units. HTU-R plug-ins can be loaded into slots 1 through 12. Network and customer connections are made using connectors P1 and P2.

1.4 The ADTRAN HR12 measures 19 inches wide (17.3 inches minus the mounting ears), 8 inches front-to-back, and 6.969 inches (standard 4U) high. The shelf weighs 6 pounds.

1.5 Each shelf is wired and tested and contains provisions for network connections, customer connection, and power connections (not used for HDSL applications).

1.6 Integral to the shelf are side brackets that are used to mount the shelf in the bay. Two sets of mounting holes have been drilled in the side plates to conform to standard mechanics. Choose the appropriate set of holes for the specific mounting requirement.

1.7 The shelf has a backplane containing twelve 56-pin connectors. These connectors are interconnected with printed circuit copper traces. Power and ground connections are available on a 3-position barrier strip on the backplane (see **Figure 2**). These connections are provided to allow locally powered T400 plug-ins to be used into the same shelf as the span powered HTU-Rs. If the shelf is dedicated for HDSL use, the power connections are not required.

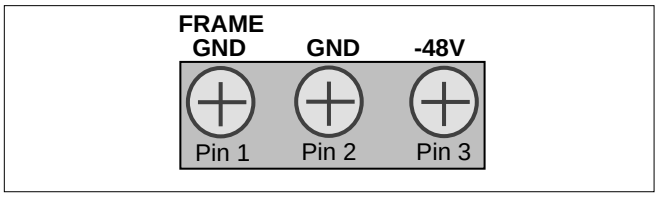

Figure 2. TB1 Backplane Barrier Strip Connections

2. INSTALLATION

2.1 After unpacking the unit inspect it immediately for possible shipping damage. If damage is discovered, file a claim with the carrier, then contact ADTRAN customer service at (800) 726-8663.

2.2 Before installing the HR12 in a communications bay, remove all plug-in cards that may have been shipped in the shelf.

Note: These may be static-sensitive units and should be handled only with appropriate ESD protective measures.

To remove the cards, grasp the metal edge at the left side of the card and pull outward. This will unseat the unit from its connector. Temporarily place these units in a protected area.

2.3 Prior to initial installation, ensure that the rack frame for the shelf is installed and any special wiring is complete.

2.4 The HR12 shelf can now be mounted in a 19-inch equipment rack. The shelf mounting flanges have two sets of mounting holes that conform to standard mechanics. Position the shelf and align the mounting holes. Secure the shelf with appropriate size screws.

2.5 After securing the shelf in the rack, temporarily remove the clear plastic cover that protects the rack. To remove the cover, pull out on the two retention buttons. The cover should now come loose from the shelf assembly.

2.6 In the initial installation, it is not necessary to equip all the slot locations with plug-in cards. The shelf can be equipped with 1-12 ADTRAN HTU-R transceivers (P/N 1242004). These units should be loaded into slots 1-12. The DS-1 and HDSL loop wiring will be made on the corresponding backplane connector.

Backplane Connections

2.7 Connection Locations

Power and ground connections are located on TB1, a 3-position barrier strip in the lower right corner of the backplane (**Figure 2**). All other connections to the shelf are made using rear backplane connectors labeled P1 (customer) and P2 (network interface). **Figure 3** shows the connector arrangement , while **Figure 4** and **5** are the pin assignments for P1 and P2. **Figure 6** shows backplane slot pin assignments.

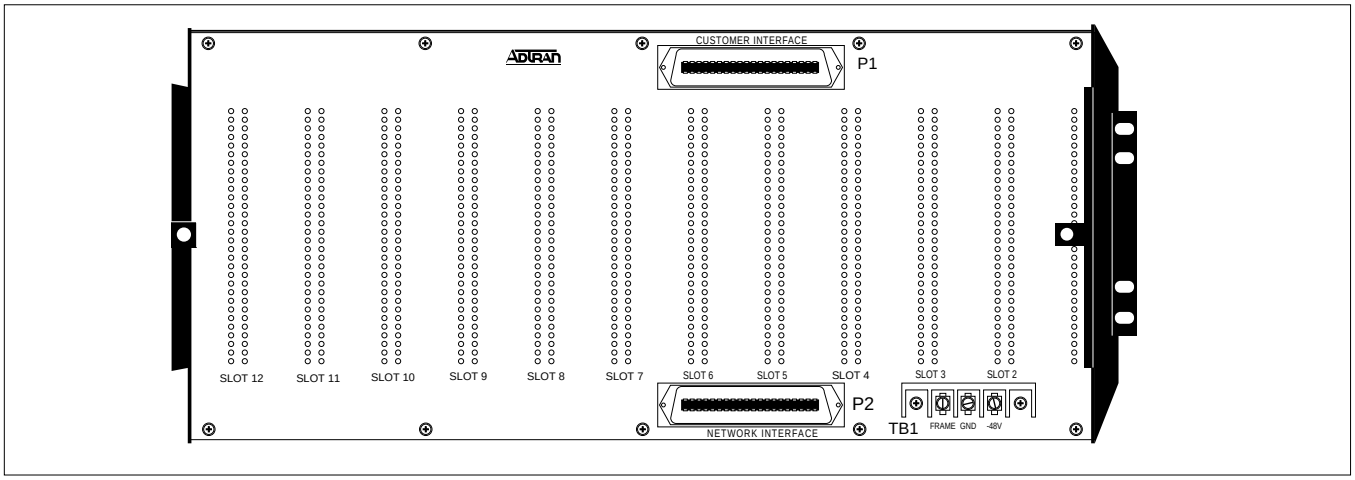

Figure 3. HR12 Backplane Arrangement

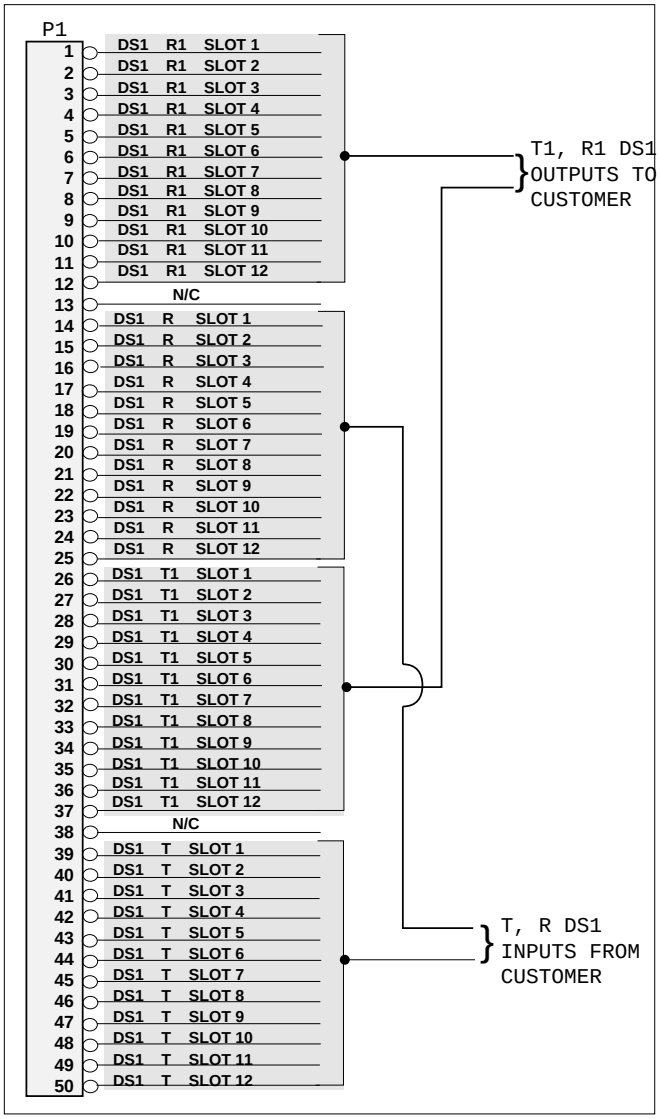

Figure 4. P1 (Customer) Connector Pin Assignments

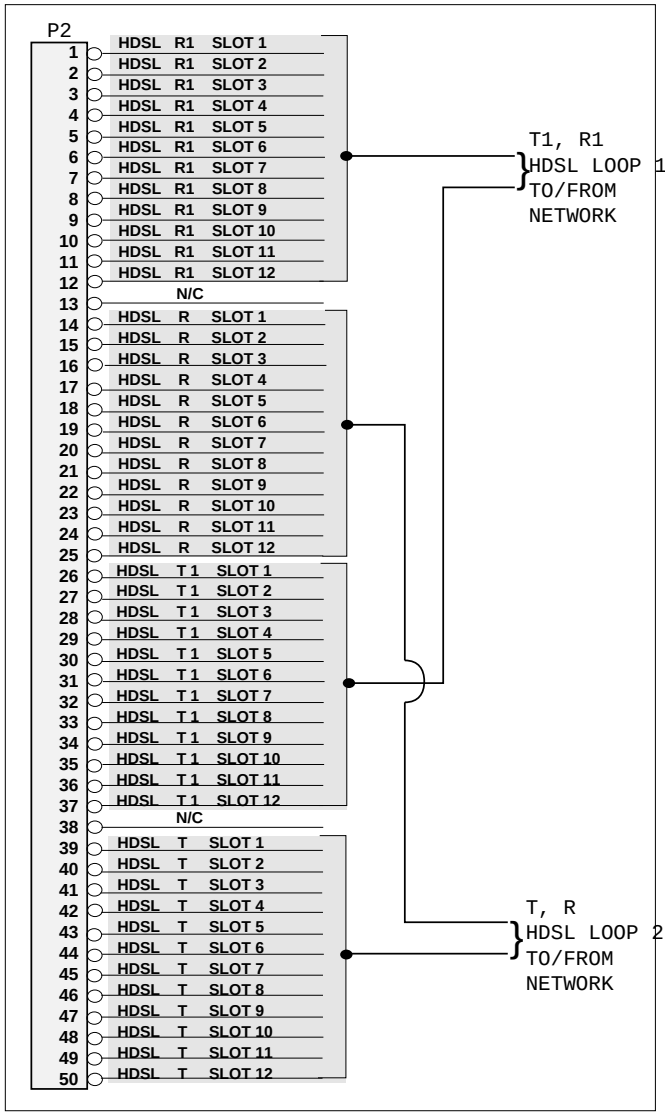

Figure 5. P2 (Network Interface) Connector Pin Assignments

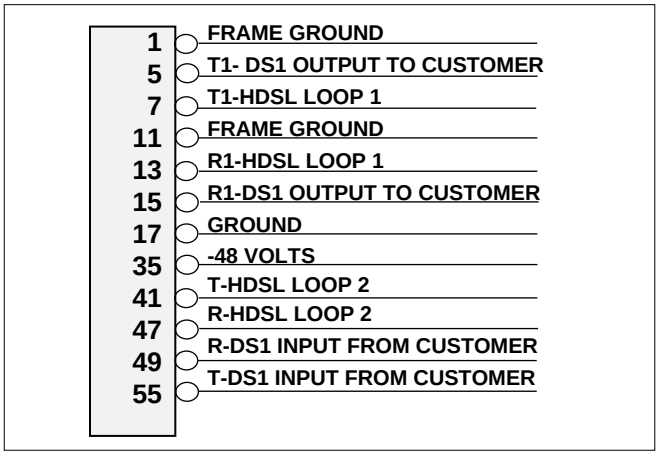

Figure 6. Backplane Slot Pin Assignments

2.8 Frame Ground Connection

Attach frame ground to pin 1 of TB1**.**

2.9 Power Connections

In applications using T400 plug-in cards other than the ADTRAN HTU-R, local power can be supplied to these cards suing the barrier strip marked TB1. For applications using only ADTRAN HTU-R cards, -48V connections are not required. However, the frame connection, pin 1 of TB1, must be attached to ensure proper grounding and unit operation (see **subsection 1.7** and **Figure 2**).

CAUTION
Ensure all power connections are firmly secured.

2.10 Customer Connections

Figure 4 gives the pin assignments of P1 (labeled CUSTOMER). This 50-pin CHAMP connector provides all customer-side connections. The connector assignments are designed to be compatible with converter blocks providing RJ-48H style individual interface connections. Alternately, the signals may be cabled to a punch-down block for individual circuit connections.

2.11 Network Connections

Figure 5 provides the pin assignments of P2 (labeled NETWORK INTERFACE). This 50-pin CHAMP connector provides all network side connections. The pin assignments are designed to be compatible with converter blocks that provide multiple RJ-48H style individual interface connections. Alternatively, the signals may be cabled to a punch-down block for making individual circuit connections.

3. INSTALLATION OF PLUG-INS

3.1 The HR12 has 12 available slots for plug-in cards.

HTU-R units can occupy any available slot. Other locally-powered T400 plug-ins can be deployed in the HR12. This requires use of an external -48V supply.

4. MAINTENANCE

4.1 The ADTRAN HR12 requires no routine maintenance to operate properly. Tests and maintenance for the individual plug-ins should be connected in accordance with the recommendations and procedures prescribed by the manufacturer of specific plug-in.

4.2 ADTRAN recommends that major repairs on the shelf not be performed in the field. Repair services may be obtained by returning defective units to ADTRAN.

5. WARRANTY AND CUSTOMER SERVICE

5.1 ADTRAN will replace or repair this product within five years from the data of shipment if it does not meet its published specifications or fails while in service (refer to ADTRAN Equipment Warranty and Repair and Return Policy and Procedure).

5.2 A Return Material Authorization (RMA) is required prior to returning equipment to ADTRAN.

5.3 For service, RMA requests, or further information, contact:

ADTRAN Customer Service:

RMA	**(205) 971-8722**
Technical Support	**(800) 726-8663**
Sales	**(205) 971-8090**

Repair and Return Address:

ADTRAN, Inc.
Customer Service Department
901 Explorer Boulevard
Huntsville, Alabama 35806-2807

6. SPECIFICATIONS

HR12 HDSL Remote Shelf specifications are given in **Table B**.

Table B. HR12 HDSL Remote Shelf Specifications

Physical	
19" rack-mounted shelf 19" wide x 6.969" high x 8" deep Weight: 6 lbs	
Temperature	
Operating:	-40 to +70°C
Storage:	-40 to +85°C

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