

## MODEL T400 U-RPM U-REPEATER POWERING MODULE INSTALLATION/MAINTENANCE

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## 1. GENERAL

**1.01** This section provides installation information for the ADTRAN Type 400 U-Repeater Powering Module (T400 U-RPM). **Figure 1** is a photograph of the front of the unit, **Figure 2** represents a typical U-RPM application, and **Figure 3** shows the U-RPM option locations. The part number and basic features of the T400 U-RPM are listed in **Table A**.

**Table A. Basic Features**

Unit	Part No.	Features
T400 U-RPM	1210017L1	U-Repeater Powering Module for ADTRAN ISDN mid-point U-Repeater.

**1.02** Issue 5 of this practice corrects R pin value in **Figure 2**.

**1.03** The T400 U-RPM is a T400-size plug-in used to power an ADTRAN ISDN mid-point U-Repeater. The T400 U-RPM sends sealing current power down the local loop on the signal pair.

**1.04** The Type 400 U-Repeater Powering Module (T400 U-RPM) is housed in a T400-type shelf between the mid-point U-Repeater and the Digital Subscriber Loop U-LT as shown in **Figure 2**. The T400



**Figure 1. ADTRAN T400 U-RPM**

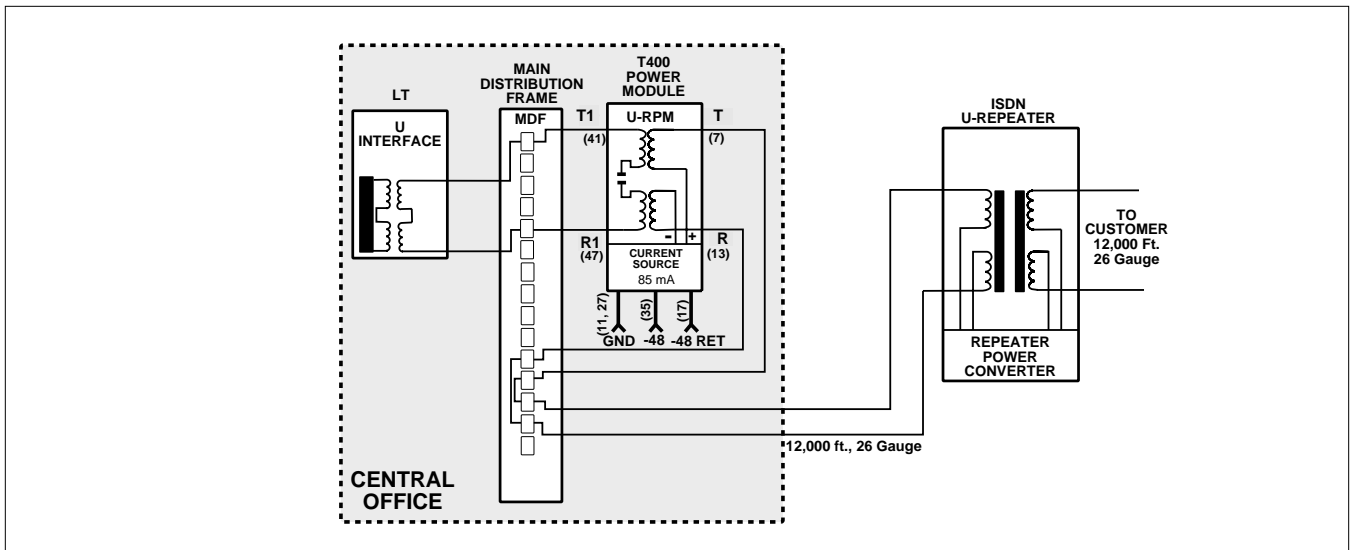
U-RPM provides the following functions for the ADTRAN ISDN mid-point loop repeater.

- The T400 U-RPM receives -48 VDC power from the facility power source and sends constant 85 mA of sealing current down the loop to power the U-Repeater.
- A passive customer data flow is allowed through the T400 U-RPM.
- The T400 U-RPM monitors the line for excessive resistance or open conditions from the U-RPM to the U-Repeater.

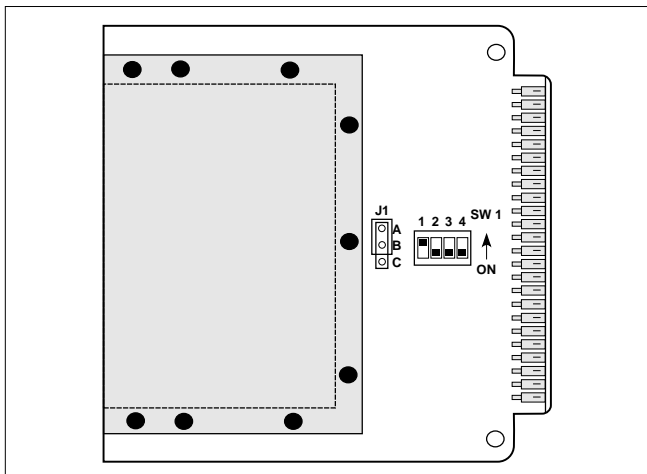
## 2. INSTALLATION

**2.01** After unpacking the unit, immediately inspect it for possible shipping damage. If damage is discovered, file a claim immediately with the carrier, then contact ADTRAN Customer Service (see **subsection 5**).

**2.02** The U-RPM has a jumper selectable ground for the faceplate and shield to select between earth ground and -48R as shown in **Table B**.



**Figure 2. U-RPM Application**



**Figure 3. U-RPM Option Locations**

The grounded metal faceplate and shield attaches to the printed circuit board. A faceplate-mounted LED labeled **LOOP RESISTANCE FAULT** illuminates when loop resistance exceeds 1100Ω or the loop is open to the Repeater.

**2.03** The electronic components of the T400 U-RPM are mounted on an epoxy printed circuit board. Each board has gold plated edge fingers which plug into and mate with a dual (56 pin, position 28 ) connector on the back panel.

The U-RPM contains options for both Class A2 ( $\pm 80V$ ) or for Class A3 (0V to -140V) operation. See **Figure 3** for option locations and **Table B** for option settings.

**Note:** *When installed in T400 type compatible card shelf, the module dissipates approximately 3W.*

**2.04** The U-RPM contains a factory replaceable  $\frac{3}{4}$ -amp Slo Blo fuse on the -48V line to isolate the bank in the event of unit failure.

**Table B. T400 U-RPM Option Settings**

**GROUNDING JUMPER (J1)**

1. **Figure 3** depicts J1 in the -48R, ground configuration.
2. For a T400 shelf with isolated earth ground on the backplane pins 11 or 27, the earth ground option may be selected by moving jumper J1 from [A and B] to [B and C] (jumper must be installed for proper operation).

**OUTPUT VOLTAGE OPTIONS (SW1)**

3. For class A2 type output depicted in **Figure 3**, voltage ( $\pm 80V$ ), set SW1 as follows.

<b>SW1-1</b>	ON
<b>SW1-2</b>	OFF
<b>SW1-3</b>	OFF
<b>SW1-4</b>	OFF

4. For class A3 type output voltage, (0V to -140V) set SW1 as follows.

<b>SW 1-1</b>	OFF
<b>SW 1-2</b>	ON
<b>SW 1-3</b>	ON
<b>SW 1-4</b>	OFF

**2.05** After installing the ADTRAN U-Repeater System, refer to ADTRAN U-Repeater ISDN Mid-Point Repeater Installation/Maintenance Practice, Section 61150017-5. Grasp the U-RPM by the faceplate and insert it into a shelf slot. Push the U-RPM into the backplane connector until firmly seated.

**3. CONNECTIONS**

**3.01** Figure 4 shows the connector pin assignments of the U-RPM. All connections to the unit are made through the T400-compatible backplane. No additional backplane wiring is necessary for normal operation of the U-RPM.

**4. MAINTENANCE**

**4.01** The U-RPM requires no routine maintenance to operate. ADTRAN recommends that the unit not be repaired in the field. Repair services may be obtained by contacting ADTRAN Customer Service.

**5. WARRANTY AND CUSTOMER SERVICE**

**5.01** ADTRAN will replace and repair this product within five years from the date of shipment if it does not meet its published specifications or fails while in service (see ADTRAN Equipment Warranty and Repair and Return Policy and procedure).

**5.02** Return Material Authorization (RMA) is required prior to returning equipment to ADTRAN.

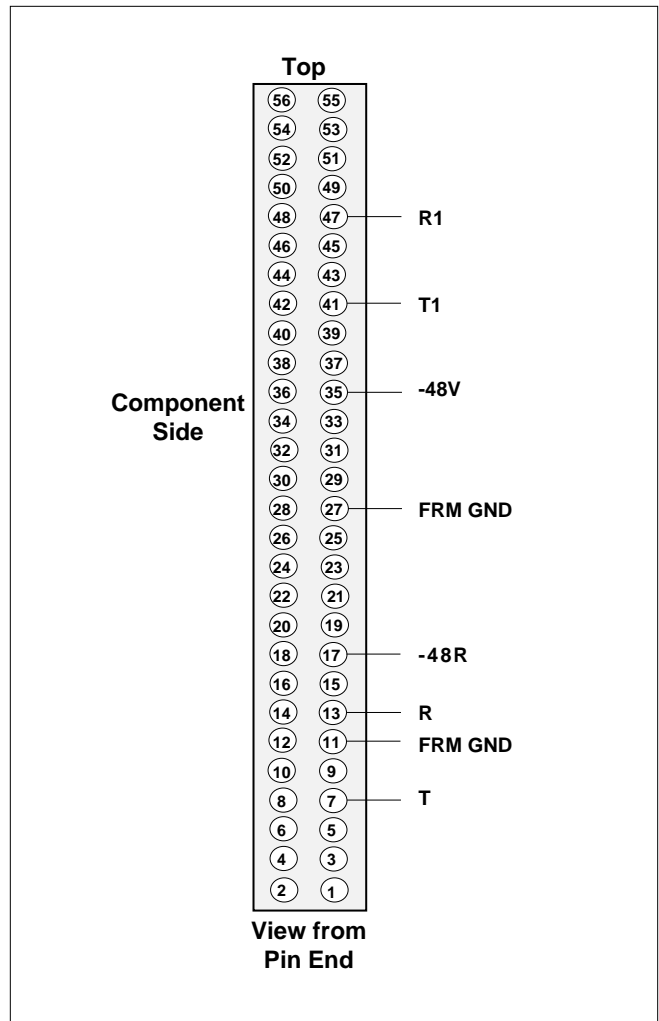
**5.03** For service, RMA requests, or further information, contact:

**ADTRAN Customer Service:**

RMA (205) 971-8722  
 Technical support (800) 726-8663  
 Sales (205) 971-8779

**Repair and Return Address:**

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



**Figure 4. Connector Pin Assignments**

**CAUTION**  
 If using earth ground option, backplane connector pins 11 or 27 must be connected to earth ground.

