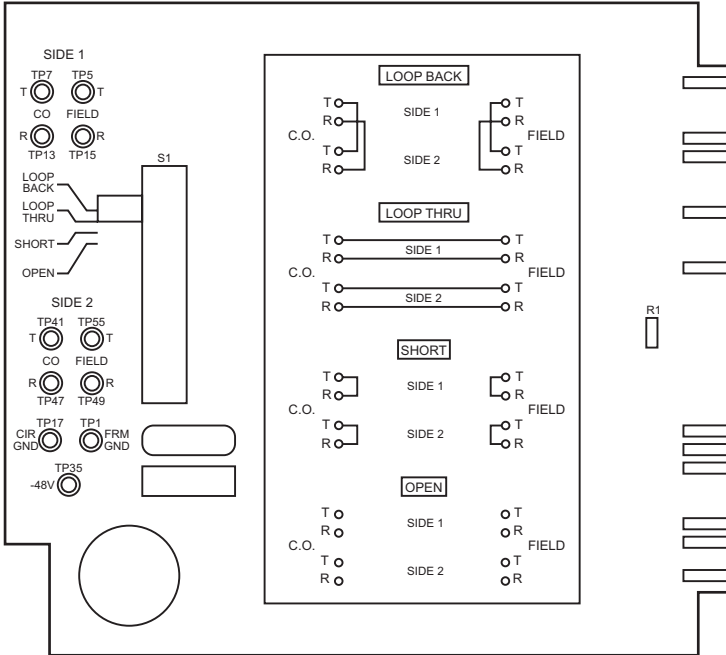


## QUICK INSTALLATION



**HTC-400 LIST 1 TEST CARD**

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## THE HTC-400 LIST 1 TEST CARD

The HiGain® Test Card (HTC-400) provides a means to verify, quickly and easily, the Central Office (CO) and field circuits by performing loopback, loop-through, short, and open testing of Tip and Ring transmit and receive pairs.

A four-position slide switch on the HTC-400 enables you to select the type of test to perform. Test points on the card provide access to the circuits under test. The HTC-400 plugs into any standard 200 or 400 mechanics shelf slot as well as the ADC remote enclosures listed below.

### FEATURES

- 
- Switch selectable loopback, loop-through, short, and open testing of XMT and RCV Tip and Ring pairs on CO and Field circuits.
  - Compatible with any of standard 400 mechanics shelves as well as the following ADC enclosures:  
HRE-204, HRE-422, HRE-425, HRE-427,  
HRE-420, HRE-454, and HRE-206
  - Current-limiting resistor in series with -48V Test Point protects power circuit from accidental shorting.
  - Test point access to Tip and Ring XMT and RCV circuits (CO and Field), circuit ground, frame ground, and -48V power.
- 

### SPECIFICATIONS

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|                              |                                       |
|------------------------------|---------------------------------------|
| <b>Operating Temperature</b> | -40 °F to +149 °F (-40 °C to + 65 °C) |
| <b>Operating Humidity</b>    | 5% to 95% non-condensing              |
| <b>Mounting</b>              | Any 200 or 400 mechanics shelf        |
| <b>Height</b>                | 5.5 in. (13.97 cm)                    |
| <b>Width</b>                 | 0.5 in. (1.27 cm)                     |
| <b>Depth</b>                 | 6.5 in. (16.51 cm)                    |
| <b>Weight</b>                | 1.3 lbs. (0.62 kg)                    |

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## APPLICATIONS


The primary application of the HTC-400 is testing CO and field circuits of HiGain remote enclosures (HREs). HiGain systems provide a cost-effective, easy-to-deploy method for delivering T1 High Capacity Digital Service (HCDS) over metallic pairs. Customers can deploy fiber-like quality service over two unconditioned, non-loaded copper pairs without using conventional span repeaters or cable pair conditioning and with the need to separate pairs or remove bridged taps.

## TEST CAPABILITIES

The HTC-400 enables technicians to perform the following tests on CO and Field circuits by using switch S1 to select the appropriate test (see [Figure 3](#) and [Figure 2](#)).

- **LOOP BACK**—loops back Tip-to-Tip and Ring-to-Ring circuits (edge connector pins 7 to 41 and 13 to 47, respectively) of CO pairs (Side 1 and Side 2) and Tip-to-Tip and Ring-to-Ring circuits (pins 5 to 55 and 15 to 49, respectively) of Field pairs.
- **LOOP THRU**—loops through CO Tip to Field Tip and CO Ring to Field Ring circuits (pins 7 to 5, 13 to 15, 41 to 55, and 47 to 49) of each pair (Side 1 and Side 2).
- **SHORT**—shorts Tip-to-Ring circuits (pins 7 to 13 and 41 to 47) of CO pairs (Side 1 and Side 2) and Tip-to-Ring circuits (pins 5 to 15 and 55 to 49) of Field pairs.
- **OPEN**—opens all Tip and Ring circuits on CO and Field (both Side 1 and Side 2).

Test points on the HTC-400 (see [Figure 3](#)) provide access to each circuit under test as well as to circuit ground, frame ground, and -48V, if available. The number of each test point corresponds to the edge connector pin of the circuit under test. A 47-k  $\Omega$  resistor connected between the -48V source and the test point limits current in case of accidental shorting.

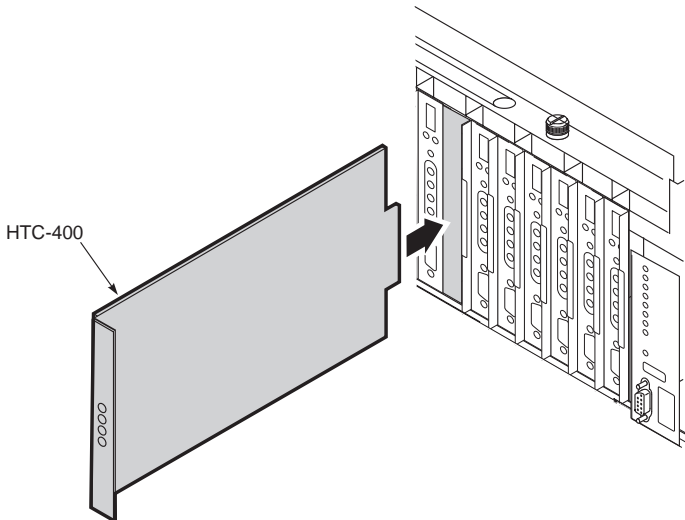
*Continued* 

# 1

## INSTALLATION



When installing an HTC-400, wear an antistatic wrist strap. Avoid touching components on the circuit board.



*Figure 1. Installing the HTC-400*

- 1 Align the HTC-400 card with the enclosure slots guides.
- 2 Slide the card into the enclosure whose circuits you want to test until the card is seated into the connector on the backplane (see [Figure 1](#)).

The HTC-400 card extends beyond the front plane of the shelf or enclosure into which it is inserted. This permits easy access to the test points. However, this extension beyond the enclosure plane is limited so that the HTC-400 could be inserted into the HRE-454 outdoor enclosure within the envelope of the enclosure's locking bar. This allows the HTC-400 to be permanently installed in this enclosure where it can provide LOOP THRU of the cable pairs. However, this additional extension may interfere with the cables of other enclosures that may have to be left off for permanent installations.

# 2 TESTING

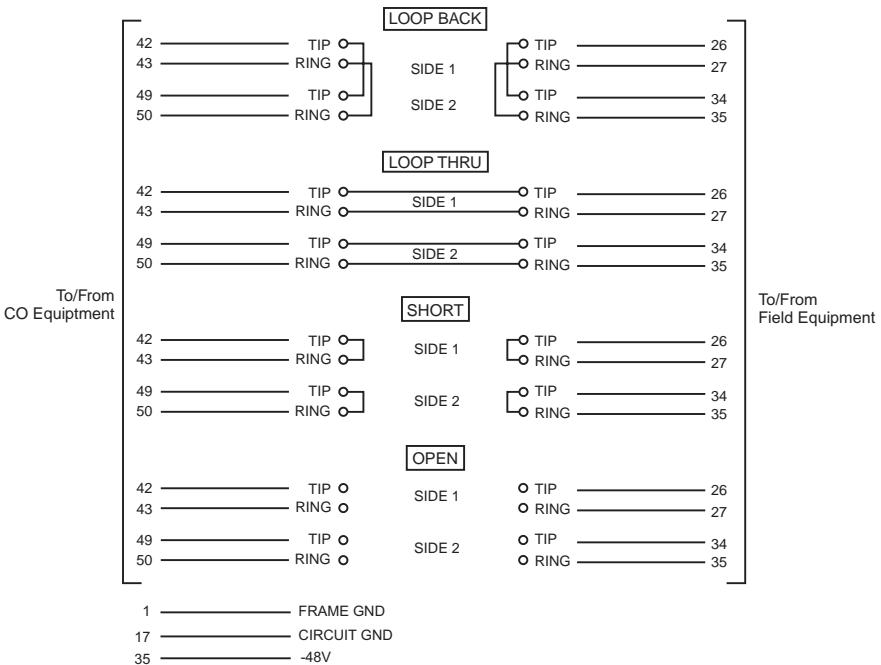
Use the HTC-400 to test circuits as follows:

- 1 Set switch S1 on the card to the type of test you want to perform (LOOP BACK, LOOP THRU, SHORT, or OPEN).
- 2 Perform the test. Monitor circuits at the corresponding test points on the card.
- 3 Repeat Step 1 and Step 2 as required.

The HTC-400 provides switch selectable loopback, loop-through, short, and open testing of CO and Field Tip and Ring pairs.

Figure 2 illustrates the connection of Tip and Ring pairs of CO and field circuits for each setting of the test switch (S1). Pin numbers correspond to edge connector pins for each circuit.

The switch settings correspond to the tests as previously described in Step 2 - "Testing".

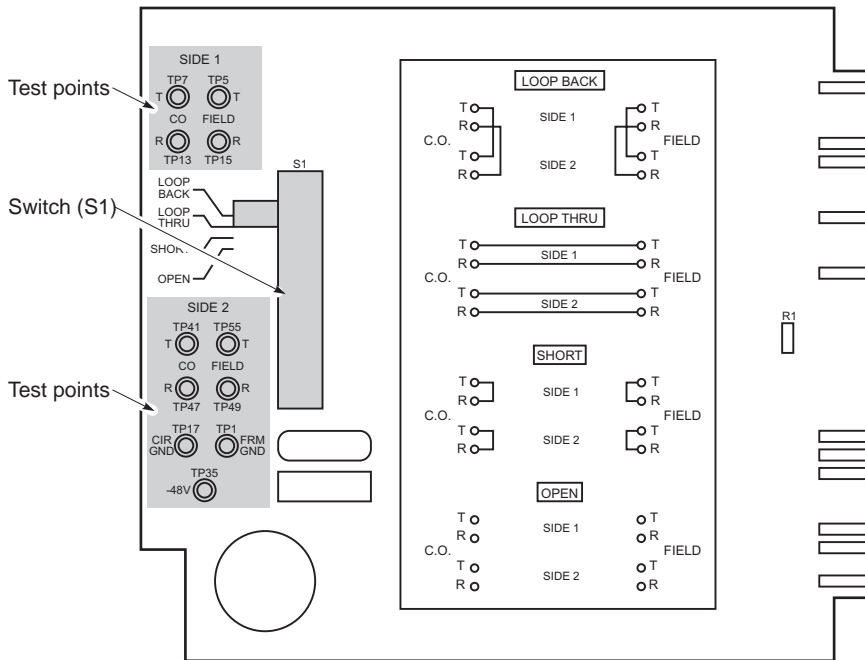


**Figure 2. Test Connections**

The HTC-400 contains one 4-position slide switch (S1), which has the following settings (see Figure 2).

Use the HTC-400 to test:

- LOOP BACK
- LOOP THRU
- SHORT
- OPEN



**Figure 3.** Test Points and Switch Settings

## 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 designed 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

## Trademark Information

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Product Catalog: HTC-400 List 1

Part Number: 150-1266-01

CLEI: T1DQABSJ

Document: LTPH-QI-1069-03, Issue 3



1172446

May 22, 2001