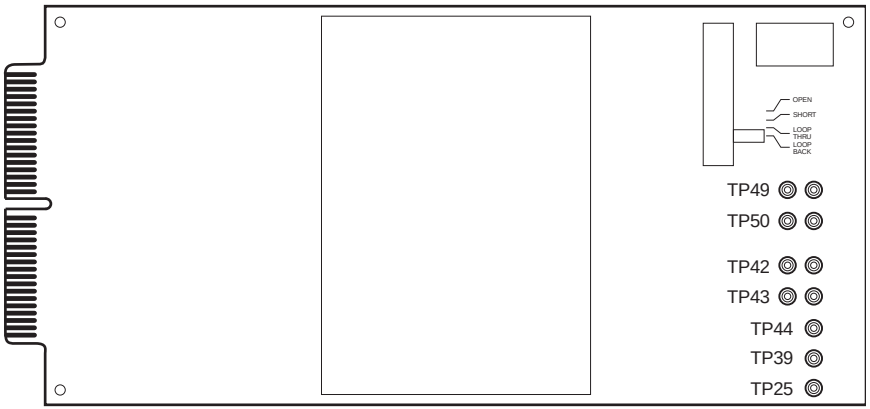
HIGAIN TEST CARD

Model	List Number	Part Number	CLEI Code
HTC-220	1	150-1283-01	T1DQABUJAA



PAIRGAIN TECHNOLOGIES, INC.
ENGINEERING SERVICES TECHNICAL PRACTICE

SECTION 100-220-100-02

PAIRGAIN

Revision History of This Practice

Revision	Release Date	Revisions Made
01	October 18, 1996	Initial release
02	September 15, 1998	Modified and updated

USING THIS TECHNICAL PRACTICE

Two types of messages, identified by icons, appear in the text.

Notes contain information about special circumstances.

Cautions indicate the possibility of equipment damage or the possibility of personal injury.

TABLE OF CONTENTS

Table of Contents ____ **iii**

Overview ____ **1**

Application 1

Specifications 2

Unpacking and Inspection 2

Functional Description 3

Installation and Test 5

Product Support ____ **7**

Technical Support 7

Warranty 8

OVERVIEW

The PairGain® HTC-220 List 1, Test Card provides you with an easy method of testing Central Office (CO) and Field Tip and Ring transmit and receive pairs. A four-position slide switch lets you select the type of test you wish to perform while test points and miniature 210 jacks provide access to the circuits under test. The HTC-220 card extends beyond the front plane of the shelf or enclosure into which it is inserted. This permits easy access to the test points.

HTC-220 List 1 features:

- Switch selectable loopback, loop-through, short, and open testing of XMT (transmit) and RCV (receive) Tip and Ring pairs on CO and Field circuits.
- Test point access to Tip and Ring XMT and RCV circuits (CO and Field), circuit ground, frame ground, and -48V power.
- Miniature 210 jacks, located in the J1 block, allow access to both CO and Field sides.

APPLICATION

The primary application of the HTC-220 Test Card is to provide test access to the CO and Field circuits of HiGain™ HLU-231 line units.

SPECIFICATIONS

Mechanical Specifications

Mounting:	Plugs into any 220 mechanics shelf slot*
Operating Temperature:	-40° to +149° F (-40° to +65° C)
Operating Humidity:	5% to 95% (non condensing)

Dimensions

Height:	5.5 in. (13.97 cm)
Width:	0.6 in. (1.52 cm)
Depth:	13.0 in. (33.02 cm)
Weight:	1.3 lbs (0.62 kg)

*Includes PairGain HCS-417 (23 inch), HCS-419 (19 inch), and HCS-402 (2 slot)

UNPACKING AND INSPECTION

Upon receipt of the card, visually inspect the packaging for signs of damage. After removing the packaging, visually inspect the card for signs of damage. If the card has been damaged in transit, immediately report the extent of damage to the transportation company and to PairGain.

FUNCTIONAL DESCRIPTION

Test points on the Test Card provide access to each circuit under test as well as to circuit ground, frame ground, and, if available, -48V. The number of each test point corresponds to the edge connector pin of the circuit under test (See Figure 1 on page 4).

A 47-kOhm resistor connected between the -48V source and the test point limits current in case of accidental shorting.

The HTC-220 Test Card enables you to perform LOOP-BACK, LOOP-THRU, SHORT, and OPEN tests on CO and Field circuits by using the four-position test selection switch (S1) to select the appropriate test. All tests are run on both side 1 and side 2. Figure 1 illustrates the locations of the test points, 210 jacks, and selector switch. Figure 2 and Figure 3 illustrate the connection of Tip and Ring pairs of CO and Field circuits for each setting of the test switch. Table 2 provides a written list of the connections.

Two miniature 210 jacks allow both CO and Field sides to be accessed. They provide monitor access in switch position LOOP BACK and LOOP THRU. The OPEN switch position effectively provides a splitting-type access to one pair of the CO and Field sides and the 210 jacks. This allows you to check each side of the circuit separately.

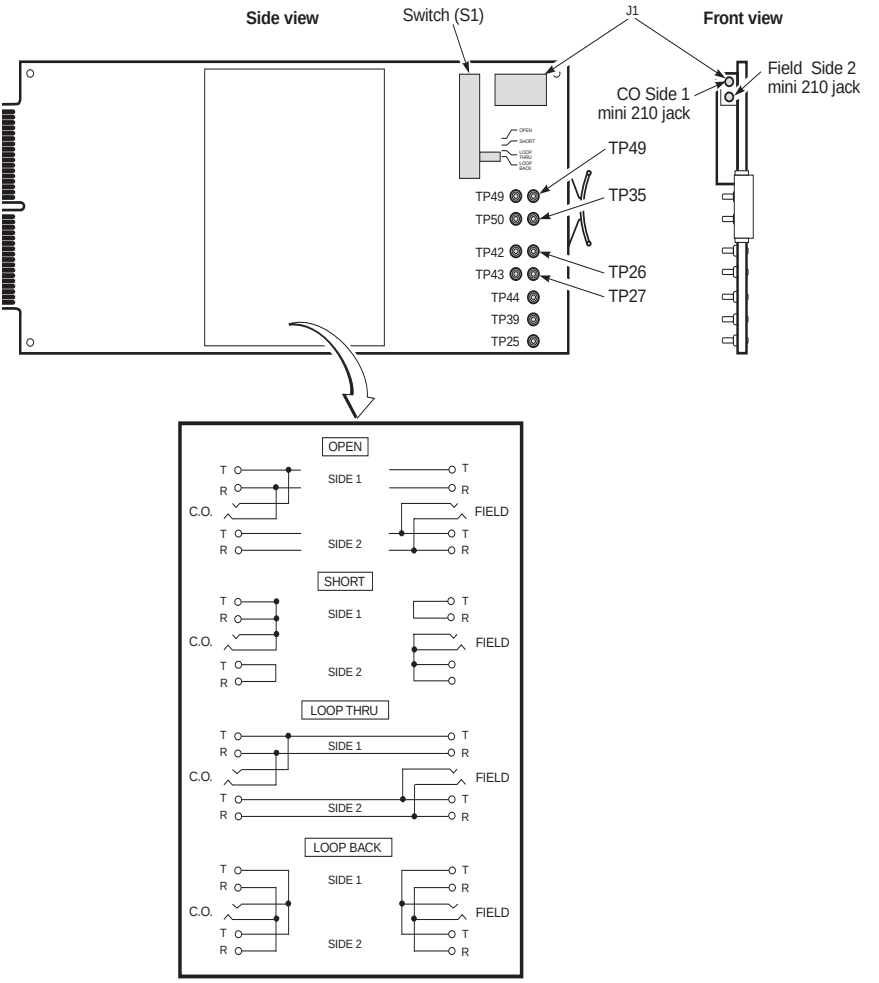


Figure 1. *HTC-220 Test Card*

INSTALLATION AND TEST

Use the HTC-220 Test Card to test circuits as follows:

1 Plug the Test Card into the shelf slot whose circuits you want to test.

2 Set switch S1 on the card to the type of test you want to perform (LOOP BACK, LOOP THRU, SHORT, or OPEN). Figure 2 on page 6 and Table 1 illustrate and list 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.

3 Perform the selected test. Monitor the circuits at the corresponding test points on the card.

4 Repeat steps 2 and 3 as required.

Table 1. *Test Connections*

LOOP-BACK - This switch position connects the following circuits:				
CO Tip	Pin # 42		CO Tip	Pin # 49
CO Ring	Pin # 43		CO Ring	Pin # 50
Field Tip	Pin # 26		Field Tip	Pin # 34
Field Ring	Pin # 27		Field Ring	Pin # 35
LOOP-THRU - This switch position connects the following circuits				
CO Tip	Pin # 42	TO	Field Tip	Pin # 26
CO Ring	Pin # 43	TO	Field Ring	Pin # 27
CO Tip	Pin # 49	TO	Field Tip	Pin # 34
CO Ring	Pin # 50	TO	Field Ring	Pin # 35
SHORT - This switch position connects the following circuits:				
CO Tip	Pin # 42	TO	CO Ring	Pin # 43
CO Tip	Pin # 49	TO	CO Ring	Pin # 50
Field Tip	Pin # 26	TO	Field Ring	Pin # 27
Field Tip	Pin # 34	TO	Field Ring	Pin # 35
OPEN - This switch position removes all connections between the circuits.				

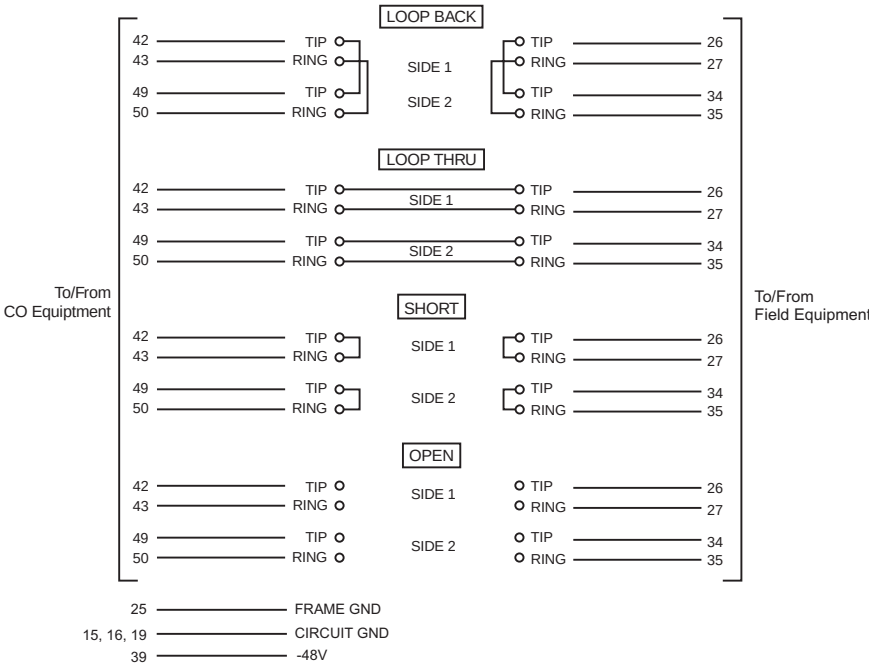


Figure 2. *HTC-220 Test Card Test Connections*

PRODUCT SUPPORT

This section contains product support and warranty information.

TECHNICAL SUPPORT

PairGain Technical Assistance is available 24 hours a day, 7 days a week by contacting PairGain Customer Service Engineering group at:

Telephone: (800) 638-0031 or (714) 832-9922

Fax: (714) 832-9924

During normal business hours (8:00 AM to 5:00 PM, Pacific Time, Monday through Friday, excluding holidays), technical assistance calls are normally answered directly by a Customer Service Engineer. At other times, a request for technical assistance is handled by an on-duty Customer Service Engineer through a callback process. This process normally results in a callback within 30 minutes of initiating the request.

In addition, PairGain maintains a computer bulletin board system for obtaining current information on PairGain products, product troubleshooting tips and aids, accessing helpful utilities, and for posting requests or questions. This system is available 24 hours a day by calling (714) 730-2800. Transmission speeds up to 28.8 kbps are supported with a character format of 8-N-1.

WARRANTY

PairGain Technologies warrants this product to be free of defects and to be fully functional for a period of 60 months from the date of original shipment, given correct customer installation and regular maintenance. PairGain will repair or replace any unit without cost during this period if the unit is found to be defective for any reason other than abuse or incorrect use or installation. Do not try to repair the unit. If it fails, replace it with another unit and return the faulty unit to PairGain for repair. Any modifications of the unit by anyone other than an authorized PairGain representative voids the warranty.

If a unit needs repair, call PairGain for a Return Material Authorization (RMA) number and return the defective unit, freight prepaid, along with a brief description of the problem, to:

PairGain Technologies, Inc.
14352 Franklin Avenue
Tustin, CA 92780
ATTN: Repair and Return Dept.
(800) 638-0031

PairGain continues to repair faulty modules beyond the warranty program at a nominal charge. Contact your PairGain sales representative for details and pricing.

Corporate Office
14402 Franklin Avenue
Tustin, CA 92780
Tel: (714) 832-9922
Fax: (714) 832-9924
For Technical Assistance:
(800) 638-0031

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