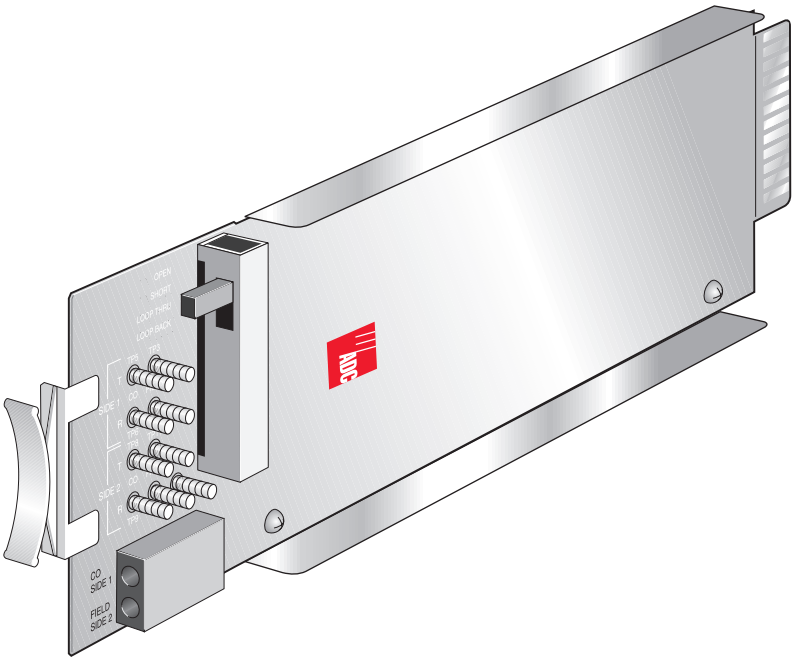
HiGain

USER MANUAL



HTC-439 List 2 HiGain Test Card
Product Catalog: 150-439-102-02
CLEI: T1DQACBJ

Revision History of This Manual

To order copies of this document, use document catalog number 150-439-102-02.

Issue	Release Date	Revisions Made
1	November 12, 1999	Initial Release
2	April 16, 2002	ADC Rebranding

Copyright

November 12, 1999

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USING THIS MANUAL

Three types of messages, identified by icons, appear in text.

Notes contain information about special circumstances.

Cautions indicate the possibility of personal injury or equipment damage.

The Electrostatic Discharge (ESD) symbol indicates that a device or assembly is susceptible to damage from electrostatic discharge.

UNPACK AND INSPECT YOUR SHIPMENT

Upon receipt of the equipment:

- Unpack each container and inspect the contents for signs of damage. If the equipment has been damaged in transit, immediately report the extent of damage to the transportation company and to ADC DSL Systems, Inc. Order replacement equipment, if necessary.
- Check the packing list to ensure complete and accurate shipment of each listed item. If the shipment is short or irregular, contact ADC DSL Systems, Inc. as described in Product Support on page 12. If you must store the equipment for a prolonged period, store the equipment in its original container.

TABLE OF CONTENTS

OVERVIEW

The ADC® HiGain® Test Card HTC-439 List 2 provides a convenient method of testing Central Office (CO) and Field Tip and Ring transmit and receive pairs from any standard T1-239 repeater slot.

The width of the HTC-439 List 2 has been reduced from the List 1 unit so that the List 2 fits a four-slot HRE-504 enclosure without interfering with plugs above or below it.

FEATURES

- Four-position slider switch (S1) that allows you to select tests on the transmit (XMT) and receive (RCV) Tip and Ring pairs on CO and field circuits:
  - Open
  - Short
  - Loop Thru
  - Loop Back (metallic)
- Test points that provide access to Tip and Ring circuits (CO and field) and to frame ground.
- Miniature 210 jacks located within the J1 block that provide access to CO and field Tip and Ring circuit sides.
- Designed to extend beyond the front plane of the shelf or enclosure into which the HTC-439 List 2 is inserted to permit easy access to its test points.
- Compatible with all ADC enclosures that support T1-239 mechanics.

TEST CARD

Test points on the HTC-439 (Figure 1) provide access to each active card-edge connector pin including Frame Ground. These test points are identified by the pin number to which they connect.

- The four-position test slider switch (S1) selects which test (Open, Short, Loop Thru, or Loop Back) is to be performed on CO and field circuits.
- The Open switch position effectively provides a splitting-type access to one pair of the CO and field sides and the 210 jacks.
- The Loop Back or Loop Thru switch positions allow you to use the two miniature 210 jacks located within the J1 block.

All tests are run on both Side 1 and Side 2. Refer to "Testing a Circuit" on page 3 for further information.

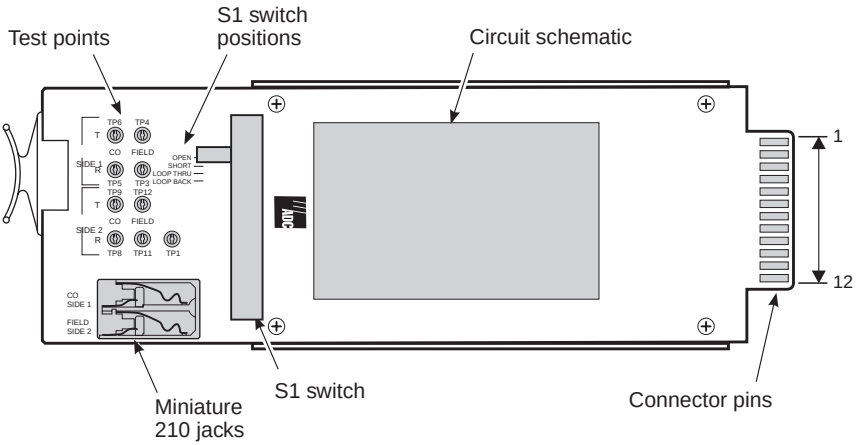

Figure 1. *HTC-439 List 2 Test Card*

INSTALLATION

1. Insert the HTC-439 into the shelf slot for the channel you want to test.
2. Push the card into the slot until it is firmly seated.

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

TESTING A CIRCUIT

Use the HTC-439 to test circuits, as follows:

1. Set the S1 slider switch to the test you want to perform (Open, Short, Loop Thru, or Loop Back).
2. Connect to test points as applicable. The connections of Tip and Ring pairs of CO and field circuits for each setting of the switch are listed in Table 1 on page 4 and illustrated in Figure 2 on page 5. (Pin numbers correspond to the edge connector pins for each circuit.)
3. Perform the selected test.
4. Monitor the circuits at the corresponding test points on the card.
5. Repeat steps 1 through 4 as required.

Table 1. *Test Connections*

Connect	Pin Number	To	Pin Number
Loopback - This switch position connects the following circuits			
CO Tip	6	CO Tip	9
CO Ring	5	CO Ring	8
Field Tip	4	Field Tip	12
Field Ring	3	Field Ring	11
Loopthru - This switch position connects the following circuits			
CO Tip	6	Field Tip	4
CO Ring	5	Field Ring	3
CO Tip	9	Field Tip	12
CO Ring	8	Field Ring	11
Short - This switch position connects the following circuits			
CO Tip	6	CO Ring	5
CO Tip	9	CO Ring	8
Field Tip	4	Field Ring	3
Field Tip	12	Field Ring	11
Open - This switch position removes all connections between the circuits			

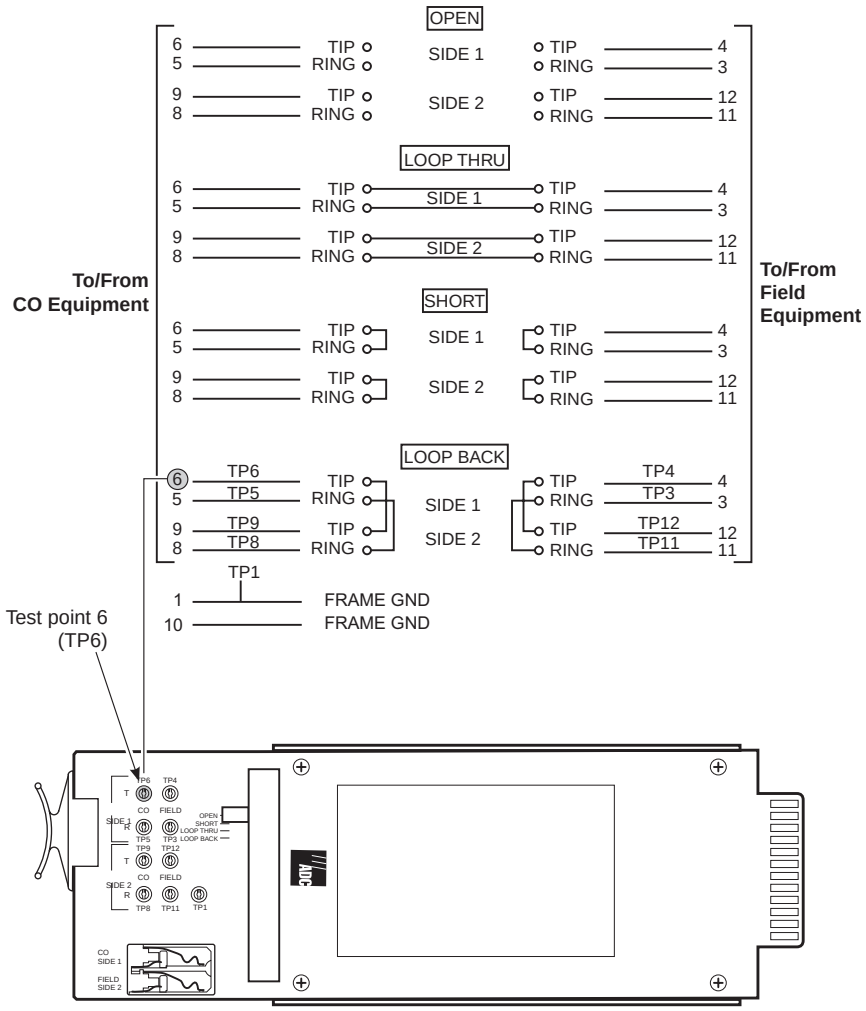

Figure 2. *HTC-439 List 2 Test Connections*

APPENDIX A - SPECIFICATIONS

Mounting	Any T1-239 repeater mechanics slot
Environmental	
Operating Temperature:	40 °F to + 149 °F (-40 °C to + 65 °C)
Operating Humidity:	5% to 95% (non condensing)
Dimensions and Weight	
Height:	2.5 in (6.33 cm)
Width:	0.6 in (1.52 cm)
Depth:	8.4 in (21.34 cm)
Weight:	0.30 lb (0.66 kg)

APPENDIX B - PRODUCT SUPPORT

ADC Customer Service Group provides expert pre-sales and post-sales support and training for all its products.

Technical support is available 24 hours a day, 7 days a week by contacting the ADC Technical Assistance Center (TAC).

Sales Assistance 800.366.3891 extension 73000 (USA and Canada) 952.917.3000 Fax: 952.917.3237	• Quotation Proposals • Ordering and Delivery • General Product Information
Systems Integration 800.366.3891, extension 73000 (USA and Canada) 952.917.3000	• Complete Solutions (from concept to installation) • Network Design and Integration Testing • System Turn-Up and Testing • Network Monitoring (upstream or downstream) • Power Monitoring and Remote Surveillance • Service/Maintenance Agreements • Systems Operation
ADC Technical Assistance Center 800.638.0031 714.730.3222 Fax: 714.730.2400 Email: wsd_support@adc.com	• Technical Information • System/Network Configuration • Product Specification and Application • Training (product-specific) • Installation and Operation Assistance • Troubleshooting and Repair/Field Assistance
Online Technical Support	• www.adc.com/Knowledge_Base/index.jsp
Online Technical Publications	• www.adc.com/library1/
Product Return Department 800.366.3891 ext. 73748 or 952.917.3748 Fax: 952.917.3237 Email: repair&return@adc.com	• ADC Return Material Authorization (RMA) number and instructions must be obtained before returning products.

All 800 lines are toll-free in the USA and Canada.

APPENDIX C - GLOSSARY

CLEI	Common Language Equipment Identifier
CO	Central Office
GND	Ground
HRE	HiGain Remote Enclosure
HTC	HiGain Test Card
RCV	Receive
RMA	Return Material Authorization
XMT	Transmit

CERTIFICATION AND WARRANTY

FCC COMPLIANCE

The HTC-439 List 2 does not have any clocking source, and deems to be a passive device per FCC guidelines. When used in conjunction with any clocking devices, this combined system may radiate radio frequency energy that can cause harmful interference to radio communications. Operation of such a system 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.

WARRANTY

ADC DSL Systems, Incorporated (“ADC”) warrants that, for a period of sixty (60) months from the date of shipment, the hardware portion of its products will be free of material defects and faulty workmanship under normal use. ADC's obligation, under this warranty, is limited to replacing or repairing, at ADC's option, any such hardware product which is returned during the 60-month warranty period per ADC's instructions and which product is confirmed by ADC not to comply with the foregoing warranty.

ADC warrants that, for a period of 90 days from the date of purchase, the software furnished with its products will operate substantially in accordance with the ADC published specifications and documentation for such software. ADC’s entire liability for software that does not comply with the foregoing warranty and is reported to ADC during the 90-day warranty period is, at ADC’s option, either (a) return of the price paid or (b) repair or replace of the software. ADC also warrants that, for a period of thirty (30) days from the date of purchase, the media on which software is stored will be free from material defects under normal use. ADC will replace defective media at no charge if it is returned to ADC during the 30-day warranty period along with proof of the date of shipment.

The transportation charges for shipment of returned products to ADC will be prepaid by the Buyer. ADC will pay transportation charges for shipment of replacement products to Buyer, unless no trouble is found (NTF), in which case the Buyer will pay transportation charges.

ADC may use reconditioned parts for such repair or replacement. This warranty ***does not*** apply to any product which has been repaired, worked upon, or altered by persons not authorized by ADC or in ADC's sole judgment has subjected to misuse, accident, fire or other casualty, or operation beyond its design range.

Repaired products have a 90-day warranty, or until the end of the original warranty period—whichever period is greater.

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MODIFICATIONS

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

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

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DOCUMENT: 150-439-102-02, ISSUE 2
1227157