



# Broadcast and Entertainment Products QCP™ Series II Installation Instructions

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## INTRODUCTION

These instructions provide installation and maintenance procedures for ADC’s QCP™ Series II wire termination system for QCP series II patch bays and broadcast jackfields.

## Revision History

ISSUE	DATE	REASON FOR CHANGE
Issue 9	02/99	Update to QCP Series II, and add replacement tips and Q115 manual insertion tool description

## List of Changes

PAGE	IDENTIFIER	DESCRIPTION OF CHANGE
All	—	Issue 9

## Trademark Information

ProPatch is a trademark of ADC Telecommunication, Inc.; ADC, ADC Telecommunications, and ICON are registered trademarks of ADC Telecommunication, Inc.

## Admonishments

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. An admonishment identifies a possible hazard and then explains what may happen if the hazard is not avoided. The admonishments — in the form of Dangers, Warnings, and Cautions — must be followed at all times. These warnings are flagged by use of the triangular alert icon (seen below), and are listed in descending order of severity of injury or damage and likelihood of occurrence.



**Danger:** *Danger is used to indicate the presence of a hazard that **will** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



**Warning:** *Warning is used to indicate the presence of a hazard that **can** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



**Caution:** *Caution is used to indicate the presence of a hazard that **will** or **can** cause minor personal injury or property damage if the hazard is not avoided.*

## General Safety Precautions

Listed here are all general admonishments which apply throughout procedures within the se instructions.



**Warning:** *Never install electrical equipment in a wet location or during a lightning storm. When installing or modifying equipment lines, disconnect lines at the network interface before working with uninsulated lines or terminals to prevent electrical shock.*

## 1 GENERAL INFORMATION

These instructions provide installation and maintenance procedures for ADC's QCP Series II wire termination system. QCP was developed for Belden 8451, 9451 or equivalent twisted pair cables and is featured on ADC:

- ProPatch Mark II patchbays,
- Ultra Patch cable termination panels,
- VAMP (Video Audio Modular Patchbays),
- ICON (Integrated Cable Organizations Network).

The QCP series II wire module consists of the split cylinder contact mounted in a n individual color-coded insulator.

## 1.1 Rules of Use

Each side of the split cylinder contact accepts a *maximum* of *two* solid or stranded wires of:

- 22 AWG,
- 24 AWG,
- 26 AWG, or
- .4 mm to .79 mm.

## 1.2 Different Wire Sizes or Types

If two wires are to be inserted in the same side of the split cylinder contact, both wires must be either solid or stranded and of the same gauge. A wire inserted must always be as large as or larger than any previously inserted wire.

## 1.3 Fanning Strips and Cable Routing

All terminating wires should be routed and dressed through fanning strips. Allow sufficient slack in each cable for future wiring changes before tying down cable bundle.

## 1.4 Installing Bare Wires

Bare wires (e.g., drainwires) *must* be sleeved with the PVC sleeving supplied with your QCP termination product.

## 1.5 Insertion Tools

There are two tools available for wire termination: the QB-2 impact insertion tool and the Q115 manual tool. See [Figure 1](#). The QB-2 impact insertion tool utilizes a square slotted tip assembly (either the QB-2T or the QB-2LT) to insert and terminate wires on the QCP split cylinder punch down contact. The QB-2 impact tool applies force to the wire by means of a spring-loaded mechanism within the tool. The Q115 manual tool, which is basically a screw driver type tool with a non-removable tip, can be used to insert and terminate the wires manually.

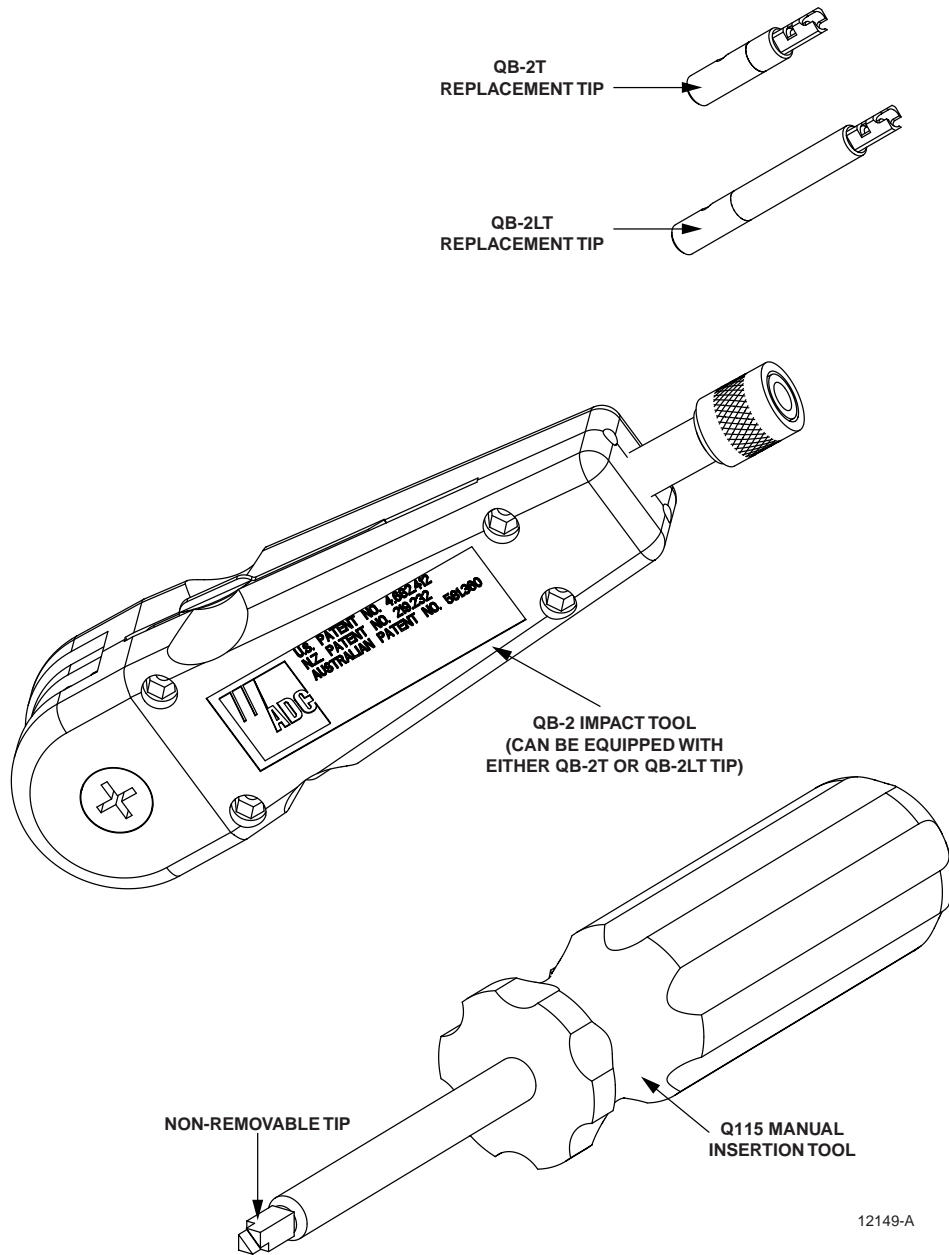


Figure 1. Q115 Manual Tool and Replacement Tips

## PROCEDURE 1 FRONT PANEL WIRE INSTALLATION INSTRUCTIONS



**Warning:** *Never install electrical equipment in a wet location or during a lightning storm. When installing or modifying equipment lines, disconnect lines at the network interface before working with uninsulated lines or terminals to prevent electrical shock.*

STEP	PROCEDURE
1	Trim outer jacket to convenient length. Tape or heat shrink sleeving may be used on the trimmed jacket if desired.
2	Install PVC sleeving over bare wires (see <a href="#">Figure 2</a> ).
3	Route and dress wires through the fanning strip. <b>► Note:</b> Do not cut or strip the wire to be connected. The insertion tool and the split cylinder contact take care of these functions automatically.
4	Place the wire diagonally across the split cylinder contact in line with the two corner slots of the color-coded insulator (see <a href="#">Figure 3</a> ). <b>► Note:</b> The narrower of the slots is the wire retention side and the wider slot is the cut-off side. Leave a convenient length of excess wire past the cutting edge of the contact.
5	Place the wire slots of the tool tip over the wire, with the square of the sleeve of the tool tip aligned with the square of the color-coded insulator (see <a href="#">Figure 4</a> ). <b>► Note:</b> The two halves of the tool handle (red and white) should be side by side.
6	Press the insertion tool against the wire until the spring-loaded mechanism releases to seat the wire into the cylinder slot (see <a href="#">Figure 5</a> ).
7	Remove the tool and the salvage end of wire from the contact. Keep the tool directly in line with the contact during impact and withdrawal.
8	After wires are terminated, use plastic cable ties to secure cables to the cable tray or tie bar. <b>Wire Removal</b> <b>► Note:</b> To change and/or re-terminate a wire, remove wire from the fanning strip, and simply grasp the wire by hand. Pull the wire straight away from the panel until the wire slides out of the slot. Install the new wire in accordance with previous instructions.

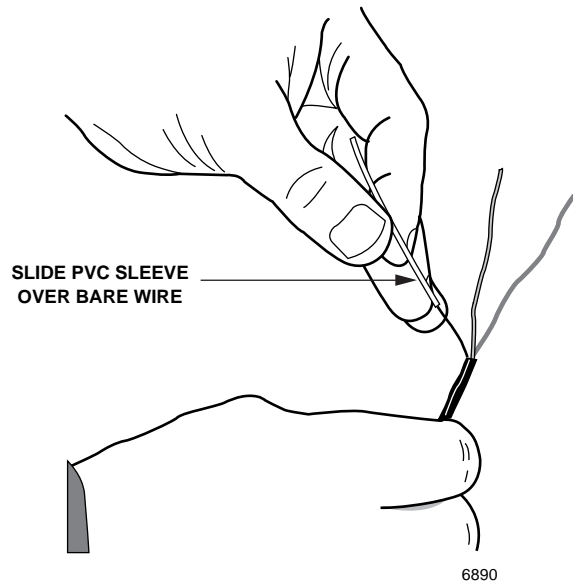


Figure 2. Sleeving Bare Wire

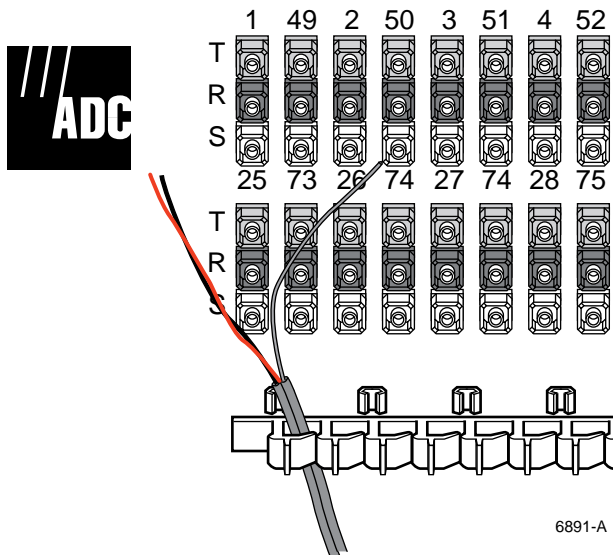


Figure 3. Wire Position Over Split Cylinder Contact (Front of Panel)

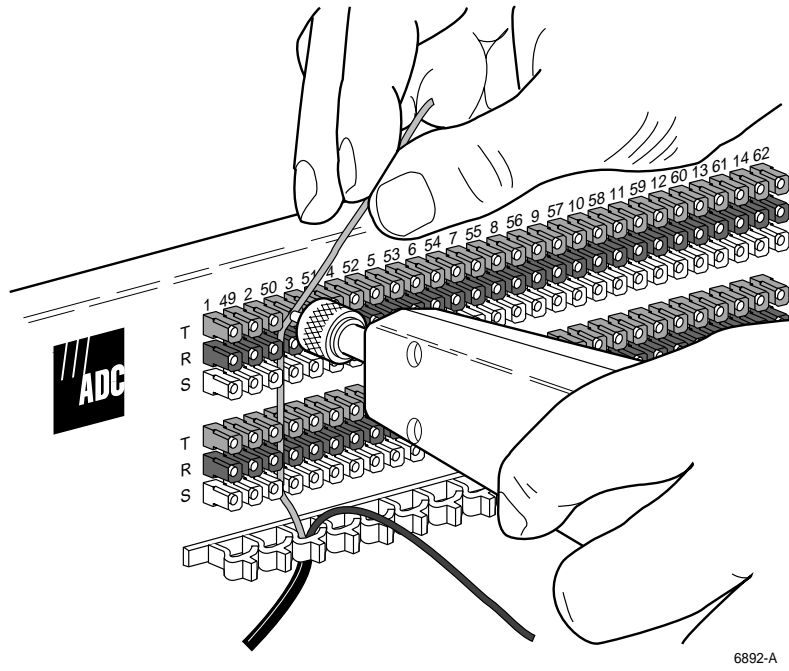


Figure 4. Tool Position Over Wire (Front of Panel)

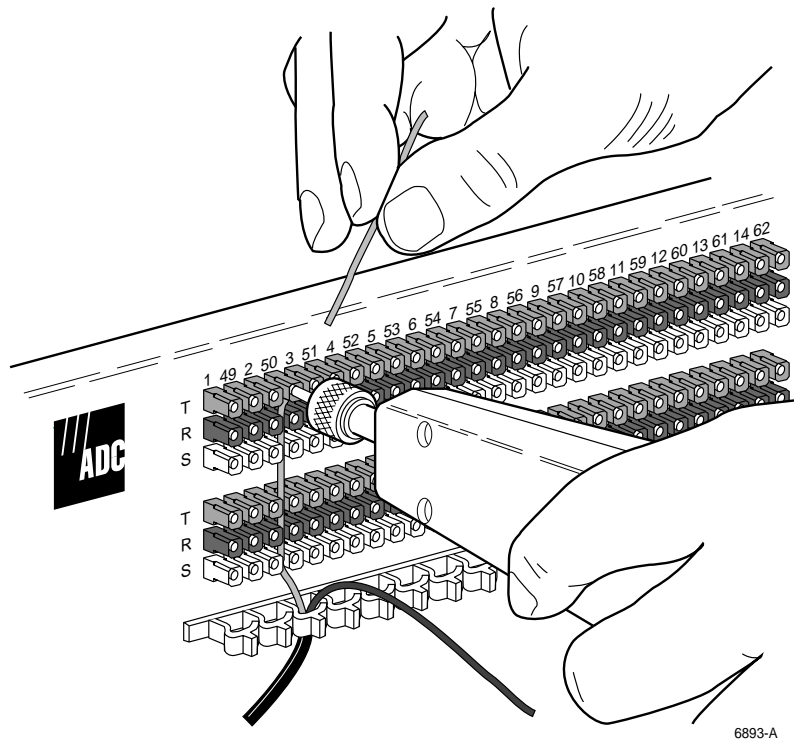


Figure 5. Wire Installed and Seated in Contact (Front of Panel)

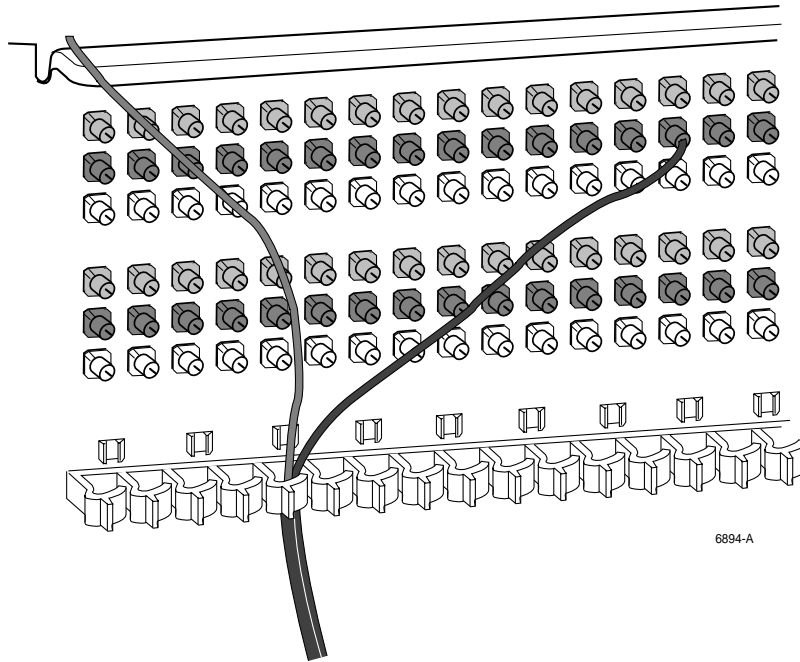
## PROCEDURE 2 REAR PANEL WIRE INSTALLATION INSTRUCTIONS



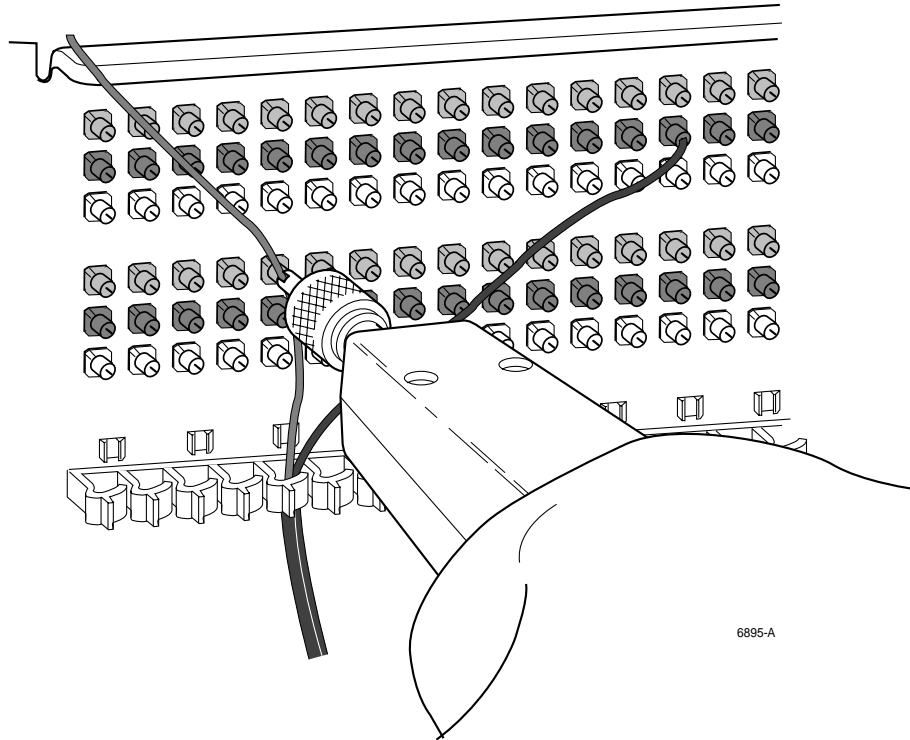
**Warning:** *Never install electrical equipment in a wet location or during a lightning storm. When installing or modifying equipment lines, disconnect lines at the network interface before working with uninsulated lines or terminals to prevent electrical shock.*

STEP	PROCEDURE
1	Trim outer jacket to convenient length. Tape or heat shrink sleeving may be used on the trimmed jacket if desired. Install sleeving over bare wires.
2	Route and dress wires through the fanning strip. <b>Note:</b> Do not cut or strip the wire to be connected. The insertion tool and the split cylinder contact take care of these functions automatically.
3	Place wire diagonally across the end of the contact, in line with the cylinder contact slot (see <a href="#">Figure 6</a> ). <b>Note:</b> Leave a convenient length of excess wire past the cutting edge of the contact.
4	Carefully place the tip of the insertion tool over the cylinder contact with wire slots of the tool tip over the wire (see <a href="#">Figure 7</a> ). <b>Note:</b> The two halves of the tool (red and white) should be above and below each other.
5	Press the insertion tool against the wire until the spring-loaded mechanism releases to seat the wire into the cylinder slot.
6	Remove tool and the salvage end of wire from the contact. Keep the tool directly in line with the contact during impact and withdrawal.
7	After wires are terminated, use plastic ties to secure cables to the cable tray or cable tie bar.





**Figure 6. Wire Position Over Split Cylinder Contact (Rear of Panel)**



**Figure 7. Tool, Wire, and Split Cylinder Contact Alignment (Rear of Panel)**

### PROCEDURE 3 REPLACING A BROKEN CONTACT MODULE

#### Introduction

Damaged wire modules can be replaced quickly and easily using spare insulators and contacts.

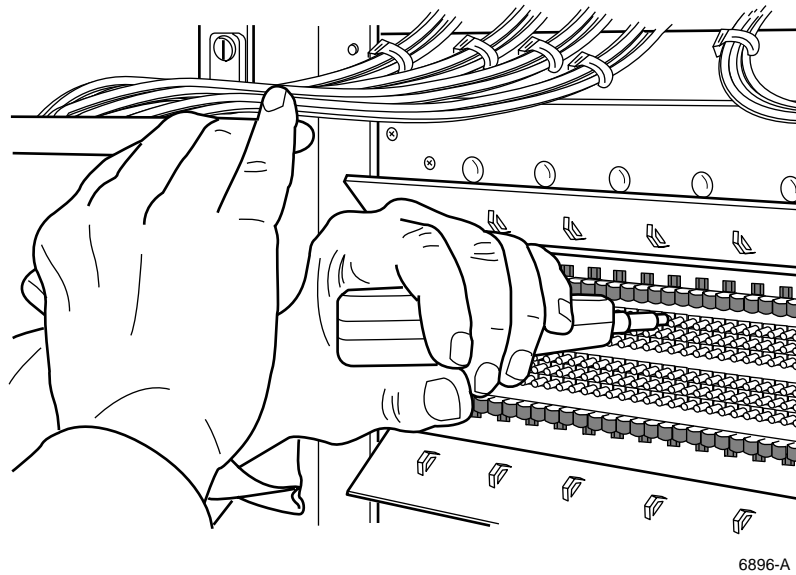
To replace a broken wire module:

- Remove damaged or broken wire and/or insulator and contact
- Install the color-coded insulator in the QCP series II jackfield  
*and*
- Install the metal split cylinder contact in the color-coded insulator.



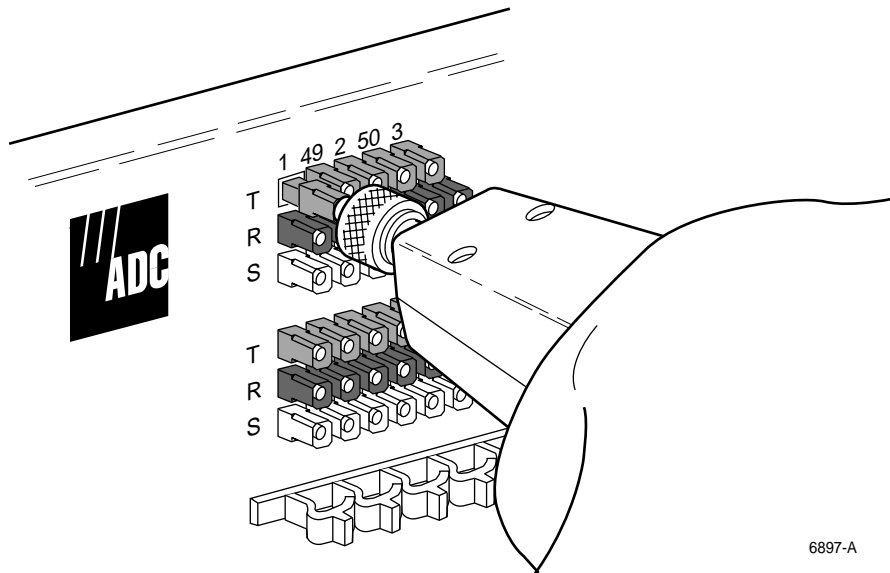
**Warning:** *Never install electrical equipment in a wet location or during a lightning storm. When installing or modifying equipment lines, disconnect lines at the network interface before working with uninsulated lines or terminals to prevent electrical shock.*

STEP	PROCEDURE
1	Remove each wire from the contact (on both sides of the panel).
2	At the back side of the panel, place the insertion tool over the wire module cylinder, with the sides of the tool tip square with the sides of the module plastic housing (see <a href="#">Figure 7</a> ). <b>► Note:</b> The force required to break the color-coded insulator with the insertion tool is approximately twice that required for wire installation.
3	Force the wire module out of the panel by pressing the tool against the module until the spring-loaded mechanism releases.
4	Rap the end of the tool handle to break the color-coded insulator.
5	Remove all pieces of the wire module from both sides of the panel.
6	Slide the replacement color-coded insulator (not the metal contact) onto the end of the insertion tool.
7	At the front of the panel, position the color-coded insulator over its panel mounting hole (see <a href="#">Figure 8</a> ). <b>► Note:</b> The narrower of the two slots in the color-coded insulator must be aligned the same as existing color-coded insulators.
8	Carefully force the color-coded insulator into the panel mounting hole.
9	Carefully remove the insertion tool from the color-coded insulator.
10	At the front of the panel, by hand, slide the metal cylinder contact into the color-coded insulator (see <a href="#">Figure 9</a> ). <b>► Note:</b> The slot in the split cylinder contact must be aligned with the narrower of the two slots in the color-coded insulator.
11	Press the split cylinder contact into the color-coded insulator as far as possible.
12	Carefully place the tip of the insertion tool over the split cylinder contact and into the color-coded insulator.
13	Press the split cylinder contact into the color-coded insulator until it locks into position.
14	Carefully remove the installation tool from the wire module.
15	Reinstall the wires into the new wire module as described in the wire installation section.



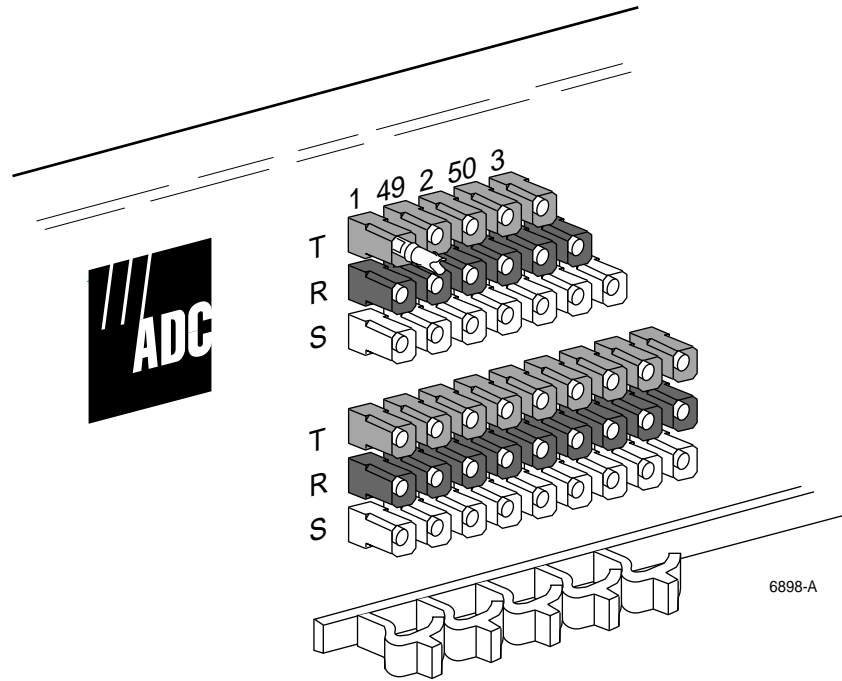
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**Figure 8. Placement of Insertion Tool for Module Removal (Rear of Panel)**



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**Figure 9. Split Cylinder Contact Insulator Mounting Position (Front of Panel)**



**Figure 10. Contact Metal Cylinder in Position (Front of Panel)**

## 2 CUSTOMER INFORMATION AND ASSISTANCE

For customers wanting information on ADC products or help in using them, ADC offers the services listed below. To obtain any of these services by telephone, first dial the central ADC telephone number, then dial the extension provided below.

The central number for calls originating in the U.S.A. or Canada is **1-800-366-3891**. For calls originating outside the U.S.A. or Canada, dial country code "1" then dial **612-946-3000**.

<p><b>Sales Assistance</b>  <b>Extension 3000</b></p>	<ul style="list-style-type: none"> <li>• Quotation Proposals</li> <li>• Ordering and Delivery</li> <li>• General Product Information</li> </ul>
<p><b>Systems Integration</b>  <b>Extension 3000</b></p>	<ul style="list-style-type: none"> <li>• Complete Solutions (from Concept to Installation)</li> <li>• Network Design and Integration Testing</li> <li>• System Turn-Up and Testing</li> <li>• Network Monitoring (Upstream or Downstream)</li> <li>• Power Monitoring and Remote Surveillance</li> <li>• Service/Maintenance Agreements</li> <li>• Systems Operation</li> </ul>
<p><b>BCG Technical Assistance Center</b>  <b>Extension 3475</b>  <b>E-Mail: technical@adc.com</b></p>	<ul style="list-style-type: none"> <li>• Technical Information</li> <li>• System/Network Configuration</li> <li>• Product Specification and Application</li> <li>• Training (Product-Specific)</li> <li>• Installation and Operation Assistance</li> <li>• Troubleshooting and Repair</li> </ul>
<p><b>Product Return Department</b>  <b>Extension 3748</b>  <b>E-Mail: repair&amp;return@adc.com</b></p>	<ul style="list-style-type: none"> <li>• ADC Return Authorization number and instructions must be obtained before returning products.</li> </ul>

Product information may also be obtained using the ADC web site at **www.adc.com** or by writing ADC Telecommunications, Inc., P.O. Box 1101, Minneapolis, MN 55440-1101, U.S.A.

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