

**020-2936-00**  
**TriMode™ Resistor**  
**Solder Tip Kit**

**020-2944-00**  
**TriMode™ Extended Resistor**  
**Solder Tip Kit**

**Instructions**

1  
  
 071-2457-00

**Kit Contents**

These instructions are included with the following two solder tip kits:

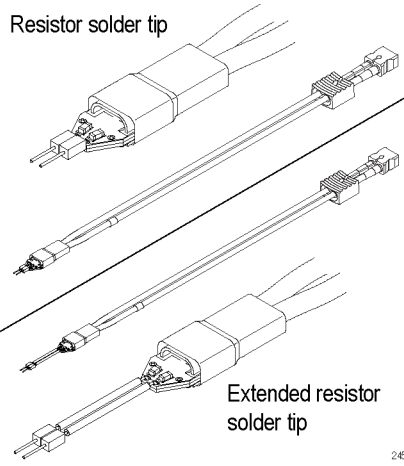
**Table 1: Solder Tip Kits**

Kit part number	Contents
020-2936-00	TriMode Resistor Solder Tip, quantity 1, with instructions
020-2944-00	TriMode Extended Resistor Solder Tip, quantity 1, with instructions
Order the resistor kit below to replace the resistors on your Solder Tips.	
020-2937-00	100 Ω leaded resistor, quantity 50 75 Ω surface-mount resistor, 0402, quantity 50 Non-conductive tubing, quantity 50

**Overview**

The TriMode Resistor and Extended Resistor Solder Tips allow you to create customized, hands-free connections from your circuit to Tektronix P7500 Series TriMode probes.

Integral resistors on the tips include small-diameter, pre-trimmed leads for you to solder to your circuit board vias or other fine-pitch features.



**Using the Solder Tips**

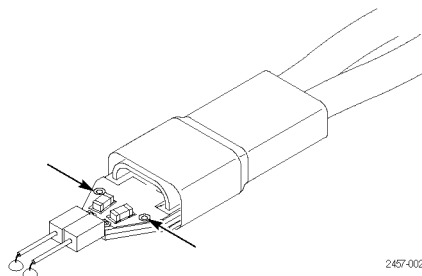
General recommendations:

- The tips cannot support the weight of the attached probe. Therefore, before you solder the resistors or ground wires to the circuit board, position the tips so that you can secure the probe to the circuit board to relieve strain on the tips and the solder connections.
- Use a flux pen to add flux to the solder tips and to your test points. The flux makes soldering easier.
- Only use ESD-approved soldering irons and no-clean flux solder when soldering.
- If you are using the tip ground connection, use the wire provided in your accessory kit with the P7500 Series TriMode probes.

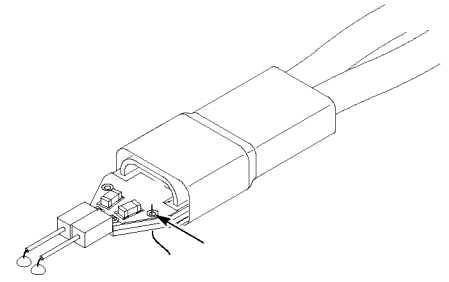
**Procedure**

1. Choose a location where the solder tip resistor leads can reach your test points.

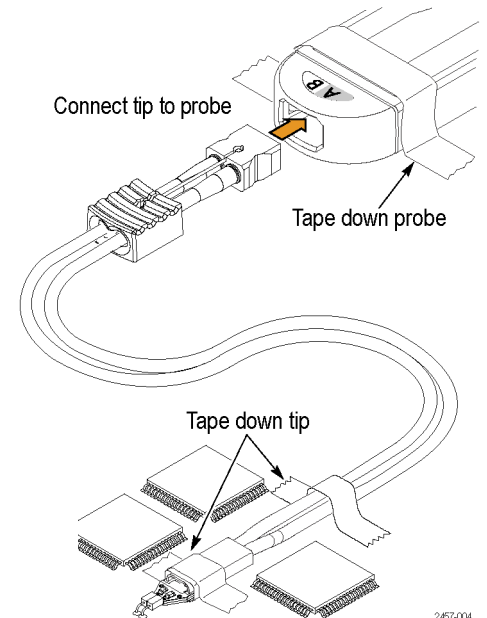
If you are using a ground connection, note which solder tip ground via is closest to your circuit ground.



2. Apply solder to the test points on your circuit.
3. If you are not using the ground, solder the tip resistor leads to the test points on your circuit, clip off any excess, and go to step 10. If you are using a ground wire, apply solder to the solder tip ground via that you chose.
4. Position a length of wire about 1-inch long under the solder tip ground via.



5. Heat the solder tip via and insert the wire.
6. Cut the excess wire on the other side of the solder tip, flush with the board.
7. Cut the ground wire to the length required to reach your circuit ground. Keep the ground wire as short as possible to ensure good performance.
8. Solder the ground wire to the circuit and clip off any excess wire.
9. Solder the resistor leads to the test points on your circuit and clip off any excess leads.
10. Push the end of the tip into the probe head until it seats in the probe head.
11. For a secure mechanical connection, use double-sided tape or hot glue to secure the tip to your circuit.



12. Secure the probe to the circuit board with tape or hook-and-loop strips.

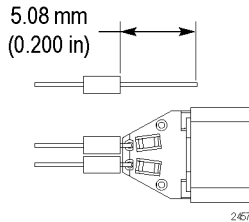
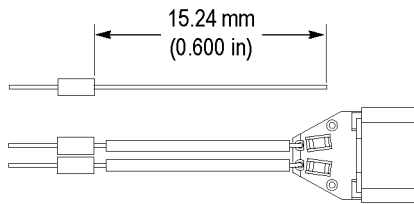
## Replacing the Resistors

The resistors that are presoldered to the tips need to be replaced periodically, due to normal use. A kit of replacement resistors is available (order part number 020-2937-00).

### Procedure

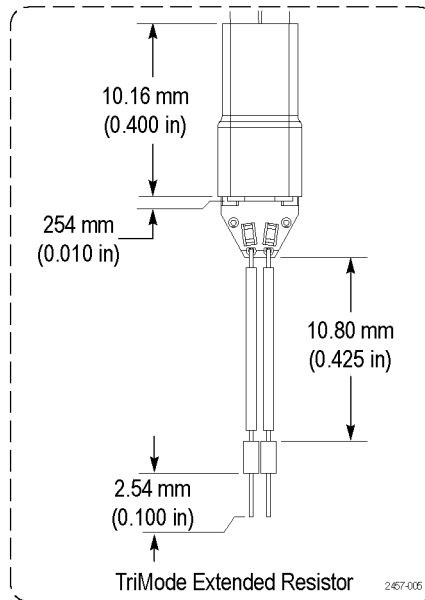
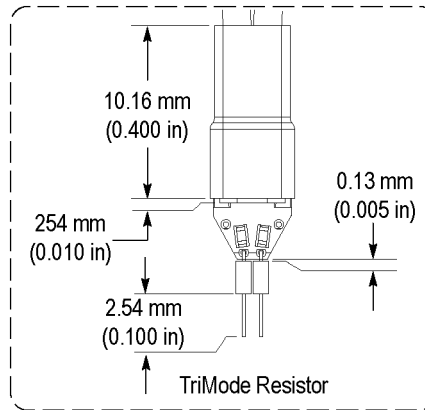
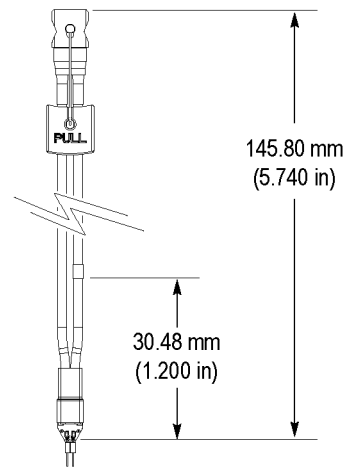
- Carefully apply a soldering iron to the via on the tip board and remove the existing wire. Work quickly with a low-heat soldering iron.  
If a small piece of wire is in the via, heat the solder and use another piece of wire to push the wire fragment from the via.
- Add fresh solder to the via, if necessary.
- If you are replacing the resistor on the extended resistor tip, cut one lead of the resistor to approximately 0.6" (15mm).

If you are replacing the resistor on the (shorter) resistor tip, cut one lead to 0.2" (5mm).



- If you are replacing the resistor on the extended resistor tip, slide a piece of tubing included with the resistor kit over the lead. This will insulate the resistor lead.
- Heat the solder in the via and thread the cut resistor lead into the via until the:  
insulating tube comes into contact with the tip board, if you are replacing the resistor on the extended resistor tip.  
resistor body almost touches the tip board, if you are replacing the resistor on the (shorter) resistor tip.
- Cut excess lead on the bottom of the board.
- Cut the remaining resistor lead to 0.1" (2.5mm).

## Dimensions



## Electrical Characteristics

Bandwidths measured with a network analyzer.

**Table 2: Resistor Solder Tip**

Probe Model	Bandwidth	Rise time	
		10–90%	20–80%
P7513	>13 GHz	<40 ps	<28 ps
P7516	>16 GHz	<32 ps	<24 ps

**Table 3: Extended Resistor Solder Tip**

Probe Model	Bandwidth	Rise time	
		10–90%	20–80%
P7513	>5.6 GHz	<40 ps	<28 ps
P7516	>5.8 GHz	<36 ps	<24 ps

## Warranty Information

For warranty information, go to [www.tektronix.com/service](http://www.tektronix.com/service), and then use the provided links to search for your product's warranty.

## Contacting Tektronix

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For product information, sales, service, and technical support:

- In North America, call 1-800-833-9200.
- Worldwide, visit [www.tektronix.com](http://www.tektronix.com) to find contacts in your area.