

P6750  
General-Purpose Logic Probe  
Instructions



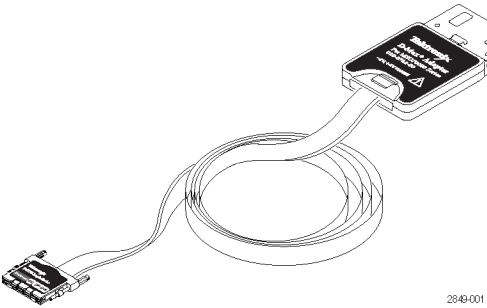
071-2849-00



Product Description

The P6750 logic probe is a 17-channel, high-density connectorless probe with D-Max probing technology. It connects the 16 digital channels on Tektronix MSO70000 Series oscilloscopes to digital buses and signals on your target system. A clock/qualifier (QC) input is also provided.

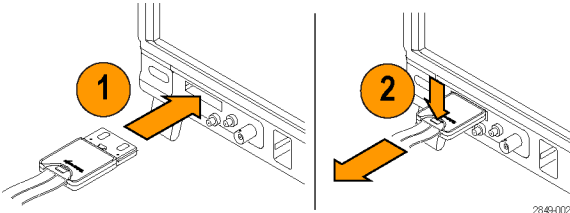
The cLGA contact (compression Land Grid Array) on the probe mates to a PCB footprint that you design into your system circuit board. The probe is secured with two thumbscrews to a retention assembly that you solder onto the circuit board.



Connecting the Probe to the Oscilloscope

Connect the probe as shown in the illustration below.

1. Insert the probe label-side up into the receptacle.
2. To remove the probe, push the probe in, press the button, and pull out the probe.



Connecting the Probe to Your Circuit

You can only connect the probe to a target system that has the mating probe compression footprint designed in and the probe retention assembly installed. (See *Dimensions* and *Installing the Probe Retention Assembly*.) Always clean the footprint contacts before you connect the probe.

Cleaning the Compression Footprints

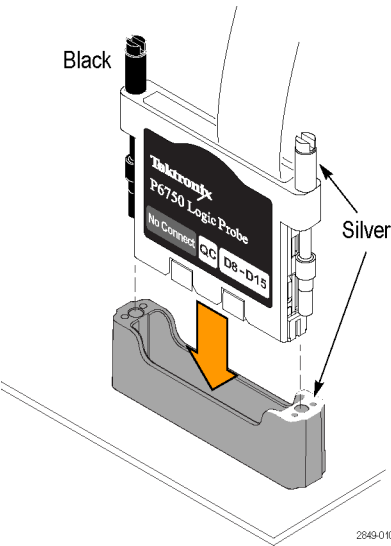
Always clean the compression footprints on the board before you connect the probe to the target system.

**CAUTION.** To avoid electrical damage, always power off your target system before cleaning the compression footprint.

1. Use a lint-free, clean-room cloth lightly moistened with electronic/reagent grade isopropyl alcohol, and gently wipe the footprint surface.
2. Remove any remaining lint using a nitrogen air gun or clean, oil-free dry air.

Connect the Probe

1. Align the silver screw on the probe to the silver side of the retention assembly.



2. Start both screws in the retention assembly, and tighten them evenly to ensure that the probe approaches and mates squarely to the PCB. The probe is completely fastened to the PCB when the screws stop in the assembly.

Setting Up the Probe

From the Digital menu, select Digital Setup to set and view the following parameters of each digital channel:

- Threshold voltage and vertical position
- Signal height (set once for all 16 channels)
- Channel label

The default settings are 1.4 V thresholds with digital channel number labels.

From the Digital menu, select Bus Setup to set and view bus characteristics such as:

- Clock source
- Bus type (Serial or Parallel)
- Bus width
- Display format (Hex, Binary, or ASCII symbols)

Parallel bus setup information is resident on MSO70000 Series oscilloscopes. However, for other buses such as I2C, you must have the appropriate option. See your oscilloscope manual or product data sheet for nomenclature and ordering details.

Functional Check

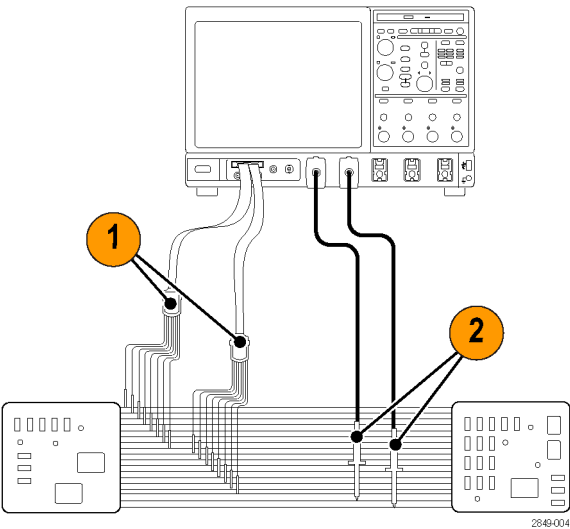
Logic activity immediately displays on all connected, active channels. If you do not see an active signal:

1. Press Trigger.
2. Select Edge for trigger type.
3. Select the channel that you are setting up as the source.

If you still do not see an active signal, use an analog probe or the iCapture analog mux to verify circuit activity at the test point.

Typical Application

1. Use the P6750 probe to view digital signals on a data bus.
2. Use iCapture or analog probes, such as the P7508 TriMode probe to view analog waveform information.



Storing the Probe

To protect the probe head contacts, gently slide the probe cover over the probe head and store the probe when not in use.

Standard Accessories

Description	Part number
Probe cover, with static-dissipative additive	200-4893-XX
P6750 Logic Probe instructions	071-2849-XX

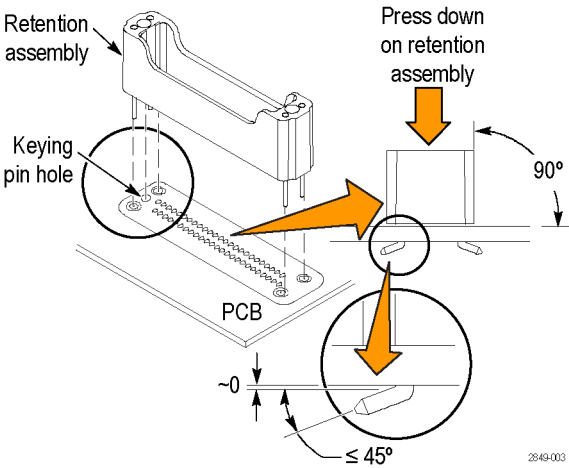
Optional Accessories

Description	Application	Part number
Contact assembly	Repair worn or damaged probe head contacts	020-2622-XX
Probe retention assembly	Probe-to-circuit board mount	
	Package of 2	020-2908-XX
	Package of 50	020-2910-XX
Deskew fixture	Align the trigger paths of the digital probe channels	067-2083-XX
Square Pin Adapter	Probe Footprint to Square Pin Header Adapter	NEX-P6960PIN

Installing the Probe Retention Assembly

The probe retention assembly provides a housing around the connector footprint to secure the probe to the PCB. To install the probe retention assembly on the circuit board, do the following:

1. If your PCB has multiple connector footprints, locate the correct one.
2. Align the retention assembly over the footprint so that the keying pin on the retention assembly lines up with the keying pin hole on the footprint.



3. Insert the retention assembly into the holes in the footprint on the PCB.

**NOTE.** The following two steps are important to ensure that the retention assembly is correctly mounted and that the probe makes proper contact with the PCB.

4. Hold the retention assembly so that it is firmly flush with the surface of the PCB, and the four anchoring posts extend through the circuit board to the opposite side.
5. Using a pair of needle-nose pliers, hold one of the posts. Using the circuit board hole as a fulcrum, bend the post outward so that it is flush with the PCB surface, anchoring the assembly to the PCB. Bend the other three posts in the same manner.

**CAUTION.** After you insert the wires in the board, it is important to bend the anchoring posts out to avoid solder creep.

6. Solder the anchoring posts to the PCB.

## Table 1: Electrical and mechanical specifications

All dimensions are per standard IPC tolerance ( $\pm 0.004$  in).

To replace the contacts, do the following:

## Safety Terms and Symbols in This Manual.

For warranty information, go to [www.tektronix.com/warranty](http://www.tektronix.com/warranty).

The mating signal layout for your circuit board is shown below.