Tektronix

067-2298-00
Logic Probe
Deskew Fixture

Instructions

071-2850-00

Deskew Fixture

This fixture provides an edge source to time-align trigger signals from the logic probe tips. It allows you to deskew a logic probe and one analog probe on the MSO70000 series oscilloscopes, resulting in improved reliability and accuracy.

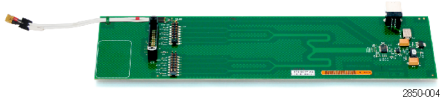


Figure 1: Deskew fixture with TriMode solder tip attached

The fixture supports P6717, P6717A, P6750 and P6780 oscilloscope logic probes and P7500 Series TriMode probes, and is powered by one of the USB ports of the oscilloscope. A USB cable is included with the fixture.

A P7500 Series TriMode solder tip is also required for the alignment procedure, but is not included with the fixture.

Equipment Required

- Deskew fixture and USB cable
- One Logic Probe (P6717, P6717A, P6750 or P6780)
- One analog P7500 Series TriMode Probe
- One TriMode probe differential solder tip (tips with ground connections are recommended—the P75TLRST, for example)

For best results, allow the oscilloscope to warm up for 20 minutes, and then perform SPC (signal path compensation) before performing the deskew procedure.

Fixture Preparation

You must solder the TriMode solder tip to the fixture before performing the deskew procedure. The following equipment is required:

- ESD-approved soldering iron and tweezers
- Wire, no-clean flux solder, and instructions (included with P75TLRST solder tips)
- Cable tie or tape
- Magnifying lens

1. Connect the TriMode solder tip. Refer to the figure below and the soldering instructions included with the solder tip.

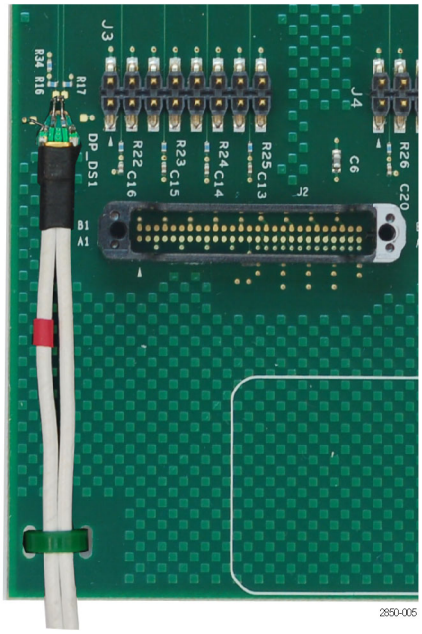


Figure 2: P75TLRST solder tip connections

2. Check the Calibration Status of the Analog Probe: Select Probe Cal... from the Vertical menu. The Probe Setup screen appears.

   On the left side of the Probe Setup screen, click the channel tab that corresponds to the channel that the analog probe is attached to, and then check the Probe Status readout:

   - Initialized. The probe has not been calibrated on the selected channel; perform the DC probe calibration procedure. Refer to the probe manual or oscilloscope online help for instructions.
   - Pass. The probe has been calibrated on the selected channel. Perform the deskew procedure.
   - Fail. The probe has not been calibrated or has failed; repeat the calibration procedure. If the test fails, troubleshoot the problem; do not proceed to the deskew procedure.

Deskew Procedure

1. Connect a P7500 Series TriMode probe to any channel (1–4) of the oscilloscope. Set the probe to A-B (differential).
2. Connect the probe to the TriMode solder tip on the fixture.
3. Connect the logic probe to the oscilloscope, and then to the fixture. Note the following:

   You must connect single-ended probes with the signal side of the probe toward the short edge of the board as shown. (See Figure 3.)

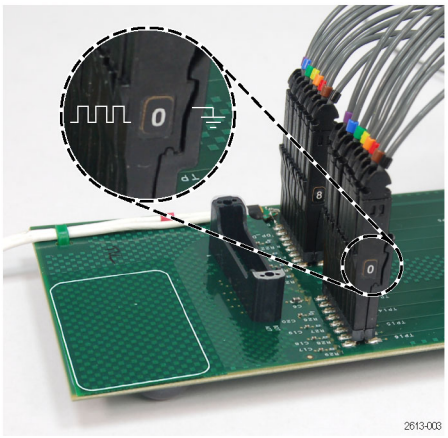


Figure 3: Single-ended probe connections

Connect differential probes with the (+) side toward the short edge of the board. (See Figure 4.)

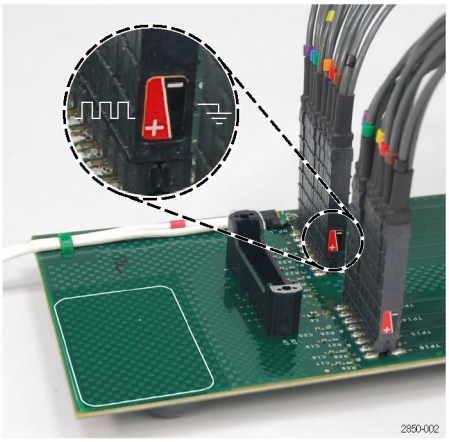


Figure 4: Differential probe connections

Connect P6750 logic probes to the color-keyed connector. Align the silver screw to the silver side. (See Figure 5.)

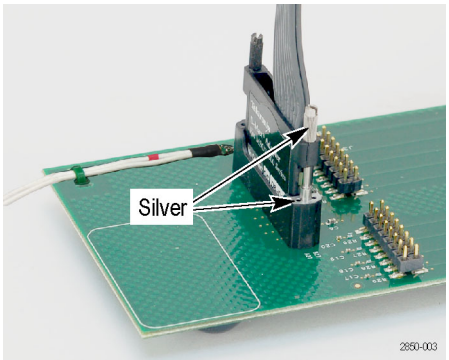


Figure 5: P6750 Probe connection

Probe connection notes:

- All 16 channels must be connected (in any sequence).
- Use the probe grouper or holder accessory to simplify connecting to the board.
- Leave the CLK channel disconnected (unnecessary for the P6750 probe).

4. Plug the USB cable into the fixture and into a USB port on the oscilloscope. The USB port only supplies board power; no communication occurs through the port.
5. Select Vertical | Probe Cal, and then select "D15-D0" on the left.
6. Select the proper Reference Channel from the drop down menu in the Trigger Path Alignment area of the Probe Setup menu.
7. Click the Align Trigger Path button on the Probe Setup screen to start the alignment.
8. Observe the Probe Status field for results (Pass or Fail).

Probe Setup Screen Description

Trigger Path Alignment ? button. Click this button to display additional information about the alignment paths used in the procedure.

Probe Status field.

Initialized = ready for alignment

Pass = probes are aligned and ready to use

Fail = alignment failed; check connections and retry

Reference Channel drop-down menu. From this menu, select the oscilloscope channel that your analog reference probe is attached to.

Clear Trigger Path Alignment button. Click this button to clear the oscilloscope memory of previously-aligned probe data.

Align Trigger Path button. Click this button to start the calibration routine for the probe.

Probe Properties Screen Description

Probe drop-down menu. From this drop-down menu, you can select the analog or logic probes that are connected to the oscilloscope.

Probe Type and Serial Number fields. These fields identify the probes that are connected to the digital channels and the reference channel of the oscilloscope. N/A indicates an alignment has not been run.

Reference Channel, Type, and Serial Number fields. These fields display the properties of the analog reference probe used for the procedure.

Analog to Digital Trigger Path Alignment field. This field shows the relationship of the alignment between the digital and analog trigger paths:

(+) = analog path is first

(–) = digital path is first

N/A indicates an alignment has not been run.

Restoration of Probe Constants

When you reconnect a probe to both the oscilloscope channel and to the same deskew fixture channels that the probe was previously calibrated on, the oscilloscope recognizes the probe, recalls the alignment data for that probe/channel combination, and displays a dialog indicating that the stored alignment data is current. Another alignment procedure is not required for this probe/channel combination.

Safety Summary

To avoid potential hazards, use this product only as specified.

To avoid fire or personal injury, do not operate in wet/damp conditions.

Keep product surfaces clean and dry.

Environmental Considerations

Equipment Recycling. This product complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). For more information about recycling options, check the Support/Service section of the Tektronix Web site (www.tektronix.com).

Warranty Information

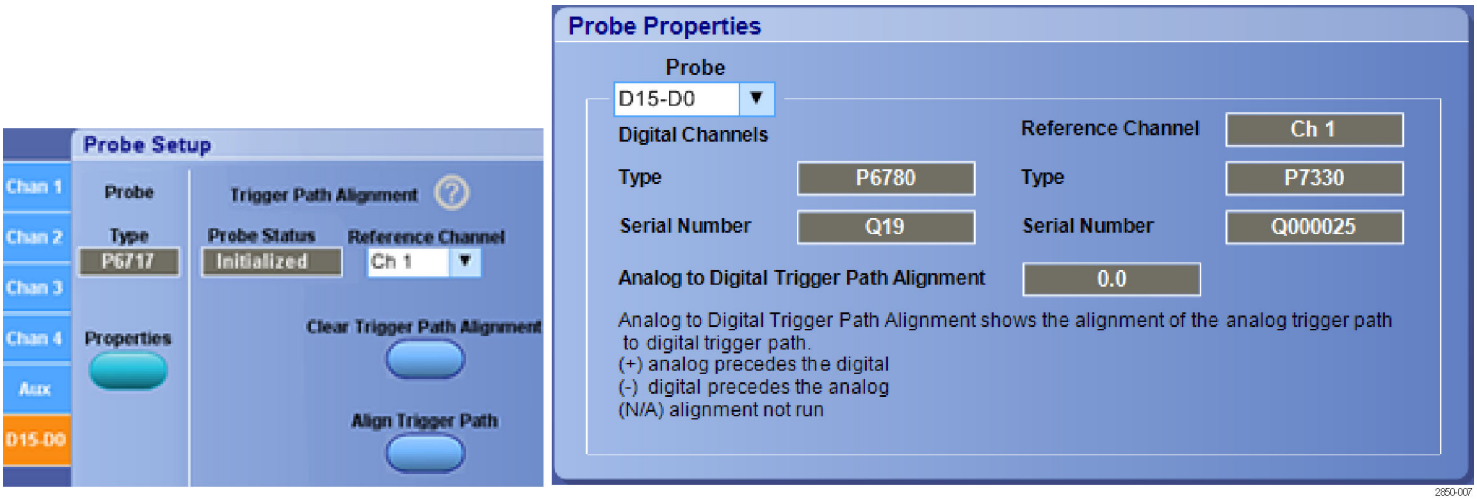
For warranty information, go to www.tektronix.com\service, and then use the provided links to search for your product's warranty.

Contacting Tektronix

Tektronix, Inc.
14200 SW Karl Braun Drive
PO Box 500
Beaverton, OR 97077
USA

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

- In North America, call 1-800-833-9200.
- Worldwide, visit www.tektronix.com to find contacts in your area.



Probe Setup and Probe Properties screens