



Tektronix P6616 16 Channel General-Purpose Logic Probe Instructions

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Tektronix®

P6616
General-Purpose Logic Probe
Instructions



071-2831-01

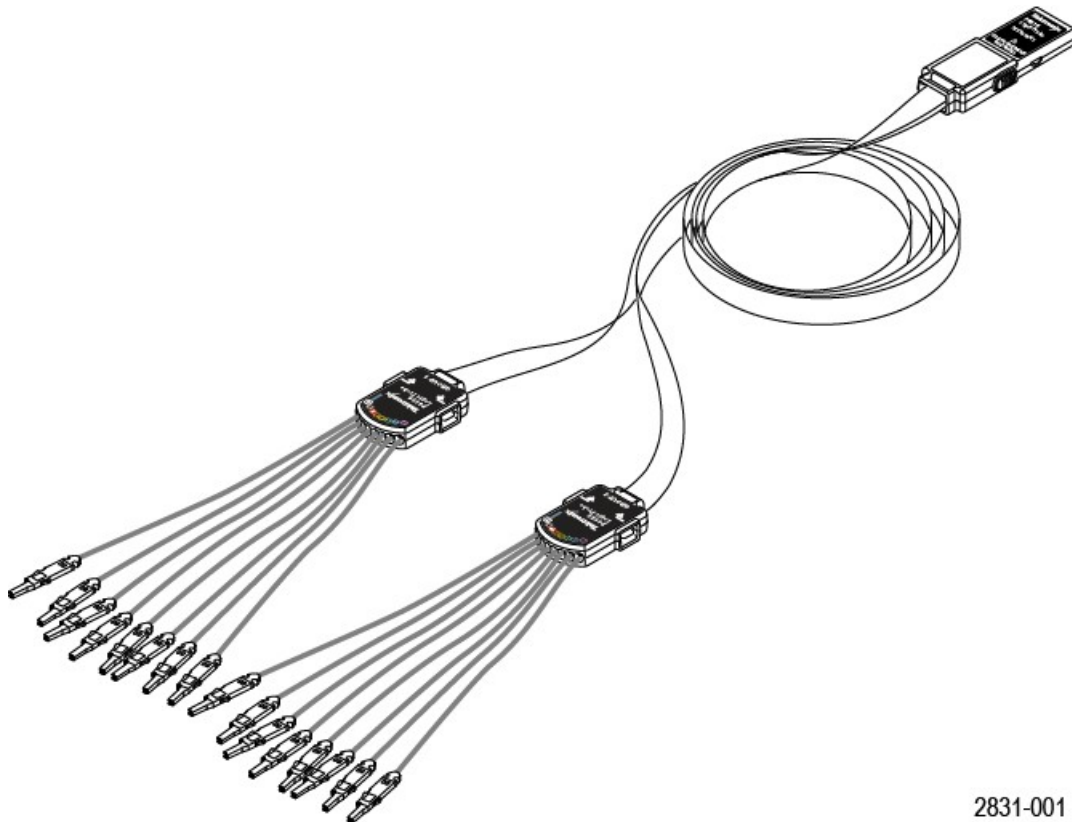
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Product Description

The P6616 general-purpose logic probe connects the Tektronix MSO/DPO5000 Series and MSO4000B Series of mixed-signal oscilloscopes to digital buses and signals on your target system. The probe contains 16 data channels split between two lead sets (GROUP 1 and GROUP 2).

All leads include a ground connection at the tip. You can connect the probe leads separately to the target system, or group the leads together using the probe tip holders.

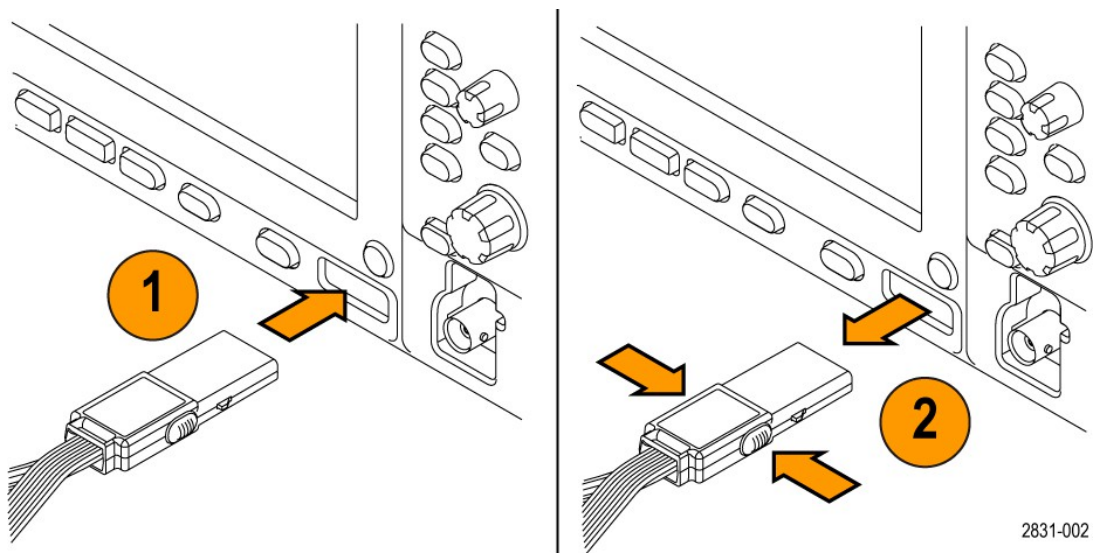


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Connecting the Probe to the Oscilloscope

Connect the probe as shown in the illustration below.

1. Insert the probe label-side up into the connector on the oscilloscope.
2. To remove the probe, squeeze the buttons on the side and pull out the probe.



Connecting the Probe to Your Circuit

Attach the probe to the circuit using the connectors and adapters shown on the back of these instructions. Select the best method for your needs, and then proceed to Setting up the Probe.

Setting Up the Probe

To set and view the digital channel parameters, do the following:

- On MSO/DPO5000 Series instruments, select Vertical>Digital Setup.
- On MSO/DPO4000B Series instruments, push the D15D0 button.

The parameters listed below can be set on each digital channel:

- Threshold voltage and vertical position (the default threshold setting is 1.4 V)
- Signal height and position (set once for all 16 channels)
- Channel label

To set and view bus characteristics, do the following:

- On MSO/DPO5000 Series instruments, use the controls in the Bus Setup screen.
- On MSO/DPO4000B Series instruments, push the B1 to B4 buttons.

The setup screens allow you to set and view bus characteristics such as:

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

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

Functional Check

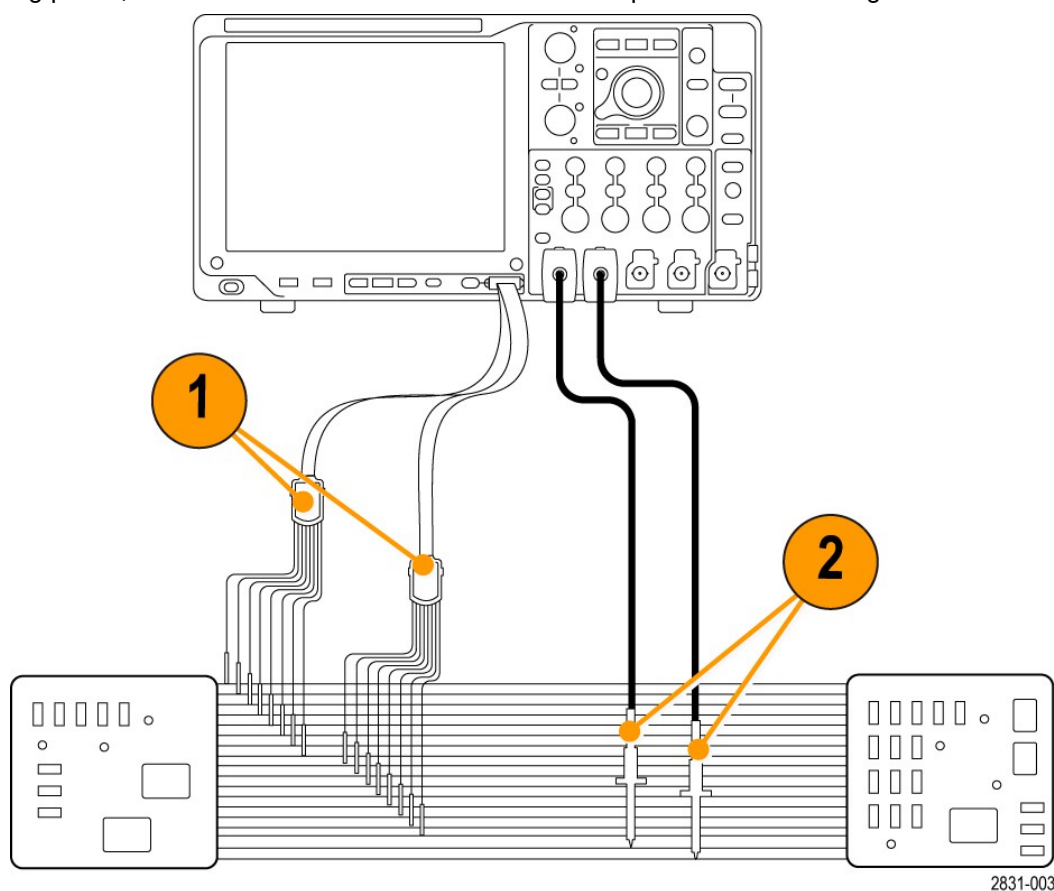
Logic activity immediately displays on all connected, active channels. If you do not see an active signal:

1. Push the Trigger button.
2. Select Edge for trigger type.
3. Select the channel that you are setting up as the source.
4. On MSO/DPO4000B Series instruments, push the Autoset button.

If you do not see an active signal, try another probe channel (or analog probe) to verify circuit activity at the test point.

Typical Application

1. Use the P6616 probe to view digital signals on a system bus.
2. Use an analog probe, such as the TPP0500 or TPP1000 active probe to view analog waveform information.



Accessories

The following standard accessories ship with the probe and are shown in the illustration on the following page.

Item	Description	Quantity	Part number
—	Logic probe accessory kit	Item 1–6	020-2662-XX
1	Extension ground tip	1 set of 20	020-2711-XX
2	Probe tip	1 set of 10	131-5638-11
3	IC grabber	1 set of 20	020-2733-XX
4	Probe tip holder	2 ea	352-1115-XX
5	8" Ground lead	1 set of 2	020-2713-XX
6	3" Ground lead	1 set of 8	020-2712-XX
	Instructions ¹	1 ea	071-2831-XX

¹ Instruction are included with the probe, but not in the accessory kit. The instructions can be downloaded at www.tektronix.com/manuals.

These optional accessories can be ordered for your probe:

Description	Part number
P6960 Probe D-MAX Footprint to Square Pin Header Adapter	NEX-P6960PIN

Specifications

Table 1: Electrical and mechanical specifications

Characteristic	Description
Input channels	16 digital
Input resistance	100 k Ω \pm 1.0%
Input capacitance	3.0 pF
Input signal swing <ul style="list-style-type: none"> Minimum Maximum 	400 mV p-p 30 V p-p, \leq 200 MHz (centered around the DC threshold voltage) at the probe tip 10 V p-p, \geq 200 MHz (centered around the DC threshold voltage) at the probe tip
Maximum non-destructive input signal	30 V p-p, 42 V peak, \pm 50 VDC
Threshold voltage	\pm 40 V
Minimum detectable pulse width	1ns
Maximum input toggle rate	500 MHz
Digital channel-to-digital channel skew	200 ps
Probe length	1.0 m (3.28 ft)

Table 2: Environmental specifications

Characteristic	Description
Temperature <ul style="list-style-type: none"> Operating Nonoperating 	0 °C to +50 °C (+32 °F to +122 °F) 55 °C to +75 °C (–67 °F to +167 °F)
Humidity <ul style="list-style-type: none"> Operating Nonoperating 	5% to 95% relative humidity 10% to 95% relative humidity
Altitude <ul style="list-style-type: none"> Operating Nonoperating 	4.6 km (15,092 ft) maximum 15 km (50,000 ft) maximum



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).

Safety Summary

Connect and Disconnect Properly.

Connect the probe output to the measurement instrument before connecting the probe to the circuit under test. Disconnect the probe input and the probe ground from the circuit under test before disconnecting the probe from the measurement instrument.

Observe All Terminal Ratings.

To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

Do not Operate Without Covers.

Do not touch exposed connections and components when power is present.

Avoid Exposed Circuitry.

Do not touch exposed connections and components when power is present.

Do Not Operate With Suspected Failures.

If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in an Explosive Atmosphere.

Keep Product Surfaces Clean and Dry.

Safety Terms and Symbols in This Manual.

These terms may appear in this manual:



WARNING. Warning statements identify conditions or practices that could result in injury or loss of life.



CAUTION. Caution statements identify conditions or practices that could result in damage to this product or other property.

Symbols on the Product.

This symbol may appear on the product:



CAUTION
Refer to Manual

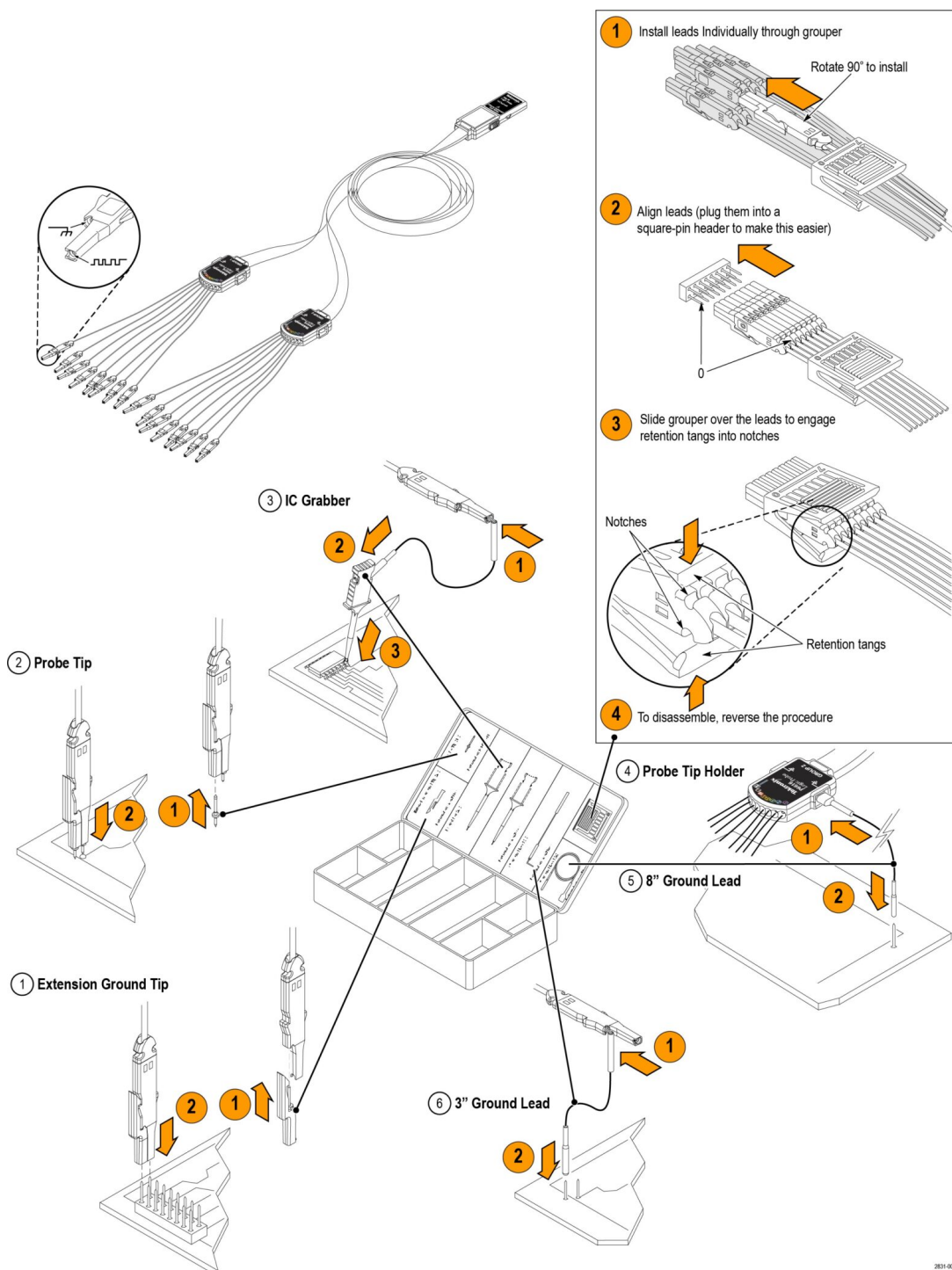
Contacting Tektronix

Web site:	www.tektronix.com
Phone:	1-800-833-9200
Address:	Tektronix, Inc. Department or name (if known) 14200 SW Karl Braun Drive P.O. Box 500, Beaverton, OR 97077, USA
Email:	techsupport@tektronix.com

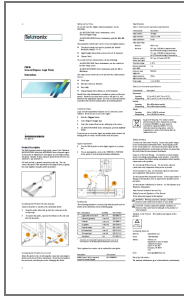
Warranty Information

For warranty information, go to www.tektronix.com/warranty.

Connecting the Probe to the Circuit



Documents / Resources



[Tektronix P6616 16 Channel General-Purpose Logic Probe](#) [pdf] Instructions
P6616, 16 Channel General-Purpose Logic Probe, P6616 16 Channel General-Purpose Logic Probe

References

- [Test and Measurement Equipment | Tektronix](#)
- [Test and Measurement Equipment | Tektronix](#)
- [Product Support and Downloads | Tektronix](#)