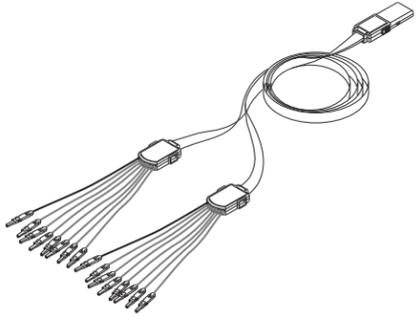


## Product Description

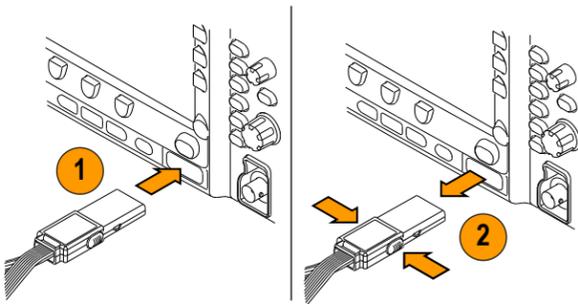
The P6516 logic probe connects the Tektronix MSO4000 Series mixed-signal oscilloscopes to digital buses and signals on your target system. The probe contains 16 channels split between two lead sets (GROUP 1 and GROUP 2).

The first lead in each set is identified by blue insulation, and the remaining seven leads are gray. All leads include a ground connection at the tip.



## Connecting the Probe to the Oscilloscope

1. Insert the probe label-side up into the receptacle.



2. To remove the probe, squeeze the buttons on the side and pull out the probe.

## Connecting the Probe to Your Circuit

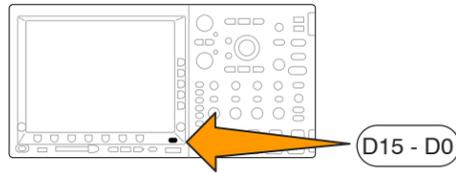
You can attach the probe to the circuit in many ways using the connectors and adapters shown on the back of these instructions. Select the best method for your needs, and then proceed to *Setting up the Probe*.

### Setting up the Probe

Press the D15–D0 button 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

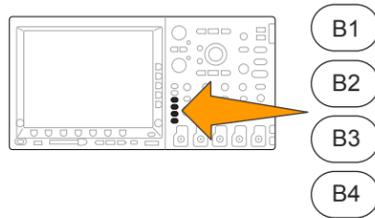
The default settings are 1.4 V threshold with no labeling.



Use the B1 through B4 buttons to set and view bus characteristics such as:

- Clock edge type
- Number of bits
- Display format

Parallel bus setup information is resident on MSO4000 Series oscilloscopes. However, for other buses such as CAN and I2C, you must have the appropriate module and application keys. See your oscilloscope manual for more information.



## Functional Check

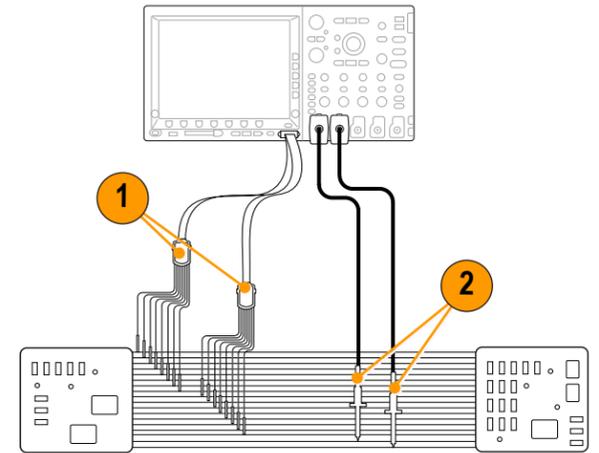
Logic activity immediately displays on all connected, active channels. If you do not see an active signal:

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

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 P6516 probe to view digital signals on a system bus.
2. Use P6139A probes to view analog waveform information.



### Probe Lead Sets

	GROUP 1	GROUP 2
Blue probe	0	8
Brown probe	1	9
Red probe	2	10
Orange probe	3	11
Yellow probe	4	12
Green probe	5	13
Blue probe	6	14
Violet probe	7	15

## Electrical and Mechanical Specifications

Characteristic	Description
Input channels	16
Threshold voltage range	-2 V to +5 V
Threshold accuracy	±100 mV + 3% of threshold setting
Minimum signal swing	500 mV p-p
Maximum signal swing	6.0 V p-p centered around the threshold voltage
Maximum nondestructive input signal to probe	±15 V
Input resistance	20 KΩ
Input capacitance	3.0 pF typical
Minimum detectable input pulse	1.5 ns
Probe length	0.9 m (3 ft)

## Environmental Specifications

The probe is designed to meet Tektronix standard 062-2847-00 class 5.

Characteristic	Description
Temperature	
Maximum operating	+50 °C (+122 °F)
Minimum operating	0 °C (+32 °F)
Nonoperating	-55 °C to +75 °C (-67 °F to +167 °F)
Humidity	10 to 95% relative humidity
Altitude	
Operating	4.5 km (15,000 ft) maximum
Nonoperating	15 km (50,000 ft) maximum
Electrostatic Immunity	The probe is not static sensitive



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](http://www.tektronix.com)).

## Standard Accessories

The following standard accessories ship with the probe and are shown on the back of these instructions.

Description	Quantity	Part number
Extension Ground Tip	20 ea	206-0559-XX
Probe Tip	1 set of 10	131-5638-11
IC Grabber	20 ea	206-0569-XX
Lead set	8 ea	196-3501-XX
Ground lead set	2 ea	196-3497-XX
Groupier	2 ea	352-1115-XX

## Additional Accessories and Test Solutions

The following accessories are also available:

Use	Nomenclature	Description
Probing	P6139A	10X, 500 MHz Passive Voltage Probe
	TAP1500	10X, 1.5 GHz Active Voltage Probe
	TCP0030	AC/DC 120 MHz Current Probe
Application module	DPO4AUTO	Automotive Serial Triggering and Analysis Module
	DPO4EMBD	Embedded Serial Triggering and Analysis Module
	DPO4COMP	RS-232 Serial Triggering and Analysis Module

## Warranty Information

For warranty information, go to [www.tektronix.com/warranty](http://www.tektronix.com/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](http://www.tektronix.com) to find contacts in your area.

## P6516 Digital Probe Instructions



071-2149-01

Tektronix

