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Find the *Tektronix P2100* at our website: *Click HERE*

Instructions

Tektronix

P2100 100 MHz
1X/10X Passive Probe

071-0774-01

071077401

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Product support	For questions about using Tektronix measurement products, call toll free in North America: 1-800-833-9200 6:00 a.m. – 5:00 p.m. Pacific time Or contact us by e-mail: tm_app_supp@tek.com For product support outside of North America, contact your local Tektronix distributor or sales office.
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Toll–free Number	In North America: 1-800-833-9200 An operator can direct your call.
Postal Address	Tektronix, Inc. Department or name (if known) P.O. Box 500 Beaverton, OR 97077 USA
Web site	www.tektronix.com

General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

Only qualified personnel should perform service procedures.

To Avoid Fire or Personal Injury

Connect and Disconnect Properly. Do not connect or disconnect probes or test leads while they are connected to a voltage source.

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.

Connect the ground lead of the probe to earth ground only.

Do Not Operate Without Covers. Do not operate this product with covers or panels removed.

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

Terms 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.*

Terms on the Product. These terms may appear on the product:

DANGER indicates an injury hazard immediately accessible as you read the marking.

WARNING indicates an injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product. These symbols may appear on the product:



CAUTION
Refer to Manual



Double
Insulated



Protective Ground
(Earth) Terminal

P2100 Passive Probe

The P2100 is a compact, 1.5 meter passive probe with selectable 1X/10X attenuation. The probe is designed for use with general purpose oscilloscopes with input capacitance between 18 and 35 pF. There are no user-serviceable parts in the P2100 probe.

Features and Accessories

Table 3 shows the features and accessories of the P2100 probe.

Table 3: Features and standard accessories

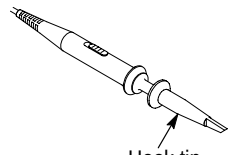
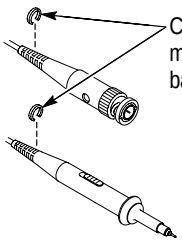
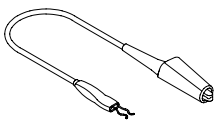
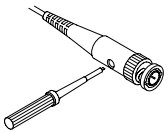
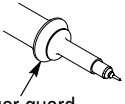
Feature/Accessory	Description
1 X  10 X	**Probe attenuation.** This switch selects the attenuation factor of the probe.
 Hook tip	**Hook tip.** Connects the probe tip to wires and component leads for hands-free measurement. ***NOTE.*** *For a solid connection, firmly push and twist the hook tip onto the probe tip before using.* Replacement part number: 013-0318-00
 Color marker bands	**Color marker bands.** Attach matching pairs of the color marker bands onto the strain-relief sections of cable at the probe head and compensation box. When several probes are connected to an instrument, the color marker bands enable quick verification of which probe is connected to which instrument channel. Replacement part number: 016-0633-00
	**Ground lead.** Use the ground lead for connecting the probe ground to the circuit. Replacement part number: 196-3466-00

Table 3: Features and standard accessories (Cont.)

Feature/Accessory	Description
	**Adjustment tool.** Used to adjust probe compensation. Access the adjustment through the opening near the BNC connector. Replacement part number: 003-1873-00
	**Instructions.** Provides instructions for operating the probe. Replacement part number: 071-0774-01
 Finger guard	**Guard.** Keeps fingers away from the probe tip for protection against electric shock.



WARNING. *To avoid electric shock when using the probe, keep fingers behind the guard on the probe body.*

Probe Compensation

Due to variations in oscilloscope input characteristics, probe low-frequency compensation may need adjustment after moving the probe from one oscilloscope to another. If a 1 kHz calibrated square wave displayed at 1 ms/division shows significant differences between the leading and trailing edges, perform the following steps to optimize low-frequency compensation.

2. Connect the probe to the calibration signal on the oscilloscope front panel.
3. Press **AUTOSET** or otherwise adjust your digitizing oscilloscope to display a meaningful waveform.
4. Adjust the trimmer in the probe until you see a perfectly flat-top square wave on the display. See Figure 4.

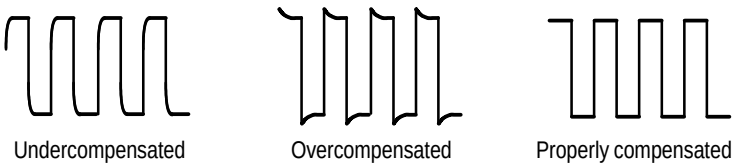


Figure 4: Probe compensation waveforms

Specifications

Table 4: Electrical characteristics

		10X position	1X position
Bandwidth		DC to 100 MHz	DC to 7 MHz
Attenuation ratio		10:1	1:1
Compensation Range		18 pF-35 pF	All oscilloscopes with 1 M Ω input
Input resistance		10 M Ω ± 2%	1 M Ω ± 2%
Input capacitance		14.5 pF-17.5 pF	80 pF-110 pF
Maximum input voltage[1]	10X position	300 V RMS CAT I or 300 V DC CAT I 300 V RMS CAT II or 300 V DC CAT II 100 V RMS CAT III or 100 V DC CAT III 420 V peak, <50% DF, <1 sec PW 670 V peak, <20% DF, <1 sec PW	
	1X position	150 V RMS CAT I or 150 V DC CAT I 150 V RMS CAT II or 150 V DC CAT II 100 V RMS CAT III or 100 V DC CAT III 210 V peak, <50% DF, <1 sec PW 330 V peak, <20% DF, <1 sec PW	

1 As defined in EN61010-1. See Certifications and compliances in Table 5.

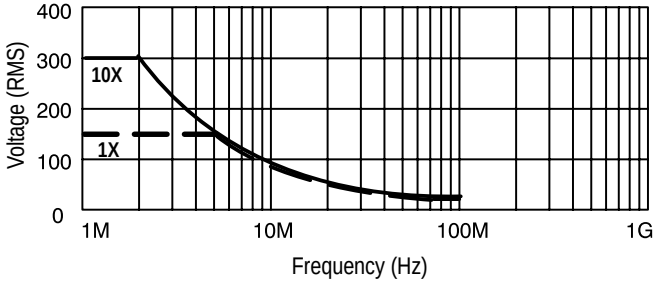


Figure 5: Derating curve for determining maximum input voltage

Table 5: Certifications and compliances

EC Declaration of Conformity	Compliance was demonstrated to the following specification as listed in the Official Journal of the European Communities:	
	Low Voltage Directive 73/23/EEC as amended by 93/68/EEC:	
	EN 61010-1/A2	Safety requirements for electrical equipment for measurement, control, and laboratory use
	EN61010-2-031: 1994	Particular requirements for hand-held probe assemblies for electrical measurement and test
Overvoltage Category	Category:	Examples of Products in this Category:
	CAT III	Distribution-level mains, fixed installation
	CAT II	Local-level mains, appliances, portable equipment
	CAT I	Signal levels in special equipment or parts of equipment, telecommunications, electronics
Pollution Degree 2	Do not operate in environments where conductive pollutants may be present.	
Safety	UL3111-1, First Edition & IEC61010-2-031, First Edition CSA C22.2 No. 1010.1-92 & CAN/CSA C22.2 No. 1010.2.031-94 EN61010-1/A2 EN61010-2-031 Pollution Degree 2	

Table 6: Environmental characteristics

Temperature	Operating	0° C to +50° C
	Nonoperating	–20° C to +60° C
Cooling Method	Convection	
Humidity	+40° C or below	≤ 90% relative humidity
	+41° C to +50° C	≤ 60% relative humidity
Altitude	Operating	3,000 m
	Nonoperating	15,000 m

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