

SPECIFICATIONS

Description

The P6130 is a subminiature, 10X passive probe designed for use with all general-purpose oscilloscopes. It is fully compatible with the Tektronix family of subminiature probe accessories. The P6130 is available with a 1.5, 2, or 3-meter cable.

Electrical Characteristics

Attenuation: 10X $\pm 3\%$ at dc. (Oscilloscope input must be 1 M Ω $\pm 2\%$.)
 Input Resistance (System): 10 M Ω $\pm 2\%$. (See Figure 1.)
 Input Capacitance: (See Figure 1.)
 1.5-Meter Probe Approximately 12.7 pF.
 2-Meter Probe Approximately 13.2 pF.
 3-Meter Probe Approximately 14.5 pF.
 Compensation Range: 15 pF to 35 pF. (3-m version: 15 pF to 30 pF.)
 System Bandwidth (-3 dB): DC to at least 250 MHz (3-m version: 150 MHz) on a TEKTRONIX 475A or equivalent oscilloscope.
 Maximum Nondestructive Input Voltage: 500 V (dc + peak ac) to 1.3 MHz. (See Figure 2 for voltage derating curve.)

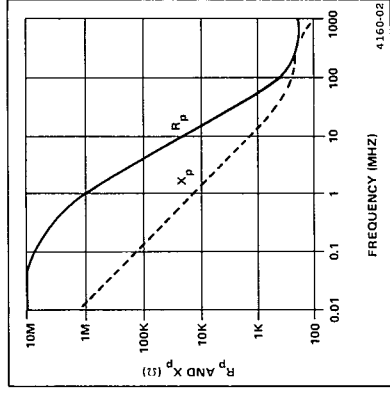


Figure 1. Typical X_p and R_p versus frequency.

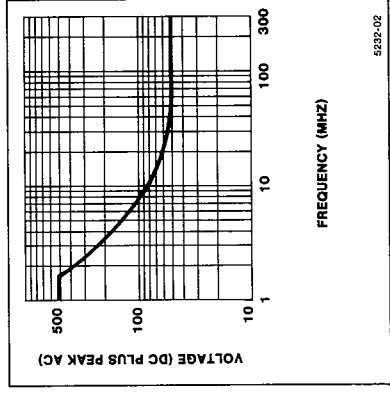


Figure 2. Typical voltage derating versus frequency.

Environmental Characteristics

Temperature Range (Operating): -15°C to $+75^\circ\text{C}$ ($+5^\circ\text{F}$ to $+167^\circ\text{F}$).
 Temperature Range (Nonoperating): -62°C to $+85^\circ\text{C}$ (-80°F to $+185^\circ\text{F}$).
 Humidity: Five cycles (120 hr) at 95% to 97% relative humidity. Per Tek Standard 062-2847-00, Class 3. Ref to MIL-E-16400F, paragraph 4.5.9 through 4.5.9.5.1, class 4.

Physical Characteristics

Net Weight (includes accessories):
 1.5-Meter Probe 111 g (3.9 oz).
 2-Meter Probe 136 g (4.8 oz).
 3-Meter Probe 159 g (5.6 oz).
 Probe Cable Length: 1.5 m (4.9 ft), 2.0 m (6.6 ft), or 3.0 m (9.8 ft).

Safety

To avoid explosion, do not operate this product in an explosive atmosphere unless it has been specifically certified for such operation. This product meets the requirements of UL 1244.

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TEK PROBE AND ACCESSORIES

P6130
10X PASSIVE PROBE

GENERAL PURPOSE, SUBMINIATURE



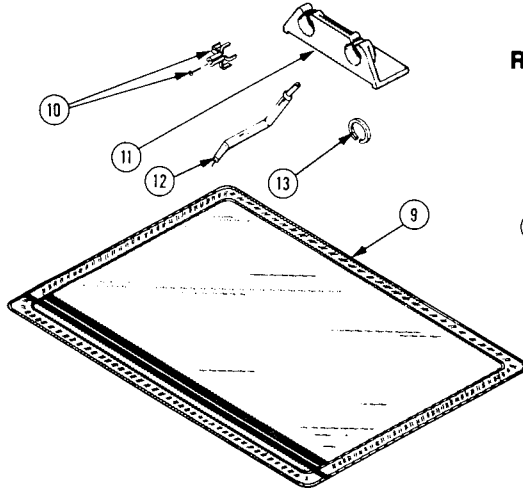
OPERATING CONSIDERATIONS

Probe Grounding. Inductance introduced by a long signal lead or ground lead will form a resonant circuit that will ring and distort the true waveform if driven by a signal containing significant frequency components at or above resonance. The ground lead and signal input connections should be as short as possible to maintain the best waveform fidelity.

Probe Compensation. Due to variations in oscilloscope input characteristics, probe low-frequency compensation should be checked and adjusted after moving the probe from one input to another. To adjust l-f compensation, apply the probe tip to a square-wave signal of 1 kHz (such as an oscilloscope calibrator output). Using a low-reactance alignment tool, adjust the probe compensation capacitor through the hole in the compensation box to obtain the squarest waveform front corner. High-frequency compensation seldom requires adjustment. However, if the probe has excessive h-f aberrations or insufficient bandwidth, h-f adjustments can be made through holes in the compensation box inner metal shield (the outer plastic shell must first be removed). Make the adjustment while applying the probe tip to a 50-Ω terminated, 100 kHz square-wave signal.

WARNING

The following servicing instructions are for use by qualified personnel only. To avoid electrical shock, do not perform



REPLACEABLE PARTS LIST

NO	TEKTRONIX PART NO	QTY	NAME & DESCRIPTION
P6130 OPTION 1 (1.5 METER)			
1	206-0313-00	1	.COMP BOX ASSY:P6130,1.5M
2	131-3219-00	1	..CONN,RCPT,ELEC:BNC,MALE W/READOUT,10X
3.1	200-3018-00	1	..COVER,CABLE NIP:COMP BOX
3.2	200-3017-00	1	..COVER,COMP BOX:BOTTOM,ABS SLATE GRAY
3.3	200-3016-05	1	..COVER,COMP BOX:TOP,1.5M,ABS DOVE GRAY
4	174-0072-00	1	.CABLE ASSY,RF:39 OHM COAX,1.5M
5	204-0925-01	1	.BODY SHL,PROBE:
6	206-0270-10	1	.TIP ASSY,PROBE,10X,1.5M,BLUE
7	343-1003-01	1	.COLLAR,GND:
STANDARD P6130 (2 METER)			
1	206-0319-00	1	.COMP BOX ASSY:P6130,2M
2	131-3219-00	1	..CONN,RCPT,ELEC:BNC,MALE W/READOUT,10X
3.1	200-3018-00	1	..COVER,CABLE NIP:COMP BOX
3.2	200-3017-00	1	..COVER,COMP BOX:BOTTOM,ABS SLATE GRAY
3.3	200-3016-06	1	..COVER,COMP BOX:TOP,2M,ABS DOVE GRAY
4	174-0073-00	1	.CABLE ASSY,RF:39 OHM COAX,2M
5	204-0925-01	1	.BODY SHL,PROBE:
6	206-0270-12	1	.TIP ASSY,PROBE,10X,2M,BLUE
7	343-1003-01	1	.COLLAR,GND:
P6130 OPTION 3 (3 METER)			
1	206-0320-00	1	.COMP BOX ASSY:P6130,3M
2	131-3219-00	1	..CONN,RCPT,ELEC:BNC,MALE W/READOUT,10X
3.1	200-3018-00	1	..COVER,CABLE NIP:COMP BOX
3.2	200-3017-00	1	..COVER,COMP BOX:BOTTOM,ABS SLATE GRAY
3.3	200-3016-07	1	..COVER,COMP BOX:TOP,3M,ABS DOVE GRAY
4	174-0074-00	1	.CABLE ASSY,RF:39 OHM COAX,3M
5	204-0925-01	1	.BODY SHL,PROBE:
6	206-0270-11	1	.TIP ASSY,PROBE,10X,3M,BLUE
7	343-1003-01	1	.COLLAR,GND:

any probe maintenance while the probe is connected to a signal source.

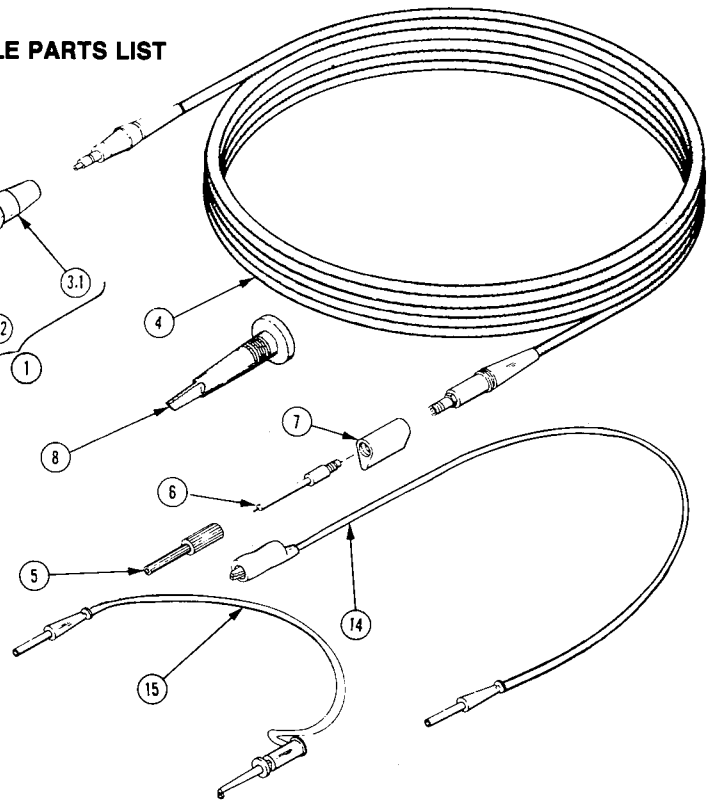
MAINTENANCE

Cleaning. Accumulated dirt can be removed with a soft cloth dampened with a nonresidue type cleaner, preferably isopropyl alcohol. Before using any other type of cleaner, consult your Tektronix Service Center or representative. In particular, avoid benzene, toluene, xylene, acetone, or similar solvents.

Probe Module Replacement. Modular construction has been used to simplify repair. The probe head, tip assembly, compensation box, and cable are available as separate units through your local Tektronix Field Office or representative. Individual components within the compensation box are not replaceable. The probe head simply pulls away from the cable. To remove the compensation box, unscrew the retainer then pull on the cable until it separates from the box. The procedure for replacing the tip assembly is included in the package of replacement tips.

ADDITIONAL INFORMATION

Detailed performance checks, adjustment and maintenance procedures, and descriptions of the probe accessories are available in the optional P6130 Instruction Manual (part number 070-4160-01).



NO	TEKTRONIX PART NO	QTY	NAME & DESCRIPTION
P6130 ACCESSORIES			
8	013-0208-01	1	TIP,PROBE:RETRACTABLE HOOK
9	016-0708-00	1	POUCH ACCESSORY:
10	131-2766-03	1	CONNECTOR,PROBE:W/SOCKET,DATA SHEET
11	352-0687-00	1	HOLDER,PROBE,SLATE GRAY ABS
12	195-4240-00	1	LEAD,ELECTRICAL:0.025 DIA,2.3 L
13	334-2794-01	2	BAND,MARKER;WHITE
	334-2794-03	2	BAND,MARKER;GRAY
	334-2794-06	2	BAND,MARKER;RED
	334-2794-07	2	BAND,MARKER;GREEN
14	195-1870-00	1	LEAD,ELECTRICAL:PROBE GND,8.8 L
15	195-4104-00	1	LEAD,ELECTRICAL:PROBE GND,6.3 L
—	003-1364-01	1	SCREWDRIVER:PLASTIC
—	070-5513-00	1	INSTRUCTION SHEET

Part Numbers and descriptions are for the probe shipped with this Instruction Sheet. For a Parts List which includes a history of part changes and original manufacturer part numbers, refer to the optional Instruction Manual (070-4160-01).