

**T**ek accessories:  
the perfect match for  
Tek instruments.

Most of the items in this selection guide are not accessories in the usual sense of nonessential add-ons; they are indispensable to derive the full value from your Tektronix instruments.

Tek accessories are engineered, assembled and tested to provide the most compatible link possible between instruments and the outside world. As such they reflect Tek's commitment to ensuring that your investment in a high-performance test and measurement tool is not negated by inadequate support.

**Quality, in quantity.**

Tek manufactures the world's largest and most respected line of probes. Our SCOPE-MOBILE® carts provide a full selection of rolling test equipment workstations. Our cameras are matched not only to our scopes, but to your type of applications and frequency of use.

We also support your Tek instrument with all appropriate attenuators, terminators, adaptors and cables.

**One-source simplicity.**

There is another convenience inherent in Tek's commitment to quality accessories: one clear channel to your every need.

You can depend on Tek for designed-in equipment compatibility and consistently high quality. You know that whatever your order, from Tek's top-of-the-line lab scopes to the simplest connector, is backed by warranty and an uncompromising insurance on customer satisfaction. Plus an unparalleled worldwide service network to support your single-source choice.

<b>PROBES</b>	2
<b>ISOLATORS</b>	18
<b>PROBE ACCESSORIES</b>	20
<b>PROBE ADAPTORS AND CONNECTORS</b>	22
<b>CAMERAS</b>	24
<b>ELECTRO-OPTICS</b>	28
<b>CARTS</b>	30
<b>NEW PRODUCTS</b>	32

**One number is all you need.**

All accessories listed herein can be ordered direct. Technical personnel can answer your questions and expedite delivery.

If you need assistance in finding the right accessories for your applications, be sure to talk with your Tek sales representative or a National Marketing Center consultant.

You'll find that Tek is not only essential for putting the best test and measurement instrument in your hand—we continue to be your best accessory before and after the fact.

*This Catalogue is a complete Scan from the original and is freely supplied to our customers*

*Qservice ----- Your Number one manual source ----- Qservice*

## See for yourself: there's a measurable difference.

No factor is more critical to optimized system performance than proper probe selection. A probe that's not right for your application can mean a significant loss in measurement results, plus costly delays and errors.

**For over 35 years, Tektronix has been designing probes that are matched not only to our scopes, but to your own instrument application needs.**

They minimize circuit loading, while extending and enhancing system performance.

By extending our resistive-wire, center-conductor cable technology, Tek 10X passive probes can transfer a signal frequency that exceeds 300 MHz and presents only an added 3 pF per meter of cable to a circuit.

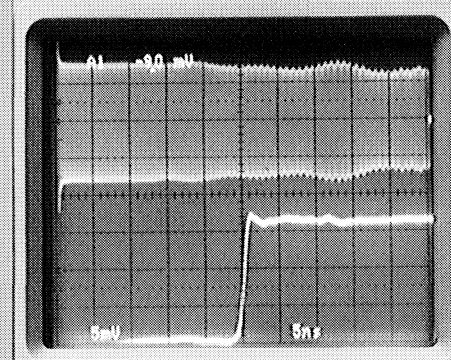
Tek probe products include active voltage probes, active and passive current probes, high voltage probes, low impedance/high frequency probes, and differential probes.

Bandwidth/risetime, input voltage, input impedance and limiting aberrations are all characteristics to evaluate in terms of your own application.

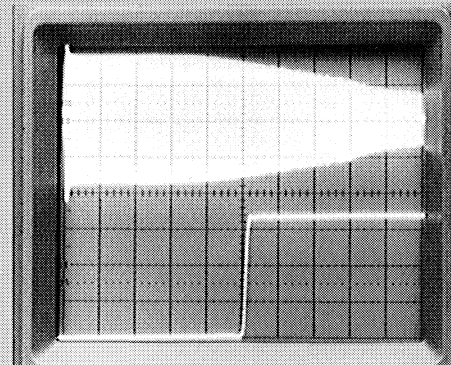
While electrical considerations are of major importance in your selection, physical parameters, such as probe length and proper tip adaptor, can be equally crucial. Unnecessary cable length, for example, will decrease bandwidth and increase the loading capacitance of the probe.

You'll find a wide variety of adaptors and probe tips available which feature Tek's special alloy coating that minimizes low current conduction problems. All are inherent to the Tek modular probe concept that lets you snap tips and other probe parts together without tools, so maintenance and repair of damaged probes is of minimal expense.

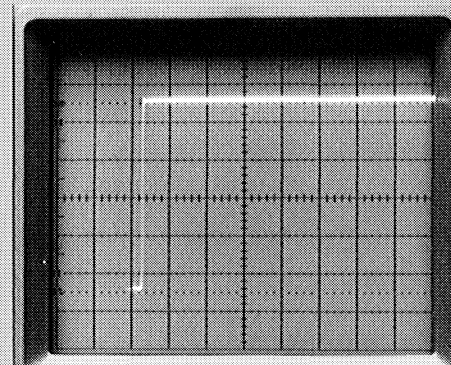
## Optimum measurement results of Tek probe.



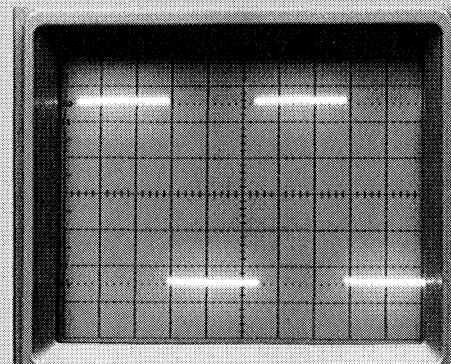
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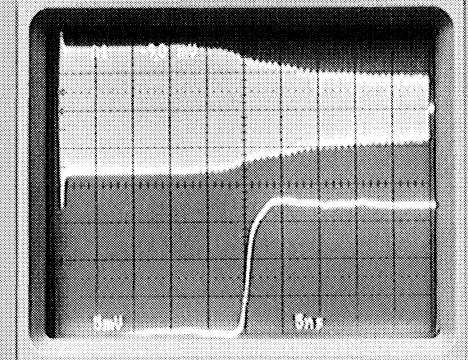


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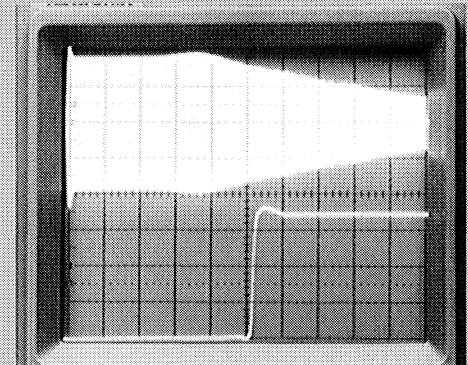


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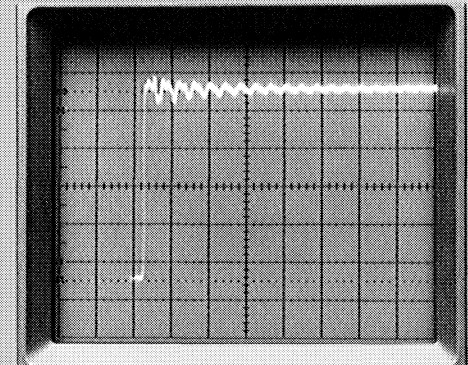
## Loss attributable to a commodity probe.



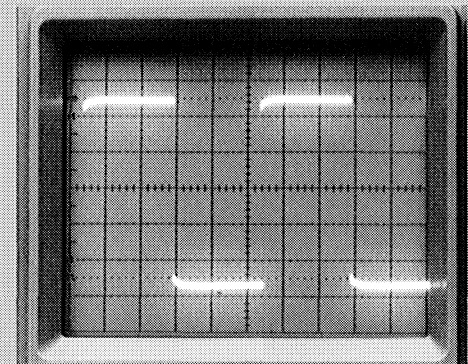
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6



8



A commodity probe can act like a bandwidth limit switch. (1.) The Tek probe faithfully transfers a signal frequency of 300 MHz. (2.) But the commodity probe limits the bandwidth of the same 300 MHz scope to 200 MHz.

(3.) Tek probes are matched to the system throughout its frequency range for a display that exhibits a clean 100 MHz waveform. (4.) Many commodity probes are peaked to attain higher frequency response, resulting in aberrations.

Commodity probes don't offer a multiplicity of probe tip accessories. (5.) By choosing the appropriate ground lead from Tektronix, ringing simply does not exist. (6.) The long ground lead on a commodity probe causes ringing.

Tek probes deliver superior environmental performance. (7.) After 5 days of exposure to high humidity (MIL-E-16400F), the Tek probe shows no signal degradation. (8.) The commodity probe includes a "hook" aberration.

## Tek probes are compatible with your instrument and application needs—and more.

They also offer new pricing and delivery advantages to help you enhance profitability and avoid unnecessary downtime.

This comes about as a direct result of cost improvements including the implementation of automated probe assembly systems and the incorporation of hybrid devices in place of discrete probe components. Changes like these have enhanced manufacturability and product reliability while reducing manufacturing costs, making Tek probes a better value than ever before.

The six passive voltage probes pictured here are all available at a substantially reduced price. And to assist you in planning probe purchases, while sharing economies of scale, Tek has significantly enhanced its quantity discounts on all probes priced at \$250 or less. You can take advantage of discounts—and schedule deliveries as you wish.

## Quick delivery

The Tektronix National Marketing Center (NMC) now maintains an inventory of several in-demand passive voltage probes. Those following are ready to ship within 24 hours:

P6101A 1X, 2m.

P6105A 10X, 2m.

P6106A 10X, 2m.

P6122 10X, 2m.

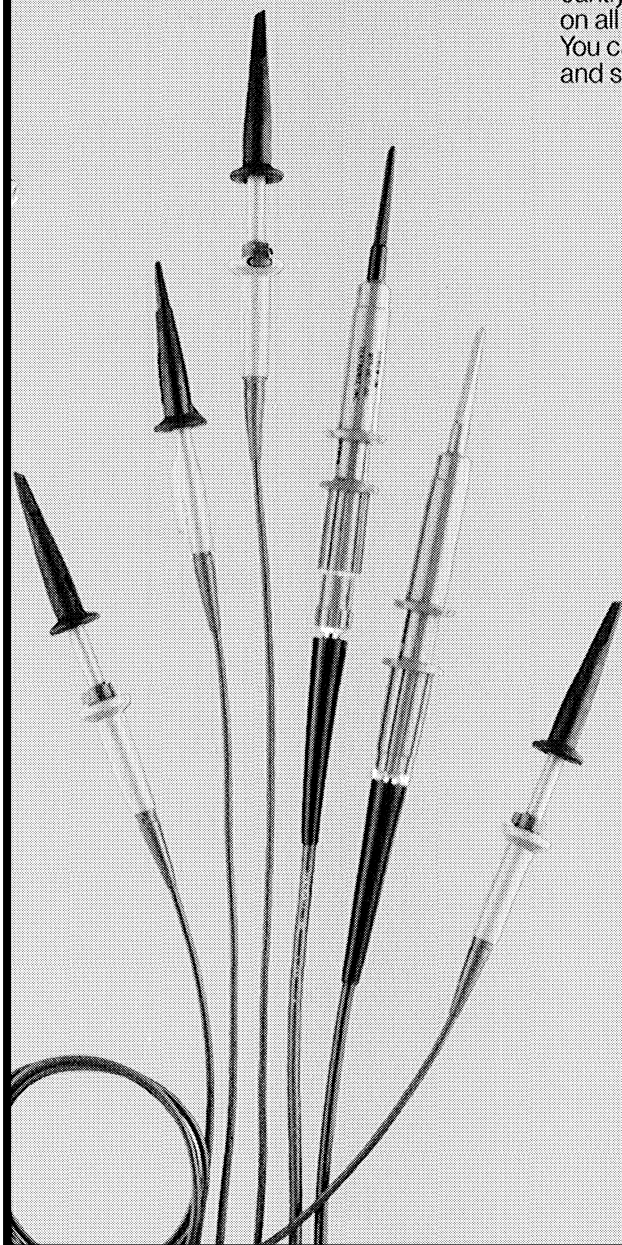
P6131 10X, 1.3m.

To order call the NMC at the toll-free number shown below. You'll talk with technical experts who can answer your questions and expedite delivery—no matter what probe you need.

## "The ABCs of Probes"

This comprehensive primer on signal acquisition probes contains sections on understanding probe specifications and applications and how to select the best probe for your application. Easy-to-use charts and tables speed the selection process.

For a free copy, ask your Tektronix Sales Engineer for Literature 60W-6053 or call the Tektronix National Marketing Center toll-free.









# PASSIVE PROBES

For amplitude measurements, the capacitance and resistance of the probe form a voltage divider with the circuit under test. For low frequency (about 5 MHz and below), the resistive component is of primary importance in most probes and should be at least two orders of magnitude

greater than the circuit source impedance. For frequencies higher than 30 MHz, the importance of the capacitance increases drastically and will become the prime consideration.

For general-purpose use, these probes offer a wide probe selection for a variety of applications for 1 M $\Omega$  inputs.

Modular probes are an exciting concept in probe design. The P6101A, P6102A, P6104A, P6105A, P6106A, P6107A, P6108A, P6121, P6122, P6130, P6131, P6148 and P6149A probes divide into three modules (probe heads, cables, and connector/compensation boxes.)

TYPE	ATTEN	LENGTH <sup>1</sup>	OLD PACKAGE NUMBER <sup>6</sup>	NEW PACKAGE NUMBER	LOADING		BW MHz <sup>2,4</sup> at -3 dB	DC MAXIMUM	SCOPE C IN pF	READOUT
P6006	10X	3.5 ft	010-0127-00	P6006 01	10 M $\Omega$	7.5 pF <sup>2</sup>	35	600 V	15 to 55	NO
		6 ft	010-0160-00	P6006		8.5 pF	25			
		9 ft	010-0146-00	P6006 03		11.0 pF	25			
		12 ft	010-0148-00	P6006 04		15.0 pF	12			
P6007	100X	3.5 ft	010-0150-00	P6007 01	10 M $\Omega$	2.0 pF <sup>2</sup>	25	1.5 kV	15 to 55	NO
		6 ft	010-0165-00	P6007		2.2 pF	20			
		9 ft	010-0152-00	P6007 03		2.4 pF	15			
		12 ft	010-0154-00	P6007 04		2.6 pF	13			
P6008	10X	3.5 ft	010-0129-00	P6008 01	10 M $\Omega$	7.5 pF	100	600 V	12 to 47	NO
P6008 (Environmentalized)	10X	6 ft	010-0129-01 Environmentalized -50°C to +150°C	P6008	10 M $\Omega$	7.5 pF	100	600 V	12 to 47	NO
P6009	100X	9 ft	010-0170-00	P6009 14	10 M $\Omega$	2.5 pF	120	1.5 kV	12 to 47	NO
		9 ft	010-0264-01	P6009		2.5 pF	100			
P6010	10X	3.5 ft	Furnished with S-5. For other uses see P6105A or P6106A.							
P6015	1000X	10 ft	010-0172-00	P6015	100 M $\Omega$	3.0 pF	75	20 kV	12 to 47	NO
P6028	1X	3.5 ft	010-0074-00	P6028 01	1 M $\Omega$	50.0 pF	17	600 V	ANY	YES
		6 ft	010-0075-00	P6028		67.0 pF	10			
		9 ft	010-0076-00	P6028 03		90.0 pF	7			
		12 ft	010-0077-00	P6028 04		112.0 pF	4			
P6048	10X	6 ft	010-0215-00	P6048	1 k $\Omega$	1.0 pF	100	20 V	15 to 20	NO
P6053B	10X	3.5 ft	010-6053-11	P6053B 01	10 M $\Omega$	9.5 pF	200	500 V	15 to 24	YES <sup>5</sup>
		6 ft	010-6053-13	P6053B		12.5 pF	200			
		9 ft	010-6053-15	P6053B 03		13.5 pF	115			
P6055 <sup>3</sup>	10X	3.5 ft	010-6055-01	P6055 01	1 M $\Omega$	10.0 pF	60	500 V	20 to 47	YES
P6056	10X	6 ft	010-6056-03	P6056	500 $\Omega$	1.0 pF	3500	500 V	N/A (50 $\Omega$ )	YES
P6057	100X	6 ft	010-6057-03	P6057	5 k $\Omega$	1.0 pF	1400	500 V	N/A (50 $\Omega$ )	YES
P6062B	10X or 1X	3.5 ft	010-6062-11	P6062B 01	10 M $\Omega$	13.5 pF	100	500 V	15 to 47	YES
	10X or 1X	6 ft	010-6062-13	P6062B	1 M $\Omega$	100.0 pF	8			
	10X or 1X	9 ft	010-6062-15	P6062B 03	10 M $\Omega$	14.0 pF	100			
					1 M $\Omega$	105.0 pF	6			
P6063B	10X or 1X	3.5 ft	010-6063-11	P6063B 01	10 M $\Omega$	11.0 pF	200	500 V	15 to 24	YES
	10X or 1X	6 ft	010-6063-13	P6063B	1 M $\Omega$	80.0 pF	12			
					10 M $\Omega$	14.0 pF	200			
					1 M $\Omega$	105.0 pF	6			
P6101A	1X	1 m	010-6101-11	P6101A 01	1 M $\Omega$	32.0 pF	34	500 V	ANY	—
		2 m	010-6101-13	P6101A		54.0 pF	15			
		3 m	010-6101-15	P6101A 03		78.0 pF	8			
P6102A	10X	2 m	P6102A	P6102A	10 M $\Omega$	13.2 pF	60	500 V	36 to 55	YES
P6104A	10X	2 m	010-6104-11	P6104A	10 M $\Omega$	11.2 pF	100	500 V	15 to 35	YES
P6105A	10X	1 m	010-6105-11	P6105A 01	10 M $\Omega$	8.7 pF	100	500 V	15 to 35	YES
		2 m	010-6105-13	P6105A 01		11.2 pF	100			
		3 m	010-6105-15	P6105A		13.2 pF	90			
P6106A	10X	1 m	010-6106-11	P6106A 01	10 M $\Omega$	8.7 pF	250	500 V	15 to 35	YES
		2 m	010-6106-13	P6106A		11.2 pF	250			
		3 m	010-6106-15	P6106A 03		13.2 pF	150			
P6107A	10X	2 m	010-6107-13	010-6107-13	10 M $\Omega$	13.0 pF	100	500 V	20 to 51	YES
P6108A	10X	1 m	010-6108-11	P6108A 01	10 M $\Omega$	8.7 pF	100	500 V	15 to 35	NO
		2 m	010-6108-13	P6108A		11.2 pF	100			
		3 m	010-6108-15	P6108A 03		13.2 pF	90			
P6121	10X	1.5 m	010-6121-01	P6121	10 M $\Omega$	11.0 pF	100	500 V	20 to 26	YES
P6122	10X	1.5 m	010-6122-01	P6122	10 M $\Omega$	11.0 pF	100	500 V	15 to 35	NO
		2 m	010-6122-03	P6122 02		12.0 pF	100			
		3 m	010-6122-05	P6122 03		14.0 pF	90			
P6125	5X	1.5 m	010-6125-11	P6125	5 M $\Omega$	20.0 pF	200	250 V	15 to 33	NO
P6130	10X	1.5 m	010-6130-01	P6130 01	10 M $\Omega$	12.7 pF	250	500 V	15 to 35	YES
		2 m	010-6130-03	P6130		13.2 pF	250			
		3 m	010-6130-05	P6130 03		14.5 pF	150			
P6131	10X	1.3 m	010-6131-01	P6131	10 M $\Omega$	10.8 pF	300	500 V	14 to 18	YES
		2 m	010-6131-03	P6131 02		13.5 pF	250			
		3 m	010-6131-05	P6131 03		14.5 pF	150			
P6133	10X	1.3 m	P6133 Opt 01	P6133 01	10 $\Omega$	10.8 pF	150	500 V	13 to 30	YES
		2 m	P6133	P6133		13.5 pF	150			
		3 m	P6133 Opt 03	P6133 03		14.5 pF	120			
P6136	10X	1.3 m	—	P6136	10 M $\Omega$	10.8 pF	350	500 V	12 to 18	YES
P6148A	10X	2 m	010-6148-13	010-6148-13	10 M $\Omega$	13.0 pF	50	500 V	20 to 51	NO
P6149A	10X	2 m	010-6149-13	P6149A	10 M $\Omega$	13.0 pF	50	500 V	20 to 51	NO

<sup>1</sup> All lengths are nominal and measured electrically for optimum performance.

<sup>2</sup> Rating varies with scopes having other than 20 pF inputs.

<sup>3</sup> Designed for use with scopes having differential inputs.

<sup>4</sup> 24  $\Omega$  source.

<sup>5</sup> Trace identification button.

<sup>6</sup> "OLD PACKAGE NUMBER" refers to a probes' ordering number used prior to January 1986. This information is provided to aid you in cross-referencing to the new ordering system.



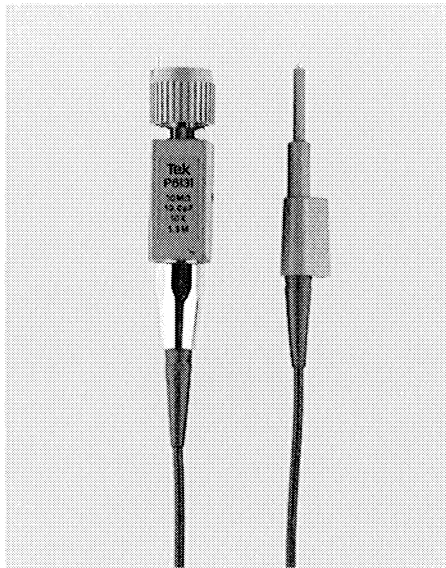
# SUBMINIATURE MODULAR PASSIVE PROBES

The P6130, P6131 and P6133 are 10X subminiature passive probes. They have a spring-loaded coding pin on the BNC output connector which activates the volts/division readout-encoding circuit of the oscilloscope to include the 10X attenuation of the probe.

The P6130 general purpose probe accommodates scopes with bandwidths up to 250 MHz. *The P6131 is specifically designed to be used only with the Tektronix 2465 and the 7A42. The P6133 is specifically designed for use with the Tektronix 2445.*

These probes feature small size, a low-mass probe tip, and an extremely flexible probe cable. The unique reversible ground lead system provides versatile grounding methods. The hybrid probe tip circuitry provides a rugged lightweight tip, more uniform probe tip compensation for better high frequency response with reduced aberrations, and extremely good environmental characteristics. The modular construction allows easy repair without tools for lower cost of ownership.

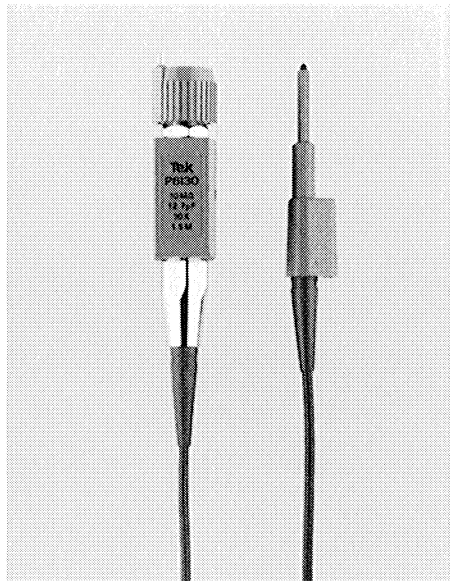
A subminiature-to-miniature probe tip adaptor (013-0202-00) is also available. It allows the subminiature probe family to use the wide variety of probe accessories that Tektronix already provides for its miniature probe product line.



**P6131** Dc to 200 MHz, 10X with Readout

## Ordering Information

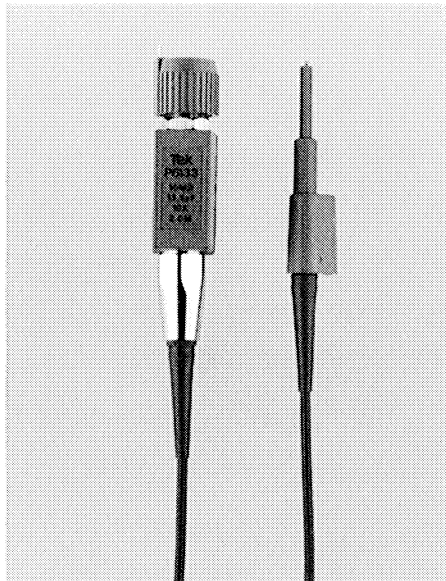
**P6131** Subminiature 10X Probe  
**1.3 m Cable.** Order P6131  
**2 m Cable.** Order P6131 Option 02  
**3 m Cable.** Order P6131 Option 03



**P6130** Dc to 250 MHz, 10X with Readout

## Ordering Information

**P6130** Subminiature 10X Probe  
**1.5 m Cable.** Order P6130 Option 01  
**2 m Cable.** Order P6130  
**3 m Cable.** Order P6130 Option 03



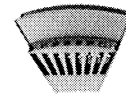
**P6133** Dc to 150 MHz, 10X with Readout

## Ordering Information

**P6133** Subminiature 10X Probe  
**1.3 m Cable.** Order P6133 Option 01<sup>1</sup>  
**2 m Cable.** Order P6133  
**3 m Cable.** Order P6133 Option 03<sup>1</sup>

<sup>1</sup>Contact your local sales office.

## SUBMINIATURE PROBE ACCESSORIES



**KLIPKIT**  
013-0197-00



**SIGNAL/  
GROUND PINS**  
013-3288-02



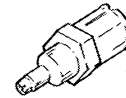
**PROBE-TO-BNC**  
013-0195-00

Tek's KLIPKIT provides hands-free connection to integrated circuits. The P6130, P6131, P6133, P6136 and P6230 are used directly, other probes must use the supplied pins and attach via a retractable hook tip. Up to 16 pin DIP may be connected. Four supplied pins make signals accessible at the top of the KLIPKIT, or invert the pins for pin signal connection to a common connection strap inside the clip. (Particularly useful when common ground connection is desired).

**Includes:** Two IC clips, 4 signal ground pins and information sheet. Order 013-0197-00

**Signal/Ground Pins**—Packets of four.  
Order 131-3288-02

**Probe to BNC Adaptor**—Order 013-0195-00



**PROBE-TO-GR**  
017-0520-00



**TEST POINT**  
131-2766-01  
136-0352-02



**SUBMINIATURE  
TO MINIATURE  
ADAPTOR**  
013-0202-00

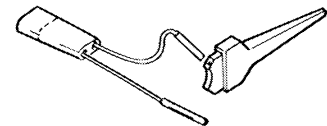
**Probe to 50 Ω GR Adaptor**—  
Order 017-0520-00

**100 ECB Test Connectors**—Outer Shell.  
Order 131-2766-01

**100 Probe ECB Test Connectors**—Center.  
Order 136-0352-02

**Subminiature-to-Miniature Adaptor**—  
Order 013-0202-00

## MINIATURE PROBE ACCESSORIES



**MINIATURE PROBE TIP  
TO DUAL LEAD ADAPTOR**  
015-0325-00

**MINIATURE RETRACTABLE  
HOOK TIP**  
206-0222-00

**Miniature Probe Tip-to-Dual Lead  
Adaptor**—Order 015-0325-00

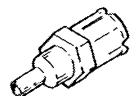
**Microcircuit Pincer Tip**—Order 206-0222-00



**PROBE TO BNC**  
013-0084-01



**BAYONET**  
013-0085-00



**PROBE-TO-GR**  
017-0088-00

**Miniature Probe-to-BNC Adaptor**—  
Order 013-0084-01

**Miniature Bayonet Tip Adaptor**—  
Order 013-0085-00

**Miniature-to-50 Ω GR Adaptor**—  
Order 017-0088-00

# MINIATURE MODULAR PASSIVE PROBES

## Hybrid Circuitry For Improved Performance

Modular probes are an exciting new concept in probe design. They divide into three modules (probe heads, cables, and connector/compensation boxes). The modules snap or screw together making maintenance and repair less expensive, faster, and easier. Snap-on replacement modules eliminate soldering irons and tools, and modular probes do not have to be sent in to be repaired because spare modules can be ordered and stocked. Strain relief and modular component design make these probes rugged for greater reliability.

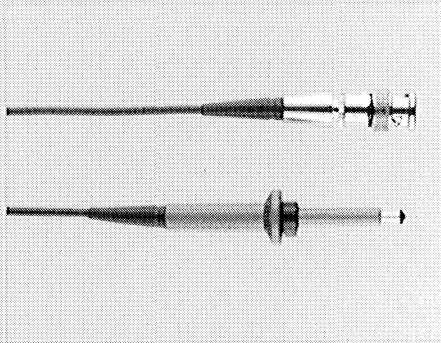
The P6102A is a miniature 10X passive probe specially designed to be fully compatible with all scopes employing 1 M $\Omega$  47 pF inputs. These include all 5100 Series amplifier plug-ins, TM 500 Series SC 501, SC 502 and SC 503, and all other scopes having nominal 47 pF inputs.

The P6101A, P6102A, P6105A, P6106A, P6107A, P6108A, P6149A probes are used to acquire high fidelity signals from low source-impedance circuits. The P6102A, P6105A, P6106A, and P6107A are designed for oscilloscopes equipped with vertical scale or CRT readout. These probes will automatically scale the readout by a factor of ten. The P6149A and P6107A feature a right angle BNC connector.

Tektronix modular probes are designed for specific Tektronix instruments, but may be purchased for all instruments with 1 M $\Omega$  and appropriate pF inputs capacitance as indicated in the chart on page 6. See the same chart for electrical characteristics.

## Compatibility Between Previous Versions and Improved Versions

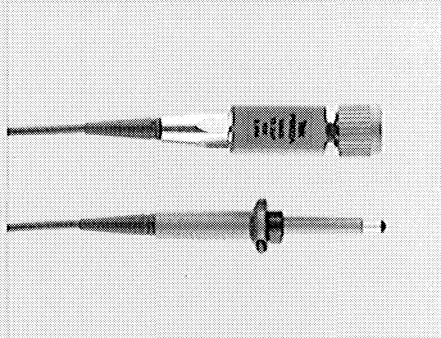
All cables are compatible between the previous and "A" version probes. Compensation boxes and probe heads are not compatible between the two versions due to the hybrid circuitry used in the new probes.



**P6101A Dc to 34 MHz, 1X**

### Ordering Information

**P6101A 1X Probe**  
**1 m Cable.** Order P6101A Option 01  
**2 m Cable.** Order P6101A  
**3 m Cable.** Order P6101A Option 03



**P6102A Dc to 60 MHz, 10X with Readout**

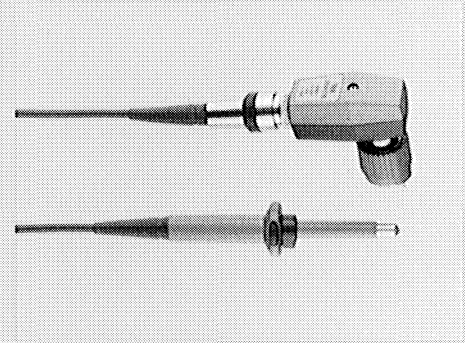
**P6105A Dc to 100 MHz, 10X with Readout**

**P6106A Dc to 250 MHz, 10X with Readout**

**P6108A Dc to 100 MHz, 10X**

### Ordering Information

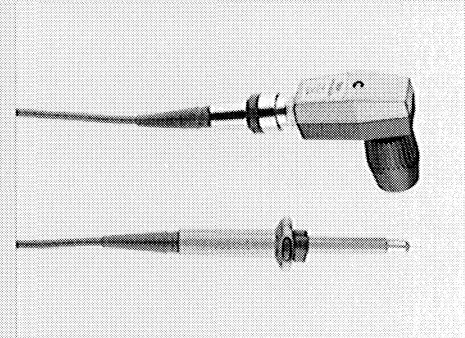
**P6102A 10X Probe**  
**2 m Cable.** Order P6102A  
**P6105A 10X Probe**  
**1 m Cable.** Order P6105A Option 01  
**2 m Cable.** Order P6105A  
**3 m Cable.** Order P6105A Option 03  
**P6106A 10X Probe**  
**1 m Cable.** Order P6106A Option 01  
**2 m Cable.** Order P6106A  
**3 m Cable.** Order P6106A Option 03  
**P6108A 10X Probe**  
**1 m Cable.** Order P6108A Option 01  
**2 m Cable.** Order P6108A  
**3 m Cable.** Order P6108A Option 03



**P6107A Dc to 100 MHz, 10X with Readout**

### Ordering Information

**P6107A 10X Probe**  
**2 m Cable.** Order 010-6107-13



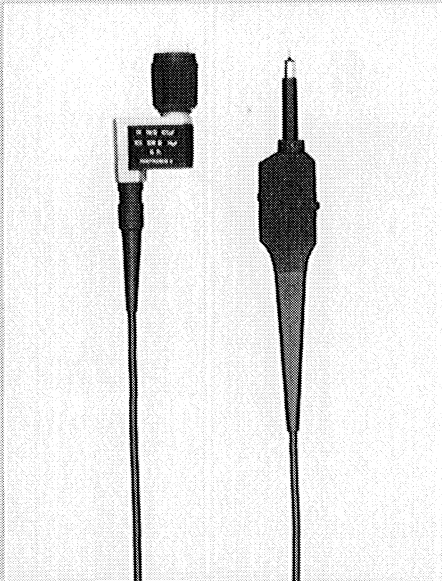
**P6149A Dc to 50 MHz, 10X**

### Ordering Information

**P6149A 10X Probe**  
**2 m Cable.** Order P6149A



# PASSIVE VOLTAGE PROBES



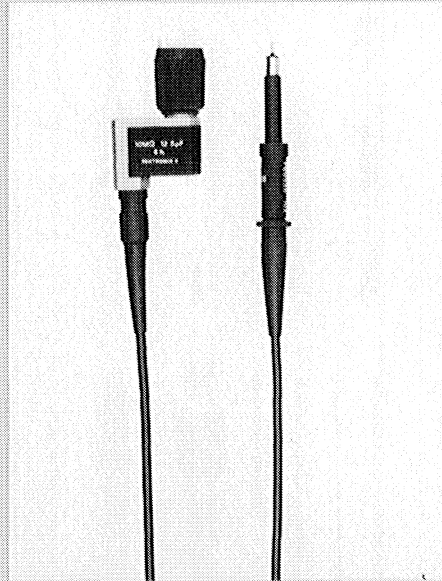
**P6062B** Dc to 100 MHz, 1X/10X with Readout

**P6063B** Dc to 200 MHz, 1X/10X with Readout

The P6062B and P6063B are passive dual attenuation probes designed for oscilloscopes with bandwidths to 100 and 200 MHz. A sliding switch on the probe body selects 1X or 10X attenuation. The probe provides readout coding and a pushbutton for actuating a ground reference in the 1X or 10X position. The ground reference can be used as a means of trace identification for a multitrace display. The 1X position of the probe allows the use of the full instrument sensitivity. This is valuable when evaluating small signals of 10 MHz or less. The 1X-10X switch allows the user to switch in and out a decade of sensitivity without returning to the oscilloscope. The user may also arbitrarily switch from 1X to 10X in order to evaluate the effects of loading by the oscilloscope.

## Ordering Information

**P6062B** Switchable Attenuation Probe  
**3.5 ft. Cable.** Order P6062B Option 01  
**6 ft. Cable.** Order P6062B  
**9 ft. Cable.** Order P6062B Option 03  
**P6063B** Switchable Attenuation Probe  
**3.5 ft. Cable.** Order P6063B Option 01  
**6 ft. Cable.** Order P6063B

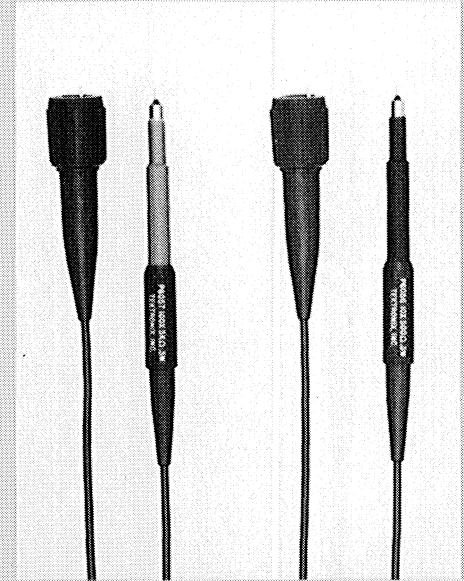


**P6053B** Dc to 200 MHz, 10X with Readout/Trace Identify Functions

The P6053B is a miniature fast-rise 10X probe designed for instruments having a nominal input capacitance of 15 pF to 24 pF. The probe has a pushbutton for actuating the trace-identify function of the oscilloscope mainframe and readout capability.

## Ordering Information

**P6053B** Miniature 10X Probe  
**3.5 ft. Cable.** Order P6053B Option 01  
**6 ft. Cable.** Order P6053B  
**9 ft. Cable.** Order P6053B Option 03



**P6056** Dc to 3.5 GHz, 10X 500  $\Omega$  with Readout

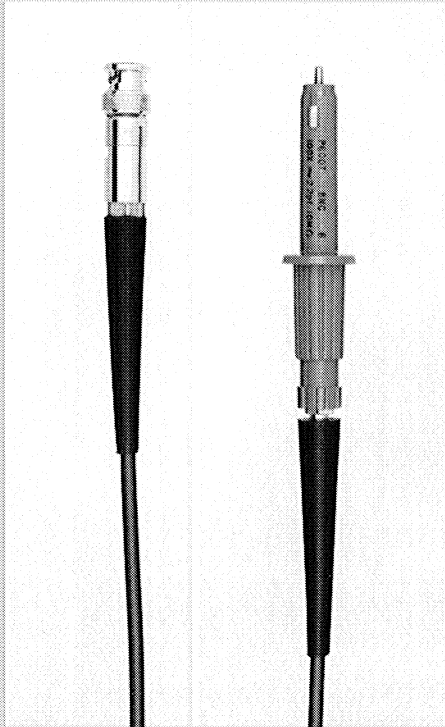
**P6057** Dc to 1.4 GHz, 100X 5000  $\Omega$  with Readout

The P6056 and P6057 are miniature low-capacitance probes for use with 50  $\Omega$  wide-band oscilloscopes. These probes can be used with 50  $\Omega$  sampling systems, with an appropriate BNC adaptor. Both are equipped with a special BNC connector that provides trace identification and CRT readout information when used with plug-in units and mainframes that have these features. A convenient button on the probe activates a trace identification function.

## Ordering Information

**P6056** 10X, 50  $\Omega$  Probe  
**6 ft. Cable.** Order P6056  
**9 ft. Cable.** Order P6056 Option 03  
**P6057** 100X, 50  $\Omega$  Probe  
**6 ft. Cable.** Order P6057  
**9 ft. Cable.** Order P6057 Option 03

# HIGH VOLTAGE PROBES

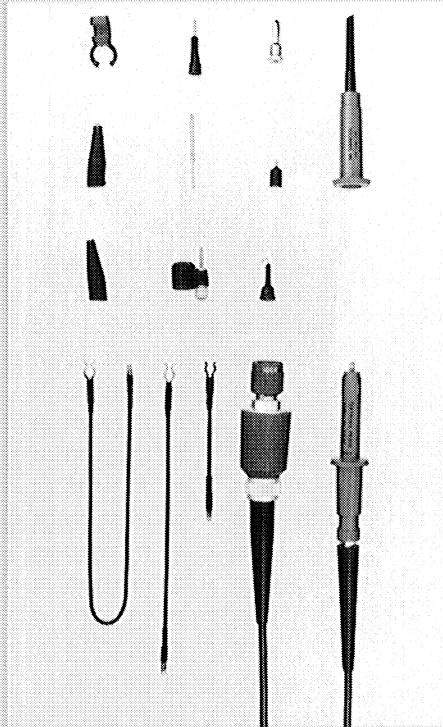


**P6007** Dc to 25 MHz, 100X

The P6007 is a low input capacitance, high-voltage (1.5 kV) probe. It can be compensated to match all Tektronix plug-ins and oscilloscopes with nominal input capacitances of 15 pF to 55 pF and input resistance of 1 M $\Omega$ .

## Ordering Information

**P6007** 100X, High Voltage Probe  
**3.5 ft Cable.** Order P6007 Option 01  
**6 ft Cable.** Order P6007  
**9 ft Cable.** Order P6007 Option 03  
**12 ft Cable.** Order P6007 Option 04



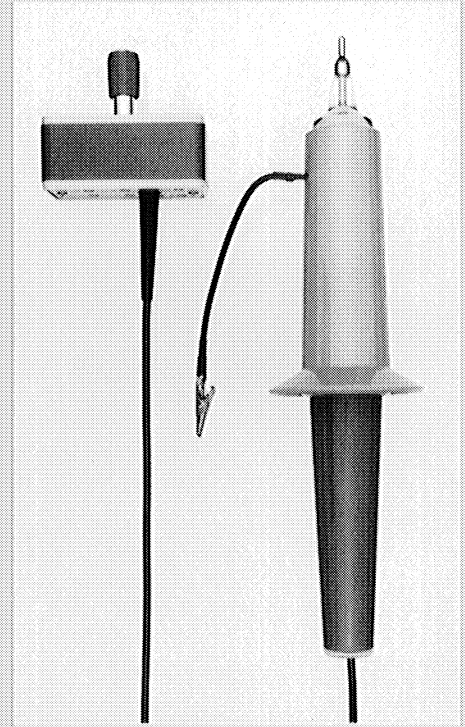
**P6009** Dc to 120 MHz, 100X  
 with Readout

The P6009 is a low input capacitance, high-voltage (1.5 kV) probe designed for use with Tektronix dc to 150 MHz oscilloscopes. The probe can be compensated to match Tektronix plug-ins and oscilloscopes with nominal input capacitances of 12 pF to 47 pF and input resistances of 1 M $\Omega$ .

A version of the P6009 is equipped with a special BNC connector that provides CRT Readout information when used with plug-in units and mainframes that have these features.

## Ordering Information

**P6009** 100X High Voltage Probe  
**9 ft w/Readout.** Order P6009  
**9 ft w/o Readout.** Order P6009 Option 14



**P6015** 40 kV, 1000X

The P6015 Provides 1000X attenuation for oscilloscope measurements up to 40 kV peak. Voltage or duty cycle derating is necessary for RF voltages at frequencies over 100 kHz, or in temperatures above 25°C.

The probe can be compensated for instruments with nominal input capacitance of 12 pF to 47 pF and input resistance of 1 M $\Omega$ . Maximum bandwidth is 75 MHz.

## Ordering Information

**P6015** 1000X, High Voltage Probe  
**10 ft Cable.** Order P6015  
**25 ft. Cable.** Order P6015 Option 25  
**Without Freon:** Order P6015 Option 10

## Characteristics

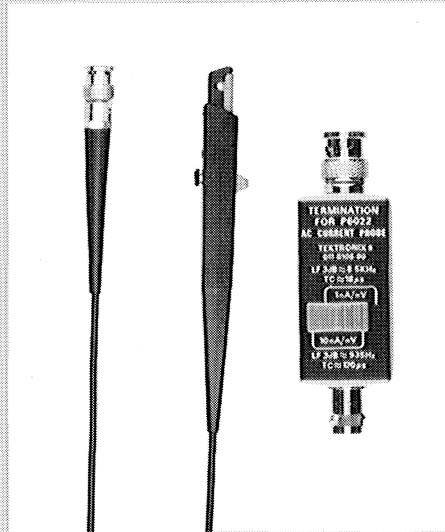
	P6007	P6009	P6015
Attenuation	100X	100X	1000X
Accuracy	3%	3%	Adjustable
Input Resistance	10 M $\Omega$	10 M $\Omega$	100 M $\Omega$
Input Capacitance	3 1/2 ft. 2 pF 6 ft 2.2 pF 9 ft 2.4 pF	2.5 pF	(10 ft) 3 pF
Probe Rise time	14 ns	2.9 ns	4.0 ns
Aberrations	$\pm$ 3%	$\pm$ 3%	$\pm$ 5%
Bandwidth	25 MHz	120 MHz	75 MHz
Cable Length	3 1/2, 6, 9, 12 ft	9 ft	10 ft
Maximum Voltage	1.5 kV	1.5 kV	20 kV
Derated Above	200 kHz	200 kHz	100 kHz
Derated to- @ Frequency	20 kV @ 5 MHz	450 V @ 40 MHz	2 kV @ 20 MHz
Compensation Range	15 pF to 55 pF	15 pF to 47 pF	12 pF to 47 pF



Current probes provide a method to measure the current flowing in a circuit from dc to 1000A. For instance, their use can eliminate the calculations that would be required to determine the current from the voltage drop across a current sampling resistor.

Two types of current probes are available, the traditional ac only probe and the "Hall effect" type. Ac only current probes use a transformer to convert current flux into ac signals and have a frequency response from a few hundred hertz to over 100 MHz. Hall effect current probes include semiconductors to provide a frequency response from dc to 50 MHz.

Current probes can be used where low loading of the circuit is necessary. Loading is typically in the mΩ to low Ω range. Current probes can be used for differential measurements; where the probe measures the results of two opposing currents in two conductors in the jaw of the probe.



### P6022 with Termination

The extra small size of the P6022 makes it ideally suited to measure current in compact semiconductor circuits. Bandwidth is 935 Hz to 120 MHz. Passive termination is switchable from 1 mA/mV to 10 mA/mV.

### Ordering Information

**P6022 Current Probe**

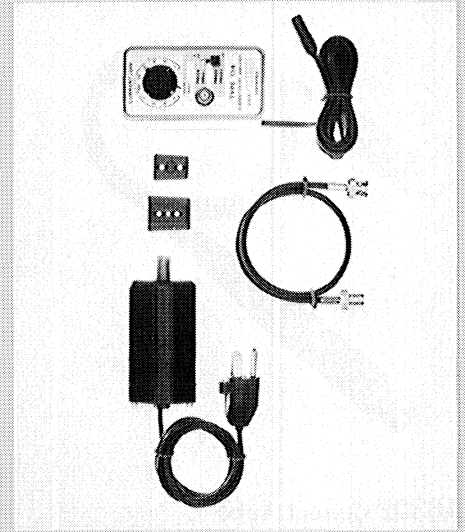
**With 5 ft. Cable and Termination**  
Order P6022

**With 9 ft. Cable and Termination**  
Order P6022 Option 03

**With 5 ft. Cable and no Termination**  
Order P6022 Option 12

**With 9 ft. Cable and no Termination**  
Order P6022 Option 13

**P6022 Termination only**  
Order 011-0106-00



### 134 Current Probe Amplifier

The 134 is used to extend the measurement capabilities and sensitivity of the P6021 or P6022 Current Probes. A Current/Div switch provides calibrated current steps from 1 mA/div to 1 A/div (with the oscilloscope or plug-in unit adjusted for a deflection factor of 50 mV/div). A passive termination is not required when using a 134 with a P6021 or P6022.

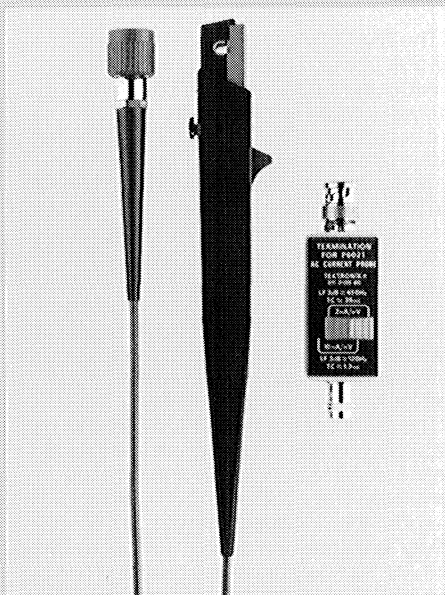
The 134 can also be used as an auxiliary voltage amplifier by placing the Current/Div switch in the Volts position. Input impedance is 50 Ω. Voltage gain is 50 or 125.

### Ordering Information

**134 Current Probe Amplifier & Power Supply**

**For 110 V ac.** Order 134

**For 230 V ac.** Order 134 Option 01



### P6021 with Termination

For general purpose applications the P6021 provides wide-band performance with excellent low-frequency characteristics. Bandwidth is 120 Hz to 60 MHz. Passive termination is switchable from 2 mA/mV to 10 mA/mV.

### Ordering Information

**P6021 Current Probe**

**With 5 ft. Cable and Termination**  
Order P6021

**With 9 ft. Cable and Termination**  
Order P6021 Option 03

**With 5 ft. Cable and no Termination**  
Order P6021 Option 12

**With 9 ft. Cable and no Termination**  
Order P6021 Option 13

**P6021, Termination only**  
Order 011-0105-00

### Current Probe Selection Guide

Type	Bandwidth Hz to MHz	Displayed Current/Div	Maximum Current				Derate		Saturation		Page	Prices
			Peak Pulse	Dc + pK Ac	Ac P-P	Below	Above	Dc	Amp-S Product			
A6302/ AM 503	Dc 50	1 mA to 5 A <sup>1</sup>	50 A	20 A	40 A		20 kHz	20 A	100 x 10 <sup>-6</sup>	443	\$1,690	
	0.5 20	20 mA to 5 kA <sup>1</sup>	50 kA		40 kA	20 Hz	1.2 kHz		0.1	445	\$2,890	
A6303/ AM 503	Dc 15	10 mA to 50 A <sup>1</sup>	500 A	100 A	200 A		20 kHz	100 A	10,000 x 10 <sup>-6</sup>	443	\$2,195	
	120 60	20 mA or 100 mA <sup>1</sup>	250 A		15 A	300 Hz	5 MHz	0.5 A	500 x 10 <sup>-6</sup>	444	\$430	
P6021 w/Passive Term.	+ CT-5	400 A or 100 kA <sup>1</sup>	50 kA		2000 A	300 Hz	1.2 kHz	20 A	0.5	445	\$1,630	
	with 134	1 mA to 1 A <sup>2</sup>	250 A		15 A	230 Hz	5 MHz	0.5 A	500 x 10 <sup>-6</sup>	444	\$1,105	
P6022 w/Passive Term.	+ CT-5	20 mA to 1 kA <sup>2</sup>	15 kA		2000 A	230 Hz	1.2 kHz	20 A	0.5	445	\$2,305	
	with 134	10 mA or 100 mA <sup>1</sup>	100 A		6 A	3 kHz	10 MHz	0.2 A	9 x 10 <sup>-6</sup>	447	\$475	
CT-1	935 120	0.5 mA <sup>1</sup> (5 mV/mA)	12 A		1.4 A			0.2 A	1 x 10 <sup>-6</sup>	445	\$175	
	100 65	1 mA to 1 A <sup>2</sup>	100 A		6 A	1.3 kHz	10 MHz	0.2 A	9 x 10 <sup>-6</sup>	447	\$1,150	
CT-2	25 k 1000	0.1 mA <sup>1</sup> (1 mV/mA)	36 A		7 A			0.2 A	50 x 10 <sup>-6</sup>	445	\$200	
	1.2 k 200											

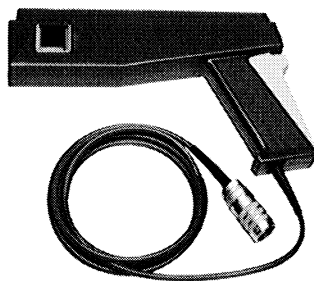
<sup>1</sup> Scope set at 10 mV/div.

<sup>2</sup> Scope set at 50 mV/div.

# CURRENT PROBES



**A6302** Current Probe



**A6303** Current Probe

The Tektronix A6302 and A6303 Current Probes are designed to be used with the AM 503 Current Probe Amplifier, any TM 500 Power Module and an oscilloscope. Both probes are used to make SCR, power supply, industrial control and motor start-up current measurements. The A6303 is especially recommended for measuring current in x-ray tubes to ensure compliance with PL 90-602, the Radiation Control for Health and Safety Act of 1968.

The A6302 and A6303 are valuable measurement tools when low loading is important, as when testing high impedance points or with current dependent devices.

Both probes make ac or dc coupled current measurements by the simple act of opening their sliding jaws and placing them around the conductor to be measured. For differential or sum measurements just place properly phased conductors in the probe jaw.

Suggested measurements for the A6302 and A6303 Current Probes include:

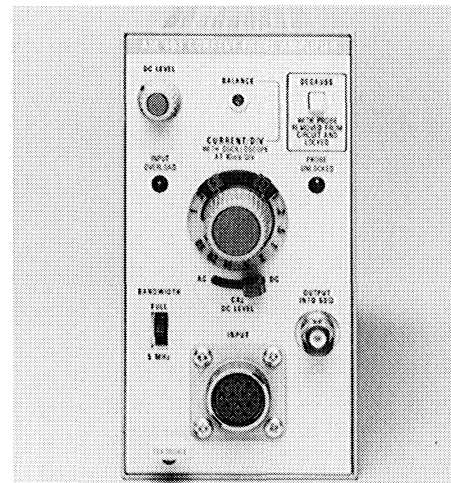
- X-ray tube currents
- SCR currents
- Power supply currents
- Motor start-up currents
- Industrial control currents
- Relay currents
- Common-mode rejection of dc and ac currents

## Ordering Information

**A6302** Current Probe  
**2 m Cable.** Order A6302  
Requires AM 503

## Ordering Information

**A6303** Current Probe  
**2 m Cable.** Order A6303  
Requires AM 503



**AM 503** Current Probe Amplifier  
For 50  $\Omega$ /1 M $\Omega$  Inputs

The AM 503 operates in any one of the TM 500 power modules and is connected to either the A6302 or A6303 probes through a multipin connector.

It is calibrated in 12 steps; the knob skirt is illuminated to indicate current per division. Bandwidth can be limited to 5 MHz to eliminate unwanted transients. Both ac and dc coupling are provided. Ac coupling allows the measurement of low amplitude signals on a high-level dc current. A front-panel light warns of input currents above 100 A dc with the A6303 or 20 A dc with the A6302. A push button allows degaussing of probe when it is removed from the circuit and locked in operating position.

The output of the A6303/AM 503 can be displayed on any oscilloscope that has at least a 50 MHz bandwidth and a 10 mV sensitivity. The A6302/AM 503 can be used on a 75 MHz oscilloscope with 10 mV sensitivity to display the probe's full bandpass. The AM 503 output can be plugged directly into a 50  $\Omega$  recording instrument, or a 50  $\Omega$  termination which is supplied.

## Ordering Information

**AM 503** Current Probe Amplifier  
The AM 503 Current Probe amplifier **requires one of the TM 500 Series power modules listed below.** The number of plug-ins the module will accept is designated by the last digit in the part number. The optional interface allows connections between plug-ins to be made through the rear panel of the power module.

**TM 501** Power Module  
**Option 02**—Interface.

**TM 503** Power Module  
**Option 02**—Interface.

**TM 504** Power Module  
**Option 02**—Interface.

**TM 506** Power Module  
**Option 02**—Interface.

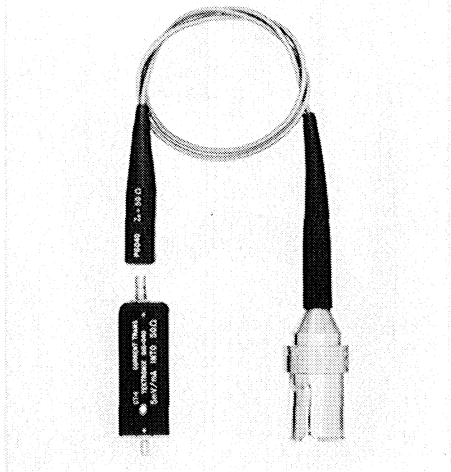
**RTM 506** Power Module  
**Option 02**—Interface.

**TM 515** Power Module  
**Option 05**—Rear Interface.



The CT-1 and CT-2 Current Probes are designed for permanent or semi-permanent in-circuit installation. Each probe consists of a current transformer, an interconnecting cable and a termination. The current transformers are traversed by a small hole through which a current carrying conductor is passed during circuit assembly.

One probe cable can be used to monitor several current transformers that have been wired into a circuit.

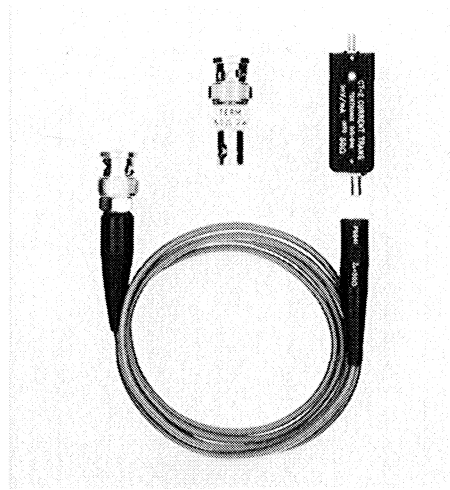


## CT-1 Current Probe & Cable

The 1GHz CT-1 current probe and matching cable is designed for in-circuit use in conjunction with high speed real-time and sampling scopes with 50 Ω inputs. The GR connector on the probe cable interfaces directly with GR 50 Ω inputs, or via optional adaptors, to match SMA or BNC 50 Ω input systems.

### Ordering Information

**CT-1 Current Probe Current Transformer and Probe Cable.**  
Order CT-1  
**Current Transformer Only.**  
Order CT-1 Option 09  
**P6040 Probe Cable Only.** Order P6040



## CT-2 Current Probe & Cable

The 200MHz CT-2 current probe and matching cable is designed for in-circuit use, in conjunction with real-time or digitizing scopes with either 1M Ω or 50 Ω inputs. The BNC connector on the probe cable interfaces directly with BNC 50 Ω inputs, or via a 50 Ω feed through termination, (included) with BNC 1M Ω input systems.

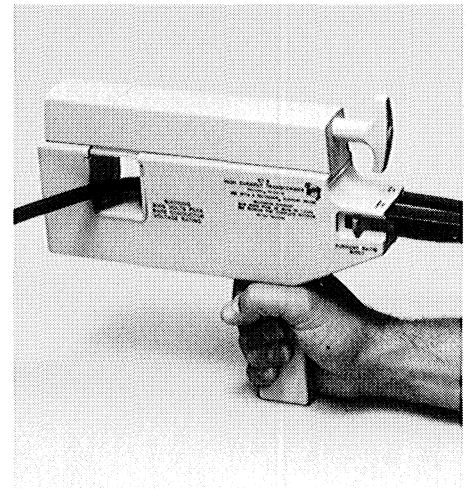
### Ordering Information

**CT-2 Current Probe Current Transformer, Probe Cable, Termination.** Order CT-2  
**Current Transformer Only.**  
Order CT-2 Option 09  
**P6041 Probe Cable Only.** Order P6041

### Characteristics

	CT-1	CT-2
Sensitivity	5 mV/mA	1 mV/mA
Accuracy	±3%	±3%
Risetime	350 ps	500 ps
Frequency Response		
Low: -3 dB	25 kHz	1.2 kHz
High: -3 dB	1 GHz	200 MHz
Insertion Impedance:		
at 10 MHz	≈1 Ω	0.1 Ω
at 100 MHz	2 Ω	0.5 Ω
Capacitive Loading		
Barewire	1.5 pF for #14	1.8 pF for #16
Maximum Barewire Voltage	1000 V	1000 V
Dc Saturation Current:		
Current to Reduce L/R by X2	75 mA	175 mA
Pulse Current Rating*1	12 A	36 A
Not to Exceed:		
Amp S Product*1	1 x 10 <sup>-6</sup>	50 x 10 <sup>-6</sup>
Maximum CW Current*1	450 mA	2.5 A
Cable Length	18 inch	42 inch
Prop Delay	3.25 ns	6.1 ns
Cable Connector	GR874	BNC
Operating Temperature	-25°C to +65°C	

\*1 With 50 Ω termination. Values are reduced by a factor of 2 if unterminated.



## CT-5 Current Transformer

The CT-5 is a clip-on high-current transformer that extends the measurement capability of Tektronix clip-on current probes. Maximum low-frequency performance is obtained using the A6302/AM 503 dc Current Probe. Pulse current to 50,000 amps may be measured using the P6021 and passive termination, provided the 0.5 A-S rating is not exceeded. The P6021 and 134 Current Probe Amplifier also may be used for measurements at normal line frequency and above. (The P6022, A6303 and CT-5 are not compatible with each other.)

The CT-5 has receptacles for current probes in either 20:1 or 1000:1 step-down ratios. The 1.5 inch square opening makes it possible to clip onto large conductors without breaking the circuit under test. The core and shield assembly are insulated from the windings and the handle. This allows measurements on bare wires to 3000 V, and to 10 kV RMS with a high voltage bushing. A dc bucking coil assembly allows up to 300 A of dc to be tolerated without appreciably degrading measurements. This is very useful for measuring ac signals on top of a dc voltage level.

A carrying case and high voltage bushing are included with the CT-5.

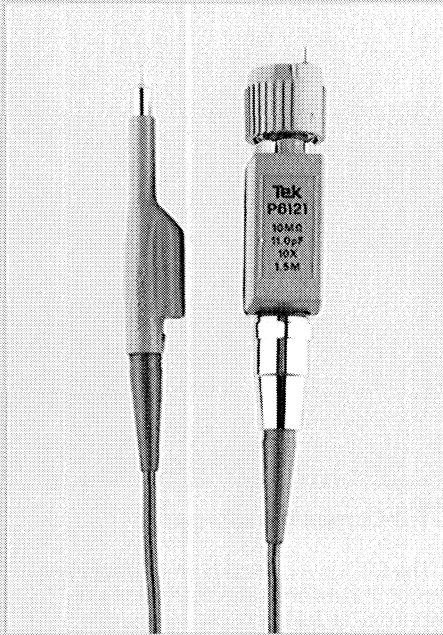
### CT-5 Current Measurement Combinations

Product	Bandwidth	A-s Product	Maximum Current	
			RMS	Peak Pulse
CT-5/A6302/AM 503	0.5 Hz to 20 MHz	0.1	700 A	50 kA
CT-5/P6021/134	12 Hz to 20 MHz	0.5	700 A	15 kA
CT-5/P6021/Term	120 Hz to 20 MHz	0.5	700 A	50 kA

### Ordering Information

**CT-5 Current Probe Includes Dc Bucking Coil.**  
Order CT-5 Current Probe  
**Without Dc Bucking Coil.**  
Order CT-5 Current Probe Option 09

# MINIATURE MODULAR SPECIALTY PROBES



**P6121** Dc to 100 MHz, 10X with Readout  
**P6122** Dc to 100 MHz, 10X

The P6121 and P6122 probes are miniature, 10X passive probes and are fully compatible with the Tektronix family of miniature probe accessories. The P6121 with readout capability is specifically designed for use with the Tektronix 2236 portable oscilloscope to provide close tolerance reading when using the 2236 DMM functions. The P6122 general purpose probe accommodates oscilloscopes with bandwidths up to 100 MHz. These probes feature modular, easily replaceable parts, easy to use configuration, and hybrid circuitry. The hybrid probe tip circuitry proves more uniform probe tip compensation for better high frequency response with reduced aberration and also extremely good environmental characteristics.

## Characteristics

**Attenuation**—10X  $\pm$  0.2% for the P6121; 10X  $\pm$  3% for the P6122.

**Loading**—11 pF/10 M $\Omega$ .

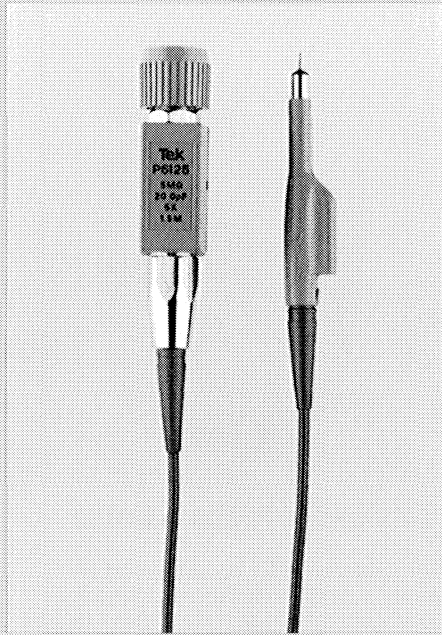
**Bandwidth**—100 MHz.

**Dc Max**—500 V.

## Ordering Information

**P6121** 10X Probe  
1.5 m Cable. Order P6121

**P6122** 10X Probe  
1.5 m. Cable. Order P6122  
2 m. Cable. Order P6122 Option 02  
3 m. Cable. Order P6122 Option 03



**P6125** Dc to 250 MHz, 5X

The P6125 is a low-capacitance, 5X attenuation passive probe specially designed for use with dc to 250 MHz digital counter/timers. It makes possible more accurate time interval measurements of high speed logic signals. Five-times attenuation provides an optimum match between the counter input characteristics and the voltage levels of all common logic families. The low input capacitance permits acquisition of high frequency signals with minimum loading of the circuits under test.

## Characteristics

**Attenuation**—5X.

**Input Resistance**—5 M $\Omega$  input.

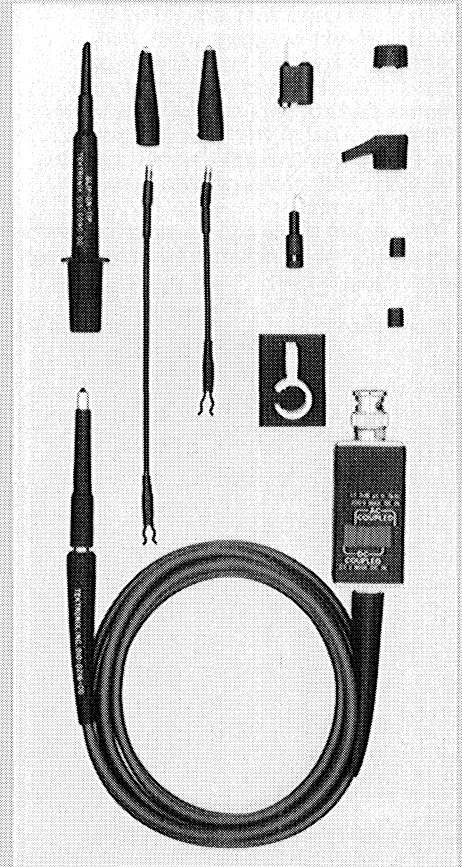
**Capacitance**— $\approx$ 20 pF.

**Bandwidth**—Dc to 200 MHz.

**Voltage Rating**—250 V (dc + peak ac) derated to 35 V at 100 MHz.

## Ordering Information

**P6125** 5X, Counter Probe  
1.5 m Cable. Order P6125



**P6048** Dc to 100 MHz, 10X

The P6048 is a miniature low capacitance probe for use with 1 M $\Omega$  20 pF oscilloscopes. The probe input impedance of 1 k $\Omega$  paralleled by 1 pF is intended for applications where capacitor loading may distort the circuit waveforms. Ac or dc coupling switch is available to extend the measurement range.

## Characteristics

**Attenuation**—10X.

**Input Resistance**—1 k $\Omega$ .

**Input Capacitance**—1 pF or less.

**Maximum Input**—Dc 20 V; ac 200 V.

**Ac Low Frequency**—7 kHz or less.

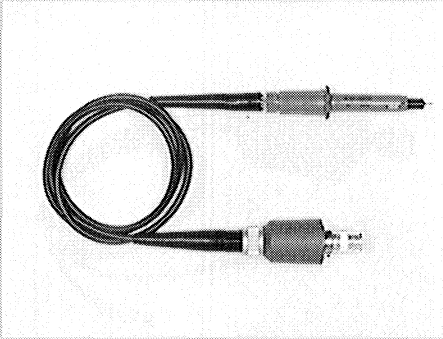
**Bandwidth**—  
100 MHz with 150 MHz bandwidth scope;  
175 MHz with 250 MHz bandwidth scope.

**Typical Probe Risettime**—1.95 ns.

## Ordering Information

**P6048** 10X, Probe  
6 ft Cable. Order P6048





## P6008 (Environmental) 100 MHz, 10X

The P6008 Environmental Probe is designed to operate over  $-50^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$  for the probe body and cable; the compensation box operates from  $-15^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ . It is designed for use with dc to 100 MHz oscilloscopes. The probe can be compensated to match plug-ins and oscilloscopes with nominal input capacitance of 12 pF to 47 pF and input resistance of  $1\text{ M}\Omega$ .

### Characteristics

**Attenuation**—10X.

**Input Resistance**— $10\text{ M}\Omega$ .

**Input Capacitance**— $\approx 7.5\text{ pF}$  when used with an instrument having a 20 pF input capacitance.

**Bandwidth**—Dc to 100 MHz.

**Voltage Rating**—600 V dc, ac peak, or dc and ac peak combined. P-p voltage derating is necessary for cw frequencies higher than 20 MHz. At 40 MHz, the maximum allowable p-p voltage is 300 V.

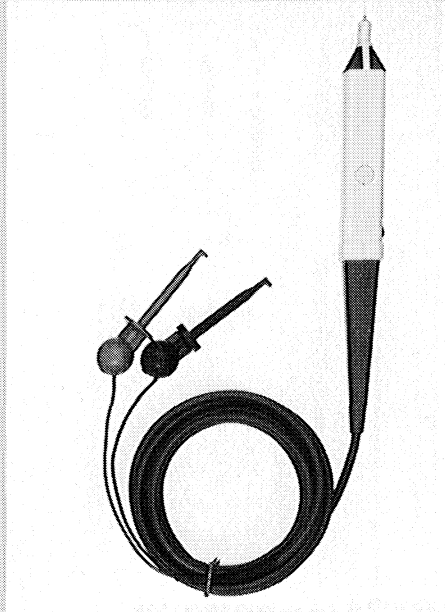
**Cable Length**—1.8m (6 ft.)

### Ordering Information

**P6008** 10X, Environmental Probe

**6 ft. Cable.** Order P6008

**Non-Environmental. 3.5 ft. Cable.** Order P6008 Option 01



## P6401 Logic Probe

The small, lightweight, hand-held P6401 indicates the state of logic levels in TTL, DTL, or any other system with threshold between 0.7 and 2.15 volts. A strobe input can be used to detect the coincidence of logic signals at two points. An indication of whether a logic pulse has or has not occurred can be obtained in a "store" mode.

Power may be obtained from the unit under test or any five volt supply.

Two bright lights in the probe tip indicate condition of the logic signal.

### Characteristics

**Low State Input Voltage Range**—0 V to  $+0.7\text{ V} \pm 0.125\text{ V}$ .

**High State Input Voltage Range**—2.175 V  $\pm 0.125\text{ V}$  to  $V_{cc}$ .

**Minimum Recognizable Pulse Width**—10 ns.

**Impedance**— $\approx 7.5\text{ k}\Omega$  paralleled by  $\approx 6\text{ pF}$ .

**Minimum Circuit Resistance for Open Circuit Indication**— $10\text{ k}\Omega$ .

**Max Safe Input**— $\pm 150\text{ V}$  (dc or RMS).

**Minimum Recognizable Strobe Pulse Width**—20 ns.

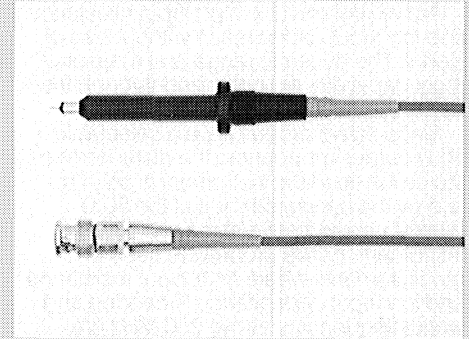
**Max Safe Strobe Input**— $\pm 30\text{ V}$  (dc or RMS).

**Strobe Input Impedance**— $5.6\text{ k}\Omega$  within 20%.

### Ordering Information

**P6401** Logic Probe

**1.5 m. Cable.** Order P6401



## P6420 RF Probe

The P6420 RF probe measures high frequency ac voltage from 10 kHz to 1 GHz. It provides a dc output voltage proportional to the RMS value of a sinewave input. Compatible with any DMM with an input resistance of  $10\text{ M}\Omega$ .

### Characteristics

**Voltage Range**—0.5 V to 25 V RMS ( $70.7\text{ V p-p}$ ).

**Ac to Dc Transfer Ratio Accuracy**—0.5 V to 5 V RMS  $\pm 10\%$  ( $+15^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$ ), 5.0 V to 25 V RMS  $\pm 5\%$  ( $+15^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$ ).

**Frequency Response**—100 kHz to 300 MHz ( $\pm 0.5\text{ dB}$ ), 50 kHz to 500 MHz ( $\pm 1.5\text{ dB}$ ), 10 kHz to 1 GHz ( $\pm 3.0\text{ dB}$ ).

**Input Capacitance**— $\approx 3.7\text{ pF}$ .

**Maximum Input Voltage**—42.4 V (peak ac + dc).

**Temperature Range**—Nonoperating:  $-55^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$ . Operating:  $+15^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$ .

**Length**—Probe Only: 96 mm. Cable Only: 2m.

### Ordering Information

**P6420** RF Probe

**2 m. Cable.** Order P6420

## P6602 Temperature Probe

The P6602 Temperature Probe is a temperature measuring device designed to operate with the 2236 Digital Multimeter. The temperature sensory element consists of a thin-film platinum resistor in the tip of the probe. Measurements are made by touching the probe tip to the surface under test. The resulting resistor value is measured by the multimeter through a two-conductor cable. The tip and cable assembly are replaceable. UL listed.

### Characteristics

**Operating Temperature Range**—Probe Head and Cable:  $-62^{\circ}\text{C}$  to  $+230^{\circ}\text{C}$  ( $-80^{\circ}\text{F}$  to  $+446^{\circ}\text{F}$ ). Banana Jack Style Connector:  $-15^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .

**Voltage**—400 V peak.

### Ordering Information

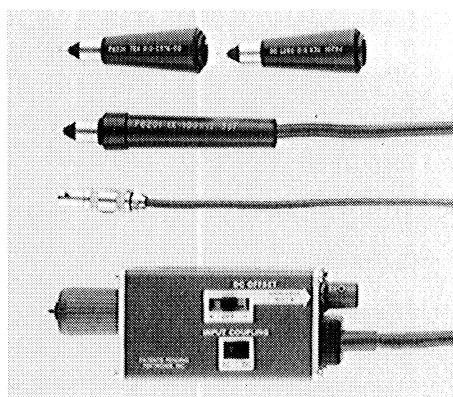
**P6602** Temperature Probe  
**1.5 m Cable.** Order P6602



# ACTIVE PROBES

Active probes have high input resistance and low input capacitance without loss of signal. The dynamic range and measurement capability are optimized through the use of the voltage offset control.

Since active probes have a selectable 50  $\Omega$  output impedance, the distance from the probe tip to the instrument is only limited by the bandwidth limit of the 50  $\Omega$  coaxial cables between the probe and instrument. Active probes are used in measurements where high input resistance and low input capacitance is needed and where frequencies above 250 MHz are encountered.



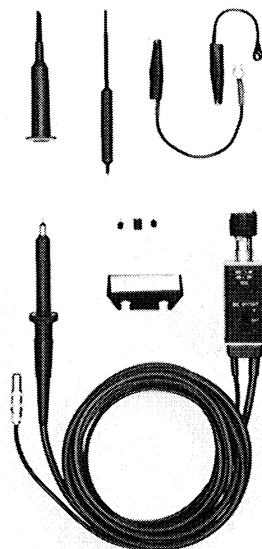
**P6201 Dc to 900 MHz, 1X with Readout**

The P6201 is an active (FET) probe providing unity gain and dc to 900 MHz bandwidth. The P6201 is the best general-purpose probe within its voltage range from the standpoint of electrical performance. Very low input capacitance permits acquisition of high frequency signals with minimum loading of circuits under test while high input resistance minimizes low frequency and dc loading. Plug-on attenuator heads provide higher input resistance and reduced input capacitance.

The probe derives its power from the probe power jack on many Tek scopes, a 1101 or 1101A Power Supply.

## Ordering Information

**P6201 1X, FET Probe**  
6 ft. Cable. Order P6201



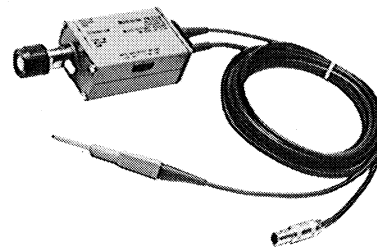
**P6202A Dc to 500 MHz, 10X with Readout**

With its standard Tektronix power connector the P6202A can be used on any instrument that has standard probe power. Low input capacitance permits acquisition of high frequency signals with a minimum loading of circuits under test while the high input resistance minimizes low frequency and dc loading. The dc offset feature offsets any dc component within the range of the control to bring the signal into the dynamic range of the probe.

The P6202A derives its power from the probe power jack on many of Tek scopes, a 1101 or 1101A Power Supply.

## Ordering Information

**P6202A 10X, FET Probe**  
2 m Cable. Order P6202A



**P6230 Dc to 1.5 GHz, 10X Bias/Offset with Readout**

The P6230 is a 1.5 GHz, low-impedance, subminiature, 10X active probe for use with broad-band oscilloscopes. The P6230 is equipped with an internal/external 50  $\Omega$  termination switch which allows the probe to be used on scopes having an input resistance of either 50  $\Omega$  or 1 M $\Omega$ . A coding pin on the BNC connector activates the Volts/Division reading by 10X, on oscilloscopes equipped with this feature, so that the correct deflection factor at the probe tip is indicated.

The compensation box houses an active circuit which provides a variable voltage at the probe tip, used to minimize probe-loading effects. The voltage available at the tip spans the range from minus five volts to plus five volts, allowing the probe to minimize loading effects on most logic families that are in use today.

The P6230 acts as a standard 500  $\Omega$  passive voltage probe with the additional capability of having an adjustable tip "nulling voltage." This feature reduces the dc-loading effects of the probe when it is used to measure signals whose mid-voltage value is other than zero volts, or in circuits where the termination impedance is returned to other than ground level.

The probe derives its power from the probe power jack on many Tek scopes, a 1101 or 1101A Power Supply.

## Ordering Information

**P6230 10X, Bias/Offset Probe**  
1.6 m Cable. Order P6230

## 1101A Power Supply

The 1101A Accessory Power Supply provides power for active probes such as the Tektronix P6201, P6202A and P6230 when they are used with oscilloscopes that do not have a probe power supply.

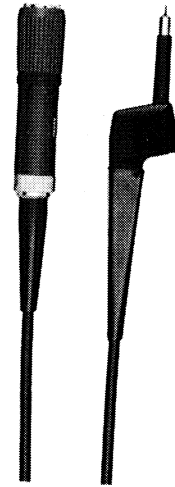
The 1101A will provide power for up to two probes. Output power features short-circuit protection.

## Ordering Information

**1101A Accessory Power Supply**  
Includes: Instruction sheet 070-5126-00.  
Order 1101A

## Active Probes Selection Guide

Type	Attn	Nominal Length	Loading		Risettime	Input Limits			Readout
						Maximum Dc + Pk Ac	Linear Dynamic Range	Dc Offset Range	
P6201 FET	1X	6 ft	100 k $\Omega$	3 pF	0.4 ns	$\pm 100$ V	$\pm 0.6$ V	$\pm 5.6$ V	YES
	10X		1 M $\Omega$	1.5 pF		$\pm 200$ V	$\pm 6$ V	$\pm 56$ V	
	100X		1 M $\Omega$	1.5 pF		$\pm 200$ V	$\pm 60$ V	$\pm 200$ V	
P6202A FET	10X	2 m	10 M $\Omega$	2 pF	0.7 ns	$\pm 200$ V	$\pm 6$ V	$\pm 55$ V	YES
	100X		10 M $\Omega$	2 pF		$\pm 200$ V	$\pm 60$ V	$\pm 200$ V	
P6230 Bias/ Offset	10X	1.5 M	450 $\Omega$	1.3 pF	230 ps	$\pm 30$ V	$\pm 5$ V	$\pm 5$ V	YES



**P6055 20,000:1 CMRR 10X with Readout**

Tek supports four modes of differential measurements: the differential amplifier probe; the matched pair of probes; the isolation amplifier; and the ground interrupt monitor.

The P6046 is a 100 MHz differential amplifier in probe form. It connects into one channel of a standard scope amplifier.

A matched pair of P6055 probes can produce CMRRs up to 20,000:1 with differential amplifiers. A single 10X probe has accuracy of 1% or less giving scope-to-probe CMRR of no better than 50:1.

The A6902B (page 19) provides differential capabilities for signals to 20 MHz, while rejecting up to 3,000 Volts of common mode.

The A6901 (page 19) allows floating measurements within safe limits. It first checks for a good ground, then breaks the ground connection and continuously monitors the level of voltage elevation, and reconnects the ground if safe limits are exceeded.

## P6046 Dc to 100 Mhz 1X Differential

The P6046 Differential Probe and P6046 Amplifier Unit provide unique measurement capabilities with all Tektronix oscilloscopes. The differential-signal processing takes place in the probe itself, resulting in high common-mode signal rejection at higher frequencies. Differential probe-tip signal processing minimizes the measurement errors caused by differences in probes, cable lengths, and input attenuators.

### Ordering Information

**P6046 1X, FET Differential Probe with Amplifier and Power Supply**  
6 ft. Cable. Order P6046

**Without Amplifier and Power Supply**  
Order P6046 Option 09

**Power Supply with Amplifier only**  
Order P6046 Option 11

The P6055 is a miniature, low-capacitance, 10X probe designed for use with Tektronix differential amplifiers with nominal input capacitances from 20 pF to 47 pF. The attenuation ratio is adjustable to compensate for differences in input resistance of the amplifier (the amplifier input resistance must be  $1\text{ M}\Omega \pm 2\%$ ). A special locking type readout connector allows the probe to be used with instruments with or without readout capability.

When two P6055 Probes are used to drive the two inputs of a differential amplifier, the ability to change the attenuation ratio of one probe versus the other is helpful in maintaining the CMRR of the system. The use of a matched pair of P6055 differential probes provides the best possible system CMRR.

### Ordering Information

**P6055 10X, Differential Probe**  
3.5 ft Cable. Order P6055 Option 01

**Matched Pair of Two P6055 Probes.**  
Order P6055

## Differential Probes Selection Guide

Type	Attn	Nominal Length	Loading		Risetime	Input Limits			Read-Out	Page
						Maximum Dc + Pk Ac	Linear Dynamic Range	Dc Offset Range		
P6046 Diff/Amp	1X 10X	6 ft.	1 M $\Omega$ 10 M $\Omega$	10 pF 3 pF	3.5 ns	$\pm 25\text{ V}$ $\pm 250\text{ V}$	$\pm 5\text{ V}$ $\pm 50\text{ V}$	NA	NO	17
A6902B	10X	5 ft.	1 M $\Omega$	20 pF	18.5 ns	$\pm 3\text{ kV}$	$\pm 3\text{ kV}$		NO	19
P6055	10X	3.5 ft.	1 M $\Omega$	10 pF	5.8 ns	$\pm 500\text{ V}$	$\pm 500\text{ V}$	NA	YES	17

## Isolation accessories for floating measurements

In the world of oscilloscope use, the ability to make floating measurements is a pressing need.

This often causes users to employ questionable and often unsafe practices to allow the oscilloscope chassis to float at some potential other than ground. Such practices are parts of a larger problem concerning equipment grounding.

"Floating the scope" is the usual technique that is used in such measurements. It is the technique of defeating the protective grounding system—disconnecting the "signal common" from ground—and allowing accessible oscilloscope parts, such as the chassis, enclosure, connectors, and controls to assume the potential of the point at which the ground lead is connected. This is dangerous for two reasons.

First, and most obvious, is the possibly high voltages on exposed metal parts of the oscilloscope that present a shock hazard to the operator.

Second, and not so obvious, is the cumulative stresses on the oscilloscope power transformer insulation. Such stresses can cause future failure, with attendant shock and fire hazard, even after the oscilloscope is returned to properly grounded operation.

From a measurement standpoint the "floated scope" has the problem of imposing a loading effect on the "signal common." This loading is caused by capacitance between the floating scope chassis and the power line which may be considered at ac ground.

The A6901 and A6902B provide the means to make floating measurements without defeating protective grounding systems, and with minimum risk of operator injury, test equipment damage or signal degradation.

Both meet worldwide safety standards; including UL 1244, VDE, CSA Electronics Bulletin 556B, IEC 348 and BS 4743.

## Common floating measurement techniques

Floating measurements are made using various techniques, each having advantages and limitations. Some are unsafe, others distort the waveform measurement. Following are three preferred techniques.

### Differential Techniques

The most popular solution for a floating measurement is the A minus B quasi-differential technique. Most general-purpose dual-trace oscilloscopes (such as the Tektronix 2445) have an Add Mode in which the two channels (invert CH 2) can be electrically subtracted, giving a display of the difference signal. This can be a problem when attempting to examine low-level control signals in the presence of high common-mode voltages. Also, the common-mode dynamic range is severely limited ( $\pm 6$  divisions beyond screen height) and CMRR is low—approximately 100:1.

True differential amplifiers are specifically designed to have good rejection of the common-mode signal and display only the difference signal. Because these amplifiers are basically two ground-referenced amplifiers, limited floating or common-mode capability is provided. Further, the ability to display a small signal in the presence of a large common-mode signal changes as a function of the absolute magnitude of the common-mode signal, as well as the ratio of the common-mode signal to the difference signal. Also, there are bandwidth limitations. The Tektronix 7A13 provides 500 volts of common-mode dynamic range at 0.1 V/div with a CMRR of at least 1000:1 and a bandwidth up to 105 MHz.

The dynamic range of differential amplifiers can be greatly extended at the expense of bandwidth. Two P6015, high voltage probes, can be differentially tuned to deliver about 20dB CMRR at 1 MHz.

### Isolation Amplifiers

The isolating amplifier is connected between the signal under investigation and the oscilloscope. With respect to the signal, the amplifier is completely insulated, with no accessible conductive parts. The signal is coupled across an insulating barrier to the oscilloscope. Use of the isolation amplifier maintains the usability of all scope functions.

The Tektronix A6902B Isolator is an isolation amplifier consisting of two identical amplifiers, isolated from each other, from accessible parts, from the mains, and from ground. It enables an oscilloscope to measure potentials from  $\pm 20$  mV to  $\pm 1500$  volts. Each signal common lead can be independently connected to separate voltages up to plus or minus 1500 volts. The A6902B can measure two such signals simultaneously, in combination with any dual trace oscilloscope.

### Isolator/Differential Amplifier

Using both A6902B channels as a differential input to a 7A13, 7A22, or A plus B invert scope, provides an extra measure of common-mode performance. To use the isolator as a three-wire probe, the common leads are tied together and not connected to the circuit under test. The signal leads are then used as plus and minus differential inputs. This technique provides the isolator's protection and CMRR as well as the amplifier's CMRR capabilities, and is particularly useful in circuits where the common-to-ground slew rate is high (i.e., above 50 V/ $\mu$ s).

### Indirect Grounding

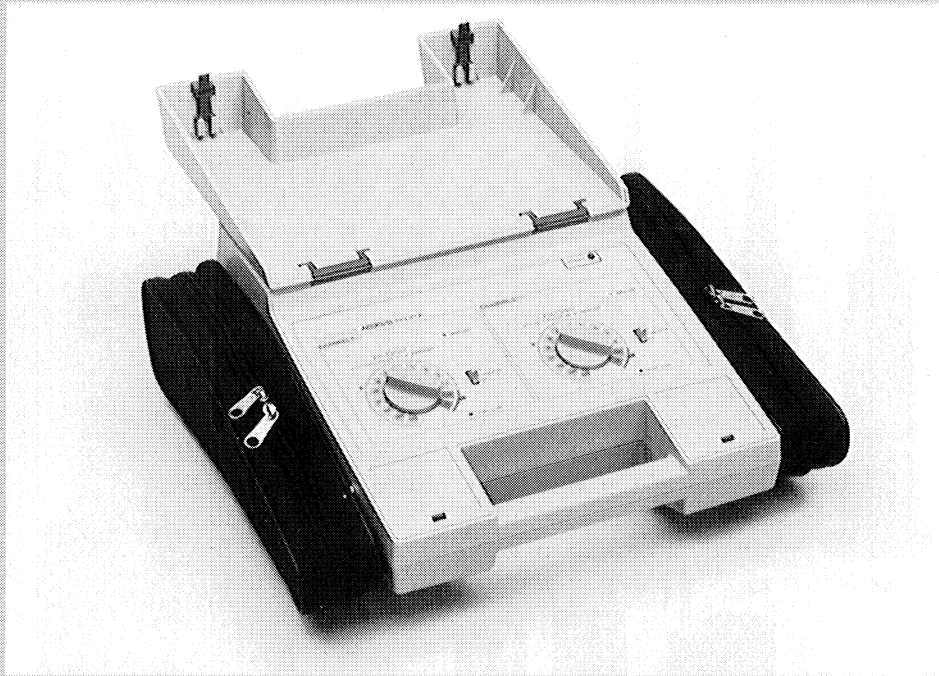
Safety standards specify indirect grounding as an alternative to direct grounding. All of the grounding requirements apply, except that the grounding circuit need not be completed until the available voltage or current exceeds a prescribed amount.

### Ground Isolation Monitor

The Tektronix A6901 Ground Isolation Monitor is an indirect grounding device. It is connected between the mains and the test instrument. When activated, it disconnects the protective grounding system and monitors the voltage and current of the isolated ground. If this voltage exceeds 40 volts peak, the A6901 disconnects the power to the test instrument, sounds an alarm, and re-connects the protective grounding conductor.

The A6901 can be used with any grounded test instrument. It also tests ground continuity of the mains and will not activate if the mains ground is inadequate. It solves the problems of defeating the protective ground and provides the means for valid measurements.





## A6901

**Permits Elevation of Test Instrument Chassis to 40 V Peak (28 V RMS)**  
**Aids in Circuit Analysis or Circumventing Ground Loop Noise Problems**  
**UL and VDE Safety Certification**

The A6901 is placed between a measurement instrument and its power source and acts as an indirect grounding device, allowing floating measurements to be made with operator protection.

The A6901 monitors the voltage on the isolated system. When the voltage exceeds 40 V peak (28 V RMS) the power source to the instrument is interrupted, the isolated grounding system is connected to the power source grounding system, and an audible alarm is sounded. Before power is supplied to the measurement instrument, the A6901 tests the power source for a functional ground.\* If a functional ground is not established, the ground isolation monitor will not go into isolated mode.

Applications for the A6901 include elevating a test instrument chassis to logic reference voltages for more accurate logic level measurements, and isolating a test instrument chassis from common-mode voltages present on ground systems to eliminate undesirable noise from signal measurements.

The A6901 also can be used to test power outlets for proper wiring.

\*If the A6901 is used in conjunction with a GFI (Ground Fault Indicator), consult the GFI manual for compatibility information.

### Characteristics

**Trip Voltage (Dc)**—40 V peak (28 V RMS) or + and - 40 V (within 5%).

**Trip Current**—0.5 mA, 3.5 mA to 5 mA selectable.

**Neutral-to-Ground Continuity**—Between 3 V and 10 V RMS (8.5 V and 28.3 V p-p), 50 Hz.

**Dc Voltage Trip Delay**—<20 ms.

**Line Voltage Ranges**—90 V to 128 V RMS, 180 V to 250 V RMS.

**Line Frequency Range**—48 Hz to 66 Hz.

**Maximum Power Consumption (No External Load)**—12 W at 115 V, 60 Hz.

**Load Power**—500 W maximum.

**Temperature**—Operating: -15° to +55°C (+5°F to +131°F). Nonoperating: -62°C to +85°C (-80°F to +185°F). Meets MIL-T-28800B, Class 3.

**Altitude**—Operating: To 4,600 m (15,000 ft). Nonoperating: To 15,000 m (50,000 ft). Exceeds MIL-T-28800B, Class 3.

**Humidity**—Exceeds MIL-T-28800B, Class 3.

### Ordering Information

**A6901** Ground Isolation Monitor  
**Includes:** Operator manual (070-3618-00).

## A6902B For 50 $\Omega$ or 1 M $\Omega$ Inputs

**Two Independently Isolated Channels**  
**High Voltage/High CMRR**  
**UL Certified to 3000 V/Channel (6000 V Maximum Channel Differential)**  
**Dc to 20 MHz Bandwidth**

A dual-channel, optical- and transformer-coupled voltage isolator, the A6902B allows safely grounded test instruments to make floating measurements at high sensitivity levels in the presence of large common-mode signals.

The A6902B acts as a buffer between the test instrument and the system under test and extends the range of the test instrument to 3000 V (dc plus peak ac) with the larger industrial probe and to 500 V (dc plus peak ac) with the smaller signal probe. Both probes are quickly interchangeable at the cable connectors. The two pairs of probes and output cables are stored in removable side pouches for availability and convenience.

Designed for use with any dual-channel oscilloscope, the A6902B permits simultaneous observation of two signals at two different points in the same circuit; or signals in two different circuits without respect to common lead voltages.

The two channels can also be combined to function as an input to a differential amplifier.

Separate, calibrated controls for volts per division on each channel provide for precise floating measurements. The all-plastic case and external controls protect the user during control settings and other operations. Other than probe tip connections, the user is never in close proximity to hazardous voltages.

### Characteristics

**Deflection Factor**—Probe Tip Sensitivity: 20 mV/div to 500 V/div in 1-2-5 sequence with oscilloscope set to 10 mV/div. Accuracy:  $\leq \pm 5\%$  of indicated V/div switch setting.

**Frequency Response**—Bandwidth: Dc coupled (to -3 dB points) is  $\geq 20$  MHz. Ac coupled (to lower -3 dB points) is  $\leq 5$  Hz.

**Transient Response**—Risettime: 17.5 ns (calculated from bandwidth).

**Maximum Input dV/dt**—100 V/ns.

**Input Impedance**—Resistance: 10 M $\Omega$   $\pm 3\%$ . Capacitance:  $\approx 19$  pF with either probe.

**Output Impedance**—50  $\Omega$   $\pm 5\%$ .

**Output Drive**—4 V p-p into 1 M $\Omega$ .

**Common-Mode Capacitance**—100 pF from probe common to earth ground.

**Maximum Common to Ground Slew Rate**—500 V/ $\mu$ s.

**Tangential Noise**—20.0 mV. Dc Drift With Temperature:  $\leq 10.0$  mV/ $^{\circ}$ C (0.1 div/ $^{\circ}$ C) at output. Range of Output Dc Level: At least +5 div from center screen.

**Channel Isolation**—Maximum Voltage: Using two 3,000 V UL probes is 6000 V (dc + peak ac) UL. Using two 500 V probes is 1000 V (dc + peak ac).

**Delay**—51 ns  $\pm 3$  ns (large probe), 52 ns  $\pm 3$  ns (small probe), from probe input to instrument input. CH1, CH2 delay difference is  $\leq 4$  ns.

**Common Lead Signal Feedthrough**—106 dB from probe input to output BNC to 500 Hz.

### Ordering Information

**A6902B** Isolator

#### Options

**Option 02**—Add two large probes.

**Option 09**—Add two large probes plus two 4 mm banana adaptors.

# PROBE ACCESSORIES

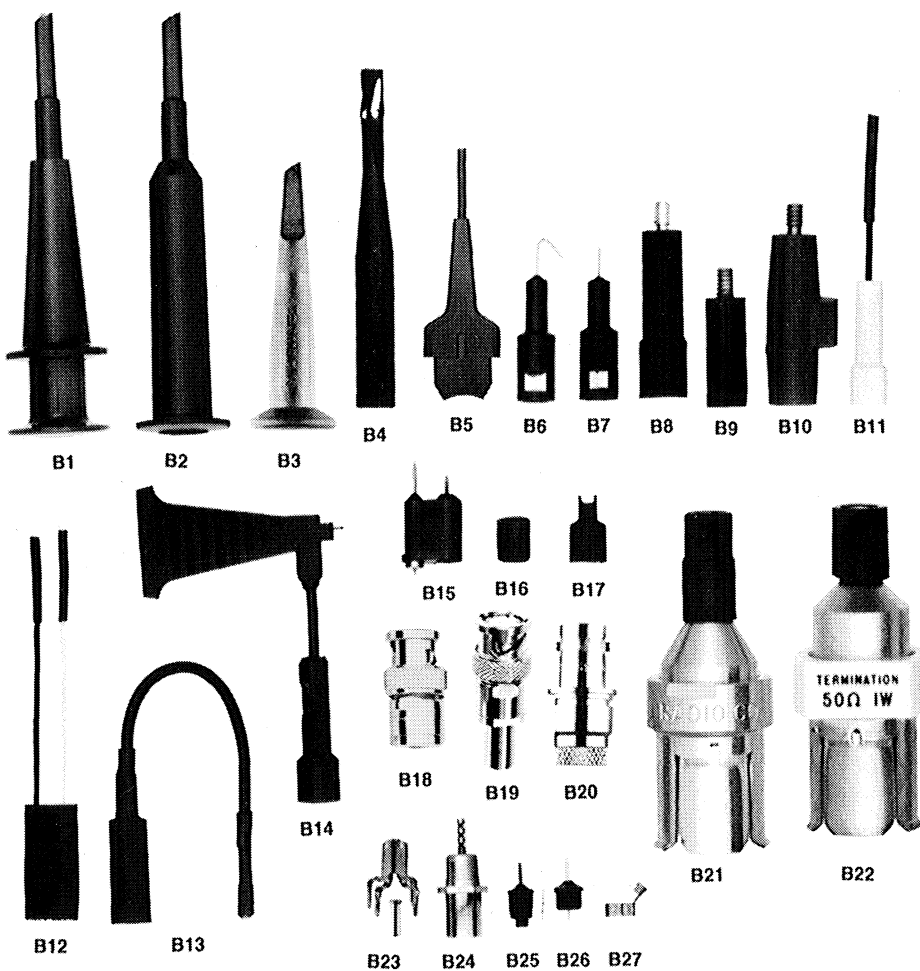
**FOR P6006, P6007, P6008, P6009, P6015, P6028 and P6060 probes which have #6-32 screw tips.**

CODE	DESCRIPTION	PART NUMBER
A1	Retractable hook tip	013-0071-00
A2	Retractable hook tip for P6008 environmental	013-0071-01
A3	Calibration tip (0.063 in dia)	206-0100-00
A4	Spring tip (0.080 in dia)	206-0060-00
A5	Long straight tip (0.032 in dia)	206-0104-00
A6	Hook tip	206-0105-00
A7	Right angle hook tip	206-0185-00
A8	Straight tip (0.055 in dia)	206-0015-00
A9	IC test tip	206-0203-00
A10	Ground lead adaptor (0.025 in square pin closing)	206-0137-01
A11	Spring tip (accepts 0.065 in dia pin)	206-0061-00
A12	Spring tip (accepts 0.068 in dia pin)	206-0168-00
A13	Banana tip	134-0013-00
A14	Pin tip (accepts 0.025 in IBM SLT pin)	206-0134-03
A15	Alligator clip	344-0005-00
A16	Alligator clip	344-0045-00
A17	Miniature alligator clip	344-0046-00
A18	Bayonet ground assembly	013-0052-00
A19	Insulating ground cover for P6009	166-0428-00
A20	Probe screw tip to BNC adaptor	013-0054-00
A21	Probe screw tip to BNC adaptor for P6028	013-0056-00
A22	High voltage dielectric fluid 3 oz.	252-0120-00



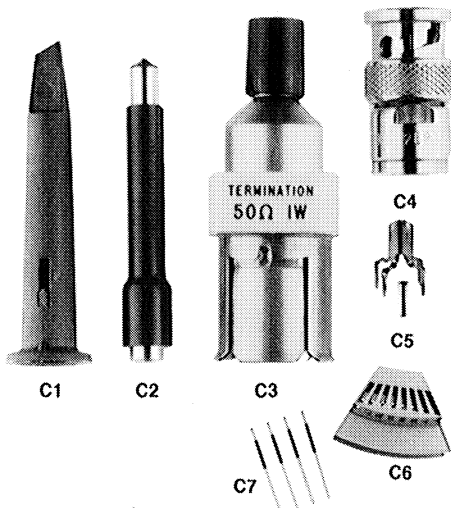
**FOR P6053B, P6055, P6056, P6057, P6062B, P6063B, P610X Family, P612X Family, P6148, P6149A, and P6202A miniature tip probes.**

CODE	DESCRIPTION	PART NUMBER
B1	Retractable hook tip	013-0105-00
B2	Retractable hook tip (for P6202A and P6420)	013-0097-01
B3	Retractable hook tip (for all except P6202A and P6420)	013-0107-05
B4	IC grabber	013-0191-00
B5	Miniature retractable hook (used with adaptors B9 and B10)	206-0222-00
B6	Hook tip	206-0114-00
B7	Straight tip	206-0114-01
B8	Screw tip (#6-32 for all miniature probes except P6045 and P6202A)	103-0051-01
B9	Screw tip (#6-32 for P6202A and P6420)	103-0051-00
B10	Screw tip with ground connection (#6-32)	103-0131-00
B11	Flexible tip (accepts B4 retractable hook)	103-0177-01
B12	Dual lead adaptor (accepts B4 retractable hook)	015-0325-00
B13	Flexible tip for 0.025 in square pin	206-0193-00
B14	Pin tip (accepts 0.025 in IBM SLT pin)	206-0209-00
B15	Bayonet ground assembly	013-0085-00
B16	Insulating ground cover	166-0404-01
B17	IC test ground cover	
	Package of 10	015-0201-04
	Package of 100	015-0201-05
B18	Miniature probe tip to BNC adaptor	013-0084-01
B19	Miniature probe tip to BNC adaptor (for all except P6202A)	013-0084-02
B20	Miniature probe tip to BNC female adaptor	103-0096-00
B21	Miniature probe tip to GR adaptor	017-0076-00
B22	Miniature probe tip to GR 50Ω termination adaptor	017-0088-00
B23	Circuit board test point	
	Outer case	131-1436-00
	Inner connector (need to order both for one test point)	136-0333-00
B24	Chassis mount test jack	131-0258-00
B25	Replaceable probe tip (for all except P6202A, P6420 and non-"A" P610X probes) Package of 10	206-0191-03
B26	Replaceable probe tip (for P6202A and P6420) Package of 10	206-0230-03
B27	Electrical ground contact	214-0283-00



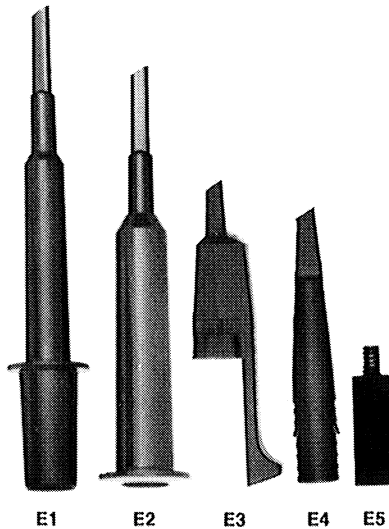
## FOR P613X FAMILY AND P6230 subminiature tip probes.

CODE DESCRIPTION	PART NUMBER
C1 Retractable hook tip	013-0208-00
C2 Subminiature-to-miniature probe tip adaptor (allows use of miniature probe tip accessories)	013-0202-00
C3 Subminiature probe tip to GR 50Ω termination adaptor	017-0520-00
C4 Subminiature probe tip to BNC adaptor	013-0195-00
C5 Circuit board test points Outer shell (package of 100)	131-2766-01
Inner connector (package of 100)	136-0352-02
C6 Klipkit (includes two 16-pin DIP clips and four signal/ground pins)	013-0197-00
C7 Signal/ground pins for Klipkit (includes four pins)	131-3288-02



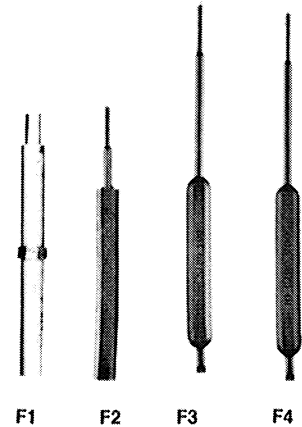
## FOR OTHER PROBES

CODE DESCRIPTION	PART NUMBER
E1 Retractable hook tip (for P6010 and P6048)	013-0090-00
E2 Retractable hook tip (for S-3A, P6202A and P6420)	013-0097-01
E3 Retractable hook tip (for 7A11 and P6401)	013-0106-00
E4 Retractable hook tip (for 211, 212, 213, 214 and 221 scope probes)	013-0107-02
E5 Screw tip (#6-32 for P6045, P6046, P6202A, 7A11 and S-3A)	103-0051-00



## PROBE TOOLS

CODE DESCRIPTION	PART NUMBER
F1 Tip extractor for miniature probes (except for P610X "A" version and P612X family probes)	003-0825-00
F2 Adjustment tool (except for P6055 and P6202A)	003-1364-00
F3 Adjustment tool for P6055	003-0675-00
F4 Adjustment tool for P6202A	003-0675-01

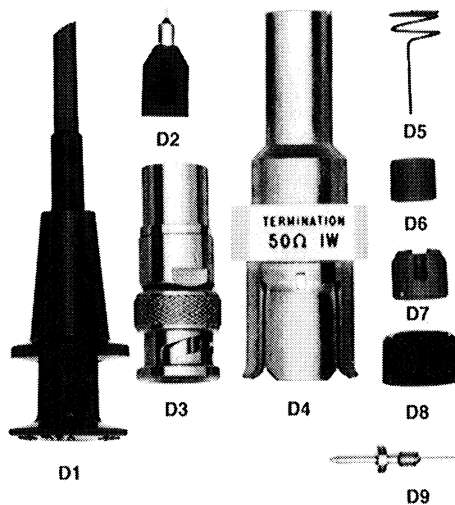


## CABLE MARKER SETS (not pictured).

DESCRIPTION	PART NUMBER
FOR 1/8 in dia cable (P6053B, P6062B, P6063B, P6075)	016-0130-00
FOR 3/16 in dia cable	016-0127-00
FOR All modular cables (P610XA, P612X, P613X, P6230 families)	016-0633-00

## FOR P6201 probes

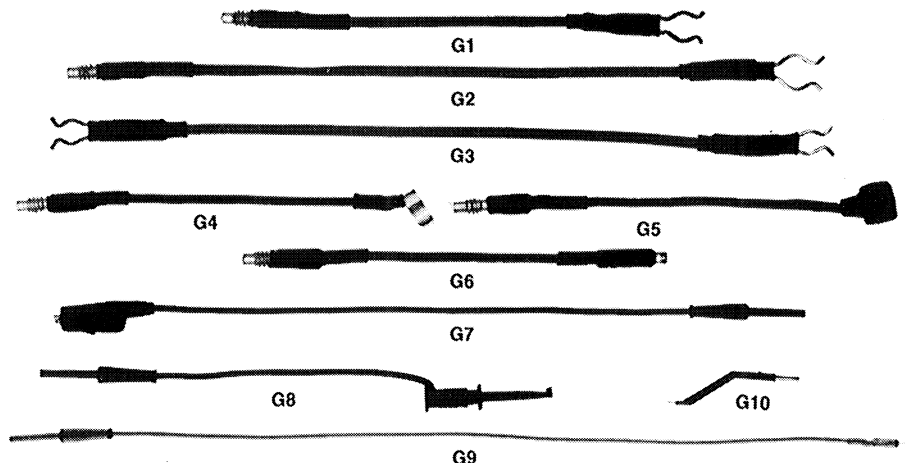
CODE DESCRIPTION	PART NUMBER
D1 Retractable hook tip	013-0135-00
D2 Probe tip to miniature probe tip adaptor	103-0164-00
D3 Probe tip to BNC adaptor	013-0145-00
D4 Probe tip to GR 50Ω termination adaptor	017-0094-00
D5 Ground contact	131-1302-00
D6 Insulating ground cover	166-0557-00
D7 Ground contact insulator	342-0180-00
D8 Ground lead insulator	166-0433-00
D9 Replaceable probe tip	206-0200-00



## GROUND LEADS

CODE DESCRIPTION	PART NUMBER
G1 Clip-on for P600X family, P6048, P6053B, P6055, P6062B, P6063B, P610XA family, P6125, P6148A and P6149A probes	175-0263-01 3 inches 5 inches 12 inches
G2 Clip-on for P6202A, P6420 and S-3A	175-1017-00 6 inches
G3 Clip-on interconnect for P6055	175-1256-00 6 inches
G4 Probe tip clip-on lead for all miniature size probe tips	195-6176-00 3 inches
G5 Probe tip cap lead for all miniature size probe tips	175-0849-00 3 inches 6 inches

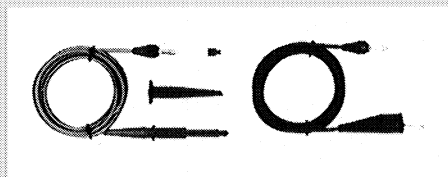
G6 Screw-in lead for P6054, P6075, P6201 and 7A11 probes.	175-0848-00 3 inches 5 inches 12 inches
G7 Alligator clip for P612X, P613X and P6230 family probes	195-1870-00 8 inches
G8 Microhook for P612X, P613X and P6230 family probes	195-4104-00 6 inches
G9 Lead for P612X, P613X and P6230 family probes	195-1870-01 12 inches
G10 Low impedance contact for P613X and P6230 family probes.	195-4240-00 2 inches





# PROBE ADAPTORS AND CONNECTORS

## TEST LEADS



Test Lead, Red, 4 ft	012-0426-00
Test Lead, Black, 4 ft	012-0426-01
Test Lead, Black, 4 ft	012-0425-00
Test Lead set includes 012-0425-00, 012-0426-00, and 013-0107-03	012-0427-00

## LOGIC PROBE TEST LEADS

16 pin low profile Dip Clip (can be used with 14 or 16 pin ICs)	015-0330-00
10 wide comb set (grabber tips not included)	012-0747-00

## PERSONALITY MODULE TEST LEADS

40 Pin Dip Clip—10 cm cable (order M/F adaptor below)	015-0339-00
40 Pin Dip Clip—30 cm cable (order M/F adaptor below)	015-0339-02
Male Adaptor for 40 pin Low profile Dip Clip	380-0560-05
Female Adaptor for 40 pin Low profile Dip Clip	380-0647-01

## SUBMINIATURE PROBE ACCESSORIES

KlipKit: Two IC clips, 4 signal/ground pins and information sheet	013-0197-00
Signal/ground pins, packets of four	131-3288-02
Probe to BNC Adaptor	013-0195-00

## PATCH CORDS

<b>BNC to BNC, 18 in.</b>	
Red	012-0087-00
Black	012-0086-00
<b>BNC to banana plug-jack, 18 in.</b>	
Red	012-0091-00
Black	012-0090-00
<b>Banana plug-jack to banana plug-jack, 18 in.</b>	
Red	012-0031-00
Black	012-0039-00
<b>Pin-jack to pin-jack, 0.08 in. dia. pin</b>	
Red, 8 in	012-0179-00
Red, 18 in	012-0180-00
Black, 8 in	012-0181-00
Black, 18 in	012-0182-00

## COAXIAL CABLES

<b>BNC</b>	
Coaxial, 50 Ω, 42 in	012-0057-01
Coaxial, 75 Ω, 42 in	012-0074-00
Coaxial, 93 Ω, 42 in	012-0075-00
Coaxial, 50 Ω, 18 in	012-0076-00
Coaxial, 50 Ω, 18 in, Male to Female	012-0104-00
Coaxial, 50 Ω, ±1% Precision, 36 in	012-0482-00
<b>BSM</b>	
BSM Female to BNC Male Coaxial, 10 in, RG58	012-0128-00
BSM Female to BNC Male Coaxial, 18 in, RG58	012-0127-00

## GR 50 Ω

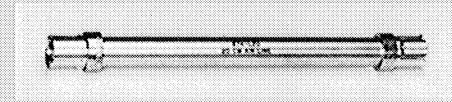
Coaxial, 10 ns, RG58A/U, 6 ft	017-0501-00
Coaxial, 5 ns, RG213/U, 3 ft	017-0502-00
Coaxial, 1 ns, RG58A/U*, 8 in	017-0503-00
Coaxial, 20 ns, RG213/U, 13 ft	017-0504-00
Coaxial, 2 ns, RG58A/U, 14 in	017-0505-00
Coaxial, 5 ns, RG58A/U, 3 ft	017-0512-00
Coaxial, 10 in, RG213/U	017-0513-00
Coaxial, 20 in, RG213/U	017-0515-00

\*Connector on one end only.

## N 50 Ω

Coaxial N connectors, 6 ft	012-0114-00
<b>SMA (3 mm) 50 Ω</b>	
Coaxial, 2 ns, Male to Female	015-1005-00
Coaxial, 5 ns, Male to Female	015-1006-00
Coaxial, semirigid 500 ps	
4.5 in Male only	015-1015-00
Coaxial, semirigid 750 ps	015-1017-00
Coaxial, 1 ns	015-1019-00

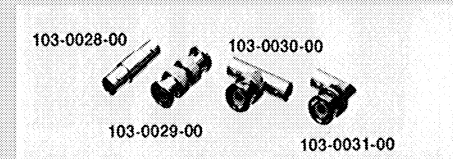
## 50 Ω AIR LINE



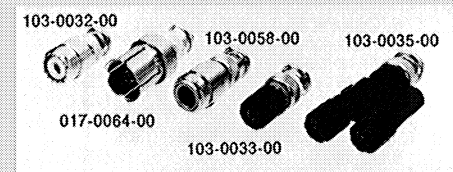
The 20 cm 50 Ω air line is useful as a time-delay device and as an absolute impedance in a time-domain reflectometer system. The characteristic impedance is 50 Ω ± 0.4%. Time delay is 0.6698 ns ± 0.4%.

**50 Ω Air Line** 017-0084-00

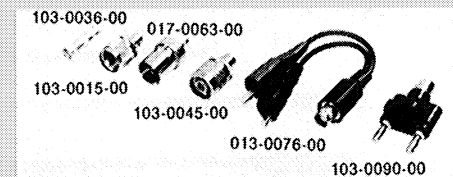
## ADAPTORS



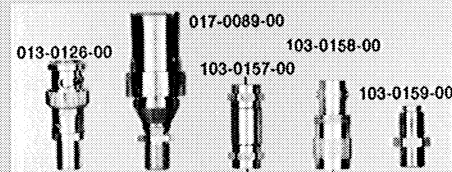
BNC Female to BNC Female	103-0028-00
BNC Male to BNC Male	103-0029-00
BNC T	103-0030-00
BNC Elbow Male to Female	103-0031-00



BNC Male to GR	017-0064-00
BNC Male to UHF Female	103-0032-00
BNC Male to Binding Post	103-0033-00
BNC Male to Dual Binding Post	103-0035-00
BNC Male to N Female	103-0058-00



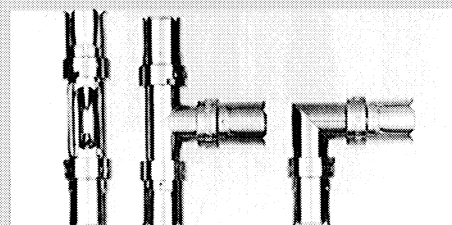
BNC Female to clip leads	013-0076-00
BNC Female to GR	017-0063-00
BNC Female to UHF Male	103-0015-00
BNC Female to BSM Male	103-0036-00
BNC Female to N Male	103-0045-00
BNC Female to Dual Banana	103-0090-00
BNC Female to EZ Ball	013-0076-01



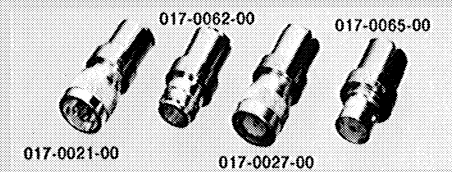
"F" Female to BNC Male	013-0126-00
"F" Female to GR874	017-0089-00
"F" Male to "F" Male	103-0157-00
"F" Male to BNC Female	103-0158-00
"F" Female to "F" Female	103-0159-00



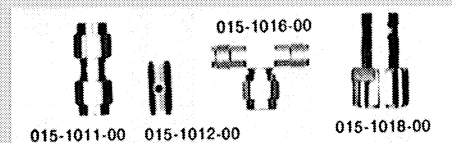
GR to BNC Female	017-0063-00
GR to BNC Male	017-0064-00
50 Ω termination, thru-line (GR to BNC Male)	017-0083-00



GR Insertion Unit	017-0030-00
GR T	017-0069-00
GR Elbow	017-0070-00

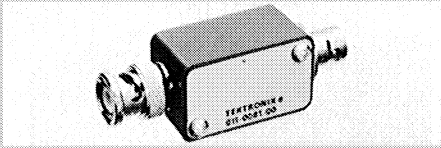


N Male to GR	017-0021-00
N Female to GR	017-0062-00
N Male to BNC Female	103-0045-00
N Female to BNC Male	103-0058-00



SMA Male to Male	015-1011-00
SMA Female to Female	015-1012-00
SMA T	015-1016-00
SMA Male to BNC Female	015-1018-00

## ACCESSORY HOUSING



Accessory housing without electrical components is useful for applications requiring special circuitry.  
Accessory Housing ..... 011-0081-00

## ATTENUATORS—TERMINATORS



**BNC**  
50 Ω ± 0.1% precision feedthrough termination (dc - 100 kHz, 11 V RMS maximum) ..... 011-0129-00  
50 Ω feedthrough termination\*1 ..... 011-0049-01  
50 Ω 10X (20 dB) attenuator\*2 ..... 011-0059-02  
50 Ω 5X (14 dB) attenuator\*2 ..... 011-0060-02  
50 Ω (6 dB) attenuator\*2 ..... 011-0069-02  
50 Ω 2.5X (8 dB) attenuator\*2 ..... 011-0076-02  
50 Ω feedthrough termination (5 W)\*3 ..... 011-0099-00

**vswr**  
\*1 < 1.1 dc - 250 MHz and < 1.2 dc - 500 MHz.  
\*2 < 1.1 dc - 1.0 GHz and < 1.2 dc - 2.0 GHz.  
\*3 1 dc - 100 MHz.

**Characteristics**—Dc resistance is 50 Ω ± 1 Ω.  
Attenuation accuracy is ± 2% dc, ± 5% at 2 GHz.  
Power rating (except 011-0099-00) is 2 W average.

75 Ω feedthrough termination ..... 011-0055-00  
93 Ω feedthrough termination ..... 011-0056-00  
50 Ω to 75 Ω minimum loss attenuator ..... 011-0057-00  
50 Ω to 93 Ω minimum loss attenuator ..... 011-0058-00  
75 Ω 10X attenuator ..... 011-0061-00  
93 Ω 10X attenuator ..... 011-0062-00  
600 Ω feedthrough termination (1 W, dc to 1 MHz) ..... 011-0092-00  
75 Ω to 50 Ω minimum loss attenuator (ac coupled) ..... 011-0112-00

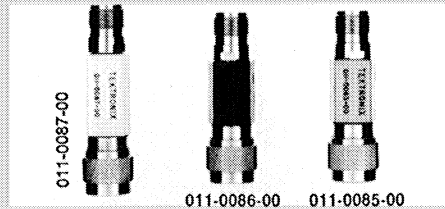
**Characteristics**—Accuracy of indicated attenuation ratio is ± 2% at dc.  
Power rating of attenuators is ½ W and terminations 1 W.  
Voltage standing wave ratio (vswr) not specified.



**GR 50 Ω**  
50 Ω 10X attenuator ..... 017-0078-00  
50 Ω 5X attenuator ..... 017-0079-00  
50 Ω 2X attenuator ..... 017-0080-00  
50 Ω termination, end-line ..... 017-0081-00

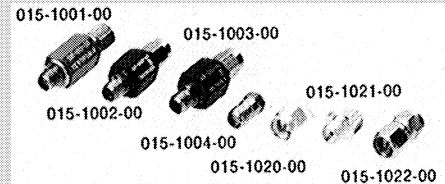
**Characteristics**—Accuracy of indicated attenuation ratio is ± 2% at dc, ± 3% at 1 GHz. Voltage standing wave ratio (vswr) is < 1.1 up to 1 GHz. Power rating is 1 W.

## ATTENUATORS—TERMINATORS (Con't)



**N 50 Ω**  
10 dB attenuator ..... 011-0085-00  
20 dB attenuator ..... 011-0086-00  
40 dB attenuator ..... 011-0087-00

**Characteristics**—Frequency range is dc to 12.4 GHz. Power rating is 2 W average, 300 W peak. Impedance is 50 Ω ± 1.0 dB.

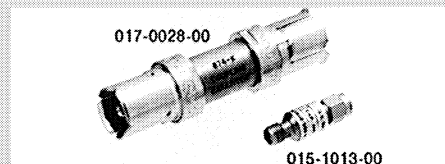


**SMA (3 mm) 50 Ω**  
50 Ω 2X attenuator ..... 015-1001-00  
50 Ω 5X attenuator ..... 015-1002-00  
50 Ω 10X attenuator ..... 015-1003-00  
50 Ω termination Female ..... 015-1004-00  
Short-Circuit termination Male ..... 015-1020-00  
Short-Circuit termination Female ..... 015-1021-00  
50 Ω termination Male ..... 015-1022-00

### Characteristics

	Dc - 12.40 GHz		12.41 - 18.00 GHz		Power
	Attenuation		Attenuation		
	Accuracy	Vswr	Accuracy	Vswr	
Termination	± 1 Ω	1.15	± 1 Ω	1.15	0.5 W
2X (6 dB)	± 0.75 dB	1.40	± 1.00 dB	2.00	1.0 W
5X (14 dB)	± 0.75 dB	1.40	± 1.00 dB	1.60	1.0 W
10X (20 dB)	± 0.75 dB	1.40	± 1.00 dB	1.60	1.0 W

## 50 Ω COUPLING CAPACITOR



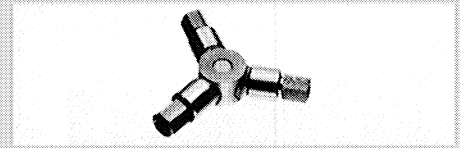
The coupling capacitor is a short length of coaxial line with a disk capacitor (4700 pF, ± 20%) in series with the inner conductor. Reflection ratio (in 150 ps tdr system), is 0.03 maximum. Voltage rating is 200 V.

**Coupling Capacitor SMA (3mm)** ..... 015-1013-00

The coupling capacitor is a short length of coaxial line having a disk capacitor (4700 pF) in series with the inner connector. High frequencies are transmitted with small reflection, but dc and low frequencies are blocked. Voltage rating is 500 V.

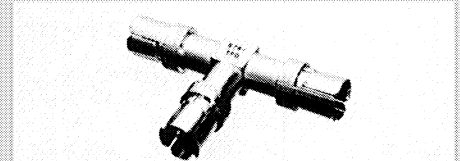
**Coupling Capacitor GR** ..... 017-0028-00

## 50 Ω POWER DIVIDERS



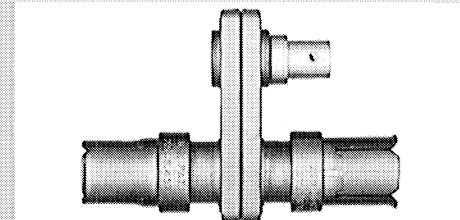
This coaxial tee is designed for use in broad-band 50 Ω systems where the mismatch introduced by ordinary "Tee" connectors is undesirable. Load isolation is nominally 6 dB while the voltage attenuation ratio is nominally 2X (input to either load arm, other load arm terminated in a standard 50 Ω termination). Maximum vswr is 1.50 from dc to 12.00 GHz and 1.90 from 12.01 to 18.00 GHz.

**Power Divider SMA (3 mm)** ..... 015-1014-00



This coaxial tee has a 16.67 Ω resistor in each leg, connected so that the tee looks like 50 Ω if two legs are terminated in 50 Ω. It is designed for use in broad-band 50 Ω systems where the mismatch introduced by ordinary "Tee" connectors is undesirable. It is especially useful in a time-domain reflectometer setup where test line, pulser, and oscilloscope must be coupled with a minimum of reflection-producing discontinuities.

**Power Divider GR** ..... 017-0082-00



**CT-3 Signal Pickoff**  
Vswr 1.2 at 1.5 GHz 50 Ω ..... 017-0061-00





C-4

A camera can be key to your measurement system. It allows you to capture single events, to document and communicate results with clarity and credibility. Tektronix cameras are designed especially for Tek oscilloscopes, monitors and other products, and are available to meet a wide range of performance specifications.

Note that the relative light gathering ability of all lenses used in Tek cameras is referenced to the f/1.9, 0.85 magnification lens, which is arbitrarily rated at 1.0. For recording a stored or stable recurrent CRT display, a lens as slow as the f/16 type of the C-5C camera may be adequate. But to record a fast, dim, single-sweep trace, you may need a lens as fast as the f/1.2 types used in the C-51 camera.

Except for the C-30 Series and C-4, all Tektronix cameras have a viewing port which provides a binocular view of the CRT. All Tek cameras except the C-5C, C-7 and C-4 are hinge mounted and can be swung aside to allow a wide-angle view of the CRT. The C-5C and C-7 are light enough to be easily slipped off the CRT bezel.

A writing speed enhancer which provides automatic controlled film fogging to increase writing speed is also available. (Not available for the C-5C, C-7 or C-4.)

Three types of backs are offered on Tektronix cameras: roll, pack and 4x5 Graflok.<sup>™</sup>

### Buy Polaroid film directly from Tektronix!

Check the chart on the opposite page for film types. Ordering information on page 27. Order either from your local Tektronix Sales Office or through the Tektronix National Marketing Center.



C-5C

### C-4 Ordering Information

**(One hood included, additional hoods must be purchased separately. See chart at right.)**

**Includes:** Body, Pistol Grip (122-0901-00); hood (122-0894-01); operator manual (070-5000-01).

**Option 01** — Delete Hood (Body only).

**Option 02** — Substitute 122-0895-01 Hood.

**Option 03** — Substitute 122-0896-01 Hood.

**Option 11** — Substitute 122-0898-01 Hood.

**Option 12** — Substitute 122-0899-01 Hood.

### C-5C Ordering Information

**Includes:** Adaptor hood (016-0357-01); flash unit (016-0642-02); instruction manual (070-2824-00).

**Option 01** — 016-0357-01 adaptor hood, no flash

**Option 02** — 016-0359-01 adaptor hood, no flash

**Option 03** — 016-0358-01 adaptor hood with flash

**Option 04** — 016-0359-01 adaptor hood with flash

### C-7 Ordering Information

C-7 requires a power source (does not come as a standard accessory). Order Opt. 30, Opt 31, or use your own power via Lemo connector.\*

**Includes:** Adaptor hood (016-0357-01); Flash; print holding chamber (122-1039-00); circuit board covers for 0.67 mag (200-3074-00); for 0.87 mag (200-3031-00); operator manual (070-5127-00).

**Option 01** — 016-0357-01 Hood and no Flash

**Option 02** — 016-0359-01 Hood and Flash

**Option 03** — 016-0359-01 Hood and no Flash

**Option 04** — 016-0358-01 Hood and Flash

**Option 05** — 016-0358-01 Hood and no Flash

**Option 20** — Camera Body only, no Flash or Hood

**Option 30\*** — With 016-0799-01 Battery Pack (batteries not included)

**Option 31\*** — With ac Power Supply (110 V)

**Option 31\*** — With ac Power Supply (110 V)

**Option 31\*** — With ac Power Supply (110 V)

\*One of each power source can be ordered.



C-7

### C-30 Series Ordering Information

("P" denotes that the camera has a 3 in x 4 in pack film back. All models include Polaroid pack film back.)

**C-30BP** Camera

**Includes:** Polaroid pack film back (122-0752-02); split-image focus plate (387-0893-02); mounting adaptor (016-0306-01); instruction manual (070-2825-00).

**Option 01** — Expanded Field of View

**Includes:** Same as C-30BP except it comes with 016-0269-03 mounting adaptor instead, plus corrector lens (352-0341-01).

**C-31BP** Camera

**Includes:** Same as C-30BP, except instruction manual 070-2869-00 instead

**Option 01** — Expanded Field of View

**Includes:** Same as C-31BP except it comes with 016-0269-03 mounting adaptor instead, plus corrector lens (122-0980-00).

### C-50 Series Ordering Information

"P" Models accept only Polaroid back film. "G" Models have a Graflok type back that requires a film holder (see page 27 for film holders). C-59 does not include 8 AA size alkaline batteries.

**C-51G**

**Includes:** Mounting adaptor for all 7000, 5000, and small 600 Series (016-0249-06); camera visor (337-0411-02); Graflok film back (122-0931-01) with integral focusing screen, instruction manual (070-1011-03).

**C-51P** Camera

**Includes:** Same as C-51G except it has a Polaroid pack film back (122-0926-02) instead of Graflok film back, and a focus plate (387-0893-02).

**C-53P** Camera

**Includes:** Same as C-51P.

**C-59AG** Camera

**Includes:** Same as C-51G except instruction manual (070-3632-00).

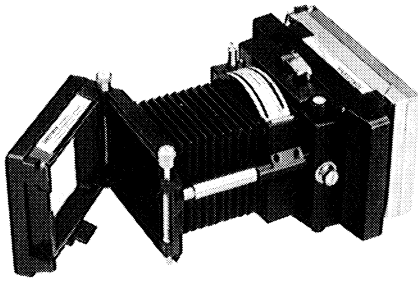
**C-59AP** Camera

**Includes:** Same as C-59AG.

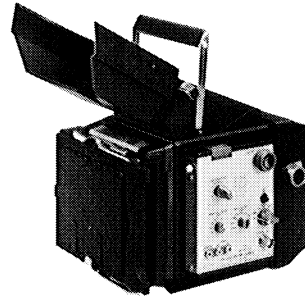
**C-59A Adaptor Frame w/Corrector Lens**

**Kit** — Expands the field of view to fully cover the 6½ inch CRT and adjacent scale readout characters of the 576 Curve Tracer and 5030 Series oscilloscopes. The slip-on corrector lens (352-0293-00) reduces the effective magnification of the C-59 from 0.67 to 0.5 so it can record the entire display on Polaroid 3½ in x 4½ in film (for the C-59A camera only). Adapts camera to 576, 5030, and 5031. Order 016-0288-01.

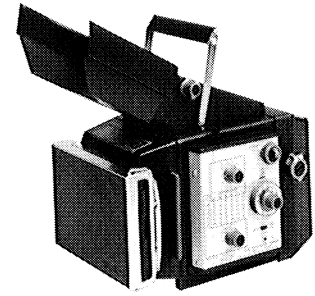




C-31 BP  
Option 01



C-51G



C-59AP

## Camera Selection Guide

Camera	C-51	C-53	C-59A	C-30B	C-31B	C-5C	C-4	C-7
<b>Features</b>	Fastest writing speed Adjustable film & shutter speed Built-in view port Remote shutter actuation Interchangeable film backs Single sweep mode	General purpose for instruments with 8 cm x 10 cm CRTs Adjustable film & shutter speed Built-in view port Remote shutter actuation Interchangeable film backs Single sweep mode	General purpose for CRTs up to 6 1/2 inches, low cost Adjustable film & shutter speed Built-in view port Internal batteries Interchangeable film backs	Continuously variable magnification Dual swing-away hinge for viewing the CRT Easy operation Interchangeable film backs Compact size	Max writing speed for portable scopes Dual swing-away hinge for viewing the CRT Easy operation Interchangeable film backs Compact size	Low cost, mounts on most scopes Graticule illuminator Viewing door Easy to use Fixed focus OEM pricing available	Lowest priced Tek camera, hand held Easily interchangeable hoods Scope and video hoods Easy to use Fixed focus OEM pricing available	Motorized film back Auto developing prints. Uses Polaroid AutoFims. Audible indicators Remote shutter actuation Fixed focus OEM pricing available
<b>Lens Apertures</b>	f/1.2 to f/11	f/1.9 to f/16	f/2.8 to f/16	f/1.9 to f/16	f/1.3 to f/16	f/16 fixed	f/4.5 to f/32	f/16 fixed
<b>Magnification</b>	0.5	0.85	0.67	Variable: 0.7 to 1.5 (0.8 w/Opt 01)	0.5 (0.43 w/Opt 01)	0.67 or 0.85	0.80, 0.70, 0.85 depending on hood used	0.67 or 0.85
<b>Relative light gathering</b>	3.0	1.0	0.65	1.0 (0.9 w/Opt 01)	2.7 (2.9 w/Opt 01)	0.02	0.14 (0.85 mag) 0.18 (0.70 mag)	0.02
<b>Field of view with Polaroid pack (cm)</b>	8 x 10		10.2 x 12.7	8 x 10 (Opt 01) 7 x 9 (std)		9.8 x 12.2 or 8 x 10	9.1 x 11.87 (std) 10.4 x 13.5 (Opt 02) 8 x 10 (Opt 03)	8.1 x 10.7 or 10.3 x 13.8
<b>Resolving Power: at center: lines/mm</b>	30 or better		10 or better	at 1.1 25 or better	30 or better	6 or better		
<b>at corners: lines/mm</b>	15 or better		4 or better	10 or better	15 or better	3 or better		
<b>Shutter Type</b>	Electrical, 1/60 to 4 s (bulb, time, single sweep), remote shutter actuation, x-sync, scope " + gate " input		Mechanical, 1/125 to 1 s (bulb and time) x sync			Electrical, 1/10 to 5 s. (Time Mode)	Mechanical, 1/125 s to 1 s (bulb), x-sync	Electronic Actuated 1/10 to 5 s. (Time Mode)
<b>Film backs</b>	Polaroid pack standard with "P" models. Graflok back standard with "G" models			Polaroid pack standard with "P" models. Graflok back available (016-0487-00)		Polaroid pack noninterchangeable		Polaroid AutoFilm noninterchangeable (CB-33)
<b>Recommended films (see page 27 for ordering information)</b>	612 667	612 667 691	667 669 691	667 612 669 691	612 667	667 669 691	667 669 691	AutoFilm™ Only 331 339
<b>Options</b>			Adaptor frame & corrector lens kit for 576 & 5030, reduces magnification to 0.5, order 016-0288-01	01 Provides the correct adaptor (016-0269-03) for Tek portables with 8 cm x 10 cm displays. Also includes a corrector lens for optical correction.		See page for specific selections of options		01 (0.85 mag) 02 (0.80 mag) 03 (0.70 mag) 11 (8.3 in diagonal) 12 (12.5 in diagonal)
<b>Optional Accessories</b>	Mounting adaptors, battery pack (for C-51, C-53), writing speed enhancer (one for each model), Polaroid pack film back, Graflok 4 in x 5 in back and film holders, x-sync connector, carrying case, foot switch (for C-51 and C-53)			Mounting adaptors, writing speed enhancer, Polaroid pack film back, Graflok 4 in x 5 in back and film holders, and carrying case, x-sync cable, portra lens (for C-30B only)		Mounting hood adaptors, flash unit, viewing door	Scope and video adaptor hoods, color filter kit (122-0909-00)	Film, foot switch, mounting hood adaptors, flash unit, battery pack, 110 ac power supply

# CAMERAS

## Tek has a camera for any scope. Find yours!

As the leading name in scope technology, it's our business to see to it there's a camera to match your documentation demands.

Note: Check with your Tektronix representative for the correct camera adaptor. Some cameras require a special bezel adaptor.

Oscilloscope or Display Device	TEK CAMERAS		
	High Writing Rate	General Purpose	Low Cost
<b>Tek 5000 Series</b>			
5100 Series Non-storage: 5110, 5112, D10, D12, 577/D1, 5116		C-59A	C-4, OPT02, C-5C, C-7, C-7 OPT01
5100 Series Storage: 5111, 5111A, 5113, 5115, D11, D13, D15, 577/D2		C-59A	C-4 OPT02, C-5C, C-7, C-7 OPT01
5400 Series Non-storage: 5403/D40, 5440, 5444, D40		C-59A	C-4 OPT02, C-5C, C-7, C-7 OPT01
5400 Series Storage: 5403/D41, 5441 D41	C-51	C-53	C-4 OPT02, C-5C, C-7, C-7 OPT01
5223		C-59A	C-4 OPT02, C-5C, C-7, C-7 OPT01
<b>Tek 7000 Series</b>			
8 cm x 10 cm Display i.e.: 7104, 7503, R7103, 7504, 7514, 7613N, 7623, 7633, 7704(A), 7834, 7844, 7854, R7903, 7904, 7904A, 7934, T922R	C-51, C-31B OPT01	C-53, C-30B OPT01	C-4 OPT02, C-5C, C-7, C-5C OPT01, C-7, C-7 OPT01
Large Screen Display i.e.: 7403, 7603, 7603N		C-59A	C-4 OPT02, C-5C, C-5C OPT01, C-7, C-7 OPT01
<b>Tek Portables</b>			
Older with 0.8 cm Graticule i.e.: 422, 453, 454, 485, 491	C-31B	C-30B	C-4
Newer w/1 cm Graticule i.e.: 2235 Option 01; 2400 Series, 455, 464, 465, 465B, 465M, 466, 468, R468, 475, 475A, 432, 434, 442	C-31B OPT01	C-30B OPT01	C-4, C-7 OPT02, C-7 OPT03, C-5C OPT02, C-5C OPT04
1 cm Nonilluminated Graticule: 2213(A), 2215(A), 2220, 2230, 2235(L), 2236			C-7 OPT02, C-5C OPT04
1/4 inch Graticule i.e.: 305, 314, 326, 335, 336, 1501, 1502		C-30B OPT01	C-4 OPT03
TM 500 i.e.: SC 502, SC 503, SC 504		C-30B OPT01	
Nonilluminated Graticule 2335, 2336, (YA), 2337			C-7 OPT02, C-5C OPT04
<b>Tek Display Monitors</b>			
8 cm x 10 cm i.e.: 601, 602, 605, 606, 606B, 607		C-59A	C-4 OPT02, C-5C, C-7, C-7 OPT01
Large Screen 10 x 12 cm i.e.: 603, 604, 608, 620, 624, 634		C-59A	C-4 OPT02, C-5C, C-7, C-7 OPT01
<b>Tek Older 5 inch Round</b>			
502, 503, 504, 515, 516, 519, 530 & 540, 550/580 Series, 575	C-51	C-53	C-59A
<b>Tek Older 5 inch Rectangular</b>			
560 Series i.e.: 561, 564, 567, 568		C-53	C-59A

Oscilloscope or Display Device	TEK CAMERAS		
	High Writing Rate	General Purpose	Low Cost
<b>Tek TV Products</b>			
380, 381		C-30B OPT01	
520, 520A, 521 521A, 522A		C-59A	
1480C		C-53	C-59A
528A, 1420, 1421, 1422, 1424		C-59A	C-4 OPT02, C-5C, C-7, C-7 OPT01
529		C-53	
1710B, 1711B, 1740, 1741, 1742, 1750		C-30B OPT01	C-4, C-7 OPT02, C-7 OPT03, C-5C OPT02, C-5C OPT04
<b>Tek Spectrum Analyzers</b>			
491		C-30B	
492, 492P, 494, 494P, 496, 496P, 2755-P		C-59A	C-4 OPT02, C-5C, C-7, C-7 OPT01
<b>Tek Miscellaneous</b>			
576, 5030, 5031		Only C-59(A)	
OF 150, OF 151, OF 152, OF 235, 1DR			C-4 OPT02, C-5C, C-7, C-7 OPT01
1240			C-4 OPT11
T900 Series, excluding T922R, (see 7000 Series)			C-5C OPT03, C-7 OPT04
<b>Hewlett Packard*</b>			
1715A/22B/ 25A/26A/27A 1740A/41A/42A/ 43A/44A			C-4, C-5C OPT02*** C-5C OPT04***
1745A/46A (9.5 x 12 cm)			C-4 OPT02
5" rectangular CRTs: 140B/T, 141B/T, 180 C/D, 181/AR/T/IR, 183, 191A, 193A, 1600A, 3580A** 3720A/21A/90A, 3702B/12A 8412/B, 853A W/8557A/ 8558B/8559A, 8754A			C-4 OPT02, C-5C (Hand held), C-5C OPT01 (Hand held), C-7 (Hand held), C-7 OPT01 (Hand held)
1200A/B, 1201B, 1205B, 1220B, 1222B			C-5C (Hand held), C-7 (Hand held)
1332A/33/35A/ 36A/36S/ 40A/45A/ 46A/47A, 1980 A/B/S, 3582A/85A, 5181A, 5420A/23A, 8505A/504A, 565A/66A/66S/ 68A/68S, 8756A/S		C-59A	C-4 OPT02, C-5C, C-5C OPT01, C-7, C-7 OPT01
5" round CRTs: 140A, 141A, 8414B/8413		C-59A	
182T, 8755S			C-4 OPT02

\*HP instruments without illuminated gratitudes which are non-storage require a C-5C or C-7 with flash. \*\*Note: C-50 Series will not fit. \*\*\*Bezel is a little too wide for hood, i.e. a tight fit.

<b>B &amp; K</b>			
491		C-30B	
1466A/76A/ 77/79B, 1500/22/25/ 35A/40/ 60/66A/ 70/70A/ 90/90A/96	C-31B OPT01	C30B OPT01	C-4, C-5C OPT02, C-5C OPT04

Oscilloscope or Display Device	TEK CAMERAS		
	High Writing Rate	General Purpose	Low Cost
<b>Gould*</b>			
OS250, 260, OS1000A, OS1400, 1403, 1420 OS3000/A, 30001/A, 3300B, 3350, 3351 OS4000, 4020/22/24, 4030, 4035/135, 4040/42/43/44			C-5C OPT04
OS4500			C-4 OPT02
*Gould instruments which do not have illuminated gratitudes and are non-storage require C-5C with flash.			
<b>Hameg</b>			
HM203*/204/ 208/605/ 705/808			C-4 OPT02
*Requires C-5C or C-7 with flash.			
<b>Hitachi</b>			
V-134/151*/ 152F*/202F/ 203K/211*/ 212*/222/ 223/302F*/ 352F/353F/ 422/423/ 650F/1050F/ 1070/1100A, VC-6015/6041			C-4 OPT02, C-5C, C-5C OPT01
*Requires C-5C with flash.			
<b>Iwatsu</b>			
SS5321/ 5710C/D SS5702/05/06, 5711C/D, 5802		C-30B OPT01	C-4, C-5C OPT02, C-5C OPT04
SS8120		C-59A	C-4 OPT02
TS8123		C-59A	C-5C, C-7, C-7 OPT01
<b>Kikusui</b>			
COS5020/21/ 40/41/42/ 60/60A, COS5100, COS5513/16ST/ 20/30A/31, COS5630/ 50/50E, COS6100/6150, DSS6520/20A/21/22	C-31B OPT01	C-30B OPT01	C-4, C-5C OPT02, C-5C OPT04
<b>Leader</b>			
LB051/M/MV/ 513A/514A/ 514AP/516/ 517/518/ 522/523/524/ 524L/525L, 5825/5860A			C-4, C-5C OPT02, C-5C OPT04
<b>Phillips</b>			
PM3207/11/12/ 15/17/19, 3206/32/ 33/34/62/ 63/63X, 3264/66/67, 3305/3310/C, 3311/C, 3315, 3540/42/43			C-4, C-5C OPT02 (Hand held), C-5C OPT04 (Hand held)
<b>Tekada Riken</b>			
TR4122B			C-4 OPT02, C-5C

## ACCESSORIES

### Accessories and film for all Tek Cameras.

Product	Application	Order No.
<b>Replacement Film Backs</b>		
<b>Polaroid 3 1/4" x 4 1/4" Pack Film Backs</b>	C-12, C-19, C-13, C-27	122-0671-01
	C-30, C-30A/B Series	122-0752-02
	C-50 Series	122-0926-02
<b>Split-Image Focus Plate</b>	Fits inside pack back	387-0893-02
<b>Polaroid Replacement Roller Assemblies for Pack Film Backs</b> <i>Note: Because of mechanical differences, both roller assemblies are incompatible with each other's back.</i>	If your roller assembly is solid grey or two-tone grey	401-0304-00
	If your roller assembly is red and black	401-0303-00
<b>Graflok Type Film Backs/Film Holders</b> <i>Cameras with Graflok type backs must have a film holder (listed below) in order to be functional.</i>	C-12, C-27	122-0604-01
	C-30 Series	016-0487-00
	C-50 Series	122-0931-01
<b>Polaroid #545 Film Holder</b>	Polaroid 4x5" Single Exposure Film Packets	016-0201-01
<b>RH/10 120 Roll-Film Holder</b>	10 exposures 2 1/4 x 2 3/4 inch image	122-0736-01
<b>RH/50 70 mm Film Holder</b>	50 exposure, 2 1/4 x 2 1/4 inch image	122-0967-00
<b>Polaroid #550 Film Holder</b>	For Polaroid 4 x 5 pack films.	Available only through Polaroid (1-800-225-1618) in United States
<b>Polaroid #405 Film Holder</b>	For Polaroid 3 1/4 x 4 1/4 in pack films	
<b>Writing Speed Enhancers</b>		
<i>Increases a film's effective writing speed about three times for ASA3000 film.</i>	C-12, C-27	016-0280-02
	C-30A/B, C-31A/B	016-0284-02
	C-51	016-0279-02
	C-53	016-0300-02
	C-59/A	016-0290-02
<b>Polaroid Pack Films Available From Tek</b>		
<b>Polaroid 3 1/4" x 4 1/4" Pack Films</b> <i>Recommended for all cameras with a Polaroid 3 1/4" x 4 1/4" Pack Back</i>	Type 667—B&W print, no coating required, (3000 ASA) • 3 twin packs (48 prints) 006-6824-00 • 25 twin packs (400 prints) 006-6825-00	
	Type 612—B&W print, high contrast, (20,000 ASA) • 3 single packs (24 prints) 006-6822-00 • 50 single packs (400 prints) 006-6823-00	
	Type 669—Color print, (80 ASA) • 3 twin packs (48 prints) 006-6826-00 • 25 twin packs (400 prints) 006-6827-00	
	Type 691—Color transparency with mounts, (80 ASA) • 3 single packs (24 trans.) 006-6845-01 • 50 single packs (400 trans.) 006-6845-02	
<b>Polaroid Auto Film**</b> (for C-7 only)	Type 331—B&W print, with extended grey scale, (400 ASA) • 3 twin packs (60 prints) 006-6815-00 • 10 twin packs (200 prints) 006-6816-00	
	Type 339**1—Color print, (640 ASA) • 3 twin packs (60 prints) 006-6813-00 • 10 twin packs (200 prints) 006-6814-00	
<b>For technical assistance on Polaroid films and backs call Polaroid directly (800) 225-1618 toll free within the U.S. Outside the U.S. Polaroid has Service Centers and Offices, or write: Polaroid Corp., 784 Memorial Drive, Cambridge, MA 02139.</b>		
**1 Not recommended for oscilloscope use, requires electronic scan reversal of CRT to yield correct reading image on print.		
<b>C-4 Optional Accessories</b>		
<b>Scope Hoods</b>	Color Filter Kit	122-0909-00
	9.1 cm x 11.87 cm field of view (w/STD C-4)	122-0894-01
	10.4 cm x 13.5 cm field of view (w/OPT 02)	122-0895-01
	8.0 cm x 10.0 cm field of view (w/OPT 03)	122-0896-01
<b>Video Hoods</b>	8.3 in diagonal (with OPT 11)	122-0898-01
	12.5 in diagonal (with OPT 12)	122-0899-01

Product	Application	Order No.
<b>C-5C Optional Accessories</b>		
	Large Viewing Door for hoods	016-0630-00
	Graticule Flash Unit	016-0642-02
<b>Hoods</b> <i>(requires either a viewing door or flash, see above)</i>	5K, 7K, and T922R	016-0357-01
	T900 Series except T922R	016-0358-01
	2400, 2200, 46X and 475 Series	016-0359-01
<b>C-7 Optional Accessories</b>		
	Extra Print Holding Chamber	122-1039-00
	Foot Switch with 8 ft. Cable	260-1189-02
	Extra Battery Pack with Lemo Connector (8AA Alkaline batteries not included)	016-0799-01
	Lemo Connector for Power-in	131-0778-00
	Service (only) manual	070-5051-00
<b>Extra Ac Power Supply with Lemo Connector and a 8 ft. Cable</b>	STD 110V ac 50 Hz to 60 Hz (w/OPT 31)	119-1847-02
<b>Hoods/Flash/Viewing door</b>		See C-5C Section
<b>Polaroid Auto Film**</b> (for C-7 only)	Type 331—B&W print, with extended grey scale, (400 ASA) • 3 twin packs (60 prints) 006-6815-00 • 10 twin packs (200 prints) 006-6816-00	
	Type 339**1—Color print, (640 ASA) • 3 twin packs (60 prints) 006-6813-00 • 10 twin packs (200 prints) 006-6814-00	
<b>C-12, C-27 Optional Accessories</b>		
<b>Mounting Adaptors</b>	C-12 to 7000 Series and 5000 Series	016-0299-00
	C-12 to 530, 540, 550 Series	016-0226-01
	C-12 to 560 Series w/ rectangular CRTs	016-0217-00
	Carrying case	016-0208-01
	Film Backs	See "Film Holder" section
<b>C-30 Series Optional Accessories</b>		
	Carrying case	016-0587-00
	Portra Lens (C-30A/B Only)	016-0246-02
	X-sync Cable	012-0364-01
<b>Converting Option 01 Model To Standard Model</b>	The option 01 versions of the C-30B and C-31B Cameras can be converted to standard models by simply slipping off the corrector lens, removing the mounting adaptor, and adding an 016-0306-01 mounting adaptor.	
<b>Converting Standard Model To Option 01 Model</b> <i>A standard-model C-30B or C-31B can be converted to an Option 01 model by means of a conversion kit which contains a mounting adaptor (016-0269-03) plus the appropriate corrector lens: C-30B corrector lens (352-0341-01) or C-31B corrector lens (122-0980-00):</i>	Std C-30B to Option 01	016-0301-01
	Std C-31B to Option 01	016-0269-04
	Film Backs	See "Film Holder" section
<b>C-50 Series Optional Accessories</b>		
	Carrying Case	016-0177-00
	X-sync Connector Plug	134-0079-00
	Battery pack for C-51 and C-53 cameras (12 AA Alkalines not included)	016-0270-02
	C-59A Adapter Frame/ Connector lens kit for the 576 Curve Tracer and the 5030 Series scopes (includes corrector lens 352-0293-00)	016-0288-01
	Film Backs	See "Film Holder" section
	Foot Switch with 8 ft. Cable (For C-51 and C-53 only)	260-1189-02





The Tektronix J16 is a portable digital photometer/radiometer capable of making a wide variety of light measurements—in the laboratory, the field, or on the production line.

Eight quickly interchangeable probes are available for measuring illuminance, irradiance, luminance, light-emitting diode output, and relative intensity. Recalibration is not necessary when probes are interchanged. Connection of a probe to the J16 automatically selects the correct front panel units indicator. The 3½-digit LED display can be easily read under low ambient conditions.

All probes use silicon photo-diodes and multi-element glass filters for maximum stability and accuracy.

Under normal usage, the internal nickel cadmium batteries will operate the J16 for four hours. A battery charger is supplied. For continuous operation, an ac power supply is available to replace the battery pack.

A shoulder strap is also standard. The cabinet and probes have an integral thread socket (¼-inch x 20) for convenient mounting on a tripod or optical bench.

Application notes available from your Tektronix Representative:

**60W-5750** Photometry, Radiometry primer

**58A-2635** Luminous intensity and visible LED measurements

**58A-2702-1** Measuring pulsed light sources

**58A-2704-1** Radiant intensity and infrared emitting diode measurements

**58AX-2764-1** Television station applications

**58A-2912** Practical lighting measurements

**58A-2926-1** TV picture monitor color temperature adjustment

**58AX-3060-1** Photographic exposure measurements

**58AX-3252** Measuring the luminance of small areas of light

### Probe Characteristics

Application	Illuminance		Irradiance	Luminance		Uncorrected	Red LED
Probe	J6501	J6511	J6502/J6512	J6503	J6523	J6504	J6505
Range	US <sup>2</sup> 0.001 to 1999 footcandles <sup>1</sup>	0.001 to 1999 footcandles	0.001 to 1999 microwatts/cm <sup>2</sup>	0.1 to 199,900 footlamberts <sup>1</sup>	0.1 to 19,990 footlamberts <sup>1</sup>	Relative response only	0.001 to 1999 footcandles <sup>1†</sup>
	Metric (Opt. 02) <sup>2</sup> 0.01 to 19,990 lumens/m <sup>2</sup> (lux) <sup>1†</sup>	0.01 to 19,990 lumens/m <sup>2</sup> (lux)	0.01 to 19,990 milliwatts/m <sup>2</sup>	1 to 1,999,000 candelas/m <sup>2</sup> (Nits) <sup>1</sup>	1 to 199,900 candelas/m <sup>2</sup> (Nits) <sup>1</sup>	Relative response only	0.01 to 19,990 lumens/m <sup>2</sup> (lux) <sup>1†</sup>
Accuracy (Including J16)	Within 5% of NBS standards and ± 1 digit in last place. Calibrated with a 3100° K tungsten halogen light source traceable to NBS		Same as J6501, except calibrated with a 762 nm filter	Within 5% of NBS standards and ± 1 digit in last place. Calibrated with a 3100° K tungsten halogen light source traceable to NBS.		Probe-to-probe accuracy ± 5% with tungsten light source	Same as J6501, except calibrated with a 656 nm filter
Spectral Response	Within 2% (integrated) of CIE photopic curve.		Flat within ± 7% from 450 to 950 nm	Within 2% (integrated) of CIE photopic curve		UV enhanced silicon spectral curve (250 to 1200 nm)	Within 2% (integrated) of CIE photopic curve from 600 to 710 nm
Acceptance Angle	50% sensitivity at 48° off axis	Cosine corrected (180°)	50% sensitivity at 48° off axis	8°	1°	50% sensitivity at 48° off axis	
Stability and Repeatability	Within 2% per year						
Linearity	Within 2% over entire range enabling single point calibration						

<sup>1</sup> An additional decade of sensitivity is included and is usable if the J16 is carefully zeroed and used at a relatively stable temperature.

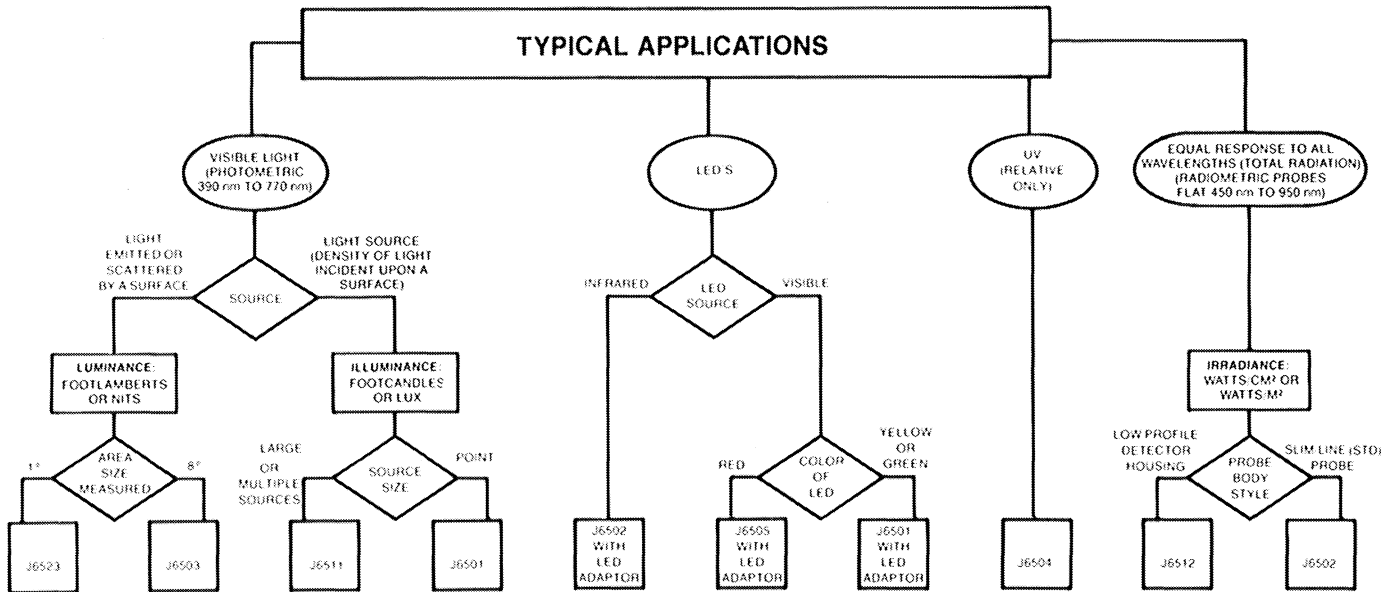
† 0.00001 to 199.9 candelas when used with 014-0047-00 LED adaptor or at 3.8 inches source-to-sensor spacing. Luminous intensity readings of higher intensity light sources may be easily made at correspondingly great distances using the formula: Footcandles x d<sup>2</sup> = candelas where d is distance from the source to the sensor in feet (For metric readings use lux x d<sup>2</sup> = candelas where d is distance from the source to the sensor in meters.) Request J16 Application Notes 58A-2635 and 58A-2704-1 for further information.

<sup>2</sup> U.S./METRIC CONVERSIONS

	U.S. to Metric	Metric to U.S.
Illuminance	Fc x 10.764 = Lux	Lux x 0.0929 = Fc
Luminance	Ft x 3.426 = Nits	Nits x 0.2919 = Ft

## J-16 PROBE SELECTION GUIDE

The following flowchart is an aid in selecting J-16 probes. The applications for the probes are too numerous to list, but this should help in your selection.



### Ordering Information

(Probes not included unless noted)

**J16** Photometer/Radiometer Battery Version with 115 V ac, 50 Hz to 400 Hz charger

**Includes:** Battery charger (119-0375-02); shoulder strap (346-0104-00); battery pack (016-0539-01); nonmetric version instruction manual (070-1879-00); or with Option 02 metric version instruction manual (070-1880-00).

**J16-TV** Photometer/Radiometer Package for TV Color CRT Set-up

**Includes:** Same as J16 plus J6502 irradiance probe, light occluder (016-0305-00), 42 inch probe extension cable (012-0414-02).

### Options (J16/J16-TV)

**Option 01**— Battery version with 230 V ac, 50 Hz. to 400 Hz charge.

**Includes:** — Same as J16/J16-TV except battery charger 119-0375-03 is substituted.

**Option 02<sup>1</sup>**— Metric Readout.

**Option 03**— 115 V ac Only Operation, 50 Hz to 400 Hz.

**Includes:** — Ac power pack (119-0404-00); shoulder strap (346-0104-00); nonmetric version instruction manual (070-1879-00); or with Option 02, metric version instruction manual (070-1880-00).

**Option 04**— 230 V ac Only Operation, 50 Hz to 400 Hz.

**Includes:** — Same as Option 03 except it has ac power supply 119-0404-01 substituted.

**Option 07**— BCD/Analog Output.

<sup>1</sup>Option 02 must also be ordered for probes.

### Probes

**J6501** Illuminance Probe

**J6502** Irradiance Probe

**J6503** 8° Luminance Probe

**J6504** Uncorrected Probe

**J6505** LED Probe, Includes LED Adaptor and 3 LED Holders

**J6511** Illuminance Probe, Cosine Corrected (with 25 ft cable)

**J6512** Irradiance Probe (with 6 ft cable)

**J6523** 1° Luminance Probe

### Probe Options

**Option 02**— Metric probes required for metric readout J16s (Option 02).

**Option 05**— Actual spectral curve of any probe (available on initial order).

### Optional Accessories

**42 in Probe Extender Cable**— Connects J16 to probe. Order 012-0414-02

**Probe Extender Cables**— Up to 30 ft in length are available on special order through your local Tektronix sales office.

**Light Occluder**— For TV color CRT balancing. Order 016-0305-00

**Filter Holder**— Mounts 1 in diameter filters, of up to 3/8 in thickness,<sup>1</sup> to probes (except J6511, J6512, J6523). Order 016-0527-00

**LED Adaptor**— With 3 LED Holders (included with J6505). Order 014-0047-00

**Tripod**— Order 016-0253-00

<sup>1</sup>Filters available from vendors such as: ORIEL (203) 377-7877 or CORION CORP. (617) 492-5065 and others.

### Power Packs

Power packs can be quickly changed by removing four corner screws on the J16's rear panel and sliding the power supply or battery pack out.

### Ac Power Supplies

**Ac Power Supply**— Allows J16 to be used without batteries.

115 V ac, 50 Hz to 400 Hz (included with Option 03). Order 119-0404-00

230 V ac, 50 Hz to 400 Hz (included with Option 04). Order 110-0404-01

### Battery Pack

**Spare Battery Pack**— Order 016-0539-01

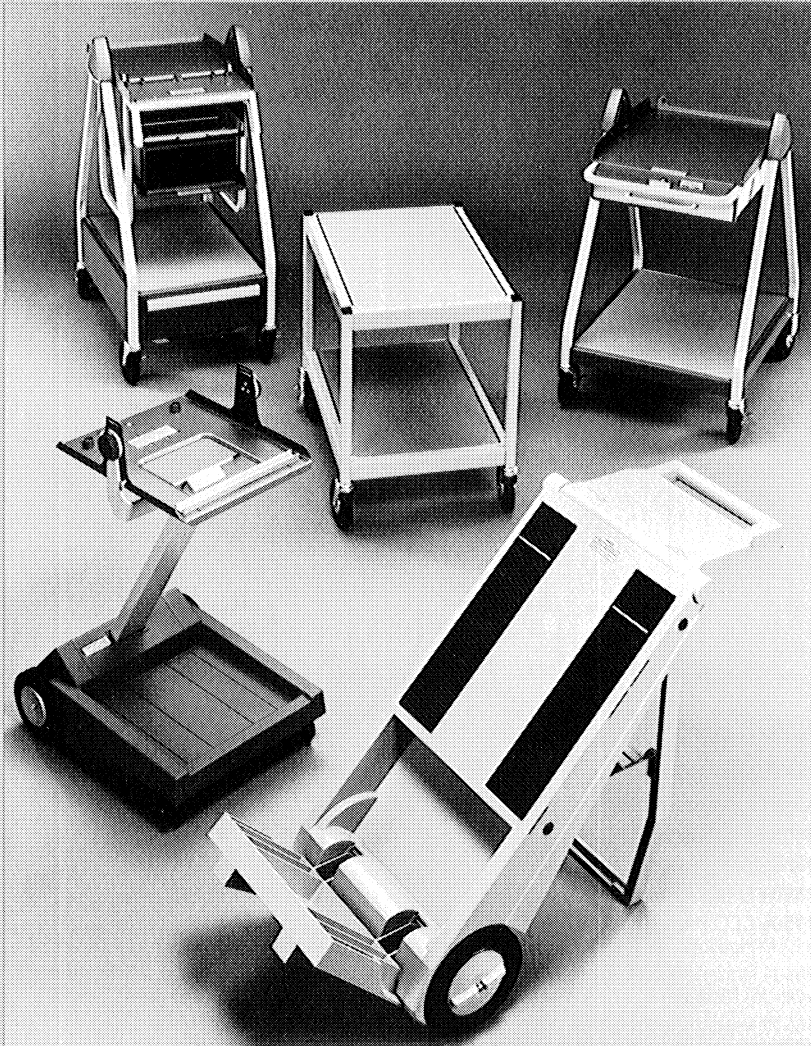
### Battery Chargers

When ordering a battery pack for your ac-powered J16, also order one of the following chargers.

**Battery Charger**— 115 V ac, 50 Hz to 400 Hz. (Included with Standard J16.) Order 119-0375-02

**Battery Charger**— 230 V ac, 50 Hz to 400 Hz. (Included with Option 01.) Order 119-0375-03

Within the basic limitations of the silicon sensors and the J16 design, a number of modifications are possible. Contact your local Tektronix Sales Office or Representative regarding special application requirements.



Tektronix SCOPE-MOBILE® Carts provide a full selection of rolling test equipment work stations, offering the quality and versatility needed by many test instrument users. They free up valuable table space and make sharing equipment between workbenches easy.

Tek carts are fully designed to accommodate more than just oscilloscopes—and more than instruments solely from Tektronix. For example, the K212 is a proven ideal choice for portable ultrasound instruments; the K217 for rack-width analyzing equipment.

Being versatile and well suited for use in a wide range of applications, Tek carts can accommodate most instruments from other equipment manufacturers. Designed for easy integration into your instrument systems, you'll find a Tek cart an indispensable system component—in and of itself—that helps facilitate and simplify your test and measurements tasks.

Whatever your requirements, Tek has a cart to fit your needs. OEM pricing is available for most models.

**Instrument/Cart Compatibility**

✓—Recommended x—Compatible

	K117	K212	K213	K213 Shell	K217	206
<b>Terminals/Copiers/Monitors</b>						
4000 Series						✓
4611/4612						✓
4631/4632						✓
4634/4635						✓
4644						✓
4660 Series						✓
4695						✓
4900						✓
4926/4970						✓
606B/608/620	x	x		x		
650 HR Series (Cabinet)					✓	x
670 Series					✓	x
<b>Logic Analyzers</b>						
1240/1241	✓	x	x			
308/318/338	x	x		x		
DAS 9100	x				✓	x
DAS 9200						✓
<b>Television/Spectrum Analyzers/Cable Testers</b>						
1410R Series	x				✓	x
1420 Series	x	✓				
1430/1440	x				✓	x
1450/1470 Series	x				✓	x
1480 Series Cabinet	x	✓		x		
1480 Series Rackmount	x				✓	x
1740/1750 Series	x	✓		x		
1910 (Cabinet)	x				✓	x
380	x	✓		x		
528A	x	✓		x		
R140 Series	x				✓	x
R520 Series	x				✓	x
1500 Series	✓	✓				
OF150 Series	✓	✓				
OF235	✓	✓				
490 Series	✓	✓				
2754/55	x				✓	x
<b>Oscilloscopes/Digitizers/Controllers</b>						
7000/5000 Series (Cabinet)			✓			
7000/5000 Series (Rackmount)	x				✓	
530/540/550/ 560 Series (Cabinet)			✓			
530/540/550/ 560 Series (Rackmount)					✓	
2200/2300/ 2400 Series	x	✓	x			
305/314/336	x	x		x		
400 Series	x	✓	x			
T900 Series	x	✓	x			
390AD	x				✓	x
7612D/7912AD	x				✓	x
7D20T	x	✓		✓		
4041	x	✓		✓		
<b>TM5000/TM500 Series</b>						
TM5003/TM503/ TM504	✓	x	x	✓		
T5006/ TM506/TM515	✓				✓	x
<b>Curve Tracers</b>						
576/577			x		✓	x



**K213 Lab Instrument Cart**

**Recommended For:**

5000 Series and 7000 Series Oscilloscopes, multiple instrument systems.

K213 directly replaces Model 3 Lab Cart. It is especially well suited for laboratory and manufacturing environments.

Standard features include tilting top tray, brakes on all casters, lockable drawer in the base, four outlet power strip, 7000 Series scope lock-down bar, mounting hardware for TM 500 equipment and older scopes, a hanging shelf and a securing strap.

The hanging shelves are supported underneath and tilt with the top tray. These shelves are large enough to carry a TM 504 system or other small-to-medium sized test instruments. Slots in the shelves allow instruments to be secured with straps.

Option 10 provides a sliding drawer for use with 7854 keyboard. The keyboard drawer mounts underneath the top tray and reduces available hanging shelf space by approximately three inches.

Option 12 gives an enclosure mounted on the standard shelf for storage of unused 5000 or 7000 Series plug-ins. The storage cabinet mounts on or under a shelf, but the option and kit do not include a shelf. Up to two storage cabinets are installable at a time.

**Ordering Information**

**K213 Lab Instrument Cart**, Blue with silver gray legs

**Options**

**Option 05**—Delete Power Strip.

**Option 10**—7854 Keyboard Drawer.

**Option 12**—5000/7000 Series Plug-in Storage Cabinet.

**Option 22**—Combines Options 10 and 12.

**Optional Accessories**

(Fits K213 and Model 3 Carts)

**Securing Straps**—Black nylon webbed, for use on tray top, shelves, or base. 1½ in x 42 inch. Order 346-0136-01  
1½ in x 57 inch. Order 346-0156-01

**Extra Shelf**—Mounts below top tray. Order 436-0132-01

**7854 Keyboard Drawer Kit**—(Option 10 in kit form) Mounts under top tray. Order 436-0197-00

**Plug-in Storage Cabinet Kit**—(Option 12 in kit form) Mounts on or under hanging shelves. Does not include shelf. Order 436-0196-00

**Retaining Bar**—Used to prevent sliding of portable oscilloscope on top tray or shelf when secured by straps. Mounting hardware included. Order 650-1881-00

**Dimensions/Load Capacity Weights**

	K117		K212		K213		K217		206	
	17 x 33		13 x 17		13.7 x 20 13 x 20 (shelf)		18 x 27		27.6 x 22	
Dimensions	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
Load Capacity										
Handle/Workshelf	11	25	—	—	—	—	—	—	—	—
Tool Shelf	18	40	—	—	—	—	—	—	—	—
Frame	36	80	—	—	—	—	—	—	—	—
Top Tray	—	—	36	80	34	75	45	100	45	100
Base	—	—	45	100	11	25	45	100	45	100
Hanging Shelf	—	—	—	—	18	40	—	—	—	—
Total	54	120	82	180	77	170	90	200	90	200
Weight										
Net	14	30	9	20	26	57	20	43	14	30
Shipping	17	38	13	28	34	75	26	57	17	38

**K117 Instrument Shuttle**

**Recommended For:**

Medical; telecommunications, electronic equipment service; mobile test systems; inter-site mobility of instrumentation, tools, parts kits; on-site workstations.

The K117 Instrument Shuttle transports instruments and accessories in a self-contained unit, is easily moved between sites, and doubles as a work-station once on-site. Features include adjustable handle/workshelf, wheel brakes, and optional pouch and rain cover.

K117 Data Sheet 56W-5694-1 is available.

**Ordering Information**

**K117 Instrument Shuttle Smoke Tan Finish**

**Optional Accessories**

**Rain Cover**—Smoke-gray water-repellant nylon cover with pull cord. Covers and protects a loaded K117. Order 200-3051-00

**Pouch**—Black nylon, two-zippered pouch attaches to the K117 support with four snaps. Convenient access and storage for small items. Order 016-0800-00.

**Securing Strap**—Black nylon webbed, 2 in x 6 ft. Order 346-0208-00.

**K212 Portable Instrument Cart**

**Recommended For:**

On-site mobility of all portable instruments.

The K212 provides a stable yet mobile platform for all Tek portable oscilloscopes and most other portable instruments. This cart is well suited for on-site mobility in medical facilities, labs, computer rooms, manufacturing areas, and other work areas.

Tilting top tray, large locking front casters, and wide track base are standard features. Two bolt assembly required.

K212 Data Sheet 56W-5835 is available.

**Ordering Information**

**K212 Portable Instrument Cart**, Blue with silver gray column

**Optional Accessories**

**Securing Strap**—Black nylon webbed, 1 in x 5 ft. Order 346-0049-04

**K217 Rack Instrument Cart**

**Recommended For:**

Most rackmountable or rack-width instruments.

The K217 directly replaces the 205/205D carts. It provides mobility for most rack-width instruments (ears of rackmountable instruments hang over sides of tray).

Standard features include a tilting top tray, storage drawer under the top tray, a four outlet power strip, and front locking casters.

**Ordering Information**

**K217 Rack Instrument Cart**, Blue with silver gray legs.

**Option 01**—Brown Finish

**Optional Accessories**

(Fits K217 and 205/205D Carts)

**Securing Strap**—Nylon webbed, 1½ inch x 53 inch to secure instruments to top tray. Blue for K217. Order 346-0070-01  
Brown for K217 Option 01. Order 346-0070-03

**Model 206/206D Utility Cart**

**Recommended For:**

General instruments, computer peripherals, laboratory and office use.

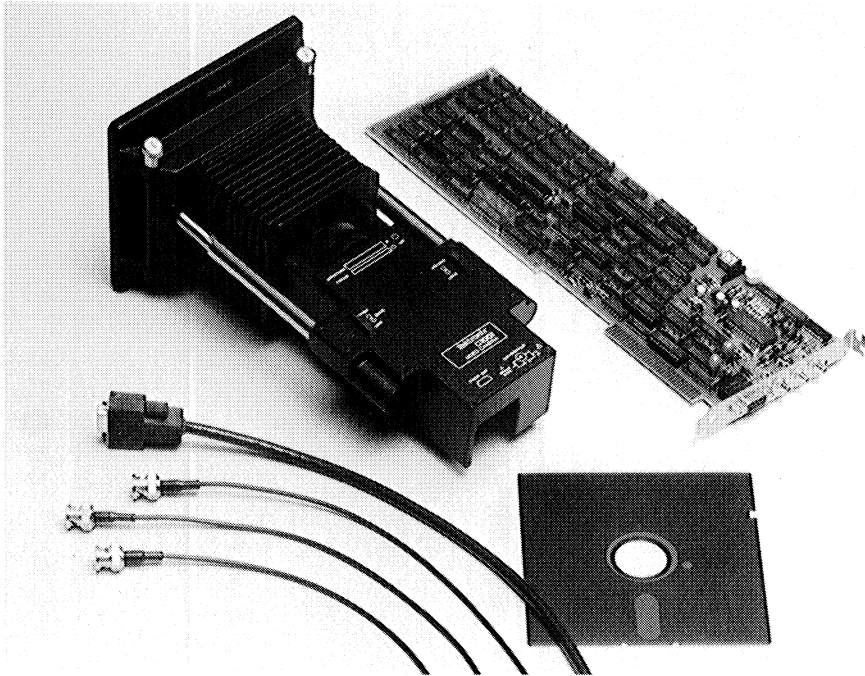
The 206 and 206D are for general purpose use and mobility of instruments.

Features include a vinyl laminate on both surfaces and brakes on front casters.

**Ordering Information**

**206 Utility Cart**, Light Gray Finish

**206D Utility Cart**, Brown Finish



DCS 01—The Digital Camera System with C1001 Video Camera, Frame Store board, Software and Cables.

**Now you can digitize analog waveforms up to 1 GHz single-shot, and analyze them immediately on your PC.** With the new Tektronix DCS-01 Digitizing Camera System, you easily and cost-effectively add digitizing and signal processing capability to analog oscilloscopes attaches to your scope with the same swing away bezel adapter as the C-30 Series camera. On scopes with microchannel plate (MCP) CRTs, you capture repetitive *and* transient signals *at full bandwidth*. Even with other scopes you acquire repetitive events at full bandwidth, and transient events at up to  $\frac{2}{3}$  bandwidth.

### Ordering Information

DCS 01—Camera system—(Camera, Frame Store board, software, cables, operator's manual) **REQUIRES** camera adapter bezel(s) listed below. More than one option can be added.

### Options

- 1A Adapter for 7K, 5K series Scopes (016-0248-01)
- 2A Adapter for 2400 lines and 8 x 10 cm scopes (016-0269-03)
- 3A Adapter for 485 Series and 7 x 9 cm scopes (016-0306-01)
- 1C GPIB card for IBM PC (Available October 1986)

### Thermal Video Copiers

- HC01** Thermal video copier (4 x 5") for the DCS.
- HC02** Thermal video copier (8 x 10") for the DCS (copiers include 1 roll of Thermal paper and an instruction manual).

### Extra Thermal Paper:

- For HC01** 1 box (4 rolls)  $\approx$  185 pictures per roll. 016-0867-01
- For HC02** 1 box (4 rolls)  $\approx$  90 vertical pictures per roll. 016-0868-01

**For further information, contact:**

**U.S.A., Asia, Australia, Central & South America, Japan**

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