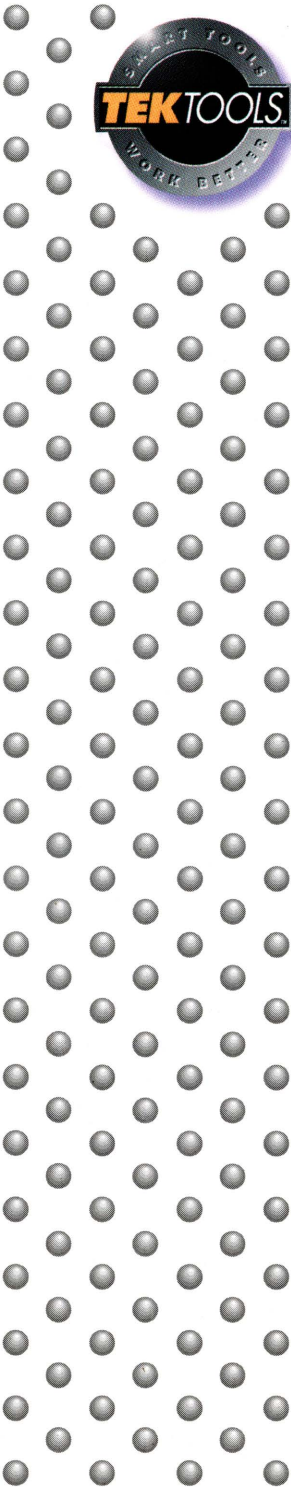
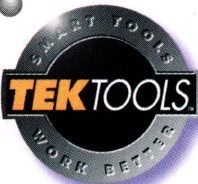




**P6113B**  
**100 MHz 10X Passive Probe**  
**Instructions**

**070-9274-01**





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# General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

*Only qualified personnel should perform service procedures.*

## Injury Precautions

**Avoid Electric Overload.** To avoid injury or fire hazard, do not apply potential to any input, including the common inputs, that varies from ground by more than the maximum rating for that input.

**Avoid Electric Shock.** To avoid injury or loss of life, do not connect or disconnect probes or test leads while they are connected to a voltage source.

**Do Not Operate in an Explosive Atmosphere.** To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

**Keep Probe Surface Clean and Dry.** To avoid electric shock and erroneous readings, keep probe surface clean and dry.

## Product Damage Precautions

**Do Not Operate With Suspected Failures.** If you suspect there is damage to this product, have it inspected by qualified service personnel.

**Do Not Immerse in Liquids.** Clean the probe using only a damp cloth. Refer to *Cleaning Instructions*, page ii.

## Safety Terms and Symbols

**Terms in This Manual.** These terms may appear in this manual:



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

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

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

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

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

**CAUTION** indicates a hazard to property including the product.

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



**DANGER**  
High Voltage



**Protective Ground**  
(Earth) Terminal



**ATTENTION**  
Refer to Manual

## Certifications and Compliances

**Compliances.** Consult the product specifications for Overvoltage Category and Safety Class.

**Overvoltage Category.** Overvoltage categories are defined as follows:

CAT III: Distribution level mains, fixed installation

CAT II: Local level mains, appliances, portable equipment

CAT I: Signal level, special equipment or parts of equipment, telecommunication, electronics

## Cleaning Instructions

Clean the probe using a soft cloth dampened with a mild detergent and water solution. Do not use any other chemicals or abrasives.

# Features and Accessories

The P6113B Passive Probe is designed for use with the TekScope THS Series 60 MHz and 100 MHz oscilloscopes.

The P6113B Passive Probe is listed with Underwriters Laboratories Inc. and meets the requirements of UL 3111-1, ground referenced.

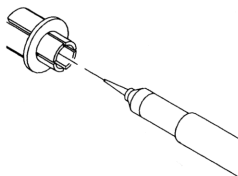
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**NOTE.** Remove and discard the protective cover on the tip of the probe before attempting to connect a probe tip accessory.

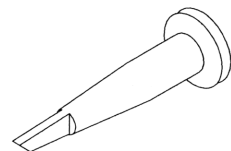
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## P6113B Features and Standard Accessories

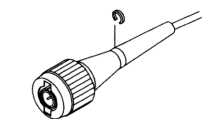
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**BNC-to-Probe Tip Adapter** – To install the adapter, push the wide end firmly into a BNC connector. Then, insert the probe tip firmly into the adapter.



**Retractable Hook Tip** – Use the retractable hook tip to make hands-free measurements. Insert the probe tip firmly to ensure a good connection.

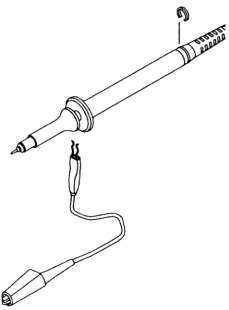


**Marker Rings** – To identify probe connections, attach matching colored rings onto the probe cable and tip as shown.

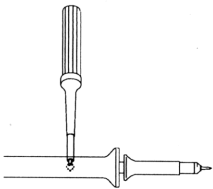
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**P6113B Features and Standard Accessories (Cont.)**

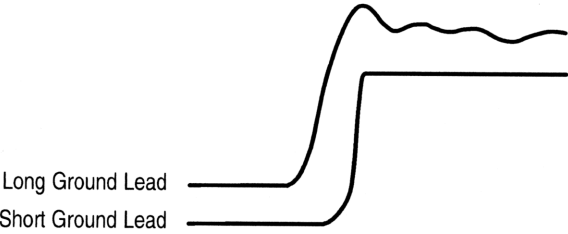
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**Ground Lead** – Use the alligator clip to attach the probe to a ground reference. Attach matching marker ring as shown.



**Adjustment Tool** – Use the adjustment tool for probe compensation adjustments.

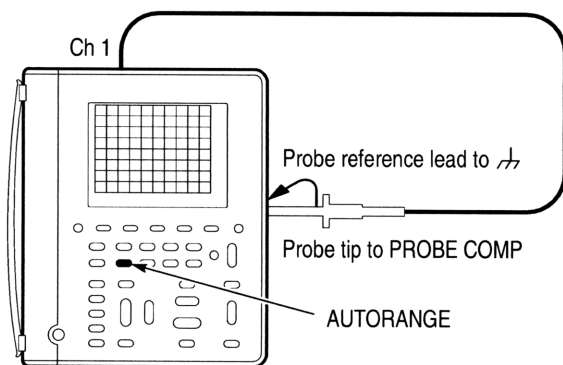


To see the best signal, use the shortest possible ground lead and signal path.

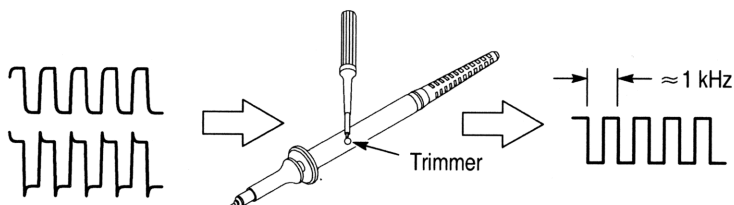
# Probe Compensation

Before taking any measurements using a probe, first check the compensation of the probe and adjust it to match the channel input it is connected to.

1. Connect the probe to the Probe Comp signal on your TekScope instrument and then press **AUTORANGE**.



2. Compensate the probe by adjusting the trimmer on the probe so that the corners of the signal are square.



# Specifications

The characteristics listed in Table 1 apply to a P6113B Passive Probe installed on a Tektronix THS 720 TekScope instrument unless otherwise noted.

The instrument must have a warm-up period of at least 10 minutes and be in an environment that does not exceed the limits described in Table 2.

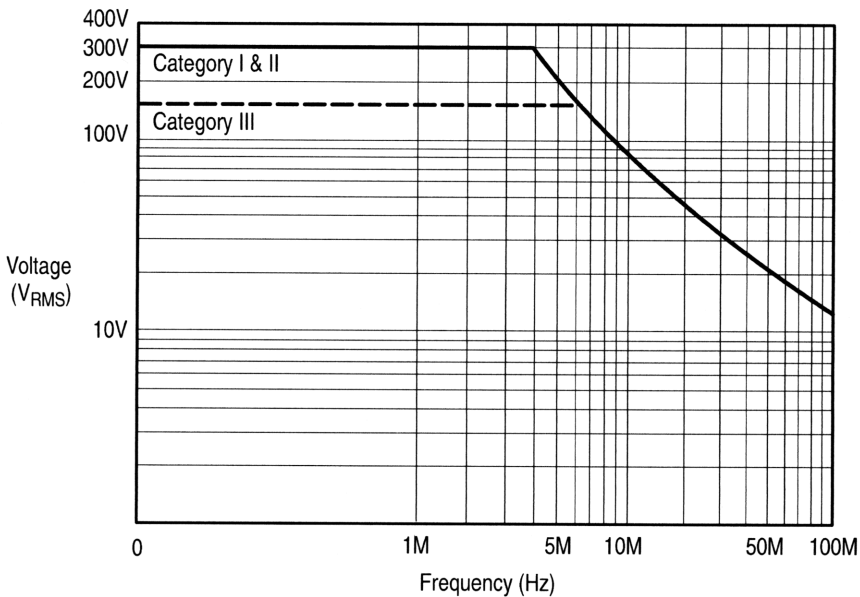
**Table 1: Electrical Characteristics**

Attenuation (DC coupled system)	10X $\pm$ 2% at DC	
Input Resistance (DC coupled system)	10 M $\Omega$ $\pm$ 1.5%	
Input Capacitance	11.8 pF to 14.8 pF (13.3 pF nominal)	
Compensation Range	15 pF to 35 pF	
Rise Time	3.5 ns (THS 720) 10.0 ns (THS 710)	
Bandwidth (-3 dB, DC coupled system)	DC to 100 MHz (THS 720) DC to 60 MHz (THS 710)	
Maximum Working (Nondestructive) Input Voltage (Refer to Figure 1)	<i>Installation Category</i>	<i>Maximum Voltage</i>
	Category I	300 V <sub>RMS</sub>
	Category II	300 V <sub>RMS</sub>
	Category III	150 V <sub>RMS</sub>
Safety	UL3111-1, First Edition CSA C22.2 No. 1010.1-92 EN61010-1 EN61010-2-031 Installation Category II, Pollution Degree 2	

**Table 2: Physical and Environmental Characteristics**

Net Weight (including accessories)	< 110 g (0.243 lb)
Cable Length	2 meters (78.74 in)
Temperature Range <sup>1</sup>	
Operating	-15° C to +55° C (+5° F to +131° F)
Nonoperating	-62° C to +85° C (-80° F to +185° F)
Humidity <sup>1</sup>	Tested at 95% to 97% Relative Humidity (30°C to 55°C)

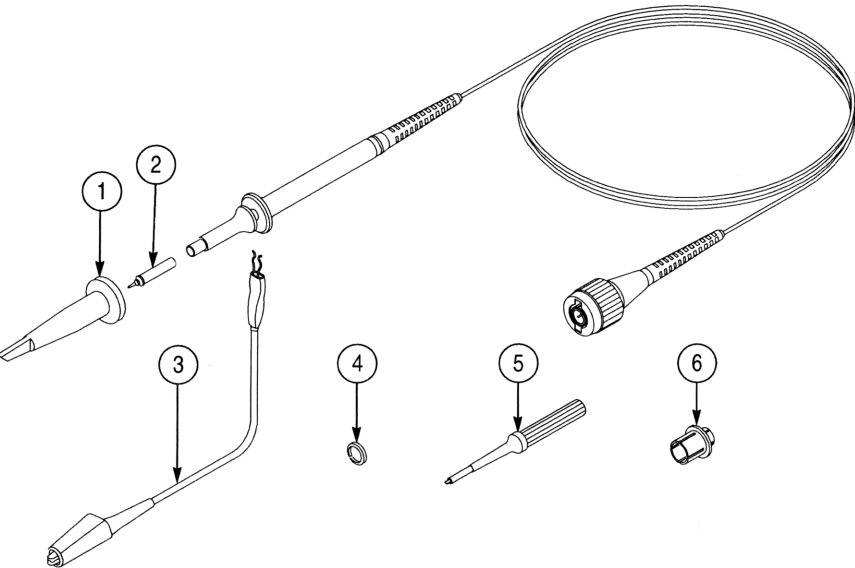
<sup>1</sup> **Tektronix Standard 062-2847-00, class 3. Refer to MIL-E-16400F, paragraph 4.5.9 through 4.5.9.5.1, class 4.**



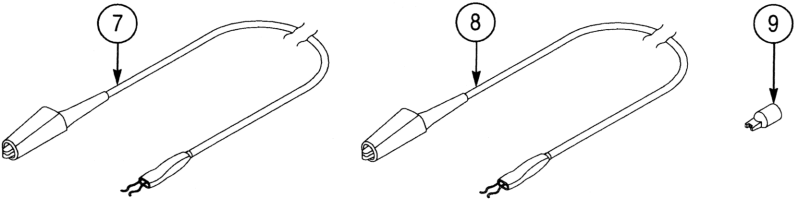
**Figure 1: Maximum Working Voltage Derating Curve (V<sub>RMS</sub>, DC Coupled)**



# Replaceable Parts



Standard Accessories



Optional Accessories

Figure 2: P6113B Replaceable Parts

Fig. & Index No.	Tektronix Part No.	Serial No. Effective	Discont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
2-				1	PROBE,PASSIVE:P6113B,100MHZ,10X		
					STANDARD ACCESSORIES		
-1	013-0107-08			1	TIP,PROBE:MINIATURE/COMPACT SIZE	80009	013010708
-2	(See Optional Accessories)			1	CONTACT,ELEC:PROBE TIP W/INSULATOR ASSY		
-3	196-3120-01			1	LEAD,ELECTRICAL:23 AWG,6.0 L,GROUND	80009	196312001
-4	016-0633-00			1	MARKER SET,CA:2 EA VARIOUS COLORS	80009	016063300
-5	(See Optional Accessories)			1	SCREWDRIVER:ADJUSTMENT TOOL		
-6	013-0277-00			1	ADAPTER,CONN:BNC TO MINIATURE PROBE TIP	80009	013027700
	070-9274-01				MANUAL, TECH: INSTR, P6113B	80009	070927401
					OPTIONAL ACCESSORIES		
-2	131-4997-01			1	CONTACT,ELEC:2 TIP-INSULATOR W/INFO CARD	80009	131499701
-5	003-1433-01			1	SCREWDRIVER:ADJUSTMENT TOOL,5 EA.	80009	003143301
-7	196-3120-21			1	LEAD,ELECTRICAL:PROBE GROUND,28.0 L	80009	196312021
-8	196-3121-01			1	LEAD,ELECTRICAL:PROBE GROUND,12.0 L	80009	196312101
-9	015-0201-07			1	TIP,PROBE:IC TEST, PKG OF 10	80009	015020107
	015-0201-08			1	TIP,PROBE:IC TEST, PKG OF 100	80009	015020108
Mfr. Code	Manufacturer	Address			City, State, Zip Code		
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500			BEAVERTON OR 97077-0001		

## WARRANTY

Tektronix warrants that the products that it manufactures and sells will be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. If a product proves defective during this warranty period, Tektronix, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, Customer must notify Tektronix of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by Tektronix, with shipping charges prepaid. Tektronix shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Tektronix service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Tektronix shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than Tektronix representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non-Tektronix supplies; or d) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

**THIS WARRANTY IS GIVEN BY TEKTRONIX IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. TEKTRONIX AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TEKTRONIX' RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR BREACH OF THIS WARRANTY. TEKTRONIX AND ITS VENDORS WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER TEKTRONIX OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.**