

# Instruction Manual



**P6011  
PROBE**

010-0193-00

## WARRANTY

All Tektronix instruments are warranted against defective materials and workmanship for one year. Tektronix transformers, manufactured in our own plant, are warranted for the life of the instrument.

Any questions with respect to the warranty mentioned above should be taken up with your Tektronix Field Engineer.

Tektronix repair and replacement-part service is geared directly to the field, therefore all requests for repairs and replacement parts should be directed to the Tektronix Field Office or Representative in your area. This procedure will assure you the fastest possible service. Please include the instrument Type and Serial number with all requests for parts or service.

Specifications and price change privileges reserved.

Copyright © 1965, new material copyright 1968 by Tektronix, Inc., Beaverton, Oregon. Printed in the United States of America. All rights reserved. Contents of this publication may not be reproduced in any form without permission of the copyright owner.

070-0512-01

168

*Tektronix, Inc.*

S.W. Millikan Way ● P. O. Box 500 ● Beaverton, Oregon 97005 ● Phone 644-0161 ● Cables: Tektronix

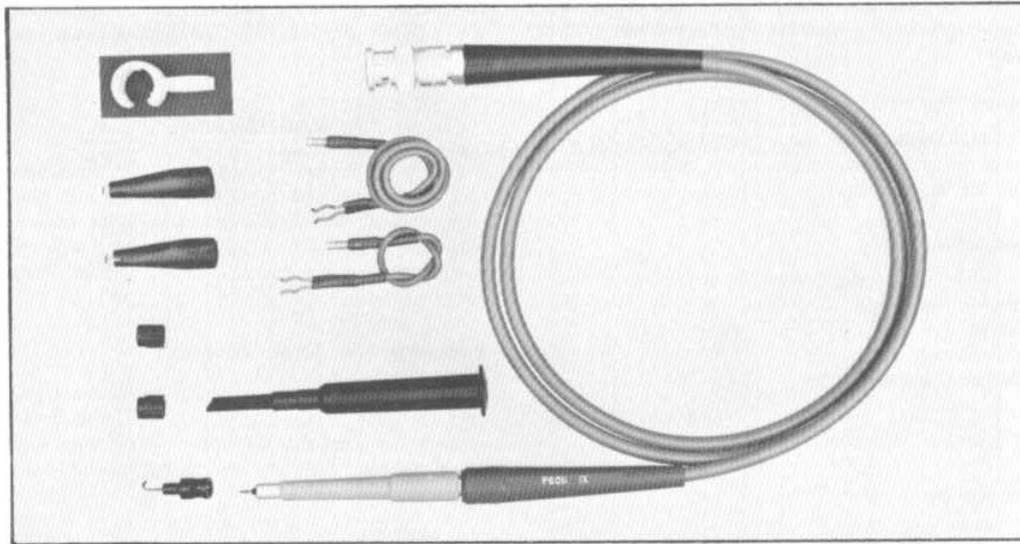
**P6011 PROBE****SECTION 1**

Fig. 1-1. The P6011 Probe with standard accessories.

**GENERAL INFORMATION**

The P6011 is a passive  $1\times$  probe with a small diameter probe body for easy access to test points of compact circuitry.

The probe consists of a probe body assembly and a cable with a BNC connector. The cable is available in 3.5-foot, 6-foot, and 9-foot lengths.

**CHARACTERISTICS****Input Capacitance**

At 140 kHz the input capacitance of the 3.5-foot cable is 28 pF, the 6-foot cable is 48 pF, and the 9-foot cable is 75 pF.

**Voltage Rating**

The maximum DC, AC peak, or DC and AC peak combined input voltage is 600 V. See Fig. 1-2 for derating curves.

**Risetime**

The risetime of the probe alone, when driven by a 25-ohm source is listed in Table 1-1.

**TABLE 1-1**

Probe Length	Instrument Input Capacitance	
	15 pF	20 pF
3.5 foot	$\leq 12$ ns	$\leq 15$ ns
6 foot	$\leq 15$ ns	$\leq 17$ ns
9 foot	$\leq 23$ ns	$\leq 25$ ns

**Connecting Cable**

The cable is made with a special resistive center which provides critical damping of reflections.

**Environmental Capability**

The probe will operate normally at temperatures to 75° C.

**OPTIONAL ACCESSORIES**

Tektronix Part No.	Description
013-0084-00	BNC to Probe Adapter
017-0076-00	GR to Probe Adapter
131-0258-00	Test Point Jack
175-0249-00	3 in. Ground Clip
175-0236-00	3 in. Ground Lead

**P6011 Probe****USE OF ACCESSORIES****Pincher Tip**

The pincher tip, which slides onto the probe body, provides a positive connection to a test point.

**Hook Tip**

The hook tip provides a means of holding on to a test point when there is not adequate room for the pincher tip.

**Insulating Tube**

When using the probe without one of the above tips, place an insulating tube over the tip of the probe to avoid short circuits.

**Ground Lead**

The ground lead clips to the probe between the probe body and the cable assembly.

**Insulating Sleeve**

When the ground lead is connected to the probe, place the insulating sleeve over the exposed connection to avoid short circuits.

**Miniature Alligator Clip**

The insulated alligator clip screws onto the ground lead.

**Probe Holder**

The probe holder provides a convenient means of storing the probe when not in use. After connecting the probe to the instrument being

used, place the wide half of the probe holder around the cable and slide onto the tapered portion of the cable assembly near the BNC connector. When the probe is not in use, place the tapered portion near the probe body into the holder.

**MAINTENANCE**

The P6011 Probe is designed to withstand normal operation and handling and should give many hours of continuous use without failure. However, if the probe fails or breaks, replacement parts are available. See Mechanical Parts List in Section 2.

**Replacing the Cable Assembly**

If the coaxial cable between the probe body and the BNC connector should fail, the cable assembly is available complete with fittings and cable reliefs. Replace the cable assembly as follows:

1. Unscrew the BNC plug, using two  $\frac{7}{16}$  in. wrenches.
2. Unsolder the contact pin.
3. Remove the spacer insulator.
4. Unscrew the probe body and sleeve assembly from the other end of the cable assembly.
5. Unsolder the male plug from the cable.
6. Install the new cable assembly by reversing the above procedure.

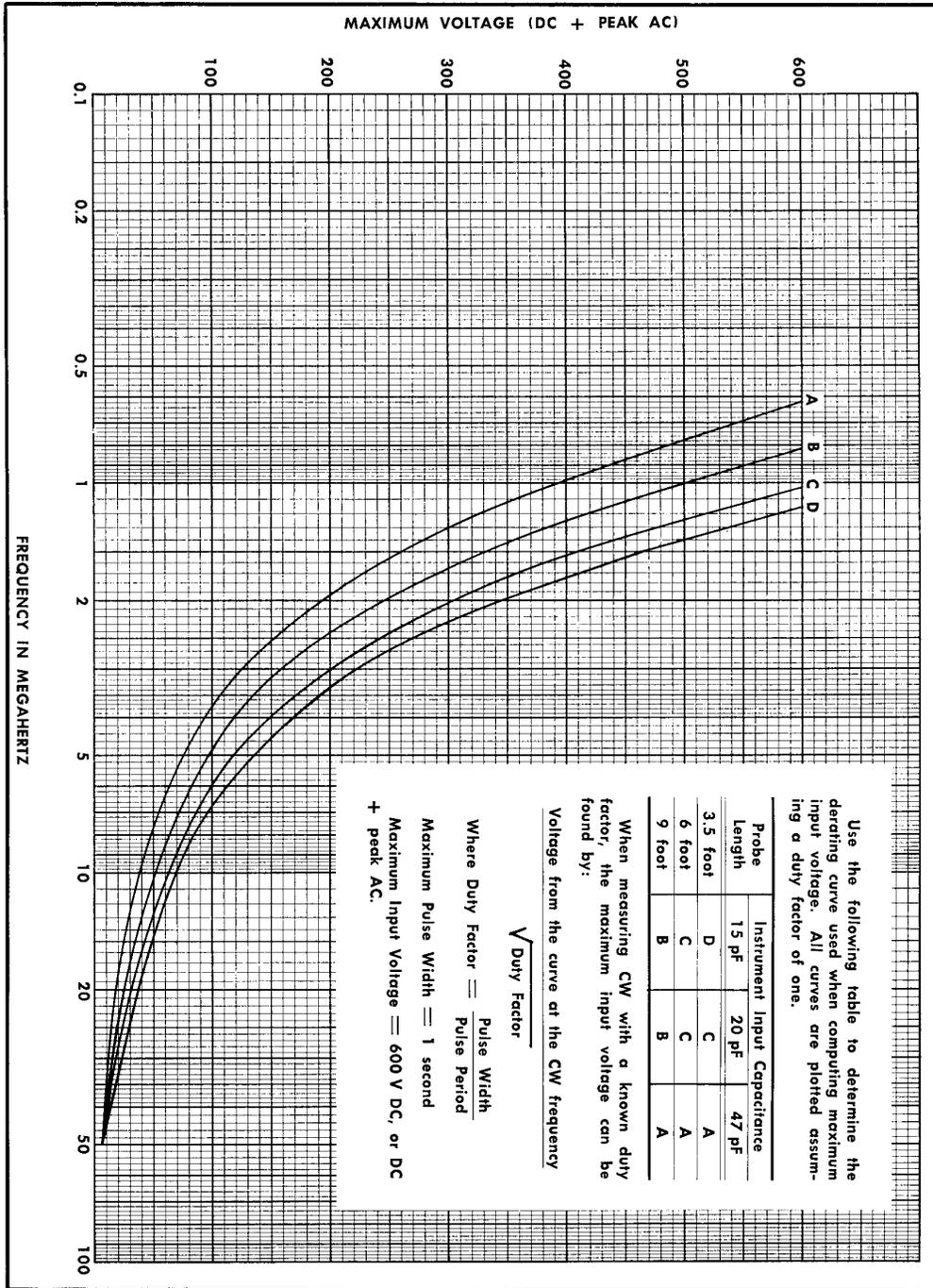


Fig. 1-2. P6011 input voltage derating curves.



## PARTS LIST SECTION 2

### PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix Field Office.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number including any suffix, instrument type, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix Field Office will contact you concerning any change in part number.

### ABBREVIATIONS AND SYMBOLS

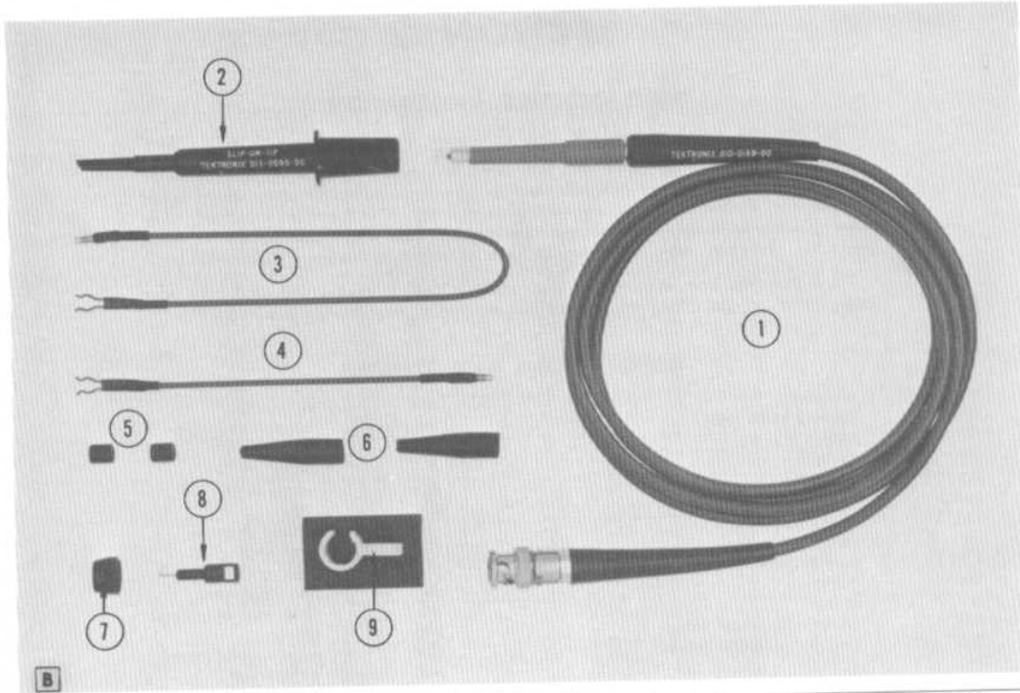
a or amp	amperes	mm	millimeter
BHS	binding head steel	meg or M	megohms or mega ( $10^6$ )
C	carbon	met.	metal
cer	ceramic	$\mu$	micro, or $10^{-6}$
cm	centimeter	n	nano, or $10^{-9}$
comp	composition	$\Omega$	ohm
cps	cycles per second	OD	outside diameter
crt	cathode-ray tube	OHS	oval head steel
CSK	counter sunk	p	pico, or $10^{-12}$
dia	diameter	PHS	pan head steel
div	division	piv	peak inverse voltage
EMC	electrolytic, metal cased	plstc	plastic
EMT	electrolytic, metal tubular	PMC	paper, metal cased
ext	external	poly	polystyrene
f	farad	Prec	precision
F & I	focus and intensity	PT	paper tubular
FHS	flat head steel	PTM	paper or plastic, tubular, molded
Fil HS	fillister head steel	RHS	round head steel
g or G	giga, or $10^9$	rms	root mean square
Ge	germanium	sec	second
GMV	guaranteed minimum value	Si	silicon
h	henry	S/N	serial number
hex	hexagonal	t or T	tera, or $10^{12}$
HHS	hex head steel	TD	toroid
HSS	hex socket steel	THS	truss head steel
HV	high voltage	tub.	tubular
ID	inside diameter	v or V	volt
incd	incandescent	Var	variable
int	internal	w	watt
k or K	kilohms or kilo ( $10^3$ )	w/	with
kc	kilocycle	w/o	without
m	milli, or $10^{-3}$	WW	wire-wound
mc	megacycle		

### SPECIAL NOTES AND SYMBOLS

X000	Part first added at this serial number.
000X	Part removed after this serial number.
*000-000	Asterisk preceding Tektronix Part Number indicates manufactured by or for Tektronix, or reworked or checked components.
Use 000-000	Part number indicated is direct replacement.
	Internal screwdriver adjustment.
	Front-panel adjustment or connector.

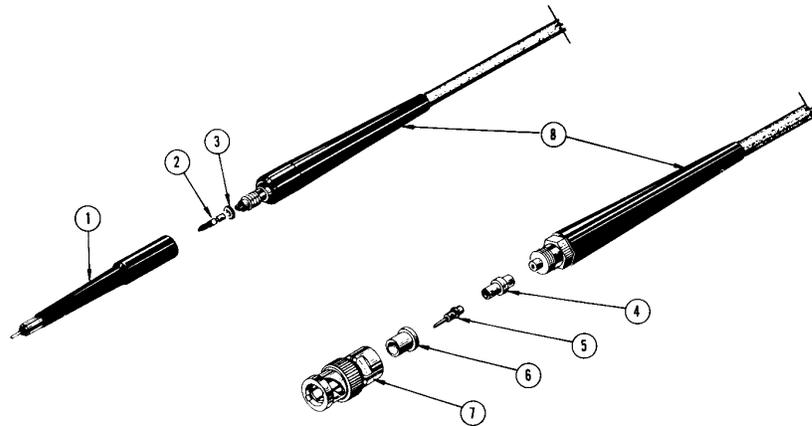
Parts List—P6011

PROBE and STANDARD ACCESSORIES



REF. NO.	TEKTRONIX PART NO.	SERIAL/MODEL NO.		Q					DESCRIPTION	
		EFF.	DISC.	Y.	1	2	3	4		5
<b>PROBE PACKAGE</b>										
1—9	010-0193-00				1					PROBE PACKAGE, P6011, 3.5 foot
	010-0190-00				1					PROBE PACKAGE, P6011, 6 foot
	010-0229-00				1					PROBE PACKAGE, P6011, 9 foot
	.....				-					package includes:
<b>PROBE ONLY</b>										
1	010-0192-00				1					PROBE, P6011, 3.5 foot
	010-0189-00				1					PROBE, P6011, 6 foot
	010-0228-00				1					PROBE, P6011, 9 foot
<b>STANDARD ACCESSORIES</b>										
2	013-0090-00				1					HOOK TIP, retractable
3	175-0125-00				1					CABLE, ground lead, 12 inch
4	175-0124-00				1					CABLE, ground lead 5 inch
5	166-0404-00				1					TUBE, insulating, molded
6	344-0046-00				2					CLIP, probe
7	166-0433-00	X6746	7009		1					SLEEVE, insulating, gnd strip
	166-0433-01	7010			2					TUBE, insulating, molded
8	206-0114-00				1					TIP, probe
9	352-0090-00				1					HOLDER, probe
	006-0351-00				1					BAG, plastic, 4 x 6 inches (not shown)
	070-0512-01				1					MANUAL, instruction (not shown)
	367-0105-00	X6926			1					HANDLE, hook tip (not shown)

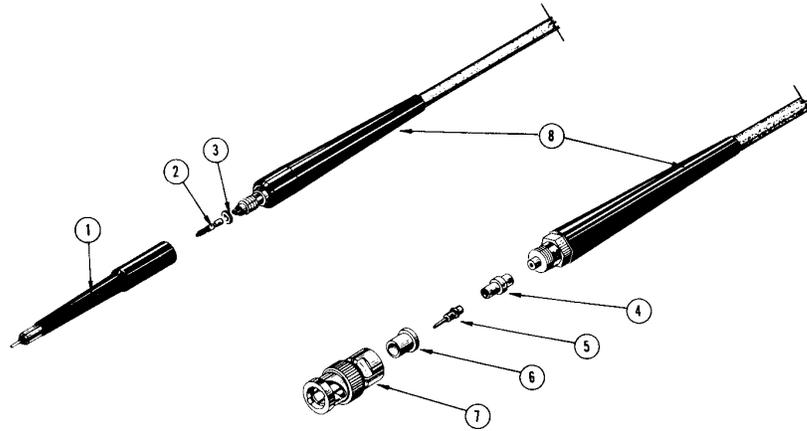
### REPLACEABLE PARTS (3.5 foot)



REF. NO.	TEKTRONIX PART NO.	SERIAL/MODEL NO.		Q T					DESCRIPTION	
		EFF.	DISC.	Y.	1	2	3	4		5
	010-0192-00			1						PROBE, P6011, 3.5 foot
	- - - - -			-						probe includes:
1	204-0252-01			1						ASSEMBLY, body and sleeve
2	214-0592-00			1						PLUG, male
3	210-0997-00			1						WASHER, guide
4	361-0022-00			1						SPACER
5	214-0109-01			1						PIN, contact
6	358-0072-00			1						BUSHING, insulator
7	134-0044-00			1						PLUG, probe
8	175-0337-03			1						CABLE, ASSEMBLY, 3.5 foot
	200-0372-00			1						CAP, plastic protective (not shown)
	015-0201-00			1						ADAPTER, probe tip, IC test (not shown)

P6011 Probe

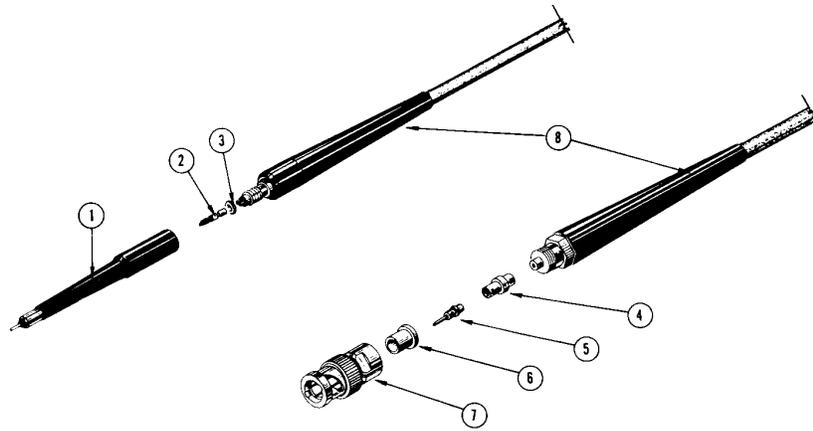
REPLACEABLE PARTS (6 foot)



REF. NO.	TEKTRONIX PART NO.	SERIAL/MODEL NO. EFF.	DISC.	QTY.					DESCRIPTION	
				1	2	3	4	5		
	010-0189-00			1					1	PROBE, P6011, 6 foot
	-			-						probe includes:
1	204-0252-01			1						ASSEMBLY, body and sleeve
2	214-0592-00			1						PLUG, male
3	210-0997-00			1						WASHER, guide
4	361-0022-00			1						SPACER
5	214-0109-01			1						PIN, contact
6	358-0072-00			1						BUSHING, insulator
7	134-0044-00			1						PLUG, probe
8	175-0337-02			1						CABLE ASSEMBLY, 6 foot
	200-0372-00			1						CAP, plastic, protective (not shown)
	015-0201-00			1						ADAPTER, probe tip, IC test (not shown)

P6011 Probe

REPLACEABLE PARTS (9 foot)



REF. NO.	TEKTRONIX PART NO.	SERIAL/MODEL NO.		Q					DESCRIPTION	
		EFF.	DISC.	T	Y.	1	2	3		4
	010-0228-00			1						PROBE, P6011, 9 foot
	- - - - -			-						probe includes:
1	204-0252-01			1						ASSEMBLY, body and sleeve
2	214-0592-00			1						PLUG, male
3	210-0997-00			1						WASHER, guide
4	361-0022-00			1						SPACER
5	214-0109-01			1						PIN, contact
6	358-0072-00			1						BUSHING, insulator
7	134-0044-00			1						PLUG, probe
8	175-0471-00			1						CABLE ASSEMBLY, 9 foot
	200-0372-00			1						CAP, plastic, protective (not shown)
	015-0201-00			1						ADAPTER, probe tip, IC test (not shown)