

Instruction Manual



P6136 10X Passive Probe for 2400 Series Oscilloscopes

070-6025-04

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

www.tektronix.com



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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 purchase from an authorized Tektronix distributor. If any such 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. Batteries are excluded from this warranty.

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, shipping charges prepaid, and with a copy of customer proof of purchase. 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.

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Product support	<p>For questions about using Tektronix measurement products, call toll free in North America: 1-800-833-9200 6:00 a.m. – 5:00 p.m. Pacific time</p> <p>Or contact us by e-mail: tm_app_supp@tek.com</p> <p>For product support outside of North America, contact your local Tektronix distributor or sales office.</p>
Service support	<p>Tektronix offers extended warranty and calibration programs as options on many products. Contact your local Tektronix distributor or sales office.</p> <p>For a listing of worldwide service centers, visit our web site.</p>
For other information	<p>In North America: 1-800-833-9200 An operator can direct your call.</p>
To write us	<p>Tektronix, Inc. P.O. Box 500 Beaverton, OR 97077-1000 USA</p>
Web site	<p>www.tektronix.com</p>

General Safety Summary

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

Only qualified personnel should perform service procedures.

To Avoid Fire or Personal Injury

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

Observe All Terminal Ratings. To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

The common terminal is at ground potential. Do not connect the common terminal to elevated voltages.

Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.

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

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in an Explosive Atmosphere.

Keep Product Surfaces Clean and Dry.

Symbols and Terms

Terms in this Manual. The following terms may appear in this manual:



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



Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

Do Not Service Alone. Do not perform internal service or adjustments to this product unless another person capable of rendering first aid and resuscitation is present.

Operating Basics

The P6136 probe is a 350 MHz, 10X, 1.3 meter, passive voltage probe designed specifically for use with Tektronix 2400 Series oscilloscopes having bandwidths greater than 150 MHz. The P6136 comes standard with the Tektronix subminiature-size probe tip/hybrid assembly and is fully compatible with the Tektronix Subminiature family of accessories. The Compact series probe tip/hybrid assembly comes standard on the P6136 Option 25. The Compact probe tip/hybrid assembly is slightly larger in diameter than the Subminiature series, offering greater durability and ruggedness in those environments and applications where required. The compact tip is not compatible with the Subminiature series except for the ground collar and the low-inductance (2.3 inch) ground lead. The P6136 Option 25 is supplied with a complement of accessories; optional accessories are available for both tip sizes.

You may convert both probe tip assemblies to Tektronix Miniature series probe tips by using the subminiature/compact-to-miniature probe-tip adapter (See the optional accessory lists for each probes in the *Replaceable Parts* section beginning on page 14).



WARNING. To avoid electric shock when using the probe, do not touch the metallic portions of the probe head while connected to a voltage source.

Probe Compensation

Due to variations in oscilloscope input characteristics, probe low-frequency compensation should be checked and adjusted after moving the probe from one oscilloscope input to another. To adjust the probe low-frequency compensation, apply a 1 kHz square wave (such as an oscilloscope calibrator output) to the probe tip. Using a nonconductive low-reactance alignment tool, adjust the probe compensation capacitor through the hole in the compensation box to obtain the squarest waveform at the front corner edge. See page 9 for complete low- and high-frequency compensation adjustment procedures.

Inductive Effects of Probe Grounding

Ground lead inductance can significantly reduce the performance of a probe. As shown in Figure 1, the ground lead inserts inductance into the signal path forming a series-resonant circuit with the probe input capacitance C_{in} and R_{source} as damping. This forms a resonant circuit with $f_0 = 1 \div (2\pi \sqrt{LC})$.

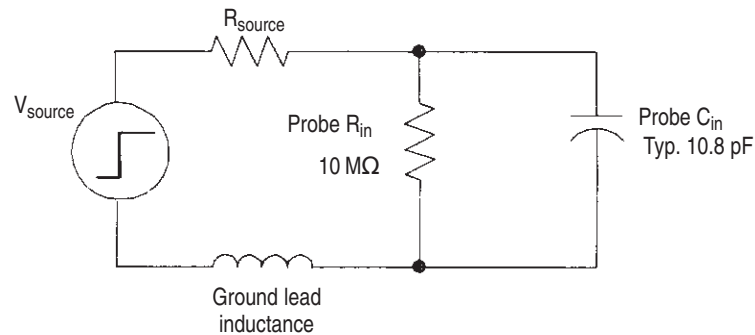


Figure 1: Circuit model: test point and probe input

A six-inch ground lead has approximately 150 nH of inductance, which produces an f_0 of approximately 130 MHz within the frequency range of the instrument. This greatly degrades rise time, bandwidth, and transient accuracy as shown in Figure 2.

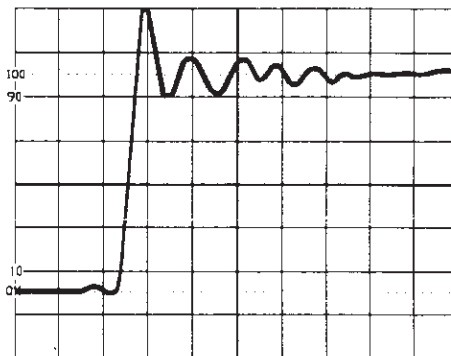


Figure 2: Typical step response with six-inch ground lead

For best results, ensure that ground-lead inductance is at a minimum. Two methods for doing so are the Low-Inductance Ground Lead and the Klipkit.

Low-Inductance Ground Lead

The low-inductance ground lead provided with all Tektronix P6136 probes allows for a substantial reduction in ground-lead inductance, approximately 32 nH instead of 150 nH.

To install the low-inductance ground lead, refer to Figure 3 and perform the following steps:

1. Unscrew and remove the ribbed-tip shell and slide off the ground collar with ground lead.
2. Slip on the low-inductance ground lead collar (1) and reinstall the ribbed plastic tip cover.
3. Install the low-inductance lead (2) from the accessory pack.

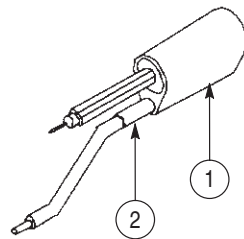


Figure 3: Low-inductance ground lead

Klipkit Connector

The optional Klipkit connector (see the optional accessory lists beginning on page 14) provides a hands-free signal and ground connection to an integrated circuit with up to 16 pins. The Klipkit ground is acquired by inserting a connecting pin (included) into the Klipkit at the proper pin location. The probe body (with ribbed-tip cover removed) then makes a signal connection when inserted into other pin locations.

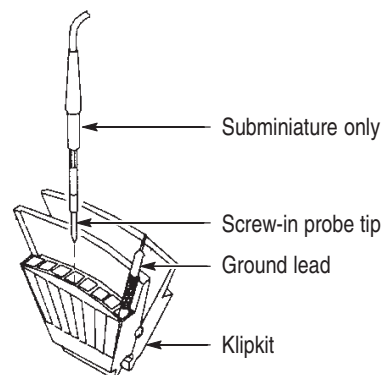


Figure 4: Klipkit connector

Grounding the Probe

Connect the probe to the instrument and connect the ground lead to ground before making any measurement. Ensure that no part of the ground lead contacts voltage in the circuit under test. Except for the probe tip and BNC center conductor, all accessible metal (including the ground clip) is connected to the BNC shell.



WARNING. To avoid electric shock when using the probe, keep your fingers behind the finger guard on the probe body. See Figure 5 below.

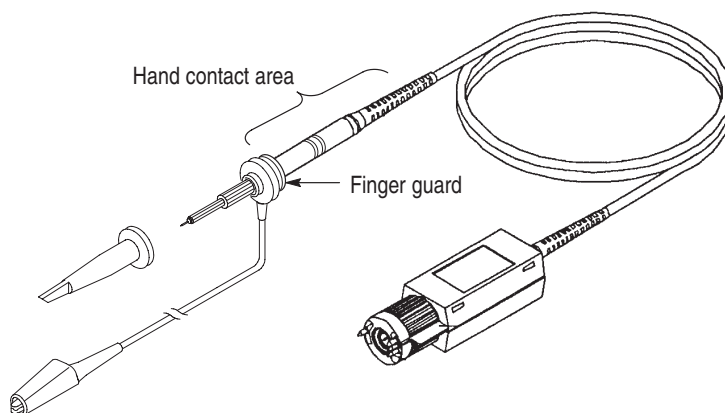


Figure 5: Probe finger guard and hand contact area

Specifications

The characteristics listed in Table 1 apply to P6136 probes installed on Tektronix 2400 Series oscilloscopes unless otherwise noted.

Specifications apply when the probe and host instrument warm up for a period of at least 10 minutes in an environment that does not exceed the limits described in Table 2 on page 7.

Table 1: Electrical characteristics¹

Characteristic	Description
Attenuation ²	10X: ±1% at DC
Input resistance ^{2,3}	10 MΩ ±1% at DC
Input capacitance ³	10.8 pF at DC
Compensation range	12 pF to 18 pF
Signal delay	Delay difference between any two probes is less than 200 ps.
Maximum system bandwidth (-3 dB)	350 MHz
Maximum Input Voltage ^{4,5}	300 V RMS CAT I or 300 V DC CAT I 150 V RMS CAT II or 150 V DC CAT II 100 V RMS CAT III or 100 V DC CAT III 425 V peak, @50% DF, <1 sec PW 750 V peak, @10% DF, <50 μs PW See Figure 8 for voltage derating curve.

¹ Installed on Tektronix 2400 Series oscilloscope, bandwidth 150 MHz or greater.

² System characteristic.

³ Also see Figure 7.

⁴ As defined in EN61010-1. See Certifications and compliances in Table 4

⁵ RMS=Root Mean Square=rms=The square root of the average of the sum of the squares of the instantaneous voltage in one cycle = $\sqrt{\sum (fx_i)^2 / n}$.

300 VDC=300V RMS, 420 V Peak (sinewave)=300 V RMS See Figure 6.

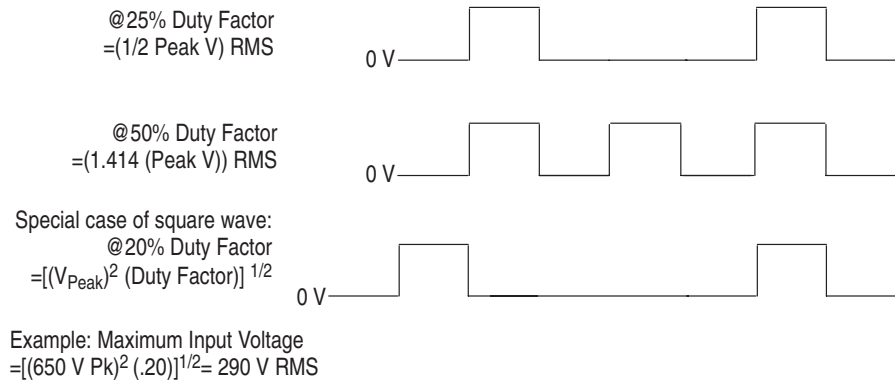


Figure 6: Maximum input voltage calculation example

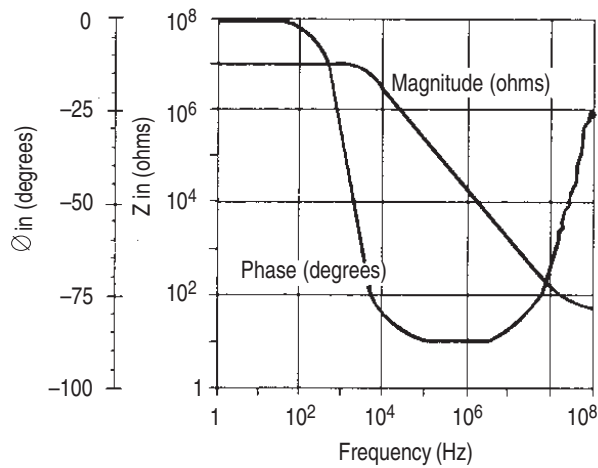


Figure 7: Typical P6136 input impedance

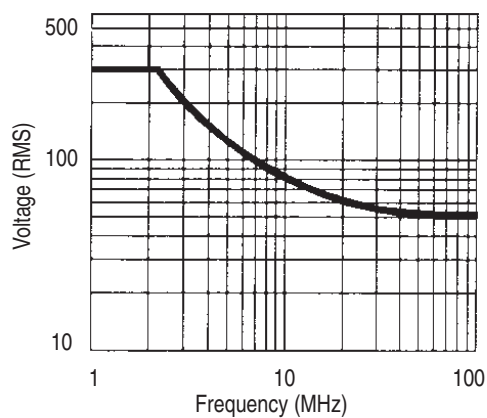


Figure 8: Typical P6136 voltage derating

Table 2: Environmental characteristics

Characteristic	Description
Temperature range	
Operating	-15° C to 65° C (+5° F to 149° F)
Nonoperating	-62° C to 85° C (-80° F to 185° F)
Humidity	Five cycles (120 hr) at 95% to 97% relative humidity, per Tektronix standard 062-2847-00, Class 3 (MIL-T-28800). Refer to MIL-E-16400F, paragraph 4.5.9 through 4.5.9.5.1, class 4.
Altitude	< 2000 meters

Table 3: Physical characteristics

Characteristic	Description
Net weight ¹	150.4 g (5.3 oz)
Probe cable length	1.3 m (4.3 ft)

¹ Includes accessories.

Table 4: Certifications and compliances

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

Service Information



WARNING. The following instructions are for use by qualified service personnel only. To avoid electrical shock, do not disassemble or maintain the probe while it is connected to a signal source other than those specified in this procedure.

Adjustment Procedure

This section contains procedures to adjust the P6136 probe. Always perform the low-frequency compensation adjustment before proceeding to the high-frequency compensation adjustment.

Table 5 lists the recommended test equipment needed to perform the adjustment procedures.

Table 5: Test equipment

Description	Minimum requirements	Example product
Oscilloscope		Tektronix 2445B
Input resistance	1 M Ω \pm 0.5%	
Input capacitance	10 pF to 18 pF	
Bandwidth (-3dB)	\geq 350 MHz	
Calibration generator		Wavetek 9100 Universal Calibration System with oscilloscope calibration module (Option 250) Fluke 5500A multi-product calibrator with oscilloscope calibration Option 5500A-SC
Amplitude	> 60 V	
Repetition rate	100 kHz	
Leveled sine wave generator	Amplitude adjustable to at least 1 V _{p-p} into 50 Ω . Frequency range must exceed 350 MHz, fixed 50 kHz reference.	Wavetek 9500 High-Performance Oscilloscope Calibrator
Precision coaxial cable	50 Ω BNC	Tektronix 012-0482-XX
10X attenuator	50 Ω BNC	Tektronix 011-0059-XX

Table 5: Test equipment (cont.)

Description	Minimum requirements	Example product
Adapters		
Subminiature tip	Subminiature-to-BNC, 50 Ω terminated Adapter, BNC-to-probe	Tektronix 001-0049-XX Tektronix 013-0195-XX
Compact tip	Compact-to-BNC, 50 Ω terminated BNC-female-to-BNC-female	Tektronix 013-0227-XX Tektronix 103-0028-00
Adjustment tool	Insulated, low-reactance type	Tektronix 003-1433-02

NOTE. To ensure accurate measurements, warm up all test equipment according to the manufacturer's recommendations before making any adjustments.

Low-Frequency Compensation Adjustment

To adjust the probe low-frequency compensation do the following:

1. Connect the P6136 probe to the oscilloscope CH 1 input.
2. Set the oscilloscope controls for 100 mV (includes probe 10X attenuation), 1 ms, and DC coupling.
3. Use the hook tip to connect the probe to the oscilloscope calibrator output.
4. Set the oscilloscope triggering and amplitude controls for a stable display of approximately five square wave cycles and an amplitude of four divisions at center screen.
5. Use the low-reactance nonconductive adjustment tool to adjust the probe LF COMP (low-frequency compensation) for the squarest waveform front corner edge. See Figure 9 for the adjustment location.
6. Disconnect the test setup.

High-Frequency Compensation Adjustment

To adjust the probe high-frequency compensation do the following:

1. Connect the positive-going fast-rise output of the calibration generator to the test oscilloscope with the precision coax cable and 10X attenuator.
2. Set the oscilloscope controls as follows:

Volts /Division	10 mV (includes 10X probe attenuation)
Time/Division	0.02 μ s

Input Coupling	DC
Bandwidth	Full

3. Set the calibration generator to produce a fast-rise output with a repetition rate of 10 μ s (100 kHz). Adjust the output amplitude to produce a 5 division display on the oscilloscope.
4. Adjust the oscilloscope triggering for a stable display and center the waveform on screen.
5. Note the system aberrations for comparison in step 10 below.
6. Remove the precision coax cable from the test setup.
7. Connect the P6136 probe to the oscilloscope CH 1 input.
8. Connect the probe tip through the probe-tip-to-BNC adapter and a 50 Ω termination to the positive-going fast-rise output of the calibration generator.
9. Set the oscilloscope coupling to the 1 M Ω DC position.
10. Note the high-frequency aberrations in the first 30 ns (in addition to the system aberrations noted in part 5 above).
11. If the probe aberrations are greater than $\pm 4\%$, 6% peak to peak, proceed to step 12 below. If the probe aberrations are typical ($\leq \pm 4\%$, 6% peak to peak), proceed to step 18 below.
12. Disconnect the probe from the signal source and the oscilloscope.
13. Remove the plastic cover from the probe compensation box: unscrew the compensation box retainer nut about two complete turns and lift the cover out and up. Retighten the retainer nut.
14. Reconnect the probe to the signal source and oscilloscope.

Refer to Figure 9 for the location of adjustments to follow and Figure 10 to identify the waveform areas affected by each adjustment.
15. Adjust R1 for the best overall flat response.
16. Adjust R3, R2, and C1 for the best corner response.

NOTE. *High-frequency adjustments affect probe bandwidth. A small overshoot on the leading edge of the pulse may be necessary to meet the bandwidth specification.*

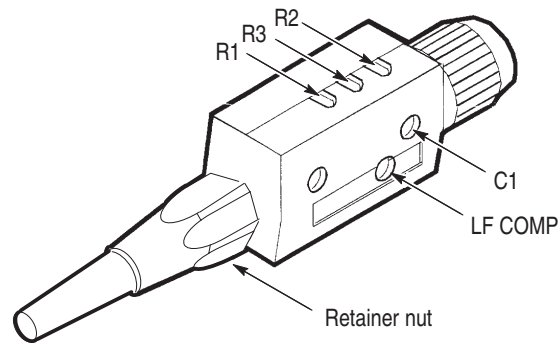


Figure 9: Compensation adjustment locations

17. Disconnect the probe from the signal source and reinstall the compensation box cover by performing step 13 above in reverse order.
18. Disconnect the test setup.

Bandwidth Check

To check the probe bandwidth do the following:

1. Connect the P6136 probe output to the oscilloscope CH 1 input.
2. Connect the probe tip through the 50 Ω adapters and BNC cable to the output of the leveled sine wave generator (as described in the *High-Frequency Compensation* procedure above).
3. Set the oscilloscope controls for 100 mV (includes 10X attenuator), 1 ms, and 1M Ω DC coupling.
4. Set the leveled sine wave generator frequency to 50 kHz.
5. Adjust the sine wave generator output amplitude to produce a 6-division display on the oscilloscope and center the waveform on screen.
6. Set the sine wave generator frequency range switch to the high-frequency position.
7. Slowly increase the setting of the variable frequency control until the display amplitude decreases to 4.2 divisions (-3 dB).
8. Check the sine wave generator frequency readout. The frequency must be greater than or equal to the P6136 specified system bandwidth.
9. If the reading is less than the required value, repeat the *High-Frequency Compensation* adjustments beginning on page 10.

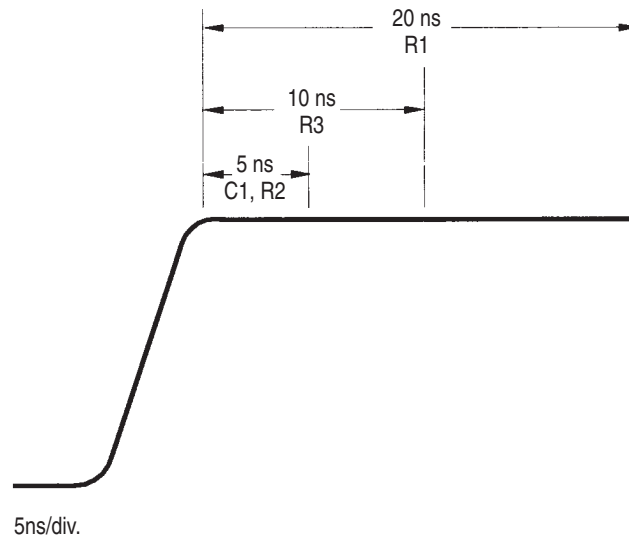


Figure 10: Effects of high-frequency adjustments on waveform

Maintenance

Use the following procedures to clean and maintain the P6136 probe.

Cleaning

To remove accumulated dirt from the probe exterior, use a soft cloth dampened with a nonresidue cleaner, preferably isopropyl alcohol. In particular, avoid solvents such as benzene, toluene, xylene, or acetone.

Probe Module Replacement

Modular construction has been used to simplify repair. The probe tip assembly, compensation box, and cable are available as separate units through your local Tektronix field office or representative. Individual components within the compensation box are not replaceable. See page 14 for a list of replaceable parts.

The probe tip assembly unscrews from the probe head/cable assembly. To disconnect the cable from the compensation box, do the following:

1. Unscrew the compensation box retainer nut about two complete turns.
2. Pull out the cable until it separates from the compensation box.
3. To reconnect the cable to the compensation box, implement the above steps in reverse.

Replaceable Parts

This section contains a list of the replaceable modules for the P6136 probe. Use this list to identify and order replacement parts.

Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order:

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix field office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Module Servicing

Modules can be serviced by selecting one of the following three options. Contact your local Tektronix service center or representative for repair assistance.

Module Exchange. In some cases you may exchange your module for a remanufactured module. These modules cost significantly less than new modules and meet the same factory specifications. For more information about the module exchange program, call 1-800-TEK-WIDE, extension 6630.

Module Repair and Return. You may ship your module to us for repair, after which we will return it to you.

New Modules. You may purchase replacement modules in the same way as other replacement parts.

Using the Replaceable Parts List

This section contains a list of the replaceable mechanical and electrical components for the P6136 probe. Use this list to identify and order replacement parts. The table below describes the content of each column of the parts list.

Parts list column descriptions

Column	Column name	Description
1	Figure & index number	Items in this section are referenced by figure and index numbers to the exploded view illustrations that follow.
2	Tektronix part number	Use this part number when ordering replacement parts from Tektronix.
3 and 4	Serial number	Column three indicates the serial number at which the part was first effective. Column four indicates the serial number at which the part was discontinued. No entry indicates the part is good for all serial numbers.
5	Qty	This indicates the quantity of parts used.
6	Name & description	An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.
7	Mfr. code	This indicates the code of the actual manufacturer of the part.
8	Mfr. part number	This indicates the actual manufacturer's or vendor's part number.

Abbreviations Abbreviations conform to American National Standard ANSI Y1.1–1972.

Mfr. Code to Manufacturer Cross Index The table titled Manufacturers Cross Index shows codes, names, and addresses of manufacturers or vendors of components listed in the parts list.

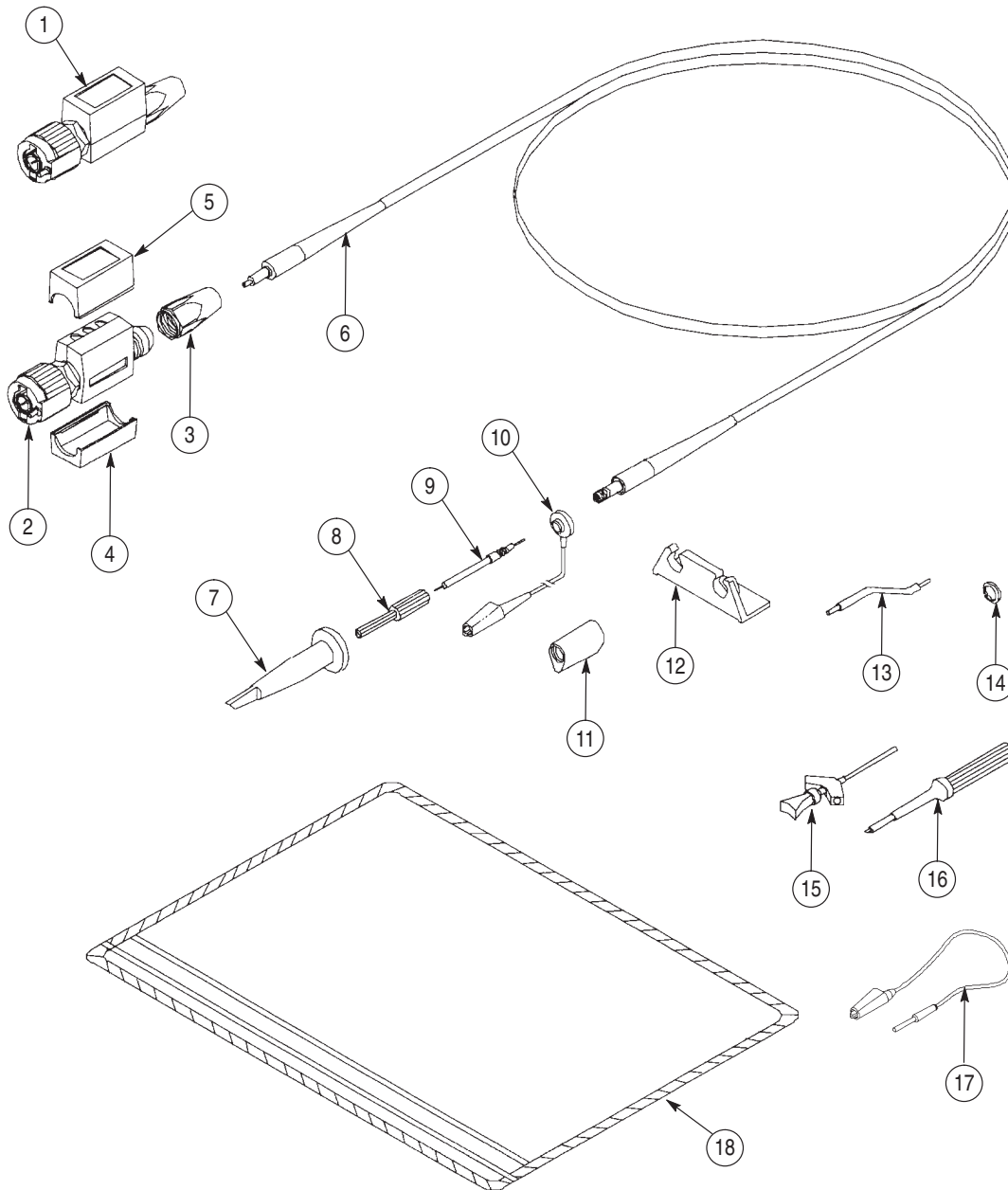


Figure 11: P6136 probe with standard accessories (subminiature tip)

Replaceable parts: P6136 probe and standard accessories

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
P6136 PROBE (1.3 METER)							
11 -1	206-0359-00			1	COMP BOX ASSY:P6136,1.3 METER	80009	206-0359-00
-2	131-3219-00			1	CONN,RF PLUG:BNC,MALE,STR,THD,10X READOUT,DOVE GRAY,W/11K OHM RES,W/CODE PIN,0.813 L,0.5 HEX	24931	28P266-3
-3	200-3018-00			1	COVER,CABLE NIP:COMP BOX	0J260	ORDER BY DESCRIPTION
-4	200-3017-00			1	COVER,COMP BOX:BOTTOM,ABS SLATE GRAY	TK2565	200-3017-00
-5	200-3016-00			1	COVER,COMP BOX:TOP,ABS DOVE GRAY	TK2565	200-3016-00
-6	174-0978-00			1	CABLE ASSY,RF:65 OHM COAX PER FT,1.3M	060D9	174-0978-00
-7	013-0208-02			1	TIP,PROBE:SUBMINIATURE SIZE RETRACTABLE HOOK ASSEMBLY	TK2565	013-0208-02
-8	204-0925-01			1	BODY SHL,PROBE:P6130	TK2565	204-0925-01
-9	206-0265-10			1	TIP,PROBE:10X,10.3PF,CLEAR/BLUE	80009	206-0265-10
-10	196-3305-00			1	LEAD,ELECTRICAL:22 AWG,6.0 L,W/CLIP	060D9	196-3305-00
P6136 PROBE STANDARD ACCESSORIES							
-11	343-1003-01			1	COLLAR,GND:P6130	TK2565	343-1003-01
-12	352-0351-00			1	HOLDER,PROBE:BLACK ABS P6000 SERIES	7X318	1127
-13	195-4240-00			1	LEAD,ELECTRICAL:0.025 DIA,COPPER,2.3 L	060D9	195-4240-00
-14	016-0633-00			1	MARKER SET,CA:2 EA VARIOUS COLORS	80009	016-0633-00
-15	206-0364-00			1	TIP,PROBE:MICROCKT TEST,0.05 CTR	80009	206-0364-00
-16	003-1433-02			1	SCREWDRIVER:ADJUSTMENT TOOL,PLASTIC	TK2565	003-1433-02
-17	196-3286-00			1	LEAD,ELECTRICAL:26 AWG,10.222 L,0-N W/ALLIGATOR CLIP	060D9	196-3286-00
-18	016-0644-00			1	POUCH,ACCESSORY:6.25 X 9.25	80009	016-0644-00
	070-6025-04			1	SHEET,TECHNICAL:INSTR,P6136	80009	070-6025-04

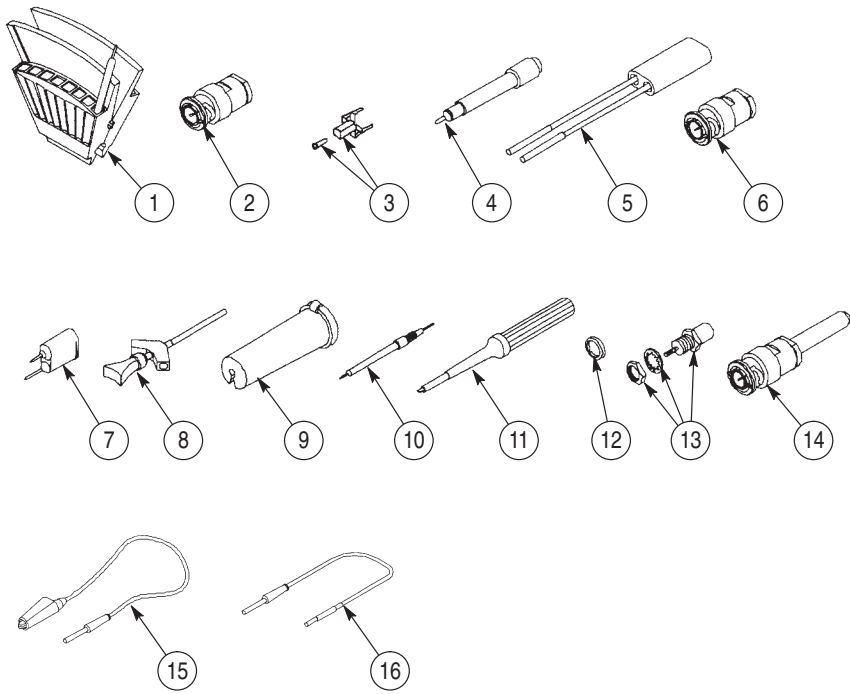


Figure 12: P6136 probe optional accessories (subminiature tip)

Replaceable parts: P6136 probe optional accessories

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
P6136 PROBE OPTIONAL ACCESSORIES							
12-1	013-0197-00			1	KLIPKIT:(2)16 PIN CLIP W/(4)CONTACT GROUND	80009	013-0197-00
-2	013-0195-00			1	ADAPTER,CONN:BNC TO PROBE	24931	28P264-1
-3	131-5030-00			1	CONNECTOR,PROBE:PKG OF 25,SUBMINIATURE	80009	131-5030-00
-4	013-0202-03			1	ADAPTER,PROBE:SUBMINIATURE/COMPACT TO MINIATURE	TK2565	013-0202-03
					NOTE: USE ITEMS 5 THRU 7 WITH SUBMINIATURE/COMPACT TO MINIATURE PROBE TIP ADAPTER (ITEM 4).		
-5	015-0325-01			1	ADAPTER,PROBE:PROBE TO CONNECTOR PINS	TK2565	015-0325-01
-6	013-0084-04			1	ADAPTER,CONN:BNC TO PROBE	80009	013-0084-04
-7	013-0085-00			1	TIP,PROBE:GROUNDING	80009	013-0085-00
-8	SMG50			1	SMT KLIPCHIP:20 ADAPTERS	80009	ORDER BY DESCRIPTION
-9	352-0670-00			1	HOLDER,PROBE:ATTENUATOR TIPS (3)	TK2565	352-0670-00
-10	206-0268-00			1	TIP ASSY,PROBE:1X,SUBMINIATURE	80009	206-0268-00
-11	003-1433-02			1	SCREWDRIVER:ADJUSTMENT TOOL,PLASTIC	80009	003-1433-02
-12	016-0633-00			1	MARKER SET,CA:2 EA VARIOUS COLORS	80009	016-0633-00
-13	013-0240-00			1	ADAPTER,TIP:SUBMINIATURE TIP TO CHASSIS MOUNT	24931	33JR186-2
-14	013-0253-00			1	ADAPTER,CONN:BNC TO PROBE TIP,MALE,STR, 2.14 L,INT 4.5-0.75MM THD,SUBMIN P6131,THREADLOCK	24931	28P-302-1
-15	196-3286-00			1	LEAD,ELECTRICAL:26 AWG,10.222 L,0-N W/ALLIGATOR CLIP	060D9	196-3286-00
-16	196-3302-00			1	LEAD,ELECTRICAL:23 AWG,6.0 L	060D9	196-3302-00

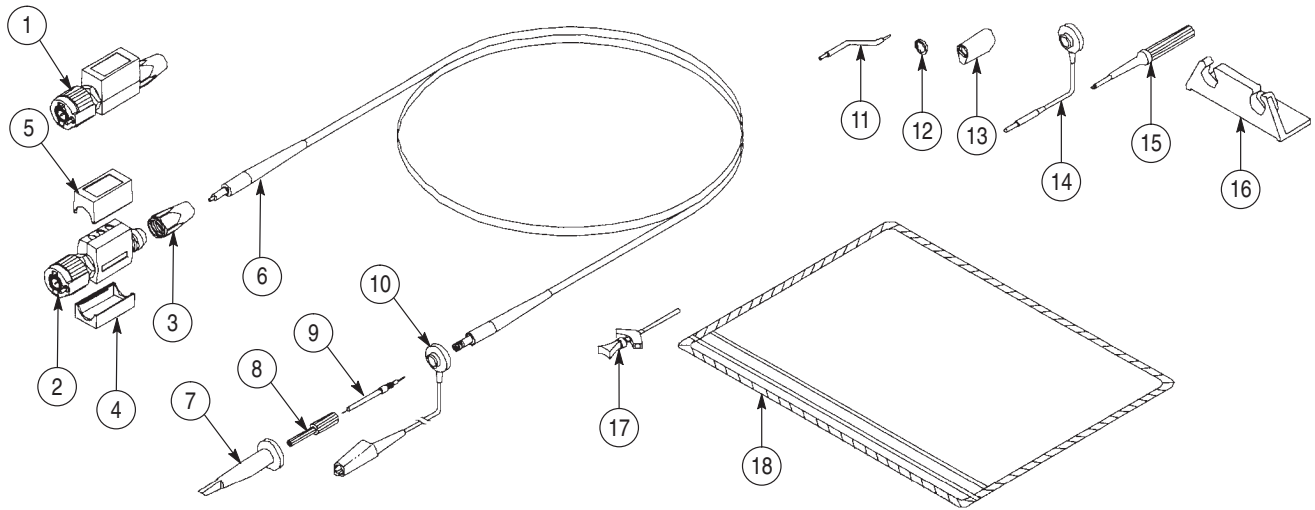


Figure 13: P6136 probe Option 25 with standard accessories (compact tip)

Replaceable parts: P6136 probe Option 25 and standard accessories

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
P6136 PROBE OPTION 25 (1.3 METER)							
13-1	206-0359-00			1	COMP BOX ASSY:P6136,1.3 METER	80009	206-0359-00
-2	131-3219-00			1	CONN,RF PLUG:BNC,MALE,STR,THD,10X READOUT,DOVE GRAY,W/11K OHM RES,W/CODE PIN,0.813 L,0.5 HEX	24931	28P266-3
-3	200-3018-00			1	COVER,CABLE NIP:COMP BOX	0J260	ORDER BY DESCRIPTION
-4	200-3017-00			1	COVER,COMP BOX:BOTTOM,ABS SLATE GRAY	TK2565	200-3017-00
-5	200-3016-00			1	COVER,COMP BOX:TOP,ABS DOVE GRAY	TK2565	200-3016-00
-6	174-0978-00			1	CABLE ASSY,RF:65 OHM COAX PER FT,1.3M	060D9	174-0978-00
-7	013-0107-07			1	TIP,PROBE:MINIATURE/COMPACT SIZE	TK2565	013-0107-07
-8	204-1049-00			1	BODY SHELL:TIP COVER	TK2565	204-1049-00
-9	206-0392-00			1	PROBE TIP ASSY:10X,10.3PF,GRAY/BLUE,	80009	206-0392-00
-10	196-3305-00			1	LEAD,ELECTRICAL:22 AWG,6.0 L,W/CLIP	060D9	196-3305-00

Replaceable parts: P6136 probe Option 25 and standard accessories (cont.)

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
P6136 PROBE OPTION 25 STANDARD ACCESSORIES							
13-11	195-4240-00			1	LEAD,ELECTRICAL:0.025 DIA,COPPER,2.3 L	060D9	195-4240-00
-12	016-0633-00			1	MARKER SET,CA:2 EA VARIOUS COLORS	80009	016-0633-00
-13	343-1003-01			1	COLLAR,GND:P6130	TK2565	343-1003-01
-14	196-3113-02			1	LEAD,ELECTRICAL:STRD,22 AWG,6.0 L,8-N	80009	196-3113-02
-15	003-1433-02			1	SCREWDRIVER:ADJUSTMENT TOOL,PLASTIC	TK2565	003-1433-02
-16	352-0351-00			1	HOLDER,PROBE:BLACK ABS P6000 SERIES	7X318	1127
-17	206-0364-00			1	TIP,PROBE:MICROCKT TEST,0.05 CTR	80009	206-0364-00
-18	016-0708-00			1	POUCH,ACCESSORY:6.25 X 9.25	05006	501494
	070-6025-04			1	SHEET,TECHNICAL:INSTR,P6136	80009	070-6025-04

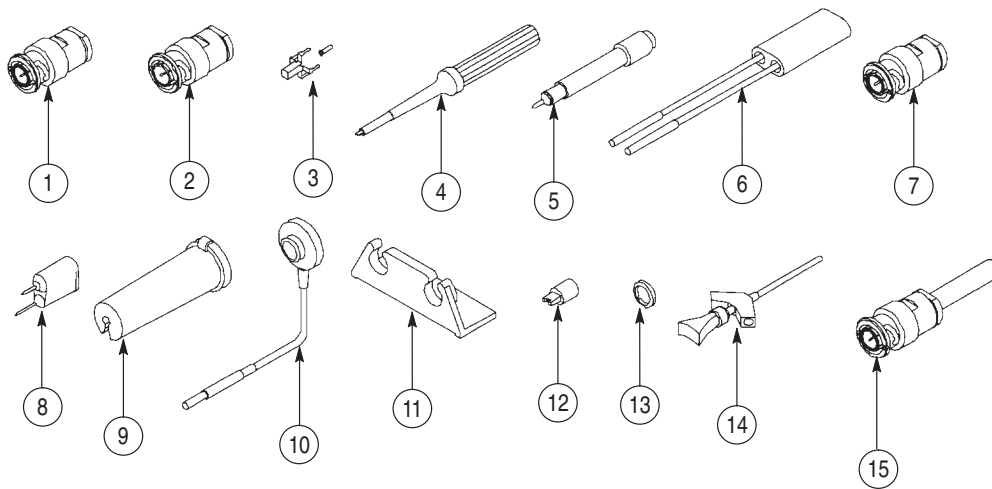


Figure 14: P6136 probe Option 25 optional accessories (compact tip)

Replaceable parts: P6136 probe Option 25 optional accessories

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
P6136 PROBE OPTION 25 OPTIONAL ACCESSORIES							
14-1	013-0226-00			1	CONNECTOR,BNC:BNC TO PROBE TIP ADAPTER STRAIGHT THRU	24931	28P264-2
-2	013-0227-00			1	CONNECTOR,BNC:50 OHM,BNC TO P TIP ADAPTER	24931	28P312-1
-3	131-5031-00			1	CONNECTOR,PROBE:PKG OF 25,COMPACT	80009	131-5031-00
-4	003-1433-02			1	SCREWDRIVER:ADJUSTMENT TOOL,PLASTIC	80009	003-1433-02
-5	013-0202-03			1	ADAPTER,PROBE:SUBMINIATURE/COMPACT TO MINIATURE	TK2565	013-0202-03
NOTE: USE ITEMS 6 THRU 8 WITH SUBMINIATURE/COMPACT TO MINIATURE PROBE TIP ADAPTER (ITEM 5).							
-6	015-0325-01			1	ADAPTER,PROBE:PROBE TO CONNECTOR PINS	TK2565	015-0325-01
-7	013-0084-04			1	ADAPTER,CONN:BNC TO PROBE	80009	013-0084-04
-8	013-0085-00			1	TIP,PROBE:GROUNDING	80009	013-0085-00

Replaceable parts: P6136 probe Option 25 optional accessories (cont.)

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
14-9	352-0670-00			1	HOLDER,PROBE:ATTENUATOR TIPS (3)	TK2565	352-0670-00
-10	196-3113-03			1	LEAD,ELECTRICAL:STRD,22 AWG,3.0 L,8-N	060D9	196-3113-03
-11	352-0351-00			1	HOLDER,PROBE:BLACK ABS P6000 SERIES	7X318	1127
-12	015-0201-07			1	TIP,PROBE:IC TEST,PKG OF 10	80009	015-0201-07
	015-0201-08			1	TIP,PROBE:IC TEST,PKG OF 100	80009	015-0201-08
-13	016-0633-00			1	MARKER SET,CA:2 EA VARIOUS COLORS	80009	016-0633-00
-14	SMG50			1	SMT KLIPCHIP:20 ADAPTERS	80009	ORDER BY DESCRIPTION
-15	013-0254-00			1	ADAPTER,CONN:BNC TO PROBE TIP,MALE,STR,PROBE,2.14 L,INT 4.5 X 0.077 MM THD,COMPACT P6139A,	24931	28P-302-2

Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
05006	20TH CENTURY BOK	3628 CRENSHAW BOULEVARD ATTN: CUSTOM DEPARTMENT	LOS ANGELES, CA 90016
060D9	UNITREK CORPORATION	3000 COLUMBIA HOUSE BLVD, SUITE 120	VANCOUVER, WA 98661
0J260	COMTEK MANUFACTURING OF OREGON	P O BOX 4200 M/S 16-207	BEAVERTON, OR 970764200
24931	BERG ELECTRONICS INC	RF/COAXIAL DIV 2100 EARLYWOOD DR PO BOX 547	FRANKLIN, IN 46131
7X318	KASO PLASTICS INC	11013 A NE 39TH	VANCOUVER, WA 98662
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON, OR 97077-0001
TK2565	VISION PLASTICS INC	26000 SW PARKWAY CENTER DRIVE	WILSONVILLE, OR 97070

