Instruction Manual

Tektronix

P6122
10X Passive Probe

070-4431-01

Please check for change information at the rear of this manual.

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Tektronix, Inc., P.O. Box 1000, Wilsonville, OR 97070–1000

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SAFETY SUMMARY

The general safety information in this summary is for both operating and servicing personnel. Specific warnings and cautions will be found throughout the manual where they apply and do not appear in this summary.

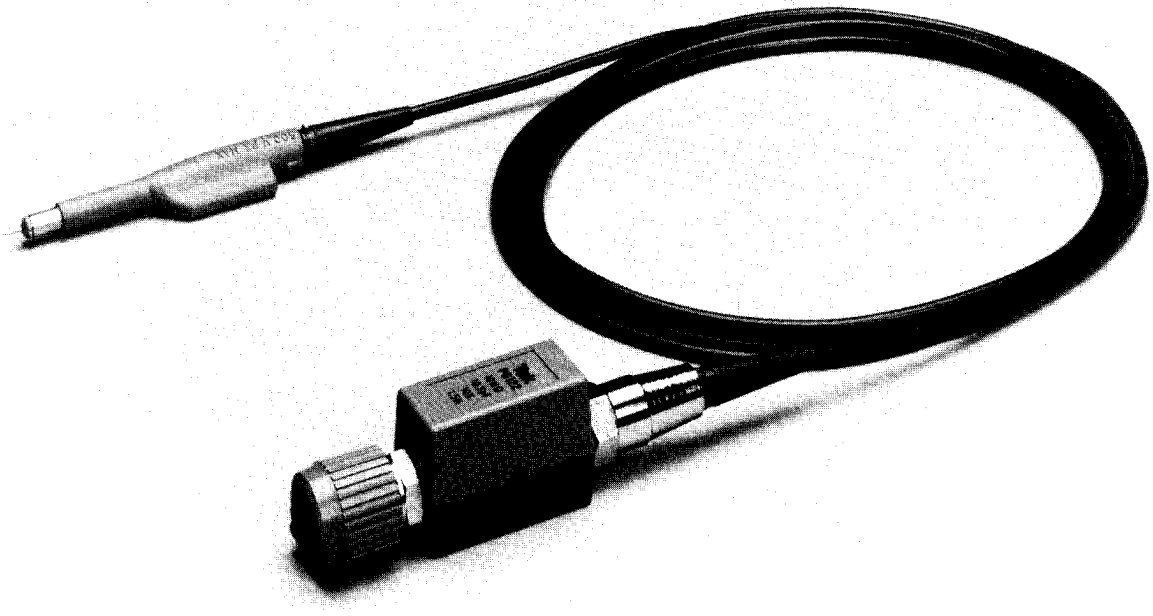
Terms in This Manual

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

CAUTION statements identify conditions or practices that could result in damage to the equipment or other property.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere unless it has been specifically certified for such operation.



4431-01A

The P6122 Probe.

SPECIFICATIONS

DESCRIPTION

The TEKTRONIX P6122 is a miniature, 10X passive probe for use with dc to 100 MHz oscilloscopes with an input capacitance range of 15 to 35 pF and an input resistance of 1 MΩ.

The compensation box houses a network that provides optimum transient response. The probe can be low-frequency compensated by adjusting the variable capacitor through the opening in the compensation box housing.

The probe is available in three lengths: 1.5 meters, 2 meters, and 3 meters.

The P6122 meets the requirements of UL 1244.

ACCESSORIES

The P6122 is shipped with the following standard accessories:

1 Instruction sheet
1 Carrying pouch
1 Retractable hook tip
2 Ground leads with alligator clips
1 Set of cable markers (2, silver-gray)
1 Ground-Cover Sleeve
1 IC test tip

Use of these accessories is described in the "Operating Considerations" section of this manual. Part numbers are listed in the "Replaceable Parts List" near the back of this manual.

PERFORMANCE CONDITIONS

The electrical characteristics listed in Table 1-1 apply when a calibrated probe is used with a calibrated oscilloscope system operating within the environmental conditions stated in Table 1-2.

Items listed in the "Performance Requirement" column are verifiable qualitative or quantitative limits. Items listed in the "Supplemental Information" column are not verified in the "Performance Check Procedure" (Section 3); they are either explanatory notes, calibration setup descriptions, performance characteristics for which no absolute limits are specified, or characteristics that are impractical to check.

Physical characteristics are listed in Table 1-3.

Table 1-1

Electrical Characteristics

Characteristic	Performance Requirement	Supplemental Information
Attenuation (system)	10X ±3% at dc.	Oscilloscope input resistance must be 1 MΩ ±2% at dc.
Input resistance (probe)	9 MΩ ±0.3% at dc.	Compensation box shorted, measured from probe tip to ground sleeve. Derate ±100 ppm per degree C deviation from 25° C.
Input resistance (system)	10 MΩ ±2%.	Oscilloscope input resistance must be 1 MΩ ±2% at dc.

Table 1-1 (Cont)
Electrical Characteristics

Characteristic	Performance Requirement	Supplemental Information
Input Capacitance	9.7 pF - 12.3 pF (1.5-m probe).[a] 10.7 pF - 13.3 pF (2.0-m probe).[a] 12.7 pF - 15.3 pF (3.0-m probe).[a]	Probe connected to input and properly compensated. See Figure 1-1 for a graph of input resistance (R_p) and parallel reactance (X_p) versus frequency.
Compensation Range	15 pF - 35 pF	3.0-m probe: 15 pF - 30 pF.
System Bandwidth (−3 dB)	DC to ⩾ 100 MHz (1.5-m and 2.0-m probes). DC to ⩾ 90 MHz (3.0-m probe).	Measured on a Tektronix 2235 or equivalent. Oscilloscope bandwidth: 105 MHz < BW < 115 MHz.
Risetime	< 3.5 ns, calculated from bandwidth: $t_r = 0.35/BW$.	3.0-m probe: ⩽ 3.7 ns.
Aberrations	±3%, 5% p-p, in addition to oscilloscope aberrations.	Oscilloscope bandwidth: 105 MHz < BW < 115 MHz.

[a]**Performance Requirement is not checked in manual.**

Table 1-1 (Cont)

Electrical Characteristics

Characteristic	Performance Requirement	Supplemental Information
Maximum Nondestructive Input Voltage	500V (dc + peak ac) to 1.3 MHz derated to 50 V (dc + peak ac) at 100 MHz.[a]	See Figure 1-2 for derating curve.
Maximum Electrostatic Discharge Withstand Voltage	500 pF in series with 1 KΩ, charged to 20 kv.[a]	

[a]Performance Requirement is not checked in manual.

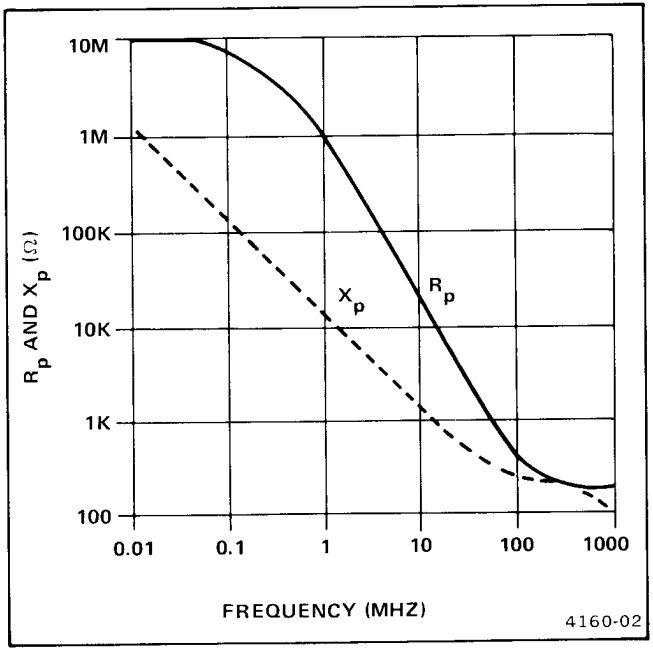


Figure 1-1. Typical Xp and Rp versus fequency.

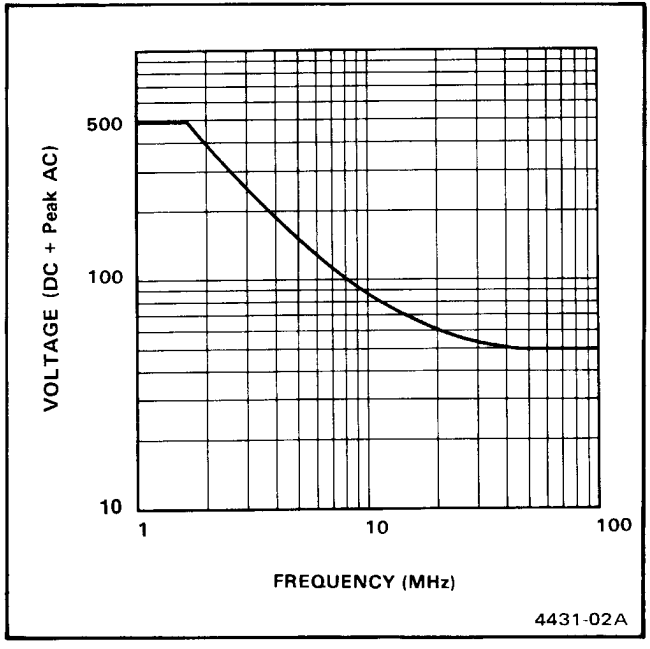


Figure 1-2. Typical voltage derating with frequency.

Table 1-2

Environmental Characteristics

Characteristic	Information
Temperature Range (Operating)	-15°C to +75°C (+5°F to +167°F).
Temperature Range (Nonoperating)	-62°C to +85°C -80°F to +185°F).
Humidity	Five cycles (120 hr.) at 95% to 97% relative humidity.
Altitude	
(Operating)	To 4,500 m (15,000 ft).
(Nonoperating)	To 15,000 m (50,000 ft).
Transportation	Qualifies under National Safe Transit Test Procedure 1A, 48 inch drop test.

Table 1-3

Physical Characteristics

Characteristic	Information
Net Weight (includes accessories)	
1.5-Meter Probe	85 g (3.0 oz).
2.0-Meter Probe	92 g (3.3 oz).
3.0-Meter Probe	105 g (3.7 oz).
Probe Assembly Length	
1.5-Meter Probe	1.5 m (4.9 ft).
2.0-Meter Probe	2.0 m (6.6 ft).
3.0-Meter Probe	3.0 m (9.8 ft).

OPERATING CONSIDERATIONS

PROBE HANDLING

The P6122 miniature probe body has been designed for ease of use when probing small circuitry. Both the probe itself and the accessories should be handled carefully at all times. To prevent damage, avoid dropping the probe body, since damage to the tip may result. Exercise care to prevent crushing or placing excessive strain on the cable.

PROBE GROUNDING

A passive probe is a capacitive divider for high-frequency signal components. Inductance introduced by either a long signal lead or a long ground lead will form a series-resonant circuit that will ring if driven by a signal containing significant frequency components at or above circuit resonance. These oscillations (ringing) can appear on the oscilloscope display and distort the true waveform. The ground lead and signal-input connections should be kept as short as possible to maintain the best waveform fidelity.

PROBE COMPENSATION

Due to variations in oscilloscope input characteristics, probe low-frequency compensation should be checked and adjusted if necessary, after movement from one oscilloscope to another or from one channel to another on a multichannel oscilloscope. See "Low-Frequency Compensation" instructions in the "Adjustment Procedure" (Section 4).

PROBE ACCESSORIES

Both standard and optional accessories for the P6122 are listed in the "Replaceable Parts List" near the back of this manual. Standard accessories are supplied to aid in connecting the probe to circuitry under test, and to protect the probe against damage. Some accessories are illustrated in Figure 2-1.

Ground Leads

The P6122 Probe is supplied with two ground leads. One, a 25-cm (10-inch) lead, has a socket on one end

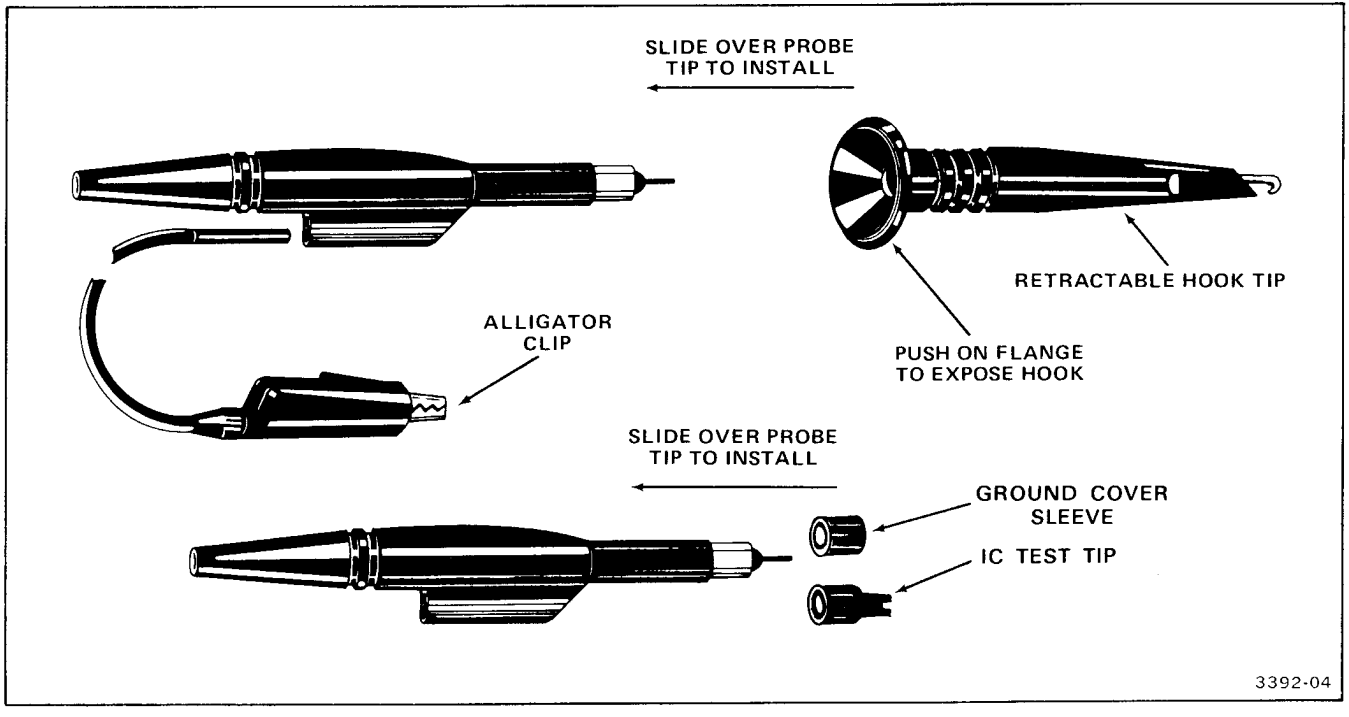


Figure 2-1. Installation of probe accessories.

which connects to the ground connector on the probe, and an alligator clip on the other end. The other, an 8-cm (3-inch) lead, has a bayonet connector at one end which slips over the probe tip, and an alligator clip at the other end. To minimize ringing, always use the shortest possible ground lead.

Carrying Pouch

The carrying pouch (not shown) is a durable, sealable pouch designed to protect the probe, its accessories, and this manual when they are not in use.

IC Test Tip

The IC test tip covers the grounding-sleeve and provides a guide for the probe tip when probing IC leads.

Ground-Cover Sleeve

The small tubular ground-cover sleeve supplied with the probe may be placed over the metal sleeve of the probe tip when using the 25-cm (10-inch) ground lead. Use of this sleeve will prevent accidental grounding of the circuit under test. The sleeve should be removed when using the retractable hook tip.

Retractable Hook Tip

The retractable hook tip provides a hands-free connection to a test point or component lead so that other adjustments or functions may be accomplished.

NOTE

Tektronix manufactures several different hook tips. Be sure to use the hook tip specified in the parts list. Other retractable tips may not seat properly.

This tip is attached to the probe by sliding it over the probe tip. To expose the tip end for connections, hold the probe head near its ground lead jack. Pull the hook tip's flange toward the ground jack. The spring inside the tip will hold the connection together when the flange is released.

Cable Markers

Cable markers (not shown) are provided to help identify specific probes when using multichannel oscilloscopes.

Optional Accessories (not shown)

Tip, Probe with Actuator, (for part number see "Replaceable Parts", Section 6). This accessory is

designed specifically for use in constricted environments such as designing and testing DIP ciruitry.

Lead, with micro-hook, 17.14 cm (6.75 inches), (for part number see "Replaceable Parts", Section 6). This accessory is a ground lead similar to the standard 25-cm (10-inch), ground lead supplied with your probe, but it contains a micro-hook instead of an alligator clip. This lead is particularly useful in making ground connections directly to IC leads. Maximum voltage rating = 40 V (dc + peak ac).

PERFORMANCE CHECK PROCEDURE

PURPOSE

This section contains procedures for verifying bandwidth, rise time and attenuation accuracy for the P6122 Probe. Adjustments are described in Section 4, and if necessary, should be completed before proceeding with the performance checks.

TEST EQUIPMENT REQUIRED

The equipment listed in Table 3-1, or an equivalent piece of test equipment, is required to accomplish a complete Performance Check. In Table 3-1, the specifications given for the equipment are the minimum necessary to provide accurate results. Therefore, the equipment used must meet or exceed the stated specifications. Refer to the appropriate test equipment instruction manual if more operating information is required.

LIMITS AND TOLERANCES

The limits and tolerances given in this procedure are for the P6122 under test only. Test equipment error is not included except as noted.

PREPARATION

Before proceeding with each step, allow sufficient warm-up time for test equipment to stabilize (typically 20 minutes). Each of the following checks can be independently performed.

Table 3-1

Test Equipment Required

Item and Description	Minimum Specification	Use	Examples of Applicable Inst.
1. Oscilloscope System	Bandwidth: 105 MHz <BW <115 MHz. Deflection factor: 20 mV/div, (0.2 V/div with probe).	Probe compensation adjustment and bandwidth check.	TEKTRONIX 2235 Oscilloscope.
2. Square-wave Generator[a]	Square wave frequency: 1 KHz, amplitude: 1.0 V into 1 MΩ.	Probe compensation adjustment.	TEKTRONIX PG 506 Calibration Generator[b]
3. Leveled Sine-Wave Generator	Amplitude: adjustable from 0 V to 1.0 V Frequency: variable to at least 100 MHz plus fixed 50 KHz reference.	Bandwidth check.	TEKTRONIX SG 503 Leveled Sine-wave Generator.[b]
4. Ohmmeter	Accuracy: ±0.11% of resistance reading.	Attenuation check.	FLUKE 8502A or equivalent.
5. Adapter	Probe-tip-to-BNC male.	Probe compensation adjustment & bandwidth check.	Tektronix Part Number 013-0084-01.

[a] **Not required if oscilloscope has a calibrator output.**

[b] **Requires a TM500-Series power-module mainframe.**

Table 3-1 (Cont)

Test Equipment Required

Item and Description	Minimum Specification	Use	Examples of Applicable Inst.
6. Low-Resistance Alignment Tool	Bit size: 1/16 inch.	Probe compensation adjustment.	Tektronix Part Number 003-0675-01.
7. Termination	Impedance: 50Ω. Connectors: BNC.	Signal termination.	Tektronix Part Number 011-0049-01.
8. Precision Coaxial Cable	Impedance: 50Ω, Length: 36 in. Connectors: BNC	Signal interconnection.	Tektronix Part 012-0482-00.
9. 10X Attenuator	Impedance: 50Ω, Connectors: BNC.	High-frequency compensation.	Tektronix Part Number 011-0059-02.
10. Termination Adapter	Impedance: 50Ω, Connectors: miniature-probe-tip-to-GR.	Signal pick-off.	Tektronix Part Number 017-0088-00.[c]
11. Adapter	Connectors: GR-to-BNC female.	Signal Interconnection.	Tektronix Part Number 017-0063-00.[c]

[c]In most applications, including the following procedures, items 5 and 7 can be used in place of items 10 and 11.

PROCEDURE STEPS

NOTE

Check and, if necessary, adjust the low-frequency and high-frequency compensation as described in "Adjustment Procedure" (Section 4). Improperly adjusted compensation may affect the probe bandwidth and rise-time.

1. Bandwidth and Rise-time Check

a. Equipment Required (see Table 3-1):

Oscilloscope system (Item 1)
Leveled Sine-Wave Generator (Item 3)
Adapter (Item 5)
Termination (Item 7)

b. Set the oscilloscope Volts/Div switch to 20 mV/Div (0.2 V including 10X probe), and Time/Div to 1 ms.

c. Connect the probe tip to the leveled sine-wave generator output through a 50-Ω termination and a probe-tip-to-BNC adapter (see Figure 3-1).

d. Set the sine-wave generator frequency-range switch to Ref=0.05 (50 KHz), and set its output amplitude control to produce a 6-division display on the oscilloscope. Center the display on the screen.

e. Adjust the generator frequency-range switch to the 50 to 250 MHz range and slowly increase the setting of the variable frequency control until the display amplitude decreases to exactly 4.2 divisions (−3dB).

f. CHECK−The bandwidth of the probe/oscilloscope system, as indicated by the sine-wave generator frequency readout, is at least 100 MHz. (90 MHz for the 3.0-m probe.)

g. Once the bandwidth of the system is known, the approximate rise time can be calculated using the formula:

$$\text{Rise Time} = .35/\text{BW}$$

(With a bandwidth of 100 MHz, the rise time is approximately 3.5 ns).

2. Probe Attenuation Accuracy Check

Equipment Required (See Table 4):

Ohmmeter (Item 4)

a. Connect one lead of the precision ohmmeter to the

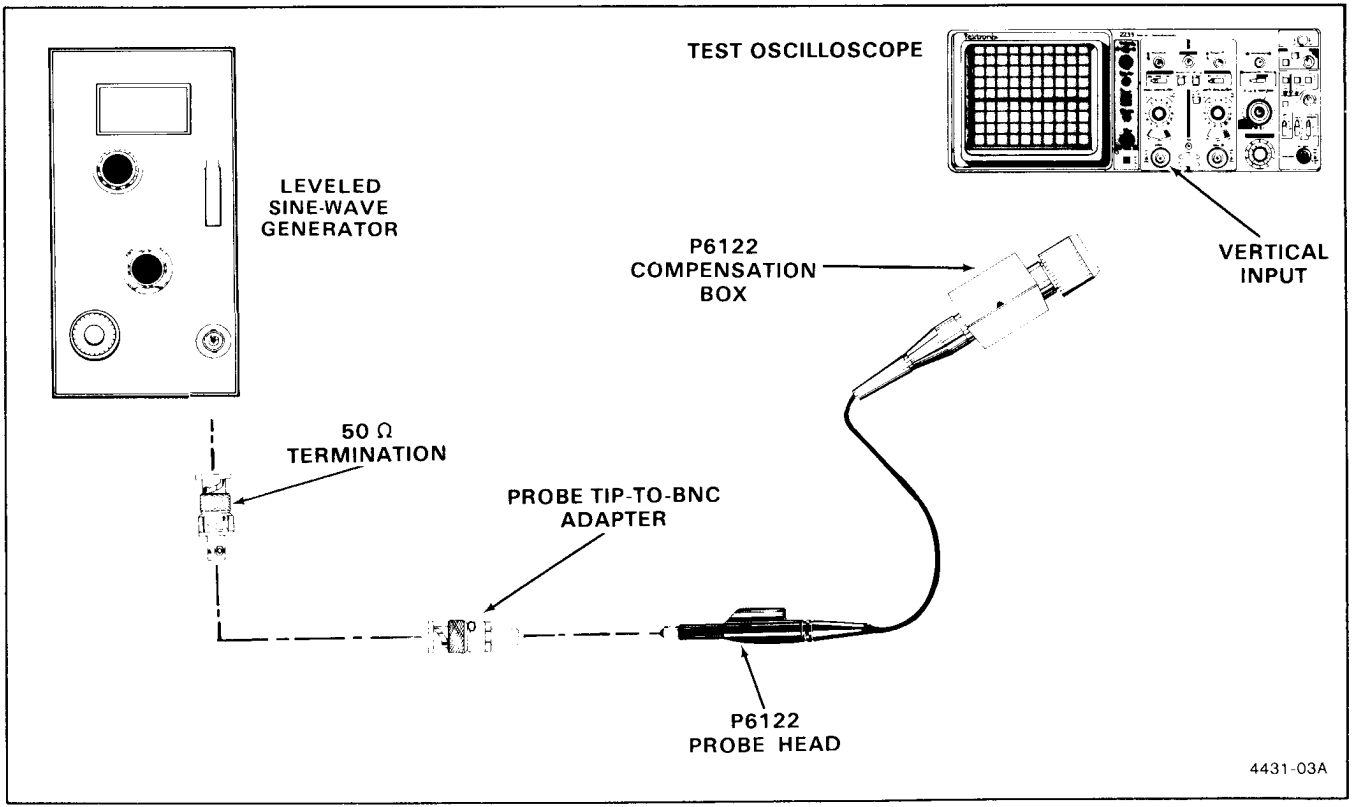


Figure 3-1. Bandwidth Test Setup.

probe tip and the other lead to the inner conductor of the probe BNC connector.

b. CHECK—That the meter reading is between 8.973 and 9.027 MΩ.

NOTE

When the meter reading is between 8.973 and 9.027 MΩ and the oscilloscope has an input resistance accuracy as described in the "Specification" section, the probe dc attenuation and input resistance will be within specified limits.

ADJUSTMENT PROCEDURE

PURPOSE

This section contains the information necessary to perform the low-frequency and high-frequency compensation adjustments on the P6122 Probe. The adjustment procedures are not intended to be troubleshooting guides, however, any deficiency found during the performance of each step should be corrected before continuing. Tektronix Field Service Centers and the Factory Service Center provide instrument repair and adjustment service. Refer to "Maintenance" in Section 5 for further information.

PREPARATION

Before proceeding with each adjustment step, allow sufficient warm-up time for the test equipment to stabilize (typically 20 minutes). Low-frequency compensation should always be done prior to high-frequency compensation.

PROCEDURE STEPS

1. Adjust Low-Frequency Compensation

Equipment Required (see Table 3-4):

Oscilloscope (Item 1)
Square-Wave Generator (Item 2)
Adapter (Item 5)
Alignment Tool (Item 6)

(Items 2 and 5 not necessary if oscilloscope has a calibrator output).

a. Connect the probe BNC connector to the oscilloscope vertical input.

b. Set the oscilloscope controls as follows:

Volts/Div	20 mV
Sec/Div	5 ms
Bandwidth	Full
Input Coupling	DC

c. Connect the probe tip to the oscilloscope calibration signal output. If the oscilloscope does not have a calibration output, a calibration generator may be used as follows:

Set the square-wave generator for an output of 1.0 V. The signal output should be a square wave at approximately 1 kHz.

Connect the probe tip to the generator output through a probe-tip-to-BNC adapter.

d. Set the oscilloscope triggering controls for a stable, triggered display.

The display should be approximately 5 square wave cycles with an amplitude of 5 divisions. Center the display on the screen.

e. ADJUST—Probe Low-Frequency Compensation control for the best flat top display on the wave form by using a low-reactance alignment tool (Figure 4-1). Typical oscilloscope waveform displays for the range of the compensation control are shown in Figure 4-2.

2. Check/Adjust High-Frequency Compensation

Equipment Required (see Table 3-1):

Oscilloscope (Item 1)
Calibration Generator (Item 2)
Precision Coaxial Cable (Item 8)
10X Attenuator (Item 9)
Termination (Item 7)
Termination Adapter (Item 10)
Adapter (Item 11)
Alignment Tool (Item 6)

a. Connect the positive-going, fast-rise output of the calibration generator via a 50-Ω cable, a 10X attenuator, and a through-line termination to the test oscilloscope vertical input connector.

b. Set test oscilloscope controls:

Volts/Division	10 mV
Time/Division	0.02 us
Input Coupling	DC
Bandwidth	Full Bandwidth

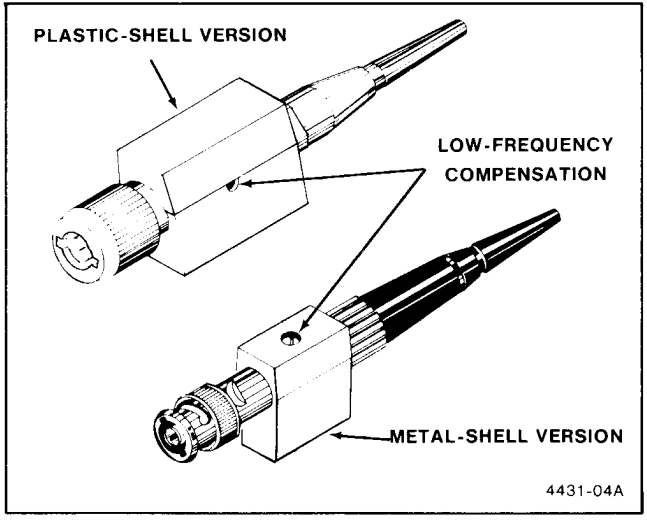


Figure 4-1. Low frequency adjustment.

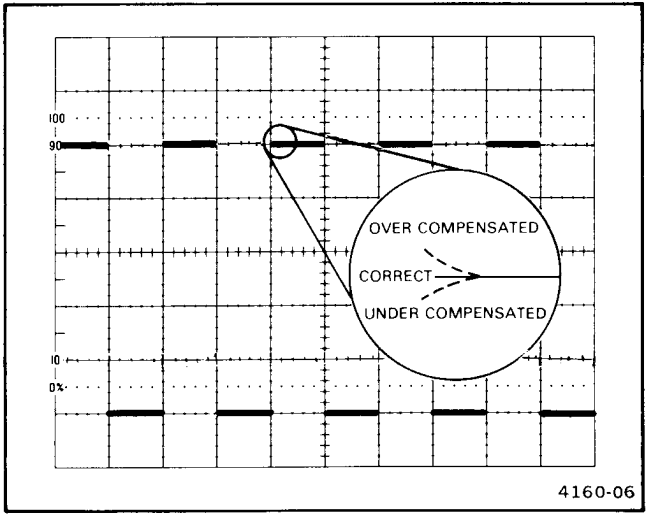


Figure 4-2. Low frequency compensation.

c. Set the calibration generator to produce a fast-rise output with a period (repetition rate) of 10 us (100 kHz) and adjust the amplitude control to produce a 5-division display on the test oscilloscope.

d. Set oscilloscope triggering controls for a stable display and center the display on the screen.

e. Note the pulse shape and system aberrations for comparison in part j.

f. Disconnect the signal from the oscilloscope input connector.

g. Remove the probe compensation box cover. For the metal-shell version, unscrew the compensation box retainer nut about two complete turns and lift the cover out and up. Press the cable connector in firmly and re-tighten the retainer. For the plastic-shell version, pry off the darker portion of the plastic shell by inserting your thumbnail in the seam between the two pieces. The lighter portion may now be easily removed from the inner metal shield.

h. Connect the probe output connector to the test oscilloscope vertical input connector.

i. Connect the probe tip, via a probe-tip-to-GR termination adapter, a GR-to-BNC female adapter, and a 50- coaxial cable, to the positive-going fast-rise output of the calibration generator.

j. CHECK—High-frequency aberrations do not exceed +3% (5.15 divisions), -3% (4.85 divisions), or 5% (0.25 divisions) p-p (in addition to system aberrations noted in part e).

If probe aberrations are within tolerance, proceed to part m. If they are not, proceed with part k.

k. ADJUST—R2 and R3 for best overall flat response. R2 and R3 are two variable resistors located on the exposed circuit board in the metal-shell version of the probe. In the plastic-shell version of the probe, R2 and R3 are accessed through the two outboard holes in the top (narrow) side of the inner metal shield.

NOTE

The high-frequency compensation adjustments affect probe bandwidth. After making these adjustments, check probe bandwidth using the procedure given in Section 3. A small overshoot on the leading edge of the pulse may be necessary to enable meeting the bandwidth specification. However, overshoot should not exceed the typical aberrations described in part j.

l. Reinstall the compensation box cover by reversing the steps in part g.

m. Disconnect the test setup.

MAINTENANCE

CLEANING

Occasional cleaning of the exterior surfaces of the probe assembly may be necessary.

WARNING

To avoid electrical shock, do not provide any probe maintenance while the probe is connected to a signal or voltage source.

CAUTION

Do not use any chemical cleaning agents which might damage the materials used in this probe. In particular, avoid chemicals which contain benzine, toluene, xylene, acetone, or similar solvents. Use only recommended cleaning agents.

Dirt that accumulates on the probe can be removed with a soft cloth dampened with a nonresidue type cleaner, preferably isopropyl alcohol or a solution of 5% Kelite detergent with 95% water. Before using any other type of cleaner, consult your Tektronix Service Center or Representative.

PROBE MODULE REPLACEMENT

If the probe is damaged or fails, replacement modules are available through your local Tektronix Field Office or representative. The "Replaceable Parts List" at the rear of this manual provides the Tektronix part numbers and descriptions for the replacement modules.

Modular construction has been incorporated in the design of the P6122 to simplify repairs. The probe head, compensation box, and cable are available as separate units for replacement. To remove the probe head, pull the cable away from the probe head until they are unplugged. To remove the compensation box, first unscrew the retainer cover from the compensation box body, then pull on the cable until it separates from the compensation box. Individual components within the compensation box are not considered replaceable. To install new modules, reverse the above procedures.

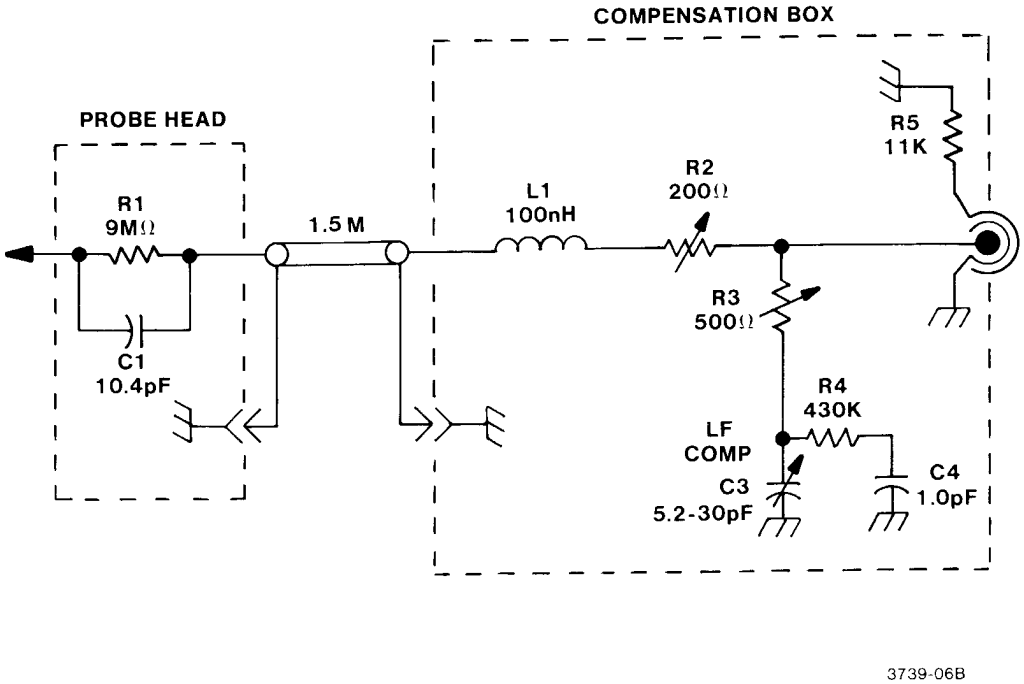


Figure 5-1. Schematic diagram for the P6122.

REPLACEABLE PARTS

PARTS ORDERING INFORMATION

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

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, instrument type or number, 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, Inc. Field Office or representative will contact you concerning any change in part number

FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations

ITEM NAME

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

INDENTATION SYSTEM

This mechanical parts list is indented to indicate item relationships. Following is an example of the indentation system used in the description column.

1 2 3 4 5 Name & Description

Assembly and/or Component
Attaching parts for Assembly and/or Component
\- - - * - - -
Detail Part of Assembly and/or Component
Attaching parts for Detail Part
\- - - * - - -
Parts of Detail Part
Attaching parts for Parts of Detail Part
\- - - * - - -

Attaching Parts always appear in the same indentation as the item it mounts, while the detail parts are indented to the right. Indented items are part of, and included with, the next higher indentation. The separation symbol - - - * - - - indicates the end of attaching parts.

Attaching parts must be purchased separately, unless otherwise specified.

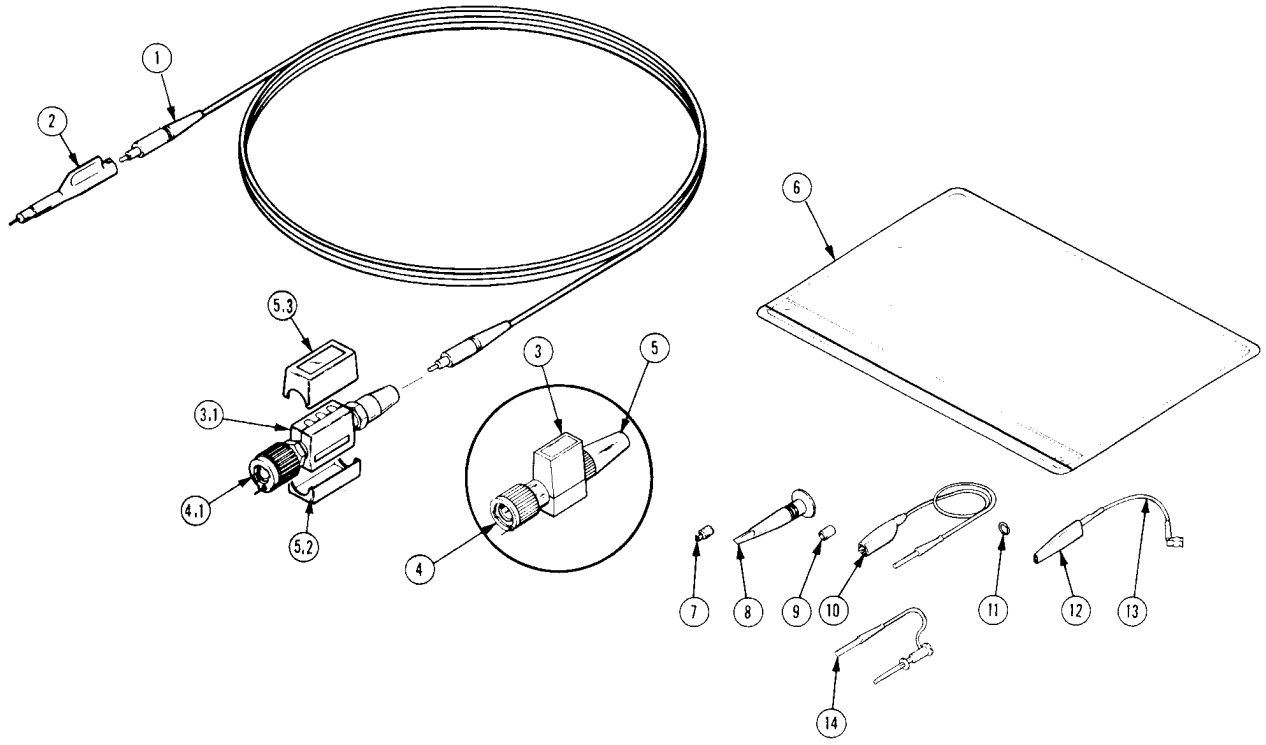


Figure 6-1. Exploded View

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97077-0001
95712	BENDIX CORP THE ELECTRICAL COMPONENTS DIV MICROWAVE DEVICES PLANT	HURRICANE ROAD	FRANKLIN IN 46131
TK1556	CONSOLIDATED VINYL SALES	1237 S SAN GABRIEL BLVD	SAN GABRIEL CA 91776

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
1-1					PROBE W/ACCESSORIES		
	175-3217-00		8425	1	CABLE ASSY,RF:39 OHM COAX,1.5 METER	80009	175-3217-00
	175-9411-00	8426	8541	1	CABLE ASSY,RF:0.004 DIA COAX,1.5 METER	80009	175-9411-00
	174-0069-00	8542	8818	1	CABLE ASSY,RF:39 OHM COAX,1.5M	80009	174-0069-00
	174-0967-00	8819		1	CABLE ASSY,RF:39 OHM COAX,1.5M	80009	174-0967-00
	175-9412-00	8426	8541	1	CABLE ASSY,RF:0.004 DIA COAX,2.0 METER	80009	175-9412-00
	174-0070-00	8542	8818	1	CABLE ASSY,RF:39 OHM COAX,2.0M	80009	174-0070-00
	174-0968-00	8819		1	CABLE ASSY,RF:39 OHM COAX,2.0M	80009	174-0968-00
	175-9413-00	8426	8541	1	CABLE ASSY,RF:0.004 DIA COAX,3.0 METER	80009	175-9413-00
	174-0071-00	8542	8818	1	CABLE ASSY,RF:39 OHM COAX,3.0M	80009	174-0071-00
	174-0969-00	8819		1	CABLE ASSY,RF:39 OHM COAX,3.0M	80009	174-0969-00
-2	206-0214-00		8425	1	HEAD,PROBE:1.5 METER	80009	206-0214-00
	206-0324-00	8426		1	PROBE HEAD:10.4PF,1.5 METER	80009	206-0324-00
	206-0325-00	8426		1	PROBE HEAD:12.5PF,2.0 METER	80009	206-0325-00
	206-0326-00	8426		1	PROBE HEAD:14.4PF,3.0 METER	80009	206-0326-00
-3	206-0289-00		8425	1	COMP BOX:1.5 METER	80009	206-0289-00
-3.1	206-0312-00	8426		1	COMP BOX ASSY:1.5 METER,P6122	80009	206-0312-00
	206-0318-00	8426		1	COMP BOX ASSY:2.0 METER,P6122	80009	206-0318-00
	206-0318-01	8426		1	COMP BOX ASSY:P6122,3.0 METER	80009	206-0318-01
-4	134-0044-00		8425	1	SHELL,ELEC CONN:BNC	95712	33600-1
-4.1	131-3218-00	8426		1	CONN,RCPT,ELEC:BNC,MALE	80009	131-3218-00
-5	200-2547-02		8425	1	COVER,CABLE NIP:	80009	200-2547-02
-5.1	200-3018-00	8426		1	COVER,CABLE NIP:COMP BOX	80009	200-3018-00
-5.2	200-3017-00	8426		1	COVER,COMP BOX:BOTTOM,ABS SLATE GRAY	80009	200-3017-00
-5.3	200-3016-02	8426		1	COVER,COMP BOX:TOP,ABS DOVE GRAY,1.5 METER	80009	200-3016-02
	200-3016-03	8426		1	COVER,COMP BOX:TOP,ABS DOVE GRAY,2.0 METER	80009	200-3016-03
	200-3016-04	8426		1	COVER,COMP BOX:TOP,ABS DOVE GRAY,3.0 METER	80009	200-3016-04

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
1-					STANDARD ACCESSORIES		
-6	016-0708-00			1	POUCH,ACCESSORY:	TK1556	ZIP-6.25X9.25ID
-7	----- -----			1	TIP,PROBE:IC TEST (SEE OPTIONAL ACCESSORIES)		
-8	013-0107-05		8742	1	TIP,PROBE:RETRACTABLE HOOK ASSY	80009	013-0107-05
	013-0107-06	8743		1	TIP,PROBE:MINIATURE/COMPACT SIZE,RETRACTABLE HOOK ASSY	80009	013-0107-06
-9	166-0404-01			1	COVER,GROUND:	80009	166-0404-01
-10	195-1870-00			1	LEAD,ELECTRICAL:26 AWG,8.812 L,0-N	80009	195-1870-00
-11	334-2794-02			2	BAND,MARKER:0.371 DIA,SILVER GRAY,PLSTC	80009	334-2794-02
-12	344-0046-00			1	CLIP,ELECTRICAL:ALLIGATOR,1.56 L	80009	344-0046-00
-13	195-6176-00			1	LEAD,ELECTRICAL:23 AWG,3.5 L,BLACK	80009	195-6176-00
	003-1364-01	8606	8844	1	SCREWDRIVER:ADJUSTABLE TOOL,PLASTIC TIP	80009	003-1364-01
	003-1433-00	8845		1	SCREWDRIVER:ADJUSTMENT TOOL,METAL TIP	80009	003-1433-00
	070-5512-00			1	SHEET,TECHNICAL:INSTR,P6122	80009	070-5512-00
					OPTIONAL ACCESSORIES		
-14	195-4104-00			1	LEAD,ELECTRICAL:23 AWG,6.3 L,0-N	80009	195-4104-00
	013-0191-00			1	TIP,PROBE:W/ACTUATOR	80009	013-0191-00
	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
	070-4431-01			1	MANUAL,TECH:INSTR,P6122	80009	070-4431-01
	003-1433-01	8845		1	SCREWDRIVER:ADJUSTMENT TOOL,PKG OF 5	80009	003-1433-01