CALIBRATION FIXTURES

TEKTRONIX, INC., P.O. BOX 500, BEAVERTON, OREGON 97005

CALIBRATION FIXTURES

You'll find a complete list of the test equipment for calibrating your Tektronix instrument in the instruction manual received with that instrument. Some of the items listed are Tektronix Calibration Fixtures—items which we have designed and made available for the sole purpose of assisting you to service your Tektronix instruments accurately and efficiently. This booklet describes those Calibration Fixtures which are not found in the Tektronix Instrument Catalog. For prices or other information on the use of the fixtures, contact your Tektronix Field Office, Field Representative or Distributor.

10/69 TPD

TEKTRONIX CALIBRATION FIXTURES

The items listed below are in numerical order by part number, and the pages following are in the same order. The list is like a table of contents, but includes items that are obsolescent to show what they are replaced by. When a calibration procedure calls for a particular item, the word "for" will precede the list of corresponding instruments. The word "with" will be used to indicate the type of instruments the cal fixture is useful with when not identified in the calibration procedure.

NUMBER	DESCRIPTION	USEFUL **WITH** OR CAL PROCEDURE CALLS **FOR**
003-0007-00	Alignment Tool Kit	General
*003-0035-00	Dual Input Coupler	(Use 067-0525-00 and BNC Adapters)
*003-0036-00	Dual Input Coupler	(Use 067-0525-00 and BNC Adapters)
*003-0037-00	Dual Input Coupler	(Use 067-0525-00 and BNC Adapters)
003-0500-00	Alignment Tool Kit	General
*011-0022-00	Input Normalizer	(Use 067-0533-00)
*011-0029-00	Input Normalizer	(Use 067-0534-00)
*011-0030-00	Input Normalizer	(Use 067-0535-00)
*011-0051-00	Input Normalizer	(Use 067-0536-00 and UHF Adapters)
*011-0053-00	Input Normalizer	(Use 067-0541-00 and UHF Adapters)
*011-0065-00	Input Normalizer	(Use 067-0536-00)
*011-0066-00	Input Normalizer	(Use 067-0538-00)
*011-0067-00	Input Normalizer	(Use 067-0539-00)
*011-0068-00	Input Normalizer	(Use 067-0541-00)
*011-0073-00	Input Normalizer	(Use 067-0537-00)
*012-0038-00	Plug-in Extension Cable	(Use 012-0038-01)
012-0038-01	Plug-in Extension Cable	FOR Q, R, Z, 1L20, 1S1, 1S2— WITH any other letter-series or 1-series plug-in
012-0064-00	Plug-in Extension Cable	FOR 4S1, 4S2, 4S2A, 4S3—With 5T1, 5T1A, 5T3
012-0066-00	Plug-in Extension Cable	FOR 3A5, 3A74, 3S3, 3S76, 3T4, 3T77, 3T77A, 9A1, 9A2— WITH any other 2-series or 3-series plug-in
012-0067-00	Circuit Card Extender	FOR 6R1, 6R1A
012-0068-00	Circuit Card Extender	FOR 6R1, 6R1A
012-0069-00	Circuit Card Extender	FOR 4S1, 4S2, 4S2A, 4S3
012-0070-00	Coax Extender Cable	FOR 4S1, 4S2, 4S2A, 4S3
012-0077-00	Circuit Card Extender	FOR 3S3
012-0078-00	Circuit Card Extender	FOR 263, 3B5—With 262, 3A5
*012-0079-00	Circuit Card Extender	WITH 1A1 (Use 012-0100-00, included in Kit 050-0271-00)
012-0080-00	Plug-in Extension Cable	FOR 10A1—With any other 10-series or 11-series plug-ins
012-0100-00	Circuit Card Extender	WITH 1A1
*013-0002-00	Plug-in Extender	(Use 013-0019-00)
013-0005-00	Gain Set Extender	FOR 133, 945, 551—With any other 530, 540, 550-series main frame
013-0013-00	Plug-in Extender	FOR 555 Time Base Plug-ins
013-0015-00	Plug-in Extender	FOR R
*013-0019-00	Plug-in Extender	(Use 013-0055-00)
*013-0021-00	Timing Signal Generator	No replacement

*Discontinued or replaced.

TEKTRONIX CALIBRATION FIXTURES

NUMBER	DESCRIPTION	USEFUL WITH OR CAL PROCEDURE CALLS FOR
*013-0023-00	Input Connector Adapter	(Use 016-0011-00)
013-0025-00	Test Resistor	FOR Q, 3C66
*013-0026-00	Test Resistor	(Use 013-0078-00)
*013-0028-00	Timing Signal Generator	(Use Type 284)
013-0034-00	Plug-in Extender	FOR 2A61, 3A3, 3A8, 3B1, 3B2, 3B3, 3B4, 3B5, 3C66, 3T4—WITH any other 2-series or 3-series plug-ins
*013-0046-00	Signal Switch	WITH 180 (Not replaced)
013-0055-00	Plug-in Extender	FOR A, D, E, G, K, O, 545A, 555, 82, 86—WITH any other 1-series or letter-series plug-ins
*013-0075-00	Drive Pulse Inverter	(Use 067-0554-00)
013-0077-00	Plug-in Extender	WITH 10-series and 11-series plug-ins
013-0078-00	Test Resistor	FOR Q, 3C66
013-0092-00	Cal Signal Adapter	WITH Clamp-on Current Probes
015-0001-00	L-C Delta Standard	FOR 130
*015-0013-00	Frequency Doubler	(Use 184 or 284)
*015-0038-00	TU-5 Step Generator	(Use 067-0554-00)
015-0042-00	Set of Test Resistors	WITH 175
*015-0043-00	TU-5 Step Generator Pkg.	(Use 067-0554-00, 011-0059-00 Attenuator, and 011-0049-00 Termination, and 012-0057-01 Cable)
*015-0056-00	Frequency Doubler	(Use 184 or 284)
015-0088-00	Step Generator	FOR P6045 Probe
016-0011-00	Input Connector Adapter	FOR R
*017-0010-00	Cal Signal Adapter	(Use 017-0074-00 with BNC Adapter)
017-0019-00	Timing Signal Generator	FOR 519
017-0031-00	Cal Signal Adapter	WITH Clamp-On Current Probes
*017-0041-00	Probe Adapter	FOR P80 Probe (Not replaced)
*017-0074-00	Cal Signal Adapter	(Use Type 284)
*067-0050-00	Line Voltage Control	(Use GR W20MT3A)
*067-0075-00	50-ohm Pi Attenuator	(Use 067-0529-00, also see 067-0530-00 and 067-0531-00)
*067-0081-00	Mixer-rectifier	(Use GR 874-VRL)
*067-0114-00	Four-input adapter	(Use 067-0525-00 and BNC Adapters)
067-0500-00	CRT Capacitance Normalizer	FOR 561A, 564, 567 WITH 568
067-0501-00	Plug-in Extension Coax	WITH 4S1, 4S2, 4S2A, 4S3, 5T1, 5T1A, 5T3
*067-0502-00	Standard Amplitude Calibrator	(Use 067-0502-01)
067-0502-01	Standard Amplitude Calibrator	FOR 1A2, 1A6, 1A7, 1S2, 10A1, 3A1, 3A5, 3A7, 3A8, 422, 453, 502A, 529, 533A, 549, 556, 561A, 581A, 585A, 82, 86
067-0503-00	Precision Resistance Divider	FOR W, 10A1, 3A7
067-0505-00	Plug-in Extender	WITH 6R1, 6R1A
*067-0506-00	Signal Generator	(Use Type 191)

*Discontinued or replaced.

TEKTRONIX CALIBRATION FIXTURES

NUMBER	DESCRIPTION	USEFUL WITH OR CAL PROCEDURE CALLS FOR
067-0507-00	Grid Current Checker	FOR 3A8—With 0 Unit
067-0508-00	50-ohm Amplitude Calibrator	FOR 1S1, 1S2, 4S2, 4S2A— WITH any scope or vertical channel having 50-ohm input
067-0510-00	Signal Pickoff	FOR 067-0544-00—With 10A1, 10A2
067-0511-00	Coax Signal Attenuator	FOR 1S1, 5T3—With any scope or plug-in having 50-ohm inputs
067-0513-00	Fast-step Generator	FOR 1S1, 1S2, 4S2, 4S2A— WITH any sampling scope vertical channels
067-0514-00	10 V RMS Voltmeter	WITH 517, 517A, 555
067-0515-00	Precision 50-ohm Resistor	FOR 561A, 556— WITH scopes having calibrator signals from 50-ohm source
067-0517-00	Double Trigger Mod Kit	WITH any sampling scope (Modifies Type 111 Pulse Generator)
067-0518-00	Harmonic Modulator	FOR 1L10, 1L20, 3L10—With other Spectrum Analyzers
*067-0521-00	Test Plug-in	(Use 067-0521-01)
067-0521-01	Test Plug-in	FOR 533A, 549, 556, 81— WITH other 530, 540, and 550-series scopes
067-0523-00	Test Plug-in	FOR 581A, 585A—With 581, 585
067-0525-00	Dual Input Coupler	FOR CA, 1A2, 1A6, 1A7, 3A1, 3A7, 453— WITH most other differential-input scopes and plug-ins
067-0528-00	Test Load	WITH 125
067-0529-00	Precision Resistance Divider	WITH E, 1A7, 122, 2A61 (Used on 067-0502-00)
067-0530-00	Connector Adapter Cable	WITH E, 122
067-0531-00	Connector Adapter Cable	WITH 2A61
067-0532-00	Sine Wave Generator	FOR 10A2A, 647A, 454— WITH scopes having bandwidth from 65 MHz to 500 MHz
067-0533-00	Input Normalizer	FOR CA, L, 516
067-0534-00	Input Normalizer	FOR Z
067-0535-00	Input Normalizer	FOR A, B, D, G, H, M, O, 2A60, 2A63, 3A75, 502, 502A, 503, 504
067-0536-00	Input Normalizer	FOR 82, 86
067-0537-00	Input Normalizer	FOR 1A1, 1A2, 82, 86
067-0538-00	Input Normalizer	FOR CA, L, W, 10A1, 3A7, 453, 516
067-0539-00	Input Normalizer	FOR 3A5, Z
067-0540-00	Input Normalizer	FOR 1A6
067-0541-00	Input Normalizer	FOR D, G, H, M, O, 1A7, 2A60, 2A63, 3A1, 3A2, 3A3, 3A6, 3A74, 3A75, 3A8, 502, 502A, 503, 504, 9A1, 9A2
067-0544-00	Test Plug-in	FOR 647A—With 647
067-0546-00	Vectorscope Test Unit	FOR 520 NTSC Vectorscope
067-0549-00	Input Adapter	FOR 410
067-0552-00	Input Normalizer	WITH 422
067-0553-00	Signal Insertion Unit	FOR 454
067-0554-00	Tunnel Diode Pulser	FOR 1A1, 3A7, 10A1, 10A2A, 422, 453, 567, 82, 86
067-0559-00	H F Current Adapter	FOR P6042—With P6019
067-0561-00	Test Display Generator	FOR 611—With 601

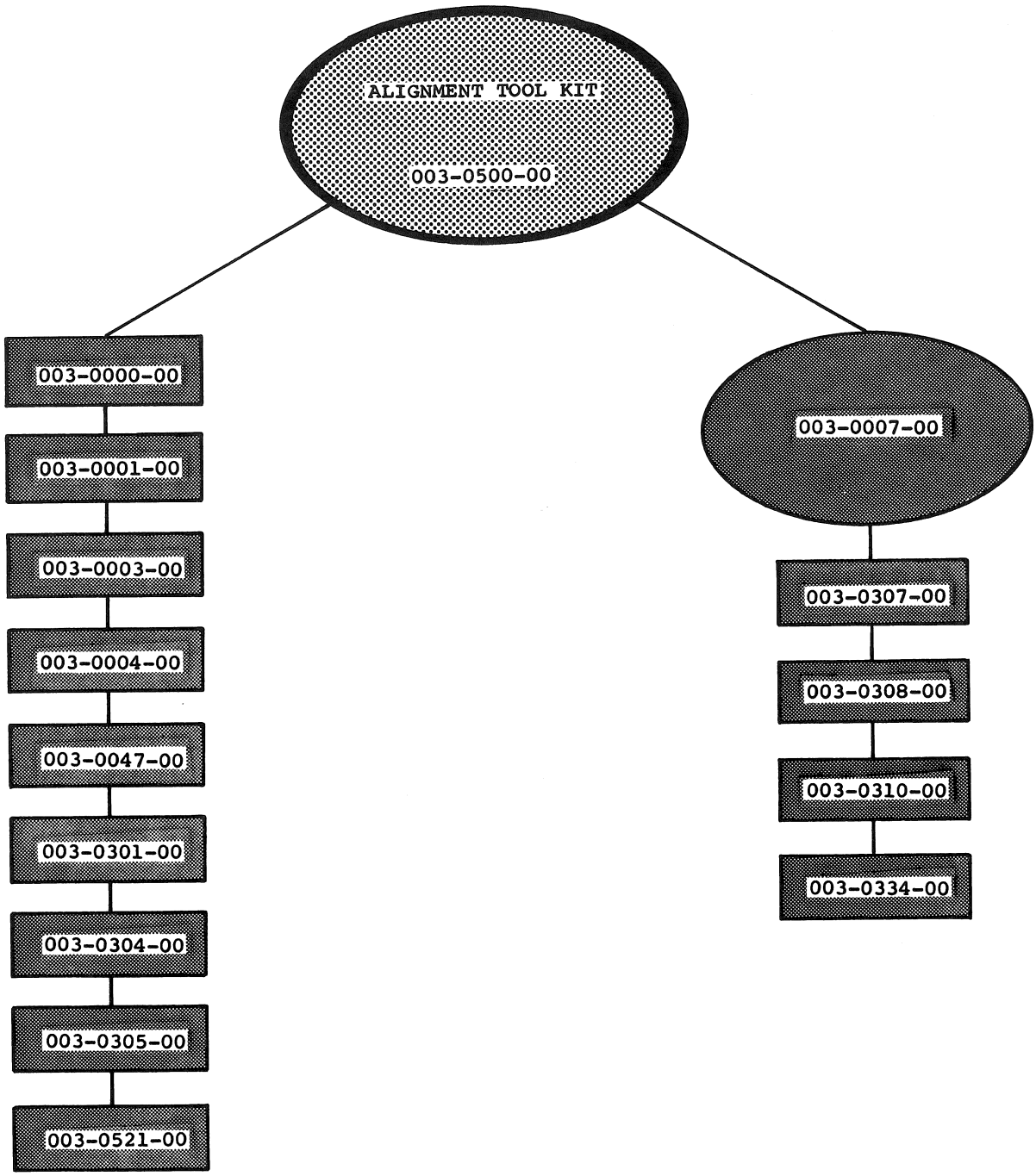
*Discontinued or replaced.

TEKTRONIX CALIBRATION FIXTURES

NUMBER	DESCRIPTION	USEFUL WITH OR CAL PROCEDURE CALLS FOR
067-0562-00	Dual Input Adapter	FOR P6046
067-0563-00	Shield	FOR P6046
067-0565-00	Signal Adder	FOR 520
067-0569-00	Sweep Attenuator	FOR 601 and 611—With 602
*067-0570-00	Vectorscope Test Unit	FOR 520 PAL Vectorscope Mod 188M (Use modified 067-0570-01)
067-0570-01	Vectorscope Test Unit	FOR 521 PAL Vectorscope (formerly 520 Mod 188P)
067-0571-00	Calibration Shield	FOR 323
067-0572-00	Normalizer Head	FOR 3S2, 3S5, 3S6
067-0573-00	Test Graticule	FOR 611
067-0575-00	High Pass Filter	FOR 015-0107-00 Swept Frequency Converter
*067-0576-00	Return Loss Bridge	(Use 015-0149-00)
067-0590-00	Rigid Plug-in Extender	FOR 3S6—With any 3-series Vertical Plug-in
067-0591-00	Rigid Plug-in Extender	FOR 3T5 and 3T6—With any 3-series Horizontal Plug-in
067-0594-00	Harmonic Generator	FOR 491—With 1L40
067-0595-00	200 MHz Notch Filter	FOR 491—With 1L40
067-0596-00	Chopped Voltage Reference	FOR 141
067-0599-00	Test Unit	FOR 576
067-0603-00	Readout Card Extender	FOR 576
067-0604-00	Vectorscope Test Unit	FOR 522
331-0097-00	Test Graticule	FOR 601
*TU-1	Test Unit	General (Use 067-0521-00)
*TU-2	Test Unit	General (Use 067-0521-00)
*TU-3	Test Unit	General (Use 067-0523-00)
*TU-4	Test Unit	General (Use typical 2-series or 3-series plug-in units)
*TU-5	Test Unit	Same as 015-0038-00 and 015-0043-00
*TU-6	Test Unit	General (Use 067-0521-00)
*TU-7	Test Unit	General (Use 067-0521-00)
*TU-50	Test Unit	General (Use Types 106, 191, and 184)
*TU-76	Test Unit	General (Use General Radio W10MT3W)
*TU-77	Test Unit	General (Use General Radio W20MT3A)
*1M1	Test Plug-in	General (Use 067-0521-00)
*3M1	CRT Capacitance Normalizer	(Use 067-0500-00)
*10/11M1	Test Plug-in	(Use 067-0544-00)
*84	Test Plug-in	(Use 067-0523-00)

*Discontinued or replaced.

ALIGNMENT TOOLS



KEY

= ASSEMBLY

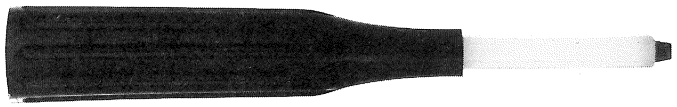
=SUB-ASSEMBLY

=SUB-PARTS

SEE FOLLOWING PAGES FOR PICTURES AND DESCRIPTIONS

ALIGNMENT TOOLS

TOOL: 1-1/2 inch shaft; 5 inches total length, plastic shaft and handle, metal screwdriver tip.



003-0000-00

TOOL: 7 inch shaft; 10-1/2 inches total length, plastic shaft and handle, metal screwdriver tip.

003-0001-00

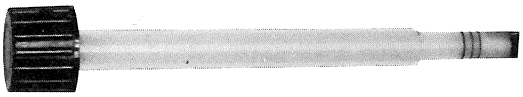
TOOL: 6 inches long by 3/8 inch diameter, nylon, with screwdriver shaped ends.

003-0008-00

TOOL: 3 inch plastic shaft and handles, metal screwdriver tip, 6-1/2 inches total length.

003-0047-00

TOOL: 4-3/8 inches long by 1/4 inch diameter shaft with metal screwdriver tip and knob for handle, for tuning 517 vertical trimmers.



003-0374-00

TOOL: 4-1/4 inches long by 5/8 inch diameter, with screwdriver handle. For ERIE 557 ceramic capacitors

003-0521-00

ALIGNMENT TOOLS

HANDLE: Uses 003-0304-00 insert. — 003-0305-00

HANDLE: Nylon, uses 003-0008-00, 003-0010-00 and 003-0334-00 inserts. — 003-0307-00

INSERT: Low capacity nylon with wire pin, 7-3/4 inches long when inserted into handles for 551 right hand delay line. Requires 003-0305-00 handle. — 003-0304-00

INSERT: For turret attenuators, requires 003-0307-00 handle. — 003-0308-00

♦INSERT: 0.077 inch outside diameter, use with 003-0307-00 handle, for 5/64 inch inside diameter hex cores. — 003-0310-00

INSERT: Nylon, use with 003-0307-00 handle, for turret attenuator. — 003-0334-00

ROD: 7 inches long, plastic rod with recessed metal screwdriver tips, one end for #4 studs and the other end for #6 studs. Walsco # 2519 or equal. — 003-0003-00

ROD: 7-1/2 inches long, plastic rod with 1/4 inch hex socket at each end. Walsco #2503 or equal. — 003-0004-00

ROD: 5 inches long. plastic, for 0.100 inch inside diameter powdered iron hex slugs. — 003-0301-00

PLUG-IN EXTENSION CABLE
(Part No. 012-0038-01)

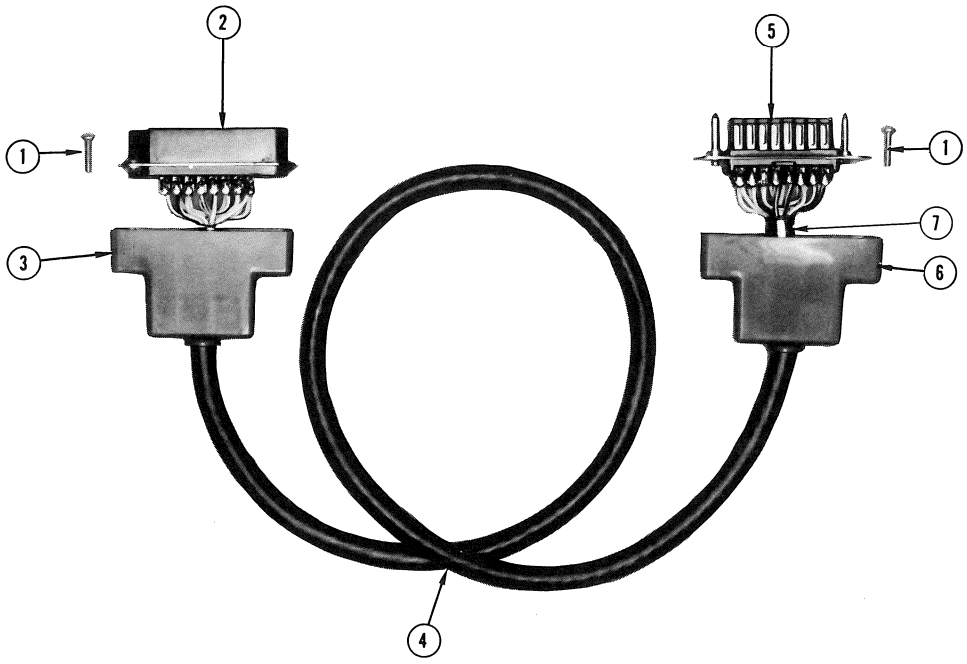


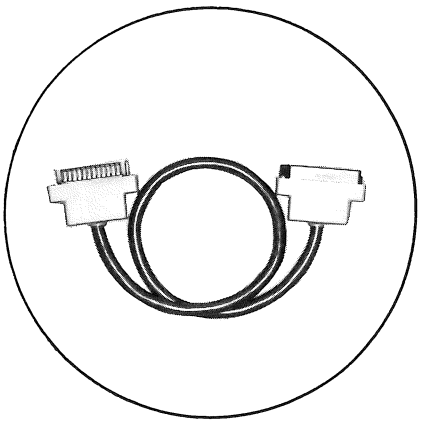
Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Serial/Model No. Disc	Qty	Description
				1 2 3 4 5	
1	213-0082-00			4	SCREW, thread cutting, 4-40 x 1/2 inch, PHS
2	131-0018-00			1	CONNECTOR, female, 16 contact
3	202-0066-02			1	BOX, plug-in extension cable
4	175-0236-01			FT	CABLE, 16 conductor (2.730 feet)
5	131-0017-00			1	CONNECTOR, male, 16 contact
6	202-0066-01			1	BOX, plug-in extension cable
7	343-0087-00			2	CLAMP, cable strain relief

DATA SHEET

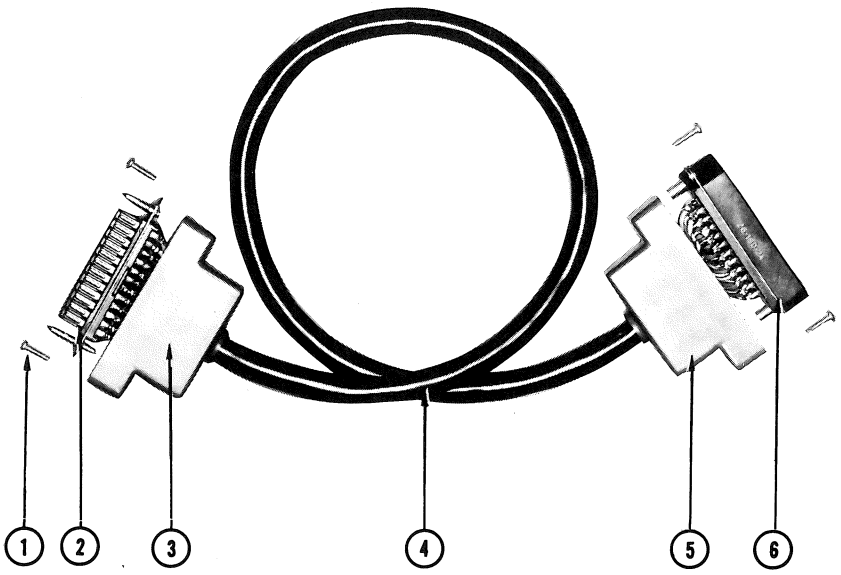
NO. 062-1099-00

DATE MAY 1969

PLUG-IN TEST CABLE
(Part No. 012-0064-00)

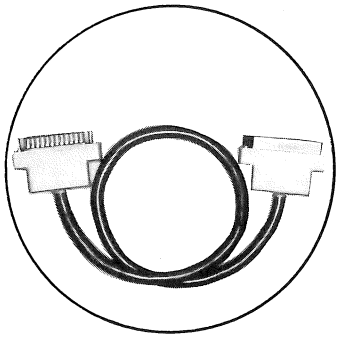


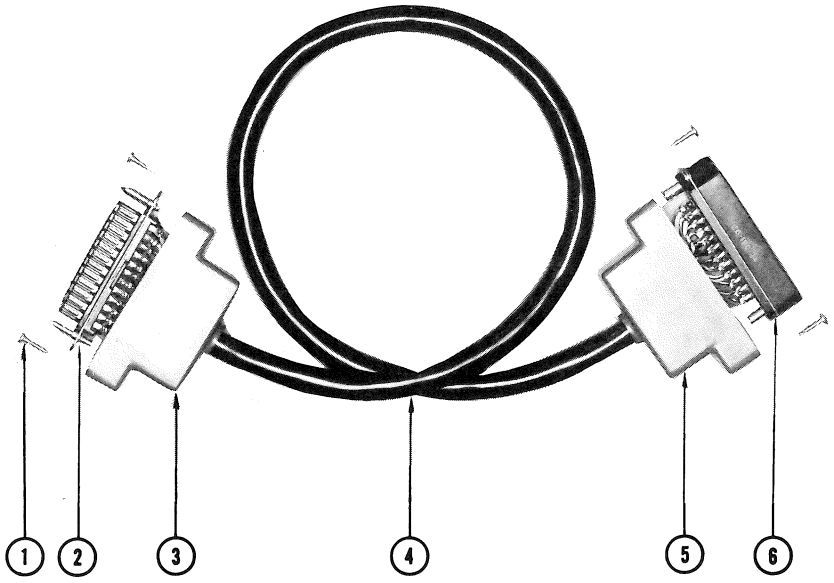
LATE MODEL



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	213-0082-00			4	SCREW, thread cutting, 4-40 x 1/2" phillips PH
2	131-0149-00			1	CONNECTOR, chassis mt. 24 contact, male
3	200-0453-00			1	COVER, plug-in ext., male
4	175-0245-00			1	CABLE, for plug-in extension .520 dia. vinyl jacket w/(4) #18, (7) #22, (7) 50 coax.
5	200-0478-00			1	COVER, plug-in extension, 3.207 x 1-5/8, female
6	131-0148-00			1	CONNECTOR, chassis mt. 24 contact, female
	343-0091-00			2	CLAMP, strain relief, (not shown)

PLUG-IN EXTENSION CABLE
(Part No. 012-0066-00)



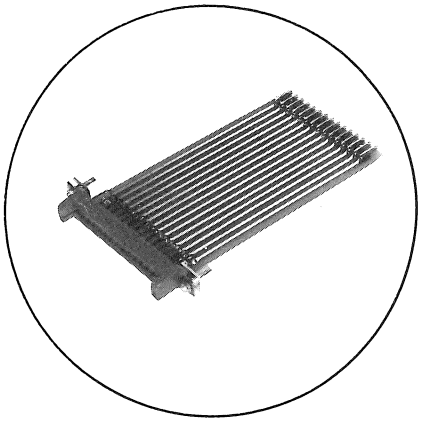


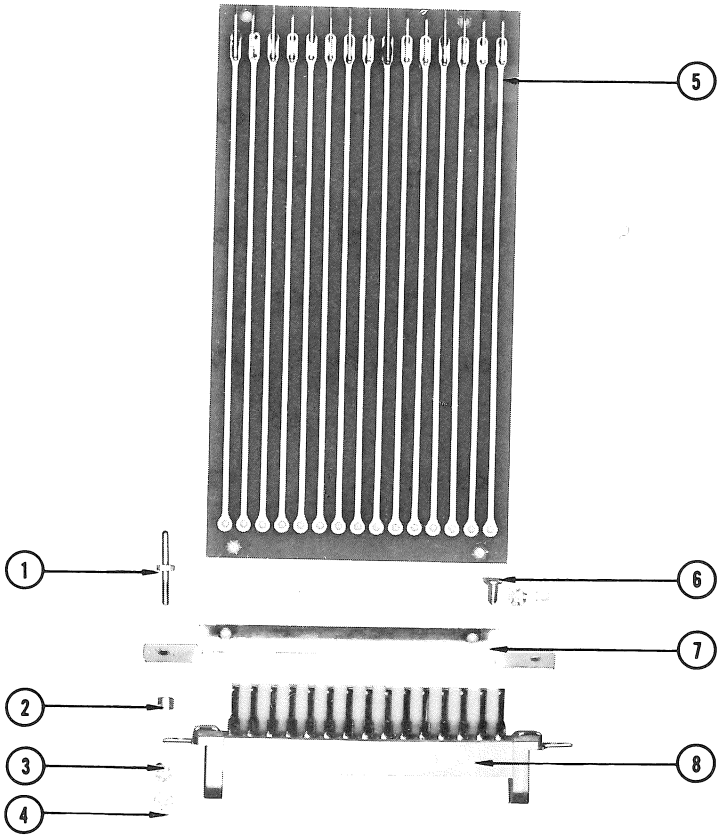
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	213-0082-00			4	SCREW, thread cutting, 4-40 x 1/2 in. Phillips PH
2	131-0149-00			1	CONNECTOR, chassis mt. 24 contact, male
3	200-0454-00			1	COVER, plug-in extension
4	175-0246-00			FT	CABLE (32 in.)
5	200-0478-00			1	COVER, plug-in extension cable, 3.207 x 1-5/8 female
6	131-0148-00			1	CONNECTOR, chassis mt. 24 contact, female
	343-0091-00			2	CLAMP, strain relief (not shown)

PUBLICATION NO.

061-0748-00
August 1965
(Revised)

15 PIN PLUG-IN EXTENSION BOARD
(Part No. 012-0067-00)



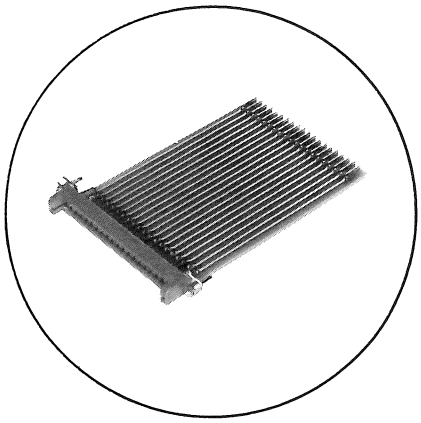


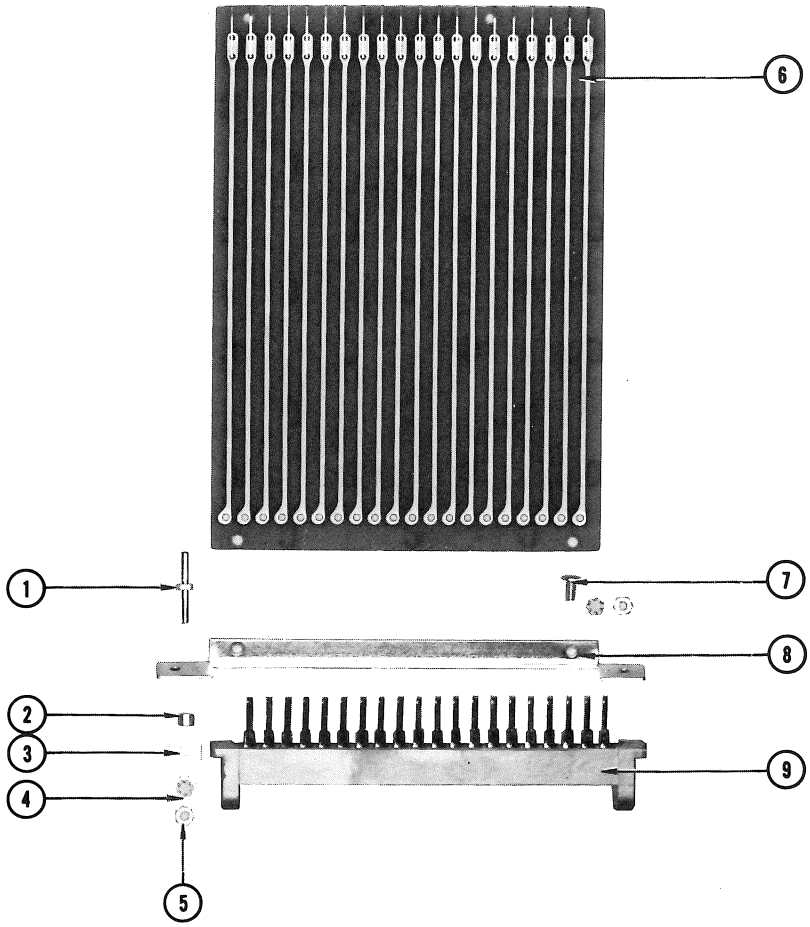
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	214-0279-00			2	PIN, locating
2	166-0024-00			2	TUBE, spacer
3	210-0004-00			4	LOCKWASHER, internal #4
4	210-0406-00			4	NUT, hex, 4-40 x 3/16 inch
5	388-0524-00			1	BOARD, etched circuit
					Includes:
	131-0207-00			15	CONNECTOR, contact
6	211-0008-00			2	SCREW, 4-40 x 1/4 inch PHS phillips
7	406-0855-00			1	BRACKET, extension board
8	131-0248-00			1	CONNECTOR, 15 pin

PUBLICATION NO.

061-0749-00
August 1965
(Revised)

20 PIN PLUG-IN EXTENSION BOARD
(Part No. 012-0068-00)



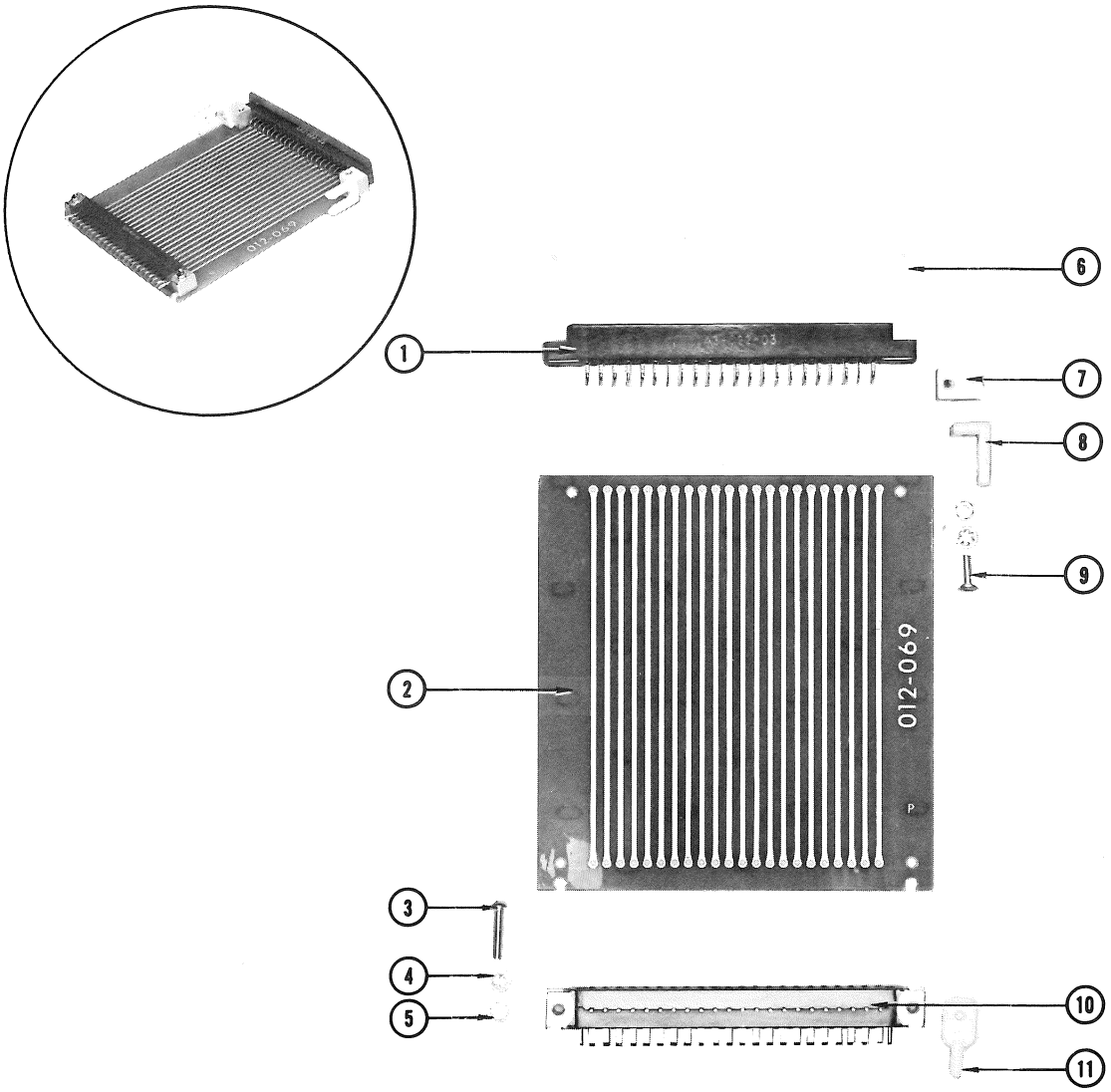


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	214-0279-00			2	PIN, locating
2	166-0024-00			2	TUBE, spacer
3	406-0859-00			2	BRACKET, hold down connector
4	210-0004-00			4	LOCKWASHER, internal #4
5	210-0406-00			4	NUT, hex, 4-40 x 3/16 inch
6	388-0525-00			1	BOARD, etched circuit
					Includes:
	131-0207-00			20	CONNECTOR, contact
7	211-0008-00			2	SCREW, 4-40 x 1/4 inch PHS phillips
8	406-0854-00			1	BRACKET, extension board
9	131-0247-00			1	CONNECTOR, 20 pin

PUBLICATION NO.

061-0750-00
August 1965
(Revised)

PLUG-IN EXTENSION
(Part No. 012-0069-00)

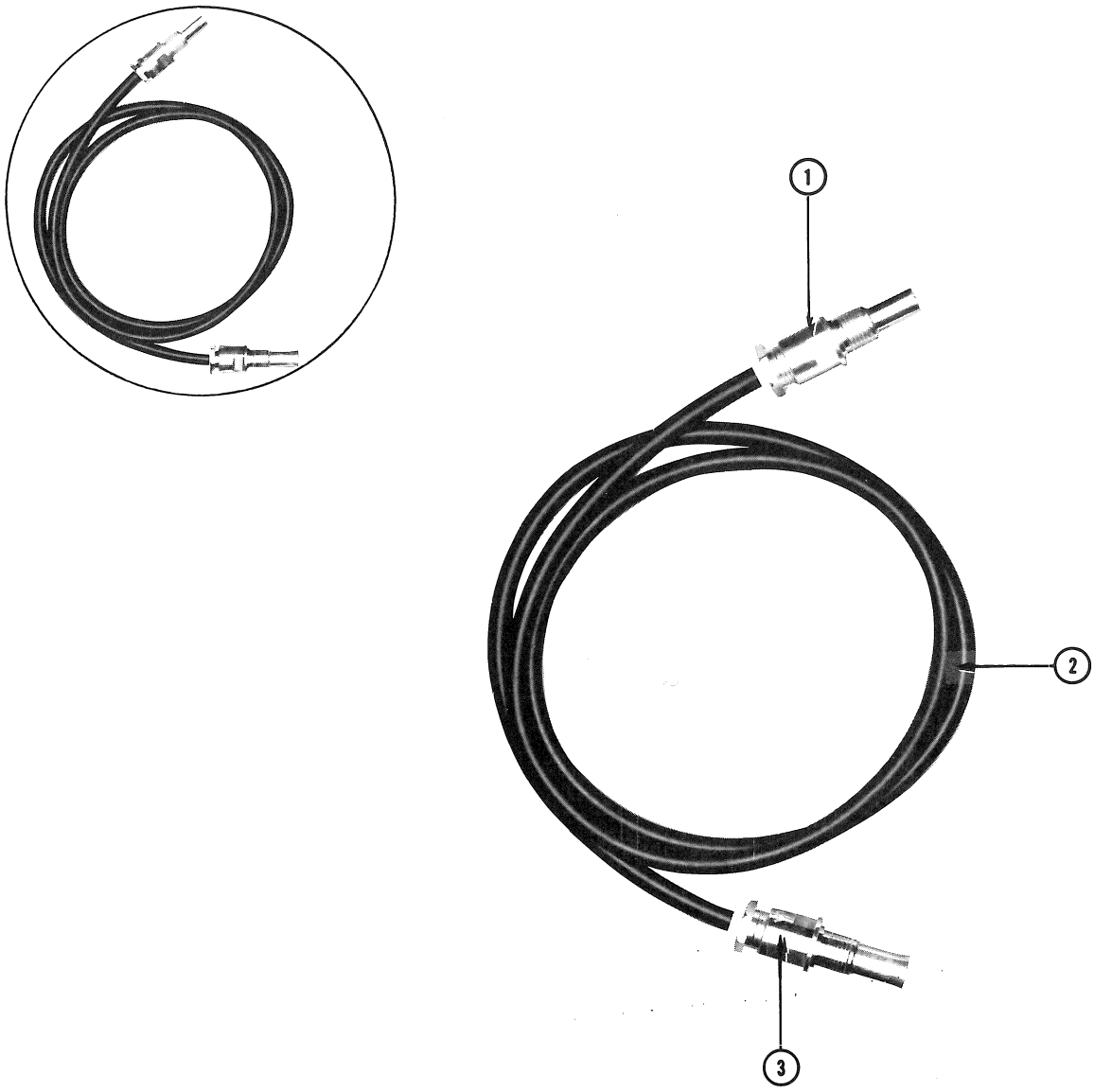


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	131-0246-00			1	CONNECTOR, 22 pin
2	388-0526-00			1	BOARD, etched circuit
3	211-0016-00			4	SCREW, 4-40 x 5/8 inch PHS philips
4	210-0004-00			4	LOCKWASHER, internal #4
5	210-0406-00			2	NUT, hex, 4-40 x 3/16 inch
6	387-0715-00			1	PLATE, connector
7	406-0858-00			2	BRACKET, connector mounting
8	352-0039-00			2	HOLDER, plug in chassis
9	211-0012-00			4	SCREW, 4-40 x 3/8 inch PHS phillips
10	131-0218-00			1	CONNECTOR, 22 contact
11	384-0593-00			2	ROD, pin index, nylon

PUBLICATION NO.

061-0751-00
August 1965
(Revised)

PLUG-IN EXTENSION
(Part No. 012-0070-00)

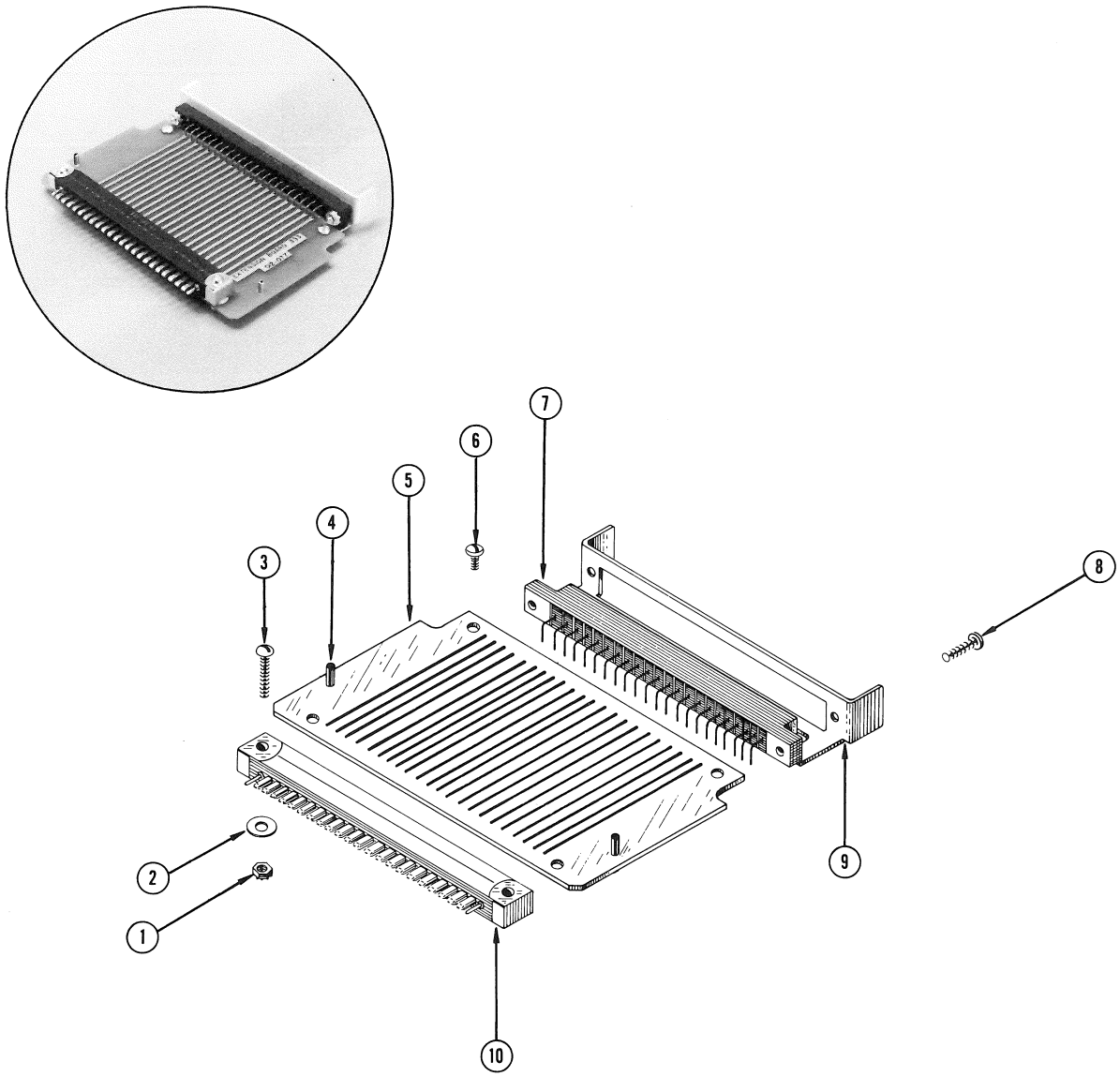


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	131-0222-00			1	CONNECTOR, push on, bulkhead plug
2	175-0300-00			FT	CABLE (32") coax., 50 ohm
3	131-0221-00			1	CONNECTOR, push on, bulkhead Jack

PUBLICATION NO.

061-0752-00
August 1965
(Revised)

ETCHED CKT. BOARD EXTENSION (3S3)
(Part No. 012-0077-00)

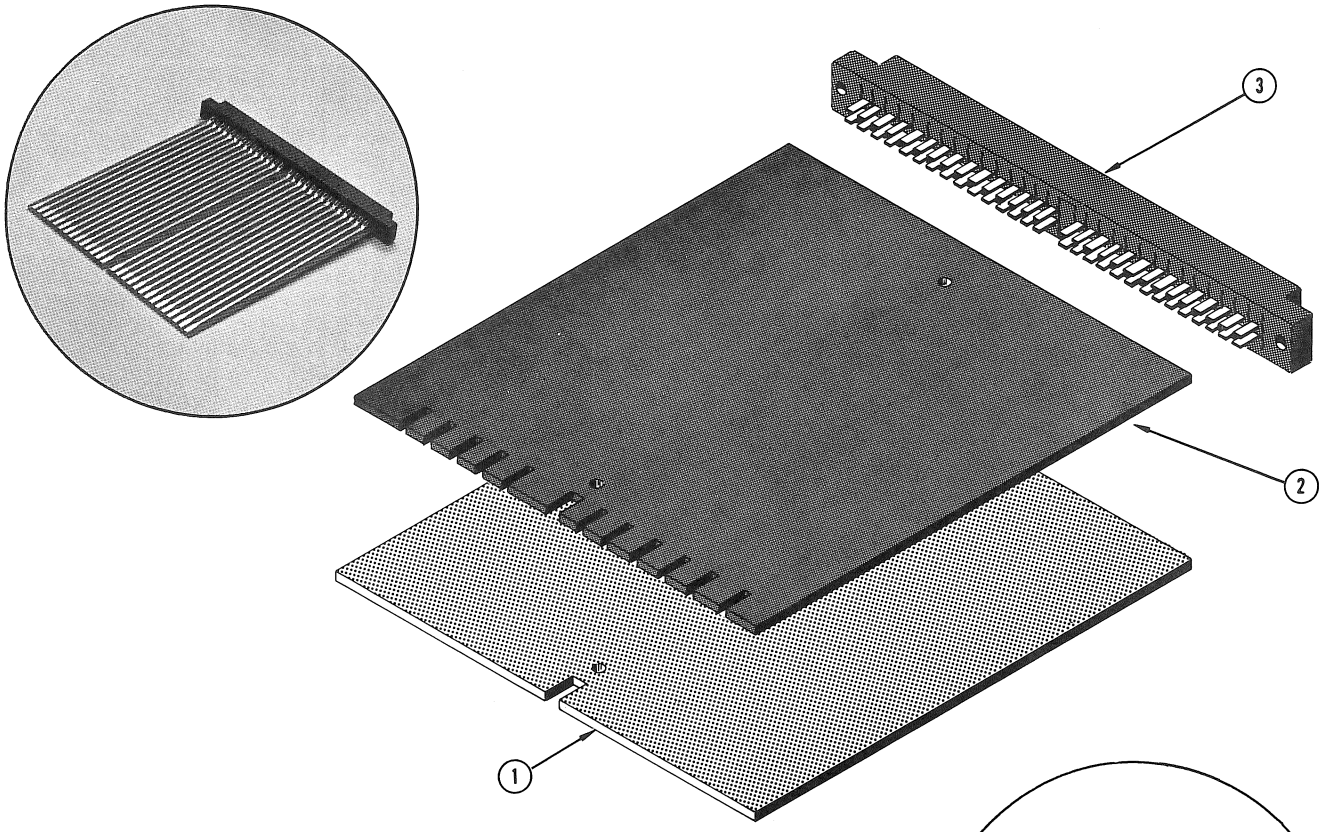


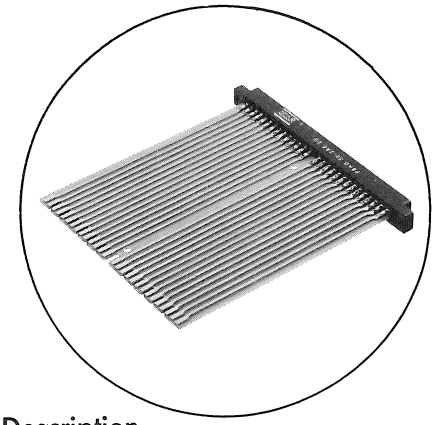
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	210-0586-00			6	NUT, keps, 4-40 x 1/4 inch
2	210-0851-00			2	WASHER, .119 ID x 3/8 inch OD
3	211-0016-00			2	SCREW, 4-40 x 5/8 inch, RHS phillips
4	214-0180-00			2	PIN, roll, 3/32 x 1/2 inch
5	388-0570-00			1	BOARD, etched circuit
6	211-0008-00			2	SCREW, 4-40 x 1/4 inch, PHS phillips
7	131-0246-00			1	CONNECTOR, 22 pin
8	211-0014-00			2	SCREW, 4-40 x 1/2 inch, PHS phillips
9	406-0952-00			1	BRACKET, plug-in extension
10	131-0218-00			1	CONNECTOR, 22 contact

PUBLICATION NO.

062-0054-00
August 1965
(Revised)

CIRCUIT CARD ASSEMBLY
(Part No. 012-0078-00)





ATTENTION!

Early card extenders which do not have index notches cut into one end will not work with all newer instruments. To make the early extenders compatible, notches should be cut in the right places rather than removing the indexing guides from the card sockets in any instrument.

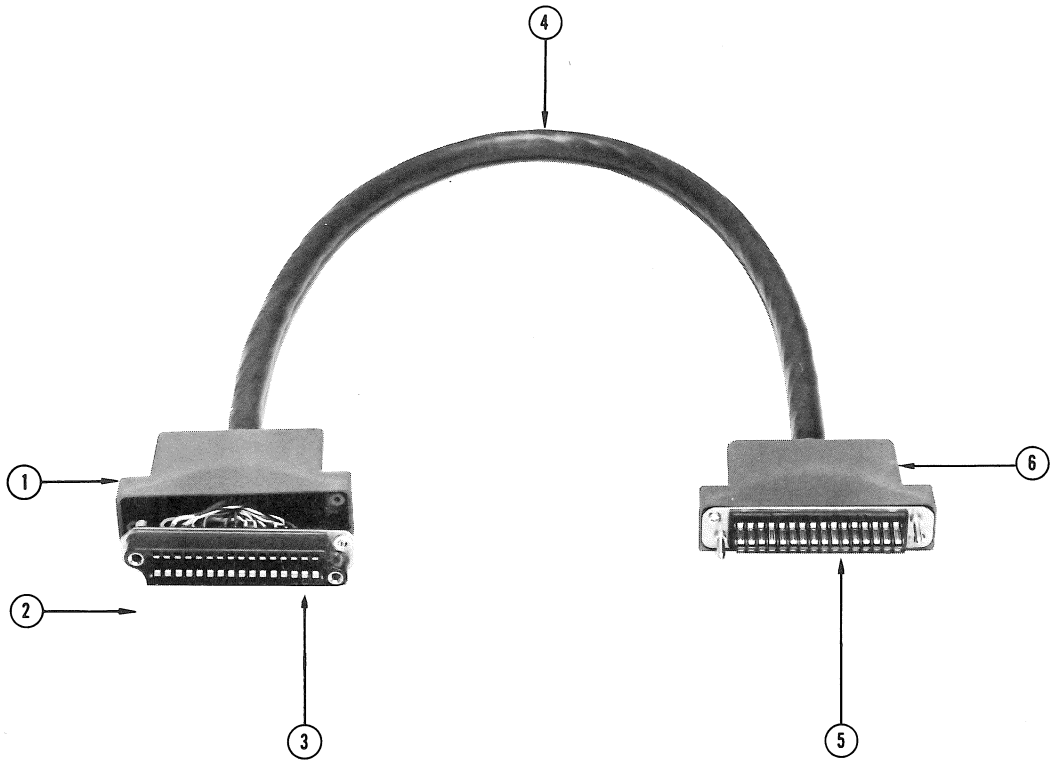
Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Serial/Model No. Disc	Qty	Description
1	388-0568-00	——EARLY——		1	BOARD, etched circuit, extension
2	388-0568-00	——LATE——		1	BOARD, etched circuit, extension
3	131-0292-00		6733	1	CONNECTOR, 28 pin contact
	131-0292-01	6734		1	CONNECTOR, 28 pin contact

DATA SHEET

NO. 062-0042-00

DATE APRIL 1969(R)

PLUG-IN TEST CABLE
(Part No. 012-0080-00)

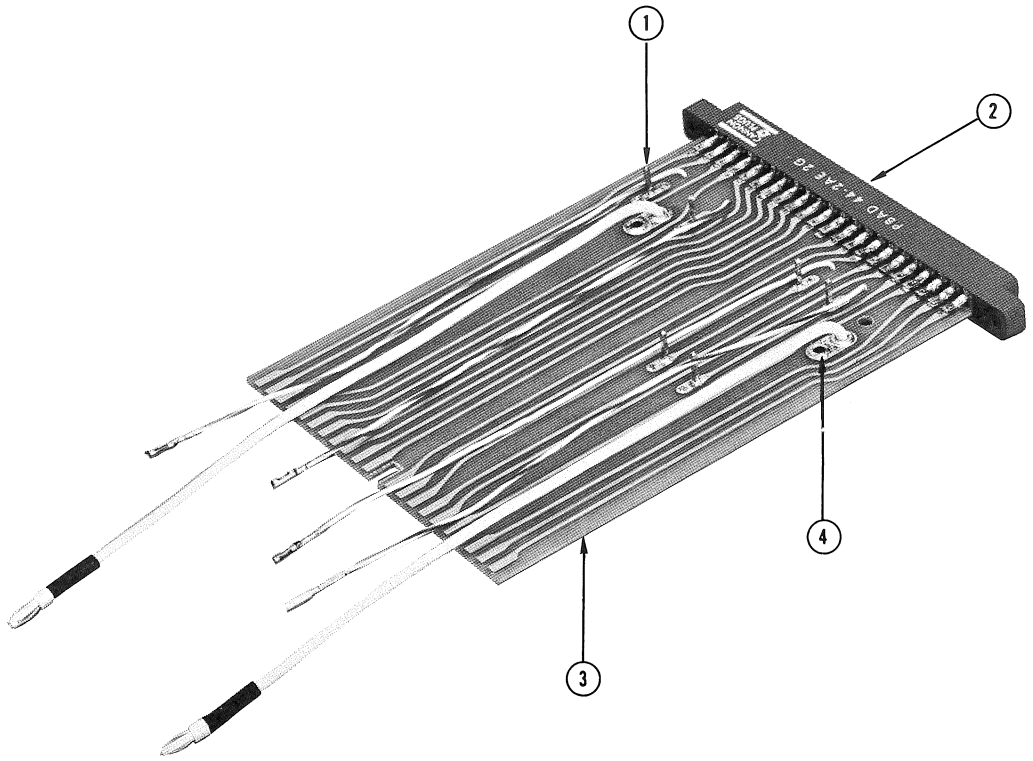


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	200-0551-00			1	COVER, plug-in extension, female
2	213-0082-00			4	SCREW, thread cutting, 4-40 x 1/2 inch, phillips
3	131-0097-00			1	CONNECTOR, chassis mount, 32 contact, female
4	175-0287-00			FT	CABLE, assembly, coax., 32 inches
5	131-0096-00			1	CONNECTOR, chassis mount, 32 contact, male
6	200-0549-00			1	COVER, plug-in extension
	343-0109-00			2	CLAMP, cable (not shown)

PUBLICATION NO.

062-0091-00
August 1965
(Revised)

ETCHED CKT BOARD EXTENSION
(Part No. 012-0100-00)

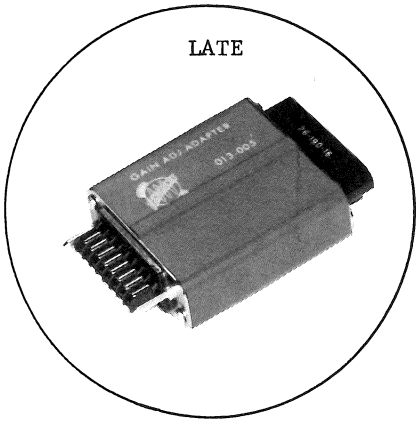


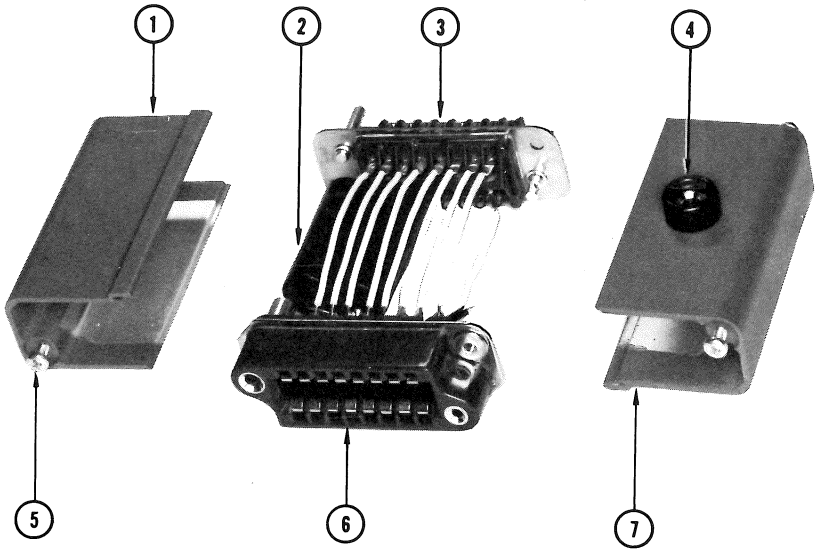
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	214-0572-00			10	KEY, connector
2	136-0156-00			1	SOCKET, 44 pin
3	388-0575-00			1	BOARD, etched circuit
4	210-0696-00			4	EYELET

FOR REPLACEMENT PARTS NOT LISTED CONTACT YOUR TEKTRONIX FIELD OFFICE.

DATA SHEET
NO. 062-0544-00
DATE APRIL 1968(R)

GAIN ADJUST ADAPTER
(Part No. 013-0005-00)



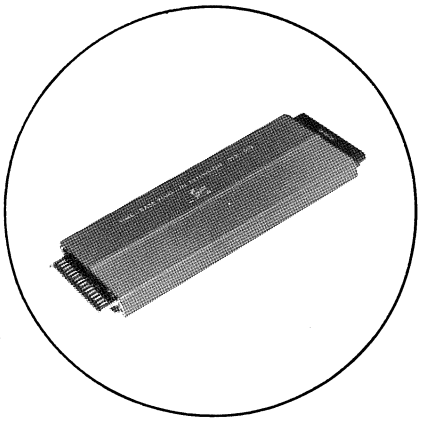


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	200-0430-00			1	COVER, plug-in extension
2	285-0526-00			2	CAPACITOR, mt. .1 µfd, 400 v 20%
	302-0224-00			1	RESISTOR, comp. 1/2 w, 220 k 10%
3	131-0017-00			1	CONNECTOR, chassis mt. plug-ins, 16 conta 16 contact, male
4	136-0052-00			1	SOCKET, banana jack, black
	210-0223-00			1	LUG, solder
	210-0904-00			1	WASHER, fiber
5	213-0119-00			4	SCREW, thread forming, 4-24 x 3/8, Pan HS
6	131-0018-00			1	CONNECTOR, chassis mt. scope, 16 contact, female
7	200-0428-00			1	COVER, plug-in extension

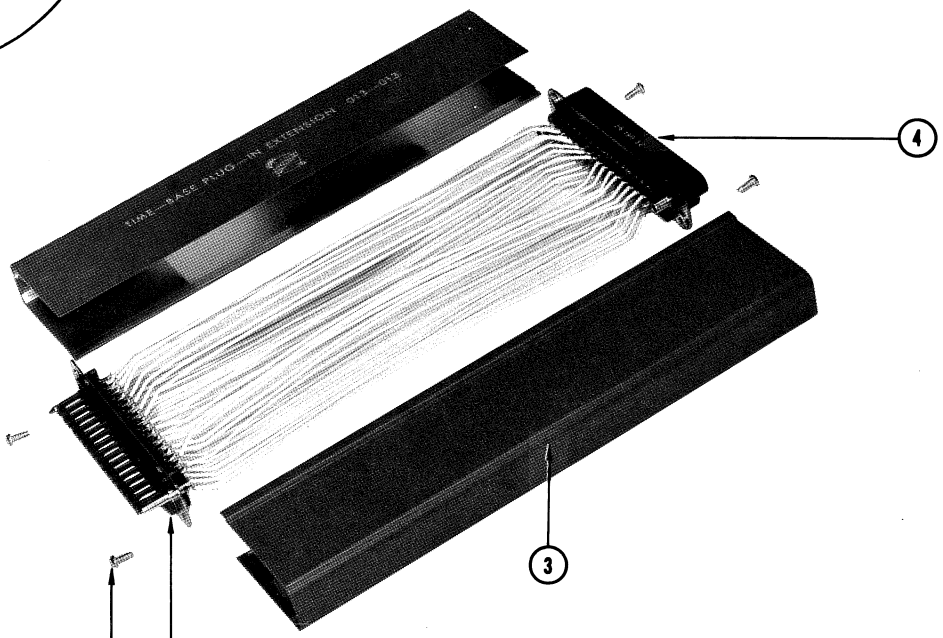
PUBLICATION NO.

061-0800-00
August 1965
(Revised)

TIME BASE EXTENSION
(Part No. 013-0013-00)

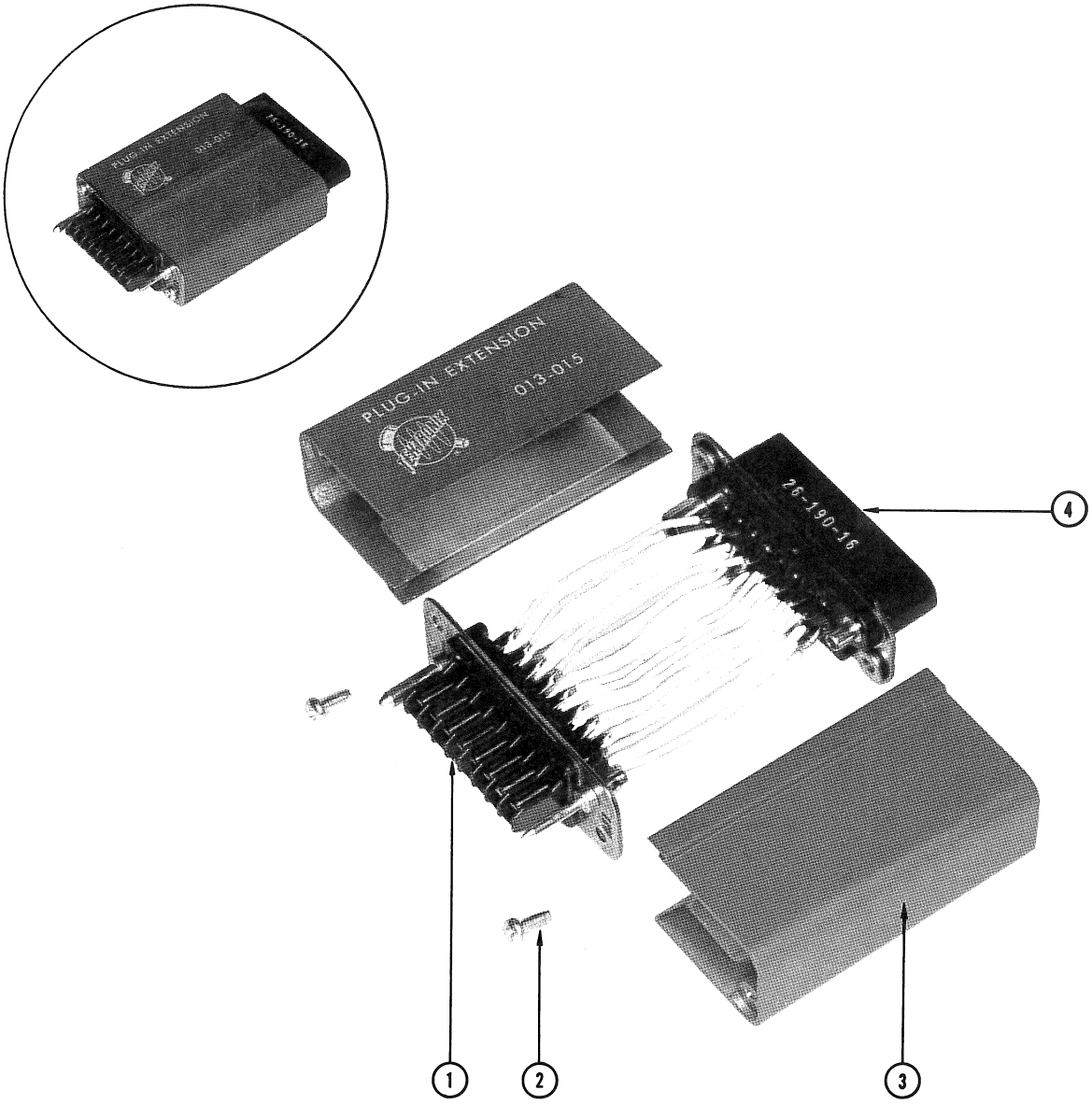


LATE



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	213-0119-00			4	SCREW, thread forming, 4-24 x 3/8 Pan HS
2	131-0096-00			1	CONNECTOR, chassis mt., 32 contact, male
3	200-0433-00			2	COVER, plug-in extension
4	131-0097-00			1	CONNECTOR, chassis mt., 32 contact, female

PLUG-IN EXTENSION
(Part No. 013-0015-00)

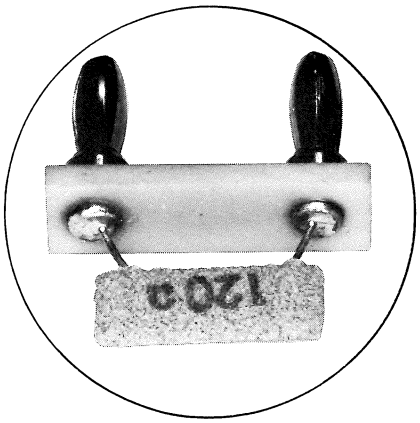


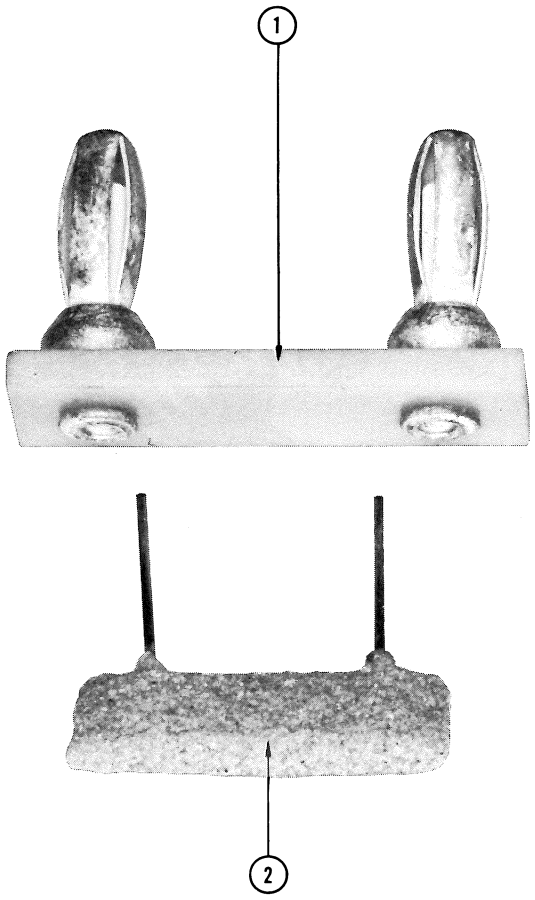
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	131-0017-00			1	CONNECTOR, chassis mt., 16 contact, male
2	213-0119-00			4	SCREW, thread forming, 4-24 x 3/8, pan HS
3	200-0431-00			2	COVER
4	131-0018-00			1	CONNECTOR, chassis mt., 16 contact, female

PUBLICATION NO.

061-0809-00
August 1965
(Revised)

120 OHM PLUG-IN RESISTOR BOARD
(Part No. 013-0025-00)

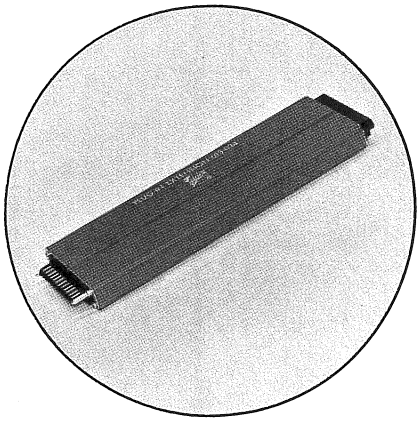


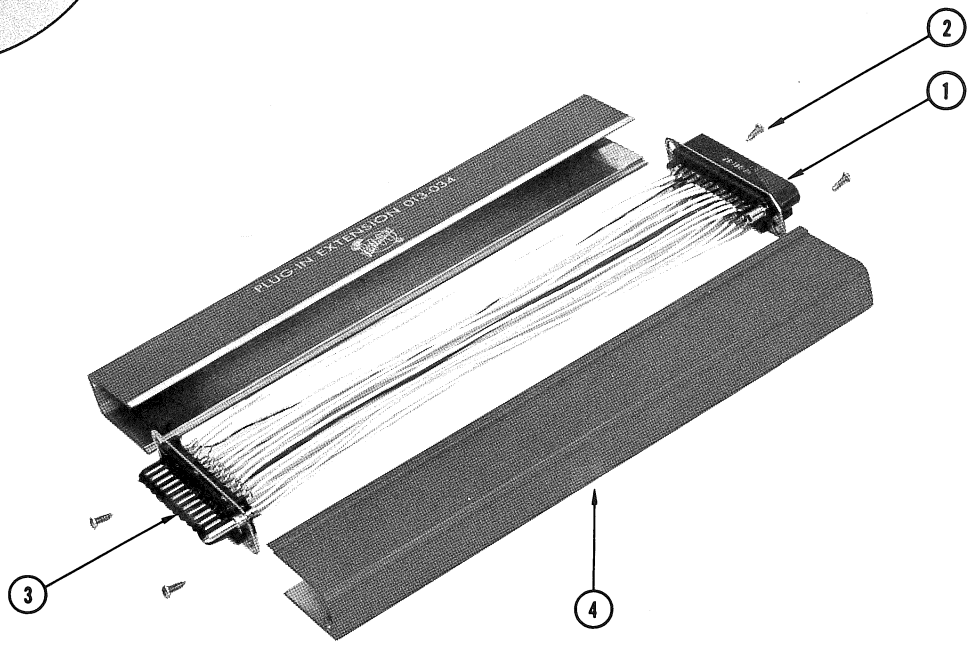


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	392-0124-00			1	BOARD, resistor
2	310-0561-00			1	RESISTOR, 120 Ω. 1/2 W, Prec., ±1%
	- - - - - -			-	

DATA SHEET NO.
061-0770-00
DECEMBER 1965
(Revised)

PLUG-IN EXTENSION
(Part No. 013-0034-00)



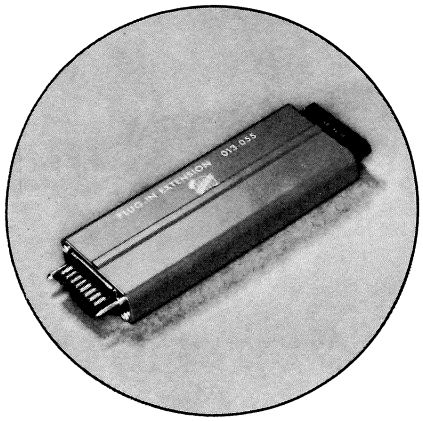


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	131-0148-00			1	CONNECTOR, chassis mt., 24 contact, female
2	213-0119-00			4	SCREW, thread forming, 4-24 x 3/8 Pan HS
3	131-0149-00			1	CONNECTOR, chassis mt., 24 contact, male
4	200-0434-00			2	COVER, plug-in extension

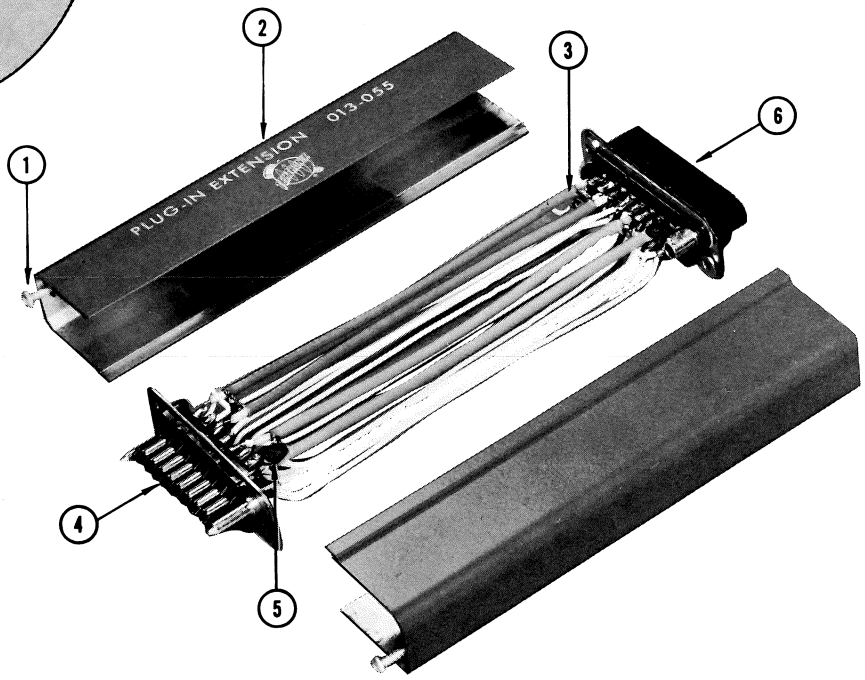
PUBLICATION NO.

061-0861-00
August 1965
(Revised)

PLUG-IN EXTENSION
(Part No. 013-0055-00)

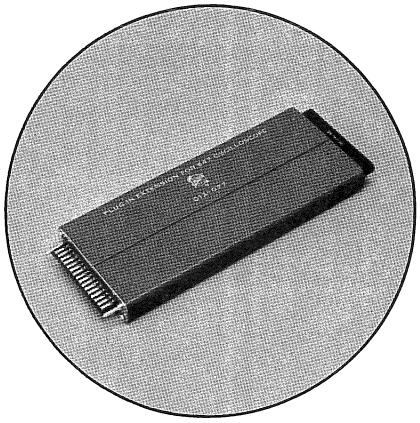


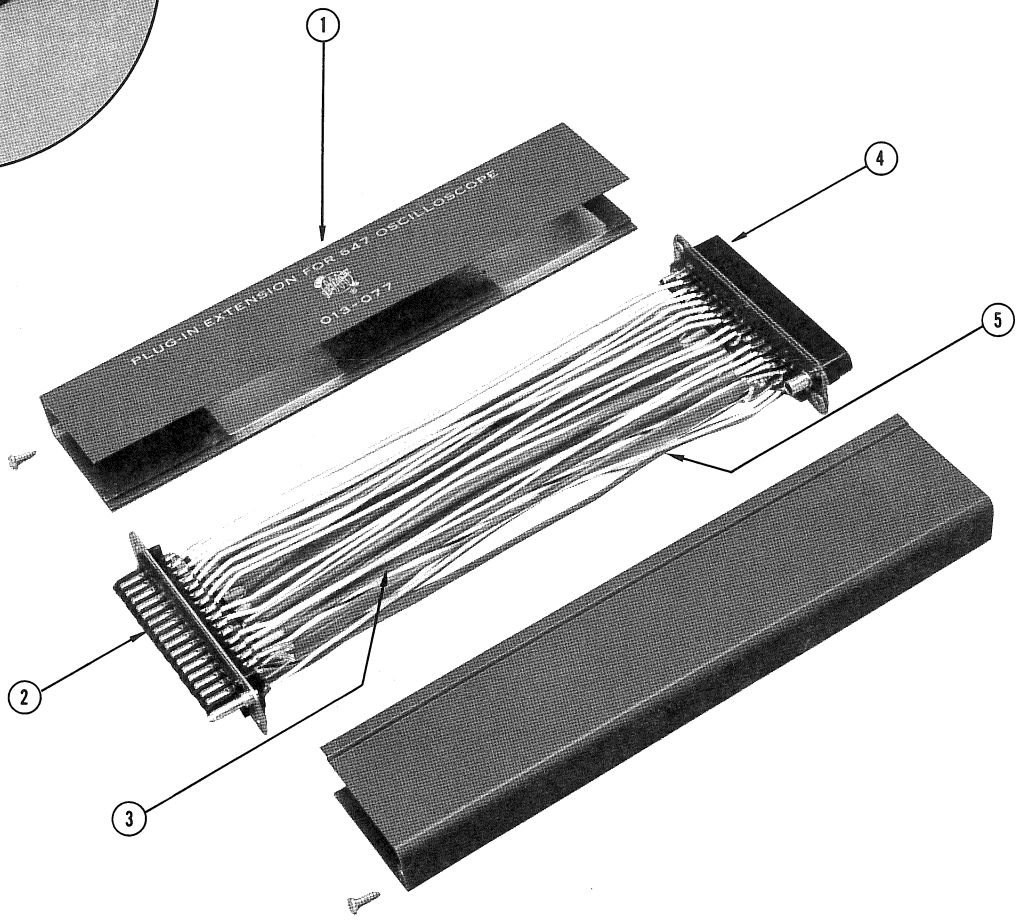
LATE



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	213-0119-00			4	SCREW, thread forming, 4-24 x 3/8 inch, PHS, phillips
2	200-0432-00			2	COVER, plug-in extension
3	175-0055-00			5	CABLE, coaxial, 93 Ω, w/jacket, 5-3/4 inch
4	131-0017-00			1	CONNECTOR, 16 contact, male
5	283-0000-00			2	CAPACITOR, 0.001 μF, disc type, 500 V
6	131-0018-00			1	CONNECTOR, 16 contact, female

PLUG-IN EXTENSION
(PART NO. 013-0077-00)



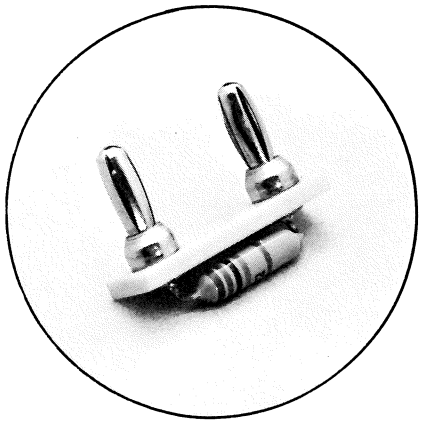


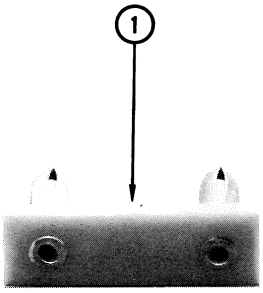
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	200-0545-00			2	COVER, plug-in extension
	- - - - - -			-	Mounting Hardware: (not included)
	213-0119-00			4	SCREW, 4-24 x 3/8 inch, phillips, pan head
2	131-0096-00			1	CONNECTOR, chassis mount,
				-	32 contact, male
3	175-0284-00			Ft.	CABLE, coax., 50 Ω, 26.5 pf/ft.,
	- - - - - -			-	9 inches
4	131-0097-00			1	CONNECTOR, chassis mount,
	- - - - - -			-	32 contact, female
5	175-0055-00			Ft.	CABLE, coax., 93Ω w/jacket,
	- - - - - -			-	9 inches

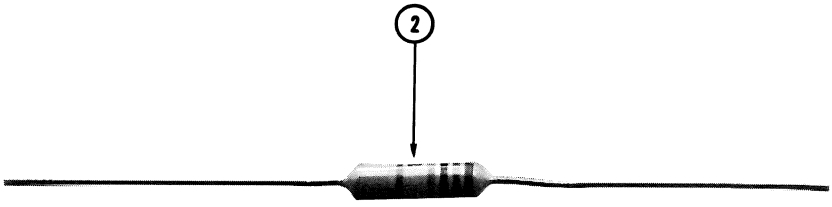
PUBLICATION NO.
062-0048-00

AUGUST 1965
(Revised)

PLUG-IN RESISTOR BOARD
(Part No. 013-0078-00)



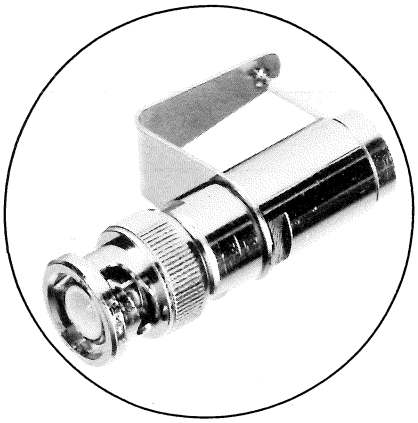


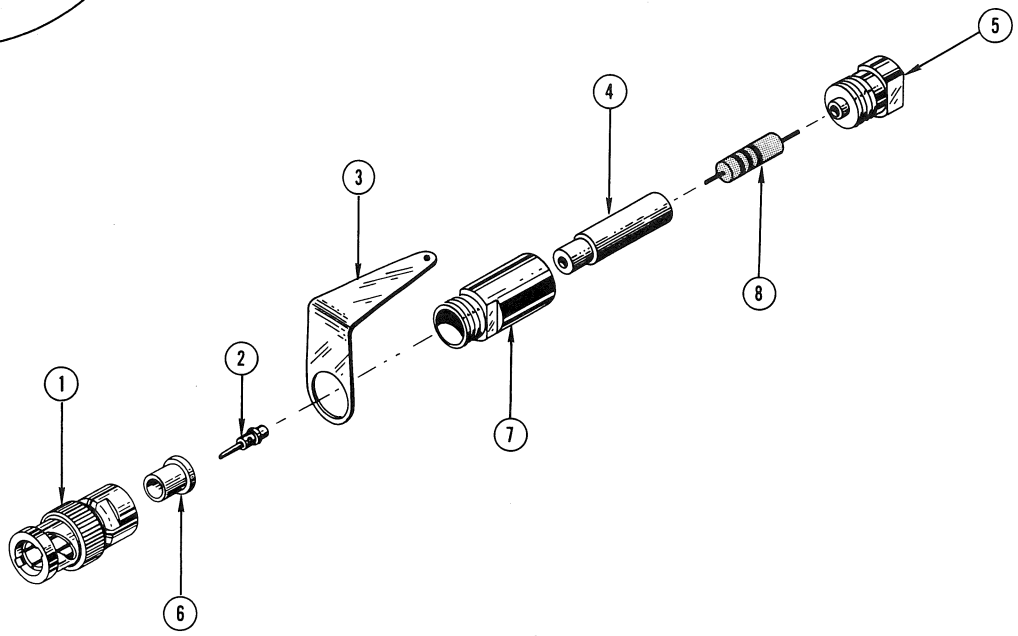


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	392-0124-00			1	BOARD, resistor
2	323-0649-00			1	RESISTOR, 150 k, 1/2 W, Prec., ±1%
	- - - - - -			-	

DATA SHEET NO.
061-0967-00
DECEMBER 1965
(Revised)

ADAPTER, CALIBRATOR (BNC)
(Part No. 013-0092-00)





REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	134-0044-00			1	PLUG, probe, BNC
2	214-0109-00			1	PIN, contact, male
3	210-0271-00			1	LUG, terminal
4	166-0326-00			1	SLEEVE, adapter, 0.997 inch long
5	358-0303-00			1	BUSHING, probe cal adapter
6	358-0072-00			1	BUSHING, insulator, BNC, plastic
7	131-0270-00			1	CONNECTOR, adapter, 0.809 inch long
	- - - - - -			-	
8	323-0327-00			1	RESISTOR, 24.9 kΩ, 1/2 W, Prec, 1%
	- - - - - -			-	

DATA SHEET NO.
062-0708-00
JUNE 1966

PROBE PULSER

Tektronix Part No. 015-0088-00

General Information

The Probe Pulser incorporates a tunnel diode which provides a fast-rise pulse for checking transient response and risetime of Tektronix high-frequency miniature-tip probes, such as the P6045 FET Probe.

The Pulser must be driven by a +100-volt square-wave pulse, such at the 1-kHz amplitude calibrator signal available from most Tektronix oscilloscopes. (The amplitude calibrators in the 560-Series and 640-Series Oscilloscopes and in the Tektronix 067-0502-00 Standard Amplitude Calibrator will not switch the Pulser.)

Characteristics

Output Impedance: ≈25 Ω.

Output Signal Risetime: 0.5 ns or less.

Output Signal Amplitude: At least 260 mV.

Input Signal Required: +100-volt square wave capable of supplying 10 mA.

Adjusting Bias

The bias on the tunnel diode is adjusted with the knob on the Probe Pulser. The bias should be set each time the Probe Pulser is used.

To set the bias, use the following procedure.

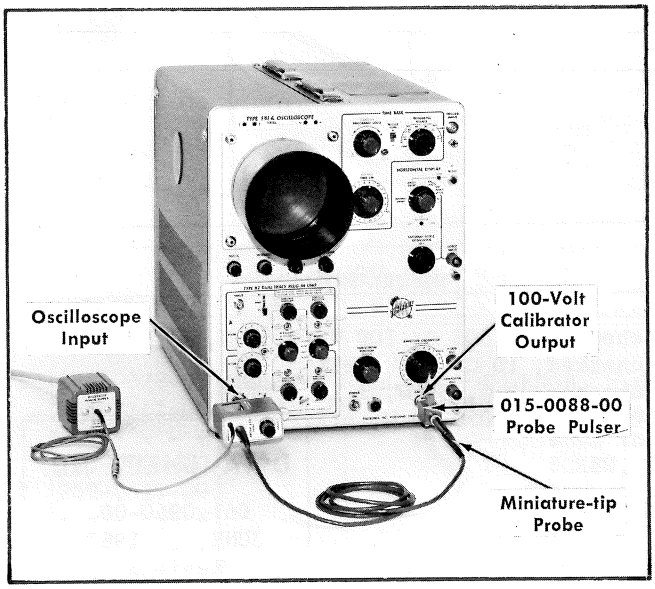


Fig. 1. Correct connection of Probe Pulser and probe to oscilloscope calibrator output and vertical channel input. (Shown with a P6045 FET Probe.)

1. Connect the Probe Pulser to the oscilloscope Calibrator Output and insert the probe tip into the Probe Pulser as shown in Fig. 1.

2. Set the oscilloscope vertical sensitivity to 0.1 V/cm and the sweep rate to 0.2 mSec/cm.

3. Set the bias control fully counterclockwise and the oscilloscope Amplitude Calibrator for a 100-volt square-wave output.

4. Set the time-base triggering controls for a stable display. With the bias control set fully counterclockwise, the tunnel diode will not switch due to insufficient current. However, there will be a waveform of ≈40 mV on the CRT screen. This is the calibrator signal feeding through the Probe Pulser and not the fast-rise output signal that occurs when the tunnel diode is switching.

5. Slowly turn the bias control clockwise until the waveform amplitude suddenly increases to about 3 divisions (see Fig. 2A). This indicates the tunnel-diode is now switching and this is the proper bias setting.

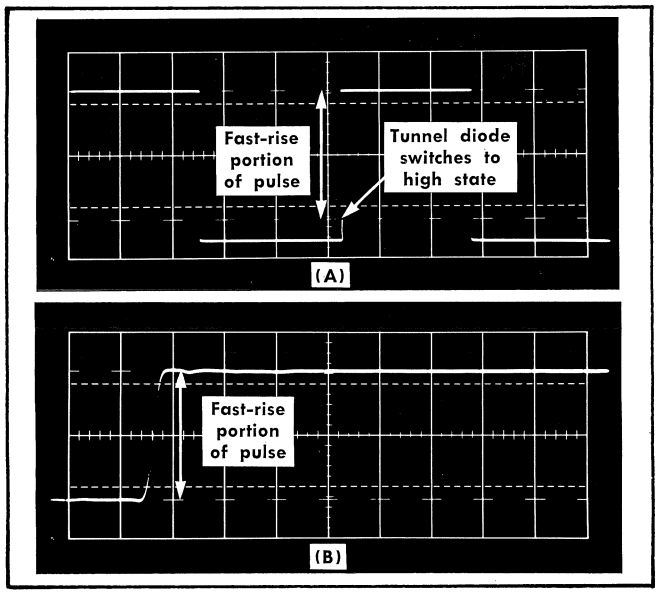
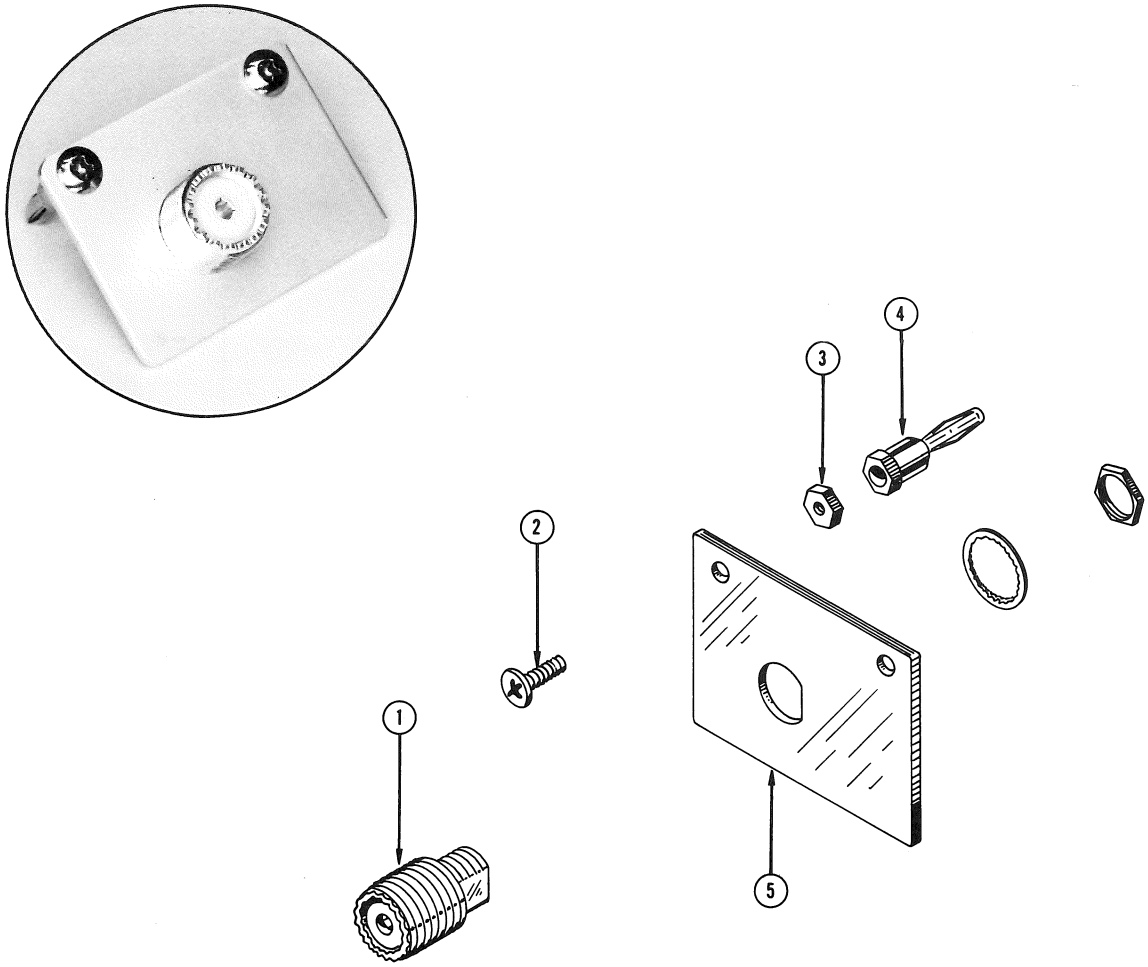


Fig. 2. Typical oscilloscope displays of pulse waveform: (A) With sweep rate of 0.2 μs/cm; (B) With sweep rate of 20 ns/cm.

Output Waveforms

Figs. 2A and B show typical output signals from the Probe Pulser at slow and fast sweep rates. The small intensified portion at the base of each pulse shown in Fig. 2A is the relatively slow-rising portion of the calibrator signal just before the tunnel diode switches. When measuring risetime, only the fast-rise portion of the output signal is used (see Fig. 2B).

COAX ADAPTER PLATE ASSEMBLY
(Part No. 016-0011-00)

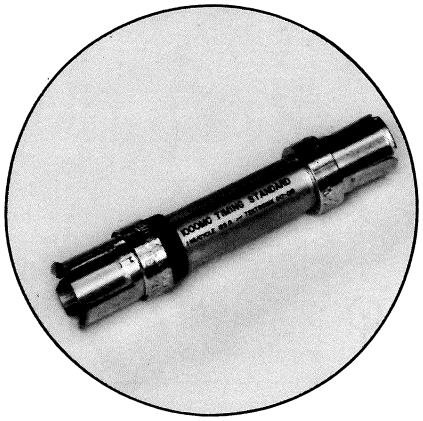


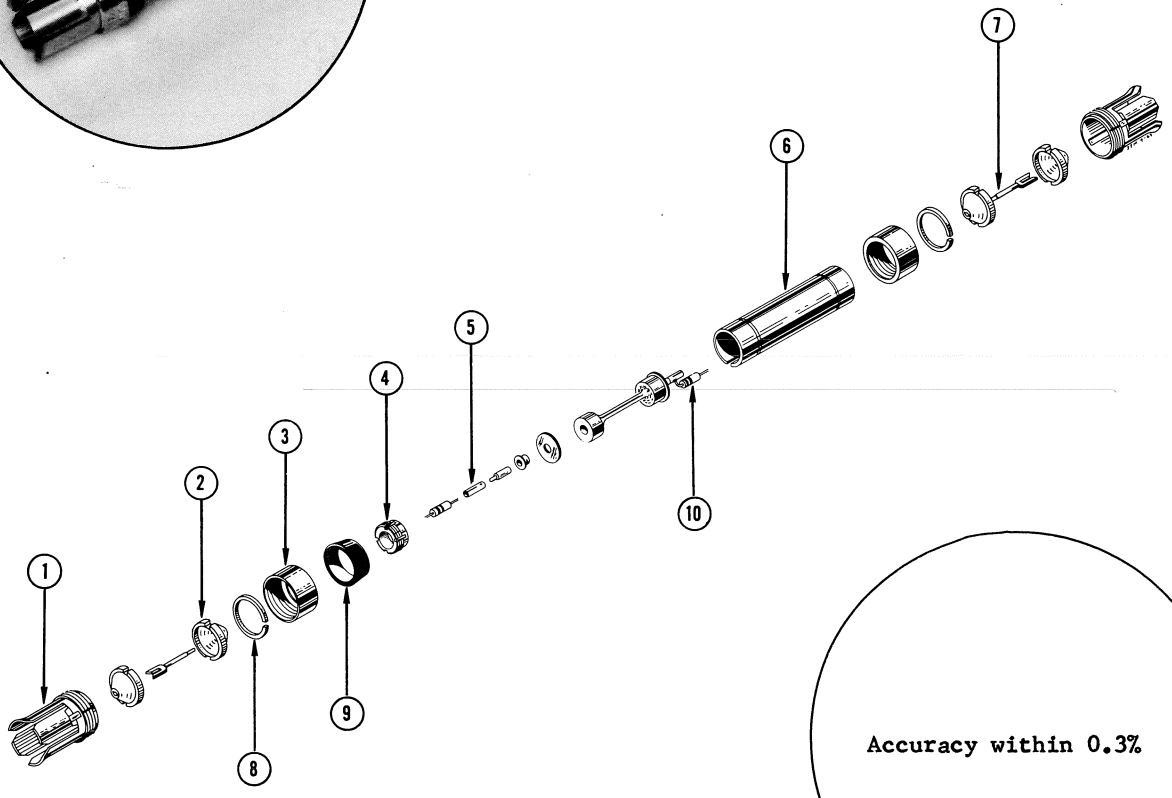
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	131-0191-00			1	CONNECTOR, UHF
	- - - - - -			-	Includes:
	NO NUMBER			1	NUT
	NO NUMBER			1	LOCKWASHER
2	211-0537-00			2	SCREW, 6-32 x 3/8 inch, truss HS
3	210-0408-00			2	NUT, hex, 6-32 x 5/16 inch
4	134-0013-00			2	PLUG, banana, 6-32 tap
5	386-0909-00			1	PLATE, coax., adapter

PUBLICATION NO.

062-0029-00
August 1965
(Revised)

1000 MC TIMING STANDARD
(Part No. 017-0019-00)





Accuracy within 0.3%

REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	132-0102-00			2	CONNECTOR, outer
2	132-0011-00			4	INSULATOR
3	132-0001-00			2	NUT, coupling
4	210-0547-00			1	NUT, tunning
5	132-0014-00			2	SLEEVE, transition
6	205-0037-00			1	SHELL
7	132-0015-00			2	CONTACT ASSEMBLY
8	132-0007-00			2	SNAP RING
9	354-0151-00			1	RING
10	316-0102-00			2	RESISTOR, 1k, 1/4 W, 10%

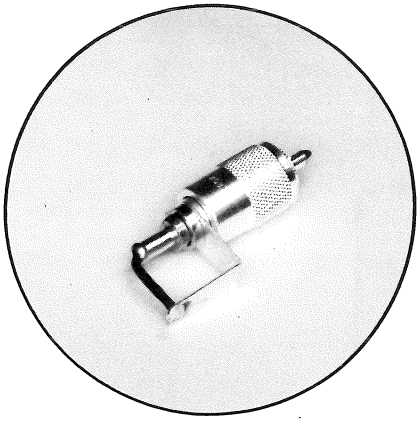
FOR REPLACEMENT PARTS NOT LISTED CONTACT YOUR TEKTRONIX FIELD OFFICE.

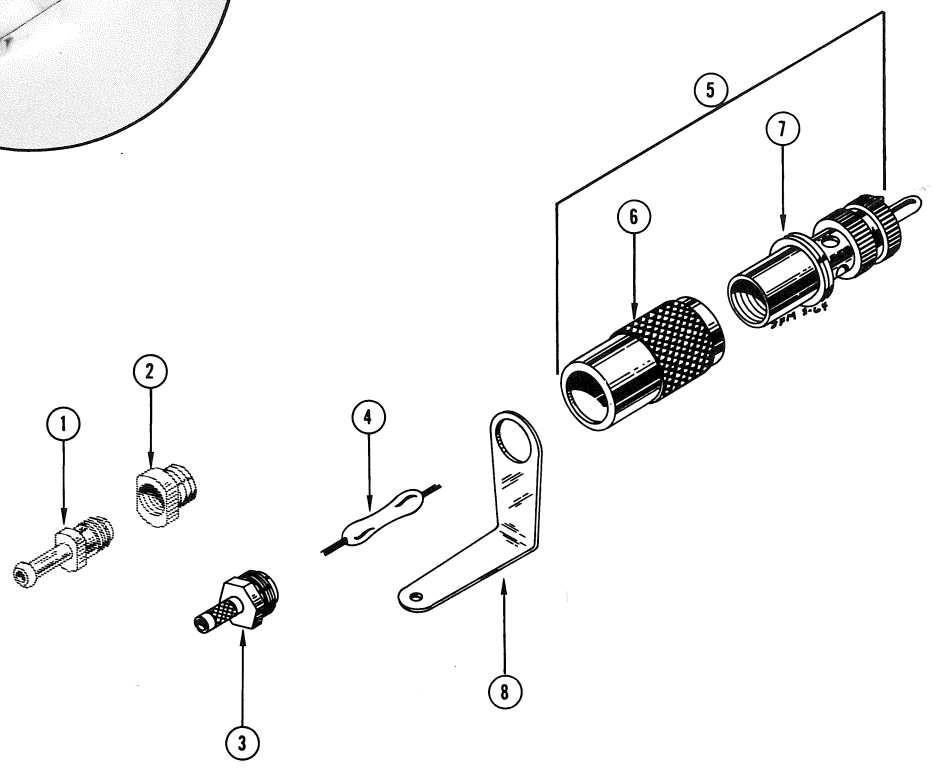
DATA SHEET

NO. 062-0158-00

DATE OCT. 1967 (R)

CURRENT PROBE CAL ADAPTER
(Part No. 017-0031-00)





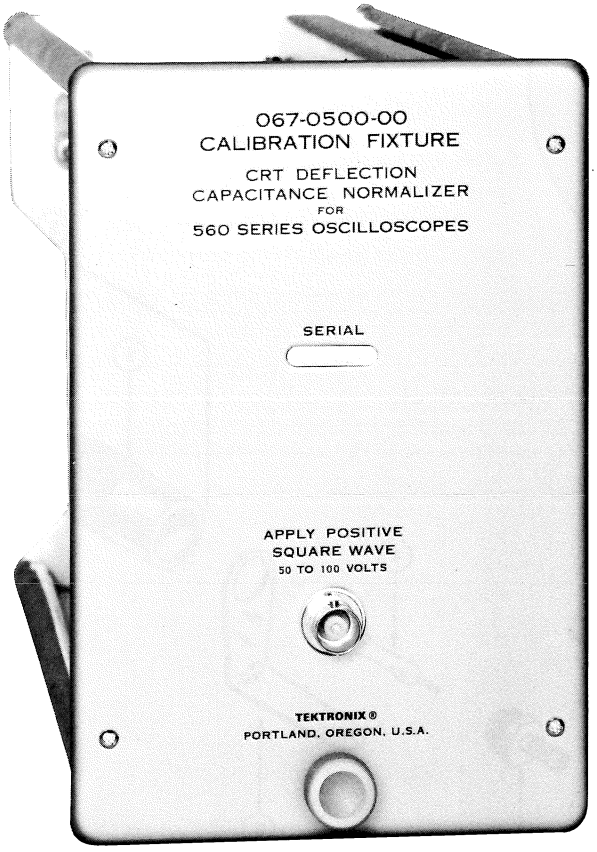
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
1	358-0089-00	EARLY		1	BUSHING, outer
2	210-0474-00	EARLY		1	NUT
3	358-0127-00	LATE		1	BUSHING, assembly
	166-0201-00			1	TUBE, sleeve
4	309-0336-00			1	RESISTOR, 24.5 K, 1/2 w, prec. 1%
5	131-0058-00			1	CONNECTOR, cable end, coax.
	- - - - - -			-	Consisting Of:
6	200-0026-00			1	COVER, coax. connector
7	131-0196-00			1	CONNECTOR, coax., 1 contact
8	406-0647-00			1	BRACKET, calibrator

PUBLICATION NO.

062-0145-00
August 1965
(Revised)

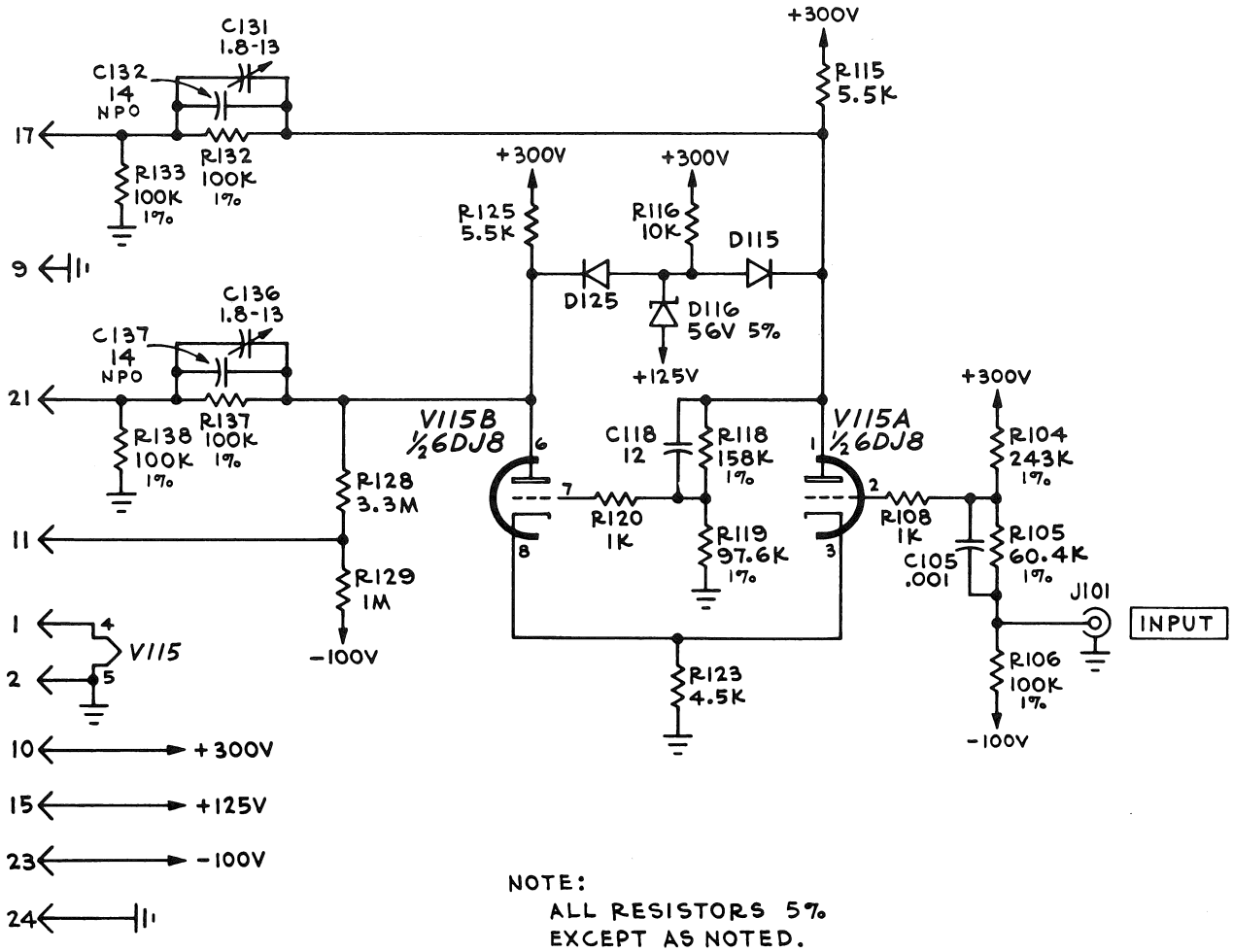
067-0500-00 CALIBRATION FIXTURE

CRT Deflection Capacitance Normalizer



The 067-0500-00 is a plug-in unit for normalizing CRT deflection plate capacitance in 560 series instruments.

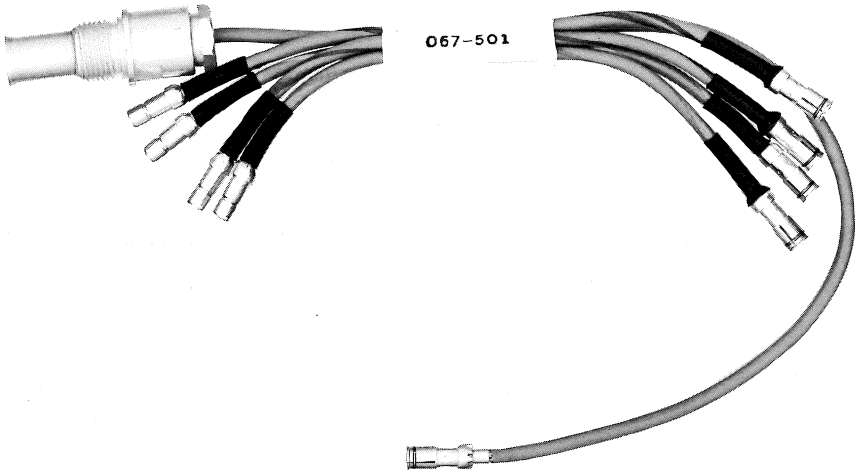
The plates of the Schmitt multivibrator are connected push-pull through time constant dividers to the CRT deflection plate. A squarewave approximately 5 cm high will be displayed when a positive squarewave of 50 to 100 volts in amplitude is applied to the input. C760 or C761 in 560 series scopes is adjusted for optimum square corner (no rolloff or spike) to achieve normalization.



NOTE:
ALL RESISTORS 5%
EXCEPT AS NOTED.

067-0501-00 CALIBRATION FIXTURE

Strobe/Trigger Extender Cable



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0501-00				The TYPE 067-0501-00 is an assembly of five 50 ohm impedance cable. The cables are equipped with suitable connectiors to extend the strobe lines and the blocking oscillator trigger signal cable from the timing unit, when the 4S2 or 4S3 is operating with the Gate board extended.

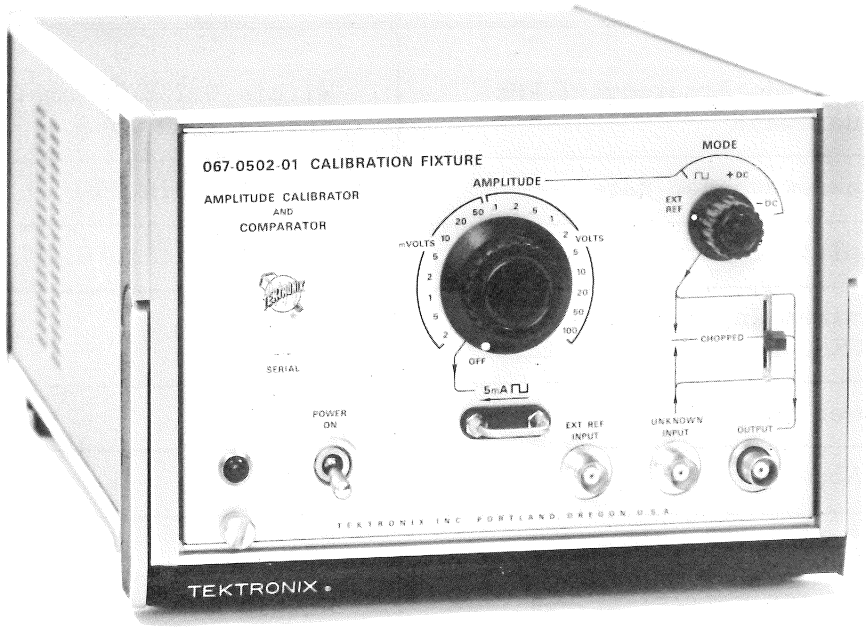
DATA SHEET NO.

062-0807-00

FEBRUARY 1967

067-0502-01 CALIBRATION FIXTURE

Amplitude Calibrator and Comparator



The Amplitude Calibrator and Comparator provides an accurate source for positive and negative DC voltage and current as well as 60 Hz and 1 kHz squarewaves. Amplitudes are available from 0.2 mV to 100 V in a 1, 2, 5 sequence.

The comparator provides a means for making voltage measurements by alternately chopping from an accurate reference voltage (internal supply or external input) and from an unknown input, and viewing the resultant signal on an oscilloscope.

The Amplitude Calibrator and Comparator is intended to be used for verifying the accuracy of Tektronix oscilloscope amplitude calibrators.

CHARACTERISTICS

Characteristics	Performance Limits
Amplitude Accuracy, 1 kHz Squarewave	Within 0.25% of amplitude setting into a 1 MΩ load
Squarewave Rep Rate	1 kHz within 20%
Amplitude Accuracy, DC	100 VDC within 0.25% into a 1 MΩ load
Maximum Input Voltage (UNKNOWN and EXT REF INPUT)	100 V
Power Supply	
Accuracy	
+300 VDC (Floating)	Within 2%
+125 VDC (Floating)	Within 10%
+100 VDC (Floating)	Within 0.1%
-100 VDC	Within 2%
Maximum Ripple	
+300 VDC (Floating)	15 mV P-P
+125 VDC (Floating)	5 mV P-P
+100 VDC (Floating)	2 mV P-P
-100 VDC	2 mV P-P
+100 VDC	30 mV P-P
Line Voltage Range	104 to 126 volts RMS 208 to 252 volts RMS
Line Current	0.44 A at 115 V, 60 Hz
Power Consumption	43 W at 115 V

067-0503-00 CALIBRATION FIXTURE

Precision DC Divider

Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Serial/Model No. Disc	Qty 1 2 3 4 5	Description
	067-0503-00				This Precision DC Divider is used to test the attenuation ratio of the input attenuators in such plug-ins as the W Unit, 10A1 and 3A7.

DATA SHEET

NO. 062-0809-00

DATE JAN. 1969(R)

Purpose

The Tektronix Precision DC Divider is primarily used to calibrate DC attenuations of 10:1 and 100:1 attenuators.

Performance Requirements

Ratio Accuracy	± 0.01% (when loaded with 1 megohm ± 1%)
Temperature Coefficient	10 ppm/^{o}C, 20^{o}C to 35^{o}C

Voltage Input

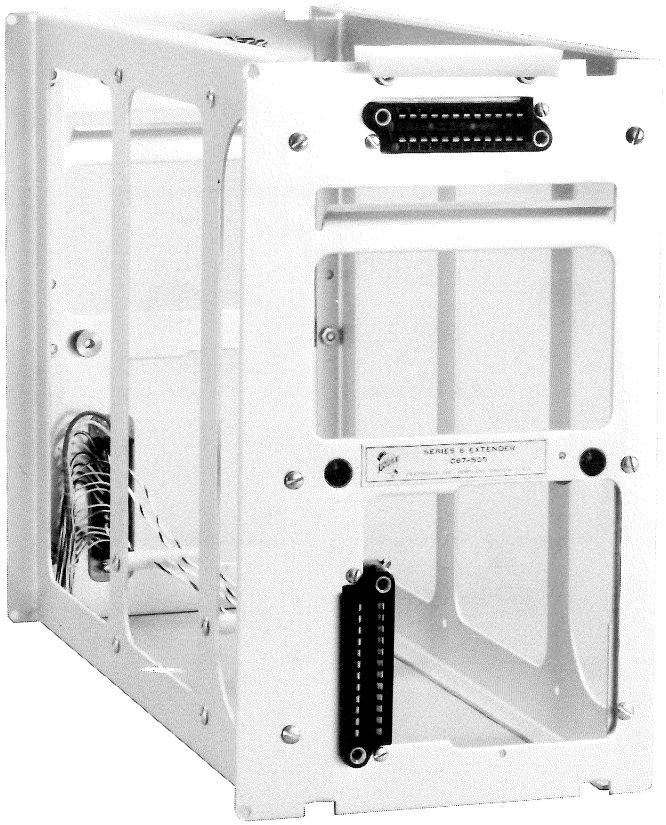
Input Resistance	Approximately 10 k
Maximum Input Voltage	± 40 VDC

Operation Instructions

A stable source of DC voltage is connected to the voltage input binding post and to the input of the attenuator to be tested. Outputs of the two attenuators are then compared. Comparison is normally accomplished using an oscilloscope with a differential amplifier, such as a Tektronix Type 547 Oscilloscope with a Type W Differential Comparator. Error of the attenuator under test is the deviation from the correct output voltage expressed as a percentage of the output voltage.

067-0505-00 CALIBRATION FIXTURE

Series 6 Extender

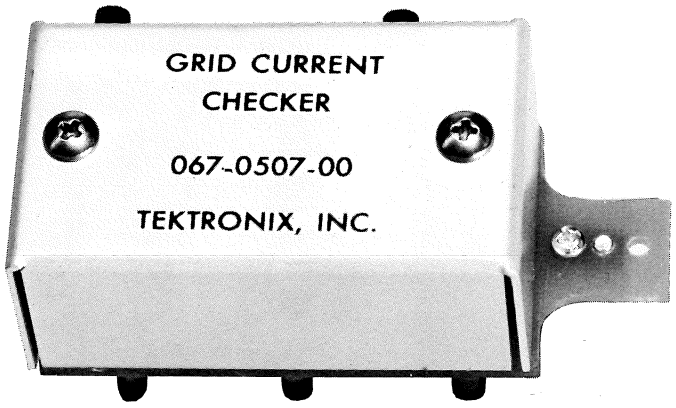


Primarily, this extender is for use with the RM567 when calibrating or trouble shooting the 6R1/6R1A. It has a locking mechanism at each end which secures the extender to the RM567 at one end, and the 6R1/6R1A to the other end. The RM567 may then be tilted in any of its tilt lock positions, if equipped, if there is sufficient clearance in front of the console to do so.

It may also be used in place of flexible extenders in the cabinet models.

067-0507-00 CALIBRATION FIXTURE

0 Unit Grid Current Checker



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0507-00			-	The 067-0507-00 Grid Current Checker is used to measure grid current in the Type 0 and other operational amplifiers. It matches, in size and general appearance, the Gating, Compensating, Leakage Current and other adapters currently in use with operation amplifiers. Banana-plug connectors in back allow the unit to be plugged into the operational-amplifier front panel.

DATA SHEET
NO. 062-0811-00
DATE FEB. 1968(R)

OPERATING INSTRUCTIONS

1. Plug the unit into the operational amplifier channel to be tested.

2. Set the sweep rate at the value specified in the Instruction Manual Calibration Procedure for the operational amplifier.

3. Obtain a free-running trace and when the spot crosses a preselected graticule line, press the desired button.

4. Compute grid current by the formula:

$$Ig \quad EC/T$$

E Amplitude of the wave form at the end of a prescribed period.
C Capacitance being charged (0.001 μF).
T Time over which the amplitude rise is checked.

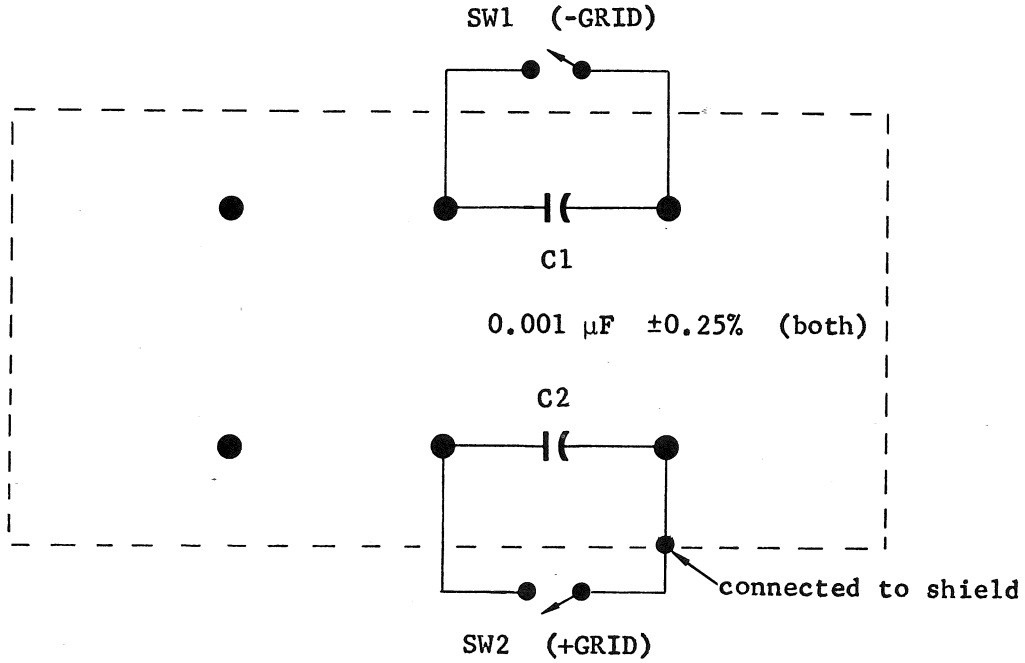
See Instruction Manual Calibration Procedure for time and amplitude values.

CALIBRATION PROCEDURE

Check for correct internal wiring, correct capacitor value and tolerance and proper operation of the push-button switches.

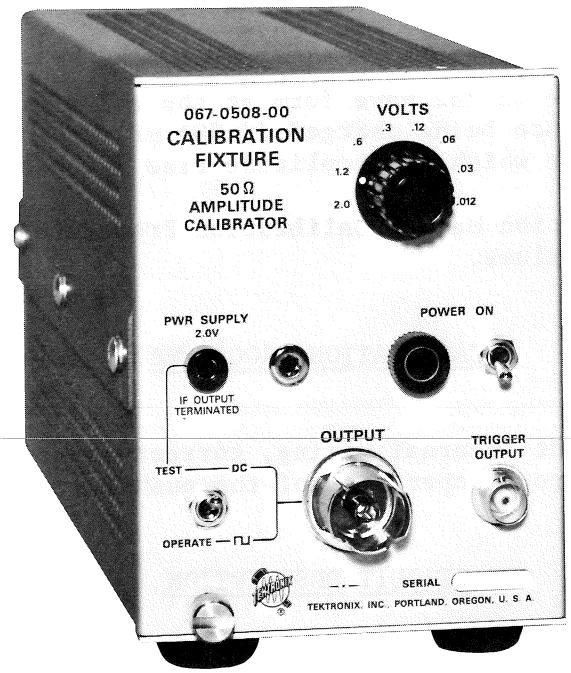
CIRCUIT DESCRIPTION

SW1 and SW2 are normally closed, holding C1 and C2 in a discharged condition. When one of the push-button switches is pressed, grid current charges the associated capacitor generating a sawtooth waveform representing amplitude versus time.



067-0508-00 CALIBRATION FIXTURE

50 ohm Amplitude Calibrator



This calibrator provides a source of voltage, the overall accuracy of which is 0.25%, from an accurate 50 ohm source resistance to calibrate equipment having a characteristic 50 ohm impedance. It may also calibrate a high impedance input provided the unit is accurately terminated in total load of 50 ohms.

067-0508-00 CALIBRATION FIXTURE

General Information

Purpose

Provides an accurate source of voltage for the calibration of equipment having 50 Ω input impedance. It may also be used to calibrate equipment with high input impedance provided the unit is connected through an accurate 50 Ω termination.

Accuracy

Overall accuracy is ±0.25%, enabling precision amplitude calibration of devices such as digital readout units or for precision comparision measurements.

Pretrigger

A pretrigger is provided sufficiently delayed to allow zero % zone levels to be established on Type 6R1 which does not have adjustable zero % zones.

Output Level

Output level is adjustable from 12 mV to 1.2 V in increments designed to provide a constant 6 division display as the attenuators of the system are changed. A 2 V level is provided to check linearity of a sampling bridge.

A test point is provided on the front panel to check the level into the attenuator.

Power Source

Normally operates on 115 or 230 VAC, 50 to 60 Hz. Additional taps are provided on the transformer primary to shift the design-center line voltage in 10 V increments from 105 to 125 V from 210 to 250 V.

Operating Instructions

1. Connect power cord to correct line voltage (factory wired for 115 volts unless otherwise indicated by rear panel decal).

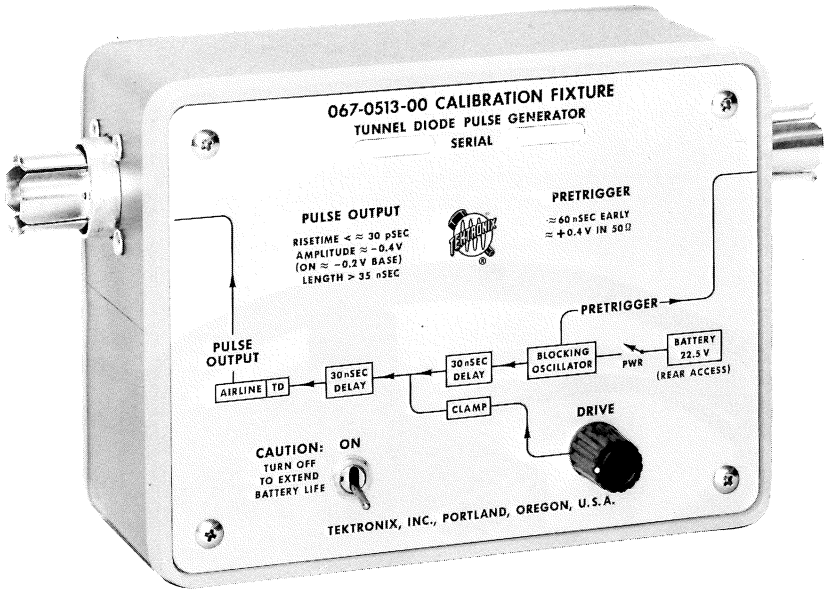
2. Connect TRIG OUT to test-scope external trigger input jack.

3. Connect OUTPUT to test-scope vertical input.

   NOTE: If test-scope vertical input is high impedance, terminate the cable in 50 Ω (± 1% accuracy required or better).

067-0513-00 CALIBRATION FIXTURE

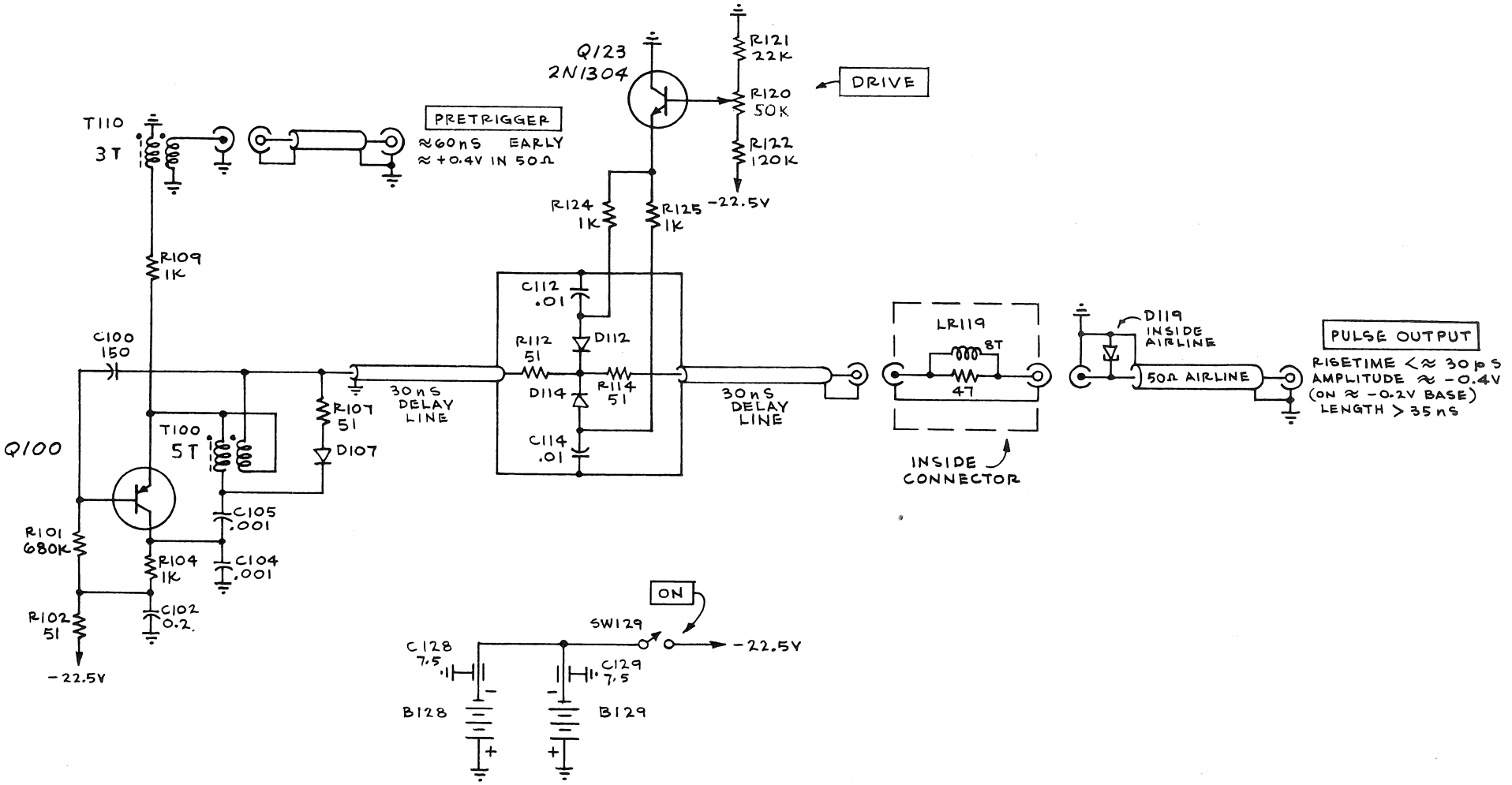
Tunnel Diode Pulse Generator



The T.D. Pulse Generator is battery powered and is used for checking step function response of all Tektronix sampling systems. It can be used with a minimum of correction due to pulse source risetime limitations.

The repetition rate varies from about 50 kHz to 150 kHz depending on battery condition. A pretrigger (60 to 70 ns early) permits operation in conjunction with any of the Tektronix sampling systems.

The pulser contains a transistor blocking oscillator, an adjustable diode drive clamp, a delay cable and a 100 mA, 6 pF, tunnel diode mounted in a special coaxial air-line environment. The free-running blocking oscillator generates a 50 ns pulse with adequate amplitude to drive the clamp, tunnel diode and pretrigger. The diode clamp, 30 ns from the blocking oscillator, flattens the negative-going pulse at a level just sufficient to switch the 100 mA tunnel diode which is another 30 ns past the clamp. This device draws about 1.5 mA. It is difficult to predict battery life but approx. 1 month can be expected with average use. New batteries may be ordered on a standard order form.



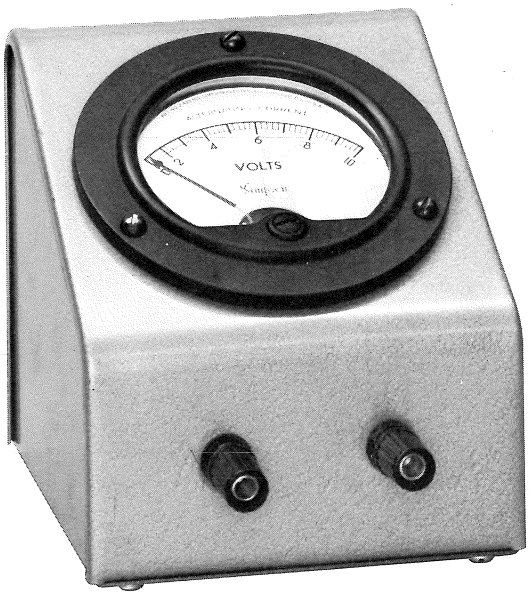
CALIBRATION FIXTURE 067-0513-00

TUNNEL DIODE PULSE GENERATOR

067-0513-00

067-0514-00 CALIBRATION FIXTURE

AC 0-10 V Meter



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0514-00				The 067-0514-00 AC Meter is an iron-vane, 0 to 10 volt, accurate voltmeter for use in testing and adjusting filament voltages from the saturable reactors in Tektronix Type 517/517A and Type 555 oscilloscopes. Accuracy ±2% of full scale

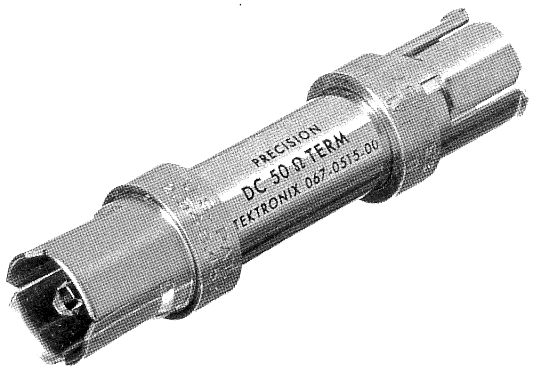
DATA SHEET NO.

062-0816-00

FEBRUARY 1967

067-0515-00 CALIBRATION FIXTURE

Precision 50 ohm termination

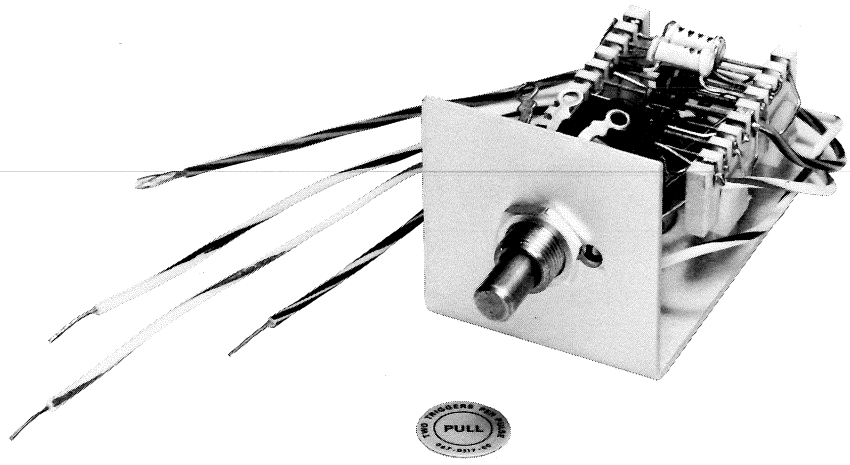


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0515-00				A 0.1% 50 Ω termination for use with instruments that have outputs into 50 Ω. This calibration fixture is used to accurately terminate an instrument into 50 Ω to check its calibration accuracy. Its primary intent is for use with the 067-0508-00, the 50 Ω Amplitude Calibrator, but can also be used for checking the calibrator outputs into 50 Ω, of the Type 546, 547, 567 etc.

DATA SHEET NO.
062-0817-00
APRIL 1967

067-0517-00 CALIBRATION FIXTURE

Two Triggers Per Pulse



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0517-00				The 067-0517-00 is a modification kit for the Type 111 Pretrigger Pulse Generator that will give a signal output for every other pretrigger output. A two transistor multivibrator with an emitter-follower output that provides a signal to control the collector supply voltage for Q60. The multivibrator uses a trigger signal from T-40 to provide supply voltage for Q60 only for every other trigger signal. Thus, only one pulse occurs at the PULSE OUTPUT connector for every two pulses at the PRETRIGGER OUTPUT connector. This type of signal/trigger combination is useful for checking calibration and performance of sampling systems. The front-panel VARIABLE control has been replaced by a pull-type switch and pot combination with the knob labeled PULL TWO TRIGGERS PER PULSE.

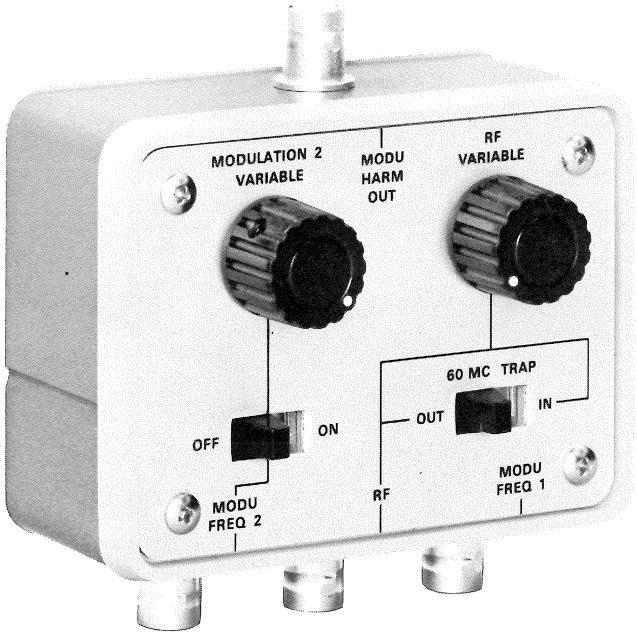
DATA SHEET NO.

062-0818-00

MARCH 1967

067-0518-00 CALIBRATION FIXTURE

Harmonic Modulator



The 067-0518-00 permits simultaneous modulation of an RF signal with Tektronix Type 106 Squarewave Generator and with an audio generator. Recommended RF source is Tektronix Type 184 Time-mark Generator. The unit is designed to provide test signals for Tektronix 1L10 Spectrum Analyzer (will also be usuable with future models). Modulated harmonic frequencies to 900 MHz, with amplitudes of a few microvolts, have been produced although this is considerable beyond the normal output requirement. A 60 MHz trap may be switched in to attenuate any 60 MHz component (center IF frequency of 1L10 is 60 MHz). Effective attenuation of this trap depends on the setting of RF VARIABLE control.


067-0521-01 CALIBRATION FIXTURE
LOAD/PULSER FOR 530-540-550 SERIES
SERIAL
1/16 AMP
FUSE
FUSE
+225 V
VERTICAL POSITION
VARIABLE
(LOAD POSITIONS ONLY)
0
2
4
6
8
10
TEST FUNCTION
250:1
1:1
≈1000:1
≈1000:1
GAIN SET
COMMON MODE
ALTERNATE
CHOPPED
HIGH LOAD
LOW LOAD
+ PULSE
– PULSE
AMPLITUDE
REPETITION RATE
≈15 kHz
≈4 kHz
≈80 kHz
≈1 kHz
500 kHz
EXT INPUT
TEKTRONIX, INC.
PORTLAND, OREGON, U.S.A.

CHARACTERISTICS

General Description

The 067-0521-01 Calibration Fixture (hereafter referred to as Calibration Fixture) is a versatile single-unit calibration aid for use with all Tektronix 530-, 540-, or 550- Series Oscilloscopes using 1-series or letter-series vertical plug-in units. The Calibration Fixture is the only plug-in unit required for calibrating the oscilloscope. An input connector on the front panel permits application of various external signals for use in the calibration procedure. The self-contained unit also generates fast-rise pulses for checking risetime and adjusting transient response of the oscilloscope vertical amplifier.

The Calibration Fixture permits checking the regulation limits of the power supplies. In addition, the unit provides a quick check of the oscilloscope alternate sync pulse and chopped blanking circuitry. For oscilloscopes capable of displaying two time-base signals alternately, the Calibration Fixture checks the ability of the alternate-sweep switching circuitry to lock the channels of a dual-trace plug-in unit to the time bases of the oscilloscope.

ELECTRICAL

TEST FUNCTION Switch Positions

LOW LOAD, HIGH LOAD

These two switch positions permit the oscilloscope low-voltage power supplies to be loaded from minimum to maximum. External signals applied through the EXT INPUT connector on the front panel of the unit will be AC-coupled to the oscilloscope vertical amplifier to produce a normal display. Maximum vertical sensitivity of the Calibration Fixture and oscilloscope combination is about 0.5 volt/cm when the VARIABLE control is set fully clockwise.

GAIN SET

Permits setting the gain of the oscilloscope vertical amplifier with a 100-volt calibrator signal applied to the EXT INPUT connector. The 250-to-1 fixed ratio of this position attenuates the 100-volt signal to 0.4 volt which produces 4 cm of vertical deflection on the CRT when the oscilloscope vertical amplifier gain adjustment has been set accurately.

COMMON MODE

Checks common-mode rejection ratio and DC balance of the oscilloscope vertical amplifier.

ALTERNATE

Checks operation of the alternate-mode synchronizing circuits in the oscilloscope. Also permits checking for proper sweep slaving in oscilloscopes having two time bases that can be displayed alternately. Any external signal applied to the EXT INPUT connector is attenuated by a factor of approximately 1000 by an internal attenuation network.

CHOPPED

Checks oscilloscope for proper operation in the chopped mode. Free-running rate of the dual-trace switching multivibrator is approximately 100 kHz. Any external signal applied to the EXT INPUT connector is attenuated approximately 1000 times by the internal attenuation network.

+ PULSE, — PULSE

In these two switch positions, a fast-rise square wave (with a risetime considerably less than the vertical deflection system risetime of a Type 546 or Type 547 Oscilloscope) is applied to the vertical-deflection system of the oscilloscope being adjusted. The amplitude of either a + or — pulse display can be varied between approximately 2 cm and 6 cm.

Other Controls and Connectors

REPETITION RATE

Instruments with serial numbers 3995 and above have a five-position switch to select the approximate pulse repetition rate of the Pulse Generator circuit as follows: 1 kHz, 4 kHz, 15 kHz, 80 kHz and 500 kHz. Instruments below serial number 3995 have a three-position switch, permitting selection of a LOW, MED or HIGH position which provides repetition rates of approximately 5 kHz, 100 kHz or 600 kHz, respectively.

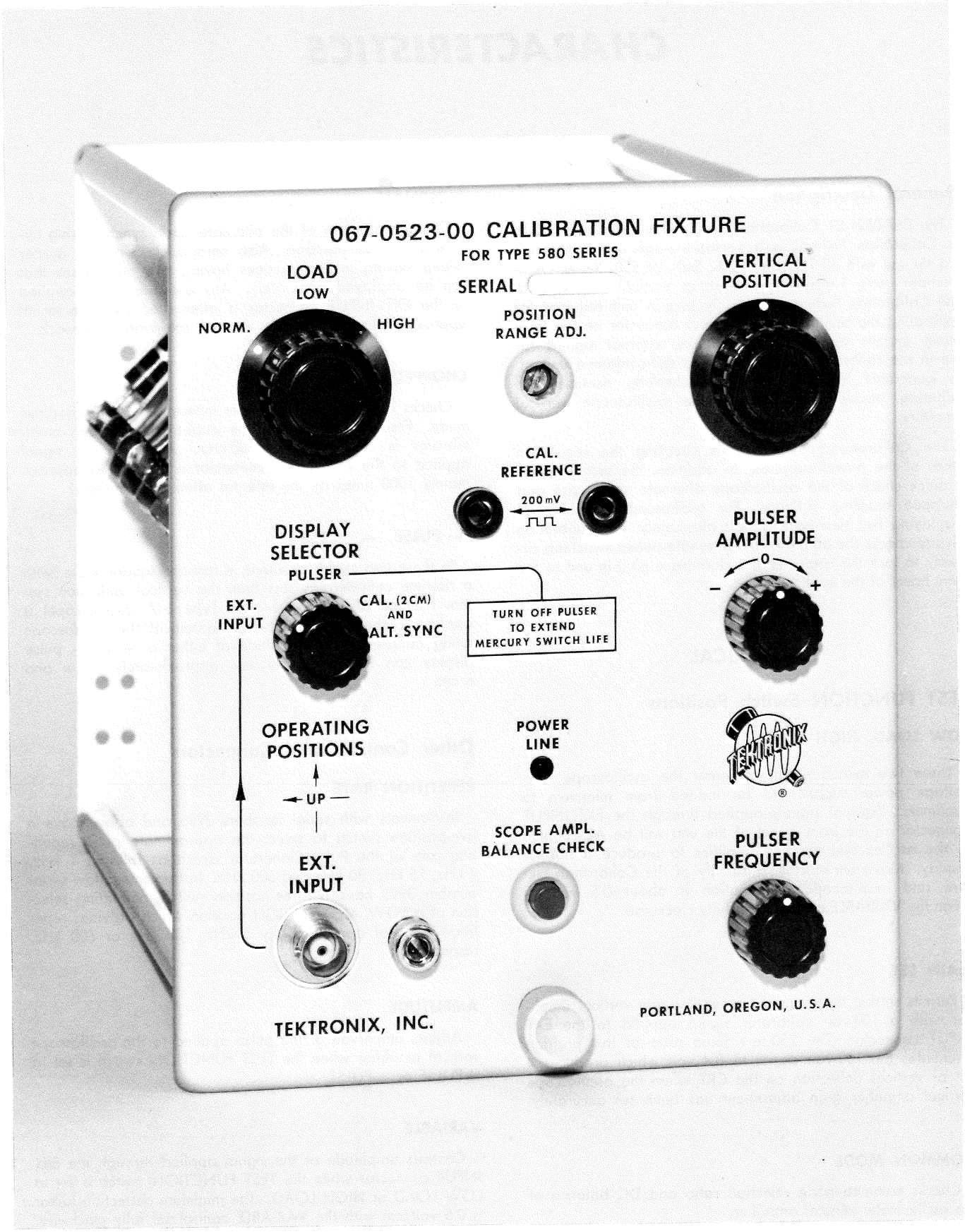
AMPLITUDE

Adjusts amplitude of the pulse applied to the oscilloscope vertical amplifier when the TEST FUNCTION switch is set to +PULSE or —PULSE.

VARIABLE

Controls amplitude of the signal applied through the EXT INPUT connector when the TEST FUNCTION switch is set to LOW LOAD or HIGH LOAD. The minimum deflection factor is 0.5 volt/cm with the VARIABLE control set fully clockwise.

TEST UNIT
(Part No. 067-0523-00)



CHARACTERISTICS

General

The 067-0523-00 Calibration Fixture is used with Tektronix 580-Series oscilloscopes. The calibration fixture provides a reference signal for setting the oscilloscope vertical amplifier gain, a fast-rise voltage step for adjusting oscilloscope vertical amplifier transient response, and a load bank which loads the oscilloscope power supplies over their full current range. The 067-0523-00 allows a check of the DC balance of the oscilloscope vertical amplifier. It may also be fed external signals which might be used in calibration procedures.

580-Series oscilloscope vertical amplifiers that have been calibrated with the 067-0523-00 have a uniform transient response. The amplitude calibration signal has a long-term amplitude stability. The amplitude signal circuit is driven by the dual-trace alternate sync pulse generated by the oscilloscope. The dual-trace display shows the presence of the sync pulse.

Calibration Reference Signal

A 200-millivolt signal for adjustment of vertical amplifier gain. Signal level is switched by the alternate trace sync pulse from the oscilloscope sweep generator. Signal amplitude can be checked at front-panel jacks.

Pulser

Provides low distortion square-wave pulse with a risetime considerably less than the response time of the vertical amplifier in a 580-Series Oscilloscope. Pulse amplitude continuously adjustable to either plus or minus 4 centimeters deflection. Repetition rate adjustable from about 550 to 750 pulses per second. Pulser maintains risetime without need for circuit adjustment.

Scope Amplifier balance check

Connects input leads to oscilloscope vertical amplifier together. The resultant deflection shows any overall DC imbalance of the oscilloscope vertical amplifier.

Power Supply Load

Provides low, normal, and high loading of oscilloscope power supplies. Range corresponds to the range of currents available from power supplies. Allows check of ripple and regulation of each power supply.

Display Selector

A three-position switch which selects the 200 mV calibration signal, pulser, or external input to the oscilloscope.

Power Line Indicator

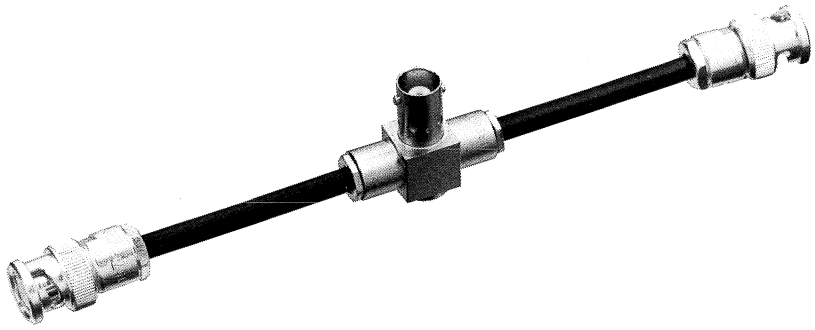
Lights when line power is present at pins 12 and 13 of the plug-in interconnecting plug.

Mechanical Construction

Aluminum alloy chassis. Aluminum alloy anodized front panel.

067-0525-00 CALIBRATION FIXTURE

Dual Input Cable, BNC



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0525-00				The Dual BNC Connector is designed for inserting identical signals into both channels of a dual-channel plug-in unit simultaneously. Common Mode Rejection (CMR) can be conveniently checked with no significant effect from the Dual BNC Connector. The two lengths of RG 58 are matched to less than 0.1".

DATA SHEET NO.

062-0820-00

JANUARY 1967

067-0528-00 CALIBRATION FIXTURE

Test Load Unit

The Type 067-0528-00 provides LO-LOAD equivalent to one Type 122 Amplifier Unit and HI-LOAD equivalent to four Type 122 Amplifier Units, to check 125 Power Supply.

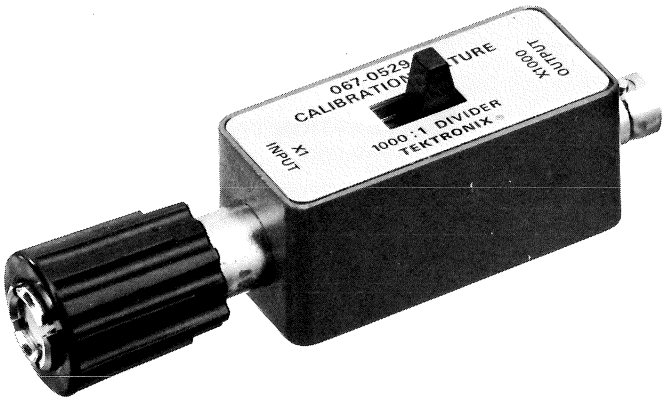
This load unit in conjunction with a ±0.25% or better, nonloading voltmeter and a Tektronix 530/540 Series Oscilloscope with a "D" Plug-In will meet the necessary requirements.*

This unit is not designed to be used on the HI-LOAD position for extended periods, because of insufficient heat dissapation (10 minutes maximum operating time with 30% duty cycle).

*If a nonloading voltmeter of this accuracy (±0.25%) is not available, the LOAD UNIT may be returned to Tektronix, Inc., for certification.

067-0529-00 CALIBRATION FIXTURE

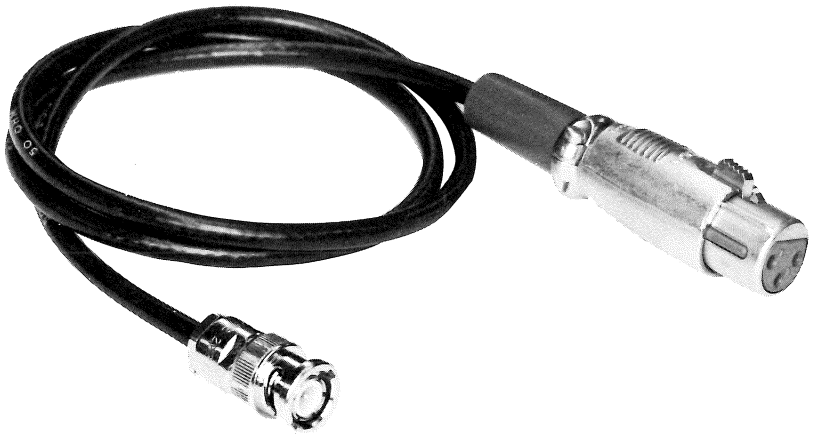
Precision Divider



The 067-0529-00 is a 1000:1 Divider for use with Standard Amplitude Calibrator (067-0502-00) to extend range of output voltage to amounts less than 200 microvolts. Accuracy of divider ±0.2%.

067-0530-00 CALIBRATION FIXTURE

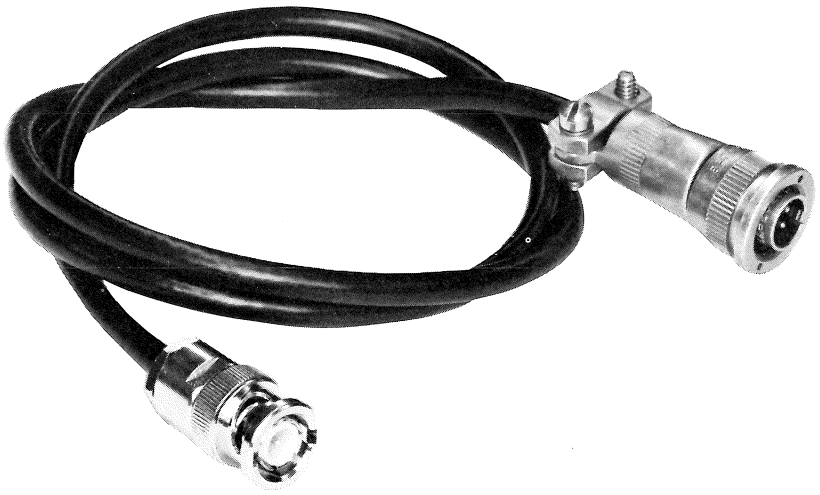
3 Pin Adapter Cable



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0530-00				An adapter cable for use between BNC source of calibrator signal and input to three-pin Cannon connector, such as used on Type E Plug-in and Type 122 Amplifier.

067-0531-00 CALIBRATION FIXTURE

4 Pin Adapter Cable



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0531-00				An adapter cable for use between BNC source of calibrator signal and input to four-pin Cannon connector, such as used on Type 2A61 Plug-in Unit.

067-0532-00 CALIBRATION FIXTURE

Constant Amplitude Signal Generator

The Tektronix Type 067-0532-00 Constant Amplitude Signal Generator produces sinewaves whose amplitude remains constant as the frequency is varied. Output frequency is continuously variable from 65 to 500 MHz. The amplitude of the above mentioned sinewaves is referenced to the amplitude of 3 MHz sinewave also available at the output connector. Output amplitude is continuously variable from 0.5 volt to 2.5 volts peak to peak into 50 ohms. The output amplitude is in 0.5 volt steps from 0.5 to 5.0 volts into 50 Ω. It is also continuously variable from 0.5 volt to 5.5 volts. The output remains constant amplitude from 0.5 volt to 5.5 volts from 65 MHz to 300 MHz, and constant amplitude from 0.5 volt to 2.5 volts from 300 MHz to 500 MHz. Cable loss and standing wave errors are essentially eliminated. The amplitude is regulated at the generator end of a 50 ohm resistor physically adjacent to the output connector. The output connector, 50 ohm resistor, and amplitude detector are at the end of an attached 42 inch cable.

CHARACTERISTICS

OUTPUT

CHARACTERISTIC	PERFORMANCE REQUIREMENT	SUPPLEMENTAL INFORMATION
FREQUENCY ACCURACY	Within ±2% of reading	Into a 50 Ω 1% load
AMPLITUDE ACCURACY	With ±3% of indicated amplitude	Into a 50 Ω 1% load
AMPLITUDE REGULATION	Within ±2% of 3 MHz amplitude from 65 to 300 MHz and 0.5 to 5.5 volts P-P output. Within ±5% of 3 MHz amplitude from 300 to 500 MHz and 0.5 to 2.5 volts P-P output.	Into a 50 Ω 1% load
HARMONIC CONTENT		Typically less than 2%

POWER REQUIREMENTS

CHARACTERISTIC	PERFORMANCE REQUIREMENT	SUPPLEMENTAL INFORMATION
LINE VOLTAGES	105 VAC, 115 VAC, 125 VAC 210 VAC, 230 VAC, 250 VAC	Center values available by rear panel switch and transformer wiring
FUSES	Type 3AG 0.4 amperes slo blo Type 3AG 0.2 amperes slo blo	115 VAC operation 230 VAC operation
LINE FREQUENCY	50 to 400 Hz	
POWER CONSUMPTION		Approximately 25 watt

MECHANICAL

CHARACTERISTIC	INFORMATION
CONSTRUCTION	Aluminum alloy chassis, panel and cabinet Glass laminated circuit boards Output through a GR Type 874 connector at the end of a 42 inch cable

OSCILLOSCOPE INPUT NORMALIZERS

Input Normalizers are used for checking or adjusting the input capacitance of oscilloscopes, or oscilloscope plug-in units, where high-impedance attenuator probes may be used. In a sense they are dummy probes. Input capacitance should be adjusted for each setting of the input attenuator switch, so that you will not need to readjust an input probe each time the attenuator setting is changed.

Different oscilloscope types have different nominal values of input capacitance, so require different input normalizers. The Instruction Manual for each Tektronix Oscilloscope identifies which normalizer should be used, if any, and how to use it.

An instruction manual may refer to an Input Normalizer as a Capacitance Standardizer, a Time Constant Standardizer, or as an RC Standardizer. The name was changed to Normalizer to reduce confusion about whether they should be considered a measurement Standard. The Tektronix part number was changed at the same time.

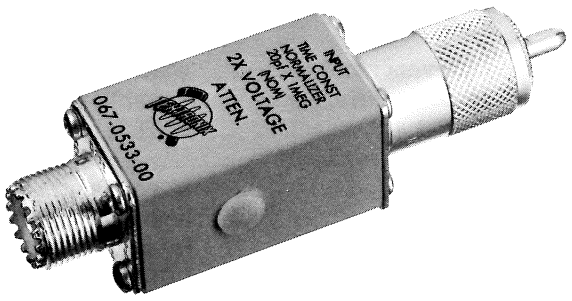
Input Normalizers are not intended to be used to determine whether input capacitance is within certain limits, or whether the RC product of input resistance and input capacitance is within certain limits. Therefore, they are not intended to be measurement Standards. Furthermore, it is not advisable to attempt to maintain the input capacitance or the input RC time constant on different scopes to tight tolerances with the hope of obviating the need to check or adjust a probe when it is used with a different oscilloscope. Proper probe adjustment should always be checked each time a probe is connected to a different oscilloscope or plug-in unit. When this practice is observed, fewer measurement errors will be made than can be prevented by a rigorous program to maintain specific tolerance limits. Nor is it advisable to rely on a known input capacitance, measured at one frequency, to calculate the input loading effects on a signal having a different frequency.

Most Tektronix Input Normalizers never need to be adjusted after they leave the factory. Performance is tested each time one is used, and normally should be considered adequate as long as the adjustable input capacitors in the oscilloscopes have sufficient range.

If readjustment should be necessary, the internal resistor should first be measured to be sure it is in tolerance. Then the internal variable capacitor may be adjusted to produce a square-cornered flat-topped response to a square-wave signal on an oscilloscope it is designed to be used with, in the same way as described in the instructions for adjusting scope input capacitance. The response of the scope to square waves should first be known to be normal, and the input capacitance to the scope should be known to be within about five per cent of its nominal value at the attenuator setting used. It is normal for input capacitance to vary slightly from one setting to the next to correspond with slight variations of input resistance. A Tektronix Type 130 L-C Meter may be used to measure the scope input capacitance. Measurement should be made while the scope is operating. When using the Type 130, to avoid a small possibility of a measurement error due to overdriving the input, it is a good idea to use an attenuator setting that corresponds to a deflection factor of about 1 volt per division.

067-0533-00 CALIBRATION FIXTURE

Input Normalizer 20 pF (UHF)



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0533-00				An Input RC Time Constant Normalizer for signal inputs having nominal 1 megohm x 20 pF input RC time constant and having UHF connectors.

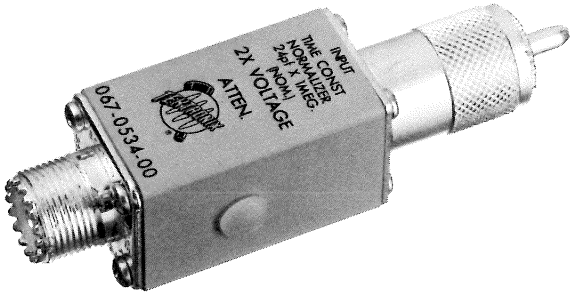
DATA SHEET NO.

062-0839-00

APRIL 1967

067-0534-00 CALIBRATION FIXTURE

Input Normalizer 24 pF (UHF)



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0534-00				An Input RC Time Constant Normalizer for signal inputs having nominal 1 megohm x 24 pF input RC time constant and having UHF connectors.

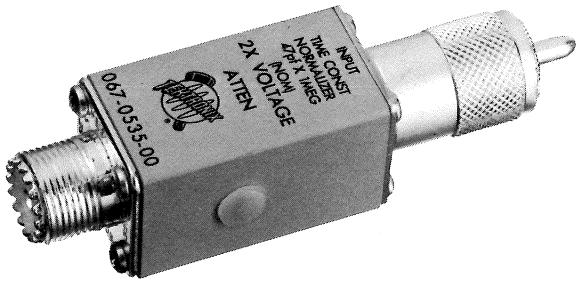
DATA SHEET NO.

062-0840-00

APRIL 1967

067-0535-00 CALIBRATION FIXTURE

Input Normalizer 47 pF (UHF)



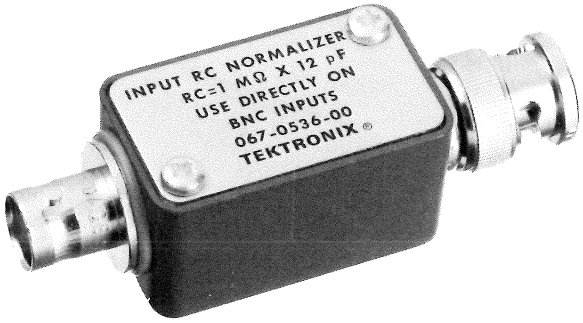
REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0535-00				An Input RC time Constant Normalizer for signal inputs having nominal 1 megohm x 47 pF input RC time constant and having UHF connectors.

DATA SHEET NO.

062-0841-00
APRIL 1967

067-0536-00 CALIBRATION FIXTURE

Input Normalizer 12 pF (BNC)

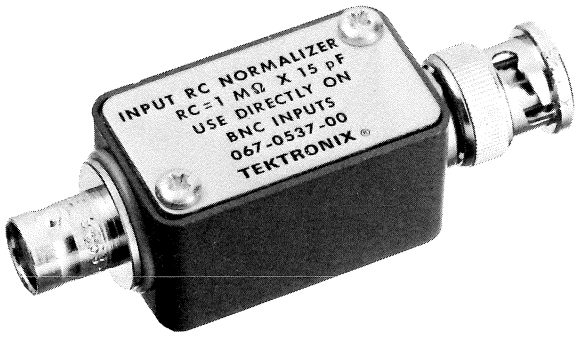


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0536-00				An Input RC Time Constant Normalizer for signal inputs having nominal 1 megohm x 12 pF input RC Time constant and having BNC connectors.

DATA SHEET NO.
062-0833-00
APRIL 1967

067-0537-00 CALIBRATION FIXTURE

Input Normalizer 15 pF (BNC)

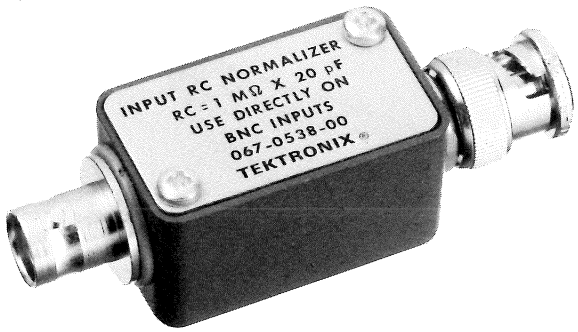


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0537-00				An Input RC Time Constant Normalizer for signal inputs having nominal 1 megohm x 15 pF input RC time constant and having BNC connectors.

DATA SHEET NO.
062-0834-00
APRIL 1967

067-0538-00 CALIBRATION FIXTURE

Input Normalizer 20 pF (BNC)

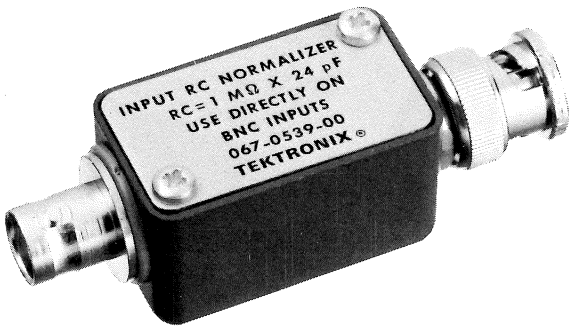


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0538-00				An input RC Time Constant Normalizer for signal inputs having a nominal 1 megohm x 20 pF input RC time constant and having BNC connectors.

DATA SHEET NO.
062-0835-00
APRIL 1967

067-0539-00 CALIBRATION FIXTURE

Input Normalizer 24 pF (BNC)



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0539-00				An Input Time Constant Normalizer for signal inputs having a nominal 1 megohm x 24 pF RC time constant and having BNC connectors.

DATA SHEET NO.
062-0836-00
APRIL 1967

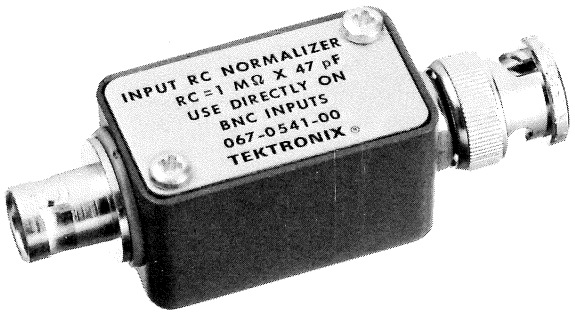
067-0540-00 CALIBRATION FIXTURE

Input Normalizer RC = 1 MEG × 33 pF

REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0540-00				This 33 pF Input Normalizer is a calibration aid that is used for checking or adjusting the input capacitance of oscilloscopes, or oscilloscope plug-in units, where high impedance attenuator probes may be used.

067-0541-00 CALIBRATION FIXTURE

Input Normalizer 47 pF (BNC)

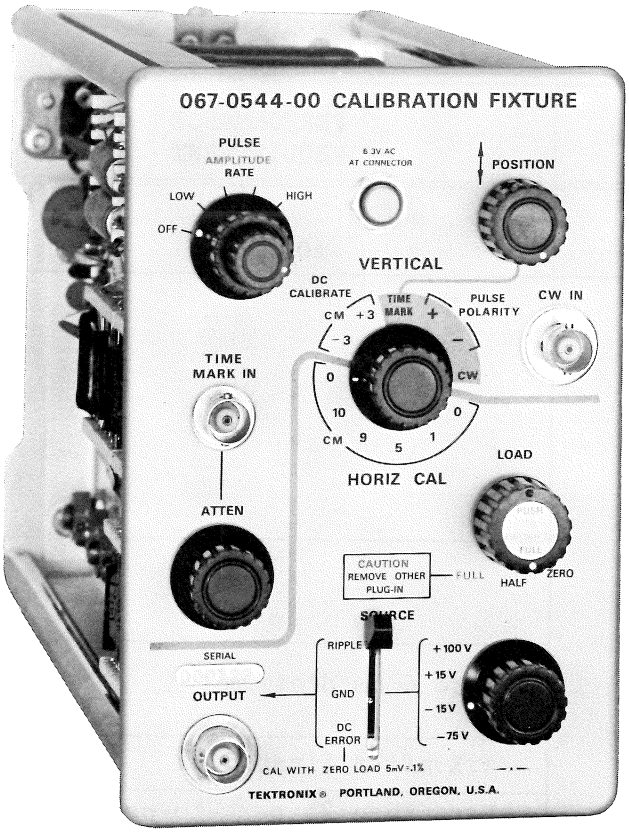


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0541-00				An Input Time Constant Normalizer for signal inputs having a nominal 1 megohm x 47 pF input RC time constant and having BNC connectors.

DATA SHEET NO.
062-0837-00
APRIL 1967

067-0544-00 CALIBRATION FIXTURE

TEST LOAD UNIT



The 067-0544-00 Test Unit is a calibration aid for the Type 647A or Type RM647A Oscilloscope. The unit is designed to calibrate and standardize both the vertical and horizontal circuitry of the Type 647A. The 067-0544-00 aids in setting the oscilloscope: (1) power supply voltages, (2) horizontal amplifier gain, (3) vertical amplifier gain, and (4) vertical amplifier transient response and bandwidth. The 067-0544-00 aids in checking: (1) regulation of the power supplies at the different load conditions, and (2) power supply ripple. In addition, an external time-mark signal may be applied to the 067-0544-00 for calibrating or checking the sweep rates of the time-base unit used with the Type 647A.

CHARACTERISTICS

VERTICAL

CHARACTERISTIC	PERFORMANCE REQUIREMENT	SUPPLEMENTAL INFORMATION
DC CALIBRATE Accuracy	±0.7%	
PULSER		
Repetition Rates		Approximately 2 Hz Low 700 Hz 70 kHz 650 kHz High
Risetime		Typically less than 2.0 ns
Amplitude	0 to 6 cm Minimum	Continuously variable
Flatness	±1% after first 5 ns	
Ringing and Overshoot	Less than 2% peak-to-peak at 5cm Amplitude	
TIME MARK INPUT		
Deflection Factor	Less than or equal to 250 mV/cm from 50 kHz to 50 MHz	
Maximum Input Voltage		10 volts
CW INPUT		
Deflection Factor	At least 3 cm with 2.5 volts peak-to-peak input	
Flatness	Down not more than 5% at 150 MHz	
POSITION		
Control range	At least ±3 cm	

HORIZONTAL

CHARACTERISTIC	PERFORMANCE REQUIREMENT	SUPPLEMENTAL INFORMATION
HORIZONTAL CAL		
Accuracy	±0.3%	
POWER SUPPLY		
DC Error Sensitivity	5 mV per 0.1% Error	
Accuracy	±0.25% Absolute	

MECHANICAL

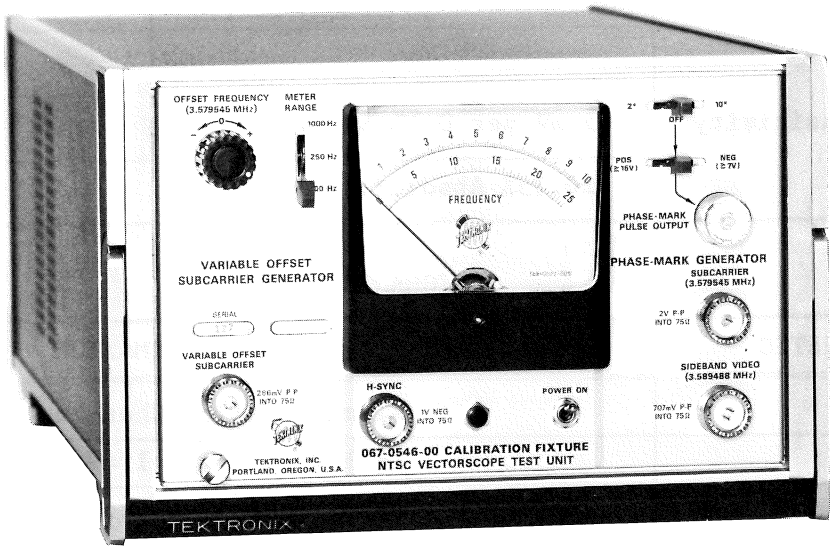
CHARACTERISTIC	INFORMATION
CONSTRUCTION	Aluminum Alloy Chassis, Panel
DIMENSIONS	14 1/2" (L) x 6 1/4" (H) x 4 1/4" (W)
WEIGHT	Approximately 4 pounds, 10 ounces

ENVIRONMENTAL

CHARACTERISTIC	INFORMATION
NON OPERATING	Meets all environmental specifications of the Type 647A Oscilloscope
OPERATING	Calibration accuracy specifications apply within a temperature range of +15°C to +35°C

CALIBRATION FIXTURE

067-0546-00 NTSC Vectorscope Test Unit



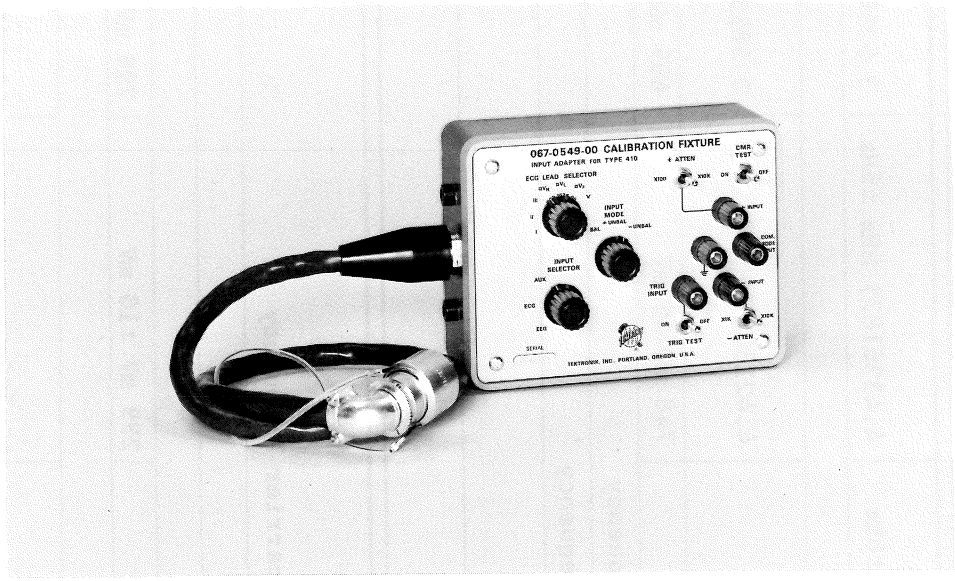
The Vectorscope Test Unit provides signals used to verify the calibration of Tektronix vectorscopes. The unit consists of three generators: a Variable Offset Subcarrier Generator, a Phase-Mark Generator, and a Horizontal Sync Generator. The Variable Offset Subcarrier Generator is used for checking the pull-in frequency range of the subcarrier regenerator in the vectorscope. The Phase-Mark Generator provides 2-degree or 10-degree phase markers referenced to the demodulated sideband video signal for checking phase accuracy. The Horizontal Sync Generator provides a suitable signal for synchronizing vectorscopes.

CHARACTERISTICS OF VECTORSCOPE TEST UNITS

	067-0546-00 For Type 520 NTSC Vectorscope	067-0570-00 For Type 520 MOD 188M Vectorscope	067-0570-01 For Type 521 (formerly 520 MOD 188P) PAL Vectorscope	067-0604-00 For Type 522 PAL Vectorscope
PHASE-MARK GENERATOR Subcarrier Frequency	3.579545 MHz ±6Hz	4.43361875 MHz ±6Hz	4.43361875 MHz ±6Hz	3.57561149 MHz ±6Hz
Amplitude Into 75Ω	2 V P-P			
Sideband Video Frequency Phase Locked to Subcarrier	3.589488 MHz	4.421303 MHz	4.421303 MHz	3.58554374 MHz
Amplitude Into 75Ω	707 mV ±5 mV	669 mV ±5 mV	748 mV ±5 mV	699 mV ±5 mV
Phase-Markers 2°	1/2 Subcarrier Frequency			
10°	1/10 Subcarrier Frequency			
Pos Amplitude Into 10 kΩ	At least 15 V			
Neg Amplitude Into 10 kΩ	At least 7 V			
VARIABLE OFFSET SUBCARRIER Frequency Range	At least ±1 kHz from Subcarrier Frequency			
Residual FM Deviation	10° maximum			
Residual FM Rate	10 Hz maximum			
Amplitude Into 75Ω	286 mV ±10 mV	299 mV ±10 mV	299 mV ±10 mV	299 mV ±10 mV
Meter Accuracy	±3% of Full Scale			
H-SYNC Generator Frequency Phase-locked to Subcarrier	15,734 Hz	15,625 Hz	15,625 Hz	15,734 Hz
Amplitude Into 75Ω	1 V			

067-0549-00 CALIBRATION FIXTURE

Type 410 Input Adapter



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0549-00				When used in conjunction with standard electronic signal generators, the Input Adapter for the Type 410 makes it easily possible to apply all input signals required to check the electrical performance of the Type 410 Physiological Monitor. The Input Adapter contains various switches, networks and connectors to conveniently test such characteristics as triggering, vertical size calibration, common mode rejection, AUX power voltage, and to adapt to all combinations of input connections. The construction of the Input Adapter is such that all input wiring is guarded by applying the "bootstrap" signal from the Type 410 to cable shields and to an inner case. Thus, tests of Common Mode Rejection are performed in the same environment as recommended usage of the Type 410 dictates.

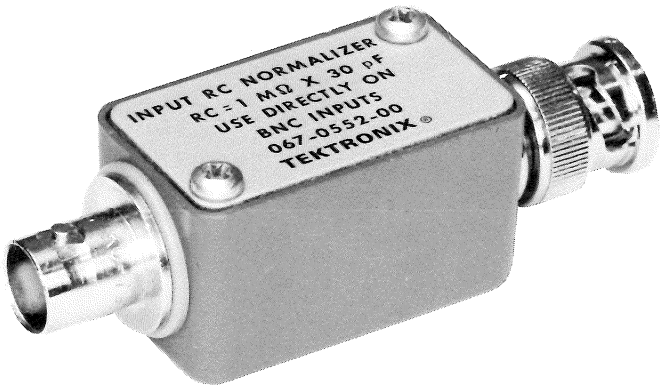
DATA SHEET

NO. 062-0933-00

DATE Oct. 1968(R)

067-0552-00 CALIBRATION FIXTURE

Input Normalizer 30 pF (BNC)

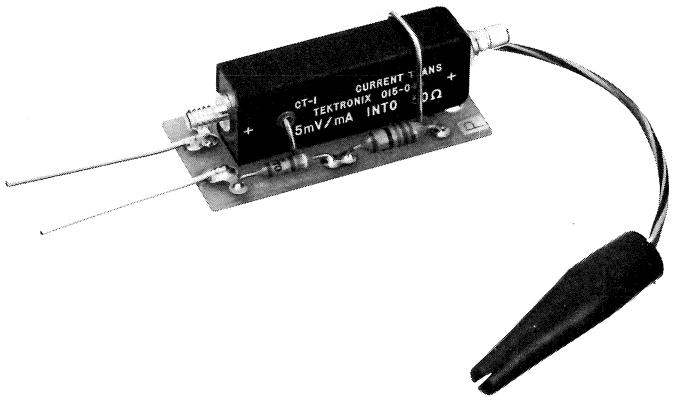


REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0552-00				An Input RC Time Constant Normalizer for signal inputs having nominal 1 megohm x 30 pF input RC time constant and having BNC connectors.

DATA SHEET NO.
062-0859-00
May 1967

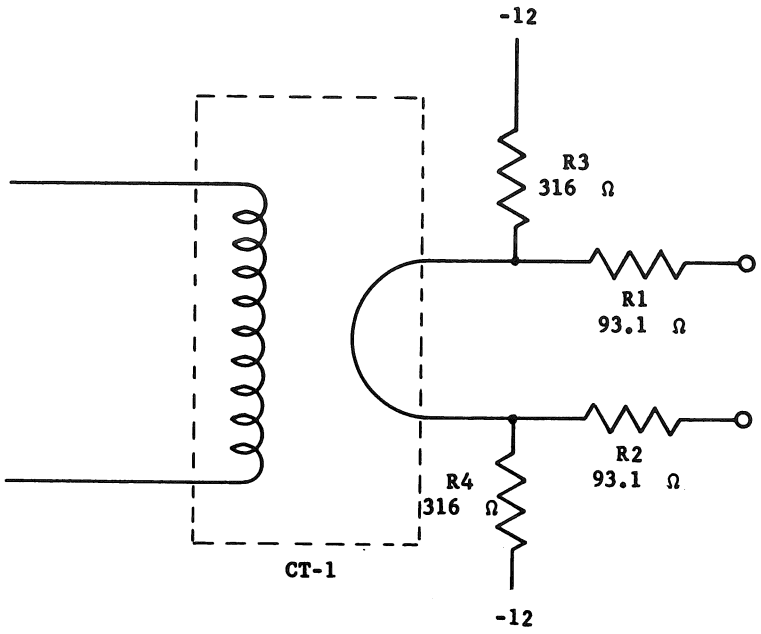
067-0553-00 CALIBRATION FIXTURE

Signal Insertion Unit



The 067-0553-00 is an insertion unit for use in the Type 454 Oscilloscope. This enables the Calibrator to insert a fast ns signal between the preamplifier and the delay line. Making possible the adjustment of the main amplifier before the preamp is adjusted.

A P6040 Probe (010-0133-00) is also necessary as a means of applying a signal to the insertion unit.



Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description		
			Resistors			
R1	321-0094-00		93.1 Ω	1/8 W	Prec	1%
R2	321-0094-00		93.1 Ω	1/8 W	Prec	1%
R3	322-0145-00		316 Ω	1/4 W	Prec	1%
R4	322-0145-00		316 Ω	1/4 W	Prec	1%

067-0554-00 CALIBRATION FIXTURE

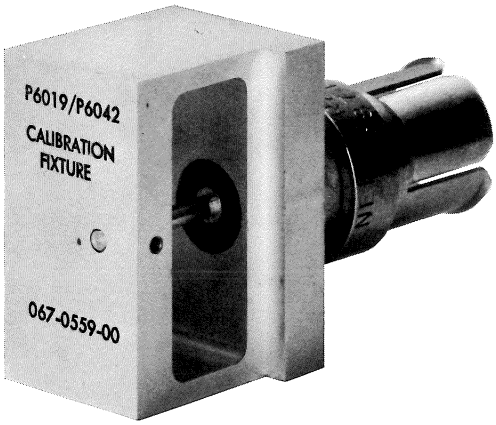
Tunnel Diode Pulser

The 067-0554-00 Tunnel Diode Pulser provides a fast-rise pulse for adjusting the transient response of high-frequency units such as the Tektronix Types 82, 86, 10A2A and 453.

The 067-0554-00 must be driven by a +100 volt square pulse such as a 1 kHz amplitude calibrator signal available from most Tektronix oscilloscopes. A Tektronix Type 105 Squarewave Generator should be used only at repetition rates of 1 kHz and higher. Higher repetition rates will provide a brighter CRT display when fast sweep rates are used.

067-0559-00 CALIBRATION FIXTURE

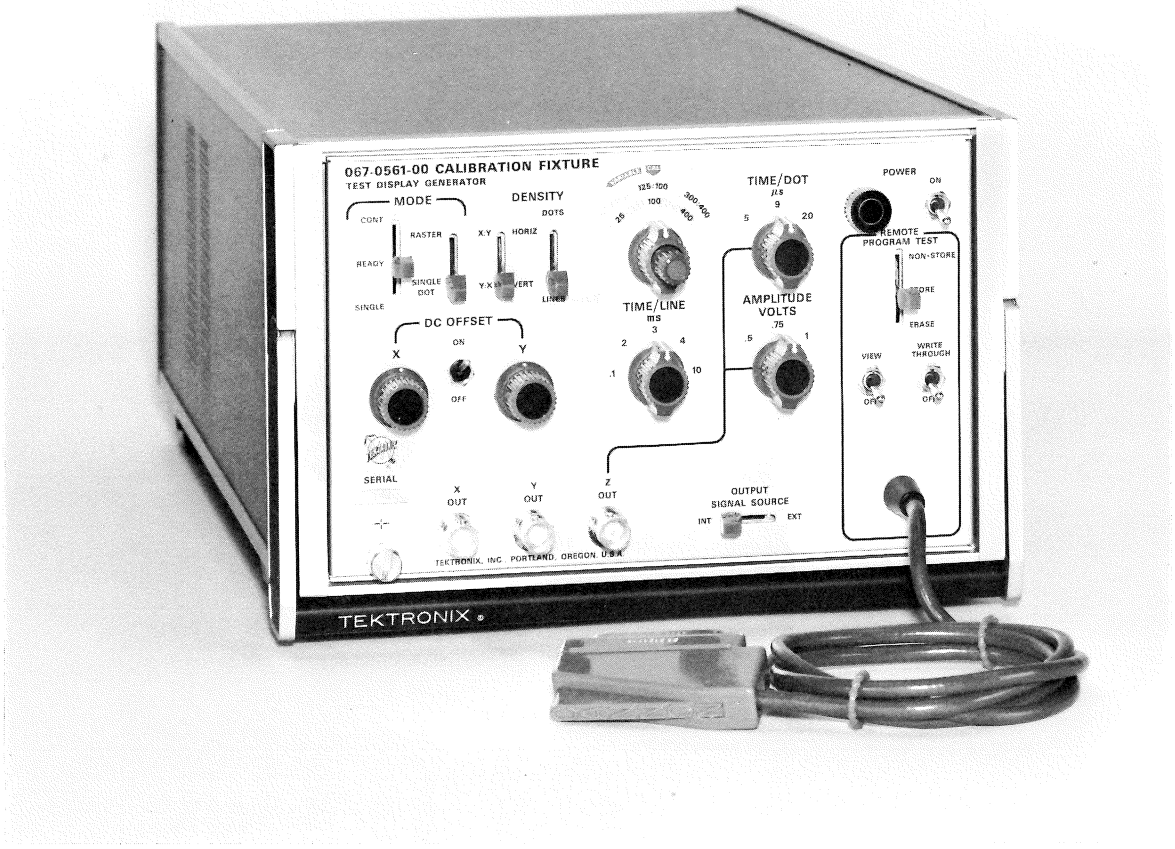
P6019/P6042 High Frequency Current Test Fixture



This High Frequency Current Test Fixture is a 50 Ω termination and current source for calibration of the P6019/P6042 Current Probes. This device is connected to a 50 Ω generator (109, 106) to terminate it in 50 Ω. The current loop is in series with the termination on the grounded side.

067-0561-00 CALIBRATION FIXTURE

Test Display Generator



INTRODUCTION

The TEKTRONIX Type 067-0561-00 CALIBRATION FIXTURE TEST DISPLAY GENERATOR is a ramp/staircase generator used for testing storage monitors such as the Tektronix Type 601 and 611.

X, Y, and Z output connectors on the front panel of the Generator provide horizontal, vertical, and blanking signals to the respective inputs of the Storage Monitor under test. When operated in the raster mode, the signal at the X output consists of either a zero-to-one-volt linear ramp or a zero-to-one-volt linear staircase depending upon whether lines or dots are selected. The signal at the Y output consists of a linear staircase. The Z output provides the unblanking signal that allows the display to be presented (X and Y signals are blanked during retrace and step shifting).

A CONT-READY-SIGNAL switch selects either continuous or signal-mode operation. The RASTER-SINGLE DOT switch selects either a raster or a single dot. When this switch is in the SINGLE DOT position, all DENSITY controls are inoperative. Four switches are grouped under the DENSITY heading. These include DOTS--LINES, X:Y or HORIZONTAL -- Y:X or VERTICAL, DENSITY (selector), and VARIABLE.

When the DOTS-LINES switch is in the LINES position, the X:Y or HORIZ -- Y:X or VERT switch selects either a horizontal or vertical display. The density selector switch provides 25, 100, or 400 calibrated lines.

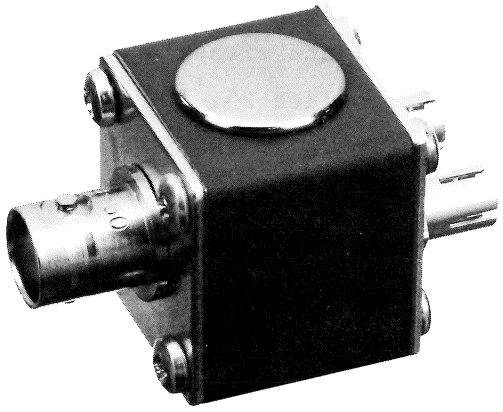
When the DOTS-LINES switch is in the DOTS position, the X:Y or HORIZ-- Y:X or VERT switch selects either X:Y or Y:X, with X representing the number of dots along the X axis and Y representing the number of dots along the Y axis. The density selector switch provides either 125 by 100 or 300 by 400 calibrated dots. A VARIABLE control continously varies the number of dots or lines to less than 60% of their calibrated value. Continuously variable DC offset signals of -1 volt to +1 volt are added to the X and Y signal independently when the DC OFFSET switch is on.

When the DOTS-LINES switch is in the DOTS position, Z-output pulse widths of 5, 9, or 20 μs/dot can be selected using the TIME/DOT switch. Pulse amplitudes of 0.5, 0.75, or 1.0 volt are selected using the AMPLITUDE switch. When the DOTS-LINES switch is in the LINES position, a TIME/LINE switch provides 0.1, 2, 3, 4, or 10 ms/line.

Internal or External signals are selected using the OUTPUT SIGNAL SOURCE switch. In the Internal position, the switch couples the internally generated X, Y and Z signals to the appropriate output connectors on the front panel. In the External position, the output connectors are coupled to X, Y, and Z auxiliary input connectors on the rear panel of the instrument. STORE, ERASE, VIEW, and WRITE THROUGH signals for testing the remote control functions of the Storage Monitor are connected to a 25-pin male connector at the end of a 4-foot cable attached to the front panel. This cable also supplies the same X, Y, and Z signals available at the front panel output connectors. A 115/230 VAC switch on the rear panel selects either 115 VAC or 230 VAC line operation.

067-0562-00 CALIBRATION FIXTURE

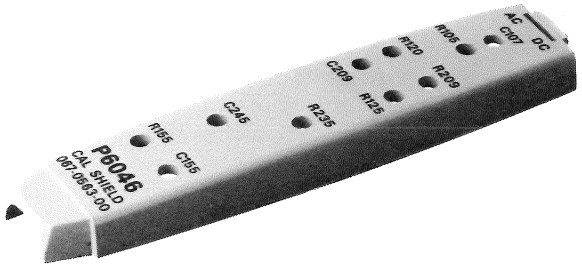
P6046 Input Adapter



The 067-0562-00 P6046 Input Adapter is a device which connects the P6046 dual input tips together to the center conductor of a BNC connector. Mechanically, the electrical length of both inputs is made equal. This achieves high-frequency signal cancellation during the 50 MHz 1000:1 common mode rejection calibration adjustments.

067-0563-00 CALIBRATION FIXTURE

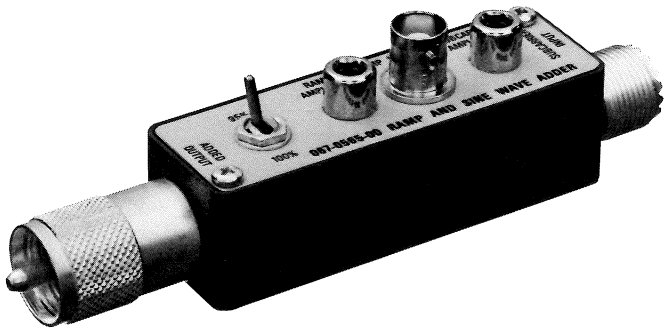
P6046 Calibration Shield



The 067-0563-00 P6046 Calibration Shield is a P6046 cover with perforations to reach the calibration adjustments. The cover aids in simulating the total enclosure of the original cover while setting the high frequency adjustments.

067-0565-00 CALIBRATION FIXTURE

Ramp and Sine Wave Adder



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0565-00				The 067-0565-00 Calibration Fixture, Ramp and Sine Wave Adder is designed to calibrate the 520 NTSC and 520 PAL Vectorscopes for differential gain and differential phase error. It also provides a 5% attenuator for checking gain accuracy of the vectorscopes in the Differential Gain Mode. Sine Wave Input: Requires 2 volts of CW from sub-carrier output of 067-0546-00 at either 3.579545 or 4.433619 MHz. Ramp Input: Requires 100 V to 150 V ramp with a period of 65 μs such as sweep output from 547 to 556. Added Output: Ramp output adjustable from 0.7 to 1.4 volts and sine wave component adjustable from 70 mV to 200 mV into a 75 Ω load. Five percent attenuation of both components provided in 95% mode.

DATA SHEET

NO. 062-0932-00

DATE APRIL 1968

067-0569-00 CALIBRATION FIXTURE

Sweep Attenuator

REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	067-0569-00				An adjustable attenuator capable of attenuating a sweep sawtooth waveform to one volt amplitude. Usable in calibration of storage monitors, such as Types 601, 611 and display monitor Type 602. Provides function of sweeping the X and Y input amplifiers to adjust collimation, flood gun grids, focus, astigmatism, tilt, lean, geometry and gain.

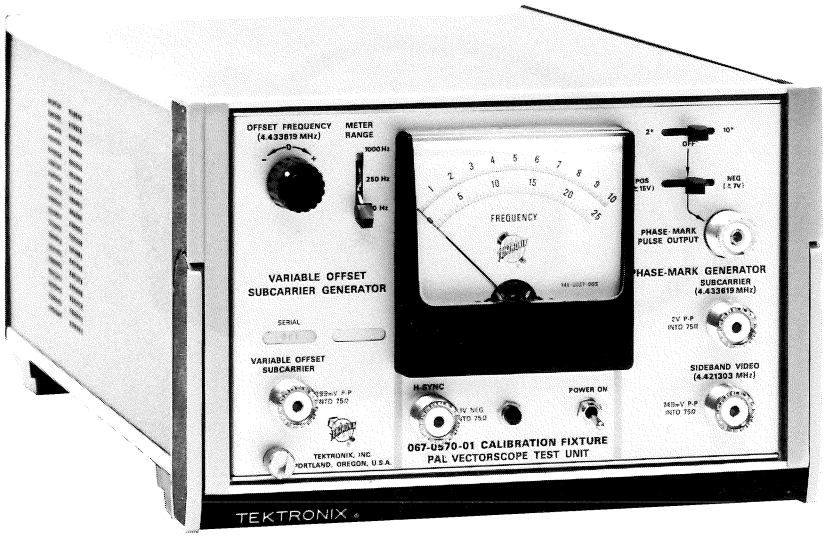
DATA SHEET

NO. 062-0968-00

DATE JUNE 1968

067-0570-01 CALIBRATION FIXTURE

PAL Vectorscope Test Unit



The Vectorscope Test Unit provides signals used to verify the calibration of Tektronix vectorscopes. The unit consists of three generators: a Variable Offset Subcarrier Generator, a Phase-Mark Generator, and a Horizontal Sync Generator. The Variable Offset Subcarrier Generator is used for checking the pull-in frequency range of the subcarrier regenerator in the vectorscope. The Phase-Mark Generator provides 2-degree or 10-degree phase markers referenced to the demodulated sideband video signal for checking phase accuracy. The Horizontal Sync Generator provides a suitable signal for synchronizing vectorscopes.

CHARACTERISTICS OF VECTORSCOPE TEST UNITS

	067-0546-00 For Type 520 NTSC Vectorscope	067-0570-00 For Type 520 MOD 188M Vectorscope	067-0570-01 For Type 521 (formerly 520 MOD 188P) PAL Vectorscope	067-0604-00 For Type 522 PAL Vectorscope
PHASE-MARK GENERATOR Subcarrier Frequency	3.579545 MHz ±6Hz	4.43361875 MHz ±6Hz	4.43361875 MHz ±6Hz	3.57561149 MHz ±6Hz
Amplitude Into 75Ω	2 V P-P			
Sideband Video Frequency Phase Locked to Subcarrier	3.589488 MHz	4.421303 MHz	4.421303 MHz	3.58554374 MHz
Amplitude Into 75Ω	707 mV ±5 mV	669 mV ±5 mV	748 mV ±5 mV	699 mV ±5 mV
Phase-Markers 2°	1/2 Subcarrier Frequency			
10°	1/10 Subcarrier Frequency			
Pos Amplitude Into 10 kΩ	At least 15 V			
Neg Amplitude Into 10 kΩ	At least 7 V			
VARIABLE OFFSET SUBCARRIER Frequency Range	At least ±1 kHz from Subcarrier Frequency			
Residual FM Deviation	10° maximum			
Residual FM Rate	10 Hz maximum			
Amplitude Into 75Ω	286 mV ±10 mV	299 mV ±10 mV	299 mV ±10 mV	299 mV ±10 mV
Meter Accuracy	±3% of Full Scale			
H-SYNC Generator Frequency Phase-locked to Subcarrier	15,734 Hz	15,625 Hz	15,625 Hz	15,734 Hz
Amplitude Into 75Ω	1 V			

067-0571-00 CALIBRATION FIXTURE

323 Calibration Shield

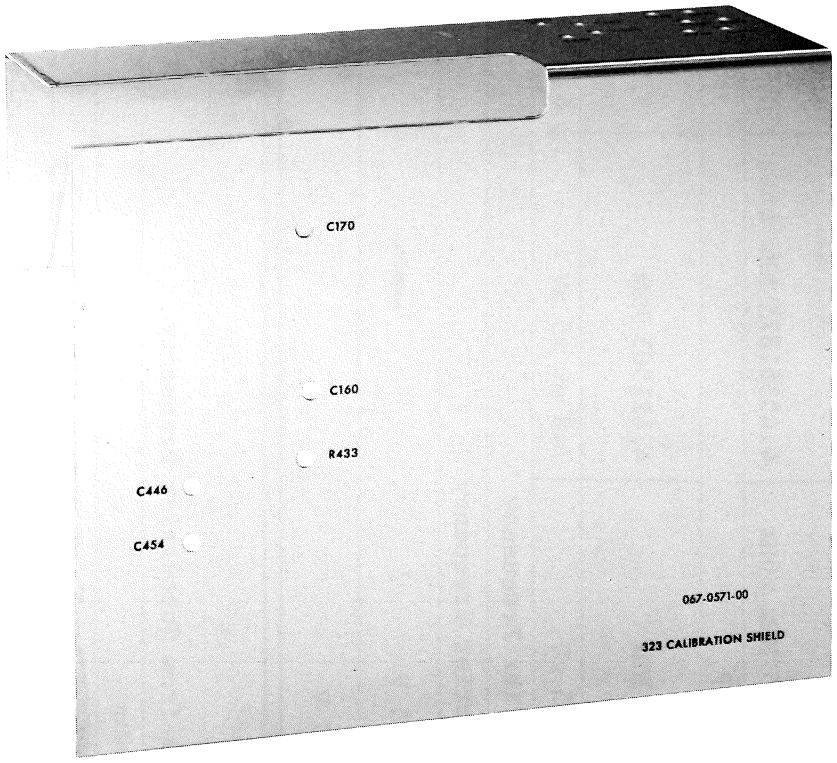


Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Serial/Model No. Disc	Qty	1 2 3 4 5	Description
	067-0571-00					This Calibration Shield for the Type 323 is an aluminum cover which simulates the shielding of the instrument case while performing the vertical and horizontal calibration adjustments.

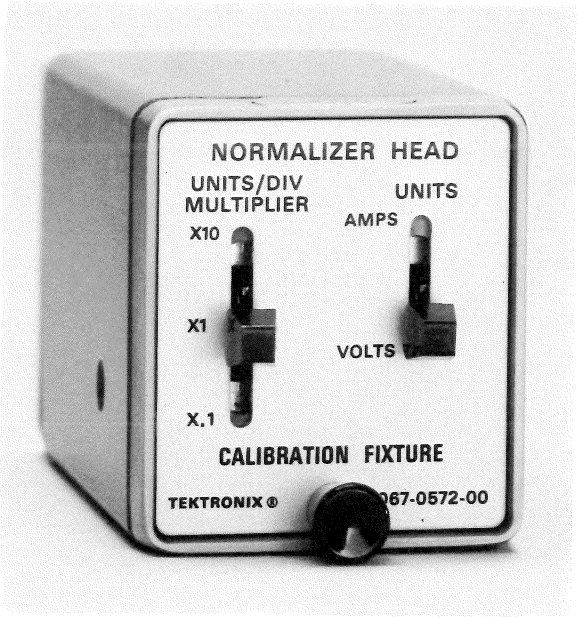
DATA SHEET

NO. 062-1073-00

DATE FEB. 1969

067-0572-00 CALIBRATION FIXTURE

Normalizer Head

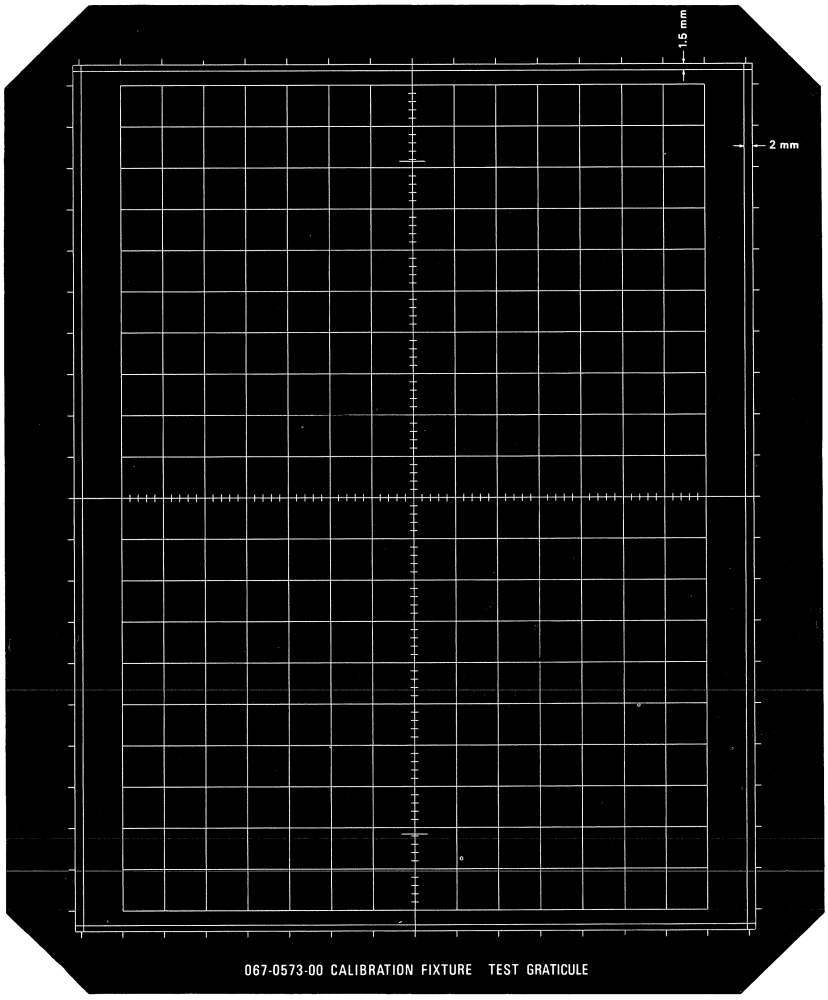


The TEKTRONIX Type 067-0572-00 CALIBRATION FIXTURE is a NORMALIZER HEAD designed for use with all Tektronix vertical sampling plug-in units that utilize sampling heads.

Primarily, the Normalizer is an accurate pulse source used to check or calibrate the memory gain of the sampling unit. Correct adjustment of the memory gain assures unity dot response when different sampling heads are used in the sampling unit. The Normalizer Head is also used to check the readout function of digital units when used in a sampling system with programmable vertical sampling plug-in units. A pulse source is provided for checking the risetime of the plug-in unit trigger amplifier.

067-0573-00 CALIBRATION FIXTURE

Type 611 Calibration Graticule



REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
					The 067-0573-00 Calibration Fixture Graticule, is a graticule for calibration of the Type 611 Storage Monitor. Its lines and grids define the perimeter of the quality area, the display center, and assist in calibrating the yoke alignment, gain, linearity and settling time.

DATA SHEET

NO. 062-0937-00

DATE APRIL 1968

067-0575-00 CALIBRATION FIXTURE

High Pass Filter

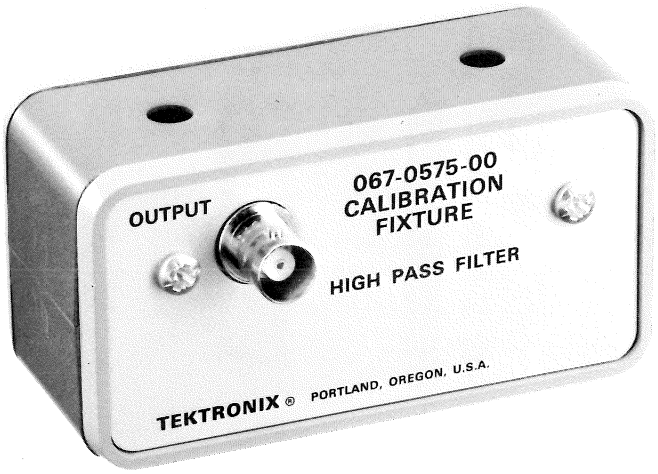


Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Serial/Model No. Disc	Qty	Description
	067-0575-00				The 067-0575-00 Calibration Fixture, High Pass Filter, is used to check the third harmonic distortion of the 015-0107-00 Swept Frequency Converter. The input is provided with banana jacks, the output is BNC. Impedance is 600 Ω. The cutoff frequency is 2.2 MHz with less than 25% loss at 3 MHz.

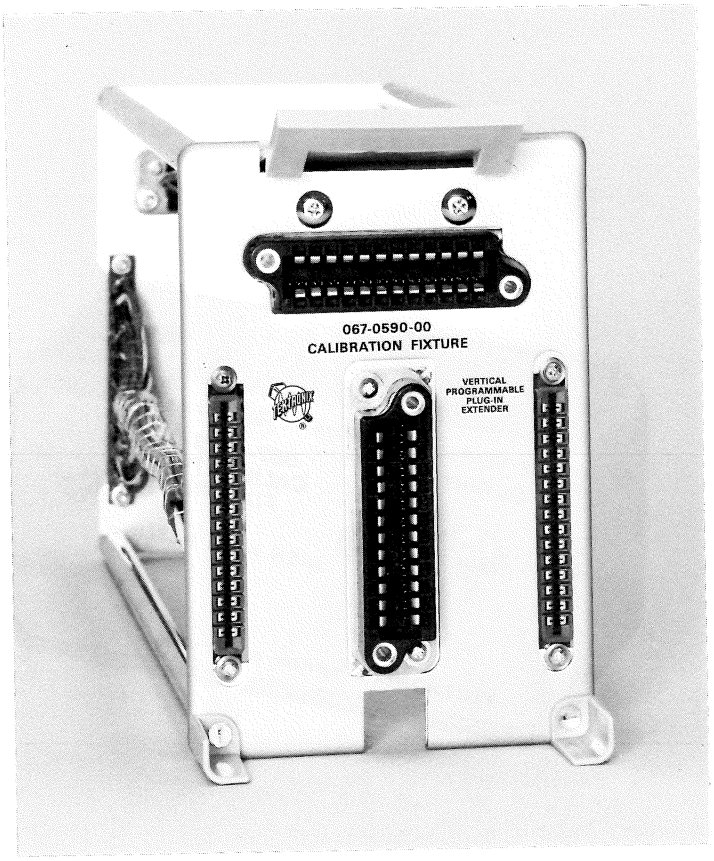
DATA SHEET

NO. 062-0938-00

DATE Oct. 1968

067-0590-00 CALIBRATION FIXTURE

Programmable Vertical Plug-In Extender

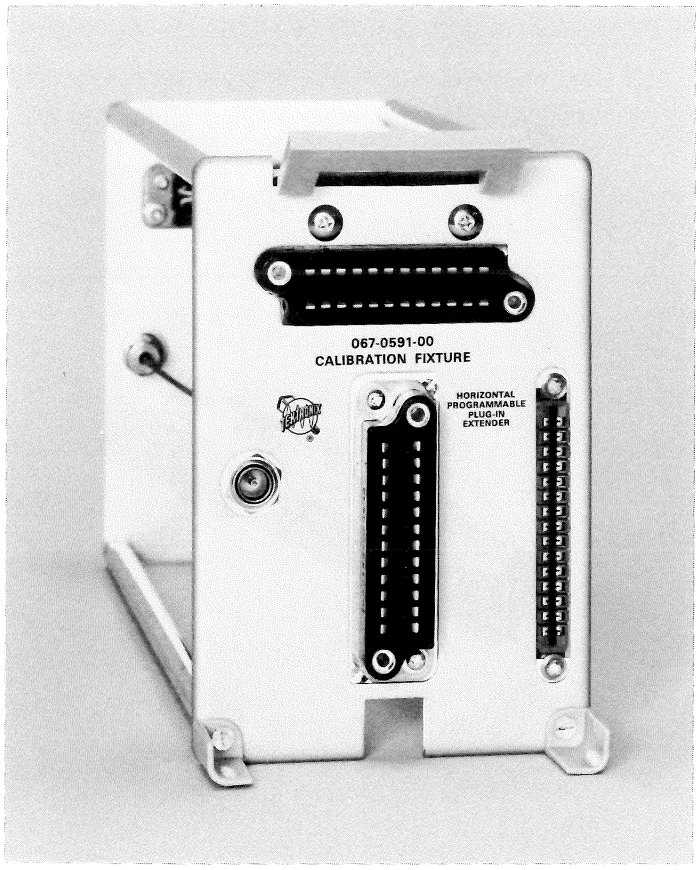


The 067-0590-00 Plug-In Extender is designed primarily for use with the Tektronix Type 568 or R568 Oscilloscope when calibrating or troubleshooting the Type 3S5 or 3S6 Programmable Vertical. The Extender can also be used with the Type 568 or other 560-Series Oscilloscopes to extend digital vertical plug-in units, as well as non-digital vertical and time-base units.

The Extender has a support and locking mechanism on the front panel, thus eliminating the need to externally support the extended plug-in unit. The Extender does not lock into the oscilloscope, therefore rackmount oscilloscopes should not be tilted when the Extender is used.

067-0591-00 CALIBRATION FIXTURE

Programmable Horizontal Plug-In Extender

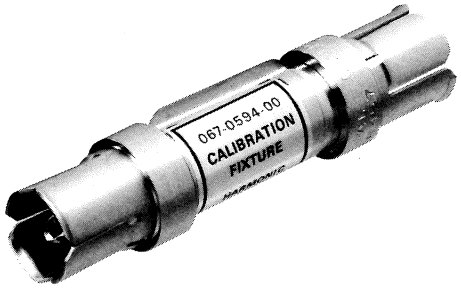


The 067-0591-00 Plug-In Extender is designed primarily for use with the Tektronix Type 568 or R568 Oscilloscope when calibrating or trouble-shooting the Type 3T5 or 3T6 programmable Time Base. The Extender can also be used with the Type 568/R568 or other 560-Series Oscilloscopes to extend digital time-base units, as well as non-digital time base and vertical units. When used with 560-Series Oscilloscopes other than the Type 568/R568, the connector P-23 must be removed from the rear panel or the unit. A holder is provided for storing the connector when not in use.

The Extender has a support and locking mechanism on the front panel, thus eliminating the need to externally support the extended plug-in unit. The Extender does not lock into the oscilloscope, therefore rackmount oscilloscopes should not be tilted when the Extender is used.

067-0594-00 CALIBRATION FIXTURE

Harmonic Generator

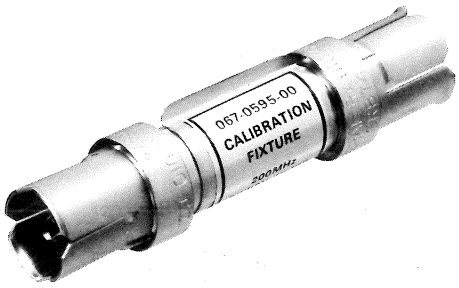


The Tektronix Type 067-0594-00 Calibration Fixture is a Harmonic Generator designed for use (along with Type 067-0595-00 200 MHz Notch Filter) with Tektronix microwave spectrum analyzers.

The Harmonic Generator when used with an accurate frequency source such as the Type 184 Time-mark Generator, provides frequency markers suitable for verifying or calibrating the dispersion (frequency/div) and for checking the RF center frequency dial accuracy of microwave spectrum analyzers. The tunnel diode harmonic generator produces sufficent power so that a relatively low frequency source can be used in the GHz region. A 200 MHz Notch Filter (067-0595-00) is available to reduce IF feedthrough spurious response.

067-0595-00 CALIBRATION FIXTURE

200 MHz Notch Filter

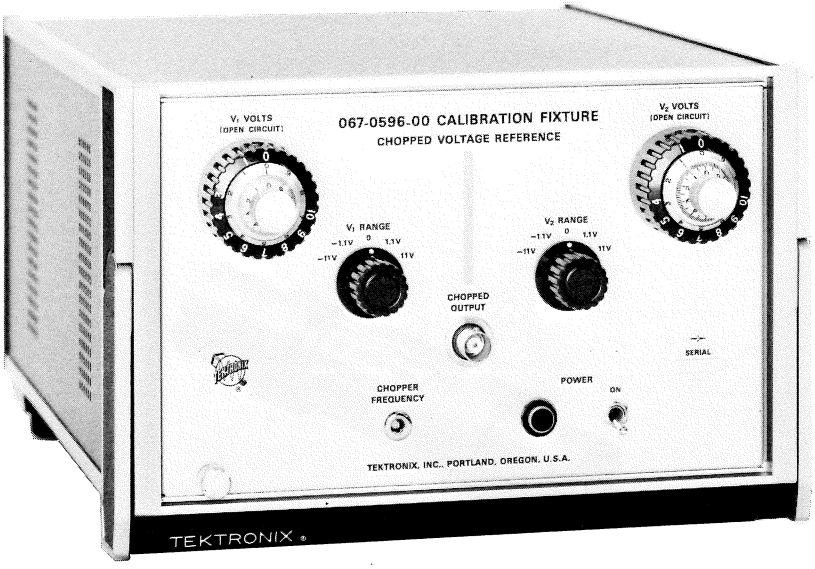


The Tektronix Type 067-0595-00 Calibration Fixture is a 200 MHz Notch Filter designed for use with Type 067-0594-00 Harmonic Generator. These calibration fixtures, together with a time-mark generator provide frequency markers suitable for calibrating microwave spectrum analyzers.

The 200 MHz Notch Filter attenuates the IF feedthrough signal so that the converted signals may be easily observed.

067-0596-00 CALIBRATION FIXTURE

Chopped Voltage Reference



The Chopped Voltage Reference provides two precise voltages for differential amplitude measurements. This calibration fixture is specifically designed for use with the Tektronix Type 1A5 Differential Amplifier in measuring television waveform amplitudes.

The output waveform is derived by mechanically switching between the two precision voltage sources. Using chopped voltages instead of a fixed DC level eliminates long-term level shifts in differential amplifiers usually caused by junction temperature changes.

Because of loading effects of external circuits connected to the Chopped Voltage Reference Output, corrections will have to be used to determine the actual settings of V_1 VOLTS or V_2 VOLTS dials for the desired output voltages.

CHARACTERISTICS

ELECTRICAL

Characteristic	Performance Limits
Chopped Output	
Accuracy	Within 0.2 mV of the indicated V_1 or V_2 VOLTS (OPEN CIRCUIT)
Frequency Range	Less than 15 Hz to greater than 100 Hz. Set to 60 Hz
Noise	Less than 2 mV

POWER REQUIREMENTS

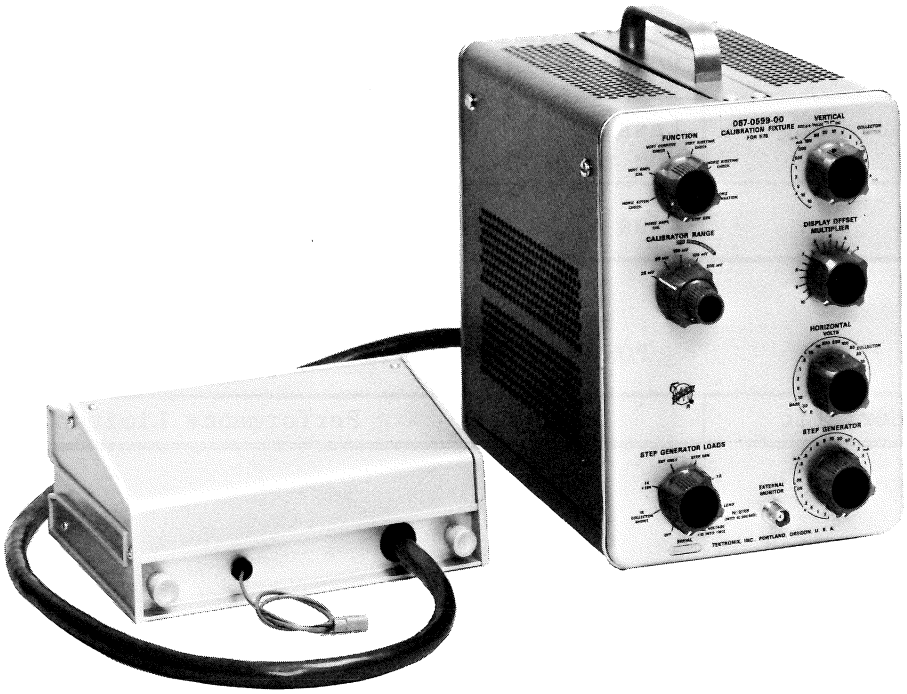
Characteristic	Performance Limits
Line Voltage	
Selector switch on rear panel	
115 VAC	104 to 126 volts RMS
230 VAC	208 to 252 volts RMS
Line Current	0.1 A (maximum) at 115 V, 48 Hz
Power Consumption	4 watts maximum
Line Frequency	48 to 65 Hz
Fuse	
115 VAC	0.2 A Slo Blo
230 VAC	0.1 A Slo Blo

ENVIRONMENTAL

Characteristic	Performance Limits
Temperature	Performance requirements listed apply over a temperature range of 15°C to 35°C
Warm Up Time	5 minutes at 25°C

067-0599-00 CALIBRATION FIXTURE

576 Calibration Unit



The 067-0599-00 Calibration Fixture was designed specifically for calibrating and testing the performance of the 576 Curve Tracer.

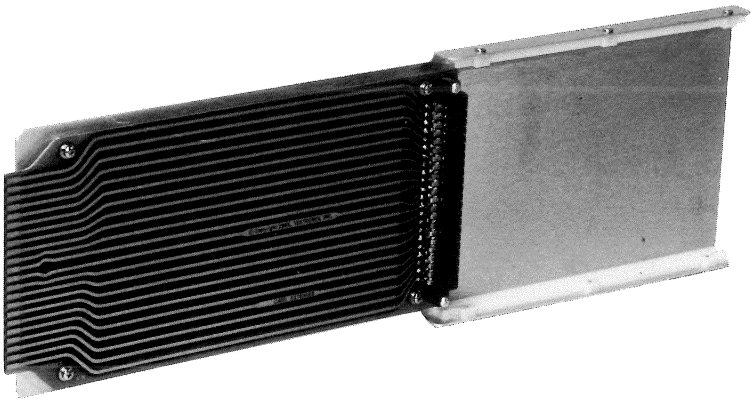
Installed in place of the Standard Test Fixture plug-in, the 067-0599-00 provides accurate calibration voltages and currents for the horizontal and vertical deflection circuits and accurate loads for the collector supply and step generator circuits through the external input and output lines at the test fixture interface. External monitoring of the step generator output is available through an EXTERNAL MONITOR BNC jack providing a 1 V/STEP (into 10,000 MΩ) output.

The Vectical, Display Offset, Horizontal and Step Generator switches of the 576 have matching switches on the 067-0599-00 for easy, direct-reading, comparison-style adjusting and checking, using the 576's own display.

The 067-0599-00 is totally dependent on the 576 for regulated low voltage power supplies and AC line voltage.

067-0603-00 CALIBRATION FIXTURE

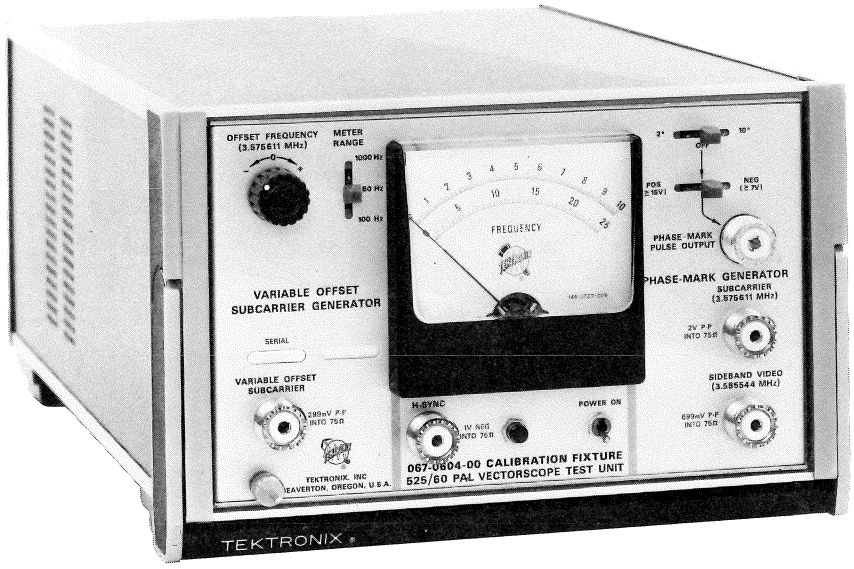
Readout Extender



The TEKTRONIX Type 067-0603-00 CALIBRATION FIXTURE is a READOUT EXTENDER designed for use with the TEKTRONIX Type 576 CURVE TRACER. The Extender provides facility for servicing the readout circuits.

067-0604-00 CALIBRATION FIXTURE

PAL Vectorscope Test Unit



The Vectorscope Test Unit provides signals used to verify the calibration of Tektronix vectorscopes. The unit consists of three generators: a Variable Offset Subcarrier Generator, a Phase-Mark Generator, and a Horizontal Sync Generator. The Variable Offset Subcarrier Generator is used for checking the pull-in frequency range of the subcarrier regenerator in the vectorscope. The Phase-Mark Generator provides 2-degree or 10-degree phase markers referenced to the demodulated sideband video signal for checking phase accuracy. The Horizontal Sync Generator provides a suitable signal for synchronizing vectorscopes.

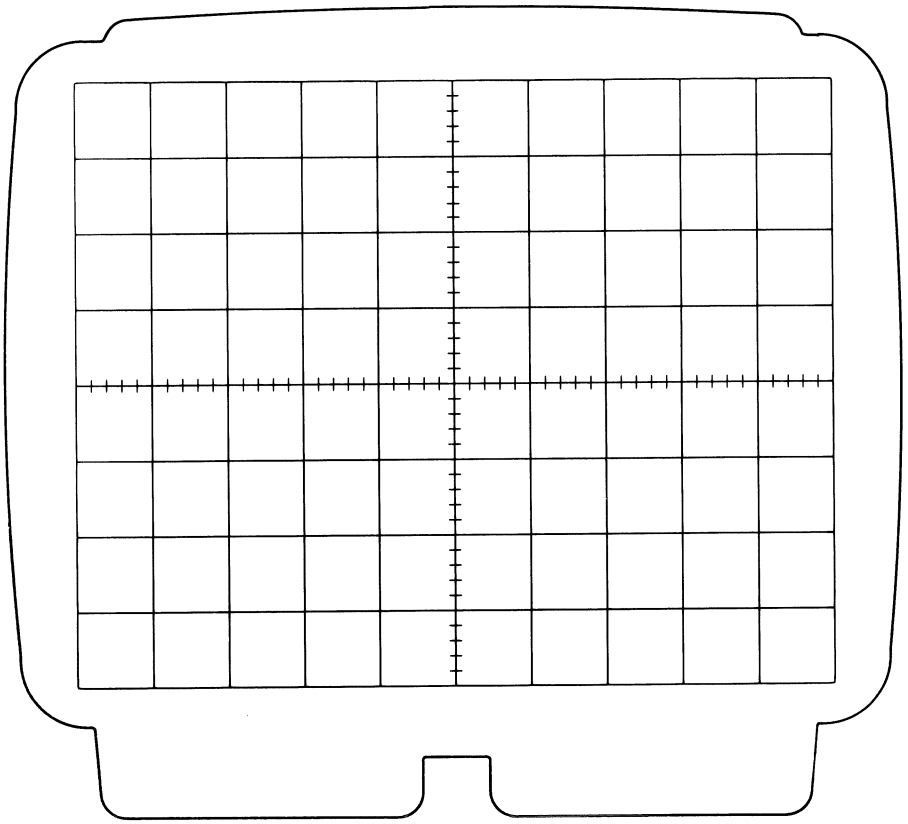
CHARACTERISTICS OF VECTORSCOPE TEST UNITS

	067-0546-00 For Type 520 NTSC Vectorscope	067-0570-00 For Type 520 MOD 188M Vectorscope	067-0570-01 For Type 521 (formerly 520 MOD 188P) PAL Vectorscope	067-0604-00 For Type 522 PAL Vectorscope
PHASE-MARK GENERATOR Subcarrier Frequency	3.579545 MHz ±6Hz	4.43361875 MHz ±6Hz	4.43361875 MHz ±6Hz	3.57561149 MHz ±6Hz
Amplitude Into 75Ω	2 V P-P			
Sideband Video Frequency Phase Locked to Subcarrier	3.589488 MHz	4.421303 MHz	4.421303 MHz	3.58554374 MHz
Amplitude Into 75Ω	707 mV ±5 mV	669 mV ±5 mV	748 mV ±5 mV	699 mV ±5 mV
Phase-Markers 2°	1/2 Subcarrier Frequency			
10°	1/10 Subcarrier Frequency			
Pos Amplitude Into 10 kΩ	At least 15 V			
Neg Amplitude Into 10 kΩ	At least 7 V			
VARIABLE OFFSET SUBCARRIER Frequency Range	At least ±1 kHz from Subcarrier Frequency			
Residual FM Deviation	10° maximum			
Residual FM Rate	10 Hz maximum			
Amplitude Into 75Ω	286 mV ±10 mV	299 mV ±10 mV	299 mV ±10 mV	299 mV ±10 mV
Meter Accuracy	±3% of Full Scale			
H-SYNC Generator Frequency Phase-locked to Subcarrier	15,734 Hz	15,625 Hz	15,625 Hz	15,734 Hz
Amplitude Into 75Ω	1 V			

GRATICULE

8 x 10 cm

(Part No. 331-097)



ACTUAL SIZE

REF. NO.	PART NO.	SERIAL/MODEL NO. EFF.	SERIAL/MODEL NO. DISC.	QTY.	DESCRIPTION
	331-097			1	GRATICULE - SCRIBED, 8 x 10 cm
	- - - -			-	graticule includes:
	331-133			1	GRATICULE - UNSCRIBED, 4 11/16 x 4 1/4 inches

PUBLICATION NO.

062-270
August 1964

Indicated part numbers on this page are now referred to as 331-0097-00 and 331-0133-00

NOTES

NOTES