1 STEP GENERATOR

circuit section XXX.XX page

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
117	R28, changed from a 100k 1/2W resistor, 302-0104-00, to a 100k 2W resistor, 306-0104 00, and R67 changed from a 220k 1/2W resistor, 302-0224-00, to 120k 1/2W resistor, 302-0124-00.	1229	-----	-----	-----
143	R55 was changed from a 47k 1/2W resistor, 302-0473-00, to a 47k 2W resistor, 306-0473-00 to prevent over dissipation.	1236-1	-----	-----	-----
150	R85, the minimum number of Curves Adj potentiometer, was changed from a 100K potentiometer, 311-0026-00, to a 50K potentiometer, 311-0023-00.	1232	-----	-----	-----
155	To insure that the first step of the Step Generator is flat, change the plate resistor of V65 from 4.7K to 10K. At the same time, a divider circuit was added to the grid of Multi CF V75B.	1247	101.01	-----	-----
155	In order to make all steps of the Step Generator flat, it was necessary to change C85 from a 0.01uF 500V Mylar capacitor, 291-0019-00, to a 0.01uF 500V polystyrene capacitor. Part number remains 291-0019-00. (Superseded by M7313).	1248	-----	-----	-----
156	R9 and R39 were changed from 12k 1W resistors, 304-0123-00, to 12k 1/2W resistors, 302-0123-00.	1237-1	-----	-----	-----
336	Excess power dissipation of step generator and +100V series regulator, was corrected by rewiring the POWER-TEST-ON Switch.	1534	101.02	-----	-----
5026	An apparent change in step amplifier sensitivity occurs when switching the GRID-STEP GENERATOR Switch from 120 to 240 STEP/SEC.	1809	101.03	-----	-----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
5170	To prevent line surges and poor waveform from affecting the Step Generator Sync, the Split-Load Phase Inverter was changed to add a low pass filter to the inputs of V8A and V38A.	2222	101.04	-----	-----
5265	Incorrect range of R91, the steps/family adj potentiometer, was corrected by changing R92, from a 10K resistor, 304-0103-00, to a 12K resistor, 304-0123-00.	3193-3	-----	-----	-----
5360	SW90, the SINGLE/FAMILY switch, was changed from a push button with red knob, 260-0138-00, to a push button with black knob, 260-0017-00. The old switch is no longer available.	3837	-----	-----	-----
5510	Voltage rating of C85, a 0.01uF capacitor, was changed from 500V to 300V, and the part number was changed 291-0019-00, to 291-0038-00.	7313	-----	-----	-----
5510	Neons may not fire after they have been subjected to prolonged darkness.	7843	101.05	-----	-----
5570	Slow speed timing error and jitter, were eliminated by adding a low leakage semiconductor diode in series with the Miller tube control grid disconnect diode. (See M11796).	10189	101.06	-----	-----
5600	The addition of a silicon diode in series with the Miller control grid disconnect diode did not totally eliminate the problem, of slow speed timing errors. Further improvement is provided by adding R77, a 22M 1/4W resistor, 316-0226-00, in parallel with the Miller tube control grid disconnect diode, V152.	11796	-----	-----	-----

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page

2 STEP AMPLIFIER

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
143	R117, changed from a 470k 1/2W resistor, 302-0474-00, to a 470k 1W resistor, 304-0474-00, and R150 changed from a 220k 1W resistor, 304-0224-00, to a 220k 2W resistor, 306-0224-00 to prevent over dissipation.	1236-2	-----	-----	-----
209	To insure that grid voltage is always supplied to the tube under test, the Grid-Step Generator Volts/Step switch was changed from a nonshorting to a positive shorting type switch.	1130	102.01	-----	-----
293	Inability to set the first step from the step generator to zero, corrected by adding R111, a 22M 1/2W resistor, 302-0226-00, from the +100V to the junction of R112 and R115. (Grid circuit of V115B).	1433	-----	-----	-----
5510	Neons may not fire after they have been subjected to prolonged darkness.	7843	101.05	-----	-----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
5073	Parasitic oscillations in the Horizontal Input CF, were eliminated by adding R208, a 1k 1/2W resistor, 302-0102-00, in series with the control grid of V215.	1983	-----	-----	-----
5265	Incorrect range of Horizontal Amplifier Gain Adjust potentiometer R229, was corrected by changing R230, from a 33k 1/2W resistor, 302-0333-00, to a 27k 1/2W resistor, 302-0273-00.	3193-2	-----	-----	-----
5360	Incorrect range of Volt/Division calibrate potentiometer, R227, was corrected by adding R226, a selected resistor in parallel with R228. The nominal value is 820k, use 1/4W or 1/2W resistor, as required.	5567	-----	-----	-----

4 VERTICAL AMPLIFIER

circuit section—XXX.XX page

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
209	Incorrect Vertical Gain Adjust potentiometer range, corrected by changing the value of R277, from 33K to 22K, and by changing the value of a series resistor, R278, from 10K to 20K.	1274	104.01	-----	-----
227	To insure proper fusing of the instrument, F255, fails, 5 1/16 Amplifier 3AG Fast-Blo fuses, 159-0024-00, will be shipped with the standard accessories.	1275	-----	-----	-----
352	VERTICAL MA/DIV Switch resistors in the four highest current ranges changed from carbon type resistors to mica plate resistors. Superseded by Mod 1695.	1480	104.02	-----	-----
5002	R260, changed from a 50Ω 1/2W 1% resistor, 309-0128-00, to a 50Ω 8W mica plate resistor, 310-0542-00.	1694	-----	-----	-----
5051	Resistors on the four top ranges of the VERT MA/DIV Switch, were changed to mica plate type resistors.	1695	104.03 104.04	----- 0.5h	Included In 050-0164-00
5060	R261, the 2ma/div resistor on the VERT MA/DIV Switch, was changed from a 30Ω 3W 1% wire wound resistor, 308-0074-00, to a 30Ω 1/2W 1% mica plate resistor, 310-0540-00.	1691	-----	-----	-----
5200	The information of the front panel does not agree with the wiring schematic with regards to the 1/16 amp fuse. The MA/DIV Switch was rewired to remove the 1MA position from the fuse circuit.	2380	-----	-----	-----
5358	Low gain of the Vertical Amplifier, was corrected by changing R272, from a 910K resistor, 301-0914-00, to a 1M resistor, 301-0105-00, and by changing R275, from a 1M resistor, 309-0014-00, to a 1.2M resistor, 309-0149-00.	5108	-----	-----	-----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
	NONE				

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
141	Insufficient range of Current Balance Adjust capacitor, C315, corrected by relocating C315 and adding C316.	1230	106.01	----	----
143	R357, was changed from a 27k 1W resistor, 304-0273-00, to a 27k 2W resistor, 306-0273-00 to prevent over dissipation.	1236-3	----	----	----
156	R356, was changed from an 82k 1W resistor, 304-0823-00, to an 82k 1/2W resistor, 302-0823-00.	1237-2	----	----	----
292	500K and 1M 'SERIES LOAD' resistors, are out of tolerance due to the shunting of 10M attenuator resistor in the grid circuit of the Horizontal Input Cathode Follower. R329 and R330, were changed in value to compensate for the shunt resistor.	1397	106.02	----	----
None	V350 and V351, changed from 1N34A type diode, to T12G type diode. Part number remains 158-0001-00. See M2370.	1669	----	----	-----
5073	DC Voltmeter changed to an improved type. (Superseded by M2079).	1925	106.03	----	----
5121	Voltmeter changed from a 200μAmp movement type to a 1MA movement type to improve accuracy and reliability. See Mod 2266.	2079	106.04 106.05	---- 2.0h	Included In 050-0001-00
5180	The 0 to -100V power supply will not adjust to -100V, after M2079 corrected by changing R356 from an 18K resistor, 302-0183-00, to a 15K resistor, 302-0153-00.	2266	---- 106.05	---- 2.0h	Included In 050-0001-00
None	The T12G germanium diode is placed in the semiconductor category in the part number book. Part number of D350 and D351, changed from 158-0001-00, to 152-0008-00.	2370	----	----	----
5550	The part number of the 1Ma meter was changed from 149-0017-00, to 149-0023-00. Use of the new meter requires changing the meter mounting layout on both the front subpanel and panel.	7410	----	----	----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
215	To facilitate changing from 117V to 234V operation, the fan wiring was changed from connecting to termals 2 and 4 of T401 to connect to terminals 1 and 3 of T501.	1270	----	----	----
218	Insufficient range of R413, the -150V adjust potentiometer, was corrected by changing the value of a series resistor, R414 from 68K, 309-0042-00, to 60K, 309-0041-00.	1279	----	----	----
312	SCALE ILLUM potentiometer, R402, was rewired to allow complete extinguishment of the scal illumination bulb.	1447	107.01	----	----
336	Excess power dissipation of step generator and +100V series regulator, was corrected by rewiring the POWER-TEST-ON Switch.	1534	101.02	-----	----
353	The voltage applied to C484 and C505 at high line voltage was exceeding their voltage rating.	1532	107.02	----	----
381	Under test conditions when an applied external load causes the output of the +400 unregulated supply to drop, the +300V supply goes out of regulation. +300V supply regulation is assured by changing the winding of the +300V regulated supply, from 338V to 355V. Part number of the transformer was not changed.	1541	----	----	----
5063	Motor base connector changed to 3-wire type.	1912	107.03	----	----
5063	Motor base connector rewired to eliminate shock hazard at transformer. The 'hot' wire from the motor base connector was color-code and run directly to the power switch.	1934	----	----	----
5159	Shock hazard reduced by changing power supply cable so that all switching, (power switch, thermal cutout, and fuse) takes place in the 'hot' side of the power line.	2015	----	----	----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
None	The wire that connects the 'hot' side of the motor base connector to the end of the fuse, was color-coded to prevent wiring error which could present a shock hazard while replacing the fuse.	7521	----	----	----
None	Electrolytic capacitor assemblies changed to facilitate replacement.	S8959	107.04	----	----
None	To facilitate assembly, the no.22 bare wire that connects pin 9 of V495 to CSK-14, was relocated to CSK-13.	9178-2	----	----	----
5580	The part number of the motor base connector was changed from 131-0102-00, to 131-0102-01.	9271	----	----	----
5600	Inadequate ground connection between power cord and instrument motor base corrected by adding a ground spring to the non-current carrying ground receptacle.	11292	---- 107.05	----- 0.3h	Included In 040-0424-01

8 FLOATING POWER SUPPLY

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
199	Insufficient range of current balance capacitors corrected by changing C502 and C509, from 1.5-7pF capacitors, 281-0005-00, to 7-45pF capacitors, 281-0012-00.	1273	----	----	----
268	Incorrect adjustment range of R540, the +DC variable potentiometer was corrected by changing a series resistor, R541, from 22K, 306-0223-00, to 12K, 304-0123-00.	1369	----	----	----
353	The voltage applied to C484 and C505 at high line voltage was exceeding their voltage rating.	1532	107.02	----	---
365	C505, an 80µF capacitor in the +400V unregulated supply holds a charge for a long time after the power is turned off, and is a shock hazard. To remove the shock hazard, a 330K resistor, R505, 304-0334-00, was installed across C505.	1571	----	----	----
366	The part number of C506, a 2 X 40uF, 450V capacitor, 290-0042-00, was changed to a single section 80uF, 500V capacitor, 290-0057-00, to standardize usage of filter capacitors.	1563	----	----	----
5084	V540, a voltage setting CF, in the floating power supply was changed from a 12BZ7, 154-0048-00, to 12AT7, 154-0039-00, to eliminate grid current flow when the VARIABLE DC voltage control is turned to the low end.	1984	----	----	----
5360	Calibration of the Floating Power Supply, is simplified by adding a selected resistor, R537, in parallel with R536 a resistor in the voltage divider in the series regulator circuit. The nominal value of R537 is 10M ohm. Use 1/4 or 1/2W resistor as required.	5264	----	----	----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
5510	Neons may not fire after they have been subjected to prolonged darkness.	7843	101.05	-----	----
5530	The +DC variable power supply range was increased by changing R541 from a 12K resistor, 304-0123-00, to a selected resistor with a nominal value of 8.2K, 304-0822-00.	9178-1	----	----	----

EFF. SN. S.M*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
237	Waveform distortion due to the influence of the voltmeters magnetic field on the CRT trace was eliminated by rotating the CRT shield 180°.	1342	109.01	-----	-----
312	SCALE ILLUM potentiometer, R402, was rewired to allow complete extinguishment of the scale illumination bulb.	1447	107.01	-----	-----
312	Trace blooming at high 'INTENSITY' levels due to an abnormal increase in CRT anode circuit, prevented by adding R652, a 27K resistor, 302-0273-00, in series with CRT cathode pin 2.	1462	-----	-----	---
354	To prevent exceeding the voltage rating of C610, a 0.047uF 400V capacitor, 285-0519-00, at high line voltage C610 was changed to a 0.047uF 600V capacitor, 285-0520-00.	1535	-----	-----	-----
375	CRT blooming at high intensity was eliminated by changing the turns ratio of the HV oscillator transformer. As an interim measure, R640, a 27K resistor, 302-0273-00, in series with V631 cathode, was removed. R640 was removed beginning with SN 354.	1536	-----	-----	-----
381	To provide an easier method of rotating the CRT, a molded nylon rotating ring has been fitted to the CRT socket. Part number of the rotating ring, is 354-0062-00. For field replacement order PN 354-0064-00.	1611	-----	-----	-----
5024	The CRT anode connector was changed to an improved type.	1659	109.02	-----	-----
5200	To permit easier and more precise CRT rotation, the CRT mounting bracket was redesigned and a rotator added.	2348	109.03	-----	-----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
5215	HV oil-filled capacitors were replaced due to high reject rate.	2843	109.04	-----	-----
5215	C641, was changed from a HV oil-filled capacitor, to a ceramic capacitor due to high reject rate.	2894	109.05	-----	-----
None	Part number of CRT light filter, changed from 378-0503-00, to 378-0514-00.	3028	-----	-----	-----
5265	Oscillations in the HV regulator circuit were eliminated by adding C624, a 0.01µF 500V capacitor, 283-0002-00, from the grid pin 2 of V605 to ground.	3193-1	-----	-----	-----
None	To permit the use of the Tekamera it was necessary to change the INTENSITY potentiometer to one with a 1/4in. shaft, to provide clearance between camera and potentiometer knob. R644 was changed from a 2M potentiometer, 311-0043-00, to 311-0260-00.	3646	-----	-----	-----
5370	Part number of CRT securing ring changed from 354-0078-00, to 354-0178-00. The CRT securing ring was modified to prevent longitudinal slippage of the CRT during shipment.	5400	-----	-----	-----
5510	Neons may not fire after they have been subjected to prolonged darkness.	7843	101.05	-----	-----
5570	CRT filter shape and color standardized.	9022	109.06	-----	-----
5570	Standard CRT phosphor was changed from P1 to P31.	10164	109.07	-----	-----
None	Part number of R644, the FOCUS potentiometer, a 2M composition potentiometer, and R646, the INTENSITY potentiometer, were changed from 311-0043-00, to 311-0043-02.	11639	-----	-----	-----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
291	Jack panel nomenclature changed to include ground symbols.	1290	110.01	----	----
None	Graticule studs were changed to removeable type. The new graticule stud, part number 355-0043-00, can be fastened in place from the back of the subpanel with a 10-32 X 3/8 BHS screw and #10 internal lockwasher.	1570	----	----	----
5001	Instrument cabinet redesigned to improve appearance and to provide improved access to fuses and CRT controls.	1666	110.02	----	----
5054	Part number of left cabinet side changed from 386-0676-00, to 386-0772-00, and part number of right cabinet side changed from 386-0677-00, to 386-0783-00.	1840	----	----	----
5170	Ceramic strips replaced with clip-mounted type to facilitate production.	2203	110.03	----	----
5200	Instrument handle, 367-0001-00, and bar, 381-0082-00, replaced with an improved design. Part number of new handle is 367-0011-00 and bar, 381-0126-00.	2027	----	----	----
None	Nylon posts, part number 385-0074-00, were replaced with Delrin posts, 385-0135-00, to facilitate manufacture and installation.	2397	----	----	----
5215	To obtain a tougher, easier to clean finish, material used for cabinet sides, bottoms, overlays,etc, was changed to textured aluminum.	2545	110.04	----	----
None	Trace oscillations eliminated when observing characteristic curves of high gain tubes, by adding ceramic beads 276-0507-00, adjacent to each pin of the tube socket in the adapter plates.	3507	----	----	----

EFF. SN. S.M.*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
5370	The part number of the ton support bar assembly was changed from 381-0051-00, to 381-0206-00.	3861	-----	-----	-----
5407	The part number of the jack panel was changed from 432-0029-00, to 432-0030-00.	3800	-----	-----	-----
None	POWER ON indicator light was changed to standard green. The light socket assembly with red jewel, 136-0031-00, was replaced with light socket assembly with green jewel 136-0031-01.	12031	-----	-----	-----
None	The bottom cabinet frame was modified to accommodate anti-slide feet.	12380	110.05	-----	-----

EFF. SN. S.M*	DESCRIPTION	MOD. NO.	PAGE	LABOR TIME	KIT NO.
5001-UP	CRADLE MOUNT	----	111.01	1.5h	040-0281-00
5600	3-WIRE POWER CORD FEMALE GROUND CONNECTION IMPROVEMENT	11292	107.05	0.3h	040-0424-01
101-5120	METER	2079/2266	106.05	2.0h	050-0001-00
5200-5369	CRT SECURING RING	-----	111.02	0.7h	050-0063-00
101-5050	MICA PLATE RESISTOR	1695	104.04	0.5h	050-0164-00

product modification

M1247

Type 570

WAVESHAPE IMPROVED

Effective Prod SN 155

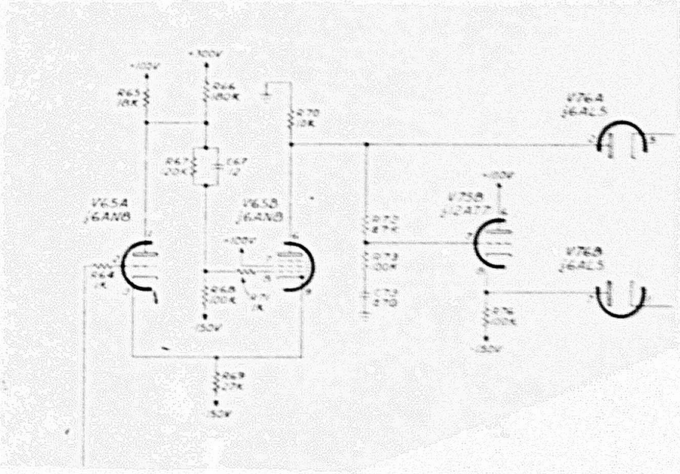
To insure that the first step of the Step Generator is flat, the following changes were maded: 1) The plate resistor of V65B was changed from 4.7K to 10K. 2) R75, the 1K resistor that connected tne plate (pin 6) of V65B to tne grid (pin 7) of V75B was replaced with a divider network.

Parts Removed:

R70	302-0472-00	Resistor, Comp	4.7k	1/2W	10%
R75	302-0102-00	Resistor, Comp	1k	1/2W	10%

Parts Added:

C73	281-0525-00	Capacitor, Cer	470pF	500V	
R70	302-0103-00	Resistor, Comp	10k	1/2W	10%
R72	302-0473-00	Resistor, Comp	47k	1/2W	10%
R73	302-0104-00	Resistor, Comp	100k	1/2W	10%



4 20-73

product modification

M1534

Type 570

POWER TEST ON SWITCH REWIRED

Effective Prod SN 336

With the POWER TEST ON Switch in the OFF position, V86, the step generator, draws 10 to 15 ma's screen current placing V86 and V470, the +100V series regulator, out of dissipation. This condition was eliminated by rewiring the POWER TEST ON Switch from the grid of V55B, the Step-Control CF, to the cathode of V55B, and installing a divider for the grid of V55B.

Parts Removed:

R69	302-0273-00	Resistor,	comp	27k	1/2W	10%

Parts Added:

R69	304-0273-00	Resistor,	comp	27k	1W	10%
R474	306-0154-00	Resistor,	comp	150k	2W	10%

INSTALLATION:

Parts Required: See 'Parts Added.'

a) Locate the blue wire connected between R92 and the top terminal of the TEST POWER ON Switch SW310C. Move switch end of wire to -150V terminal at other side of switch.

b) Locate R90 in cathode of V55B. Disconnect the bare wire and two -150V leads at inner end.

c) Run a grey-white wire from end of R90 (just cleared) to a blank notch on strip just behind meter. Run grey-white wire from notch just used through chassis to the TEST POWER ON Switch SE310C. Connect to terminal from which blue wire was removed.

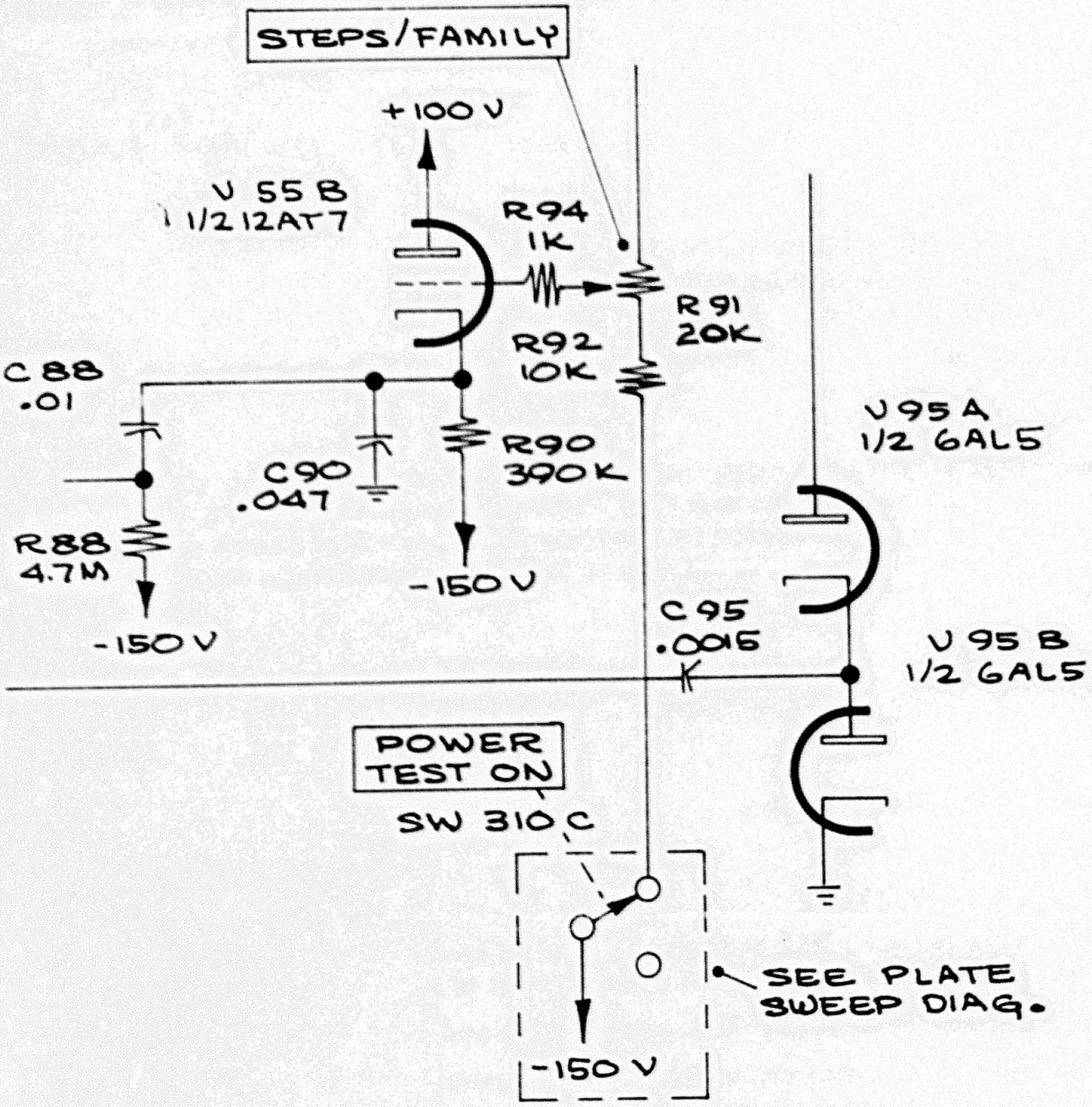
d) Locate other end of -150V strap. Remove strap and connect two -150V leads previously disconnected.

e) Replace R69 (27k 1/2W 10% resistor) with a 27k 1W 10% resistor.

f) Install R474 (150k 2W 10% resistor) from pin 1 to pin 3 of V470A.

NOTE: Refer to the schematics on the following pages.

4-20-73



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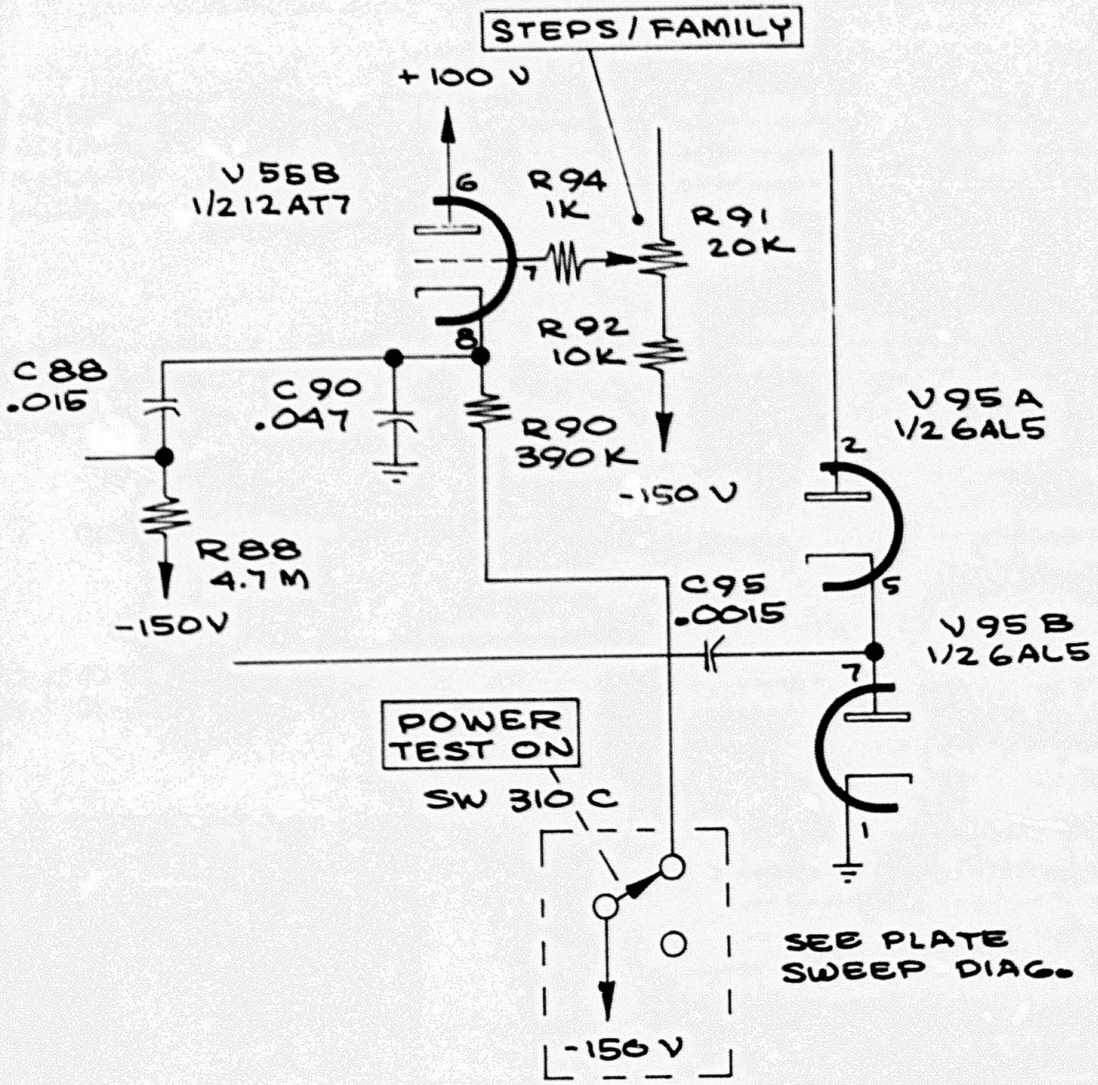


AFTER

product modification

M1809

Type 570

DIODE CIRCUIT CHANGED

Effective Prod SN 5026

An apparent change in step amplifier sensitivity occurs when switching the BASE-STEP GENERATOR Switch from 120 to 240 STEPS/SEC. This appears as a change in amplitude of the step generator waveform.

A small 'low contact resistance' current flow through diode V95 during its non-conducting period, especially with unaged diodes, causes a slight drop in plate voltage of the Miller tube, V86, between steps.

Current flow through V95 during the non-stepping period of the stairstep waveform is prevented by biasing the cathode of the diode approximately 1 volt positive with respect to the plate.

Parts Added:

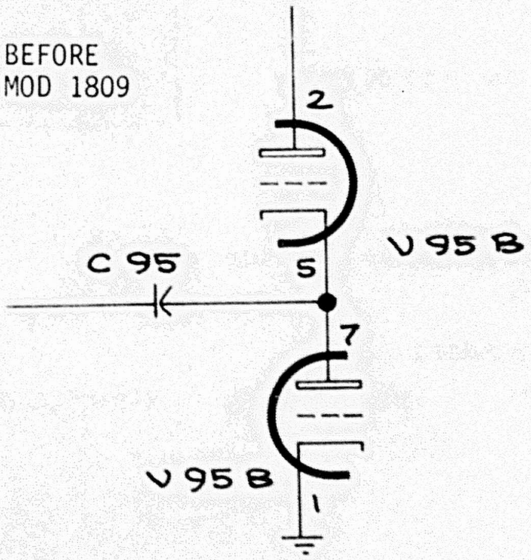
R96	302-0104-00	Resistor,	100k 1/2W 10%
R97	302-0102-00	Resistor,	1k 1/2W 10%

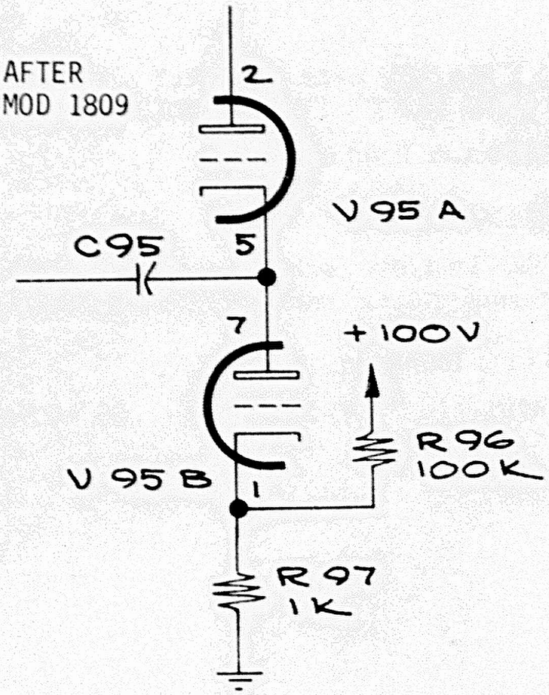
INSTALLATION:

a) Install R97 (1k, 1/2W 10% resistor) from cathode V95B to ground

b) Install R96 (100k 1/2W 10% resistor) from cathode V95B to +100V supply.

4-20-73





product modification

M2222

Type 570

STEP GENERATOR SYNC IMPROVED

To prevent line surges and poor waveform from affecting the Step Generator Sync, the Split-Load Phase Inverter was changed to add a low pass filter to the inputs of V8A and V38A (pin 2).

Parts Removed:

R7,R36	302-0102-00	Resistor, comp	1k 1/2W 10%

Parts Added:

C7,C36	281-0536-00	Capacitor,cer	0.001μF 500V
R7	302-0684-00	Resistor, comp	680k 1/2W 10%
R36	302-0105-00	Resistor, comp	1M 1/2W 10%

product modification

M7843

Type 570

NEON BULBS REPLACED

Effective Prod SN 5510 Usable in field instruments SN 101-5509

NE2 neons may not fire after they have been subjected to prolonged darkness, because of increased firing potential. They are replaced with NE23 neons, which contain a small deposit of radioactive material to aid in the ioization process.

Parts Removed:

B80,B170,B515, B516,B644,B645	150-0002-00	Neon,	NE2

Parts Added:

B80,B170,B515, B516,B644,B645	150-0027-00	Neon,	NE23

INSTALLATION:

Parts Required: See 'Parts Added.'

a) Replace B70, located near V75, with a NE23.

b) Replace B170, located near V150, with a NE23.

c) Replace B515, and B516, located near V515 with NE23's.

d) Replace B644 and B645, located near T620 with NE23's.

4-20-73

product modification

M10189

Type 570

STEP GENERATOR SILICON DIODE ADDED

Effective Prod SN 5570 Usable in field instruments SN 101-5569

Slow speed timing error and jitter. Excessive leakage of the Miller disconnect diode was causing slow speed timing error and jitter.

A low leakage semiconductor diode was added in series with the Miller tube control grid disconnect diode. This combines the low leakage characteristics of the semiconductor with the fast turn-off capability of the vacuum diode.

Parts Added:

D76	152-0246-00	Diode, low leakage silicon

INSTALLATION:

Parts Required: See 'Parts Added'.

a) Remove the bare wire between pin 1 of V76 and pin 2 of V95.

b) Move the white wire (splice if necessary) from pin 1 of V76 to pin 2 of V95.

c) Add diode D76 between pin 2 of V95 (banded end) and pin 1 of V76.

3-20-73

product modification

M1130

Type 570

PROTECTS TUBE UNDER TEST

Effective Prod SN 209 Usable in field instruments SN 101-208

The Grid-Step Generator Volts/Step switch was changed from a nonshorting to a positive shorting switch, to insure that grid voltage is always applied to the tube under test.

Parts Removed:

SW130		Volts/Step

Parts Added:

SW130	260-0129-00	Volts/Step unwired
SW130	262-0106-00	Volts/Step wired

INSTALLATION:

Parts Required: See 'Parts Added'

NOTE: The following method is used to identify the VOLTS/STEP Switch terminals:

The wafers are numbered from the front to the rear.

The contact positions are numbered 1 through 12 relative to the index key as shown in the drawing.

The contacts have an "F" or "R" suffix which denotes that they are on the front or the rear of the wafer.

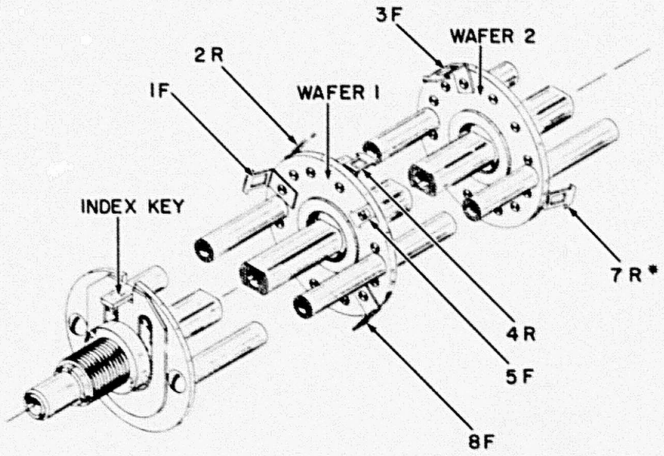
Example: W2-7R (denoted by * on the drawing) is contact No.7 on the rear of wafer 2.

a) Replace the VOLTS/STEP switch with the new type and wire as follows:

white-red wire to W1-2R.
bare wire from ZERO BIAS Switch to W1-4R.
White-blue wire to W1-10R.
solid blue wire to W1-11R.
white-yellow wire to W2-12R.

4-20-73

(TYPICAL SWITCH CONFIGURATION)



product modification

M1274

Type 570

VERTICAL GAIN RANGE INCREASED

Effective Prod SN 209 Usable in field instruments 101-208

The Vert Gain Adjust potentiometer (R278) was changed from 10K to 20K and R277, which is in series with the gain potentiometer, was changed from 33K to 22K. These changes were made to improve the Vertical Amplifier Signal balance and to realize full Vertical amplifier gain.

Parts Removed:

R277	302-0333-00	Resistor, Comp. 33k 1/2W 10%
R278	311-0016-00	Resistor, Var. 10k 2W

Parts Added:

R277	302-0223-00	Resistor, Comp 22k 1/2W 10%
R278	311-0018-00	Resistor, Var 20k 2W

INSTALLATION:

Parts Required: See 'Parts Added.'

a) Replace R277 (33k 1/2W resistor) with a 22k 1/2W 10% resistor. R277 is located between ceramic strips over V280.

b) Replace R278 (10k 2W "Vertical Gain Adj" potentiometer) with a 20k 2W 20% potentiometer.

4-20-73

product modification

M1480

Type 570

RESISTORS REPLACED

Effective Prod SN 352

VERTICAL MA/DIVision Switch resistors in the four highest current ranges were changed from Continental Carbon to mica plate resistors. Daven resistors were used as an interim until mica plate resistors were available. Superseded by Mod 1695.

Parts Removed:

R262	310-0053-00	Resistor, Prec	10Ω 1W 1%
R263	309-0127-00	Resistor, Prec	5Ω 1/2W 1%
R264	309-0059-00	Resistor, Prec	3Ω 1/2W 1%
R265	309-0058-00	Resistor, Prec	2Ω 1/2W 1%

Parts Added:

R262	307-0013-00	Resistor, Prec	10Ω 0.6W
R263	307-0012-00	Resistor, Prec	5Ω 0.3W
R264	307-0011-00	Resistor, Prec	3Ω 0.18W
R265	307-0010-00	Resistor, Prec	2Ω 0.12W

4-20-73

product modification

M1695

Type 570

RESISTORS REPLACED

Effective Prod SN 5051

The VERT MA/DIV switch resistors on the four top ranges were changed to mica plate type resistors. Parts replacement kit, PN 050-0164-00, is available to replace R263 - R264 - R265, in premodified instruments.

Parts Removed:

R262	307-0013-00	Resistor, Prec	10Ω	0.6W	1%
R263	307-0012-00	Resistor, Prec	5Ω	0.3W	1%
R264	307-0011-00	Resistor, Prec	3Ω	0.18W	1%
R265	307-0010-00	Resistor, Prec	2Ω	0.12W	1%

Parts Added:

R262	310-0547-00	Resistor, Mica plate	10Ω	1/2W	1%	
R263,		Resistor, Mica plate	5Ω			
R264,	310-0546-00	Resistor, Mica plate	3Ω	3W	Multi tap	1%
R265		Resistor, Mica plate	2Ω			

4-20-73

PARTS REPLACEMENT KIT

MICA PLATE RESISTOR

050-164

For Tektronix Type 570 Curve Tracers
Serial numbers 101-5050

DESCRIPTION

Mica plate resistor 310-546 replaces the three low wattage 1% resistors, 307-010/011/012, on the VERTICAL MA/DIV switch. Since the 310-546 is a precision multi-tapped resistor, all three resistors must be replaced whenever one of them is to be replaced.

Higher wattage resistors are needed to handle short circuit conditions on the switch.

NOTE: If the serial number of your instrument is above those listed, or if this kit has been installed, disregard the instructions as P/N 310-546 is a direct replacement.

Publication:
Instructions for 050-164
March 1966

Supersedes:
July 1964

PARTS LIST

Quantity	Description	Part Number
1 ea.	Resistor, precision, 10Ω 3w 1% tapped	310-546

INSTRUCTIONS

1. Remove the following from the SW255, VERTICAL MA/DIV switch:

( ) R265, a 2Ω 0.12w 1% precision resistor

( ) R264, a 3Ω 0.18w 1% precision resistor

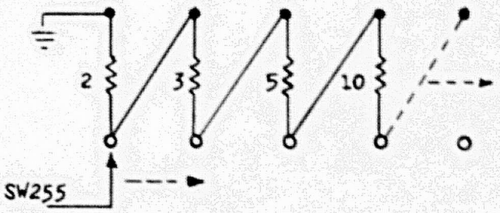
( ) R263, a 5Ω 0.30w 1% precision resistor

( ) 2. Install the mica plate resistor, from the kit, using the drawing as a wiring guide.

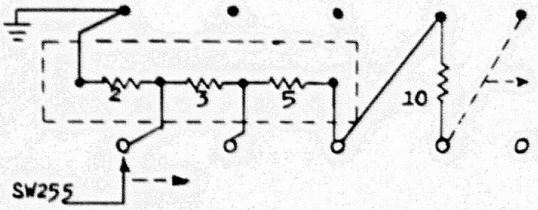
THIS COMPLETES THE INSTALLATION

( ) Check wiring for accuracy.

GG/CH:ls



Old Wiring



New Wiring

product modification

M1230

Type 570

CURRENT BALANCE ADJ RANGE IMPROVED

Effective Prod SN 141

The Plate-Trans Current Balance capacitor, C315, did not have sufficient range of adjustment to allow a balance in the stray capacitances of the T310 transformer secondary windings. To overcome this, the following changes were effected:

1. C315 was changed in location from between terminal 9 of T310 and ground, to between terminal 7 of T310 and ground.

2. C316, a 10pF capacitor was added from terminal 5 to ground.

Parts Removed:

C315	281-0012-00	Capacitor, Cer	7-45pF

Parts Added:

C315	281-0010-00	Capacitor, Cer	5-20pF
C316	281-0504-00	Capacitor, Cer	10pF

4-20-73

product modification

M1397

Type 570

500K & 1 MEG SERIES LOAD RESISTORS REPLACED

Effective Prod SN 292

To improve the accuracy of the load resistor selected in the 500K and 1M positions of the 'SERIES LOAD' Switch the following changes were made:

500K Position: Change the value of R329 from a 300k 1/2W 1% precision resistor to a 333k 1/2W 1% precision resistor.

1M Position: Change the value of R330 from a 1M 1/2W 1% precision resistor to a 1.11M 1/2W 1% precision resistor.

The PLATE position of the horizontal-display selector, the shunting effect of a 10M attenuator in the grid circuit of the Horizontal Input Cathode Follower, V215, introduces an out of tolerance condition in the load resistor selected.

Parts Removed:

R329	309-0125-00	Resistor, prec 300k 1/2W 1%
R330	309-0014-00	Resistor, prec 1M 1/2W 1%

Parts Added:

R329	309-0053-00	Resistor, prec 333k 1/2W 1%
R330	309-0015-00	Resistor, prec 1.11M 1/2W 1%

4-20-73

product modification

M1925

Type 570

METER REPLACED

Effective Prod SN 5073

The DC Voltmeter on the front panel was changed to an improved type meter. The front panel was changed to accommodate the new meter. Superseded by Mod 2079.

Parts Removed:

149-0004-00	Meter, Volts DC
333-0333-00	Panel, front
386-0553-00	Panel, sub

Parts Added:

149-0015-00	Meter, 0-200μAmps
333-0456-00	Panel, front
386-0821-00	Panel, sub

4-20-73

product modification

M2079

Type 570

METER CHANGED TO 1MA TYPE

Effective Prod SN 5121

+ or -DC and % of Heater Volts meter was changed from a 200µamp meter movement to a 1Ma meter to improve accuracy and reliability. Several circuit changes were made to accommodate the new meter. 050-0001-00 is available to facilitate the installation of the 1Ma meter in pre-modified instruments.

Parts Removed:

M1	149-0015-00	Meter,	200µA		
R355	311-0061-00	Resistor, comp	250k	2W	Var.
R356	302-0823-00	Resistor, comp	82k	1/2W	10%
SW350	262-0100-00	Switch, INDICATION			
SW360	262-0099-00	Switch, RANGE D.C. VOLTS			

Parts Added:

M1	149-0017-00	Meter,	1 MA		
R355	311-0023-00	Resistor, comp	50k	2W	Var.
R356	302-0183-00	Resistor, comp	18k	1/2W	10%
SW350	262-0219-00	Switch, INDICATION			
SW360	262-0218-00	Switch, RANGE D.C. VOLTS			

The new INDICATION Switch 262-0219-00 is the same as the old switch 262-0100-00 except as follows:

Parts Removed:

R350	311-0074-00	Resistor, comp	5k	.1W	Var.
R351	302-0153-00	Resistor, comp	15k	1/2W	10%

Parts Added:

R350	311-0131-00	Resistor, comp	1k	.1W	Var
R351	302-0272-00	Resistor, comp	2.7k	1/2W	10%

The new RANGE D.C. VOLTS Switch 262-0218-00 is the same as the old 262-0099-00 switch except for the following:

Parts Removed:

R360	309-0129-00	Resistor, Prec	34k	1/2W	1%
R361	309-0130-00	Resistor, Prec	69k	1/2W	1%
R362	309-0151-00	Resistor, Prec	174k	1/2W	1%

4-20-73

R363	309-0152-00	Resistor, Prec	349k	1/2W	1%
R364	309-0008-00	Resistor, Prec	700k	1/2W	1%
R365	309-0019-00	Resistor, Prec	1.75M	1/2W	1%
R366	309-0086-00	Resistor, Prec	3.5M	1/2W	1%

Parts Added:

R360	309-0262-00	Resistor, Prec	6.5k	1/2W	1%
R361	309-0263-00	Resistor, Prec	13.5k	1/2W	1%
R362	309-0038-00	Resistor, Prec	34.5k	1/2W	1%
R363	309-0264-00	Resistor, Prec	69.5k	1/2W	1%
R364	309-0265-00	Resistor, Prec	139.5k	1/2W	1%
R365	309-0152-00	Resistor, Prec	349k	1/2W	1%
R366	309-0008-00	Resistor, Prec	700k	1/2W	1%

PARTS REPLACEMENT KIT

METER

For Tektronix Type 570
Characteristic Curve Tracer

Serial numbers 101-5120

DESCRIPTION

New Meter 149-017 replaces Meters 149-004 and 149-015.

The new meter and circuit changes outlined will improve the accuracy and reliability of your instrument.

NOTE: If the serial number of your instrument is above those listed, or if this kit has been installed, disregard the instructions as P/N 149-017 is a direct replacement.

050-001

Publication:
Instructions for 050-001
March 1966

Supersedes:
August 1963

PARTS LIST

Quantity	Description				Part Number
1 ea.	Meter, 0-1 ma,	500 Ω			149-017
2 ea.	Lug, solder, no. 10				210-206
1 ea.	Resistor, comp,	15 k	1/2 w	10%	302-153
1 ea.	Resistor, comp,	2.7 k	1/2 w	10%	302-272
1 ea.	Resistor, prec,	700 k	1/2 w	1%	309-008
1 ea.	Resistor, prec,	34.5 k	1/2 w	1%	309-038
1 ea.	Resistor, prec,	349 k	1/2 w	1%	309-152
1 ea.	Resistor, prec,	6.5 k	1/2 w	1%	309-262
1 ea.	Resistor, prec,	13.5 k	1/2 w	1%	309-263
1 ea.	Resistor, prec,	69.5 k	1/2 w	1%	309-264
1 ea.	Resistor, prec,	139.5 k	1/2 w	1%	309-265
1 ea.	Potentiometer, comp,	50 k	2 w		311-023
1 ea.	Potentiometer, comp,	1 k	0.1 w	minipot	311-131
1 ea.	Wire, solder, silver-bearing,	12 in.			

INSTRUCTIONS

IMPORTANT: When soldering to the ceramic strips, use the silver-bearing solder supplied with this kit.

( ) 1. Remove the cabinet from the instrument.

( ) 2. Locate the 5 k (R350) minipot mounted on the voltmeter INDICATION switch (SW350).

( ) Remove this potentiometer and, in its place, mount the 1 k minipot from kit.

( ) 3. Remove the 15 k, 1/2 w resistor (R351) from SW350 and, in its place, mount the 2.7 k, 1/2 w resistor from kit.

( ) 4. Locate the voltmeter RANGE DC VOLTS switch (SW360).

( ) Unsolder the lead from this switch.

( ) 5. Remove the switch (SW360) from the instrument.

6. Carefully remove the resistors from SW360 as indicated below. Replace each resistor with a resistor (from kit) as indicated below.

REMOVE:

( )	R360	34 k	1/2 w, prec, resistor
( )	R361	69 k	1/2 w, prec, resistor
( )	R362	174 k	1/2 w, prec, resistor
( )	R363	349 k	1/2 w, prec, resistor
( )	R364	700 k	1/2 w, prec, resistor
( )	R365	1.75 meg	1/2 w, prec, resistor
( )	R366	3.5 meg	1/2 w, prec, resistor

REPLACE WITH:

( )	R360	6.5 k	1/2 w, prec, resistor
( )	R361	13.5 k	1/2 w, prec, resistor
( )	R362	34.5 k	1/2 w, prec, resistor
( )	R363	69.5 k	1/2 w, prec, resistor
( )	R364	139.5 k	1/2 w, prec, resistor
( )	R365	349 k	1/2 w, prec, resistor
( )	R366	700 k	1/2 w, prec, resistor

INSTRUCTIONS (Con'd)

( ) 7. Re-install the switch (SW360) in the instrument. Reconnect the lead removed in step 4.

( ) 8. Locate the -DC potentiometer (R355) mounted in the bottom left corner of the instrument front panel.

( ) Remove this potentiometer from the instrument and replace it with the 50k potentiometer from kit.

( ) 9. Under the power chassis, near the front of the instrument, locate the ceramic terminal strip mounted near the 10k, 10w resistor (R325).

( ) Remove the 82k, 1/2w resistor (R356) from this strip and, in its place, mount the 15k, 1/2w resistor from kit.

( ) 10. Remove the meter from the front panel of the instrument. Save the four nuts and lockwashers for re-use.

NOTE: If the serial number of your instrument is above 5072, disregard step 11.

( ) 11. Using the template on page 4, mark and drill four new mounting holes in the instrument panel with a no.26 drill, to accommodate the mounting studs of the new meter.

( ) 12. Install the new meter (from kit) in the instrument.

NOTE: If the serial number of your instrument is below 5073, discard the old meter terminal solder lugs. Use the two new no.10 solder lugs (from kit) to connect the meter leads to the new meter terminal posts.

THIS COMPLETES THE INSTALLATION

( ) Recheck your work.

( ) For future reference, correct your Instruction Manual Parts List and Schematic as required.

( ) Refer to the Calibration Procedure in your Instruction Manual and recalibrate your instrument as required.

JFT:cc

TEMPLATE

Two crosses represent the top old meter mounting hole centers. Please use to locate the four new hole centers.

Four no. 26 holes

4-20-64
JT

050-001

product modification

M1447

Type 570

SCALE ILLUM POTENTIOMETER WIRED

Effective Prod SN 312 Usable in field instruments SN 101-311

The SCALE ILLUM Potentiometer (R402) was rewired to allow complete extinguishment of the scale illumination bulbs.

Parts Removed:

NONE

Parts Added:

210-0012-00	Lockwasher 3/8 X 1/2"
210-0207-00	Lug, solder 3/8

INSTALLATION:

Parts Required: See 'Parts added.'

a) Remove the SCALE ILLUM Potentiometer and insert the solder lug and lockwasher between potentiometer and subpanel. Replace potentiometer.

b) Solder the unused terminal of the SCALE ILLUM Potentiometer to ground.

NOTE: Be sure the center tap of the potentiometer is connected to the scale illum bulbs. Otherwise, the 6.3V supply will be shorted to ground when the potentiometer is rotated from one extreme to the other.

4-20-73

product modification

M1532

Type 570

FILTER CAPACITORS REPLACED

Effective Prod SN 353

The voltage applied to C484 and C505 was exceeding their voltage ratings at high line. C484 and C505 were changed to 500V capacitors. Superseded by Mod S8959.

Parts Removed:

C484	290-0043-00	Capacitor, EMC 2 X 40µF 450V
C505	290-0042-00	Capacitor, EMC 2 X 40µF 450V

Parts Added:

C484	290-0058-00	Capacitor, EMC 80µF 500V
C505	290-0057-00	Capacitor, EMC 80µF 500V

INSTALLATION:

Parts Required: See parts listed below.

C484	290-0028-00	Capacitor, EMC 80µF 500V
C505	290-0028-00	Capacitor, EMC 80µF 500V
	200-0258-00	Cover, capacitor
	386-0255-00	Flange, metal, cap mtng.
	386-0255-00	Flange, metal, cap mtng.

a) Replace C484 (2 X 40µF 450V capacitor) with an 80µF single section capacitor.

b) Replace C505 (2 X 40µF 450V capacitor) with an 80µF single section capacitor.

4-20-73

product modification

M1912

Type 570

MOTOR BASE CONNECTOR CHANGED

Effective Prod SN 5063 Usable in field instruments SN 101-5062

The 2-wire motor base connector presented the possibility of connecting the "HOT" side of the AC power line to either side of the Power transformer, depending upon how the power cord was inserted. This problem was eliminated by changing the 2-wire connector to a 3-wire connector. The power line cord can only be inserted one way in the 3-wire connector, because of the added ground post. Also see Mod 2015 and Mod 7521.

Parts Removed:

131-0010-00	Connector, 2-wire	
213-0041-00	Screw, 6-32 X 3/8 Truss HS	(2)
161-0001-00	Cord, power, 18-8	

Parts Added:

131-0102-00	Connector, 3-wire, TEKTRONIX, INC. made	
161-0008-00	Cord, power, 3-wire	
103-0013-00	Adapter, 3 to 2-wire	
210-0457-00	Nut, Keps, 6032 X 5/16	(2)
211-0537-00	Screw, 6-32 X 3/8 Truss HS	(2)

INSTALLATION:

Parts Required: See 'Parts Added'.

a) Unsolder wires and remove the 2-wire motor base connector from the instrument.

b) Install a 3-wire motor base connector using two 6-32 X 3/8 Truss HS screws and 6-32 X 5/16 Kep nuts. Orient the connector so that the ground post is toward the bottom of the instrument.

INPORTANT: Wire the 3-wire connector and fuse holder as follows:

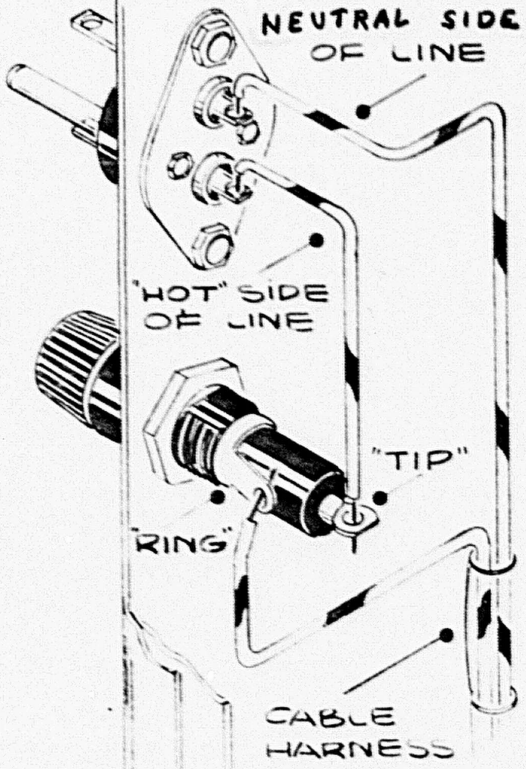
c) Turn POWER Switch off.

d) Using an Ohmmeter, determine which wire is connected to the POWER Switch. Solder this wire to the fuse holder "RING" connection. See drawing.

e) Solder the short wire between the fuse holder "TIP" connection and the "HOT" side of the 3-wire connector. See drawing.

f) Solder the remaining cable wire to the neutral side of the 3-wire connector. See drawing.

4-20-73



product modification

S8959

Type 570

ELECTROLYTIC CAPACITOR ASSEMBLIES REPLACED

Effective Prod SN N/A

All electrolytic capacitor assemblies were replaced with their equivalent raw capacitor, metal or fiber flange, plastic cover and Delrin® base (when required) to eliminate unecessary part numbers and to facilitate replacement of electrolytic capacitors by customers. For replacement of capacitor assemblies, Customer Service will supply raw capacitors with both metal and fiber flanges and plastic covers when required.

Parts Required:

C185	290-0054-00	Capacitor,	2 X 15µF 450V
C403,C405, C510	290-0036-00	Capacitor,	2 X 20µF 450V
C420	290-0036-00	Capacitor,	2 X 20µF 450V
C484	290-0058-00	Capacitor,	80µF 500V
C495	290-0037-00	Capacitor,	2 X 20µF 450V
C505-6	290-0057-00	Capacitor,	80µF 500V

Parts Added:

C185	290-0007-00	Capacitor,	2 X 15µF 450V
C403,C405, C510	290-0010-00	Capacitor,	2 X 20µF 450V
C420	290-0010-00	Capacitor,	2 X 20µF 450V
C484	290-0028-00	Capacitor,	80µF 500V
C495	290-0010-00	Capacitor,	2 X 20µF 450V
C505-6	290-0028-00	Capacitor,	80µF 500V
	200-0257-00	Cover,	
	200-0258-00	Cover	
	386-0252-00	Flange	
	386-0253-00	Flange	
	386-0255-00	Flange	

® DuPont Registered Trademark

4-20-73

product modification

040-0424-01
M11292

General

3-WIRE POWER CORD FEMALE GROUND CONNECTION IMPROVEMENT

For 3-Wire Power Cords
Used on TEKTRONIX® Type Instruments

Modification Kit, PN 040-0424-01, improves the non-current carrying ground contact on the 3-wire power cords, used on TEKTRONIX Type instruments, by adding a spring to the female contact.

The kit includes enough springs to modify twenty-five power cords.

6-2-71
Supersedes: April 1967 (format change)

107.05

PARTS INCLUDED IN MODIFICATION KIT:

Quantity	Part Number	Description
25 ea	214-0698-00	Spring, power cord ground

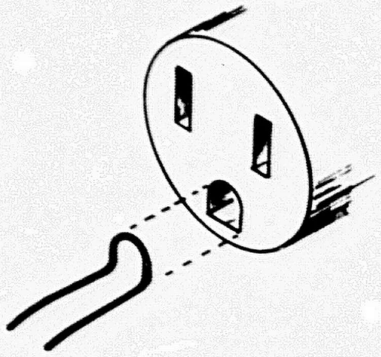
INSTRUCTIONS

( ) Insert the spring (from kit) as indicated in the drawing below, and push it in by plugging the male end of the power cord into the female end.

THIS COMPLETES THE INSTALLATION.

( ) Add the spring to the Mechanical Parts List of your Instruction Manual (if applicable).

DF:ls



product modification

M1342

Type 570

CRT SHIELD ROTATED

Effective Prod SN 237

The proximity of the volt meter's magnetic field to the CRT anode connector access hole caused noticeable distortion of the CRT waveform. The problem was eliminated by making the following changes:

1) The CRT shield was rotated 180°.

2) The CRT anode lead was increased in length from 31 inches to 36 inches.

3) The deflection plate leads were changed in length as follows:

	Before	After
White-brown	3 3/4 inches	7 1/4 inches
White-red	6 3/4 inches	7 1/4 inches
White-orange	3 1/2 inches	7 inches
White-green	3 1/2 inches	7 3/4 inches
White-blue	3 1/2 inches	7 3/4 inches

The deflection plate leads were interchanged on the ceramic strips. The proper sequency of the deflection leads on the cermaic strips from front to back is as follows: 1) White-green (Horiz). 2) White-red (Horiz). 3) White-orange (Geometry). 4) White-brown (Vert). 5) White-blue (Vert).

4-20-73

product modification

M1659

Type 570

CRT ANODE CONNECTOR IMPROVED

Effective Prod SN 5024

An improved, automatic method of connecting the anode lead to the anode button of the CRT, with complete light shielding of the CRT anode opening, has been installed in all oscilloscopes using 5 inch Tektronix CRT's. The unit consists of an anode connector plate inserted into the anode opening of the CRT shield, an anode cover, cap, brush connector, and CRT contact plug fitted into the CRT anode contact.

To accommodate the new anode connector and provide improved centering of the connector brush on the anode of the CRT, the shields have been modified to deepen the anode opening 3/16in. However, the new anode connector can be installed in unmodified shields and provide satisfactory contact, with a minor alteration of the anode connector plate.

To allow for easier installation of the new anode connector, in oscilloscopes using three phosphor bronze springs to hold and position the CRT, the spring adjacent to the anode opening has been removed. It has been found that the automatic connector provides sufficient pressure to obviate the need for the third spring. For easier rotation of the CRT, and to eliminate interference with installation of the new anode connector, the felt strip at the bottom of the CRT shield has been repositioned to leave 1/2in. clearance from the bottom edge of the shield anode opening.

Parts Removed:

131-0026-00	Anode clip
200-0023-00	Anode cover
406-0239-00	Bracket

Parts Added:

131-0073-00	CRT brush connector
134-0031-00	CRT contact plug
200-0110-00	Anode cap
200-0111-00	Anode cover
386-0647-00	Anode plate

4-20-73

product modification

M2348

Type 570

CRT MOUNTING BRACKET REPLACED

Effective Prod SN 5200

To permit easier and more precise CRT rotation, and to permit paralax adjustment, the CRT mounting bracket was redesigned and a rotator added.

Parts Removed:

343-0027-00	Clamp
406-0280-00	Bracket, CRT shield (2)

Parts Added:

166-0031-00	Tube, spacer, 1/4in.
210-0502-00	Nut, CRT rotator
354-0078-00	Ring, securing
354-0079-00	Ring, clamping
355-0049-00	Shaft, CRT rotator
366-0032-00	Knob, CRT rotator
406-0368-00	Bracket, CRT mtg (M2327)
406-0514-00	Bracket, CRT support
432-0022-00	Base, CRT rotator

product modification

M2843

Type 570

HV CAPACITORS REPLACED

Effective Prod SN 5215 Usable in field instruments SN 101-5214

The manufacturer is having difficulty supplying HV oil-filled capacitors due to high reject rate and failure rate from oil leaks. Replace 285-0508-00 oil-filled capacitor with a ceramic capacitor. A .0068µF 3kV PTM capacitor, 285-0508-01, is now available as a direct replacement for the capacitors listed below.

Parts Removed:

C628,C630, C640	285-0508-00	Capacitor, PTM 0.0068µF 3kV

Parts Added:

C628,C640	283-0011-00	Capacitor,cer 0.01µF 2kV
C630	283-0034-00	Capacitor,cer 0.005µF 4kV

INSTALLATION:

Parts Required: See 'Parts Added.'

a) Replace 0.0068µF 3kV capacitor C630 (directly above V605 socket) with 0.005µF ceramic capacitor.

b) Replace 0.0068µF 3kV capacitors C628 and C640 with 0.01µF ceramic capacitors.

4-20-73

product modification

M2894

Type 570

HV CAPACITORS REPLACED

Effective Prod Sn 5215 Usable in field instruments SN 101-5214

The manufacturer is having difficulty supplying HV oil-filled capacitors due to high reject rate and failure rate from oil leaks. Replace 285-0513-00 oil-filled capacitor with a ceramic capacitor.

Parts Removed:

C641	285-0513-00	Capacitor,PTM	0.015µF 3kV

Parts Added:

C641	283-0011-00	Capacitor,cer	0.01µF 2kV

INSTALLATION:

Parts Required: See 'Parts Added.'

Replace 0.015µF 3kV capacitor C641, with 0.01µF 2kV ceramic capacitors.

A .015µF 3kV PTM capacitor, 285-0513-01, is now available as a direct replacement for C641.

4-20-73

product modification

M9022

Type 570

CRT FILTERS REPLACED

Effective Prod SN 5570

Standardizing the shape and color of CRT light filters was accomplished by replacing .060" thick green, blue and amber filters for 5" rectangular and round external graticule instruments and .030" thick smoke-gray filter for 5" rectangular internal graticule instruments with new .030" thick green, blue, amber and smoke-gray filters with configuration acceptable for both internal and external graticule use.

Also replaces .060" thick green, blue and amber filters for 3" CRT instruments with new .030" thick green, blue, amber and smoke-gray filters with same configurations. Change the configuration of internal graticule clear scratch plates (5" round and 5" rectangular) to conform to new filter configurations, thereby allowing use of common tooling.

Smoke-gray will replace green as standard filter shipped with external graticule instruments. Amber, green and blue filters in all configurations will be set up as optional filters supplied on customer demand and with special phosphors.

The recommended optional filters for various phosphors is as follows:

Smoke gray filter	P1	P2	P20	P28	P31	P7	
Blue filter	P5	P11	P14	P17	P32		
Amber filter	P12	P13	P19	P25	P26	P27	P7
No filter necessary	P15	P16	P24				

P7 phosphor requires both a smoke-gray and an amber filter

4-20-73

Parts Removed:

378-0502-00	Filter, light, yellow
378-0514-00	Filter, light, green
378-0515-00	Filter, light, blue
378-0516-00	Filter, light, amber

Parts Added:

378-0567-00	Filter, light, smoke-gray
378-0568-00	Filter, light, green
378-0569-00	Filter, light, blue
378-0570-00	Filter, light, amber

product modification

M10164

Type 570

CRT PHOSPHOR CHANGED FROM P1 TO P31

Effective Prod SN 5570

Display remains on CRT at lower intensity after intensity control is turned off.

The CRT would exhibit a phenomenon known as "Bright Burn" in which the display would remain on the CRT at a much lower intensity level. It was primarily a batch problem in that certain CRT's would exhibit this more than others. It could sometimes be temporarily cured by flooding the CRT which would in effect "Bright Burn" the entire face.

The CRT was changed from a P1 (T0520-1) to a P31 phosphor (T0520-31).

Parts Removed:

V639	154-0093-00	Tube, vacuum, CRT T0520-1

Parts Added:

V639	154-0343-00	Tube, vacuum, CRT T0520-31

4-20-73

product modification

M1290

Type 570

JACK PANEL IMPROVED

Effective Prod SN 291

As a means of improving the jack panel nomenclature, ground symbols were added to indicate that the 'K' and the outside 'HTR' jacks are grounded. Transposition of the wires running to the left-hand pair of 'HTR' jacks was necessary to achieve correlation between the wiring and the panel information.

Previous to SN 291 the right-hand jack of each pair of heater jacks was ground the cathode jacks were always grounded.

Parts Removed:

NONE

Parts Added:

NONE

4-20-73

product modification

M1666

Type 570

CABINET REDESIGNED

Effective Prod SN 5001

The cabinet style was changed to the new 3 section, round corner cabinet used on the 530/540 series instruments to improve appearance and access to fuses and CRT controls.

Parts Removed:

122-0001-00	Angle brace
131-0026-00	Plate, defl
131-0049-00	CRT pin
166-0094-00	Tube, spacing
175-0012-00	HV Poly 27 in.
200-0023-00	Anode, rubber
333-0140-00	Panel, front
333-0187-00	Panel, front
337-0122-00	Shield
343-0052-00	Clamp, handle
348-0005-00	Grommet, rubber 1/2
352-0010-00	Fuseholder, 3 AG
366-0044-00	Knobs, small black (3)
367-0001-00	Handle
369-0001-00	Fan
378-0005-00	Filter, Air
378-0005-00	Filter, Air 10 X 10 X 1
380-0006-00	Filter, housing
385-0081-00	Rod, spacing (2)
386-0387-00	Subpanel
387-0554-00	Plate, frame back
406-0176-00	Bracket, fan mtg
406-0177-00	Bracket, alum.
406-0178-00	Bracket, tube shield
406-0179-00	Bracket, fan mtg
426-0042-00	Frame, left
426-0043-00	Frame, right
437-0033-00	Cabinet
441-0116-00	Chassis, step gen
441-0117-00	Chassis, power

4-20-73

Parts Added:

122-0026-00	Angle brace frame
122-0036-00	Top left ext
122-0037-00	Bottom rail ext
131-0010-00	GE motor base, conn
131-0073-00	CRT brush conn
134-0031-00	CRT contact plug
147-0001-00	Motor 34
166-0005-00	Tube, spacer (2)
166-0119-00	Spacer
200-0110-00	CRT anode conn cap
200-0111-00	CRT anode conn cover
333-0333-00	Panel, front
337-0183-00	Shield, HV
348-0008-00	Shockmount, rubber
352-0010-00	Fuseholder 3 AG
352-0014-00	Fuseholder (2)
354-0051-00	Ring, fan alum
366-0066-00	Knob, small black (3)
369-0013-00	Fan, steel painted
378-0011-00	Filter, Air 10 x 10 X 1
381-0082-00	Top support ext
386-0553-00	Subpanel, front
386-0554-00	Subpanel, rear
386-0555-00	Panel, rear overlay
386-0620-00	Cabinet, bottom
386-0647-00	CRT anode conn plate
386-0772-00	Cabinet, side right
386-0783-00	Cabinet, side left
406-0255-00	Gusset stiffner, left
406-0280-00	Bracket, tube shield
406-0295-00	Gusset stiffner, right
426-0046-00	Mount, fan motor
441-0157-00	Chassis, power
441-0169-00	Chassis, step gen

product modification

M2203

Type 570

CERAMIC STRIPS REPLACED

Effective Prod SN 5170

Ceramic strips changed to clip-mounted type.

Parts Removed:

124-0013-00	Strip, cer, 7-notch	(1)
124-0014-00	Strip, cer, 7-notch	(10)
124-0015-00	Strip, cer, 11-notch	(1)
124-0016-00	Strip, cer, 11-notch	(12)
210-0002-00	Lockwasher, #2 Ext.	(48)
210-0405-00	Nut, hex 2-56	(48)
210-0850-00	Washer, #2 flat	(48)

Parts Added:

124-0089-00	Strip, cer, 7-notch	(11)
124-0091-00	Strip, cer, 11-notch	(13)
361-0007-00	Spacer, nylon molded .063	(4)
361-0009-00	Spacer, nylon molded .281	(44)

4-20-73

product modification

M2545

Type 570

CABINET FINISH IMPROVED

Effective Prod SN 5215

To obtain a tougher, easier to clean finish, the material used for cabinet sides, bottoms, overlays, etc., was changed to textured aluminum (Reynold's pebble grain, 5005, H154). Change the paint from blue wrinkle to blue vinyl of approximately the same color. Paint filter housings, top rails, bottom rails and dot fasteners with blue vinyl also.

Parts Removed:

122-0037-00	Angle frame, ext bottom (2)
380-0008-00	Housing, air filter
381-0126-00	Bar, alum ext top
386-0555-00	Rear overlay
386-0620-00	Cabinet, bottom
386-0772-00	Cabinet, left side
386-0783-00	Cabinet, right side
432-0015-00	Jack panel mtg

Parts Added:

122-0073-00	Angle frame, ext bottom (2)
380-0018-00	Housing, air filter
381-0151-00	Bar, alum ext top
387-0087-00	Cabinet, right side
387-0088-00	Cabinet, left side
387-0089-00	Cabinet bottom
387-0090-00	Rear overlay
432-0029-00	Jack panel mtg

4-20-73

product modification

M12380

Type 570

ADDS ANTI-SLIDE FEET

Effective Prod SN N/A Usable in field instruments SN 101-UP

Instrument could slide off of the Scope-Mobile® when the shelf is tilted to the extreme forward position.

The ends of the bottom cabinet frames were machined flat to accommodate the anti-slide feet.

Parts Removed:

122-0073-00	Angle Frame, bottom

Parts Added:

212-0091-00	Screw, 8-32 X 5/8 PHS Pozidriv
348-0128-00	Foot, cabinet anti-slide
426-0391-00	Frame, section cabinet bottom

INSTALLATION:

See MI - 12380

4-20-73

product modification

040-0281-00

Instrument Types See Below

CRADLE MOUNT

For the following TEKTRONIX® Type Oscilloscopes:

Type	524AD	Serial Numbers	5001-up
Type	531	Serial Numbers	5001-up
Type	531A	Serial Numbers	All Serial Numbers
Type	532	Serial Numbers	5001-up
Type	533A	Serial Numbers	All Serial Numbers
Type	535	Serial Numbers	5001-up
Type	535A	Serial Numbers	All Serial Numbers
Type	536	Serial Numbers	All Serial Numbers
Type	541	Serial Numbers	5001-up
Type	541A	Serial Numbers	All Serial Numbers
Type	543	Serial Numbers	All Serial Numbers
Type	543A	Serial Numbers	All Serial Numbers
Type	543B	Serial Numbers	All Serial Numbers
Type	544	Serial Numbers	All Serial Numbers
Type	545	Serial Numbers	5001-up
Type	545A	Serial Numbers	All Serial Numbers
Type	545B	Serial Numbers	All Serial Numbers
Type	546	Serial Numbers	All Serial Numbers
Type	547	Serial Numbers	All Serial Numbers
Type	549	Serial Numbers	All Serial Numbers
Type	570	Serial Numbers	5001-up
Type	575	Serial Numbers	All Serial Numbers
Type	581	Serial Numbers	All Serial Numbers
Type	581A	Serial Numbers	All Serial Numbers
Type	585	Serial Numbers	All Serial Numbers
Type	585A	Serial Numbers	All Serial Numbers
Type	661	Serial Numbers	All Serial Numbers

Modification Kit, PN 040-0281-00, enables the above TEKTRONIX Type instruments to be rackmounted in a standard 19 inch relay rack. A vertical front panel space of 17-1/2 inches is required.

Future instruments with the same front panel dimensions may also be used with this kit, providing they have bottom rails similar to those on the above listed instruments. This kit directly replaces 040-0182-00.

5-19-70

Supersedes: MI - 040-0281-00

PARTS INCLUDED IN MODIFICATION KIT

Quantity	Part Number	Description
1 ea.	426-0208-00	Assembly, cradle mount, oscilloscope, indluding:
2 ea.	(211-0025-00)	Screw, 4-40 x 3/8 FHS
4 ea.	(212-0023-00)	Screw, 8-32 x 3/8 PHS, Phillips
1 ea.	(381-0198-00)	Bar, stiffening, 1/4 x 5/8 x 16-5/8
2 ea.	(381-0211-00)	Bar, mounting, 1/4 x 1/2 x 8-1/8
1 ea.	105-0013-00	Stop, instrument
2 ea.	210-0008-00	Lockwasher, int #8
2 ea.	210-0409-00	Nut, hex, 8-32 x 5/16
2 ea.	210-0804-00	Washer, flat, 8S x 3/8
8 ea.	210-0833-00	Washer, cup, #10
2 ea.	210-0852-00	Washer, spacer, 3/16ID x 3/80D x 0.091
6 ea.	211-0025-00	Screw, 4-40 x 3/8 FHS
2 ea.	212-0004-00	Screw, 8-32 x 5/16 PHS, Phillips
8 ea.	212-0008-00	Screw, 8-32 x 1/2 PHS, Phillips
8 ea.	212-0512-00	Screw, 10-32 x 1/2 OHS
1 ea.	333-0491-00	Panel, front, mask for rackmounting
2 ea.	381-0202-00	Bar (guide rail), aluminum, angle, 18 in.
2 ea.	387-0636-00	Plate (slide), BAKELITE®, 1-1/8 x 18 in.
1 ea.	406-0424-00	Bracket, hold-down

INSTRUCTIONS

( ) 1. Mount the two guide rails and BAKELITE slides (from kit) on the cradle assembly, with the rail lip on the outside (Fig. 1A). Use the threaded holes in the cradle, spaced according to the lengths listed for the kits in Fig. 1B. Mount the rails with the 4-40 x 3/8 FHS screws from the kit.

( ) 2. Fasten each side of the cradle assembly to the front flange of the relay rack, with three 8-32 x 1/2 PHS screws from the kit (see Figs. 2 and 6). Each mounting bar is fastened to the cradle by a single 4-40 screw, allowing it to be adjusted for slight variations in rack width.

NOTE: To install the cradle assembly in channel-type racks, it will be necessary to tilt the assembly sideways, while bending one side inward.

( ) 3. Remove the voltage tag on the rear right hand side of the instrument.

( ) 4. Relocate the voltage tag on the middle left hand side of the instrument, use a #43 drill (see Fig. 3).

( ) 5. Mount the hold-down bracket (from kit) on the rear panel of the instrument, as near to the vertical center line as possible (see Fig. 3).

( ) a. Drill and tap the two holes in the rear panel shown in Fig. 3. Use a #29 drill and an 8-32 tap.

CAUTION: BE CAREFUL NOT TO DRILL INTO COMPONENTS MOUNTED BEHIND THE REAR SUB-PANEL.

( ) b. Mount the hold-down bracket, using two 8-32 x 1/2 PHS screws from the kit.

BAKELITE, Reg. TM of Union Carbide Corp.

INSTRUCTIONS (cont)

( ) c. If the instrument will be subject to excessive vibration, the 8-32 nuts (from kit) should be added.

( ) 6. Place the instrument on the cradle guide rails and slide it into place.

( ) 7. Temporarily mount the mask (from kit) on the front of the relay rack, over the instrument front panel, and hold it in place with three or four of the 10-32 x 1/2 OHS screws from the kit.

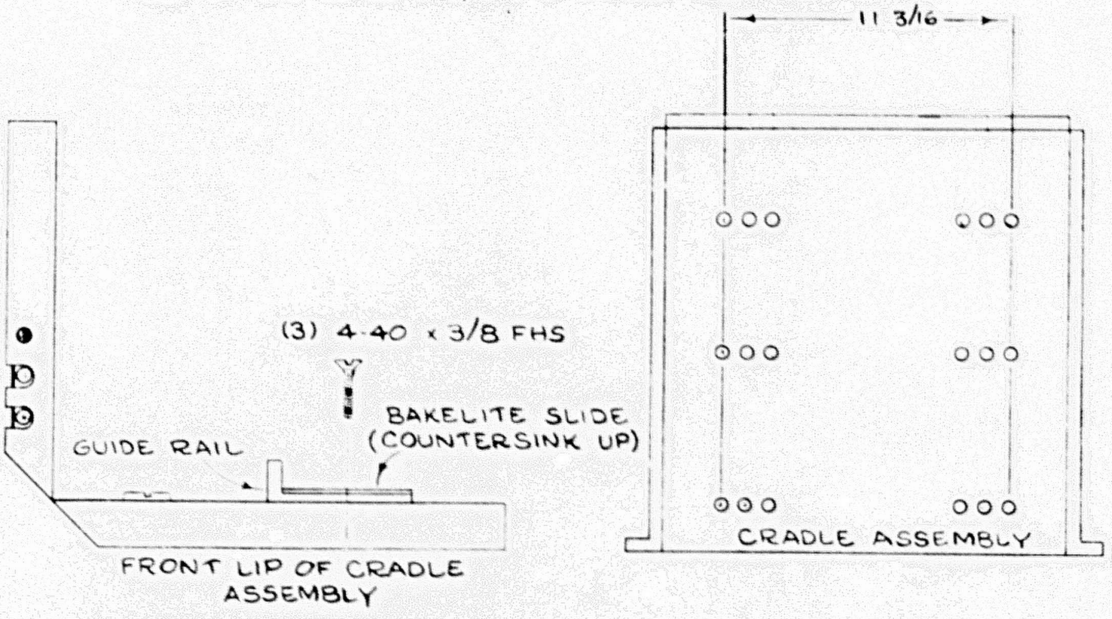


FIG. 1

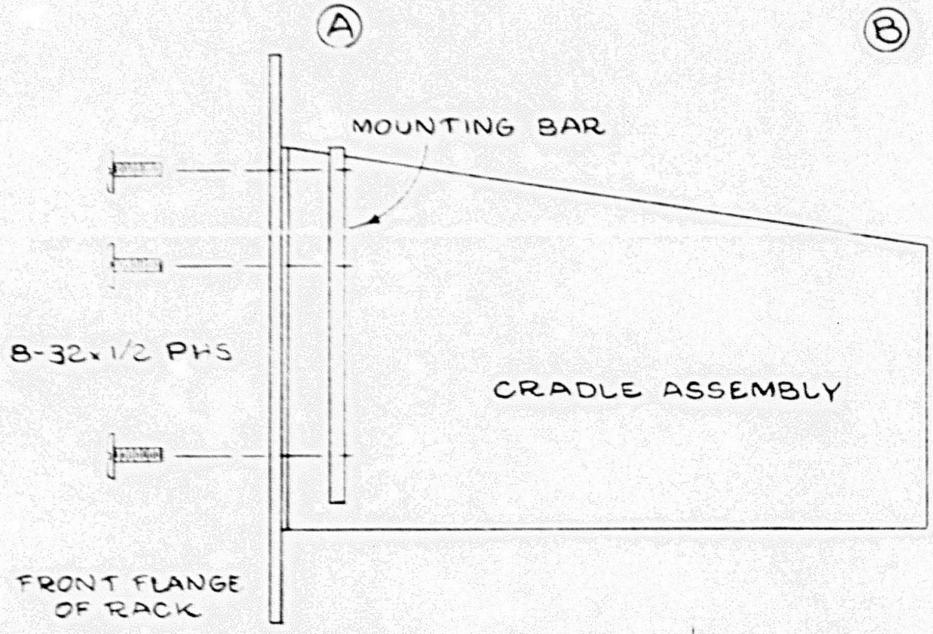


FIG. 2

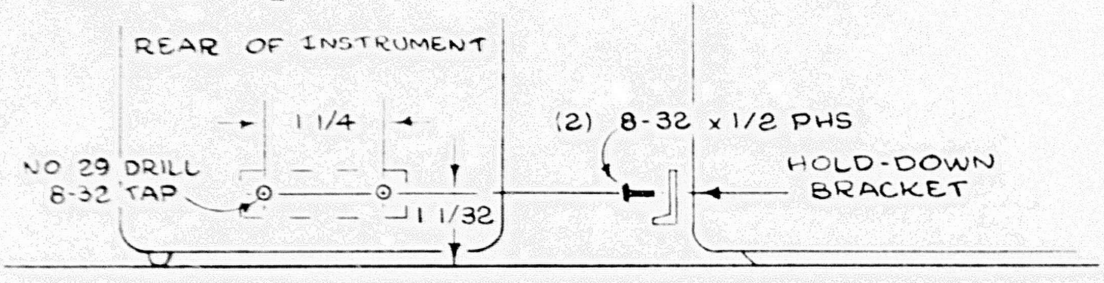


FIG. 3

INSTRUCTIONS (cont)

( ) 8. Position the instrument so that the stainless steel ring touches the mask all the way around the instrument (see Fig. 4).

( ) 9. Place the instrument stop (from kit) on the cradle so that it meshes with the hold-down bracket on the instrument (see Fig. 5). If necessary, the hold-down bracket may be adjusted up or down.

( ) Mark the exact location of the stop on the cradle.

( )10. Remove the mask and the instrument.

( )11. Place the instrument stop in the location marked in step 7. Select two of the tapped holes in the stop, and mark and drill 11/64in. holes in the cradle at these points.

( )12. Mount the stop, using the 8-32 x 5/16 PHS screws, flat washers and lock-washers from the kit (see Fig. 5).

( )13. Replace the instrument. Make sure the hold-down bracket and instrument stop come together properly.

( )14. Replace the mask, using the 10-32 x 1/2 OHS screws, the #10 cup washers, and the two spacer washers from the kit (see Fig. 6).

THIS COMPLETES THE INSTALLATION

JT:ls

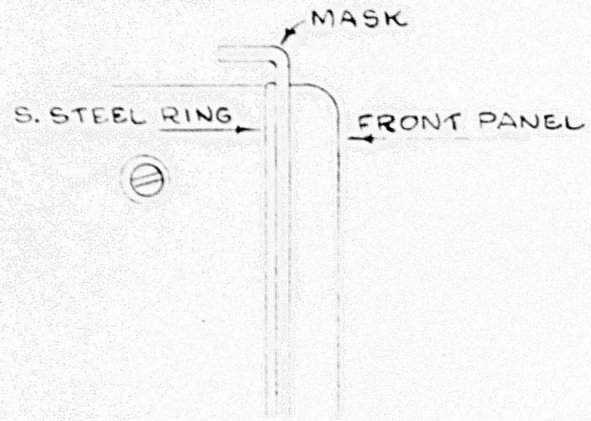


FIG. 4

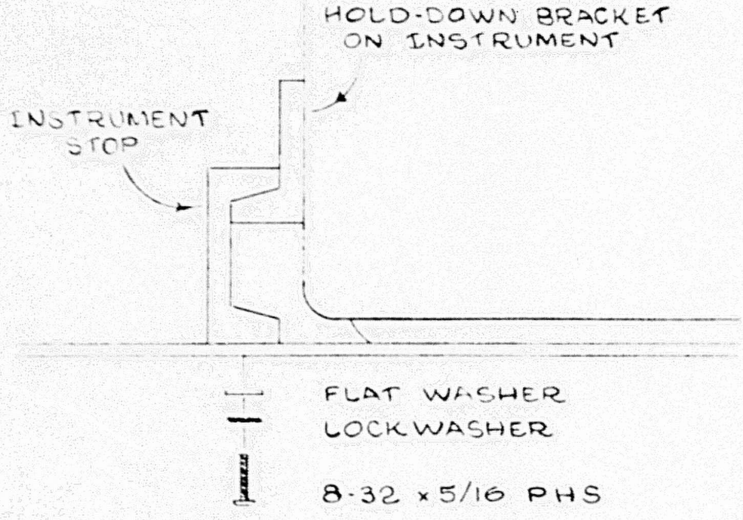
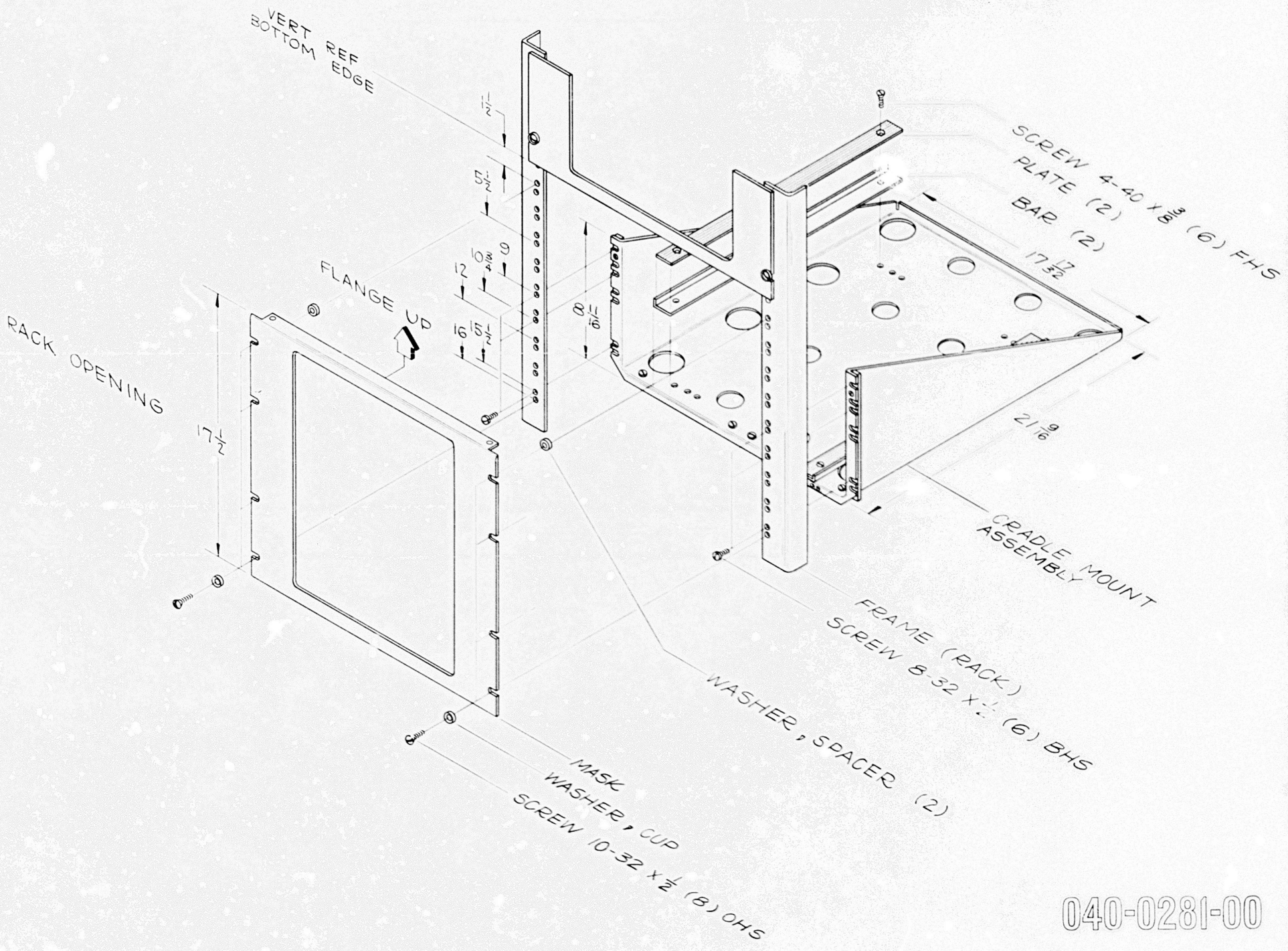


FIG. 5



040-0281-00

FIG. 6

product modification

050-0063-00

Instruments
See Below

CRT SECURING RING

For the following Tektronix Oscilloscopes:

502	SN	2380- 7519	535A	SN	21350-28840
503	SN	101- 2379	RM35A	SN	1230- 2739
RM503	SN	101- 1334	536	SN	1090- 2209
504	SN	101- 529	541A	SN	20470-22308
RM504	SN	101- 529	RM41A	SN	1030- 1435
507*	SN	180- 415	543	SN	1250- 3000
515A	SN	4804- 7499	543A	SN	3001- 3909
RM15**	SN	882- 2416	RM43	SN	112- 1000
516	SN	101- 1319	RM43A	SN	1001- 1044
525	SN	870- 1449	545A	SN	22060-34039
526	SN	101- 279	RM45A	SN	1200- 3009
531A	SN	20410-23759	551	SN	1820- 4199
RM31A	SN	1060- 1949	560	SN	101- 378
532	SN	6520- 7249	561	SN	101- 1618
RM32	SN	331- 559	570	SN	5200- 5369
533	SN	1470- 3000	575	SN	1620- 4928
533A	SN	3001- 3939	581	SN	440- 1089
RM33	SN	140- 1000	585	SN	741- 3049
RM33A	SN	1001- 1114	661	SN	101- 249

*507-211A SN 170- 415
**RM15-209C SN 882-1572 (approx)

New CRT securing ring, 354-0178-00, replaces 354-0078-00 previously used.

The new CRT securing ring, plus an improved CRT Rotator base, prevent CRT from rotating or sliding, thereby making adjustment more reliable.

NOTE: If the serial number of your instrument is above those listed, or if this kit has been installed, disregard the instructions as PN 354-0178-00 is a direct replacement.

11-12-69
Supersedes: August 1967

PARTS INCLUDED IN PARTS REPLACEMENT KIT:

Quantity	Part Number	Description
1 ea	354-0178-00	Ring, CRT securing
1 ea	432-0022-02	Base, CRT Rotator

INSTRUCTIONS

( ) 1. Remove the CRT from the instrument.

REFER TO DRAWING OF CRT ROTATOR ASSEMBLY ON FOLLOWING PAGE.

( ) 2. Remove screws holding CRT rotator base to mounting bracket.

NOTE: Use same holes when installing new base.

( ) 3. Remove clamping ring and adjusting screw from the old assembly and install on new CRT rotator base from the kit.

( ) 4. Reinstall CRT rotator assembly on mounting bracket.

( ) 5. Install new CRT securing ring (from kit) onto assembly.

NOTE: Make certain the ears on both sides of the ring are properly positioned.

( ) 6. Install CRT and complete mechanical work as required.

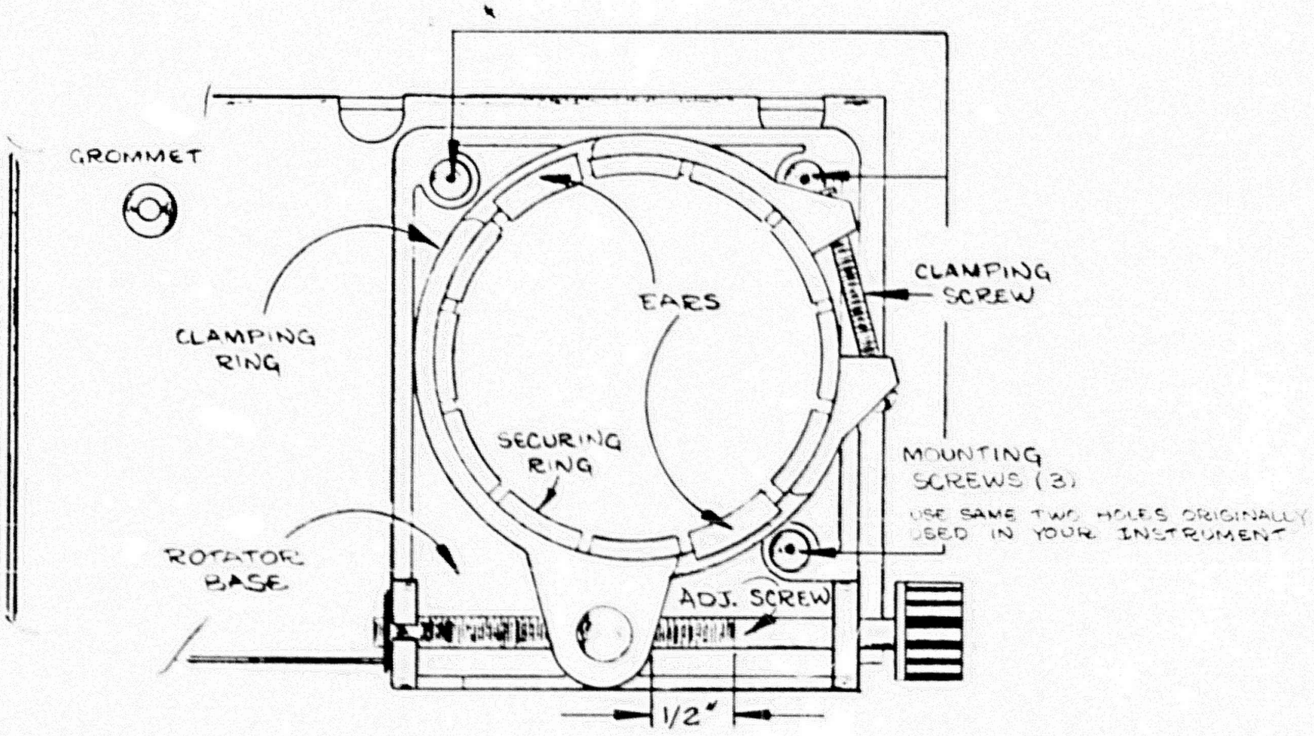
( ) Check installation for proper operation.

( ) Turn instrument on and align trace.

NOTE: After aligning trace, back off on adjustment 1/4 turn to relieve strain. If not relieved, the strain tends to cause a creeping rotation of the CRT.

TL:ls

INSTRUCTIONS (continued)



CRT ROTATOR ASSEMBLY

MOD SUMMARY INDEX

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