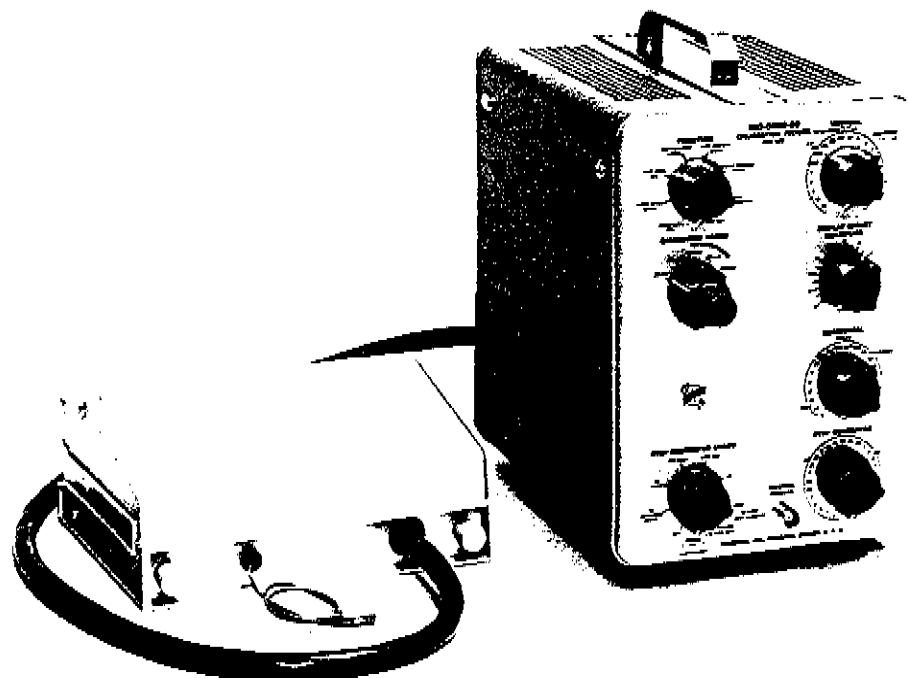


*Tektronix, Inc.*

Serial Number \_\_\_\_\_

**067-0599-00 CALIBRATION FIXTURE**  
**576 Calibration Unit**



FOR REFERENCE PURPOSES ONLY



---

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 M $\Omega$ ) output.

The Vectical, Display Offset, Horizontal and Step Generator switches of the 576 have marching 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.

# TEK INTER-OFFICE COMMUNICATION

TO John Martin 94-540 DATE June 25, 1991  
FROM Frank Gray, 50-PAT  
SUBJECT GIDEP permit request

In response to the request to grant permission to the Government Industry Exchange Program (GIDEP) to reproduce Tektronix operator, service and instruction manuals, Tektronix, Inc. hereby grants such permission for distribution of such documents to any GIDEP user that is a full participant in the Metrology Data Interchange Data Base of GIDEP provided that all copies of the original work include the entire copyright notice and ownership statement exactly as it appears in the original, together with the Legend "Reproduced with permission."

This permission has been approved by the Intellectual Property Committee of Tektronix, and a copy of this memo may be provided to GIDEP to provide the requested permission.

  
Francis I. Gray  
Group Patent Counsel

imp

## CONTENTS

Section 1	Characteristics
	Electrical
	Environmental
	Physical
	Mechanical
	Controls and Connectors
Section 2	Operating Instructions
Section 3	Circuit Description
Section 4	Maintenance
	<b>General</b> Information
	<b>Calibration</b>
Section 5	Schematic Diagrams
Section 6	Electrical Parts List
Section 7	Mechanical Parts List
	Mechanical Parts List Illustrations

SECTION I  
CHARACTERISTICS

ELECTRICAL

Characteristics	Performance Limits
Voltage Accuracies	
CALIBRATOR RANGES	25 mV, 50 mV, 100 mV, 125 mV, 200 mV: all within 0.04%
50 mV VARIABLE Range	At least -4% to at least +4%
HORIZONTAL VOLTS	
COLLECTOR	Within 0.5%
BASE	Within 0.5%
STEP GENERATOR	Within 0.5%
Current Accuracies	
VERTICAL	
COLLECTOR	Within 0.5%
4.3 EMITTER	Within 0.5%
4.5 STEP GENERATOR	Within 0.5%
Resistance Ratios	
4.1 DISPLAY OFFSET MULTIPLIER	Within 0.04%
4.2 COLL VOLTAGE $\div$ 10 INTO 10 M $\Omega$	Within 0.8%
Resistive Loads	
1 K COLLECTOR SHORT	1 k $\Omega$ within 0.5%
1 K + 18 K	19 k $\Omega$ , within 5%

ELECTRICAL (cont)

Characteristics	I	Performance Limits
Resistance Loads (cont)		
.1 $\Omega$		0.1 $\Omega$ , within 3%
40 v LOAD		3.6 k $\Omega$ , within 5%
Camera Power		75 $\Omega$ , within 1%
EXTERNAL MONITOR Output (With STEP GENERATOR LOADS Switch in EXT ONLY or STEP GEN)		1 V/STEP (INTO 10,000 M $\Omega$ ), within 0.5%

POWER REQUIREMENTS

Characteristics	Performance Requirements
Power derived through test fixture interface of the 576.	

ENVIRONMENTAL

Characteristics	Performance Requirements
Temperature	
Operating Range	Performance requirements listed apply over the range of 20°C to 30°C
storage Range	-40°C to +65°C
Warm-up Time	10 minutes at 25°C

PHYSICAL

Characteristics	Information
Construction	
Chassis	Aluminum alloy
Cabinet	Aluminum alloy with blue-vinyl finish
Panel	Anodized aluminum alloy
Circuit Boards	Glass-epoxy

MECHANICAL

Characteristics	Information
Overall Dimensions	
Main Unit	
Height	9-1/2 inches
Width	6-3/4 inches
Depth	10-1/2 inches
Plug-In Unit	
Height	4 inches
Width	8 inches
Depth	6-1/4 inches
Weight (Total)	≈11 lbs.
Connectors	
Main Unit Front Panel	BNC
Plug-In Unit	
Front Panel	3-pin plug on coax
Rear Panel	Amphenol-type

FUNCTION OF CONTROLS AND CONNECTORS

FUNCTION

**Selects the** function to be checked or calibrated.

HORIZ **AMP** CAL

Applies selected CALIBRATOR RANGE voltage to the 576 **Horizontal Amplifier** External Input.

HORIZ **ATTEN** CHECK

Applies output of the HORIZONTAL VOLTS **switch** to the Horizontal Amplifier External **Input**.

VERT **AMP** CAL

Applies selected CALIBRATOR RANGE **voltage** to the 576 Vertical Amplifier External Input.

VERT CURRENT CHECK

Applies output of **the** VERTICAL switch to the Vertical Amplifier **External Input**.

VERT **RISETIME** CHECK

Applies a 0.5 V amplitude pulse to the 576's External Vertical input and a **0.5 v**, 200  $\mu$ s sweep to **the** External Horizontal input.

HORIZONTAL **RISETIME** CHECK

Applies a 0.5 V pulse to the 576's External **Horizontal** input and a 0.5 V, 200  $\mu$ s sweep to the External Vertical Input.

HORIZ COMPENSATION

Applies a 25 V pulse to the Collector Sensing circuit in the 576.

sTEP GEN

Connects**the** STEP GENERATOR switch and STEP GENERATOR LOADS switch to the **576's** base sensing, collector sensing and collector supply circuits.

## CALIBRATOR RANGE

Selects one of six voltages for Horizontal or Vertical Amp basic gain calibration.

## 50 mV VARIABLE

Varies output of the 50 mV CALIBRATOR RANGE position only.

## VERTICAL

Selects calibrated deflection factors in 20 steps from 10 A to 10  $\mu$ A Collector current or 10  $\mu$ A to 10 nA Emitter current. Collector or Emitter current output selected by setting of 576 MODE switch.

## DISPLAY OFFSET MULTIPLIER

Provides offset voltage in 20 calibrated steps to either the Horizontal or Vertical Amplifier External inputs as selected by the FUNCTION switch.

## HORIZONTAL

## BASE VOLTS

Selects six calibrated deflection factors from 20 V to 0.5 V.

## COLLECTOR VOLTS

Selects twelve calibrated deflection factors from two 1 k (1000 V) positions to 0.5 V.

## STEP GENERATOR

Selects six calibrated voltage deflection factors and twenty-one calibrated current deflection factors.

## STEP GENERATOR LOADS

## OFF

Grounds Base Sensing input to the 576 and opens the Calibration Fixture's EXTERNAL MONITOR output circuit.

## 1 K COLLECTOR SHORT

Provides a 1 k $\Omega$  load for the 576's Step Generator output circuit and a ground to the Collector supply and sensing circuits.

## 1 K +18 K

Provides a 19 k $\Omega$  load for the 576's Step Generator output circuit and a 1 k $\Omega$  load for the 576's base sensing circuit.



STEP GENERATOR LOADS (cont)

**EXT ONLY**

Routes the 576's Step Generator output to the Calibration Fixture's **EXTERNAL MONITOR** output via its **STEP GENERATOR** switch. The 576's base sensing circuit is grounded. The 067-0599-00 sees only external loads in this position.

STEP GEN

Routes the 576's Step Generator output to the Calibration Fixture's **EXTERNAL MONITOR** output via its **STEP GENERATOR** switch, loading the 576's base sensing circuit.

.1  $\Omega$

Provides a 0.1  $\Omega$  load for the 576's Step Generator output for checking short circuit current limiting.

40 V LOAD

Provides a 3.6  $k\Omega$  load for the 576's Step Generator output to ~~test~~ maximum voltage output in the voltage mode.

COLL VOLTAGE 4 10 INTO 1  $M\Omega$

Provides a 10 to 1 **divider** load for the 576's Collector Supply and grounds the base **sensing** circuit.

**EXTERNAL MONITOR, 1 V/STEP (INTO 10,000  $M\Omega$ )**

BNC connector providing output of the **STEP GENERATOR LOADS** switch for external monitoring.

**P819**

3-pin plug connected to 75  $\Omega$  load for the 576's **CAMERA POWER** output.

OPERATING CONDITIONS

There are certain conditions that must be met before the performance limits specified are valid.

The instrument must be calibrated at an ambient temperature between  $+20^{\circ}\text{C}$  and  $+30^{\circ}\text{C}$ .

Unless otherwise noted, the instrument must be operating for at least 10 minutes within its **environmental** limits.

## SECTION 2

## OPERATING INSTRUCTIONS

## General

The 067-0599-00 Calibration Fixture was designed specifically for checking or **re-calibrating** the performance of the Type 576 Curve Tracer. It provides accurate calibration voltages and currents for the Horizontal and Vertical deflection circuits and accurate loads for the Collector Supply and Step Generator circuits. The 067-0599-00 does this through the external input and output lines at the 576 Test Fixture Interface.

The VERTICAL, DISPLAY OFFSET MULTIPLIER, HORIZONTAL and STEP GENERATOR switches on the 067-0599-00 match the 576's switches with like names for easy, direct-reading, comparison-style adjusting and checking, using the 576's own display for measurement. External monitoring of the 576's Step Generator output is available through the 1 V/STEP (into 10,000  $\Omega$ ) EXTERNAL MONITOR output jack.

Remove the Standard Test Fixture from the Type 576 and install the 067-0599-00 Calibration Fixture plug-in module. The 067-0599-00 **is** totally dependent on the Type 576 for AC line voltage and regulated low voltage power supplies.

Turn the Type 576 on and allow at least 10 minutes warm-up before making any checks or adjustments.

Because of the multiplicity and complexity of controls on the 576 and 067-0599-00 Calibration Fixture, checking and/or adjusting the 576 should **be** done sequentially according to the Performance Check/Calibration Procedure beginning on page 5-2 of the Type 576 **Instruction** Manual. (Tektronix Part Number 070-0905-00).

## Performance Check Only

Beginning on page 5-4 of the 576 Manual, **set** all instrument controls according to the listing. Plug the 3-pin connector from the 067-0599-00 into the CAMERA POWER jack of **the** 576 to provide a 75  $\Omega$  load for the 576's +15 v power supply. Begin performance checks with Step 5, page 5-8, doing only those parts of each **step** labeled CHECK FOR - .

Adjustment Only

For a complete or partial adjustment of the 576's internal controls without a complete performance check, start with Step 4 of the **adjustment** and calibration procedure on page 5-6 of the 576 Manual. Connect the CAMERA POWER jack on the 576. Do only those parts of each step labeled **ADJUST -** and printed in red.

Calibration

To do a complete calibration of the 576, using the 067-0599-00, start the procedure with Step 3, part f., on page 5-5 of the 576 Manual, Do each step completely, combining adjustments and performance checks. Refer to the INITIAL CONTROL SETTINGS list on page 5-4 to be **sure** the 067-0599-00 controls are properly set up to start the calibration procedure.

Using **the EXTERNAL MONITOR Output**


When checking or adjusting the 576's Step Generator output, always monitor with a very high input impedance. The 067-0599-00 EXTERNAL MONITOR STEP GEN and EXT ONLY outputs are 1 V/STEP into at least 10,000  $\Omega$  when the STEP **GENERATOR** switch on the 067-0599-00 and the STEP GENERATOR AMPLITUDE on the 576 are **in** matching positions. Outputs from the rest of the STEP **GENERATOR** LOADS switch are the results of the indicated loads to the 576's circuits.

## SECTION 3

## CIRCUIT DESCRIPTIONS

Schematic  , Connectors to Indicator

Resistors R1 through R14 provide the maximum load the 576 power supplies might encounter with Standard Test Fixtures. R13 and R14 simulate a load that might be encountered if a camera were used on the 576.

Schematic  , Function Switching

The DISPLAY OFFSET MULTIPLIER, S105, is a precision voltage divider from an +11.7 v source. R102, 25 k $\Omega$ , sets the voltage precisely at the top of the divider. R105 consists of twenty 1 k $\Omega$  resistors, marched to 0.2%. S105 allows selection of 21 different voltage levels to check the display offset in the 576. S107, CALIBRATOR RANGE, selects precise voltages for comparison with the calibrator voltages within the 576. R109, R112, R115, and R118 allow fine adjustment of the 067-0599-00 calibrator voltages. For the 50 mV CALIBRATOR RANGE position, a variable feature is provided, with R121 being the variable pot in a divider string consisting of R120, R121, and R122.

+1500 V from the Collector Supply in the 576 is applied through S100, the FUNCTION switch, to a divider, producing a precise +1000 V. This +1000 V supply is divided on S165, the HORIZONTAL VOLTS switch, into +10 V. This +10 V is compared to a +10 V reference, derived from the +11.7 V in the calibration fixture, and maintained through a regulator consisting of Q147 and integrated circuit U149. VR146 and VR147, tied from the collector of Q147 to the 25 volt supply, provide over-voltage protection for Q147. The current from the +1500 V supply passes through zener diodes VR138 and VR145 to the collector of Q147, through R148, and finally, is referenced to the chassis through U149. The output voltage of U149 is maintained as a constant depending upon the differential input voltage. This in turn changes the current through the grounded base stage Q147 to maintain +1000 V at the top of the zener string. The +1000 V is then divided through the precision resistor string on S165, giving precise base and collector voltage outputs for the Horizontal. The outputs are applied to the base and collector sensing inputs of the 576.


The 576's Collector Supply voltage, AC coupled, is divided by 10 by the resistor string R180 through R185, and routed to the EXTERNAL MONITOR connector on the front panel of the calibration fixture by the STEP GENERATOR LOADS switch S185.

Schematic  , Step Generator Switch end Pulse Generator

The Steps In signal to S210, the STEP GENERATOR switch, is the Step Generator output from the 576 via the STEP GENERATOR LOADS switch of the 067-0599-00. The purpose of this switch is to provide a current load for the current steps and a voltage divider in the voltage seep mode. Integrated circuit U230 is part of an operational amplifier whose purpose is to keep the voltage change of the Steps Out constant when the voltage of the Steps In is changed.

Q234 drives the Step polarity Invert relay in the 576. Q234 is turned on and off by contact 32 of the STEP GENERATOR SWITCH, S210.

Q241 and Q251 make up a free-running multivibrator whose period is set to 200  $\mu$ s by R244. The output of the multivibrator is applied through R255 to the base of Q256 and amplified kc produce a +25 V pulse. This +25 V pulse is then divided by R258, R259, and R260 producing a +0.5 V pulse. R259 allows exact adjustment of  $\pm$ 0.5 V pulse amplitude. The output of the multivibrator is also AC coupled via C262 to Q264 and Q268, a ramp generator whose time constant is controlled by R268 and C270. The ramp is output through source follower, Q271. R275 provides adjustment to an exact +0.5 V sweep amplitude,

Schematic  , Vertical Switch

The 115 V AC line voltage is applied through the inter-connecting box of the 067-0599-00 to the primary of T301, rectified, and filtered by CR302, CR303, and C304. 4305 is a series regulator for the +25 V supply. Q308 and 4307 form a comparator circuit, using the +25 V regulated supply.

VR310 provides a reference for the +11.7 V supply, from which a +10 V supply is derived, adjustable by R311 and R312. An operational amplifier, formed by Q320, Q322, Q324, and U327, controls an error amplifier formed by Q332, Q335, Q337, and Q340. From the emitter of Q340 an error signal is fed back to the gate of Q320 in the operational amplifier to keep a constant +10 V across the resistors selected by the VERTICAL switch, 5360. Three voltages are developed from the +10 V supply through the resistor divider string R314, R315, R316, and R317. These voltages, +6.25 V, +2.5 V, and +1.25 V are applied to the VERTICAL switch and divided to provide accurate voltages for the 576's vertical sensing circuits.

Q347 and Q348 amplify the 300 ms pulses coming in from the 576.

SECTION 4  
MAINTENANCE

GENERAL INFORMATION

Introduction

This portion of the manual contains a complete calibration procedure for the 067-0599-00 Calibration Fixture. The instrument will not often require a complete, start-from-scratch calibration, but will need occasional adjustments as components age or are replaced.

Calibration is a valuable part of preventive maintenance, since many types of minor troubles may be discovered and corrected before they become serious enough to disable the instrument. Also, certain troubles can be easily isolated to a particular section of the instrument by attempting calibration.

This section includes a list of all instruments required to calibrate the Type 067-0599-00 Calibration Fixture, a check out list, and a step-by-step calibration procedure. The check out list is, essentially, a short form calibration check; it has the same sequence of steps and the same limits on checks or adjustments as the calibration procedure. This list may be used to quickly check performance or locate faulty circuits.

It will be assumed in this manual that appropriate interconnections and necessary adapters are available.

It will also be assumed that a control will be left in the position indicated on the previous step unless otherwise indicated.

All front-panel control labels of the 067-0599-00 Calibration Fixture or test instrument are in capital letters (STEP GEN), etc. Internal adjustment labels are identified by an R or C number (R259, .5 V Pulse Cal).

### Visual Inspection

The instrument should be visually inspected occasionally for such defects as poor connections, broken or damaged parts, improperly seated transistors, and heat damaged parts. The remedy for most of these defects is not obvious. A heat damaged part is usually the symptom of some defect that is not obvious. The cause of overheating should be determined and **corrected** before the part is replaced, otherwise the **damage** may be repeated.

### Transistor Checks

Periodic preventive **maintenance** checks on the transistors are not recommended. Satisfactory operation of the instrument in all **respects** is adequate assurance that the transistors are performing properly.

### Recalibration

To insure that the 067-0599-00 Calibration Fixture maintains its accuracy, check the calibration after each 500 hours of operation or every six months if used intermittently. Complete calibration instructions appear later in this section.

The calibration procedure can also be helpful in isolating troubles in the **instrument**. Also, minor troubles in the instrument that may not be apparent during normal operation may be revealed and **corrected** during **calibration**.

### Ordering Parts

Many of the components are standard electronic parts that may be purchased locally. However, all standard parts in the instrument can be obtained from Tektronix through your local Tektronix Field Engineer or Field Office. Before ordering, consult the parts list of this manual to determine the value, tolerance, and rating required. Some of the parts used are not standard parts and may or may not be available for replacement. Consult any particular replacement with your local Tektronix Field Engineer or Field Office.

## CALIBRATION

## Equipment Required:

## TEKTRONIX Instruments

- 1 Type 547 Oscilloscope
- 1 Type 576 Curve Tracer
- 1 Type W Plug-In Unit High Gain Differential Comparator
- 1 GRW20MT3A Line Voltage Control Unit

## Accessories

- 1 Probe, P6011, 1X
- 1 50  $\Omega$  BNC Coax Cable, 18 inches

## Other Equipment

- 1 Potentiometric Voltmeter Bridge (PVB) ESI Model 300
- 1 9 M $\Omega$  Precision Resistor

## CHECK OUT LIST

- c1 1. Preset Calibration Fixture.
- c1 2. Check DISPLAY OFFSET MULTIPLIER Resistance Ratio: Within 0.04%.
- 3. Check Collector Voltage 10X Attenuation: Within 0.8%.
- 4. Check Emitter Current resistor accuracies: Within 0.5%.
- 5. Check Vertical Current resistor accuracies: Within 0.5%.
- 6. Check Step Generator resistor accuracies: Within 0.5%.
- 7. Check Step Generator Loads:
  - a. 1 K: 1 k $\Omega$ , within 0.5%.
  - b. 1 K + 18 K: 19 k $\Omega$ , within 5%.
  - c. 40 V LOAD: 3.6 k $\Omega$ , within 5%.
  - c. .1  $\Omega$ : 0.1  $\Omega$ , within 3%.



- 8. Check Power Supplies:
  - a. **Presets**
  - b. setup
  - c. **+25 V**, within 3.5%.
  - d. **+11.7 V**, within 5%.
  - e. Preadjust **+10 V**.
  
- 9. Check 10 V Reference:
  - a. Setup
  - b. **+10 V**, within **0.04%**.
  
- 10. Check Vertical Balance accuracy: Within 0.04%
  
- 11. Check Emitter Current Supplies:
  - a. setup
  - b. **+1.25 V**, within 0.5%.
  - c. **+2.5 V**, within 0.5%.
  - d. **+6.25 V**, within 0.5%.
  
- 12. Check Calibrator Voltage:
  - a. setup
  - b. **+200 mV**, within 0.04%.
  - c. **+125 mV**, within 0.04%.
  - d. **+100 mV**, within 0.04%.
  - e. **+50 mV**, within 0.04%.
  - f. **+25 mV**, within 0.04%.
  
- c 1 13. Check Horizontal Volts accuracies:
  - a. setup
  - b. HORIZONTAL COLLECTOR VOLTS, within 0.5%.
  - c. HORIZONTAL BASE VOLTS, within 0.5%.

- 14. Check Step Generator
  - a. Setup.
  - b. Amplifier Balance, within 2 mV.
  - c. Amplifier Gain, within 1%.
- 15. Check Pulse Duration and Amplitude
  - a. 0.5 V Sweep Time, 200  $\mu$ s, within 3%.
  - b. 0.5 V Sweep Amplitude: 0.5 V, within 2%.
  - c. 0.5 V Pulse Amplitude: 0.5 V, within 2%.
  - d. 25 V Pulse Amplitude: 25 V, within 1 V.

CALIBRATION PROCEDURE

1. PRESET CAL FIXTURE

FUNCTION	VERT CURRENT CHECK
VERTICAL	10 A
CALIBRATOR RANGE	200 mv, CAL
DISPLAY OFFSET MULTIPLIER	10
HORIZONTAL VOLTS	1 K COLLECTOR;
STEP GENERATOR LOADS	OFF
STEP GENERATOR	200 mA

2. DISPLAY OFFSET MULTIPLIER

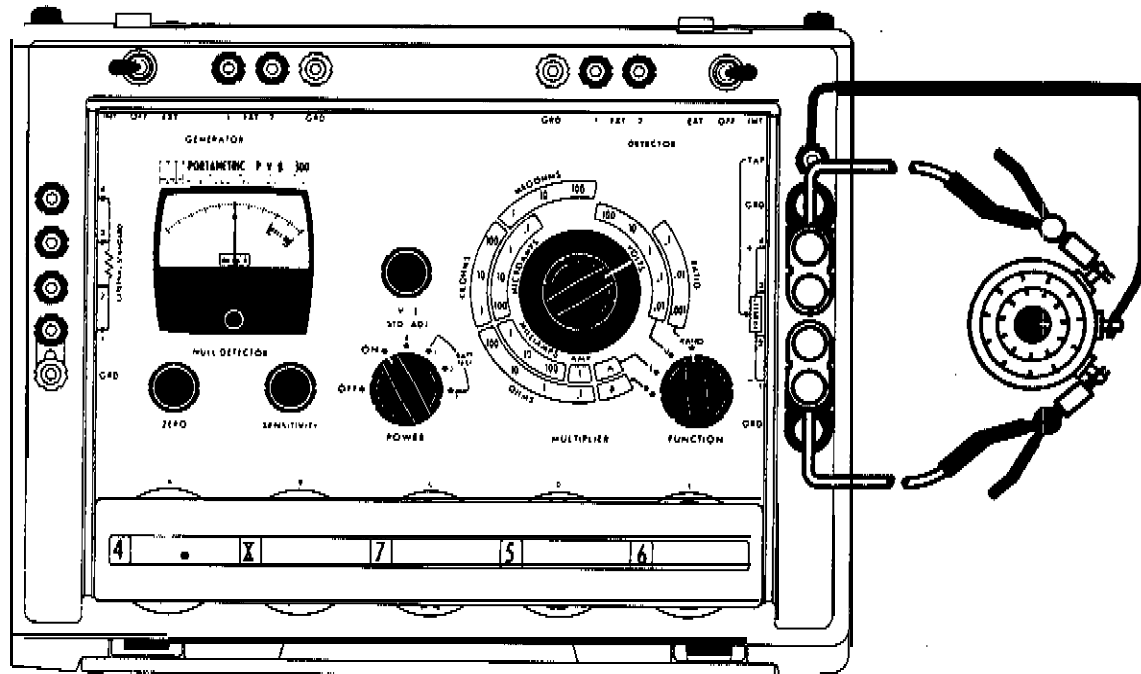
a. Check resistance ratio within **0.04%**.

Connect the PVB 300 to the CAL FIXTURE: black (-) to term J, red (+) to gnd, and TAP to the 9-7-0 wire on the rear wafer of the FUNCTION switch.

Set the PVB 300 for ratio measurement,

Ratio Measurement

- 1) Set FUNCTION selector to RATIO position.
- 2) Set MULTIPLIER selector to **.1 RATIO**,
- 3) Set GENERATOR switch to OFF and DETECTOR switch to OFF.
- 4) Set MAIN DECADE dials to **0.0000**.
- 5) Turn POWER switch to ON Position; allow 1 minute for stabilization.
- 6) Set SENSITIVITY control to **maximum gain (cw)**.
- 7) Connect the unknown resistive voltage divider to the **UNKNOWN** terminals. If the measurement ratio is between 0 and 0.51, connect the divider high (1.0) end to terminals 3 and 4 and low (**0**) end to terminals 1 and 2. (If the ratio is between 0.51 and 1.0 reverse the divider high and low end connections.) The divider output terminal connects to the TAP terminal.
- 8) Set unknown divider to desired output setting.
- 9) Set the DETECTOR switch to INT and rotate the ZERO control for **NULL DETECTOR** zero indication.
- 10) Turn detector SENSITIVITY **control** to minimum gain (**ccw**) and set GENERATOR switch to INT.
- 11) Increase MAIN DECADE dial A (**cw**) until detector reverses polarity, then rotate one position in opposite direction (**ccw**).
- 12) Repeat step 11 for dials B through D increasing detector sensitivity as needed.
- J-3) Make final null balance using decade dial E.
- 14) The value of the unknown ratio is read from the MAIN DECADE **dial** setting (**S**) times the **MULTIPLIER** setting (**M**). If the divider high and low input leads were reversed because ratio was between 0.51 and **1.0**, the ratio equals (10-S) times M.
- 15) Disconnect the unknown divider and turn the POWER switch to OFF before leaving the Model 300 PVB.



Check each position of the DISPLAY OFFSET MULTIPLIER switch as indicated in the following table:

DISPLAY OFFSET	PVB 300	ERROR	
		Minimum	Maximum
9.5	.05	.04998	.05002
9	.1	.09996	.10004
8.5	.15	.14994	.15006
8	.2	.19992	.20008
7.5	.25	.24990	.25010
7	.3	.29988	.30012
6.5	.35	.34986	.35014
6	.4	.39984	.40016
5.5	.45	.44982	.45018
Reverse the PVB 300 black (-) and red (+) leads.			
5	.5	.49980	.50020
4.5	.45	.44982	.45018
4	.4	.39984	.40016
3.5	.35	.34986	.35014
3	.3	.29988	.30012
2	.2	.19992	.20008
1.5	.15	.14994	.15006
1	.1	.09996	.10004
.5	.05	.04998	.05002

3. COLLECTOR VOLTAGE 10X ATTEN

a. Setup

Connect PVB 300: black (-) lead to gnd and red (+) lead to the **junction** of the .01 capacitor and the 499k resistor on the rear wafer of the STEP GENERATOR LOAD switch. Connect TAP to the junction of the two 1 MΩ resistors on the **second** wafer of the STEP GENERATOR LOAD switch.

b. Check 10X attenuator **within** 0.8%.

Check resistance ratio as in Step 2. PVB 300: **.1805** minimum, **.1835** maximum.

4. EMITTER CURRENT RESISTORS

a. Setup

Set the CAL FIXTURE VERTICAL switch to 50 mA.

Connect **the** PVB 300 red (+) lead to the Y-4 wire on the 4th wafer of the VERTICAL switch. Connect the black (-) lead to the 5th wafer at the junction of the 100 k resistor,

b. Check EMITTER resistors within 0.5%.

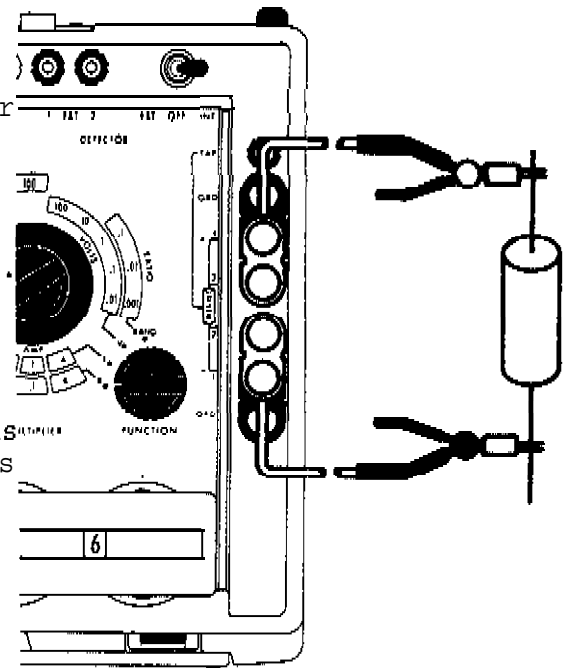
Set up the PVB 300 for a resistance measurement.

Resistance Measurement

- 1) Set FUNCTION selector to R position.
- 2) Set MULTIPLIER selector to .1 OHMS position.
- 3) Set GENERATOR switch to OFF and DETECTOR switch to OFF.
- 4) Set MAIN DECADE dials to **4.XXXX**.
- 5) Turn **POWER** switch to ON position: allow one minute for **stabilization**.
- 6) Set SENSITIVITY control to maximum gain (cw).
- 7) Connect test resistor to UNKNOWN terminals.
- 8) Set DETECTOR switch to INT and adjust **NULL DETECTOR** for **zero** indication **using** ZERO control.
- 9) Turn detector SENSITIVITY control to **minimum** gain (ccw) and set GENERATOR switch to INT position.
- 10) Rotate **MULTIPLIER** knob slowly clockwise, one position at a time, until detector indication **reverses** polarity.
- 11) Reduce MAIN DECADE dial A setting (ccw) until detector reverses polarity, then rotate one position in opposite direction (cw).

## Resistance Measurement (cont)

- 12) Repeat step 11 for dials B through D, increasing detector sensitivity as required.
- 13) Make final resistance bridge balance by adjusting dial E for a detector null.
- 14) Turn GENERATOR switch to OFF position.
- 15) Recheck null detector zero setting, adjusting ZERO control if necessary.
- 16) If zero setting has changed, turn GENERATOR switch to INT and re-balance the bridge by adjusting dials D and E as required.
- 17) The value of the unknown resistor is read from the MAIN DECADE dial times the MULTIPLIER setting.
- 18) Disconnect the unknown resistor and turn POWER switch to OFF position before leaving the Model 300 PVB.



Measure the resistance in the following positions of the VERTICAL switch.

VERTICAL	Resistance	Error	
		Minimum	Maximum
50 mA	100 k $\Omega$	99.5	100.5
5 mA	1 M $\Omega$	.995	1.005
500 $\mu$ A	10 M $\Omega$	9.950	10.05
50 $\mu$ A	100 M $\Omega$	99.5	100.5

## 5. VERTICAL CURRENT RESISTORS

- a. setup

Remove the following five wires from the circuit board: B, D, N, O, and P. Connect the PVB 300 black (-) lead to the front of the 1  $\Omega$  resistor on the VERTICAL switch.

- b. Check resistance within 0.5%.

Connect the PVB 300 red (+) lead to the rear of, the 1  $\Omega$ , 2  $\Omega$ , 5  $\Omega$ , and 10  $\Omega$  resistor, respectively, and check resistance as in Step 4b.

Resistance	Error	
	Minimum	Maximum
1 $\Omega$	.9950	1.005
2 $\Omega$	1.990	2.010
5 $\Omega$	4.975	5.025
10 $\Omega$	9.950	10.05

5b. Check resistance within 0.5% (cont)

Connect the red (+) lead to the 9-2-4 wire on the second wafer of the VERTICAL switch.

Set the VERTICAL switch as in the following table and check resistance.

VERTICAL	Resistance	Error	
		Minimum	Maximum
500 mA	20 n	19.90	20.10
200 mA	50 n	49.75	50.25
100 mA	100 n	99.50	100.5
50 mA	200 n	199.0	201.0
20 mA	500 n	497.5	502.5
10 mA	1 kΩ	.9950	1.005
5 mA	2 kΩ	1.990	2.010
2 mA	5 kΩ	4.975	5.025
1 mA	10 kΩ	9.950	10.05
500 μA	20 kΩ	19.90	20.10
200 μA	50 kΩ	49.75	50.25
100 μA	100 kΩ	99.50	100.5
50 μA	200 kΩ	199.0	201.0
20 μA	500 kΩ	497.5	502.5

Remove PVB 300.

Reconnect the 5 wires to the circuit board.

6. STEP GENERATOR RESISTORS

a. Setup

Set STEP GENERATOR switch to 200 mA. Connect PVB 300 black (-) lead to pin K and the red (+) Lead to pin C of the Step Generator Load board.

b. Check resistance within 0.5%.

STEP GENERATOR	RESISTANCE	Error	
		Minimum	Maximum
200 mA	5 Ω	4.975	5.025
100 mA	10 n	9.950	10.05
50 mA	20 Ω	1.990	20.10
20 mA	50 Ω	49.75	50.25
10 mA	100 Ω	99.50	100.5
5 mA	200 n	199.0	201.0
2 mA	500 Ω	494.5	502.5
1 mA	1 kΩ	.995	1.005
.5 mA	2 kΩ	1.990	2.010
.2 mA	5 kΩ	4.975	5.025

## 6b. Check resistance within 0.5% (cont).

STEP GENERATOR	RESISTANCE	Error	
		Minimum	Maximum
.1 mA	10 k $\Omega$	9.950	10.05
50 $\mu$ A	20 k $\Omega$	19.90	20.10
20 $\mu$ A	50 k $\Omega$	49.75	50.25
10 $\mu$ A	100 k $\Omega$	99.50	100.50
5 $\mu$ A	200 k $\Omega$	199.0	201.0
2 $\mu$ A	500 k $\Omega$	497.5	502.5
1 $\mu$ A	1 M $\Omega$	.9950	1.005
.5 $\mu$ A	2 M $\Omega$	1.990	2.010
.2 $\mu$ A	5 M $\Omega$	4.975	5.025
.1 $\mu$ A	10 M $\Omega$	9.950	10.05
.05 $\mu$ A	20 M $\Omega$	19.90	20.10

## 7. STEP GENERATOR LOADS

## a. Setup

Connect the PVB red (+) lead to Pin 1 of J360 on the plug-in head.  
Connect the black (-) Lead to pin 23.

## b. Check step generator loads

Set the STEP GENERATOR LOAD switch to the position indicated and check resistance.

STEP GENERATOR LOADS	Resistance	Error	
		Minimum	Maximum
1 k COLLECTOR SHORT	1 k $\Omega$	.995	1.005
1 k + 18 k	19 k $\Omega$	18.050	19.950
+40 LOAD	3.6 k $\Omega$	3.420	3.780
.1 $\Omega$	.33 $\Omega$	.30	.36

## 8. POWER SUPPLY

## a. Presets

576 Curve Tracer:

POWER	Off
MAX PEAK VOLTS	15
PEAK POWER WATTS	220
VARIABLE COLLECTOR SUPPLY	0
POLARITY	(+ NPN)
MODE	(DC Anti Loop)



8a. presets (cont)

INTENSITY	Fully CCW
VERTICAL CURRENT/DIV	2 mA
DISPLAY OFFSET	Norm (off)
CENTERLINE VALUE	5 div
DISPLAY	Non Invert
HORIZONTAL VOLTS/DIV	200
NUMBER OF STEPS	10
CURRENT LIMIT	2 A
STEP/OFFSET AMPLITUDE	.05 $\mu$ A
OFFSET MULT	10 (Fully CCW)
OFFSET	Zero
STEPS	In
STEP FAMILY	Off Single
FATE	Norm
STEP/OFFSET POLARITY	Non Invert

576 Calibration Fixture:

FUNCTION	Vertical Current Check
VERTICAL	10 mA DC
CALIBRATORRANGE	200 mV, CAL
DISPLAY OFFSET MULTIPLIER	10
HORIZONTAL VOLTS	1 k
STEP GENERATOR LOADS	OFF
STEP GENERATOR	200 mA

b. setup

Connect CAL FIXTURE to the Type 576. Connect Type 576 to **Type** TU76. Set Type **TU76** to 115 V **and turn** all power on.

c. Check **+25 V** within 3.5%.

Connect Type W probe to terminal "W" on the CAL FIXTURE circuit board and **measure** the voltage: 25 V, within 0.9 V.

Vary the line voltage from 103.5 V to 126.5 V and check ripple:

120 Hz component, 10 mV, maximum  
10 kHz component, 140 mV, maximum

Set line voltage to 115 V.

The 10 kHz ripple **is due** to the 10 kHz Multi in the CAL FIXTURE pulse **gen.**

8d. Check **+11.7 V** within 5%.

Connect the Type W probe to the cathode of VR310 and measure the voltage. 11.1 V, minimum, 12.3 V, maximum.

VR310 is located on the circuit board at the upper left corner. The cathode is down.

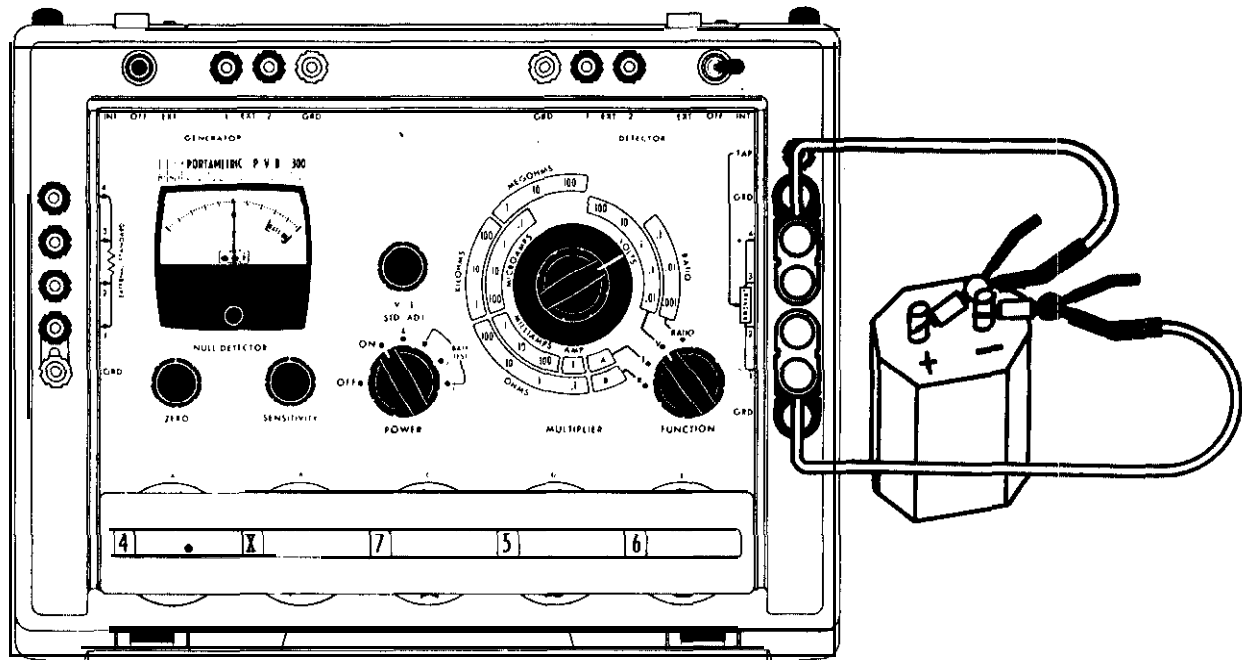
e. Preadjust 10 V

Set R312 to midrange. Connect Type W probe to TP312 and adjust R311 for **+10 V**. Set Type 576 VARIABLE COLLECTOR SUPPLY to 100%. Connect the Type W probe to TP320. Adjust R323 for **+10 V**. Remove Probe.

9. +10 V REFERENCE

a. Setup

Setup PVB 300 to measure voltages:



CAUTION: Make sure the PVB 300 FUNCTION switch is in the V position when measuring voltages. The bridge could be damaged if the FUNCTION switch is in the I, R, or RATIO position.

9a. setup (cont)

- 1) Set FUNCTION selector to V position.
- 2) Set MULTIPLIER selector to 100 VOLTS position.
- 3) Set DETECTOR switch to OFF.
- 4) Set MAIN DECADE dials to 4.XXX.
- 5) Turn POWER switch to ON position; allow 1 minute for stabilization.
- 6) Set SENSITIVITY control to maximum gain (cw).
- 7) Adjust ZERO control for NULL DETECTOR zero indication.
- 8) Turn POWER switch to V, I STD ADJ position.
- 9) Set DETECTOR switch to INT.
- 10) Turn STD ADJ rheostat (10 turns) until detector indicates a null; working voltage reference is now adjusted.
- 11) Turn DETECTOR switch to OFF position, POWER switch to ON and SENSITIVITY control to minimum gain (ccw).
- 12) Connect unknown voltage to UNKNOWN terminals 1 and 4 observing that + end connects to terminal 4. Kelvin Klips can be used. (See picture on preceding page).
- 13) Set DETECTOR switch to INT.
- 14) Rotate MULTIPLIER knob slowly clockwise. one position at a time until detector indication reverses polarity; return one position in ccw direction.
- 15) Reduce MAIN DECADE dial A setting (ccw) until detector reverses polarity, then rotate one position in opposite direction (cw).
- 16) Repeat step 15 for dials B through D, increasing detector sensitivity as required.
- 17) Make final null balance using main dial E.
- 18) Recheck the standardized working voltage by repeating steps 8 and 10.
- 19) Return POWER switch to ON position and make final. full balance using decade dial E.
- 20) The value of unknown voltage is read from the MAIN DECADE dial times the MULTIPLIER setting.
- 21) Disconnect the unknown voltage source and turn the POWER switch to OFF before leaving the Model 300 PVB.

b. Adjust +10 V REFERENCE within 0.04%.

Connect PVB 300 black (-) lead to term B and red (+) lead to TP312. Set MULTIPLIER to 10 VOLTS and MAIN DECADE DIALS to 1.0000.

Increase PVB 300 SENSITIVITY and adjust R312 on CAL FIXTURE for NULL. 10.000 V within 0,004 V.

10. VERTICAL BALANCE WITHIN 0.04%.

Connect PVB 300 red (+) lead to TP320.

Adjust R323 for NULL. Set DETECTOR switch to OFF. Set Type 576 VARIABLE COLLECTOR SUPPLY to 0%.

## 11. EMITTER CURRENT SUPPLIES

## a. setup

Connect PVB 300 black (-) lead to the common buss on the 1st wafer of the VERTICAL switch. Connect the red (+) lead to the rear (5th) wafer on the 100 k resistor.

## b. Check +1.25 V within 0.5%.

Measure the voltage as in step a. +1.2438 V, minimum; 1.2562 V, maximum.

## c. Check +2.5 V, within 0.5%.

Set the CAL FIXTURE VERTICAL switch to 20 mA.

Measure the voltage with the PVB 300. 2.4875 V, minimum; 2.5125 V, maximum.

## d. Check +6.25 V, within 0.5%.

Set the CAL FIXTURE VERTICAL switch to 50 mA and measure the voltage. 6.225 V, minimum; 6.275 V, maximum.

Set the PVB 300 DETECTOR switch to OFF.

## 12. CALIBRATOR

## a. setup

Set the PVB 300 MULTIPLIER to 1 VOLT. Set the MAIN DECADE DIALS to 2.0000. Connect the black (-) lead to term B and the red (+) lead to term J.

## b. Adjust 200 mV, within 0.04%.

Set the PVB 300 DETECTOR switch to INT and adjust R102 on the CAL FIXTURE for NULL (2.0000 V).

## c. Adjust 125 mV, within 0.04%.

Set the PVB 300 MAIN DECADE DIALS to 1.2500.

## d. Adjust 100 mV within 0.04%.

Set the PVB 300 MAIN DECADE DIALS to 1.0000.

Set the CAL FIXTURE CALIBRATOR RANGE to 100 mV.

Adjust R112 for NULL (1.0000 V).

12. CALIBRATOR (cont)

e. Adjust 50 mV, within 0.04%.

Set the PVB 300 MULTIPLIER to .1 VOLT. Set the MAIN DECADE DIALS to 4.X000. Set the CAL FIXTURE CALIBRATOR RANGE to 50 mV.

Adjust R115 for NULL (0.50000 V).

f. Adjust 25 mV, within 0.04%.

Set the PVB 300 MAIN DECADE DIALS to 2.5000.

Set the CAL FIXTURE CALIBRATOR RANGE to 25 mV.

Adjust R118 for NULL (0.25000 V).

Set the PVB 300 DETECTOR to OFF. Remove leads.

13. HORIZONTAL VOLTS

a. Setup

Set the CAL FIXTURE FUNCTION switch to **HORIZ ATTEN CHECK**. Connect the 9 MΩ precision resistor clip lead to the Y-2 wire on the 3rd wafer of the FUNCTION switch.

Connect the PVB 300 black (-) lead to **gnd** and the red (+) lead to the 9 MΩ resistor. Set the PVB 300 to measure voltage as in step 9a.

Set the Type 576 MAX PEAK VOLTS to 1500.

b. Check HORIZONTAL COLLECTOR volts, within 0.5%.

Set the Type 576 **VARIABLE COLLECTOR SUPPLY** to 100% and measure the voltages as in the table below:

HORIZONTAL VOLTS/DIV	HORIZONTAL VOLTS	PVB 300	
		Minimum	Maximum
100	1 k	99.95 v	100.5 V
50	500	497.5 v	502.5 V
20	200	199 v	201 v
10	100	99.5 v	100.5 v
5	50	49.75 v	50.25V
2	20	19.9	20.1 v
1	10	9.95 v	10.05V
.5	5	4.975V	5.025 V
.2	2	1.99 v	2.01V
.1	1	.995V	1.005 V
.05	.5	.4975 v	.5025V

Turn PVB 300 SENSITIVITY **ccw**.

## 13. HORIZONTAL VOLTS (cont)

- c. Check HORIZONTAL BASE VOLTS, within 0.5%.

Connect the PVB 300 red (+) lead to the 9-6 wire on the 2nd wafer of the FUNCTION switch.

Measure the following voltages:

HORIZONTAL VOLTS/DIV (BASE)	HORIZONTAL VOLTS (BASE)	PVB 300	
		Minimum	Maximum
.05	.5	.4975	.5025
.1	1	.995	1.005
.2	2	1.99	2.01
.5	5	4.975	5.025
1	10	9.95	10.05
2	20	19.9	20.1

Set PVB 300 DETECTOR to OFF and GENERATOR to OFF.

Set Type 576 VARIABLE COLLECTOR SUPPLY to 0%.

## 14. STEP GENERATOR

- a. Setup

Set the CAL FIXTURE STEP GENERATOR switch to .05 V.

Connect a jumper wire from term X to term S on the CAL FIXTURE circuit board. Connect the PVB 300 black (-) lead to term S and red (+) lead to term AE.

- b. Adjust Amp Bal, within 2 mV.

Adjust R231 for 0.000 Volts on PVB 300, within 1 mV.

Remove Jumper and PVB leads.

- c. Check Amplifier Gain, within 1%.

Set up the PVB 300 for a RATIO measurement. Connect the black (-) lead to term X and red (+) lead to term AE. Connect the PVB 300 TAP to term S.

Leave PVB 300 GENERATOR switch OFF.

Press Type 576 OFFSET AID and check ratios as in table:

14c. Check Amplifier Gain, within 1% (cont).

Type 576 STEP GENERATOR	CAL FIXTURE STEP GENERATOR	PVB 300 RATIO Minimum	Maximum
.05 v	.05 v	.04717	.04808
.1 v	.1 v	.09009	.09174
.2 v	.2 v	.16529	.16806
.5 v	.5 v	.33112	.33557
1 V	1 V	.49751	.50251
Reverse the PVB 300 red and black leads.			
2 v	2 v	.33112	.33557

Set PVB 300 DETECTOR to OFF.

Remove PVB 300 leads.

15. PULSE

a. Adjust 200  $\mu$ s Cal, within 3%.

Set W sensitivity 100 mV and test scope TIME/W to 50  $\mu$ s. Connect X1 probe to TP 278. Adjust R244 for 200  $\mu$ s sweep time.

b. Adjust .5 V Swp Cal, within 2%.

Adjust R275 for 5 div of vertical deflection. Set W sensitivity to 10 mV and COMPARISON VOLTAGE to .250. Set  $V_c$  RANGE to -1.1 and position the start of the ramp on screen. Switch the  $V_c$  RANGE between -1.1 and +1.1 and readjust R275 to position the start of the ramp and the end of the ramp at the same position, vertically, on the graticule, within 0.5 div. Set W  $V_c$  RANGE to 0.

c. Adjust .5 V Pulse Cal, within 2%.

Connect the probe to TP 259. Position the bottom of the display to graticule center with the W POSITION control.

Set the W COMPARISON VOLTAGE to .500 and  $V_c$  RANGE to +1.1.

Adjust R259 to position the top of the display to graticule center, within 0.5 div.

d. Check 25 V pulse, within 1 V.

Connect the probe to term AG on the circuit board.

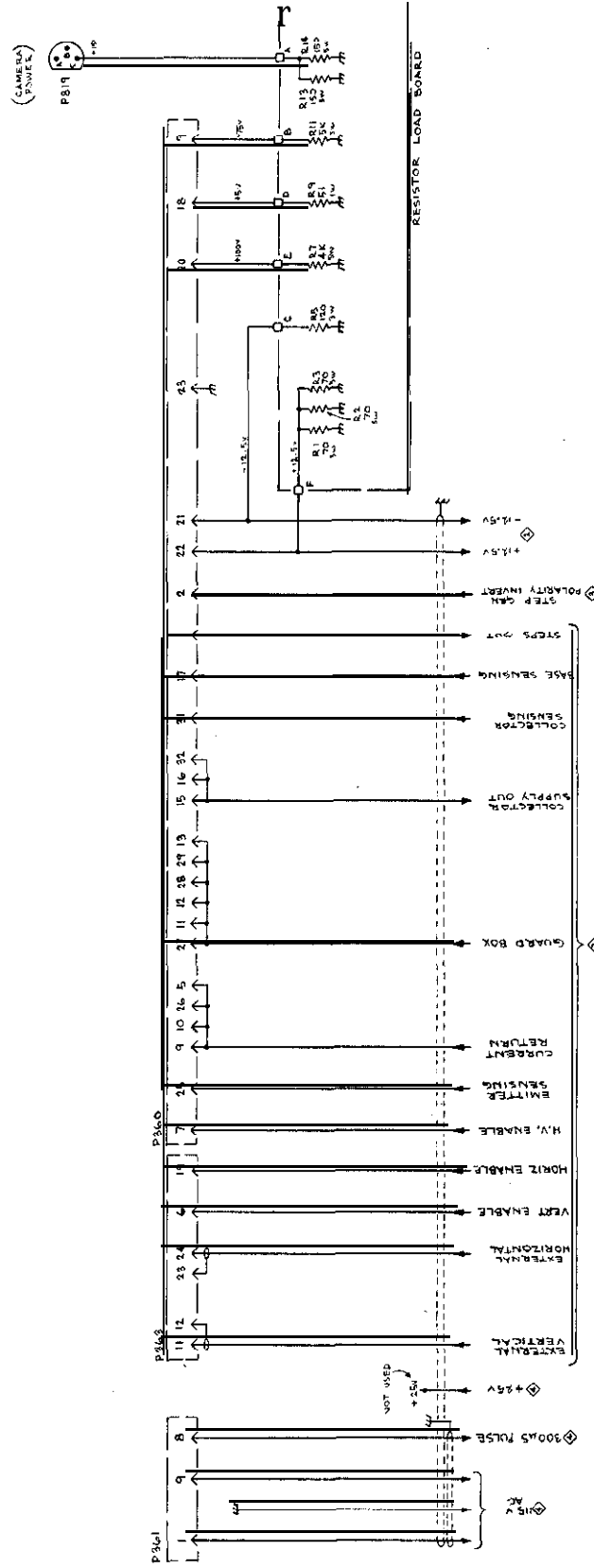
Set the W INPUT ATTEN to 10 and  $V_c$  RANGE to +11.

Measure the 25 V pulse amplitude with the COMPARISON VOLTAGE, within 1 V.

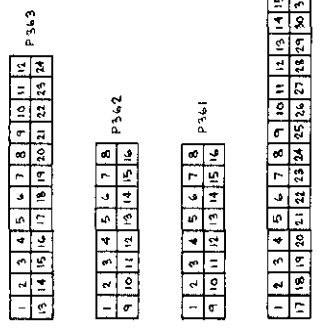
Remove probe. Set  $V_c$  RANGE to 0.

SECTION 5

SCHEMATIC DIAGRAMS

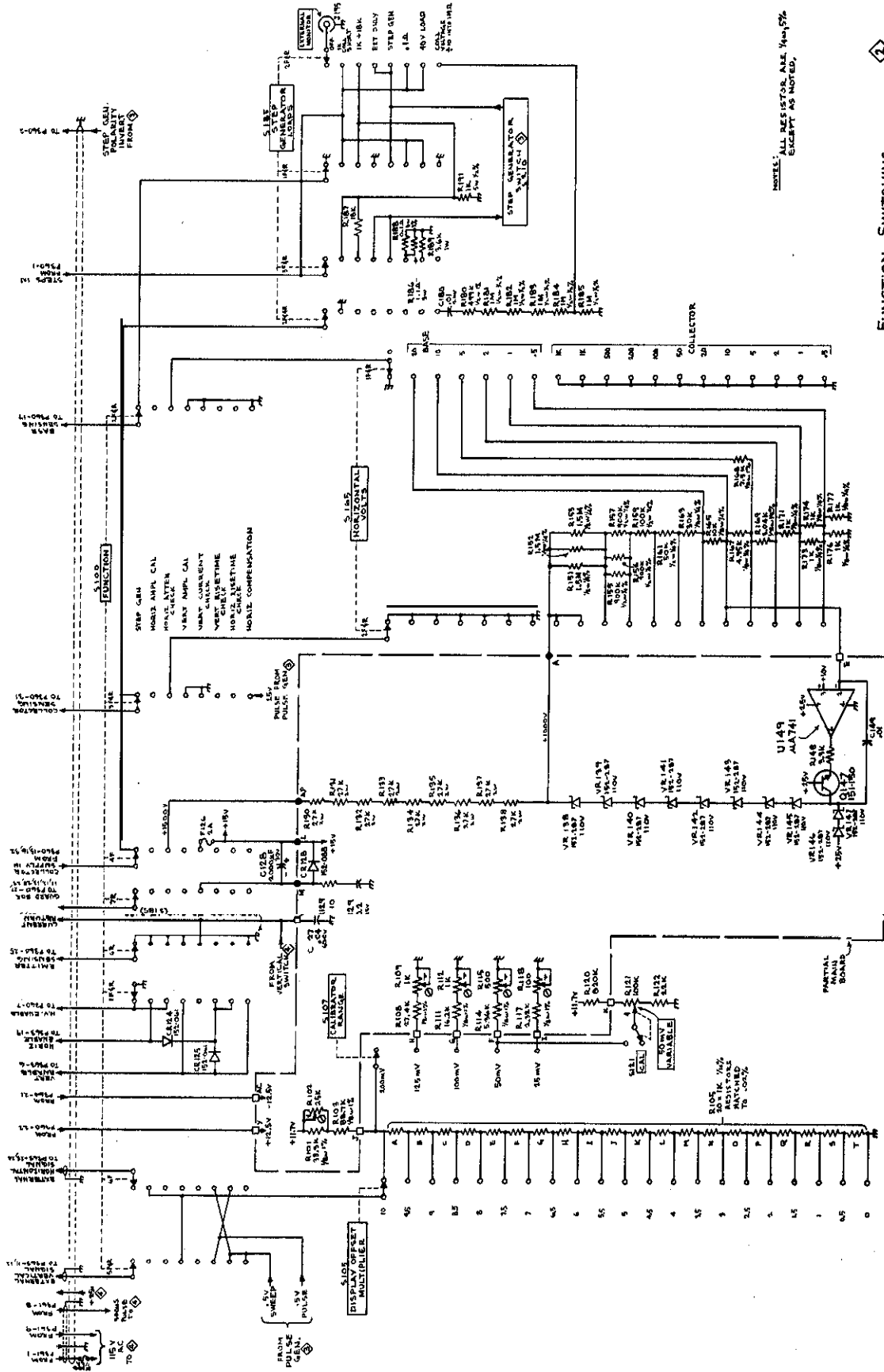


CONNECTORS TO INDICATOR



(REAR VIEW) PLOTTING CONNECTORS



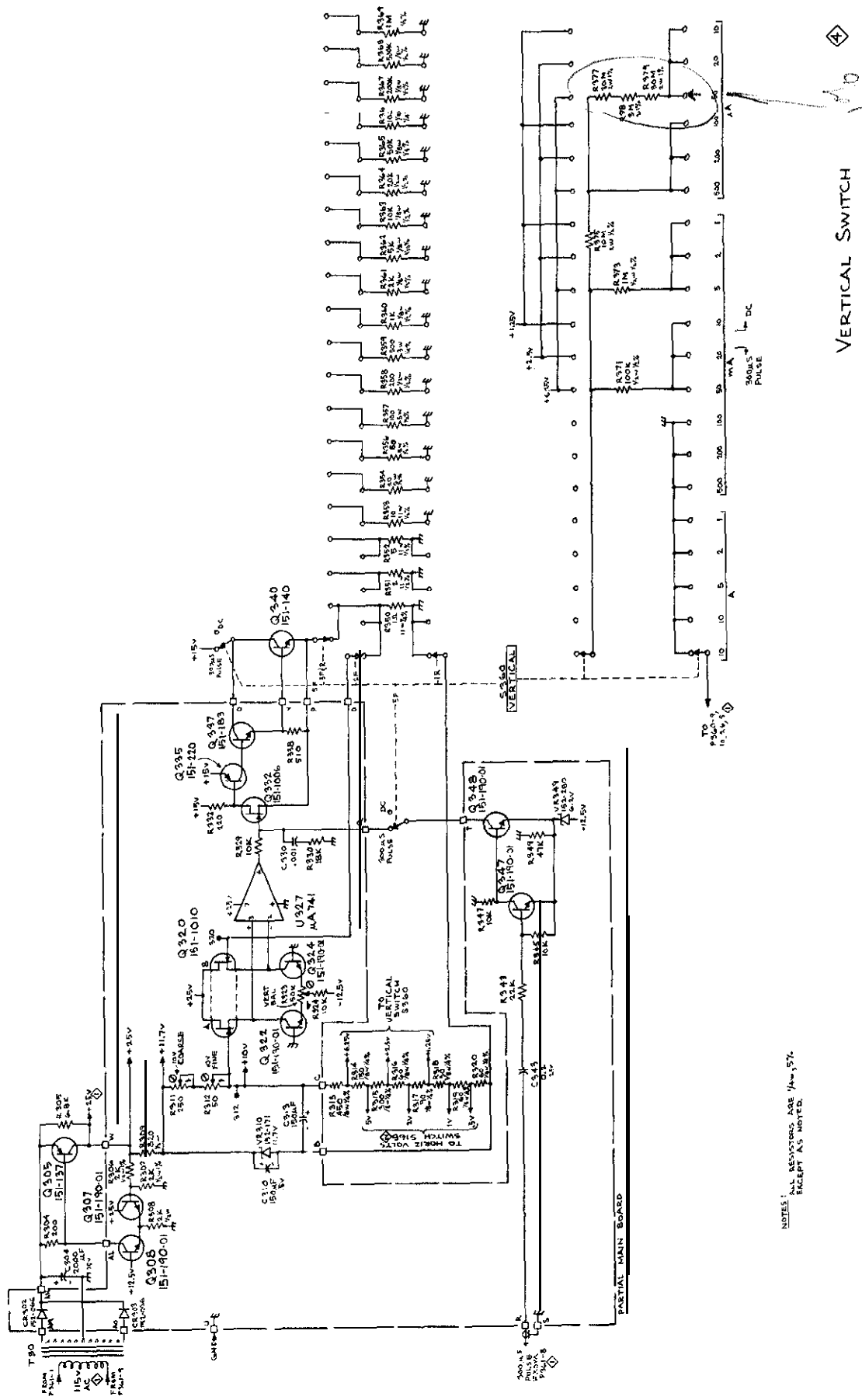


NOTES: ALL RESISTOR ARE 1/4W 5% EXCEPT AS NOTED.

FUNCTION SWITCHING

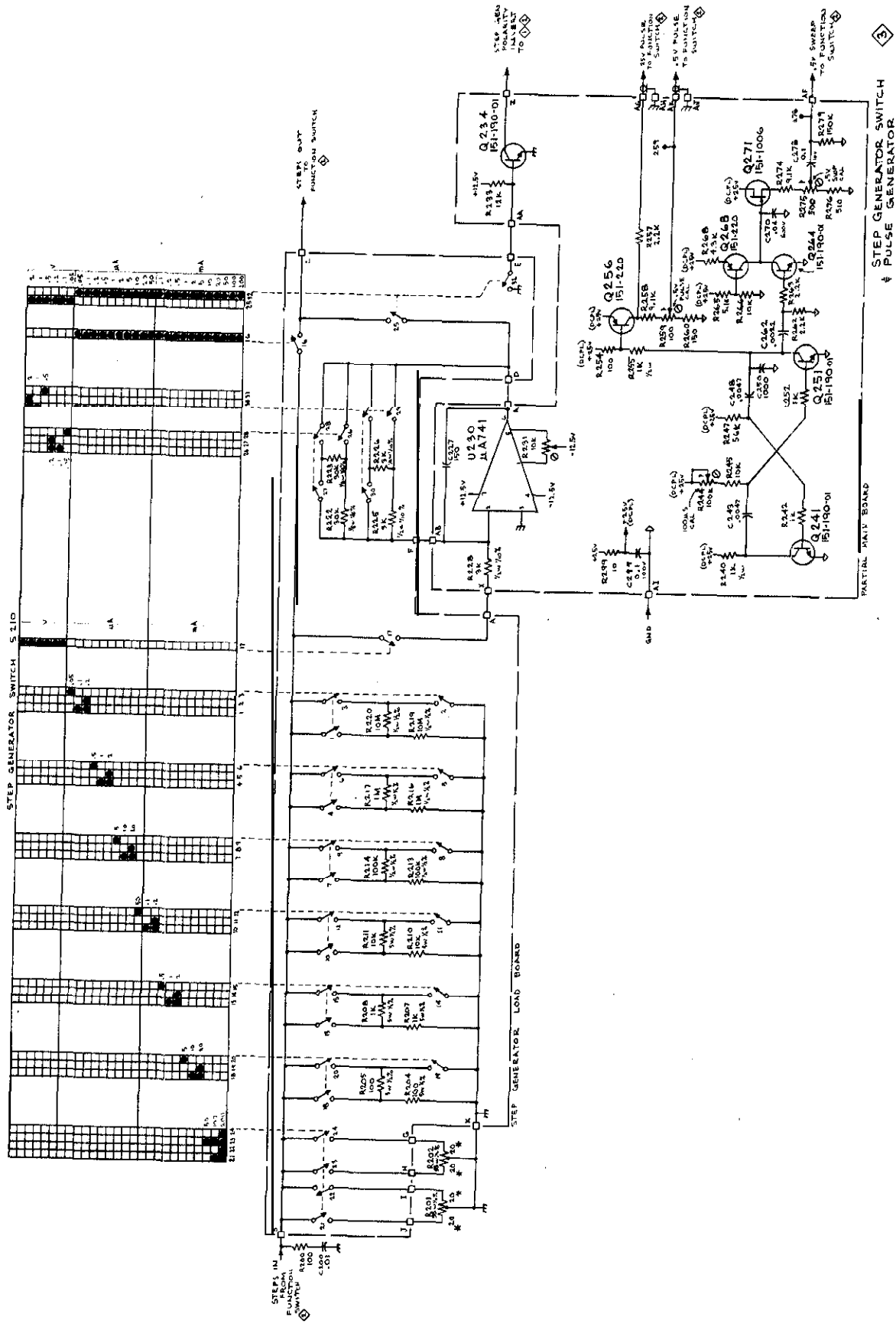


Serial No. 119-up

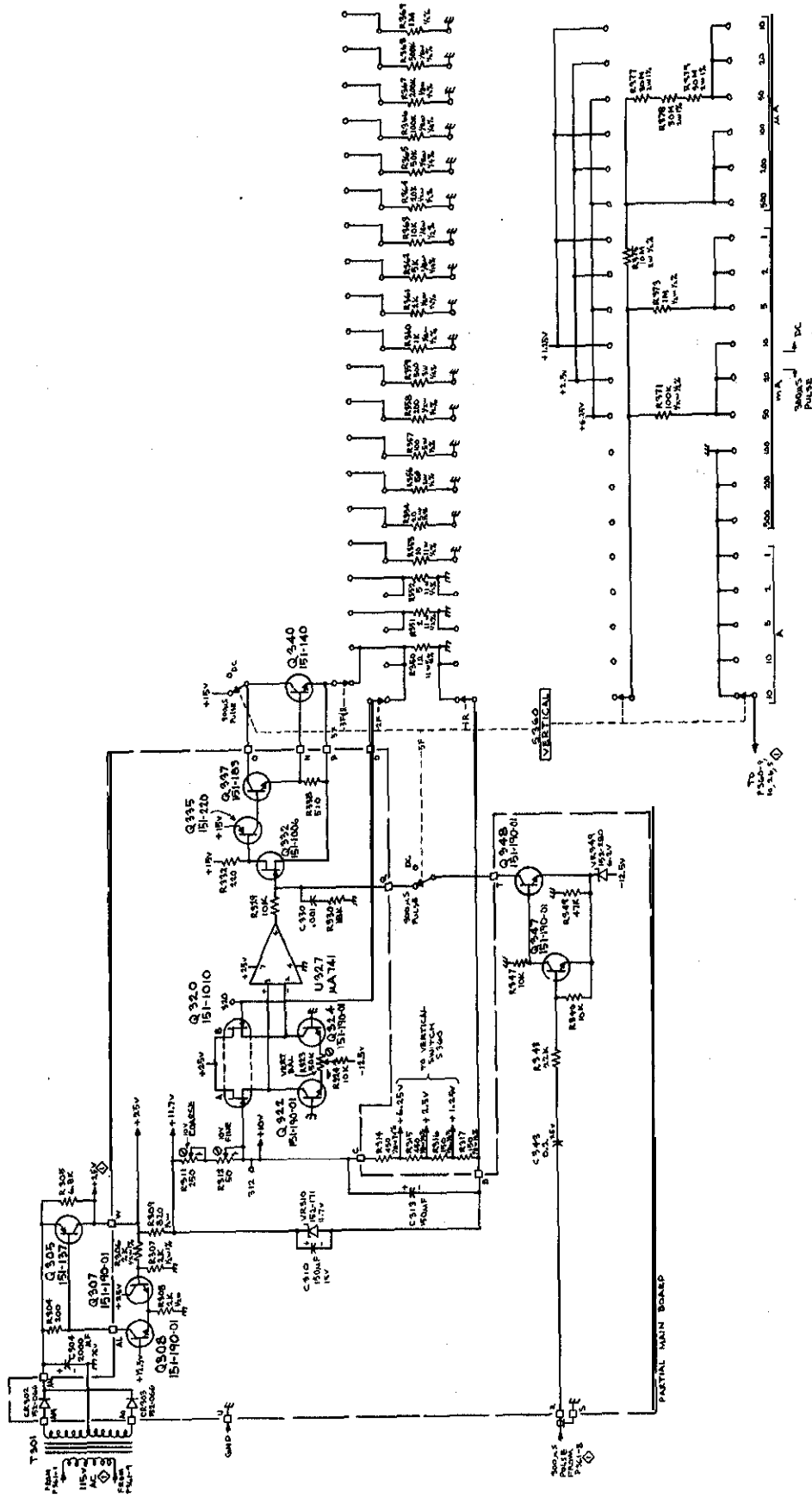


VERTICAL SWITCH

4



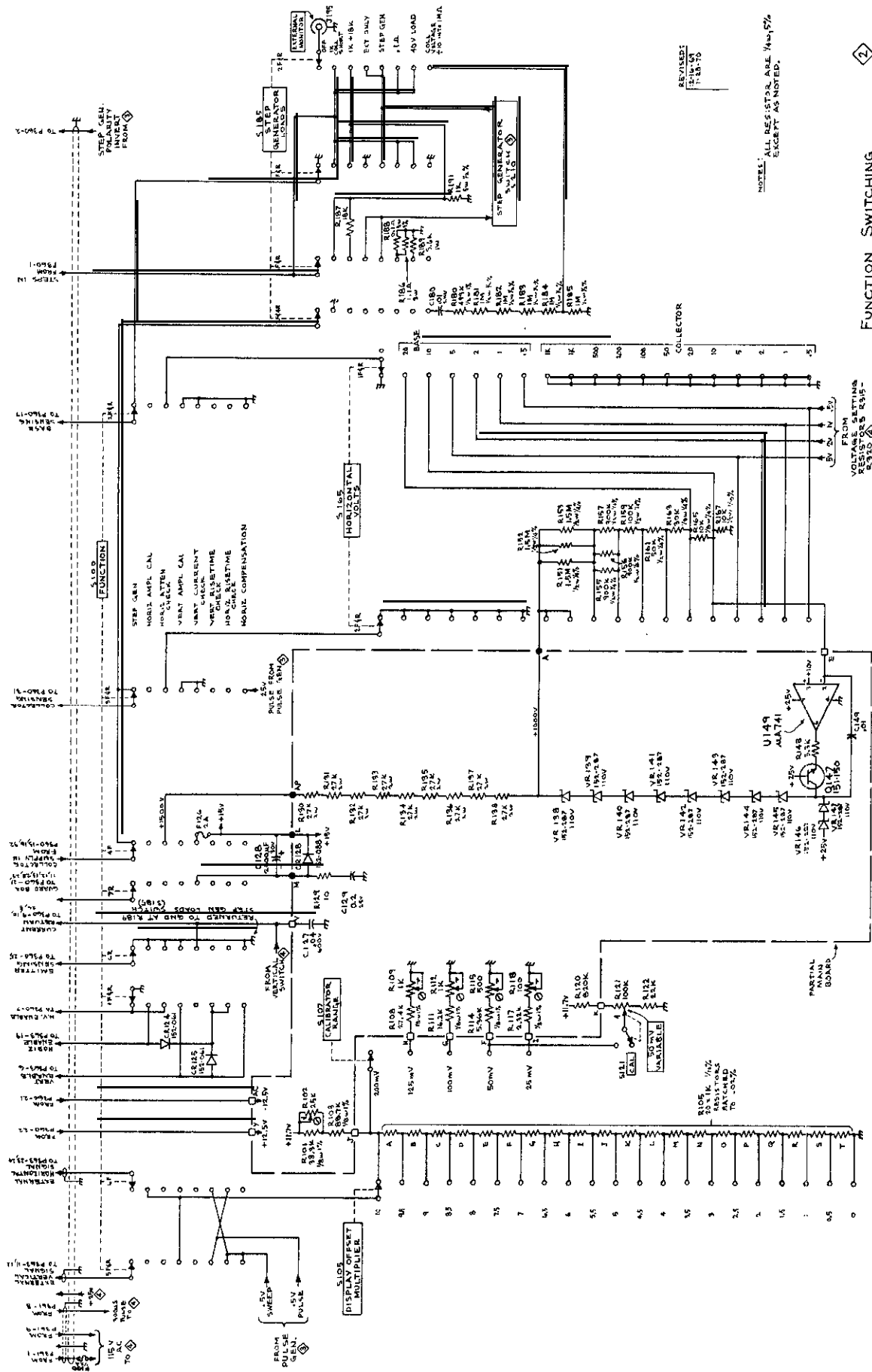
Ⓐ



VERTICAL SWITCH



Serial No. 119-up



REVISED:  
11-16-67  
1-28-75

FUNCTION SWITCHING

FROM  
VOLTAGE DIVIDER  
RESISTORS R238-  
R240

## SECTION 6

## ELECTRICAL PARTS LIST

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Description
CAPACITORS				
Tolerance $\pm 20\%$ unless otherwise indicated.				
C127	*285-0708-00			0.04 $\mu\text{F}$ MT 600 V +5%-15%
C128	290-0086-00			2000 $\mu\text{F}$ Elect. 30 v
C129	283-0026-00			0.2 $\mu\text{F}$ Cer 25 V
C149	283-0003-00			0.01 $\mu\text{F}$ Cer 150 v
C180	283-0011-00			0.01 $\mu\text{F}$ Cer 2000 v
C200	283-0079-00			0.01 $\mu\text{F}$ Cer 250 V
C227	283-0054-00			150 pF Cer 200 v 5%
C240	283-0077-00	111	118X	330 pF Cer 500 v 5%
C243	283-0083-00	111	175	0.0047 $\mu\text{F}$ Cer 500 v 5%
C243	283-0029-00	176		0.005 $\mu\text{F}$ Cer 500 v 5%
C248	283-0038-00	111	175	0.0047 $\mu\text{F}$ Cer 500 v 5%
C248	283-0029-00	176		0.005 $\mu\text{F}$ Cer 500 V 5%
C250	283-0077-00	111	118	330 pF Cer 500 v 5%
C250	283-0000-00	119		0.001 $\mu\text{F}$ Cer 500 v 10%
C262	283-0028-00			0.0022 $\mu\text{F}$ Cer 50 v
C270	*285-0708-00			0.04 $\mu\text{F}$ MT 600 V +5%-15%
C278	283-0023-00			0.1 $\mu\text{F}$ Cer 10 v
c299	283-0178-00			0.1 $\mu\text{F}$ Cer 100 v +80%-20%
C304	290-0310-00			2000 $\mu\text{F}$ Elect. 75 v +75%-10%
C310	290-0248-01			150 $\mu\text{F}$ Elect. 15 v
c313	290-0248-01			150 $\mu\text{F}$ Elect. 15 v
C330	283-0078-00			0.001 $\mu\text{F}$ Cer 500 v
C343	283-0026-00			0.2 $\mu\text{F}$ Cer 25 V

## SEMICONDUCTOR DEVICE, DIODES

CR124	*152-0061-00		Silicon	Tek Spec
CR125	*152-0061-00		Silicon	Tek Spec
CR128	152-0088-00		Silicon	1N3209 100 PIV15A
VR138	152-0287-00		Zener	1N986B 400 mW, 110 V, 5%
CR139	152-0287-00		Zener	1N886B 400 mW, 110 v, 5%
VR140	152-0287-00		Zener	1N986B 400 mW, 110 V, 5%
VR141	152-0287-00		Zener	1N986B 400 mW, 110 V, 5%
VR142	152-0287-00		Zener	1N986B 400 mW, 110 V, 5%

Electrical Parts List--Type 067-0599-00

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Description
SEMICONDUCTOR DEVICE, DIODES (cont)				
VR143	152-0287-00		Zener	1N986B 400 mW, 110 v, 5%
VP.144	152-0287-00		Zener	1N986B 400 mW, 110 v, 5%
VR145	152-0287-00		Zener	1N986B 400 mW, 110 v, 5%
VR146	152-0287-00		Zener	1N986B 400 mW, 110 v, 5%
VR147	152-0287-00		Zener	1N986B 400 mW, 110 v, 5%
CR302	152-0066-00		Silicon	1N3194
CR303	152-0066-00		Silicon	1N3194
VR3 10	*152-0171-00		Zener	1N944 11.7 V, 5% Selected
VR349	152-0280-00		Zener	1N753A 400 mW, 6.2 v, 5%

FUSES

F100	159-0025-00		1/2 A	3AG	Fast-Blo
F126	159-0021-00		2A	3AG	Fast-Blo

CONNECTORS

5195	131-0106-00		Coax, 1 contact, female		
P360	131-0096-00		32 contact, mate		
P361	131-0017-00		Receptacle,	electrical,	16 contact, male
P362	131-0917-00		Receptacle,	electrical,	16 contact, male
P363	131-0149-00		24 contact, male		
P819	131-0716-00		Receptacle, electrical, 3 male pins		

TRANSISTORS

4147	*151-0150-00		Silicon	Selected from 2N3440	
Q234	*151-0190-01		Silicon	Tek Spec	
Q241	*151-0190-01		Silicon	Tek Spec	
Q251	*151-0190-01		Silicon	Tek Spec	
Q256	151-0220-00		Silicon	2N4122	
Q264	*151-0190-01		Silicon	Tek Spec	
Q268	151-0220-00		Silicon	2N4122	
Q271	151-1006-00		Silicon	FET	

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Description
TRANSISTORS (cont)				
Q305	151-0137-00			Germanium
9307	*151-0190-01			Silicon
				2N2148
				Tek Spec
Q308	*151-0190-01			Silicon
Q320	151-1010-00			Silicon
Q322	*151-0190-01			Silicon
Q324	*151-0190-01			Silicon
Q332	151-1006-00			Silicon
				Tek Spec
				Tek Spec
				FET
Q335	151-0220-00			Silicon
9337	*151-0183-00			Silicon
Q340	*151-0140-00			Silicon
Q347	*151-0190-01			Silicon
Q348	"151-0190-01			Silicon
				2N4122
				Selected from 2N2192
				Selected from 2N3055
				Tek Spec
				Tek Spec

## RESISTORS

Resistors are fixed, composition,  $\pm 10\%$  unless otherwise indicated.

R1	308-0078-00		70 $\Omega$	5 W	WW	5%
R2	308-0078-00		70 $\Omega$	5 w	WW	5%
R3	308-0078-00		70 $\Omega$	5 W	WW	5%
R5	308-0431-00		120 $\Omega$	3 w	ww	5%
R7	308-0051-00		4 k $\Omega$	5 w	WW	5%
R9	303-0510-00		51 a	1 W <sub>v</sub>		5%
R11	308-0135-00		5 k $\Omega$	5 W	ww	5%
R13	308-0338-00		150 $\Omega$	5 W	WW	5%
R14	308-0338-00		150 $\Omega$	5 W	WW	5%
R101	321-0345-00		38.3 k $\Omega$	1/8 W	Prec	1%
R102	311-3550-00		25 k $\Omega$ , Var			
R103	321-0380-00		88.7 k $\Omega$	1/8 W	Prec	1%
R105 A-T	308-0572-00		1 k $\Omega$	1/4 W	WW	1/10%
				(matched to 0.02%)		
R108	321-0331-00		27.4 k $\Omega$	1/8 w	Prec	1%
R109	311-0409-00		1 k $\Omega$ , Var			



Electrical Parts List--Type 067-0599-00

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	No. Disc	Description		
RESISTORS (cont)						
R111	321-0309-00			16.2 k $\Omega$	1/8 W	Prec 1%
R112	311-0409-00			1 k $\Omega$ , Var		
R114	321-0263-00			5.36 k $\Omega$	1/8 w	Prec 1%
R115	311-0266-00			500 $\Omega$ , Var		
R117	321-0228-00			2.32 k $\Omega$	1/8 w	Prec 1%
R118	311-0989-00			100 $\Omega$ , Var		
R120	315-0824-00			820 k $\Omega$	1/4 W	5%
R121 <sup>1</sup>	311-0274-00			100 k $\Omega$ , Var		
R122	315-0223-00			22 k $\Omega$	1/4 w	5%
R129	315-0100-00			10 $\Omega$	1/4 w	5%
R130	305-0273-00			27 k $\Omega$	2 W	5%
R131	305-0273-00			27 k $\Omega$	2 W	5%
R132	305-0273-00			27 k $\Omega$	2 W	5%
R133	305-0273-00			27 k $\Omega$	2 W	5%
R134	305-0273-00			27 k $\Omega$	2 W	5%
R135	305-0273-00			27 k $\Omega$	2 W	5%
R136	305-0273-00			27 k $\Omega$	2 w	5%
R137	305-0273-00			27 k $\Omega$	2 W	5%
R138	305-0273-00			27 k $\Omega$	2 W	5%
R148	315-0332-00			3.3 k $\Omega$	1/4 w	5%
R151	323-0641-00			1.5 M $\Omega$	1/2 w	Prec 1/4%
R152	323-0641-00			1.5 M $\Omega$	1/2 w	Prec 1/4%
R153	323-0641-00			1.5 M $\Omega$	1/2 w	Prec 1/4%
R155	323-0611-03			900 k $\Omega$	1/2 w	Prec 1/4%
R156	323-0611-03			900 k $\Omega$	1/2 w	Prec 1/4%
R157	323-0611-03				1/2 w	Prec 114%
R159	323-0385-03				1/2 w	Prec 1/4%
R161	323-0638-06				1/2 w	Prec 1/4%
R163	321-0604-00				1/8 W	Prec 1/4%
P.165	321-0289-03				1/8 W	Prec 1/4%

<sup>1</sup> Furnished as a unit with S121.

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description			
RESISTORS (cont)							
R167	321-0748-06	111	118	4.95 k $\Omega$	1/8 W	Prec	1/4%
R167	323-0289-07	119		10 k $\Omega$	1/2 w	Prec	1/10%
R168	321-0277-00	111	118X	7.5 k $\Omega$	1/8 W	Prec	1%
R169	321-0666-00	111	118X	3.04 k $\Omega$	1/8 W	Prec	1/2%
R171	321-0193-03	111	118X	1 k $\Omega$	1/8 W	Prec	1/4%
RL73	321-0193-03	111	118X	1 k $\Omega$	1/8 W	Prec	1/4%
R174	321-0193-03	111	118X	1 k $\Omega$	1/8 W	Prec	1/4%
R176	321-0193-03	111	118X	1 k $\Omega$	1/8 W	Prec	1/4%
R177	321-0193-03	111	118X	1 k $\Omega$	1/8 w	Prec	1/4%
R180	323-0452-00			499 k $\Omega$	1/2 w	Prec	1%
R181	323-0481-01			1 M $\Omega$	1/2 w	Prec	1/2%
R182	323-0481-01			1 M $\Omega$	1/2 w	Prec	1/2%
R183	323-0481-01			1 M $\Omega$	1/2 w	Prec	1/2%
R184	323-0481-01			1 M $\Omega$	1/2 W	Prec	1/2%
R185	323-0481-01			1 M $\Omega$	L/2 w	Prec	L/2%
R186	308-0459-00	x119		1.1 $\Omega$	3 W		5%
R187	315-0183-00			18 k $\Omega$	1/4 w		5%
R188	308-0548-00			0.1 $\Omega$	5 W	WW	3%
R189	303-0362-00	111	118	3.6 k $\Omega$	1 W		5%
R189	308-0350-00	119		3.88 k $\Omega$	3 W		1%
R191	308-0537-00			1 k $\Omega$	5 W	WW	1/2%
R200	315-0101-00			100 $\Omega$	1/4 w		5%
R201	308-0591-00			40 $\Omega$	55 w	WW	1/2%
R202	308-0591-00			40 $\Omega$	55 w	WW	1/2%
R204	308-0545-00			100 $\Omega$	5 W	WW	1/2%
R205	308-0545-00			100 $\Omega$	5 W	WW	1/2%
R207	308-0537-00			1 k $\Omega$	5 W	WW	1/2%
R208	308-0537-00			1 k $\Omega$	5 w	WW	1/2%
R210	308-0538-00			10 k $\Omega$	5 w	WW	1/2%
R211	308-0538-00			10 k $\Omega$	5 W	WW	1/2%
R213	323-0385-01			100 k $\Omega$	1/2 w	Prec	1/2%
R214	323-0385-01			100 k $\Omega$	1/2 w	Prec	1/2%
R216	323-0481-01			1 M $\Omega$	1/2 w	Prec	1/2%

Electrical Parts List--Type 067-0599-00

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description
RESISTORS (cont)				
R217	323-0481-01		1 M $\Omega$	1/2 w Prec 1/2%
R219	325-0071-00		10 M $\Omega$	1/2 w Prec 112%
R220	325-0071-00		10 M $\Omega$	1/2 W Prec 112%
R222	321-0604-00		30 k $\Omega$	1/8 w Prec 1/4%
R223	321-0604-00		30 k $\Omega$	1/8 w Prec 1/4%
R225	323-0758-07		3 k $\Omega$	1/2 W Prec 1/10%
B226	323-0758-07		3 k $\Omega$	1/2 w Prec 1/10%
R228	323-0758-07		3 k $\Omega$	1/2 w Prec 1/10%
R231	311-0950-00		10 k $\Omega$ , Var	
R233	315-0223-m		12 k $\Omega$	1/4 w 5%
R240	301-0102-00		1 k $\Omega$	1/2 w 5%
R242	315-0102-00		1 k $\Omega$	1/4 w 5%
R244	311-0831-00		100 k $\Omega$ , Var	
R245	315-0103-00		10 k $\Omega$	1/4 w 5%
R247	315-0473-00	111	47 k $\Omega$	1/4 w 5%
R247	315-0563-00	119	56 k $\Omega$	1/4 w 5%
R252	315-0102-00		1 k $\Omega$	1/4 w 5%
R254	315-0101-00		100 $\Omega$	1/4 w 5%
R255	301-0102-00		1 k $\Omega$	1/2 w 5%
R257	316-0222-00	X119	2.2 k $\Omega$	1/4 W 5%
R258	315-0912-00		9.1 k $\Omega$	1/4 w 5%
R259	311-0884-00		100 $\Omega$ , Var	
R260	315-0151-00		150 $\Omega$	1/4 w 5%
R262	315-0222-00		2.2 k $\Omega$	1/4 w 5%
R263	315-0222-00		2.2 k $\Omega$	1/4 w 5%
R265	315-0512-00		5.1 k $\Omega$	1/4 w 5%
B266	315-0103-00		10 k $\Omega$	1/4 w 5%
R268	315-0432-00		4.3 k $\Omega$	1/4 w 5%
R274	315-0912-00		9.1 k $\Omega$	1/4 w 5%
R275	311-0704-00		500 $\Omega$ , Var	
R276	315-0511-00		510 $\Omega$	1/4 W 5%
R279	315-0154-00		150 k $\Omega$	1/4 w 5%

Values are fixed unless marked Variable.

Ckt. No.	Tektronix		Serial/Model No.		Description		
	Part	No.	Eff	Disc			
RESISTORS (cont)							
R299	315-0100-00				10 $\Omega$	1/4 w	5%
R304	315-0201-00				200 $\Omega$	1/4 w	5%
R305	315-0682-00				6.8 k $\Omega$	1/4 w	5%
R306	323-0222-00				2 k $\Omega$	1/2 w	Prec 1%
R307	323-0222-00				2 k $\Omega$	1/2 w	Prec 1%
R308	301-0202-00				2 k $\Omega$	1/2 w	5%
R309	301-0821-00				820 $\Omega$	1/2 w	5%
R311	311-0827-00				250 $\Omega$ , Var		
R312	311-0886-00				50 $\Omega$ , Var		
R313	321-0749-00	x119			450 $\Omega$	1/8 W	Prec 1%
R314	} 321-0749-06	111	118		450 $\Omega$	1/8 W	Prec 1/4%
R314		(2) } 321-0143-03	119		301 $\Omega$	1/8 W	Prec 1/4%
		315-0473-00			47 k $\Omega$	1/4 W	5%
R315	321-0749-06	111	118		450 $\Omega$	1/8 W	Prec 1/4%
R31.5	} 321-0143-03	119			301 $\Omega$	1/8 W	Prec 1/4%
		315-0104-00			100 k $\Omega$	1/4 w	5%
R316	321-0114-01	111	118		150 $\Omega$	1/8 W	Prec 1/2%
R316	321-0702-00	119			60 $\Omega$	1/8 W	Prec 1%
R317	321-0114-01	111	118		150 $\Omega$	1/8 W	Prec 1/2%
R317	} 321-0801-07	119			178.2 $\Omega$	1/8 W	Prec 1/10%
		321-0122-07			182 $\Omega$	1/8 W	Prec 1/10%
R318	321-0657-07	x119			30 $\Omega$	1/8 W	Prec 1/10%
R319	321-0702-00	x119			60 $\Omega$	1/8 W	Prec 1%
R320	321-0702-00	x119			60 $\Omega$	1/8 w	Prec 1%
R323	311-0883-00				50 k $\Omega$ , Var		
R324	315-0103-00				10 k $\Omega$	1/4 W	5%
R329	315-0103-00				10 k $\Omega$	1/4 w	5%
R330	315-0183-00				18 k $\Omega$	1/4 W	5%
R332	315-0221-00				220 $\Omega$	1/4 w	5%
R338	315-0511-00				510 $\Omega$	1/4 W	5%
R343	315-0223-00				22 k $\Omega$	1/4 W	5%
R345	315-0103-00				10 k $\Omega$	1/4 w	5%
R347	315-0103-00				10 k $\Omega$	1/4 w	5%

Electrical Parts List--Type 067-0599-00)

Values ore fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description		
RESISTORS (cont)						
R349	315-0473-00		47 k $\Omega$	1/4 W		5%
R350	X310-0687-00		1 $\Omega$	11 W	WW	1/4%
R351	*310-0685-00		2 $\Omega$	11 W	WW	1/2%
R352	*310-0686-00		5 $\Omega$	11 W	WW	1/2%
R353	*310-0684-00		10 $\Omega$	11 w	WW	1/2%
R354	308-0584-00		20 $\Omega$	5 W	WW	1/2%
R356	308-0585-00		50 $\Omega$	5 W	WW	1/2%
R357	308-0545-00		100 $\Omega$	5 W	WW	1/2%
R358	323-0126-01		200 $\Omega$	1/2 w	Prec	1/2%
R359	308-0434-00		500 $\Omega$	3 W	WW	1/4%
R360	321-0193-03		1 k $\Omega$	1/8 W	Prec	1/4%
R361	321-0222-01		2 k $\Omega$	1/8 W	Prec	1/2%
R362	321-0816-07		5 k $\Omega$	1/8 W	Prec	1/10%
R363	321-0289-03		10 k $\Omega$	1/8 W	Prec	1/4%
R364	323-0318-01		20 k $\Omega$	1/2 w	Prec	1/2%
R365	321-0756-03		50 k $\Omega$	1/8 W	Prec	1/4%
R366	321-0644-00		100 k $\Omega$	1/8 W	Prec	1/4%
R367	321-0646-00		200 k $\Omega$	1/8 W	Prec	1/2%
R368	321-0648-00		500 k $\Omega$	1/8 W	Prec	1/2%
R369	322-0481-01		1 M $\Omega$	1/4 W	Prec	1/2%
R371	323-0385-03		100 k $\Omega$	1/2 W	Prec	1/4%
R373	323-0481-01		1 M $\Omega$	1/2 W	Prec	1/2%
R375	325-0007-01		10 M $\Omega$	2 W	Prec	1/2%
R377	310-0505-00		30 M $\Omega$	2 W	Prec	1%
R378	310-0505-00		30 M $\Omega$	2 W	Prec	1%
R379	310-0505-00		30 M $\Omega$	2 w	Prec	1%

SWITCHES

Wired or Unwired

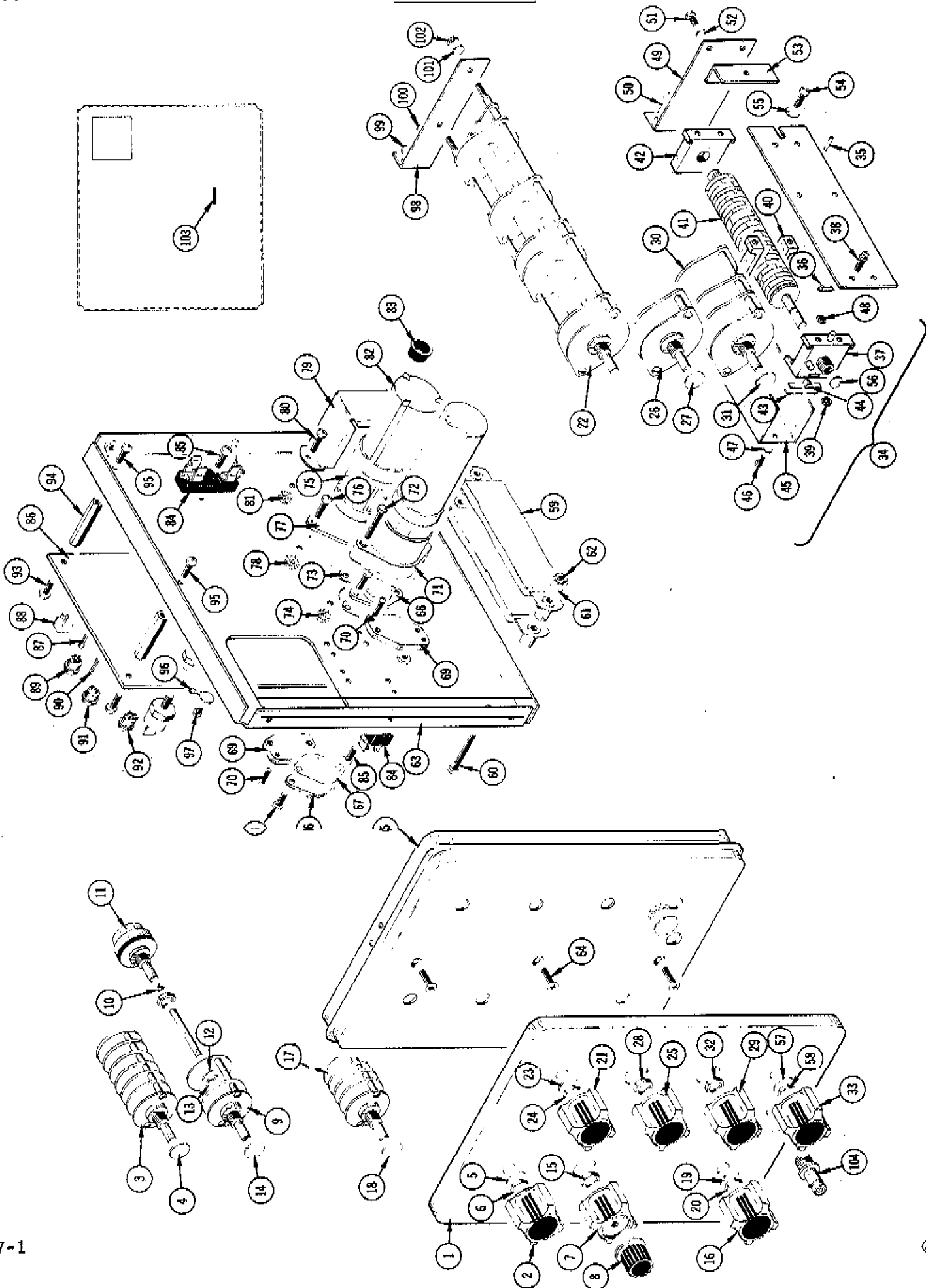
S100	Wired	X262-0883-00	Rotary	FUNCTION
S100		260-1092-00		
5105	Wired	*262-0885-00	Rotary	DISPLAY OFFSET MULTIPLIER
S105		260-1094-00		

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description
SWITCHES (cont)				
S107	Wired X262-0886-00		Rotary	CALIBRATOR RANGE
S107	260-1095-00			
S121 <sup>2</sup>	311-0274-00			CAL
S165	Wired *262-0888-00		Rotary	HORIZONTAL VOLTS
5165	260-1097-00			
S185	Wired *262-0884-00		Rotary	STEP GENERATOR LOADS
S185	260-1093-00			
S210	*670-0840-00		Cam	STEP GENERATOR
5360	Wired *262-0889-00		Rotary	VERTICAL
5360	260-1098-00			
TRANSFORMER				
T301	*120-0625-00		Power	
INTEGRATED CIRCUITS				
U149	156-0049-00		Replaceable by Fairchild	$\mu$ A741C
U230	156-0049-00		Replaceable by Fairchild	$\mu$ A741C
U327	156-0049-00		Replaceable by Fairchild	$\mu$ A741C

<sup>2</sup>Furnished as a unit with R121.

FIG. 1 FRONT



## SECTION 7

## MECHANICAL PARTS LIST

FIG. 1 FRONT

Fig. & Index NO.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description	
				y	1	2	3	4		5
1-1	E333-1221-02			1						PANEL, front
-2	366-1009-00			1						KNOB, gray--FUNCTION knob includes:
	- - - - -									
	2 13-0153-02			2						SETSCREW, 5-40 x 0.125 inch, HSS
-3	E262-0883-00			1						SWITCH, wired--FUNCTION switch includes:
	- - - - -									
	E260-1092-00			1						SWITCH, unwired mounting hardware: (not included w/switch)
	- - - - -									
-4	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-5	210-0840-00			1						WASHER, flat, 0.390 ID x 0.562 inch OD
-6	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
-7	366-1008-00			1						KNOB, gray--CALIBRATOR RANGE knob includes:
	- - - - -									
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-8	366-0499-00			1						KNOB, gray--CAL knob includes:
	- - - - -									
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-9	E262-0886-00			1						SWITCH, wired--CALIBRATOR RANGE switch includes:
	- - - - -									
	E260-1095-00			1						SWITCH, unwired
-10	376-0014-00			1						COUPLING
	384-0381-00			1						ROD, extension, 2.251 inches long
-11	- - - - -			1						RESISTOR, variable mounting hardware: (not included w/resistor)
	- - - - -									
-12	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-13	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch mounting hardware: (not included w/switch)
	- - - - -									
-14	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-15	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
-16	366-1009-00			1						KNOB, gray--STEP GENERATOR LOADS knob includes:
	- - - - -									
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-17	E262-0884-00			1						SWITCH, wired--STEP GENERATOR LOADS switch includes:
	- - - - -									
	E260-1093-00									SWITCH, unwired mounting hardware: (not included w/switch)
	- - - - -									
-18	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-19	210-0840-00			1						WASHER, flat, 0.390 ID x 0.562 inch OD
-20	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch



FIG. 1 FRONT (cont)

Fig. & Index NO.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description	
				Y	1	2	3	4		5
1-21	366-1009-00			1						KNOB, gray--VERTICAL
	- - - - -			-						knob includes:
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-22	E262-0889-00			1						SWITCH, wired--VERTICAL
	- - - - -			-						switch includes:
	E260-1098-00			1						SWITCH, <b>unwired</b>
	- - - - -			-						mounting hardware: (nor included w/switch)
-23	210-0840-00			1						WASHER, flat, 0.390 ID x 0.562 inch OD
-24	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
	210-0012-00			1						WASHER, lock, internal, 0.390 ID x
	- - - - -			-						0.562 inch OD
-25	366-1009-00			1						KNOB, gray--DISPLAY OFFSET MULTIPLIER
	- - - - -			-						knob includes:
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-26	E262-0885-00			1						SWITCH, wired--DISPLAY OFFSET MULTIPLIER
	- - - - -			-						switch includes:
	E260-1094-00			1						<b>SWITCH, unwired</b>
	- - - - -			-						mounting hardware: (not included w/switch)
-27	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-28	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
-29	366-1009-00			1						KNOB, gray--HORIZONTAL
	- - - - -			-						knob includes:
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-30	E262-0888-00			1						SWITCH, wired--HORIZONTAL
	- - - - -			-						switch includes:
	E260-1097-00			1						SWITCH, <b>unwired</b>
	- - - - -			-						mounting hardware: (not included w/switch)
-31	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-32	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
-33	366-1009-00			1						KNOB, gray--STEP GENERATOR
	- - - - -			-						knob includes:
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS

SECTION 7  
MECHANICAL PARTS LIST

FIG. 1 FRONT

Fig. & Index NO.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description
				y	1	2	3	4	
1-1	E333-1221-02								PANEL, front
-2	366-1009-00								KNOB, gray--FUNCTION
	- - - - -								- knob includes:
	213-0153-02			2					2 SETSCREW, 5-40 x 0.125 inch, HSS
-3	E262-0883-00			1					1 SWITCH, wired--FUNCTION
	- - - - -								- switch includes:
	E260-1092-00			1					1 SWITCH, unwired
	- - - - -								- mounting hardware: (not included w/switch)
-4	210-0012-00								WASHER, lock, internal, 3/8 x 1/2 inch
-5	210-0840-00								WASHER, flat, 0.390 ID x 0.562 inch OD
-6	210-0413-00								NUT, hex., 3/8-32 x 1/2 inch
-7	366-1008-00			1					1 KNOB, gray--CALIBRATOR RANGE
	- - - - -								- knob includes:
	213-0153-00			2					2 SETSCREW, 5-40 x 0.125 inch, HSS
-8	366-0499-00			1					1 KNOB, gray--CAL
	- - - - -								- knob includes:
	213-0153-00								SETSCREW, 5-40 x 0.125 inch, HSS
-9	E262-0886-00								SWITCH, wired--CALIBRATOR RANGE
	- - - - -								switch includes:
	E260-1095-00			1					1 SWITCH, unwired
-10	376-0014-00			1					1 COUPLING
	384-0381-00			1					1 ROD, extension, 2.251 inches long
-11	- - - - -			1					1 RESISTOR, variable
	- - - - -								- mounting hardware: (not included
	- - - - -								- w/resistor)
-12	210-0012-00			1					1 WASHER, lock, internal, 3/8 x 1/2 inch
-13	210-0413-00			1					1 NUT, hex., 3/8-32 x 1/2 inch
	- - - - -								- mounting hardware: (not included w/switch)
-14	210-0012-00								WASHER, lock, internal, 3/8 x 1/2 inch
-15	210-0413-00								NUT, hex., 3/8-32 x 1/2 inch
-16	366-1009-00			1					1 KNOB, gray--STEP GENERATOR LOADS
	- - - - -								- knob includes:
	213-0153-00			2					2 SETSCREW, 5-40 x 0.125 inch, HSS
-17	E262-0884-00			1					1 SWITCH, wired--STEP GENERATOR LOADS
	- - - - -								- switch includes:
	E260-1093-00								SWITCH, unwired
	- - - - -								- mounting hardware: (not included w/switch)
-18	210-0012-00			1					1 WASHER, lock, internal, 3/8 x 1/2 inch
-19	210-0840-00			1					1 WASHER, flat, 0.390 ID x 0.562 inch OD
-20	210-0413-00			1					1 NUT, hex., 3/8-32 x 1/2 inch

FIG. 1 FRONT (cont)

Fig. & Index NO.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description	
				†	Y	1	2	3		4
1-21	366-1009-00			1						KNOB, gray--VERTICAL
	- - - - -			-						knob includes:
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-22	E262-0889-00			1						SWITCH, wired--VERTICAL
	- - - - -			-						switch includes:
	E260-1098-00			1						SWITCH, unwired
	- - - - -			-						mounting hardware: (not included w/switch)
-23	210-0840-00			1						WASHER, flat, 0.390 ID x 0.562 inch OD
-24	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
	210-0012-00			1						WASHER, lock, internal, 0.390 ID x
	- - - - -			-						0.562 inch OD
-25	366-1009-00			1						KNOB, gray--DISPLAY OFFSET MULTIPLIER
	- - - - -									knob includes:
	213-0153-00									SETSCREW, 5-40 x 0.125 inch, HSS
-26	E262-0885-00									SWITCH, wired--DISPLAY OFFSET MULTIPLIER
	- - - - -			-						switch includes:
	E260-1094-00			1						SWITCH, unwired
	- - - - -			-						mounting hardware: (not included w/switch)
-27	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-28	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
-29	366-1009-00			1						KNOB, gray--HORIZONTAL
	- - - - -			-						knob includes:
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS
-30	~262-0888-00			1						SWITCH, wired--HORIZONTAL
	- - - - -			-						switch includes:
	E260-1097-00			1						SWITCH, unwired
	- - - - -			-						mounting hardware: (not included w/switch)
-31	210-0012-00			1						WASHER, lock, internal, 3/8 x 1/2 inch
-32	210-0413-00			1						NUT, hex., 3/8-32 x 1/2 inch
-33	366-1009-00			1						KNOB, gray--STEP GENERATOR
	- - - - -			-						knob includes:
	213-0153-00			2						SETSCREW, 5-40 x 0.125 inch, HSS

## FIG. 1 FRONT (cont)

Fig. & Index NO.	Tektronix Part No.	Serial/Model No.		Q t y	Description
		Eff	Disc		
1-34	E670-0840-00			1	ASSEMBLY, circuit board--STEP GENERATOR LOAD assembly, includes:
	- - - - -				
	E388-1463-00			1	BOARD, circuit
-35	131-0633-00			11	TERMINAL, pin, 0.385 inch long
-36	131-0604-00			32	CONTACT, electrical, spring
-37	401-0054-00			1	BEARING, cam switch, front
	- - - - -			"	mounting hardware: (not included w/bearing)
	- - - - -				
-38	211-0116-00			2	SCREW, <i>sems</i> , 4-40 x 5/16 inch, PHS
-39	210-0406-00			2	NUT, hex., 4-40 x 3/16 inch
-40	407-0653-00			1	BRACKET, cam switch, center support
	- - - - -			"	mounting hardware: (not included w/bracket)
	- - - - -				
	211-0115-00			2	SCREW, <i>sems</i> , 4-40 x 5/16 inch, PHB
-41	E105-0148-00			1	DRUM, cam switch
-42	105-0856-00			1	BEARING, cam switch, rear
	- - - - -				mounting hardware: (not included w/bearing)
	- - - - -				
	211-0116-00			2	SCREW, <i>sems</i> , 4-40 x 5/16 inch, PHB
	210-0406-00			2	NUT, hex., 4-40 x 3/16 inch
-43	214-1139-00 <sup>1</sup>				SPRING, <i>detent</i> , clear
	214-1139-02 <sup>1</sup>				SPRING, <i>detent</i> , green
	214-1139-03 <sup>1</sup>				SPRING, <i>detent</i> , red
-44	214-1127-00			1	ROLLER, <i>detent</i>
-45	200-0941-00			1	COVER, <i>cam</i> switch
	- - - - -				mounting hardware! (not included w/cover)
-46	211-0022-00			4	SCREW, 2-56 x 3/16 inch, RHS
-47	210-0001-00			4	WASHER, lock, internal, #2
-48	210-0405-00			4	NUT, hex., 2-56 x 3/16 inch
-49	E407-0642-00			1	BRACKET, angle, 1.275 inches long
	- - - - -			"	mounting hardware: (not included w/bracket)
	- - - - -				
-50	211-0565-00			2	SCREW, 6-32 x 1/4 inch, THS
-51	211-0157-00			2	SCREW, 4-40 x 5/16 inch, HHS
-52	210-0994-00			2	WASHER, flat, 0.125 ID x 0.250 inch OD
-53	220-0532-00			1	NUT, block, plastic, Ishape
	- - - - -				mounting hardware: (not included w/nut)
-54	211-0012-00			1	SCREW, 4-40 x 3/8 inch, PHS
-55	210-0551-00			1	WASHER, flat, 0.119 ID x 0.375 inch OD
-56	354-0219-00			1	RING, retaining, 1/4 inch diameter
	- - - - -			-	mounting hardware: (not included w/assembly)
	- - - - -				
-57	210-0840-00			1	WASHER, flat, 0.390 ID x 0.562 inch OD
-58	210-0413-00			1	NUT, hex., 3/8-32 x 1/2 inch

<sup>1</sup> Replace only with part bearing the same color as the original part in your instrument.

FIG. 1 FRONT (cont)

Fig. & Index No.	Tektronix Part No.	Serial/Model No.		Q t y	Description
		Eff	Disc		
1-59	- - - - -			-	RESISTOR, stacked
	- - - - -			-	mounting hardware: (not included ;
	- - - - -			-	w/resistor)
-60	211-0529-00			2	SCREW, 6-32 x 1 1/4 inches, PHS
-61	210-0803-00			2	WASHER, flat, 0.150 ID x 0.375 inch OD
-62	210-0457-00			2	NUT, keps, 6-32 x 5/16 inch
-63	E441-0890-00			1	CHASSIS, calibration fixture
	- - - - -			-	mounting hardware: (not included w/chassis)
-64	211-0541-00			6	SCREW, 6-32 x 0.250 inch, 100° csk, FHS
-65	E386-1595-00			1	SUBPANEL, front
-66	- - - - -			2	TRANSISTOR
	- - - - -			-	mounting hardware for each: (not included
	- - - - -			-	w/transistor)
-67	386-0978-00			1	PLATE, insulator, mica
-68	211-0510-00			2	SCREW, 6-32 x 3/8 inch, PHS
-69	136-0135-00			1	SOCKET, 2 pin, transistor
-70	213-0113-00			2	SCREW, 2-32 x 5/16 inch, RHS
-71	432-0048-00			1	BASE, capacitor
	- - - - -			-	mounting hardware: (not included w/base)
-72	211-0588-00			2	SCREW, 6-32 x 3/4 inch, HHS
-73	386-0255-00			1	PLATE, metal, large
-74	210-0457-00			2	NUT, keps, 6-32 x 5/16 inch
-75	- - - - -			1	CAPACITOR
	- - - - -			-	mounting hardware: (not included
	- - - - -			-	w/capacitor)
-76	211-0543-00			2	SCREW, 6-32 x 0.312 inch, RHS
-77	386-0254-00			1	PLATE, fiber, large
-78	210-0457-00			2	NUT, keps, 6-32 x 5/16 inch
-79	- - - - -			1	TRANSFORMER
	- - - - -			-	mounting hardware: (not included
	- - - - -			-	w/transformer)
-80	211-0507-00			2	SCREW, 6-32 x 5/16 inch, PHS
-81	210-0457-00			2	NUT, keps, 6-32 x 5/16 inch

FIG. 1 FRONT (cont)

Fig. & Index NO.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description
				Y	1	2	3	4	
1-82	200-0293-00			1					COVER, capacitor
-83	348-0063-00			1					GROMMET, plastic, 1/2 inch diameter
-84	352-0031-00			2					HOLDER, fuse
	- - - - -			-					mounting hardware for each: (not included
	- - - - -			-					w/holder)
-85	211-0507-00			1					SCREW, 6-32 x 5/16 inch, PHS
-86	E670-1115-00			1					ASSEMBLY, circuit board--BASE UNIT
	- - - - -								assembly includes:
	E388-1357-00			1					BOARD, circuit
-87	214-0579-00			4					PIN, test point
-88	136-0220-00			15					SOCKET, transistor, 3 pin, square shape
-89	136-0235-00			1					SOCKET, transistor, 6 pin
-90	131-0589-00			38					TERMINAL, pin, 0.50 inch long
-91	136-0183-00			2					SOCKET, transistor, 3 pin
-92	136-0237-00			3					SOCKET, transistor, 8 pin
	- - - - -								mounting hardware: (not included w/
	- - - - -								assembly)
-93	211-0601-00			4					SCREW, <i>sems</i> , 6-32 x 0.313 inch, PHB
-94	129-0089-00			4					POST, hex., tapped, 6-32
-95	211-0507-00			4					SCREW, 6-32 x 5/16 inch
-96	210-0201-00			1					LUG, solder, SE 64
	* - - - -								mounting hardware: (not included w/lug)
-97	213-0041-00			1					SCREW, thread forming, 5-32 x 3/16 inch, PHS
-98	407-0641-00			1					BRACKET, angle, 1.0 inch long
	- - - - -			-					mounting hardware: (not included
	- - - - -								w/bracket)
-99	210-0803-00			1					WASHER, flat, 0.150 ID x 0.375 inch OD
-100	211-0507-00			1					SCREW, 6-32 x 5/16 inch, PHS
-101	210-0006-00			2					WASHER, lock, internal, #6
-102	210-0449-00			2					NUT, hex., 5-40 x 1/4 inch
-103	124-0093-00			1					STRIP, ceramic, 7/16 inch h, w/5 notches
	- - - - -			*					strip includes:
	355-0046-00			2					STUD, plastic
	- - - - -			-					mounting hardware: (not included w/strip)
	361-0007-00			2					SPACER, plastic, 1/16 inch long
-104	131-0106-00			1					CONNECTOR, coaxial, 1 contact:, female, BNC

FIG 2 REAR

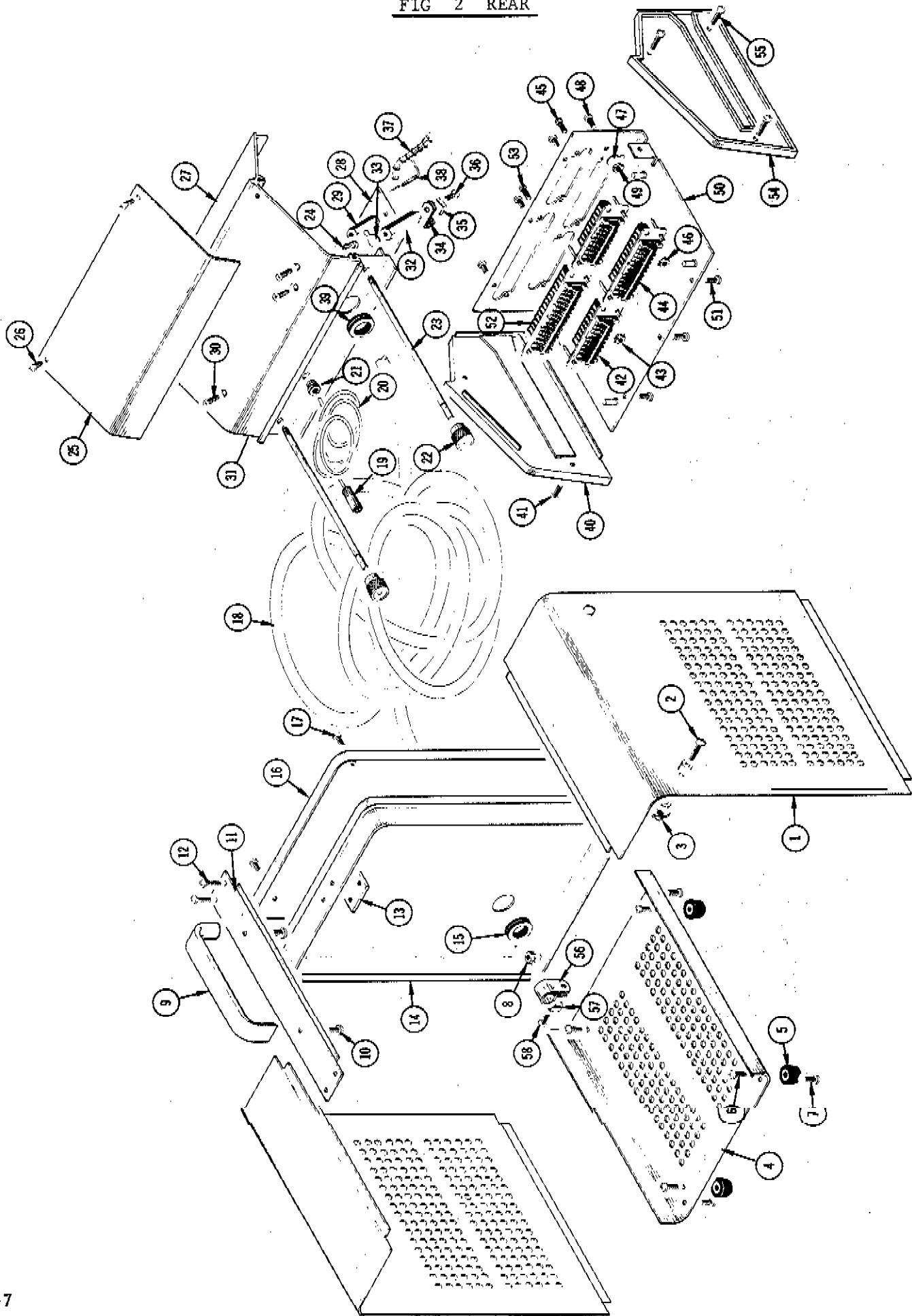


FIG. 2 REAR

Fig. & Index NO.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q ↑ y	Description					
					1	2	3	4	5	
2-1	387-0261-00			2	PLATE, cabinet sides					
	- - - - -			-	each plate includes:					
-2	213-0040-00			2	SCREW, fastening, 6-32 x 1/2 inch					
	210-0870-00			2	WASHER, flat, 9/64 ID x 5/16 inch OD					
	105-0009-00			2	STOP, 5/32 ID x 11/32 inch OD					
-3	210-0470-00			2	NUT, cabinet, w/insert					
-4	387-0350-00			1	PLATE, bottom					
	- - - - -			-	plate includes:					
-5	348-0080-01			4	FOOT, cabinet, 0.70 inch OD					
	210-0006-00			4	WASHER, lock, internal, #6					
-6	211-0507-00			4	SCREW, 6-32 x 1/4 inch, THS					
	- - - - -				mounting hardware: (nor included w/plate)					
-7	211-0565-00			4	SCREW, 6-32 x 1/4 inch, THS					
-8	210-0457-00			4	NUT, keps, 6-32 x 5/16 inch					
-9	367-0007-00			1	HANDLE					
	- - - - -				mounting hardware: (not included w/handle)					
-10	212-0023-00			2	SCREW, 8-32 x 3/8 inch, PHS					
-11	381-0159-00			1	BAR, handle					
	- - - - -			-	mounting hardware: (not included w/bar)					
-12	211-0542-00			4	SCREW, 6-32 x 5/16 inch, THS					
-13	381-0084-00			2	BAR, 3/16 x 1/2 x 1 inch					
-14	E386-1599-00			1	SUBPANEL, rear					
-15	348-0006-00			1	GROMMET, rubber, 3/4 inch diameter					
-16	E386-1600-00			1	PANEL, rear					
	- - - - -			-	mounting hardware: (not included w/panel)					
-17	213-0588-00			4	SCREW, thread forming, #4 x 1/4 inch					
-18	179-1393-00			1	WIRING HARNESS, base and connector					
-19	~131-0716-00			1	CONNECTOR, plastic shell					
-20	175-0699-00			FT	WIRE, #24 stranded w/jacket, 20 inches					
-21	E358-0384-00			1	BUSHING, strain relief					
-22	366-0125-00			2	KNOB, plug-in securing					
	- - - - -				each knob includes:					
	213-0004-00			1	SETSCREW, 6-32 x 3/16 inch, HSS					



## FIG 2 REAR (CONT)

Fig. & Index NO.	Tektronix Part No.	Serial/Model No. Eff Disc	Q					Description
			y	1	2	3	4	
2-23	384-0715-00		2					ROD, securing, plug-in
	-----		-					each rod includes:
-24	354-0025-00		1					RING, retaining,:
-25	<b>E333-1233-00</b>		1					PANEL, front
	-----		-					mounting hardware: (not included w/panel)
-26	<b>213-0088-00</b>		2					SCREW, thread forming, #4 x 1/4 inch, PHS
-27	386-1546-02		1					SUBPANEL, front
-28	<b>E670-1114-00</b>		1					ASSEMBLY, circuit board--RESISTOR LOAD
	-----		-					assembly includes:
	131-0589-00		7					TERMINAL, pin, 0.50 inch long
	<b>E388-1356-00</b>		1					BOARD, circuit
	-----		-					mounting hardware: (not included w/assembly)-
-29	385-0122-00		2					ROD, hex., 6-32 tap both ends
-30	211-0538-00		2					SCREW, 6-32 x 5/16 inch, 100° ask, FHS
-31	211-0601-00		2					SCREW, <del>sems</del> , 6-32 x 5/16 inch (not shown)
-32	384-0647-00		1					ROD, hex., spacer, 1.344 inches long
	-----		-					mounting hardware: (not included w/rod)
-33	210-0202-00		1					LUG, solder. 3/8 inch SE #6
-34	343-0005-00		1					CLAMP, cable, 7/16 inch diameter
-35	210-0863-00		1					WASHER, "D" type
-36	<b>211-0510-00</b>		1					SCREW, 6-32 x 3/8 inch, PHS
-37	<b>E179-1396-00</b>		1					WIRING HARNESS, logic
	-----							wiring harness includes:
-38	131-0371-00							CONNECTOR, terminal'
-39	<b>348-0012-00</b>		1					GROMMET, rubber, 5/8 inch diameter
-40	390-0083-00		1					CABINET, side, left, plastic
	-----		-					mounting hardware: (not included w/cabinet)
-41	<b>213-0146-00</b>		3					SCREW, thread forming, #6 x 0.313 inch, PHS
-42	131-0017-00		2					CONNECTOR, 16 contact, male
	-----		-					mounting hardware for each: (not included
	-----		-					w/connector)
	211-0097-00		2					SCREW, 4-40 x 5/16 inch, PHS
-43	210-0586-00		2					NUT, keps, 4-40 x 1/4 inch

Mechanical Parts List--Type 067-0599-00

FIG. 2 REAR (CONT)

Fig. & Index NO.	Tektronix Part No.	Serial/Model No. Eff Disc	Q					Description
			Y	1	2	3	4	
2-44	131-0149-00		1					CONNECTOR, 24 contact, male
	- - - - -		-					mounting hardware: (not included w/connector)
-45	211-0097-00		2					SCREW, 4-40 x 5/16 inch, PHS
-46	210-0586-00		2					NUT, keps, 4-40 x 1/4 inch
-47	210-0201-00		1					LUG, solder, SE #4
	* - - - - *		-					mounting hardware: (not included w/lug)
-48	211-0008-00		1					SCREW, 4-40 x 1/4 inch, PHS
-49	210-0591-00		1					NUT, hex., 4-40 x 3/16 inch
-50	E390-0084-00		1					CABINET, bottom
	■ ■ ■ ■ ■		-					mounting hardware: (not included w/cabinet)
-51	211-0504-00		6					SCREW, 6-32 x 1/4 inch, PHS
-52	131-0096-00		1					CONNECTOR, 32 contact, male
	- - - - -		-					mounting hardware: (not included w/connector)
-53	211-0097-00		2					SCREW, 4-40 x 5/16 inch, PHS
	210-0586-00		2					NUT, keps, 4-40 x 1/4 inch
-54	390-0082-00		1					CABINET, side, right, plastic
	- - - * * *		-					mounting hardware: (not included w/cabinet)
-55	213-0146-00		3					SCREW, thread forming, #6 x 0.313 inch, PHS
-56	343-0005-00		1					CLAMP, cable, 7/16 inch diameter
	- - - - -		-					mounting hardware: (not included w/clamp)
-57	210-0863-00		1					WASHER, "D" type
-58	211-0510-00		1					SCREW, 6-32 x 0.375 inch, PHS
	344-0204-00	x119	1					CLIP, electrical, grounding (not shown)
								STANDARD ACCESSORIES
	062-1101-00		1					MANUAL, instruction (not shown)

CROSS REFERENCE INDEX

FOR

TEKTRONIX, INC. TYPE 067-0599-00 CALIBRATION FIXTURE

FEDERAL MANUFACTURER'S CODE

TO

NAME AND ADDRESS

CODE	<u>NAME AND ADDRESS</u>
01121	Allen-Bradley Co. Milwaukee, Wis.
01295	Texas Instruments, Inc. Semiconductor-Components Division Dallas, Tex.
02660	Bunker-Ramo Corp., The Amphenol Connector Div. Broadview, Ill.
02735	RCA Corp. Solid State Division Somerville, N. J.
03888	Pyrofilm Resistor Co., Inc. Cedar Knolls, N. J.
04713	Motorola Semiconductor Products, Inc. Phoenix, Ariz.
06751	Components, Inc. Sencor Div. Phoenix, Ariz.
07263	Fairchild Semiconductor A Div. of Fairchild Camera and Instrument Corp. Mountain View, Calif.
07910	Continental Device Corp. Hawthorne, Calif.
12040	National Semiconductor Corp. Danbury, Conn.
12697	Clarostat Mfg. Co., Inc. Dover, N. H.
13715	Fairchild Semiconductor A Div. of Fairchild Camera and Instrument Corp. San Rafael, Calif.
14655	Cornell-Dubilier Electronics Division Federal Pacific Electric Co., Newark, N. J.

CODE	NAME AND ADDRESS
15818	Teledyne, Inc. Amelco Semiconductor Div., Mountain view, Calif.
19701	Electra/Midland Corp. Mineral Wells, Tex.
22229	Solitron Devices, Inc. San Diego, Calif.
22526	Berg Electronics, Inc, New Cumberland, Pa.
25941	Thiokol Chemical Corp. Panelyte Plant & Chemical Division Trenton, N. J.
32997	Bourns, Inc. Trimpot Products Division Riverside, Calif.
56289	Sprague Electric Co. North Adams; Mass.
63743	Ward Leonard Electric Co., Mount Vernon, N. Y.
70485	Atlantic India Rubber Works, Inc. Chicago, Ill.
71400	Bussman Mfg. Division of McGraw-Edison Co. St. Louis, MO.
71590	Globe-Union, Inc. Centralab Division Milwaukee, Wis.
71785	Cinch Mfg. Co. and Howard B. Jones Div. Chicago, Ill.
72553	Frost, C. L. and Son Grand Rapids, Mich.
72653	G. C. Electronics Co. A Division of Hydrometals, Inc. Rockford, Ill.
72982	Erie Technological Products, Inc. Erie, Pa.
73743	Fischer Special. Mfg. Co. Cincinnati, Ohio

<u>CODE</u>	<u>NAME AND ADDRESS</u>
75042	I. R. C. Division of TRW, Inc. Philadelphia, Pa.
75915	Littelfuse, Inc. D&s Plaines, Ill.
76854	Oak Mfg. Co. Division of Oak Electro/Netics Corp. crystal Lake, Ill.
78189	Illinois Tool Works, Inc. Shakeproof Division Elgin, Ill.
79136	Waldes, Kohinoor, Inc. Long Island City, N. Y.
80009	Tektronix, Inc. Beaverton, Oreg.
80294	Bourns, Inc. Riverside, Calif.
80740	Beckman Instruments, Inc. Fullerton, Calif.
89663	Reese, J. Ramsey, Inc. New York, N. Y.
91506	Augat, Inc. Attleboro, Mass.
91637	Dale Electronics, Inc. Columbus, Nebr.
91886	Malco Mfg. Co., Inc. Chicago, Ill.
95712	Bendix Corp., The Microwave Devices Division Franklin, Ind.
95987	Weckesser Co., Inc. Chicago, Ill.

<u>TEKTRONIX, INC.</u> <u>PART NUMBER</u>	<u>MANUFACTURER'S</u> <u>CODE NUMBER</u>	<u>MANUFACTURER'S</u> <u>PART NUMBER</u>
105-0009-00	80009	105-0009-00
105-0148-00	80009	<b>105-0148-00</b>
120-0625-00	80009,	120-0625-00
124-0093-00	80009	124-0093-00
129-0089-00	80009	129-0089-00
<b>131-0017-00</b>	02660	26-159-16
131-0096-00	02660	<b>26-159-32P</b>
131-0106-00	95712	9856-1
131-0149-00	02660	26-159-24
<b>131-0371-00</b>	91886	12093-S
131-0589-00	22526	47350
131-0604-00	<b>80009</b>	<b>131-0604-00</b>
131-0633-00	80009,	131-0633-00
131-0716-00	80009	131-0716-00
136-0135-00	91506	<b>8038-1G8</b>
136-0183-00	80009	<b>136-0183-00</b>
<b>136-0220-00</b>	71785'	<b>133-23-11-034</b>
136-0235-00	<b>71785</b>	133-96-12-062
136-0237-00	71785	133-98-12-062
151-0137-00	<b>02735</b>	<b>2N2148</b>
151-0140-00	02735	36568
151-0150-00	02735	36872
151-0183-00	12040	<b>NS12063</b>
<b>151-0190-01</b>	07910	<b>CS23303</b>
151-0220-00	07263,	<b>S21766</b>
151-1006-00	15818	<b>U1491</b>
x51-1010-00	22229	<b>FD1137</b>

TEKTRONIX, INC.  
PART NUMBER

MANUFACTURER'S  
CODE NUMBER

MANUFACTURER'S  
PART NUMBER

152-0061-00	13715	FD2161
152-0066-00	0 2 7 3 5	1N3194
152-0088-00	04713	1N3209
152-0171-00	06751	53903
152-0280-00	04713	1N753A
152-0287-00	04713	1N986B
156-0049-00	07263	U5B7741393
159-0021-00	71400	AGC2
159-0025-00	71400	AGC1-2
179-1393-00	80009	179-1393-00
179-1396-00	80009	179-1396-00
200-0293-00	80009	200-0293-00
200-0941-00	80009.	200-0941-00
210-0001-00	78189	1202-00-00-0541C
210-0006-00	78189	1206-00-00-0541C
210-0012-00	78189	1220-02-00-0541C
210-0201-00	78189	2104-04-00-2520N
210-0202-00	78189	2104-06-00-2520N
210-0405-00	73743	2X12157-402
210-0406-00	73743	2X12161-402
210-0413-00	73743	3145-402
210-0449-00	73743	3030-402
210-0457-00	80009	210-0457-00
210-0470-00	80009	210-0470-00
210-0586-00	80009,	210-0586-00
210-0591-00	80009	210-0591-00
210-0803-00	80009	210-0803-00



<u>TEKTRONIX, INC.</u> <u>PART NUMBER</u>	<u>MANUFACTURER'S</u> <u>CODE NUMBER</u>	<u>MANUFACTURER'S</u> <u>PART NUMBER</u>
210-0840-00	89663	644R
210-0851-00	80009	210-0851-00
210-0863-00	95987,	D-191
210-0870-00	80009	210-0870-00
210-0994-00	80009	210-0994-00
211-0008-00	80009	211-0008-00
211-0012-00	80009	211-0012-00
211-0022-00	80009	211-0022-00
211-0097-00	80009	211-0097-00
211-0115-00	80009	211-0115-00
211-0116-00	80009	211-0116-00
211-0157-00	80009	211-0157-00
211-0504-00	80009	211-0504-00
211-0507-00	80009	211-0507-00
211-0510-00	80009	211-0510-00
211-0529-00	80009	211-0529-00
211-0538-00	80009	211-0538-00
211-0541-00	80009	211-0541-00
211-0542-00	80009	211-0542-00
211-0543-00	80009	211-0543-00
211-0565-00	80009	211-0565-00
211-0588-00	80009	211-0588-00
211-0601-00	80009	211-0601-00
212-0023-00	80009	212-0023-00
213-0004-00	80009,	213-0004-00
213-0040-00	80009	213-0040-00
213-0041-00	80009	213-0041-00

<u>TEKTRONIX, INC.</u> <u>PART NUMBER</u>	<u>MANUFACTURER'S</u> <u>CODE NUMBER</u>	<u>MANUFACTURER'S</u> <u>PART NUMBER</u>
213-0088-00	80009	213-0088-00
213-0113-00	8 0 0 0 9	<b>213-0113-00</b>
213-0146-00	80009,	213-0146-00
213-0153-00	80009	213-0153-00
214-0579-00	80009	214-0579-00
214-1127-00	80009	<b>214-1127-00</b>
214-1139-00	80009	214-1139-00
214-1139-02	80009	<b>214-1139-02</b>
214-1139-03	80009	<b>214-1139-03</b>
220-0532-00	80009	<b>220-0532-00</b>
260-1092-00	80009	260-1092-00
260-1093-00	80009	260-1093-00
260-1094-00	<b>80009</b>	260-1094-00
260-1095-00	80009	260-1095-00
260-1097-00	80009	260-1097-00
<b>260-1098-00</b>	80009	260-1098-00
262-0883-00	80009	262-0883-00
<b>262-0884-00</b>	80009	262-0884-00
262-0885-00	80009	262-0885-00
262-0886-00	80009	262-0886-00
262-0888-00	<b>80009</b>	262-0888-00
262-0889-00	80009	<b>262-0889-00</b>
283-0000-00	7 2 9 8 2	<b>831Z5U102P</b>
283-0003-00	<b>56289</b>	<b>20C205A1</b>
283-0011-00	72982,	<b>3878-012Z5U0103Z</b>
283-0023-00	<b>71590</b>	<b>DA476-001B</b>
283-0026-00	56289	<b>5C2A</b>

<u>TEKTRONIX, INC.</u> <u>PART NUMBER</u>	<u>MANUFACTURER'S</u> <u>CODE NUMBER</u>	<u>MANUFACTURER'S</u> <u>PART NUMBER</u>
283-0028-00	56289	19C378
283-0029-00	72982	821-000Z5D0502J
283-0038-00	14655	TM200T5EE
283-0054-00	72982	855-030U2J0151J
283-0077-00	56289	19C14A1
283-0078-00	56289	20C114A8
283-0079-00	56289	44C56A4
283-0083-00	56289	33C154A1
283-0178-00	72982	8131-100651104Z
285-0708-00	80009	285-0708-00
290-0086-00	56289	D27740
290-0248-01	56289	150D157X0015S2
290-0310-00	56289	D44886
301-0102-00	01121	EB1025
301-0202-00	01121	EB2025
301-0821-00	01121	EB8215
303-0362-00	01121	GB3625
303-0510-00	01121	GB5105
305-0273-00	01121	HB2735
308-0051-00	63743	21828
308-0078-00	63743	7686
308-0135-00	63743	21834
308-0338-00	63743	5XM150J
308-0350-00	63743	27989
308-0431-00	6 3 7 4 3	42805
308-0434-00	91637	RS2E500C
308-0459-00	56289	242EX1R100J0108

<u>TEKTRONIX, INC.</u> <u>PART NUMBER</u>	<u>MANUFACTURER'S</u> <u>CODE NUMBER</u>	<u>MANUFACTURER'S</u> <u>PART NUMBER</u>
308-0537-00	91637	RS2A1001D
308-0538-00	91637	RS2A1002D
308-0545-00	91637	RS2A1000D
308-0548-00	91637	RS5R1000H
308-0572-00	80009	308-0572-00
308-0584-00	91637	RS520ROD
308-0585-00	<b>91637</b>	RS550ROD
308-0591-00	63743	55ST40RODCT
310-0505-00	01295	CD2R3005F
<del>310-0684-00</del>	80009	<del>310-0684-00</del>
310-0685-00	80009	310-0685-00
310-0686-00	<b>80009</b>	<del>310-0686-00</del>
310-0687-00	80009	310-0687-00
<del>311-0266-00</del>	80294	275-I-501
311-0274-00	<b>12697</b>	CM30929
311-0409-00	32997	275P-1-102
311-0550-00	32397	275P-1-253
<del>311-0704-00</del>	01121	SV5011
311-0827-00	01121	SV2511
311-0831-00	01121	SV1041
311-0883-00	01121	SV5031
311-0884-00	01121	SV1011
311-0886-00	01121	SV5001
311-0950-00	01121	SV1031
311-0989-00	80740	78PR100
315-0100-00	<b>01121</b>	CB1005
<del>315-0101-00</del>	01121	<del>CB1015</del>

<u>TEKTRONIX, INC.</u> <u>PART NUMBER</u>	<u>MANUFACTURER'S</u> <u>CODE NUMBER</u>	<u>MANUFACTURER'S</u> <u>PART NUMBER</u>
315-0102-00	01121	CB1025
315-0103-00	01121	CB1035
315-0104-00	01121	CB1045
315-0123-00	01121	CB1235
315-0151-00	01121	CB1515
315-0154-00	01121	CB1545
315-0183-00	01121	CB1835
315-0201-00	01121	CB2015
315-0221-00	01121	CB2215
315-0222-00	01121	CB2225
315-0223-00	01121	CB2235
315-0332-00	01121	CB3325
315-0432-00	01121	CB4325
315-0473-00	01121	CB4735
315-0511-00	01121	CB5115
315-0512-00	01121	CB5125
315-0563-00	01121	CB5635
3X-0682-00	01121	CB6825
315-0824-00	01121	CB8245
315-0912-00	01121	CB9125
316-0222-00	01121	CB2221
321-0114-01	19701	MF5CT0-1500D
321-0122-07	75042	CEAT9-1820B
321-0143-03	75042	CEAT2-3010C
321-0193-03	91637,	MFF1-8T2-1001C
321-0222-01	75042	CEATO-5001D
321-0228-00	75042	CEATO-2321F

TEKTRONIX, INC.  
PART NUMBER

MANUFACTURER'S  
CODE NUMBER

MANUFACTURER'S  
PART NUMBER

321-0263-00	75042	CEATO-5361F
321-0277-00	75042	CEATO-7501F
321-0289-03	91637	MFF1-8T2-1002C
321-0309-00	75042	CEATO-1622F
321-0331-00	75042	CEATO-2742F
321-0345-00	75042	CEATO-3832F
321-0380-00	75042	CEATO-8872F
321-0604-00	75042	CEAT2-3002C
321-0644-00	75042	CEAT9-1003C
321-0646-00	75042	CEAT2-2003D
321-0648-00	75042	CEAT2-5003D
321-0657-01	75042	CEAT9-60R00B
321-0666-00	75042	CEAT2-3041D
321-0702-00	7 5 0 4 2	CEAT2-30R00C
321-0748-06	75042	CEAT9-4951C
321-0749-00	75042	CEATO-4500F
321-0749-06	75042	CEAT9-4500C
321-0756-03	75042	CEAT2-5002C
321-0801-07	75042	CEAT9-178R2B
321-0816-07	7 5 0 4 2	CEAT9-5001B
322-0481-01	75042	CEBTO-1004D
323-0126-01	75042	CECTO-2000D
323-0222-00	75042	CECTO-2001F
323-0289-07	75042	CECT9-1002B
323-0318-01	7 5 0 4 2	CECTO-2002D
323-0385-01	75042	CECTO-1003D
323-0385-03	75042	CECT2-1003C

TEKTRONIX, INC.  
PART NUMBER

MANUFACTURER'S  
CODE NUMBER

MANUFACTURER'S  
PART NUMBER

323-0452-00	75042	CECT0-4993F
323-0481-01	75042	CECT0-1004D
323-0611-03	75042,	CECT2-9003C
323-0638-06	75042	CECT9-5002C
323-0641-00	75042	CECT3-1504C
323-0758-07	75042	CECT9-3001B
325-0007-01	75042	MEFT0-1005D
325-0071-00	03888	PME70T0-10004D
333-1221-02	80009	333-1221-02
333-1233-00	80009	333-1233-00
343-0005-00	95987	7-16-6B
344-0204-00	80009	344-0204-00
348-0006-00	70485,	1 7 2 0
348-0012-00	72653	1043-1M
348-0063-00	80009	348-0063-00
348-0080-01	80009	348-0080-01
352-0031-00	75915'	357001
354-0025-00	79136	5555-18
354-0219-00	79136	5103-25-m-R
355-0046-00	80009	355-0046-00
358-0384-00	80009	358-0384-00
361-0007-00	80009	361-0007-00
366-0125-00	80009	366-0125-00
366-0499-00	80009	366-0499-00
366-1008-00	80009,	366-1008-00
366-1009-00	80009	366-1009-00
367-0007-00	72553	98

**TEKTRONIX, INC.**  
**PART NUMBER**

**MANUFACTURER'S**  
**CODE NUMBER**

**MANUFACTURER'S**  
**PART NUMBER**

376-0014-00	76854	2 2 6 7 5 - 0 0 1
381-0084-00	80009	381-0084-00
381-0159-00	8 0 0 0 9	<b>381-0159-00</b>
384-0381-00	80009	384-0381-00
384-0647-00	80009	384-0647-00
384-0715-00	80009	384-0715-00
385-0122-00	80009	385-0122-00
386-0254-00	25941	8 5 1 0 9
386-0255-00	80009	386-0255-00
386-0978-00	8 0 0 0 9	386-0978-00
<b>386-1546-02</b>	80009	386-1546-02
386-1595-00	80009	<b>386-1595-00</b>
386-1599-00	8 0 0 0 9	<b>386-1599-00</b>
<b>386-1600-00</b>	80009	386-1600-00
387-0261-00	80009	<b>387-0261-00</b>
<b>387-0350-00</b>	80009	387-0350-00
388-1356-00	8 0 0 0 9	388-1356-00
<b>388-1357-00</b>	80009	388-1357-00
388-1463-00	80009	388-1463-00
390-0082-00	80009	390-0082-00
390-0083-00	80009	390-0083-00
390-0084-00	80009	390-0084-00
401-0054-00	80009	401-0054-00
401-0056-00	80009	401-0056-00
407-0641-00	80009	<b>407-0641-00</b>
407-0642-00	80009	407-0642-00
<b>407-0653-00</b>	8 0 0 0 9	407-0653-00



TEKTRONIX, INC.  
PART NUMBER

MANUFACTURER'S  
CODE NUMBER

MANUFACTURER'S  
PART NUMBER

432-0048-00

80009

432-0048-00

441-0890-00

80009

441-0890-00

670-0840-00

80009

670-0840-00

670-1114-00

80009

670-1114-00

670-1115-00

80009

670-1115-00