# INSTRUCTION MANUAL

# TYPE K PLUG-IN

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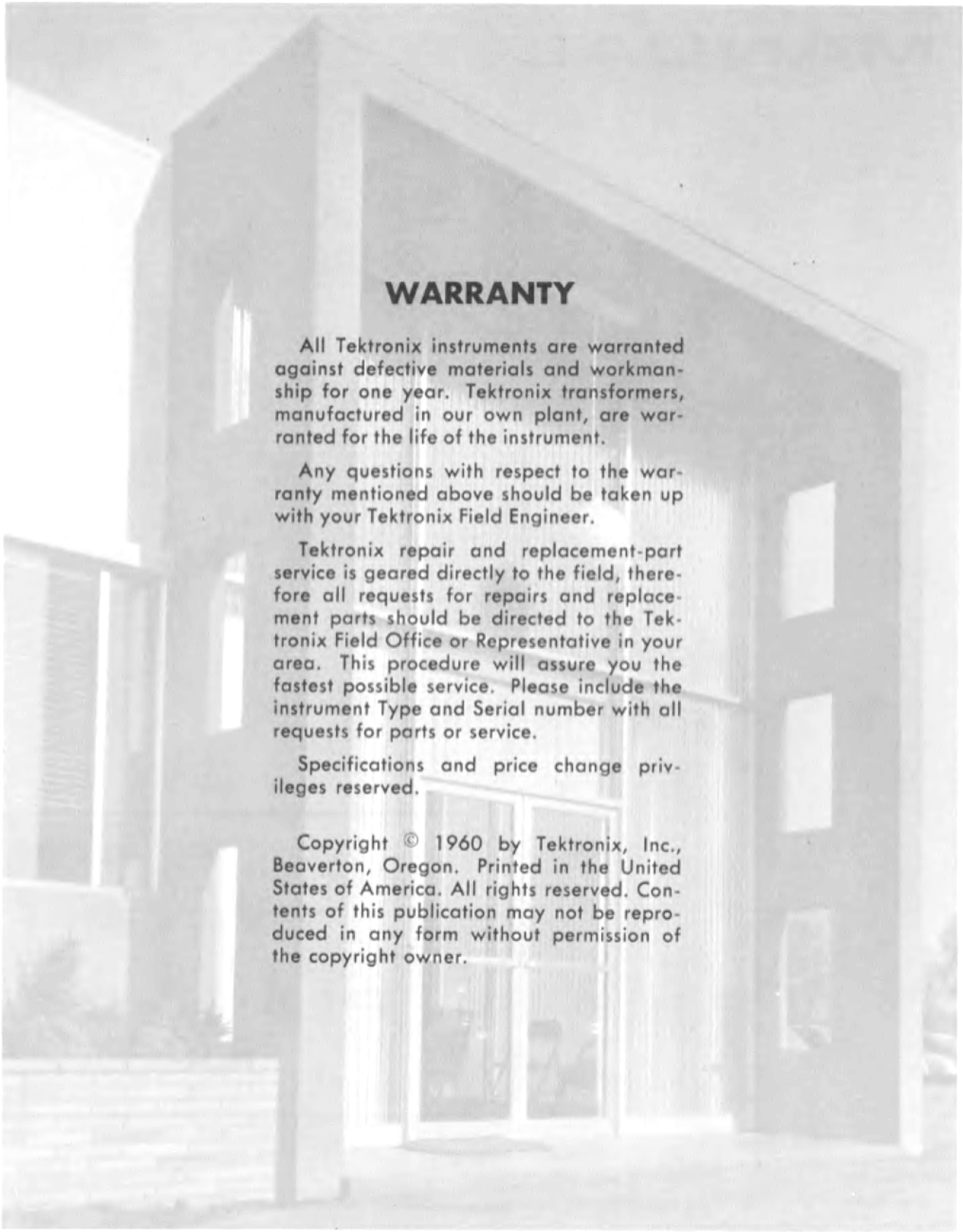


# WARRANTY

All Tektronix instruments are warranted against defective materials and workmanship for one year. Tektronix transformers, manufactured in our own plant, are warranted for the life of the instrument.

Any questions with respect to the warranty mentioned above should be taken up with your Tektronix Field Engineer.

Tektronix repair and replacement-part service is geared directly to the field, therefore all requests for repairs and replacement parts should be directed to the Tektronix Field Office or Representative in your area. This procedure will assure you the fastest possible service. Please include the instrument Type and Serial number with all requests for parts or service.

Specifications and price change privileges reserved.

# CONTENTS


Section 1 Specifications

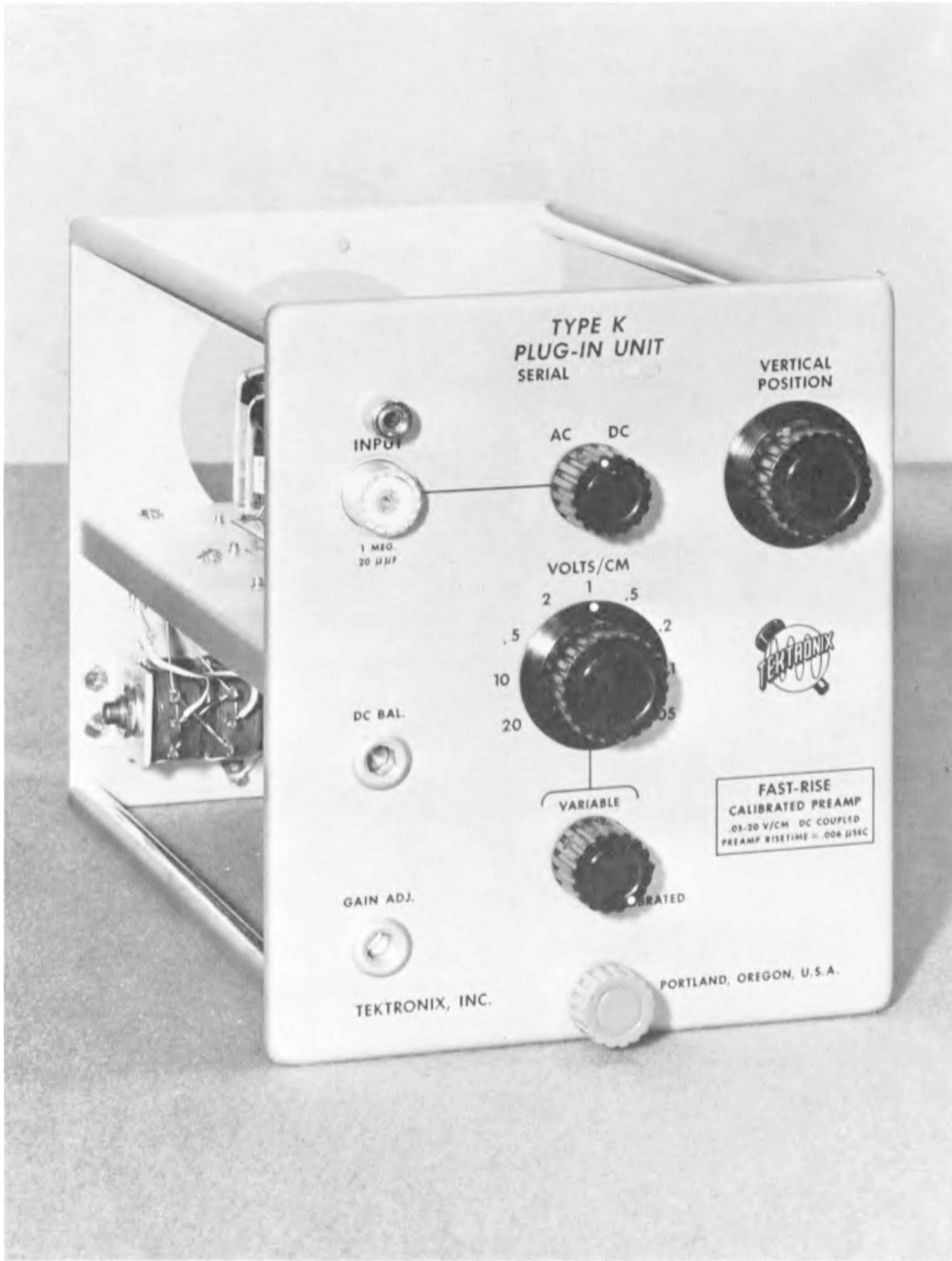
Section 2 Operating Instructions

Section 3 Circuit Description

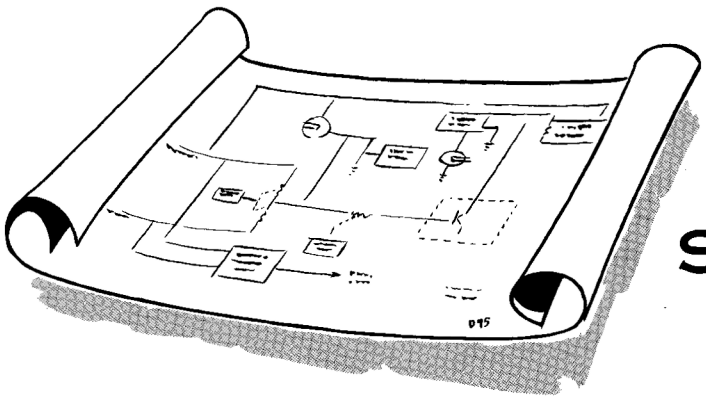
Section 4 Maintenance

Section 5 Calibration Procedure

Section 6 Parts List and Schematic




Type K



# SECTION 1

# SPECIFICATIONS

NOTE

At earlier serial number ranges, the Type K was described as Type 53/54K. The designation was later changed to Type K. For purposes of this manual, all serial ranges will be referred to as Type K.

## GENERAL DESCRIPTION

The Type K Plug-In Unit is a fast rise calibrated preamp, designed to be used as a preamplifier for Tektronix Type 530-, 540- and 550-Series Oscilloscopes.

## TYPE K SPECIFICATIONS

### Transient Response

Preamp Alone—6 nanoseconds.

With Type 541, 541A, 543, 545, 545A and 555—12 nanoseconds.

With Type 531, 531A, 533, 535 and 535A—.031 microseconds.

With Type 551 — .014 microseconds.

### Frequency Response

With Type 541, 541A, 543, 545, 545A and 555.
Passband-DC to 30 mc, 2 cps to 30 mc ac. Down 3 db ±½ db at 30 mc, 6 db at approximately 41 megacycles, 12 db at approximately 55 megacycles.

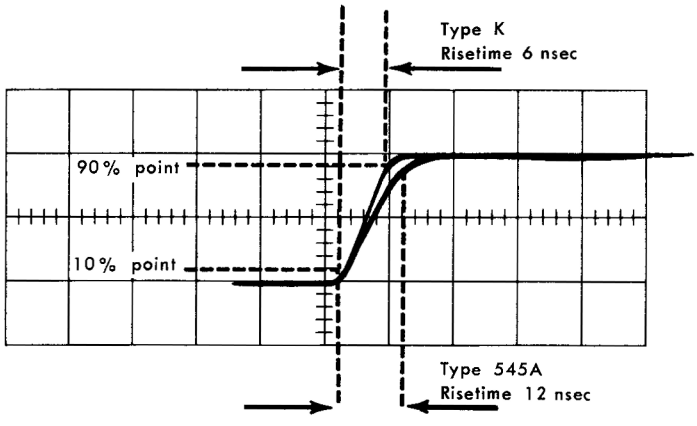



**Fig. 1-1. Comparison of risetimes of the Type K Preamp and a Type 545A Oscilloscope.**

With Type 531, 531A, 533, 535 and 535A.
Passband—DC to 15 mc.

With Type 551.
Passband — DC to 25 mc.

Deflection Factor—DC to 25 mc.

Step Attenuator
Nine positions, calibrated, from .05 v/cm to 20 v/cm, accurate within 3 percent when set on any one step.

Maximum Allowable Combined dc and peak ac Voltage

Input—600 v.

Input Impedance—1 megohm, 20 μμf.
With P410 probe—10 megohms, 7.5 μμf.
With P6000 probe—10 megohms, 11.5 μμf.

### Mechanical Specifications

Construction—Aluminum-alloy chassis.
Finish—Photo-etched anodized panel.
Weight—3½ pounds.

### Accessories

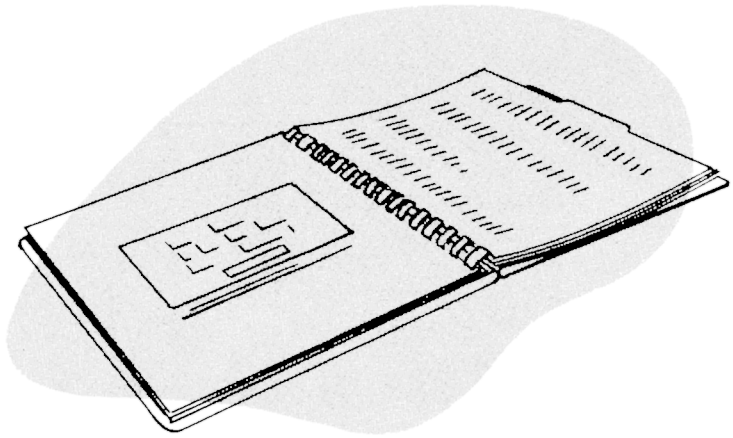
2—Instruction Manuals

## FUNCTIONS OF CONTROLS AND CONNECTORS

| | |
|---|---|
| INPUT | UHF coaxial connector to preamp. |
| AC, DC | Switch to insert or remove coupling capacitor for ac or dc operation. |
| VERTICAL POSITION | Control to position the oscilloscope trace vertically. |
| VOLTS/CM | Switch to select accurate, frequency-compensated attenuators which provide the sensitivity indicated, when the VARIABLE control is in the CALIBRATED position. |
| VARIABLE | Variable gain control over a ratio of about 2 to 1. |
| DC BAL. | Screwdriver front-panel control to set the dc levels so the trace will not shift vertically when the VARIABLE control is rotated. |
| GAIN ADJ. | Screwdriver front-panel control adjusts amplifier gain to calibrate VOLTS/CM control. |

# SECTION 2

# OPERATING INSTRUCTIONS



## General

The Type K Preamp is designed to operate as the preamplifier for a Tektronix 530-Series, 540-Series or 550-Series Oscilloscope. We assume that it will be operated in that manner in the following instructions.

## Input Connections

In making connections for signal sources to the INPUT connector of the Type K Preamp, it is important that interconnecting cables be properly terminated to avoid loss of frequency response. Fig. 2-1 shows how a square wave

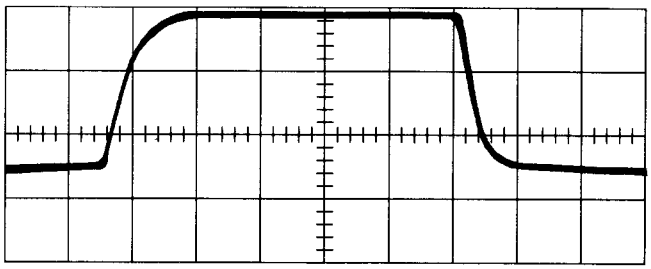


**Fig. 2-1. A 450-kc square wave from a Type 105 Square Wave Generator, displayed on a Type 545A Oscilloscope. Interconnecting cable is a 52-ohm unterminated coaxial line.**

signal from a Type 105 Square Wave Generator is deteriorated by improper termination. The forward corner of the waveform shows severe rolloff, and the trailing edge of the square-wave is also severely deteriorated. Also noticeable on close observation are the small aberrations on the "rise" and "fall" portions of the waveform produced by standing waves generated along the improperly terminated line. Fig. 2-2 shows the effect of properly terminating the same waveform between the Type 105 and the Type K.

## Probe Information

Early Type K Units were furnished with P500-Series or P400-Series probes. P500-Series probes are usuable in the range from DC to 10 megacycles. P400-Series probes should be used with 540-Series and 550-Series oscilloscopes where frequencies in excess of 10 MC are likely to be encountered.

P400-Series probe bodies are 3/4-inch in diameter. They are molded of fiberglass-reinforced alkyd and have an internal brass shield. Noses are color-coded to indicate attenuation ratios. Length is 3 3/4 inches without tip. Two Tektips were furnished with each probe—a straight tip and freely-rotating hooked tip. The tips increase probe length by about one inch, adding less than 0.5 $\mu\mu$f to the input capacitance. P400-Series probes have a 42-inch coaxial cable with uhf connector.

The Type P6000 probe may be used with either the 530-Series or 540-Series Oscilloscopes. Be sure to check the adjustment of the probe when you first connect it to the plug-in. Touch the probe tip to the calibrator output connector and display several cycles of the calibrator waveform. If the top and bottom of the displayed waveform is not flat, loosen the locking ring by turning it in a counterclockwise direction. Rotate the barrel of the probe as necessary to compensate the probe. Tighten the locking ring carefully after compensating the probe, being careful not to disturb the probe adjustment.

## P400-Series and P500-Series Probe Adjustment

An adjustable capacitor compensates for slight variations in input capacitance from one instrument to another. This capactitor is located in the probe body in the P405, P410, P420, and in the termination block at the instrument end of the cable in the P450, P450-L and P4100. It takes only a few seconds to check this adjustment, and it is a good practice to make this check each time the probe is to be used. Simply touch the probe to the oscilloscope calibrator-output

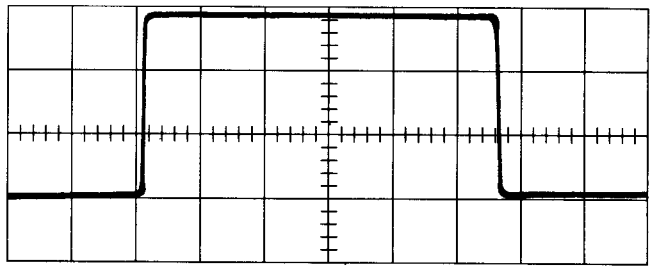


**Fig. 2-2. A 450-kc square wave from Type 105 Type K—545A combination, connected by 52-ohm cable, terminated at both ends.**

PROBE CHARACTERISTICS

| Probe | Color Code | Attenuation Ratio | INPUT IMPEDANCE | | | Insertion Loss at 30 mc (db) | Voltage Rating (Peak-to-Peak) |
|---|---|---|---|---|---|---|---|
| | | | Resistance (Megohms) | Typical Capacitance | | | |
| | | | | Minimum* | Maximum* | | |
| P405 | Green | 5:1 | 5 | 12 $\mu\mu$f | 19 $\mu\mu$f | 1 to 2 | 600 |
| P410 | Brown | 10:1 | 10 | 8 $\mu\mu$f | 11 $\mu\mu$f | 1 | 600 |
| P420 | Red | 20:1 | 10 | 5.5 $\mu\mu$f | 7 $\mu\mu$f | 1 | 600 |
| P450 | Clear-Green | 50:1 | 10 | 3.5 $\mu\mu$f | 3.5 $\mu\mu$f | 1 | 1000 |
| P450L † | Clear-Green | 50:1 | 10 | 2.5 $\mu\mu$f | | 1 | 1000 |
| P4100 | Clear | 100:1 | 10 | 2.5 $\mu\mu$f | 2.5 $\mu\mu$f | 1 | 1000 |
| P6000 | Black | 10:1 | 10 | 11.5 $\mu\mu$f | 14.5 $\mu\mu$f | 1.2 | 600 |
| P6017 | None | 10:1 | 10 | 14.0 $\mu\mu$f | 14.0 $\mu\mu$f | 1 | 600 |

* When connected to instruments having 20 $\mu\mu$f input capacitance.

** When connected to instruments having 50 $\mu\mu$f input capacitance.

† Will not adjust to instrument having over 25 $\mu\mu$f input capacitance.

terminal and observe the calibrator waveform on the screen. If necessary, adjust the trimmer for a flat top on the calibrator square wave. For critical adjustment of the P400, a faster-rising square wave, such as the output of the Tektronix Type 104A or Type 105 should be used.

## Probe Preventive Maintenance

Regular inspection of the probe nose and cable fastening screws will help prevent possible mechanical damage due to twisting. A small nylon screw holds the nose in place, and an allen setscrew grips the cable firmly. Tighten these screws if they work loose.

## Probe Repair

To disassemble P400- and P500-Series probes, remove the nylon screw and loosen the allen setscrew. Slide the probe body back over the cable. Examine the layout carefully before proceeding. The center conductor of the cable is extremely fragile; be careful not to break it when removing a probe part. Replacement parts can be obtained through field offices or directly from the factory. When resoldering, it is important to get a good connection between the probe resistor and the center conductor of the cable. Reassemble the probe and tighten the screws.

## Coupling

It is sometimes unnecessary or undesirable to display the dc level of the waveform. In the AC position of the AC-DC switch, a capacitor in series with the input blocks the dc component of the waveform so that only the ac component is displayed.

## Deflection Sensitivity

The VOLTS/CM switch inserts frequency-compensated attenuators ahead of the amplifier. The VARIABLE control provides continuous adjustment of the deflection sensitivity between the values indicated by the VOLTS/CM cwitch.

NOTE

The VARIABLE control must be clockwise to CALIBRATED position for the sensitivity to be as indicated by the VOLTS/CM control.

## Gain Adjustment

Aging of tubes will affect the gain of the plug-in unit. After the plug-in unit has been in use for a period of time the gain adjustment should be checked. Display a calibrator waveform of 0.2 volts peak to peak with the VOLTS/CM switch in the .05 position. Adjust the GAIN ADJ. control until the displayed waveform is four graticule divisions in amplitude. Be sure the VARIABLE control is turned clockwise to the CALIBRATED position before making this adjustment.

## DC Balance Adjustment

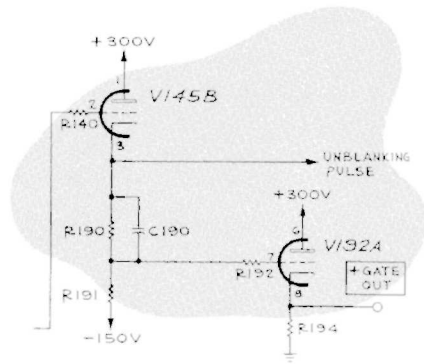
The need for adjustment of the DC BAL control is indicated by a shift in the position of the trace as the VARIABLE control is rotated. This is caused by tube aging and the resulting shift in operating potentials. This adjustment should be made after the GAIN ADJ. control is set. Rotate the VARIABLE control back and forth and adjust the DC BAL. control until the trace position is no longer affected by rotation of the VARIABLE control.

## Positioning Adjustment

The VERT POS RANGE control balances the dc output level so the full range of the front-panel positioning control can be utilized. The VERT POS RANGE control is located at the left to the rear of the plug-in unit and is accessible when the left side panel of the oscilloscope is removed. Center the VERTICAL POSITION control. Adjust the VERT POS RANGE control to center the trace on the screen.

# SECTION 3

# CIRCUIT DESCRIPTION




## General

The Type K Preamp has a maximum sensitivity of .05 volts per centimeter and a rise time of approximately .006 microseconds. The circuit consists of one stage of amplification preceded and followed by cathode followers.

## Input Attenuators

The VOLTS/CM switch inserts frequency-compensated attenuators into the input circuit. When properly adjusted, the input resistance and capacitance of the unit remains unchanged as the attenuators are inserted. The AC-DC switch inserts or removes a blocking capacitor in the input circuit. In serial numbers 101-352, C5611 compensates for the high-frequency characteristics of the larger capacitor.

## Input Cathode Follower

The input cathode follower, V5701, reduces to a minimum the input capacitance presented by the amplifier and isolates the input circuits from changes in capacitance as the VARIABLE gain control is varied. R5661 is a current-limiting resistor to limit the grid current in the event an excess voltage is applied to the input.

The DC BAL. control, R6731, (R5511 serial numbers 101-352) provides a means of setting the two cathodes of the amplifier stage to the same dc level so that there will be no shift of the trace as the VARIABLE control is rotated. In serial numbers 101-352 Cathode Follower V5701A reduces amplifier drift caused by V5701B since the two cathode followers tend to drift in the same direction.

## Amplifier

The amplifier stage V6111 and V6101, is a common-cathode phase-splitter amplifier. Coils L6101A and L6101B (L6201 and L6211 serial numbers 101-352) form peaking networks in the plate circuits. R6261 provides the current for the amplifier plates, and a tap to the heater string provides a low impedance at this point.

The VARIABLE VOLTS/CM control, R6101, varies the gain over a 2-to-1 ratio by varying the degeneration in the cathode circuit. The GAIN ADJ. control sets the gain to agree with the front-panel calibration when the VARIABLE control is completely clockwise to the CALIBRATED position.

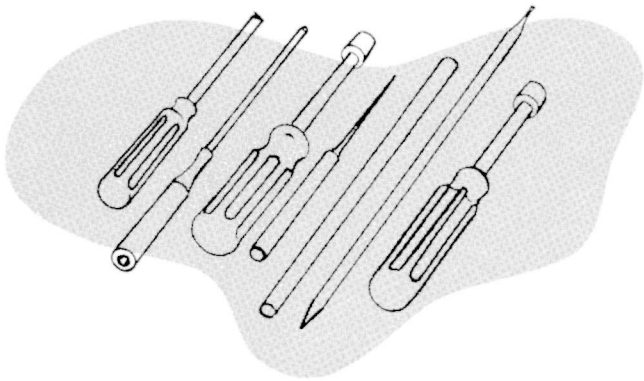
Vertical positioning is produced by two dual potentiometers connected to the plates of the amplifier so that current through one plate load is increased when the potentiometer is adjusted to reduce the current through the other plate load. The VERT. POS. RANGE control has about twice the range of the VERTICAL POSITION control and allows the positioning to be set so the trace is centered when the VERTICAL POSITION control is centered.

## Output Cathode Follower

Two sets of cathode followers follow the amplifier stage in order to provide minimum capacitance to the amplifier and drive the capacitance of the interconnecting plug and main-amplifier input circuit. The second cathode follower is modified by the addition of resistors in the plate circuits and by capacitors cross-connected from each plate to the opposite cathode, to improve the high-frequency balance of the unit.

## H.F. Peaking (S/N 353 and up)

The H.F. PEAKING control, R6541, varies the current in the output cathode followers. This changes the impedance at the cathodes and changes the effect of the series peaking coils, L6601 and L6611, tied to these cathodes.



# SECTION 4

# MAINTENANCE

## Replacement of Components

Tektronix will supply replacement components at current net prices. However, since most of the components are standard electronic and radio parts we suggest you get them from your local dealer if you can. Be sure to consult your instruction manual first to see what tolerances are required.

We specially select some of the components, whose values must fall within prescribed limits, by sorting through our regular stocks. The components so selected will have standard RETMA color-code marks showing the values and tolerances of the stock they were selected from, but they will not in general be replaceable from dealer stocks.

Such selected parts, as well as the parts we manufacture at Tektronix, are identified in the parts lists either by notes or by our own stock numbers. Order these parts from the Tektronix factory in Beaverton, Oregon.

## Parts-Ordering Information

You will find a serial number on the frontispiece of this manual. This is the serial number of the instrument the manual was prepared for. Be sure the manual number matches the number of the instrument when you order parts.

A Tektronix instruction manual usually contains hand-made changes to diagrams and parts list, and sometimes text. These changes are in general only appropriate to the instrument the manual was prepared for, the instrument whose serial number appears on the manual frontispiece. The hand-made changes show changes to the instument that have been made after the printing of the manual.

We make some the the instrument changes during the factory test procedure. Our technicians hand-tailor the circuits, if it seems appropriate, to provide the widest possible latitude of operation. Other changes are made to include the latest circuit improvements as they are developed in our engineering department, or when improved components become available. In any event, the changes are to your benefit. We have tried to give you the best instrument we can.

## Soldering and Ceramic Strips

Many of the components in your Tektronix instrument are mounted on ceramic terminal strips. The notches in these strips are lined with a silver alloy. Repeated use of excessive heat, or use of ordinary tin-lead solder will break down the silver-to-ceramic bond. Occasional use of tin-lead solder will not break the bond if excessive heat is not applied.

If you are responsible for the maintenance of a large number of Tektronix instruments, or if you contemplate frequent parts changes, we recommend that you keep on hand a stock of solder containing about 3% silver. This type of solder is used frequently in printed circuitry and should be readily available from radio-supply houses. If you prefer, you can order the solder directly from Tektronix in one-pound rolls. Order by Tektronix part number 251-514.

Because of the shape of the terminals on the ceramic strips it is advisable to use a wedge-shaped tip on your soldering iron when you are installing or removing parts from the strips. Fig. 4-1 will show you the correct shape for the tip of the soldering iron. Be sure and file smooth all surfaces of the iron which will be tinned. This prevents solder from building up on rough spots where it will quickly oxidize.

When removing or replacing components mounted on the ceramic strips you will find that satisfactory results are obtained if you proceed in the manner outlined below.

1. Use a soldering iron of about 75-watt rating.
2. Prepare the tip of the iron as shown in Fig. 4-1.
3. Tin only the first 1/16 to 1/8 inch of the tip. For soldering to ceramic terminal strips tin the iron with solder containing about 3% silver.

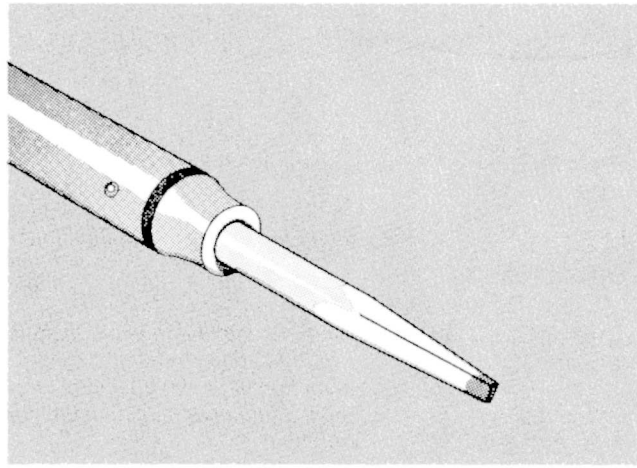


**Fig. 4-1. Soldering iron tip properly shaped and tinned.**

4. Apply one corner of the tip to the notch where you wish to solder (see Fig. 4-2).
5. Apply only enough heat to make the solder flow freely.
6. Do not attempt to fill the notch on the strip with solder; instead, apply only enough solder to cover the wires adequately, and to form a slight fillet on the wire as shown in Fig. 4-3.

In soldering to metal terminals (for example, pins on a tube socket) a slightly different technique should be employed. Prepare the iron as outlined above, but tin with ordinary tin-lead solder. Apply the iron to the part to be soldered as shown in Fig. 4-4. Use only enough heat to allow the solder to flow freely along the wire so that a slight fillet will be formed as shown in Fig. 4-3.

## General Soldering Considerations

When replacing wires in terminal slots clip the ends neatly as close to the solder joint as possible. In clipping ends or wires take care the end removed does not fly across the room as it is clipped.

Occasionally you will wish to hold a bare wire in place as it is being soldered. A handy device for this purpose is a short length of wooden dowel, with one end shaped as shown in Fig 4-5. In soldering to terminal pins mounted in plastic rods it is necessary to use some form of "heat sink" to avoid melting the plastic. A pair of long-nosed pliers (see Fig. 4-6) makes a convenient tool for this purpose.

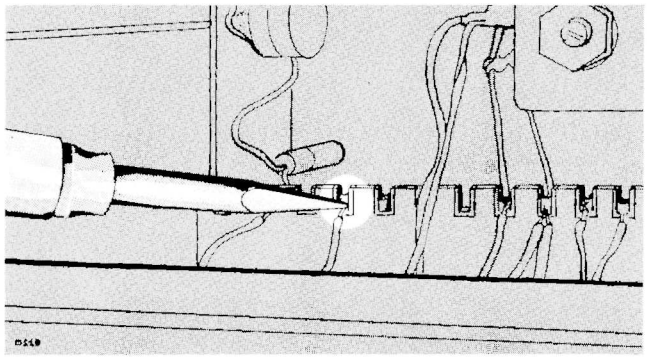


**Fig. 4-2. Correct method of applying heat in soldering to a ceramic strip.**

## Ceramic Strips

Two distinct types of ceramic strips have been used in Tektronix instruments. The earlier type mounted on the chassis by means of #4-40 bolts and nuts. The later type is mounted with snap-in, plastic fittings. Both styles are shown in Fig. 4-7.

To replace ceramic strips which bolt to the chassis, screw a #4-40 nut onto each mounting bolt, positioning the bolt so that the distance between the bottom of the bolt and

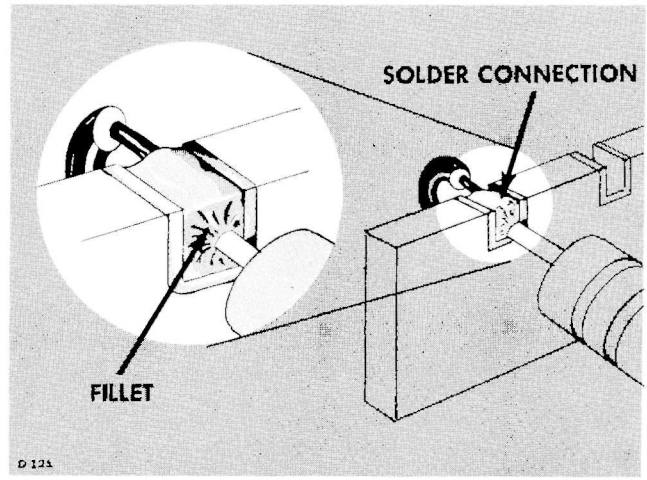



**Fig. 4-3. A slight fillet of solder is formed around the wire when heat is applied correctly.**

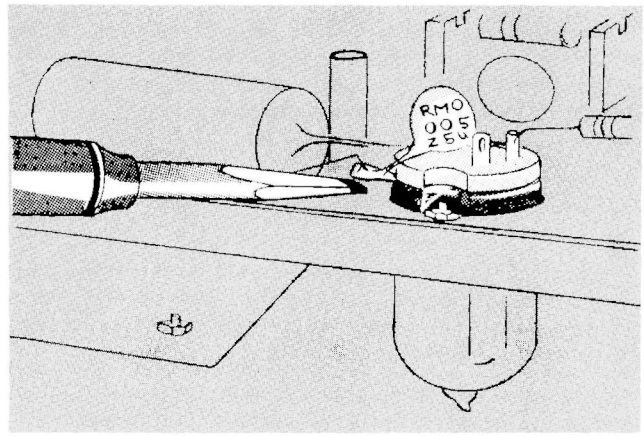


**Fig. 4-4. Soldering to a terminal. Note the slight fillet of solder-exaggerated for clarity-formed around the wire.**

the bottom of the ceramic strips equals the height at which you wish to mount the strip above the chassis. Secure the nuts to the bolts with a drop of red glyptal. Insert the bolts through the holes in the chassis where the original strip was mounted, placing a #4-40 lockwasher between each nut and the chassis. Place a second set of #4-40 lockwashers on the protruding ends of the bolts, and fasten them firmly with another set #4-40 nuts. Place a drop of red glyptal over each of the second set of nuts after fastening.

## Mounting Later Ceramic Strips

To replace strips which mount with snap-in plastic fittings, first remove the original fittings from the chassis. Assemble

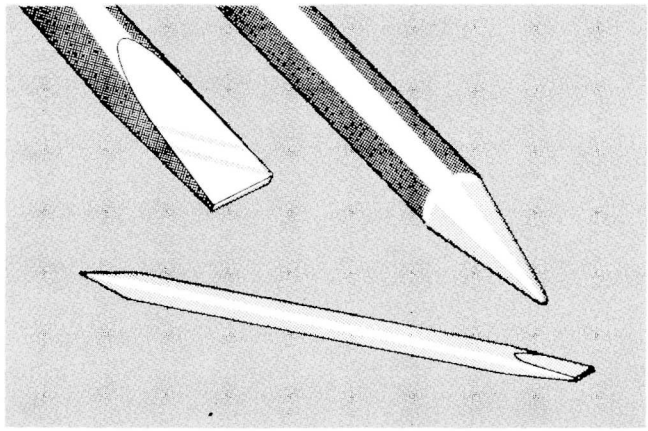


Fig. 4-5. A soldering aid constructed from a 1/4 inch wooden dowel.

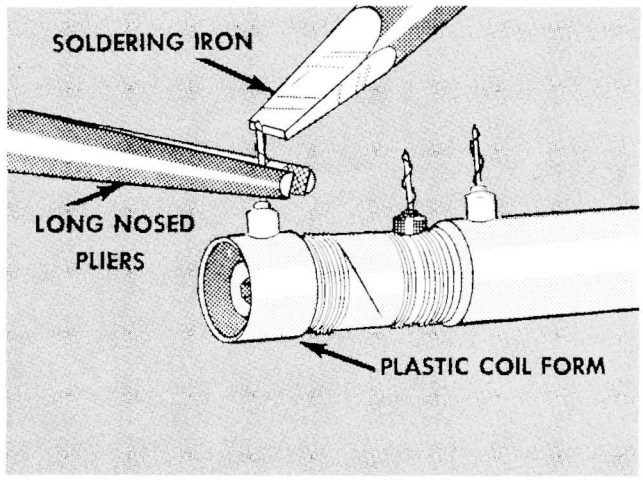



Fig. 4-6. Soldering to a terminal mounted in plastic. Note the use of the long-nosed pliers between the iron and the coil form to absorb the heat.

the mounting post on the ceramic strip. Insert the nylon collar into the mounting holes in the chassis. Carefully force the mounting post into the nylon collars. Snip off the portion of the mounting post which protrudes below the nylon collar on the reverse side of the chassis.

NOTE

Considerable force may be necessary to push the mounting rods into the nylon collars. Be sure that you apply this force to the upper ends of the mounting rods rather than to the ceramic strip.

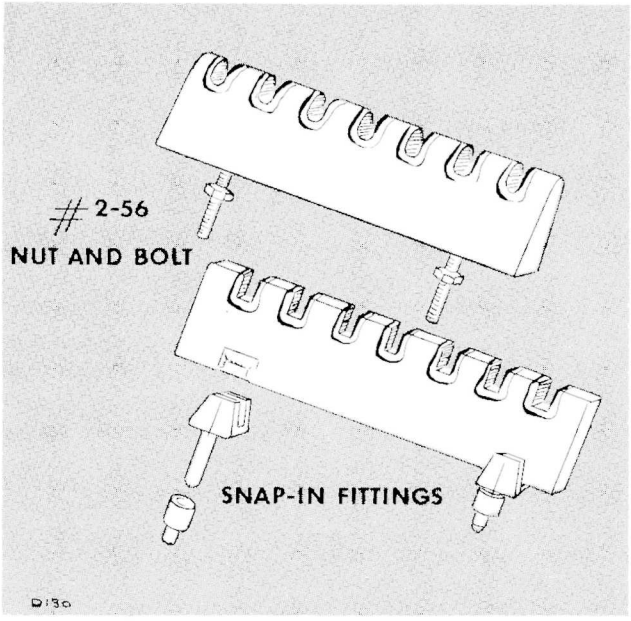
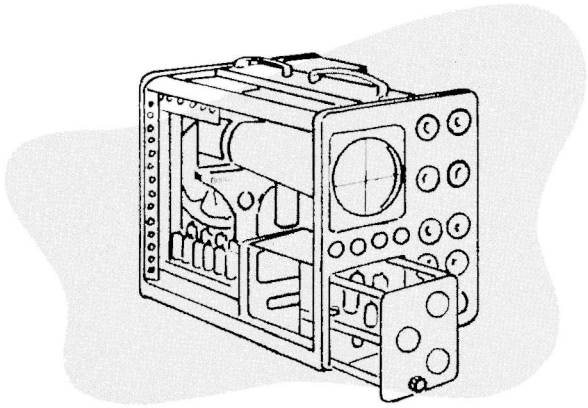



Fig. 4-7. Two types of ceramic strip mountings.

# SECTION 5

# CALIBRATION PROCEDURE



## General

The following outline is based on the procedure used in our test department at the factory. Ordinarily, adjustment in the field will consist of merely touching up some of the potentiometer adjustments, most of which are accessible when the unit is plugged into an oscilloscope. However, to adjust the attenuators the unit must be partially out of the oscilloscope. For this reason we make the Type EP53 Plug-in Extension which permits the unit to be operated partially out of the oscilloscope.

Plug the unit into an oscilloscope and turn the power on. Wait about five minutes for the initial warm-up drift to cease. Free run the oscilloscope sweep at some convenient rate so a trace is visible on the crt face.

## DC Balance

Rotate the VARIABLE VOLTS/CM control back and forth while watching the trace for a vertical shift. Slowly turn the DC BAL. adjustment until the trace remains steady as the variable attenuator is rotated.

## Gain Adjustment

Connect a .2-volt signal from the oscilloscope calibrator to the INPUT connector. Set the VOLTS/CM switch to .05 and turn the VARIABLE control clockwise to the CALIBRATED position. Adjust the GAIN ADJ. potentiometer to obtain four centimeters of deflection. The attenuator uses 1% tolerance resistors, so this one adjustment should calibrate all ranges.

## Positioning Adjustment

Center the VERTICAL POSITION control and adjust the VERT. POS. RANGE control until the trace is centered vertically.

## Attenuator Adjustments

For best results, the attenuator adjustments should be made with a square-wave generator having a short rise time, such as the Tektronix Type 105. An approximate adjustment can be made by using the calibrator waveform, but it is easy to overcompensate the attenuator when using this waveform because of its long risetime.

There is an input capacitance adjustment in each position of the VOLTS/CM switch. All Type K Plug-in Units are adjusted to have an input capacitance of 20$\mu\mu$f. To obtain this value of input capacitance, a probe can first be standardized by adjusting it to a unit known to be in adjustment. This standardized probe can then be used to adjust the input capacitance of the unit to be adjusted. Another method of obtaining the standard input capacitance is to use a Tektronix Type 130 L,C Meter to set the input capacitance in the .05 position of the VOLTS/CM switch. Then adjust the probe in this position to standardize the probe. The input capacitance measurement must be made with the oscilloscope turned on.

## 1. Input Capacitance Adjustment

The input capacitance of the preamp in the unattenuated position is adjusted first.

a. Connect the standardized probe to the INPUT connector.

b. Connect the output of the square-wave generator to the probe.

c. Set the VOLTS/CM switch to .05.

d. Set the square-wave generator to 1 kc and view five or six cycles on the screen.

e. If necessary, adjust C5671 for a flat top on the square wave.

## 2. Attenuator Compensation

The attenuator is compensated to make the ac attenuation equal to the dc attenuation.

a. Remove the probe and connect the square-wave generator to the INPUT connector.

b. Adjust each capacitor in the following table for a square corner on the square wave in the positions indicated.

| VOLTS/CM | CAPACITOR |
|---|---|
| .1 | C5061 |
| .2 | C5111 |
| .5 | C5161 |
| 1 | C5211 |
| 2 | C5261 |
| 5 | C5311 |
| 10 | C5361 |
| 20 | C5911 |

## 3. Attenuator Input Capacitance

The input capacitance of the attenuators is adjusted to match the standardized probe in all positions.

a. Reconnect the standardized probe to the INPUT connector.

b. Connect the output of the square-wave generator to the probe.

c. Adjust the capacitors listed in the following table for a flat top on the square wave.

| VOLTS/CM | CAPACITOR |
|---|---|
| .05 | C5671 |
| .1 | C5051 |
| .2 | C5101 |
| .5 | C5151 |
| 1 | C5201 |
| 2 | C5251 |
| 5 | C5301 |
| 10 | C5351 |
| 20 | C5401 |

## H.F. Peaking Adjustment (SN/353 up)

For best results this adjustment should be made with a pulser having a risetime of five millimicroseconds or less. Plug the Type K Plug-In Unit into a 540-Series Oscilloscope which has its bottom panel removed. The oscilloscope should be in good adjustment. Observe a pulse from the pulser using a sweep speed of .02 μsec/cm. Set the VOLTS/CM controls to .05. Adjust the H. F. Peaking control to obtain a square corner with no overshoot on the waveform.

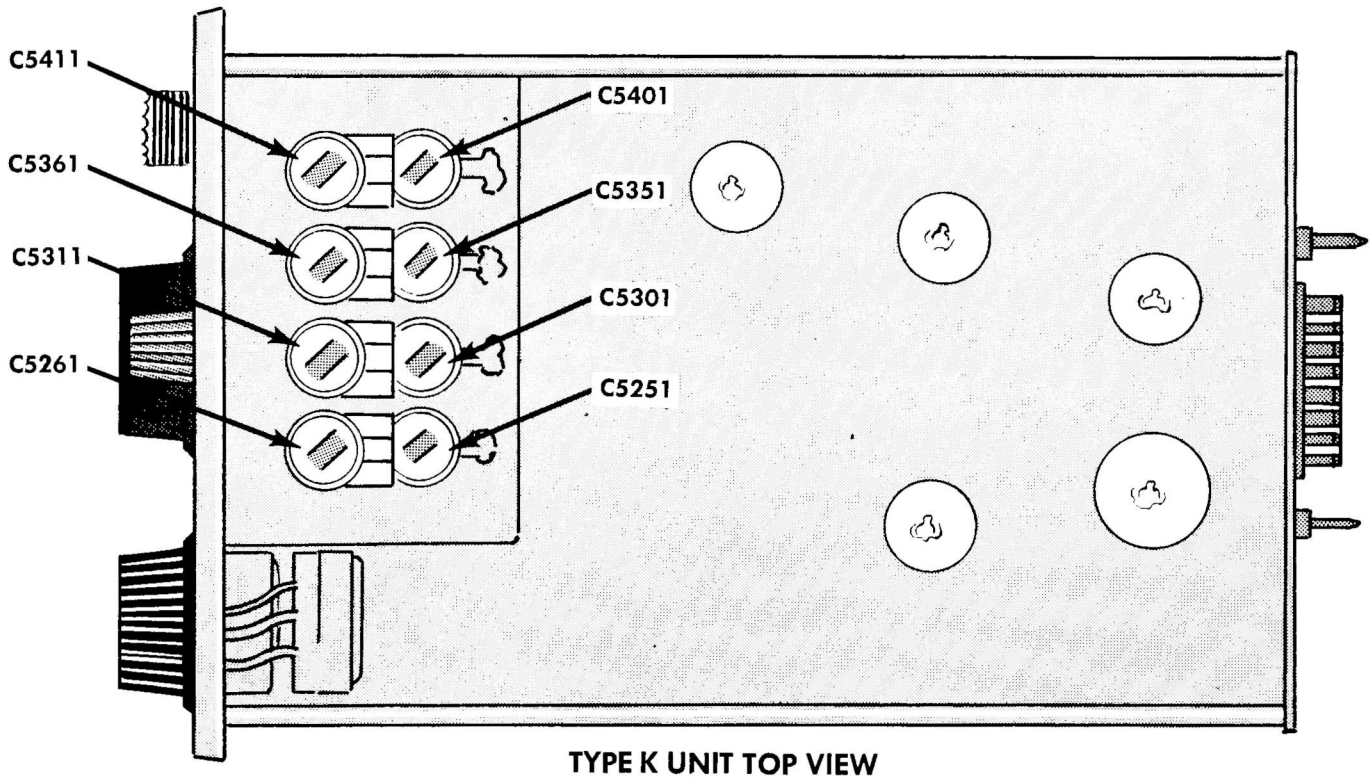
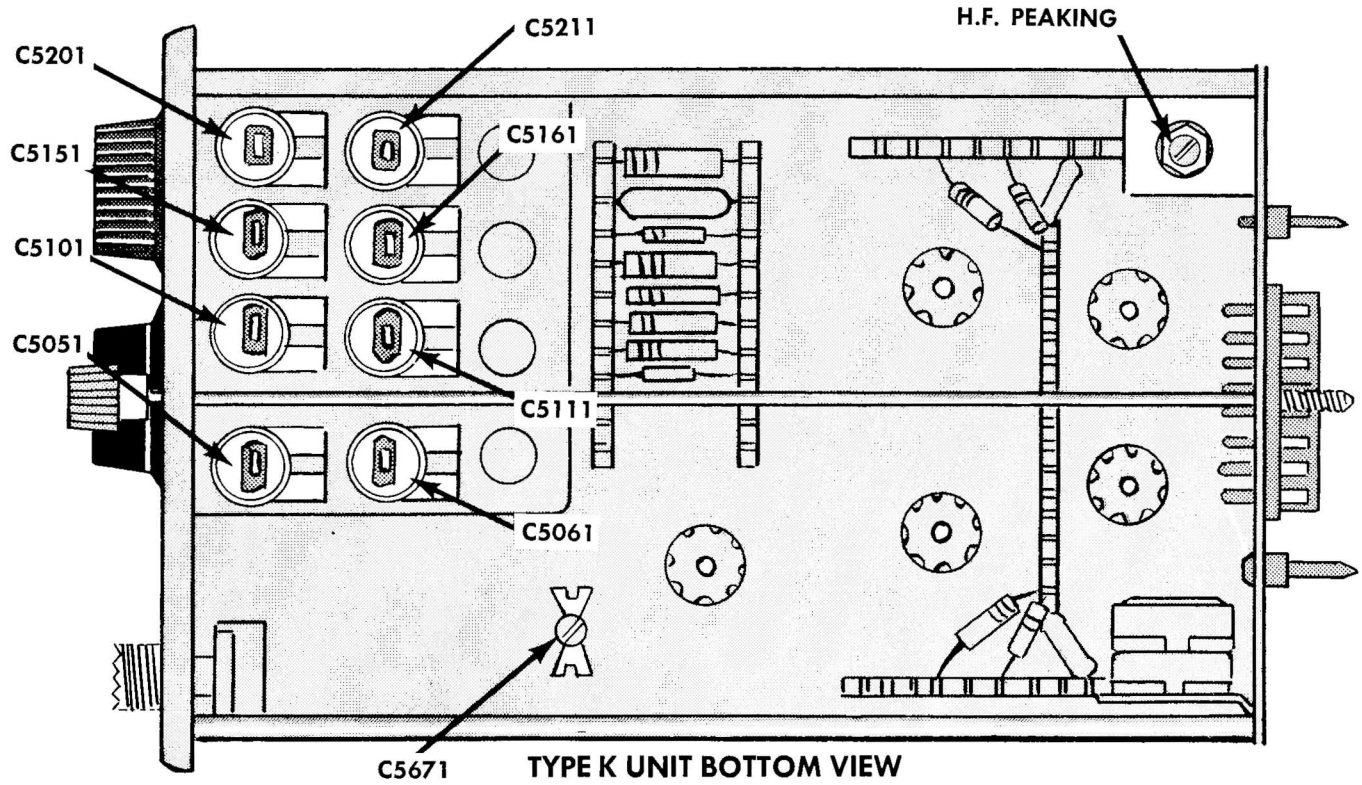
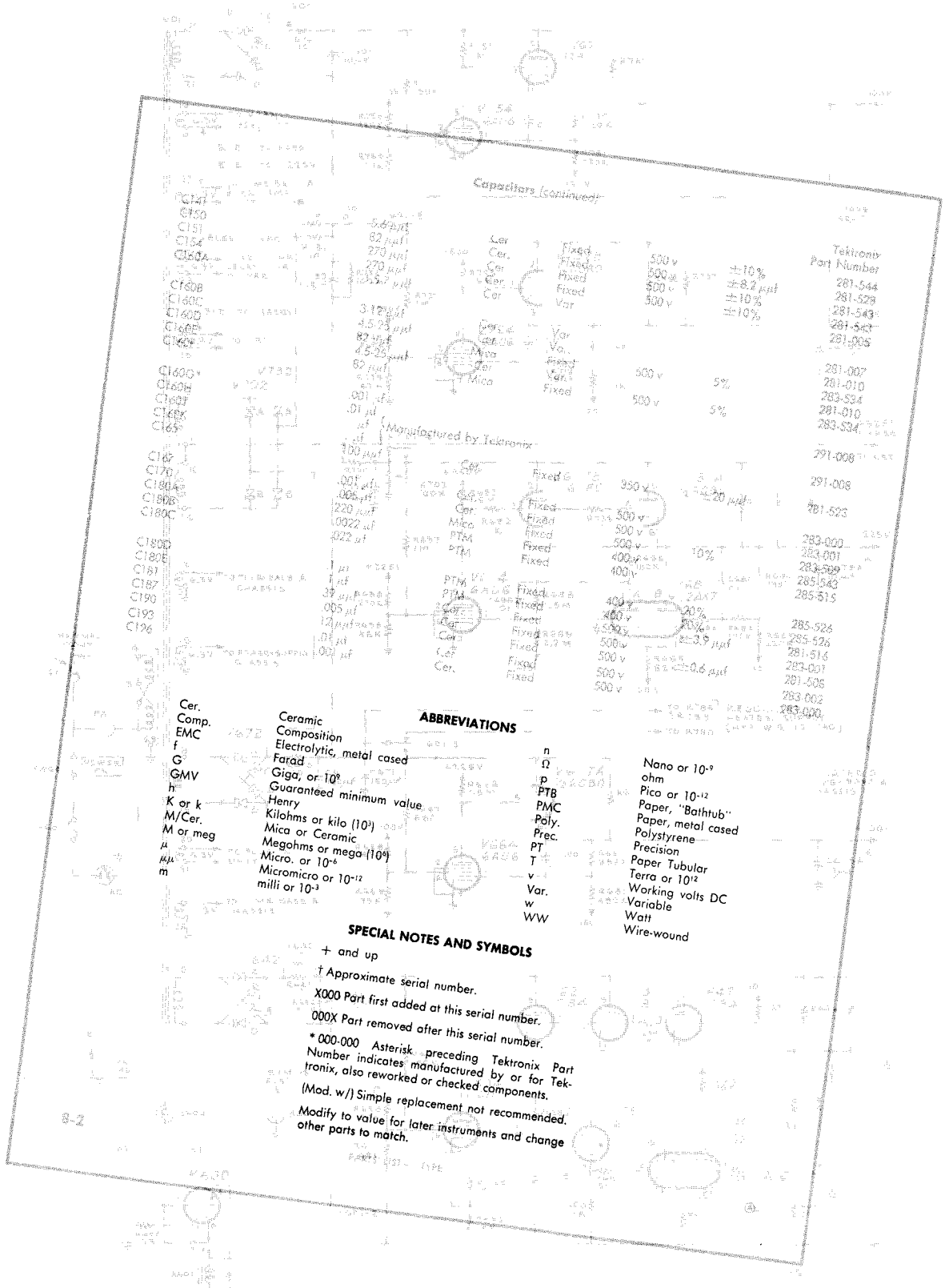



Fig. 5-1. Type K Unit, Top and Bottom Views.



# PARTS LIST *and* DIAGRAMS




**ABBREVIATIONS**

| | | | |
|---|---|---|---|
| Cer. | Ceramic | n | Nano or $10^{-9}$ |
| Comp. | Composition | Ω | ohm |
| EMC | Electrolytic, metal cased | p | Pico or $10^{-12}$ |
| f | Farad | PTB | Paper, "Bathtub" |
| G | Giga, or $10^{9}$ | PMC | Paper, metal cased |
| GMV | Guaranteed minimum value | Poly. | Polystyrene |
| h | Henry | Prec. | Precision |
| K or k | Kilohms or kilo ($10^{3}$) | PT | Paper Tubular |
| M/Cer. | Mica or Ceramic | T | Terra or $10^{12}$ |
| M or meg | Megohms or mega ($10^{6}$) | v | Working volts DC |
| μ | Micro. or $10^{-6}$ | Var. | Variable |
| μμ | Micromicro or $10^{-12}$ | w | Watt |
| m | milli or $10^{-3}$ | WW | Wire-wound |

**SPECIAL NOTES AND SYMBOLS**

+ and up

† Approximate serial number.

X000 Part first added at this serial number.

000X Part removed after this serial number.

* 000-000 Asterisk preceding Tektronix Part Number indicates manufactured by or for Tektronix, also reworked or checked components.

(Mod. w/) Simple replacement not recommended. Modify to value for later instruments and change other parts to match.

MANUFACTURERS OF CATHODE-RAY OSCILLOSCOPES

## HOW TO ORDER PARTS

Replacement parts are available through your local Tektronix Field Office.

Improvements in Tektronix instruments are incorporated as soon as available. Therefore, when ordering a replacement part it is important to supply the part number including any suffix, instrument type, serial number, plus a modification number where applicable.

If the part you have ordered has been improved or replaced, your local Field Office will contact you if there is a change in part number.

# PARTS LIST

## Capacitors

Values fixed unless marked Variable.
Tolerance ±20% unless otherwise indicated.

| | | | | | | | Tektronix Part Number |
|---|---|---|---|---|---|---|---|
| C5001 | X353-2050 | 150 μμf | Cer. | | 500 v | | 281-524 |
| | 2051-6025 | 82 μμf | Cer. | | 500 v | 10% | 281-528 |
| | 6026-6650 | 100 μμf | Cer. | | 500 v | 10% | Use 281-523 |
| | 6651-up | 100 μμf | Cer. | | 350 v | | 281-523 |
| C5051 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5061 | | 3-12 μμf | Cer. | Var. | 500 v | | 281-007 |
| C5101 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5111 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5121 | | 4.7 μμf | Cer. | | 500 v | ±1.0 μμf | 281-501 |
| C5151 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5161 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5171 | | 22 μμf | Cer. | | 500 v | 10% | 281-511 |
| C5201 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5211 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5221 | | 47 μμf | Cer. | | 500 v | 10% | 281-519 |
| C5251 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5261 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5271 | | 100 μμf | Cer. | | 500 v | 10% | 281-530 |
| C5301 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5311 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5321 | | 250 μμf | Mica. | | 500 v | 10% | 283-539 |
| C5351 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5361 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5371 | | 500 μμf | Mica | | 500 v | 10% | 283-541 |
| C5401 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5411 | | 1.5-7 μμf | Cer. | Var. | 500 v | | 281-005 |
| C5421 | | 750 μμf | Mica | | 500 v | 10% | 283-540 |
| C5521 | 101-352X | .001 μf | Cer. | | 500 v | GMV | 283-000 |
| C5601 | 101-10899 | .1 μf | PT | | 600 v | | 285-547 |
| | 10900-up | .1 μf | PTM | | 600 v | | Use *285-603 |
| C5611 | 101-707X | .001 μf | Cer. | | 500 v | GMV | 283-000 |
| C5661 | | .005 μf | Cer. | | 500 v | GMV | 283-001 |
| C5671 | | .5-5 μμf | Poly | Var. | 500 v | | 281-001 |
| C5701 | X353-up | .005 μf | Cer. | | 500 v | GMV | 283-001 |
| C5721 | 101-352X | .001 μf | Cer. | | 500 v | GMV | 283-000 |
| C5741 | 101-352X | .001 μf | Cer. | | 500 v | GMV | 283-000 |
| C6111 | X353-1122 | .001 μf | Cer. | | 500 v | GMV | Use 283-001 |
| | 1123-up | .005 μf | Cer. | | 500 v | GMV | 283-001 |
| C6221 | X353-up | .047 μf | PTM | | 400 v | | 285-519 |
| C6261 | 101-352X | .005 μf | Cer. | | 500 v | GMV | 283-001 |

## Capacitors *(continued)*

| | | | | | | | Tektronix Part Number |
|---|---|---|---|---|---|---|---|
| C6601 | X110-up | .001 μf | Cer. | | 500 v | GMV | 283-000 |
| C6611 | X110-up | .001 μf | Cer. | | 500 v | GMV | 283-000 |
| C6701 | 101-352 | .001 μf | Cer. | | 500 v | GMV | 283-000 |
| | 353-2340 | .01 μf | PTM | | 400 v | | 285-510 |
| | 2341-up | .01 μf | Cer. | | 500 v | GMV | 283-002 |
| C6721 | | .01 μf | Cer. | | 500 v | GMV | 283-002 |
| C6731 | X353-up | .005 μf | Cer. | | 500 v | GMV | 283-001 |
| C6741 | X2341-up | .005 μf | Cer. | | 500 v | GMV | 283-001 |

## Inductors

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| L6101A,B | X353-6552X | 4-Section Plate Peaking Network | | | | | (2) *108-097 |
| L6101A,B | X6779-up | 4-Section Plate Peaking Network | | | | | (2) *108-097 |
| L6101 | X6553-6778X | 1.5-2.5 μh | Var. | | | | *114-089 |
| L6121 | X6553-6778X | 1.5-2.5 μh | Var. | | | | *114-089 |
| L6201 | 101-352X | 1.4 μh | | | | | *108-095 |
| L6211 | 101-352X | 1.4 μh | | | | | *108-095 |
| L6221 | 101-352X | .3-.5 μh | Var. | core 276-032 | | | *114-037 |
| L6231 | 101-352X | .3-.5 μh | Var. | core 276-032 | | | *114-037 |
| L6561 | | .45 μh | | | | | *108-062 |
| L6571 | | .45 μh | | | | | *108-062 |
| L6601 | X353-up | .18 μh | | | | | *108-009 |
| L6611 | X353-up | .18 μh | | | | | *108-009 |

## Resistors

Resistors are fixed, composition, ±10% unless otherwise indicated.

| | | | | | | |
|---|---|---|---|---|---|---|
| R5001 | X353-2050 | 33 Ω | ½ w | | | 302-330 |
| | 2051-6025 | 56 Ω | ½ w | | | 302-560 |
| | 6026-up | 62 Ω | ½ w | | 5% | 301-620 |
| R5011 | X353-up | 47 Ω | ½ w | | | 302-470 |
| R5061 | | 500 k | ½ w | Prec. | 1% | 309-140 |
| R5071 | | 1 meg | ½ w | Prec. | 1% | 309-148 |
| R5111 | | 750 k | ½ w | Prec. | 1% | 309-141 |
| R5121 | | 333 k | ½ w | Prec. | 1% | 309-139 |
| R5161 | | 900 k | ½ w | Prec. | 1% | 309-142 |
| R5171 | | 111 k | ½ w | Prec. | 1% | 309-138 |
| R5211 | | 950 k | ½ w | Prec. | 1% | 309-143 |
| R5221 | | 52.6 k | ½ w | Prec. | 1% | 309-137 |
| R5261 | | 975 k | ½ w | Prec. | 1% | 309-144 |
| R5271 | | 25.6 k | ½ w | Prec. | 1% | 309-136 |
| R5281 | | 100 Ω | ½ w | | | 302-101 |
| R5311 | | 990 k | ½ w | Prec. | 1% | 309-145 |
| R5321 | | 10.1 k | ½ w | Prec. | 1% | 309-135 |
| R5331 | | 100 Ω | ½ w | | | 302-101 |
| R5341 | | 10 Ω | ½ w | | | 302-100 |
| R5361 | | 995 k | ½ w | Prec. | 1% | 309-146 |

## Resistors *(continued)*

| | | | | | | | Tektronix Part Number |
|---|---|---|---|---|---|---|---|
| R5371 | 101-352 | 5.025 k | ½ w | | | | Use 309-134 |
| | 353-up | 5.03 k | ½ w | | Prec. | 1% | 309-134 |
| R5381 | | 100 Ω | ½ w | | | | 302-101 |
| R5391 | | 10 Ω | ½ w | | | | 302-100 |
| R5401 | | 82 Ω | ½ w | | | | 302-820 |
| R5411 | | 997.5 k | ½ w | | Prec. | 1% | 309-147 |
| R5421 | 101-352 | 2.506 k | ½ w | | | | Use 309-133 |
| | 353-up | 2.51 k | ½ w | | Prec. | 1% | 309-133 |
| R5431 | | 330 Ω | ½ w | | | | 302-331 |
| R5441 | | 10 Ω | ½ w | | | | 302-100 |
| R5511 | 101-352X | 100 k | 2 w | Var. | | DC BAL. | 311-026 |
| R5521 | 101-352X | 390 k | ½ w | | | | 302-394 |
| R5551 | 101-352X | 3.9 meg | ½ w | | | | 302-395 |
| R5561 | 101-352X | 27 Ω | ½ w | | | | 302-270 |
| R5571 | 101-352X | 3.9 k | ½ w | | | | 302-392 |
| R5601 | X353-up | 33 Ω | ½ w | | | | 302-330 |
| R5651 | | 1 meg | ½ w | | Prec. | 1% | 309-148 |
| R5661 | | 1 meg | ½ w | | | | 302-105 |
| R5671 | 101-352 | 220 Ω | ½ w | | | | 302-221 |
| | 353-up | 47 Ω | ½ w | | | | 302-470 |
| R5701 | 101-352 | 22 k | 2 w | | | | 306-223 |
| | 353-up | 47 Ω | ½ w | | | | 302-470 |
| R5711 | | 22 k | 2 w | | | | 306-223 |
| R5721 | 101-352X | 47 Ω | ½ w | | | | 302-470 |
| R5741 | 101-352X | 47 Ω | ½ w | | | | 302-470 |
| R6021 | 101-109 | 220 Ω | ½ w | | | | 302-221 |
| | 110-352X | 27 Ω | ½ w | | | | 302-270 |
| R6031 | | 27 Ω | ½ w | | | | 302-270 |
| R6041 | 101-352 | 5.6 k | 2 w | | | | 306-562 |
| | 353-up | 1.5 k | 1 w | | | | 304-152 |
| R6051 | 101-352 | 5.6 k | 2 w | | | | 306-562 |
| | 353-up | 1.5 k | 1 w | | | | 304-152 |
| R6061 | | 4.5 k | 5 w | | WW | 5% | 308-066 |
| R6081 | | 5 k | | Var. | WW | Gain Adj | 311-012 |
| R6101 | 101-11870 | 360 Ω | | Var. | WW | | Use *050-033 |
| | 11871-up | 680 Ω | | Var. | WW | | Use *311-291 |
| R6111 | X353-up | 27 Ω | ½ w | | | | 302-270 |
| R6121 | 101-352 | 22 k | 1 w | | | | 304-223 |
| | 353-up | 5.6 k | 2 w | | | | 306-562 |
| R6131 | X353-up | 10 k | ½ w | | | | 302-103 |
| R6201 | 101-352X | 120 Ω | ½ w | | | | 302-121 |
| R6211 | 101-352X | 120 Ω | ½ w | | | | 302-121 |
| R6221 | 101-6778 | 500 Ω | ½ w | Mica Plate | | 2% | Use *310-551 |
| | 6779-up | 515 Ω | ½ w | Mica Plate | | | *310-551 |
| R6231 | 101-6778 | 500 Ω | ½ w | Mica Plate | | | Use *310-551 |
| | 6779-up | 515 Ω | ½ w | Mica Plate | | 2% | *310-551 |
| R6241 | 101-352X | 10 Ω | ½ w | | | | 302-100 |
| R6261 | 101-352X | 2 k | 5 w | | WW | 5% | 308-003 |
| R6261A | X353-up | 1.5 k | 5 w | | WW | 5% | 308-061 |
| R6261B | X353-up | 470 Ω | 2 w | | | | 306-471 |

**Resistors** *(continued)*

| | | | | | | | Tektronix Part Number |
|---|---|---|---|---|---|---|---|
| R6281 | 101-109 | 27 Ω | ½ w | | | | 302-270 |
| | 110-352X | 10 Ω | ½ w | | | | 302-100 |
| R6301 | 101-352 | 68 k | 1/10 w | | | | 307-006 |
| | 353-up | 100 k | ½ w | | | | 302-104 |
| R6311 | 101-352 | 68 k | 1/10 w | | | | 307-006 |
| | 353-up | 100 k | ½ w | | | | 302-104 |
| R6321 | | 2 x 100 k | 2 w | Var. | | Vert. Pos. | 311-028 |
| R6341 | 101-352X | 22 k | ½ w | | | | 302-223 |
| R6381 | | 82 k | ½ w | | | | 302-823 |
| R6391 | | 82 k | ½ w | | | | 302-823 |
| R6401 | | 2 x 100 k | 2 w | Var. | | Vert. Pos. Range | 311-051 |
| R6421 | 101-352X | 10 k | 1 w | | | | 304-103 |
| R6481 | | 27 Ω | ½ w | | | | 302-270 |
| R6491 | | 27 Ω | ½ w | | | | 302-270 |
| R6501 | 101-3975 | 8.2 k | 1 w | | | | Use 303-822 |
| | 3976-up | 8.2 k | 1 w | | Comp. | 5% | 303-822 |
| R6511 | 101-3975 | 8.2 k | 1 w | | | | Use 303-822 |
| | 3976-up | 8.2 k | 1 w | | Comp. | 5% | 303-822 |
| R6521 | X353-up | 47 Ω | ½ w | | | | 302-470 |
| R6531 | X353-up | 47 Ω | ½ w | | | | 302-470 |
| R6541 | X353-up | 2 k | 2 w | Var. | | H.F. PEAKING | 311-008 |
| R6601 | 101-109 | 27 Ω | ½ w | | | | 302-270 |
| | 110-352 | 10 k | 1 w | | | | 304-103 |
| | 353-3101 | 8.2 k | 1 w | | | | Use 303-822 |
| | 3102-up | 8.2 k | 1 w | | Comp. | 5% | 303-822 |
| R6611 | 101-109 | 27 Ω | ½ w | | | | 302-270 |
| | 110-352 | 10 k | 1 w | | | | 304-103 |
| | 353-3101 | 8.2 k | 1 w | | | | Use 303-822 |
| | 3102-up | 8.2 k | 1 w | | Comp. | 5% | 303-822 |
| R6621 | 101-109 | 6.8 k | 2 w | | | | 306-682 |
| | 110-352 | 10 k | 1 w | | | | 304-103 |
| | 353-3101 | 8.2 k | 1 w | | | | Use 303-822 |
| | 3102-up | 8.2 k | 1 w | | Comp. | 5% | 303-822 |
| R6631 | 101-109 | 6.8 k | 2 w | | | | 306-682 |
| | 110-352 | 10 k | 1 w | | | | 304-103 |
| | 353-3101 | 8.2 k | 1 w | | | | Use 303-822 |
| | 3102-up | 8.2 k | 1 w | | Comp. | 5% | 303-822 |
| R6651 | X110-up | 3.9 k | 2 w | | | | 306-392 |
| R6701 | | 47 Ω | ½ w | | | | 302-470 |
| R6721 | X353-up | 47 Ω | ½ w | | | | 302-470 |
| R6731 | X353-up | 100 Ω | 2 w | Var. | | DC BAL. | 311-003 |
| R6741 | X353-up | 12 Ω | 1 w | | | | 304-120 |
| R6751 | X353-up | 4.7 Ω | 1 w | | | | 307-009 |
| R6801 | X353-up | 33 Ω | 2 w | | | | 306-330 |
| R6811 | X353-up | 27 Ω | 2 w | | | | 306-270 |
| R6821 | X353-up | 39 Ω | 2 w | | | | 306-390 |

## Switches

| | | | | Tektronix Part Number | |
|---|---|---|---|---|---|
| | | | | Wired | Unwired |
| SW5601 | | Rotary | AC/DC | | *260-122 |
| SW5651 | | Rotary | VOLTS/CM | *262-157 | *260-118 |

## Electron Tubes

| | | | | |
|---|---|---|---|---|
| V5701 | 101-352 | 12AT7 | | Use 154-039D |
| | 353-up | 6AK5 | | 154-014 |
| V6101 † | 101-352 | 19X8 | | 154-100 |
| | 353-up | 12AU6 | Selected | Use *157-038 |
| V6111 † | 101-352 | 19X8 | | 154-100 |
| | 353-up | 12AU6 | Selected | Use *157-038 |
| V6501 | 101-4091 | 12AT7 | | Use 154-039D |
| | 4092-up | 12AT7 | | 154-039D |
| V6551 | 101-4091 | 12AT7 | | Use 154-039D |
| | 4092-up | 12AT7 | | 154-039D |

† S/N 353-up, V6101 & V6111 are a matched pair furnished as a unit.

# Type K
# Mechanical Parts List

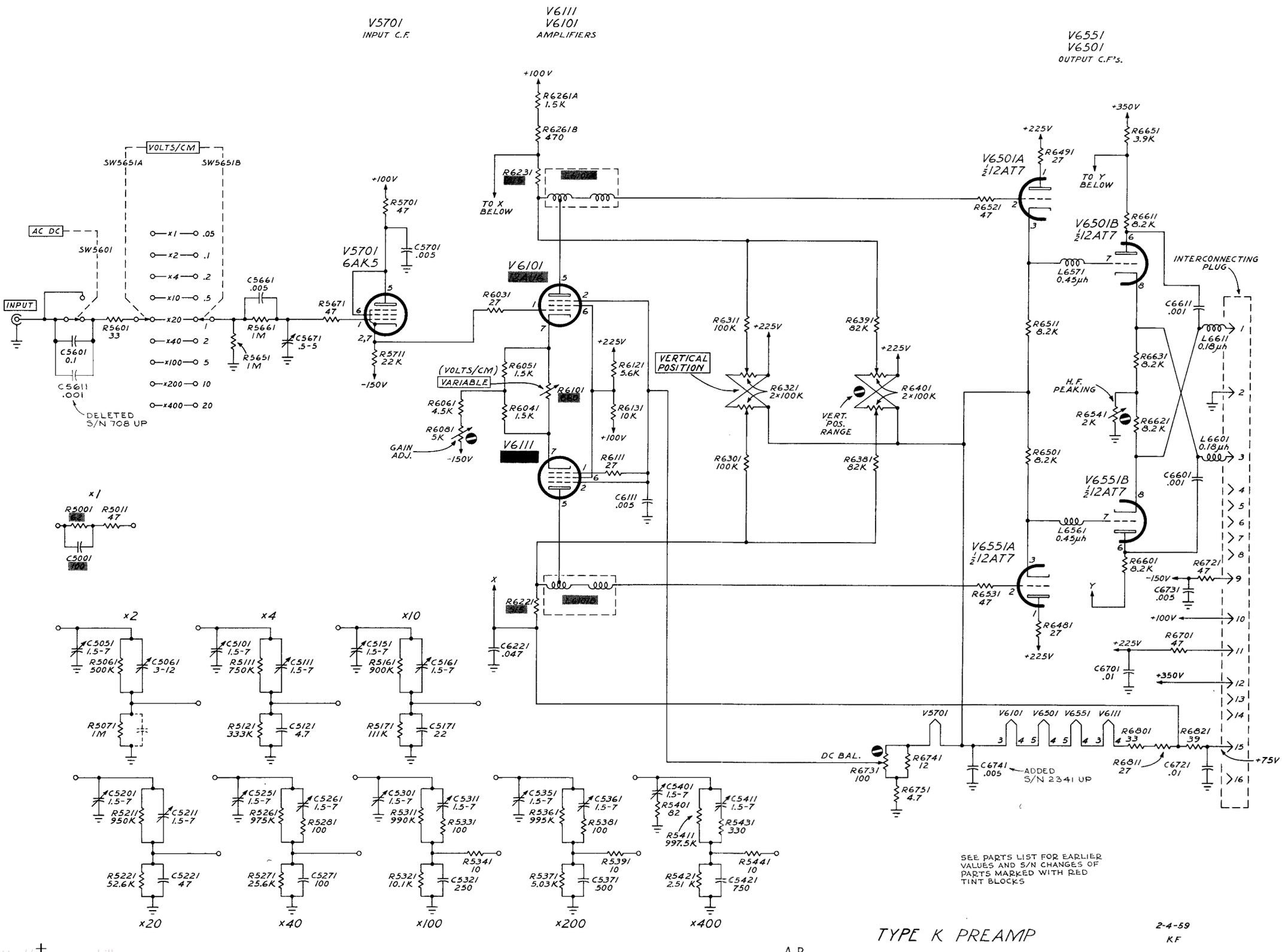
| | Tektronix Part Number |
|---|---|
| BRACKET, ALUM., VERT. POS. RANGE MTG. POT | 406-127 |
| BRACKET, ALUM., .063 x 1 3/8 x 1 15/16 x 1/2 Var. Gain Pot | 406-161 |
| BRACKET, HF PEAKING | 406-186 |
| BUSHING, ALUM., 3/8-32 x 9/16 x .412 BP 18-18 anodized | 358-010 |
| CABLE, HARNESS | 179-088 |
| CAP, BINDING POST, BRASS 3/8 OD x 11/32 x 1/4-28 thread | 200-103 |
| CHASSIS, MAIN HORIZ. | 441-120 |
| CLAMP, CABLE 1/2" plastic | 343-006 |
| CLAMP, CABLE 3/8" | 343-013 |
| CONNECTOR, CHASSIS MT. | 131-017 |
| CONNECTOR, TERMINAL FEED THRU, 1 pt. | 131-025 |
| CONNECTOR, CHASSIS MT. UHF Receptacle, teflon center | 131-051 |
| GROMMET, RUBBER 3/8" | 348-004 |
| KNOB, LARGE BLACK 1/4 hole part way | 366-042 |
| KNOB, SMALL BLACK 1/4 hole part way | 366-044 |
| KNOB, SMALL BLACK 1/8 hole part way | 366-045 |
| KNOB, ALUM. | 366-125 |
| LOCKWASHER, STEEL EXT #2 | 210-002 |
| LOCKWASHER, STEEL EXT #4 | 210-003 |
| LOCKWASHER, STEEL INT #4 | 210-004 |
| LOCKWASHER, STEEL INT #6 | 210-006 |
| LOCKWASHER, STEEL INT #8 | 210-008 |
| LOCKWASHER, STEEL INT 1/4 | 210-011 |
| LOCKWASHER, STEEL POT INT 3/8 x 1/2 | 210-012 |
| LOCKWASHER, STEEL INT 3/8 x 11/16 | 210-013 |
| LUG, SOLDER SE4 | 210-201 |
| LUG, SOLDER Pot Plain 3/8 | 210-207 |
| NUT, HEX, BRASS 2-56 x 3/16 | 210-405 |
| NUT, HEX, BRASS 4-40 x 3/16 | 210-406 |
| NUT, HEX, BRASS 6-32 x 1/4 | 210-407 |
| NUT, HEX, BRASS 3/8-32 x 1/2 | 210-413 |
| NUT, HEX, STEEL 1/4-28 x 3/8 x 3/32 | 210-455 |
| NUT, KEPS, STEEL 6-32 x 5/16 | 210-457 |
| NUT, HEX, ALUM. 6-32 x 5/16 | 210-478 |
| NUT, HEX, ALUM., 3/8-32 x 1/2 x 11/16 | 210-494 |
| PANEL, FRONT SN 101-3851 | 333-145 |
| PANEL, FRONT SN 3852-up | Use 333-516 |

## Mechanical Parts List *(continued)*

| | Tektronix Part Number |
|---|---|
| PLATE, SUBPANEL | 386-399 |
| PLATE, ATTENUATOR BOTTOM 2 13/16 x 3 1/2 x 1 1/4 | 386-419 |
| PLATE, ATTENUATOR TOP 2 13/16 x 3 1/2 x 1 1/4 | 386-420 |
| POST, BINDING GROUND | 129-035 |
| PLATE 5 11/32 x 6 11/32 | 387-529 |
| PLATE, SUBPANEL | 386-399 |
| RING, RETAINING #18 Securing Steel, free ID x .180 | 354-025 |
| ROD, ALUM., 3/8 x 1 1/16 tapped 8-32, thru SP502 | 385-011 |
| ROD, NYLON 5/16 x 1 tapped 6-32 (15095-up) | 385-016 |
| ROD, NYLON 5/16 x 9/16 tapped 4-40 | 385-012 |
| ROD, NYLON 5/16 x 1/2 tapped 6-32 (15095-up) | 385-100 |
| ROD, MISC., FRAME 3/8 x 8 7/8 tapped 8-32 both ends | 384-508 |
| ROD, MISC., SECURING 3/16 OD x 1 1/2-10-24 thread one end | 384-510 |
| SCREW, 4-40 x 1/4 BHS | 211-008 |
| SCREW 4-40 x 5/16 BHS | 211-011 |
| SCREW 4-40 x 3/8 BHS | 211-012 |
| SCREW 4-40 x 3/8 RHS | 211-013 |
| SCREW 4-40 x 7/8 RHS | 211-018 |
| SCREW 4-40 x 1 RHS | 211-019 |
| SCREW 4-40 x 1/4 FHS | 211-023 |
| SCREW 4-40 x 3/8 FHS | 211-025 |
| SCREW 4-40 x 5/16 Pan HS w/lockwasher | 211-033 |
| SCREW 6-32 x 1/4 BHS (15095-up) | 211-504 |
| SCREW 6-32 x 5/16 BHS | 211-507 |
| SCREW 6-32 x 3/8 FHS | 211-509 |
| SCREW 6-32 x 3/8 BHS | 211-510 |
| SCREW 6-32 x 5/16 FHS 100° CSK Phillips | 211-538 |
| SCREW 6-32 x 1/4 FHS (15095-up) | 211-541 |
| SCREW 6-32 x 3/4 THS | 211-544 |
| SCREW 6-32 x 3/8 FHS 100° CSK Phillips | 211-559 |
| SCREW 8-32 x 3/8 BHS | 212-022 |
| SCREW 8-32 x 1/2 FHS 100° Cad Plated Phillips | 212-043 |
| SCREW 8-32 x 1/2 RHS 100° Cad Plated Phillips | 212-044 |
| SCREW 5-32 x 3/16 Pan HS, thread cutting Phillips | 213-044 |
| SOCKET, STM7G | 136-008 |
| SOCKET, STM9G | 136-015 |
| STEM, BINDING POST ADAPTOR 3/8 x 13/16 brass, nickel plated | 355-507 |
| STRIP, CERAMIC CS 11-4 | 124-015 |
| STRIP, CERAMIC 3/4 x 2 notches, clip-mounted | 124-086 |
| STRIP, CERAMIC 3/4 x 11 notches, clip-mounted | 124-091 |

## Mechanical Parts List *(continued)*

| | Part Number Tektronix |
|---|---|
| TUBE, PLASTIC INSUL. #20 Black | 162-504 |
| TUBE, PLASTIC INSUL. #20 Red | 162-510 |
| TUBE, SPACING, ALUM. .089 ID x 3/16 OD x 7/16 lg. | 166-085 |
| WASHER, BRASS 5S | 210-801 |
| WASHER, STEEL 6L x 3/8 x .032 | 210-803 |
| WASHER, STEEL 8S x 3/8 x .032 | 210-804 |
| WASHER, FIBER #10 | 210-812 |
| WASHER, FIBER 1/8 ID x 1/4 OD x .035 | 210-823 |
| WASHER, STEEL .390 ID x 9/16 OD x .020 | 210-840 |
| WASHER, STEEL #2 flat .093 ID x 9/32 OD x .020 thick | 210-850 |
| WASHER, POLYETHELENE .190 ID x 7/16 OD x 1/32 thick | 210-894 |



# MANUAL CHANGE INFORMATION

At Tektronix, we continually strive to keep up with latest electronic developments by adding circuit and component improvements to our instruments as soon as they are developed and tested.

Sometimes, due to printing and shipping requirements, we can't get these changes immediately into printed manuals. Hence, your manual may contain new change information on following pages. If it does not, your manual is correct as printed.

MOD 6860

Type B - Tent S/N 19130

Type D - Tent S/N 20560

Type G - Tent S/N 9480

Type K - Tent S/N 16210

Type L - Tent S/N 19090

Type CA - Tent S/N 56080

| | | | |
|---|---|---|---|
| Connectors | Change to Chassis Mtg. | BNC | 131-277 |