# SB-6XX High Voltage Rebuild Kit

The Heathkit SB-610, SB-620, and SB-614 all use similar High Voltage circuits that, over time, seem to require some maintenance. The old carbon composition resistors will drift high over time which affects both the brightness and focus ability of these models.

This kit of parts contains the typical parts necessary to rebuild the High Voltage portion of your monitor scope. The resistors used in this rebuild kit are of the metal film type that will not drift over time. The capacitors are either Kemet or Cornell Dubilier and are not cheap Chinese parts.

The High Voltage diodes are guaranteed to 3500 Volts and will provide reliable operation well into the future. This kit contains extra parts to cover the three different models. Please double check that you have selected the correct part when replacing it. 1 Watt resistors are larger than ½ Watt resistors.

There WILL be some parts that are unused.

It is recommended that you refer to the original manual while performing the replacement of the parts. Before beginning:

**MAKE CERTAIN THAT THE UNIT IS NOT CONNECTED TO A POWER SOURCE**

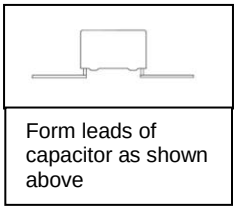
**DO NOT PERFORM THESE STEPS UNLESS YOU ARE QUALIFIED TO DO SO**

To replace a part, it is better to cut it from the circuit then gently remove the remaining leads using a low wattage soldering tool. Be careful not to destroy the terminal board or circuit board by overheating the individual terminal contacts. If these get too hot, they can fall out of the board.

Each model type is detailed on a specific page, please see the instructions for your particular model.

# Model SB-610 High Voltage Rebuild Kit

Form the leads of the three capacitors



Form leads of capacitor as shown above

Replace C605 with .1uF 1600 VDC Capacitor

Mount the capacitors such that the leads are parallel to the chassis with the body closest to the chassis. You should see the bottom of the capacitor. These can be installed in either direction.

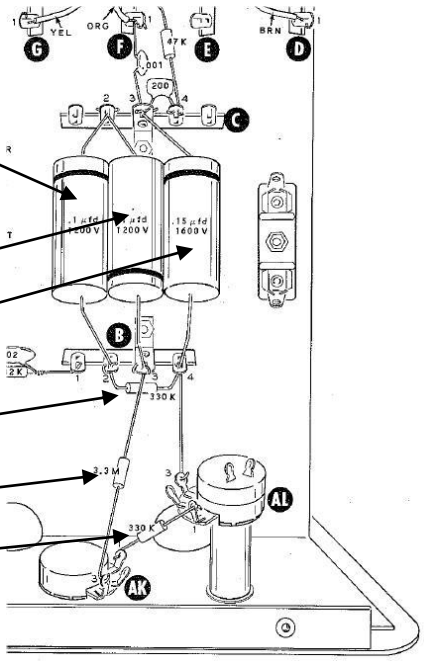
Replace C604 with .1uF 1600 VDC Capacitor

Replace C606 with .1uF 1600 VDC Capacitor

Replace R605 with 330k ½ Watt Resistor (Org-Org-Yel)

Replace R510 with 3.3M ½ Watt Resistor (Org-Org-Grn)

Replace R508 with 330k ½ Watt Resistor (Org-Org-Yel)



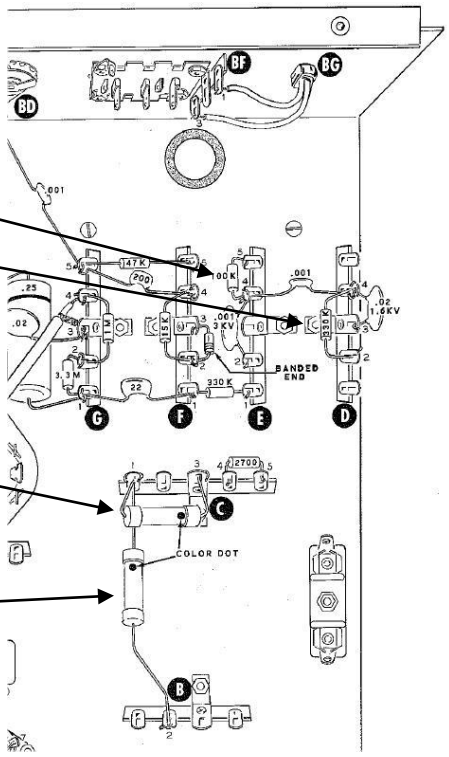

Replace R505 with 100k ½ Watt Resistor (Brn-Blk-Yel)

Replace R506 with 330k ½ Watt Resistor (Org-Org-Yel)

Replace D6 with 3500 V Diode

When installing each of the diodes install observing the polarity of each device. The 'Cathode' end is identified with a dot, a line, or a plus sign.

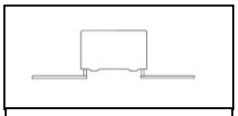
Replace D5 with 3500 V Diode




Check all solder connections to ensure that they are completely soldered and there are no shorts to the chassis or cold solder connections

# Model SB-614 High Voltage Rebuild Kit

Form the leads of the three capacitors



Form leads of capacitor as shown above

**PC Board Components**

Replace C122 with .1uF 1600 VDC Capacitor

These can be installed in either direction.

Replace D106 with 3500 V Diode

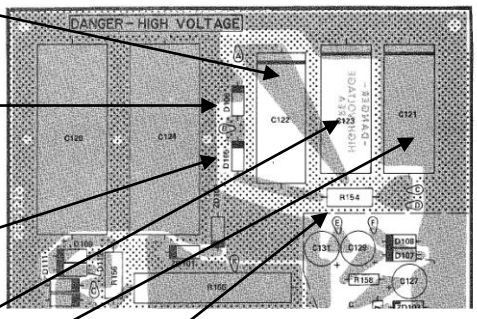
When installing each of the diodes install observing the polarity of each device. The 'Cathode' end is identified with a dot, a line, or a plus sign.

Replace D105 with 3500 V Diode

Replace C123 with .1uF 1600 VDC Capacitor

Replace C121 with .1uF 1600 VDC Capacitor

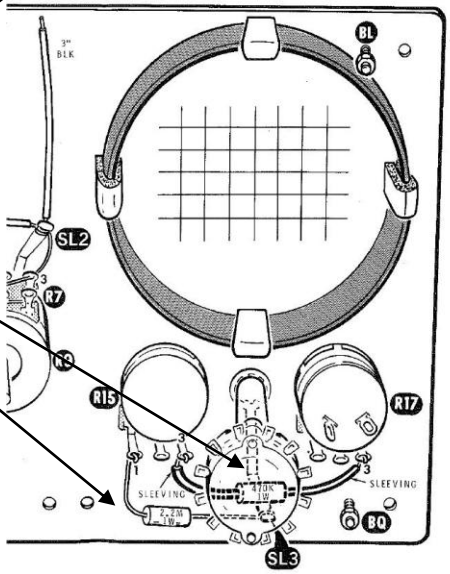
Replace R154 with 470k 1 Watt Resistor (Yel-Vio-Yel)




**Front Panel Components**

Replace R16 with 470k 1 Watt Resistor (Yel-Vio-Yel)

Replace R14 with 2.2M 1 Watt Resistor (Red-Red-Grn)

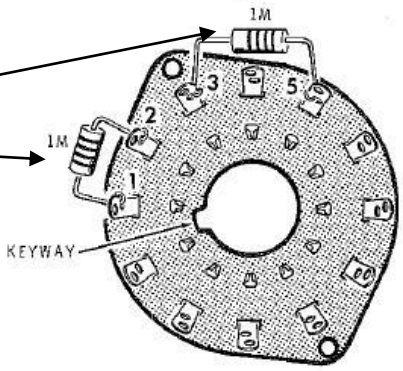



**CRT Socket Components**

Replace R18 1M ½ Watt Resistor (Brn-Blk-Grn)

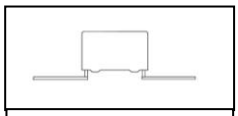
Replace R19 1M ½ Watt Resistor (Brn-Blk-Grn)

Check all solder connections to ensure that they are completely soldered and there are no shorts to the chassis or cold solder connections



# Model SB-620 High Voltage Rebuild Kit

Form the leads of the three capacitors



Form leads of capacitor as shown above

Replace R74 with 100k ½ Watt Resistor (Brn-Blk-Yel)

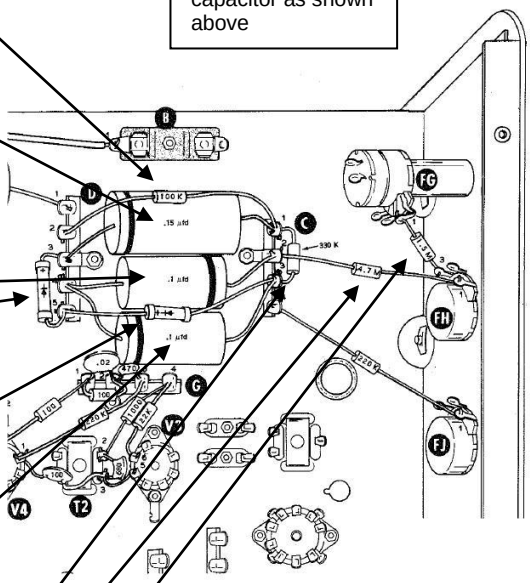
Replace C47 with .1uF 1600 VDC Capacitor

Mount the capacitors such that the leads are parallel to the chassis with the body closest to the chassis. You should see the bottom of the capacitor. These can be installed in either direction.

Replace C49 with .1uF 1600 VDC Capacitor

Replace D3 with 3500 V Diode

When installing each of the diodes install observing the polarity of each device. The 'Cathode' end is identified with a dot, a line, or a plus sign.




Replace D2 with 3500 V Diode

Replace C48 with .1uF 1600 VDC Capacitor

Replace R79 with 330k ½ Watt Resistor (Org-Org-Yel)

Replace R76 with 4.7M ½ Watt Resistor (Yel-Vio-Grn)

Replace R78 with 1.5M ½ Watt Resistor (Brn-Grn-Grn)

Check all solder connections to ensure that they are completely soldered and there are no shorts to the chassis or cold solder connections