

CONVERSION DATA FOR 630 TYPE TELEVISION CHASSIS

Engineering Information for Converting or Building Your 630-TK
TV Chassis For Use With 12, 15, 16 and 20 Inch Picture Tubes.



Tech-Master 630-TK Chassis With 16AP4 Kinescope Using Tech-Master Universal Adjustable Brackets 16AP4 is shown with plastic mounting ring and sleeve.

Your 630 type television chassis can easily be converted or built to use a larger picture tube than the 10-inch kinescope for which it was originally designed. The few simple mechanical and electrical changes outlined in this pamphlet will permit the use of the larger picture tubes with full brilliance, contrast and definition equal to and surpassing many of the commercial units on the market today. Anyone with a basic knowledge of radio will be able to follow the simple instructions given here for converting the 630 type chassis which enjoys the reputation of being the standard of quality in present day direct view television receivers. The circuit has been so re-designed, when using the voltage doubler that you are assured optimum picture coverage on all tubes up to 16 inches in size. Excellent results have also been obtained using 20" Kinescopes with this circuit.

TECH-MASTER PRODUCTS COMPANY

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25¢

Simple high voltage conversion

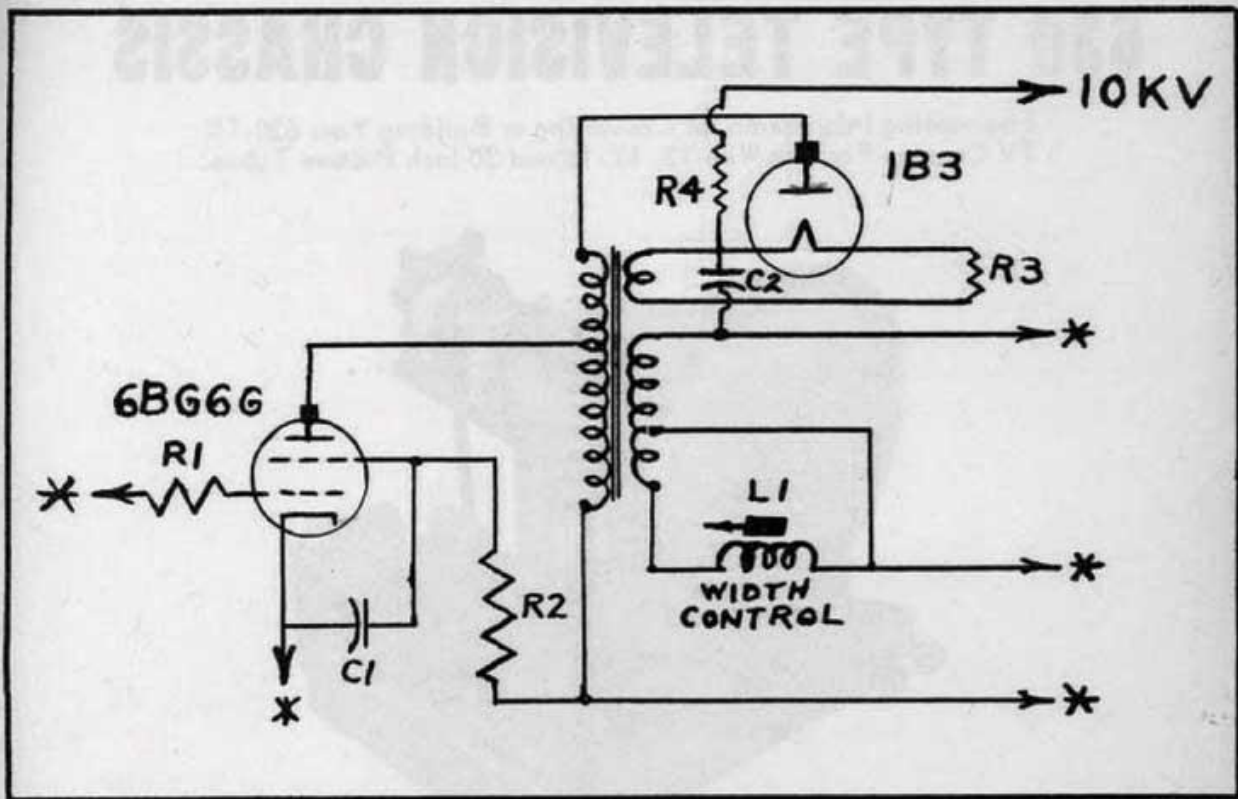


DIAGRAM A

- ➔ R1 100 ohms, ½ watt
- ➔ R2 6200 ohms, ½ watt
- ➔ R3 3.3 Megohms, 1 watt
- ➔ R4 1 Megohm, 1 watt
- ➔ C1 .05 mfd., 600 volts
- ➔ C2 500 mmfd., 10,000 volts
- ➔ Indicates parts added to 630-TK

The wiring diagram above is a simple, but effective, method of converting the existing high voltage supply in the 630 type chassis to obtain 10 kilovolts for the second anode of 12, 12½, 15 or 16-inch kinescopes. Only resistors R1 and R2 are required additions to the original components. Two resistors, 18,000 ohms (R208) and 22,000 ohms (R207) are completely eliminated from the original circuit.

While the above method will provide results that will be satisfactory in most instances, for optimum results the voltage doubler circuit shown on pages 4 and 5 will provide 12 kilovolts at full rated load with the 15 and 16 inch kinescopes. The voltage doubler guarantees maximum picture brilliance, definition and contrast and will assure more than ample sweep for the larger kinescopes.

MECHANICAL AND ELECTRICAL CHANGES FOR CONVERSION OF 630 TYPE TV CHASSIS FOR 12 TO 16-INCH KINESCOPIES

In most cases it will be necessary to lengthen the leads to the kinescope socket, yoke and the focus coil. In rare instances it may be advisable to lengthen the second anode lead. Where this has to be done, BE CERTAIN TO USE 15,000 VOLT TEST INSULATED LEAD! Usually, lengthening the second anode lead can be avoided merely by turning the picture tube so that the second anode connection faces down toward the chassis.

MECHANICAL CHANGES

TUBE SIZE

- 12" or 12½" Use Tech-Master brackets to support the deflection yoke and focus coil. The wood front bracket must be cut at the upper notch.
- 15" Use Tech-Master brackets to support the deflection yoke and focus coil. The wood front bracket is used exactly as supplied.
- 16" Use Tech-Master brackets to support the deflection yoke and focus coil. The wood front bracket must be cut at the lower notch. With the 16-inch metal kinescope an Anchor plastic insulating and mounting ring, or equivalent, must be used. Use of a plastic insulating sleeve for the metal cone is also recommended.

ELECTRICAL CHANGES

- 12" or 12½" The only tube in this class requiring any change in the original circuit is the Dumont. In the focus circuit remove the 1800 ohm, 1 watt resistor (R183), and add a 680 ohm, 1 watt resistor in series with the arm of the focus control.
- 15" See wiring diagram A or B.
- 16" See wiring diagram B. A new focus coil, type 2D2, is required in addition to the components shown in the diagram.

High voltage and deflection circuit changes for 15", 16" and 20" kinescopes in 630-T K chassis

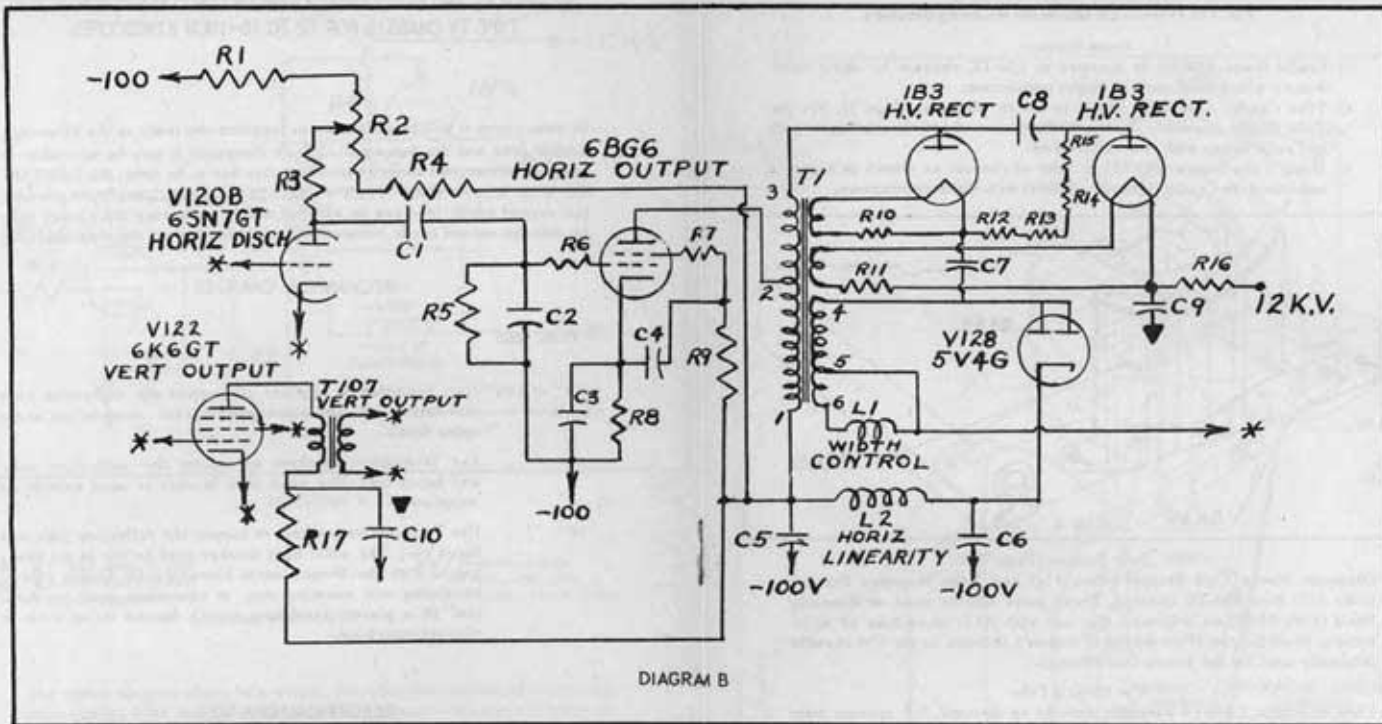


DIAGRAM B

- ➔ R1 100K ohms, 1/2 watt
- ➔ R3 220K ohms, 1/2 watt
- ➔ R4 22K ohms, 1/2 watt
- ➔ R5 330K ohms, 1/2 watt
- ➔ R6 100 ohms, 1/2 watt
- ➔ R7 100 ohms, 1/2 watt
- ➔ R8 100 ohms, 1/2 watt
- ➔ R9 14,500 ohms 3 watt WW or (30,000 ohms 2 watt) in par- (27,000 ohms 2 watt) allel
- ➔ R2*250,000 ohm:Carbon Control Horizontal Peakig Control *Used in place o 20K control
- ➔ R10, R11 3.3 ohms, 1/2 watt
- ➔ R12, R13 470K ohms, 1 watt
- ➔ R14, R15 470K ohms, 1 watt
- ➔ R16 1 Megohm, 1 watt
- ➔ R17 10K ohms, 1 watt
- ➔ L1 1R4 Width Control
- ➔ L2 1R3 Horiz. Linearity Control
- ➔ T1 **11T5 Horiz. Deflection Output & High Voltage Transformer **Used in place of 11T1 transformer
- ➔ C1 .01 mfd, 600 V
- ➔ C2 680 mfd, 1000 V Mica
- ➔ C3 0.1 mfd, 400 V
- ➔ C4 .05 mfd, 600 V
- ➔ C5 .035 mfd, 1000 V
- ➔ C6 .05 mfd, 1000 V
- ➔ C7 500 mfd, 10,000 V
- ➔ C8 500 mfd, 10,000 V
- ➔ C9 500 mfd, 15,000 V
- ➔ C10 10 mfd, 450 V

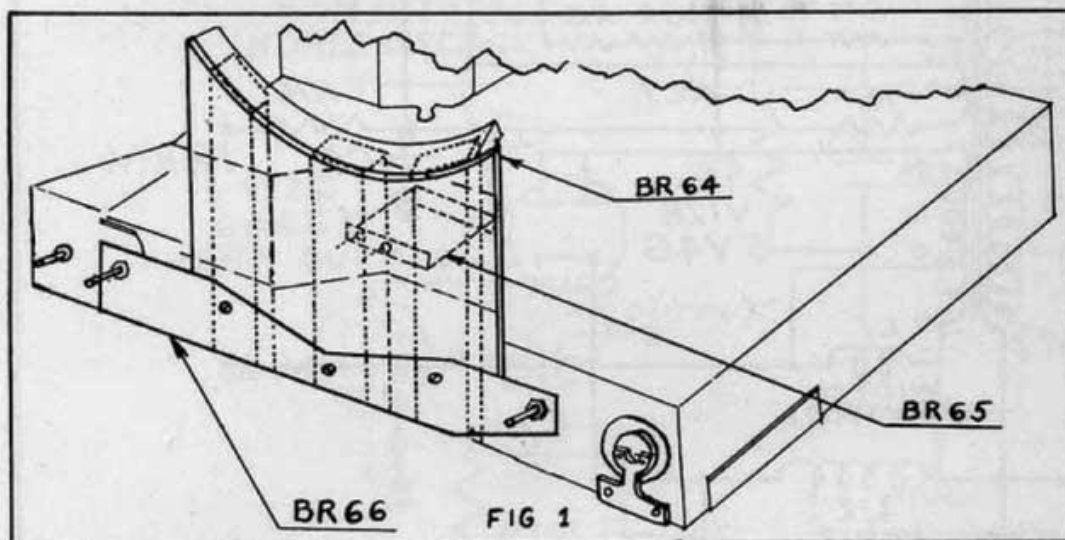
(*) Wiring indicated thus goes to same points as in original 630-TK
 ➔ Parts indicated thus are additions to the original 630-TK circuit

UNIVERSAL MOUNTING BRACKET - FRONT SECTION ASSEMBLY

ASSEMBLY INSTRUCTIONS For TECH-MASTER Universal Mounting Brackets

Front Section

- 1) Cradle Brace (BR65) is mounted to 630-TK chassis by using same screws which hold vertical output transformer.
- 2) Tube Cradle Assembly (BR64) is cut to size (see page 3). Set the Tube Cradle Assembly flush with the bottom of 630 chassis and attach to Cradle Brace with two woodscrews.
- 3) Mount Tube Support (BR66) to front of chassis as shown in Figure 2 and attach to Cradle Assembly (BR64) with three woodscrews.



Rear Section (Page 7)

Dismount Focus Coil Bracket (Part 174) and Yoke Mounting Bracket (Part 129) from 630-TK chassis. These parts will be used on Mounting Shelf (Part BR61) as indicated. For use with ALL tubes from 12 to 16 inches, Shelf Support (Part BR62) is mounted in holes in the 630 chassis originally used for the Focus Coil Bracket.

For 16-Inch Tube

View in Figure 1 shows assembly exactly as mounted, $\frac{1}{2}$ " spacers must be used under Focus Coil Bracket (174).

For 15-Inch Tube

Assemble as shown in Figure 1, with these modifications:

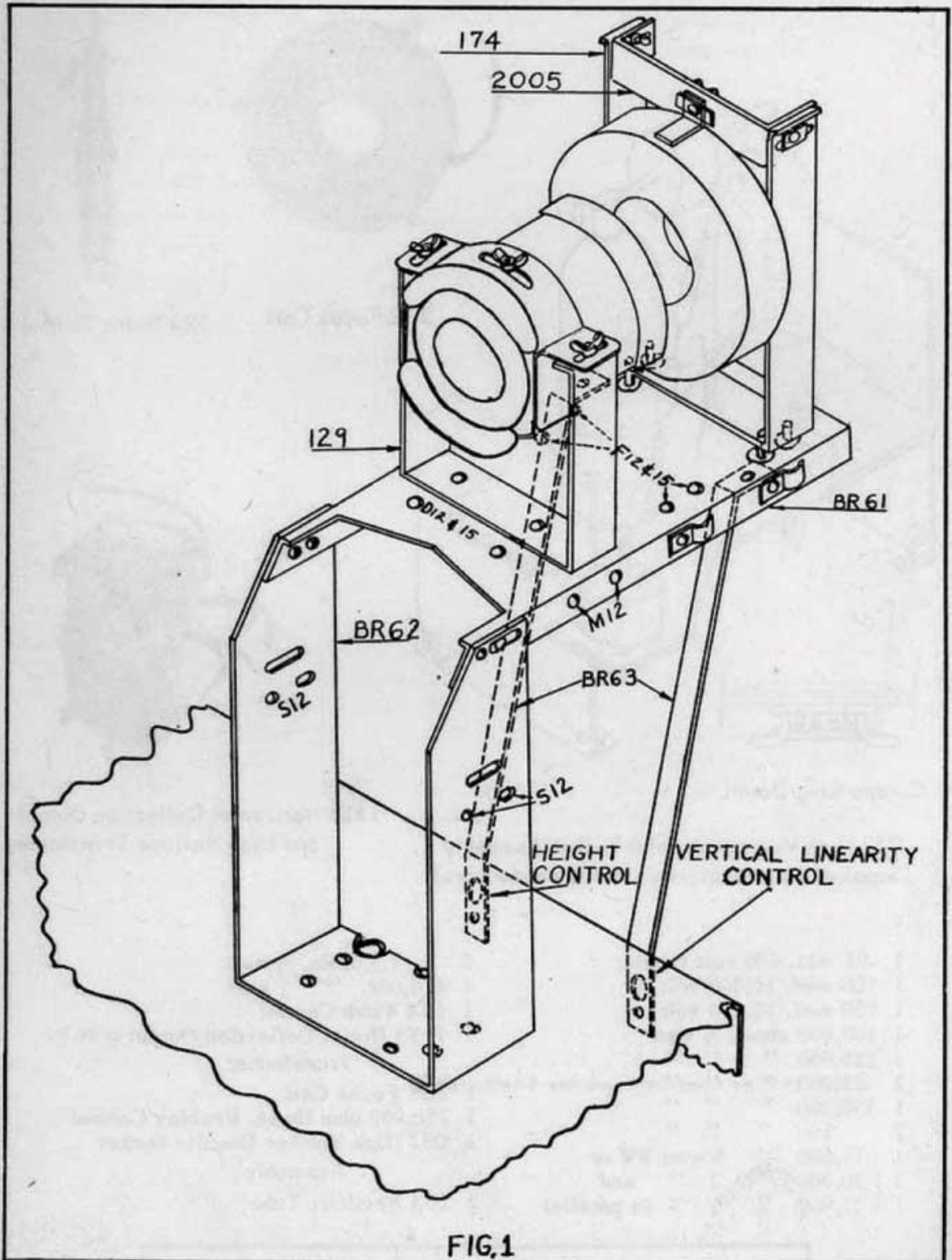
- 1) Omit spacers under focus Coil Bracket (174) and mount bracket over four holes designated "F12 & 15" in center of Mounting Shelf (BR61).
- 2) Mount Yoke Mounting Bracket (129) over two holes designated "D12 & 15" on front of Mounting Shelf (BR61).

For 12 or 12 $\frac{1}{2}$ -Inch Tube

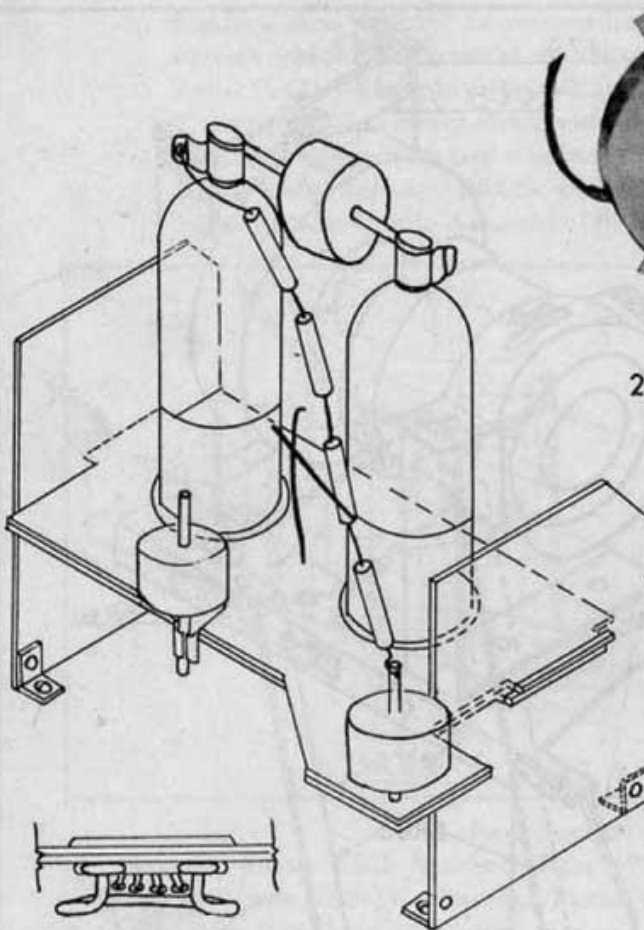
Follow instructions for 15-inch tube, and then:

- 1) Mount Mounting Shelf (BR61) at holes designated "M12" to Shelf Support (BR62) at holes designated "S12".
- 2) Rear Braces (BR63) are not used with 12 or 12 $\frac{1}{2}$ " tube.

UNIVERSAL MOUNTING BRACKET - REAR
SECTION ASSEMBLY

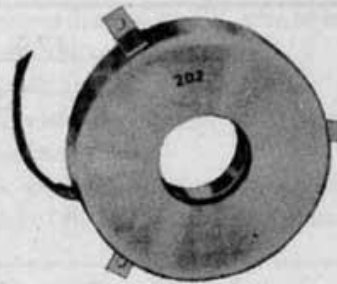


ADDITIONAL COMPONENTS REQUIRED FOR HIGH VOLTAGE DOUBLER CONVERSION



Corona Ring Detail

DS2 High Voltage Doubler Socket Assembly
(Supplied less tubes, resistors & capacitors)



2D2 Focus Coil



1R4 Width Control



11T5 Horizontal Deflection Output
and High Voltage Transformer

- | | |
|------------------------------|--|
| 1 .01 mfd. 600 volt tubular | 2 3.3 ohms, 1/2 watt |
| 1 500 mmf. 10,000 volt | 4 470,000 " 1 watt |
| 1 500 mmf. 15,000 volt | 1 1R4 Width Control |
| 1 100,000 ohms, 1/2 watt | 1 11T5 Horiz. Deflection Output & H.V. Transformer |
| 1 220,000 " " " | |
| 1 22,000 " " " | 1 2D2 Focus Coil |
| 1 330,000 " " " | 1 250,000 ohm Horiz. Peaking Control |
| 2 100 " " " | 1 DS2 High Voltage Doubler Socket Assembly |
| 1 14,500 " 5 watt WW or | |
| 1 { 30,000 " 2 " and | 1 1B3 Rectifier Tube |
| 1 { 27,000 " " " in parallel | |

NOTE: The above components are all supplied with the Tech-Master 630-TKD DeLuxe "Super-Sixteen" Kit.