

1952

TELEVISION RS-290

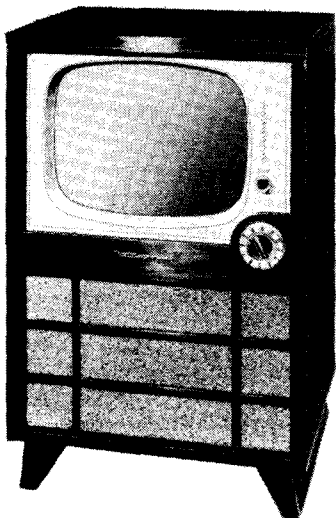
SERVICE MANUAL

Service Notes

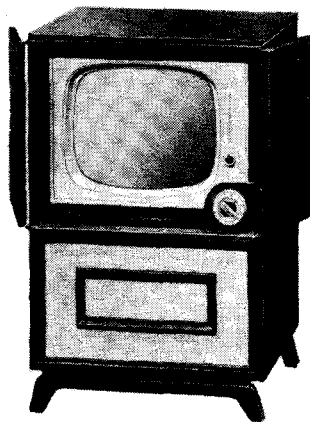
Models 17TV2K, 17TV5K and 17TV6K

For service information on these receivers (Chassis only) refer to RS-289 Model 20TV4C Service Manual. With a few exceptions, the service information given in RS-289 applies to all models listed above. These models use a 17 inch rectangular C.R.T. number 17BP4. With the exception of serials E-42365 to E-42414 consecutive and inclusive which were equipped with 17HP4 low voltage electrostatic focus C.R.T. For parts pertaining to serials E-42365 to E-42414 refer to parts list on page 3 headed "17HP4 L.V. Parts List."

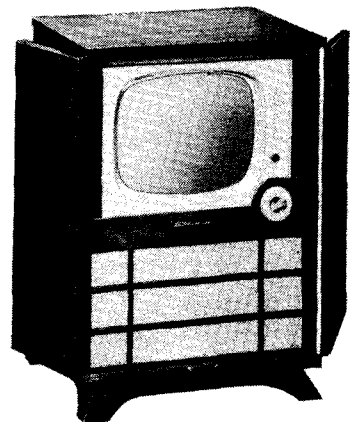
Except for C.R.T. strap, parts pertaining to Cabinet, A.M. receiver and a few circuit changes, the parts list contained in RS-289 applies to all models listed above. For these parts order as shown on page 4.



17TV2K



17TV5K



17TV6K

CANADIAN WESTINGHOUSE COMPANY, LIMITED
Service Department - Hamilton, Ont.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

FREQUENCY RANGES

Channel Number	Channel Freq. Mc/s.	Picture Carrier Freq. Mc/s.	Sound Carrier Freq. Mc/s.	Receiver R.F. Osc. Freq. Mc/s.
2	54-60	55.25	59.75	101
3	60-66	61.25	65.75	107
4	66-72	67.25	71.75	113
5	76-82	77.25	81.75	123
6	82-88	83.25	87.75	129
7	174-180	175.25	179.75	221
8	180-186	181.25	185.75	227
9	186-192	187.25	191.75	233
0	192-198	193.25	197.75	239
1	198-204	199.25	203.75	245
2	204-210	205.25	209.75	251
3	210-216	211.25	215.75	257

TUNING RANGE

mc/s. minimum; 2 mc/s. maximum.

POWER SUPPLY RATING

117 Volts, 25-60 Cycle, 175 Volt-Amps.

AUDIO POWER OUTPUT RATING

Undistorted..... 1.5 Watts
Maximum..... 2.5 Watts

LOUDSPEAKER..... 10" P.M.

Voice Coil Impedance..... 3.2 Ohms at 400 Cycles

RECEIVER ANTENNA INPUT IMPEDANCE

300 Ohms Balanced

INTERMEDIATE FREQUENCIES

Video Carrier..... 45.75 Mc/s.
Sound Trap..... 41.25 Mc/s.
Sound Carrier (at Second Detector)..... 4.5 Mc/s.
Sound Discriminator Band Width (Between Peaks)..... 265 Kc/s.

TUBE COMPLEMENT

Use	V	
F. Amplifier.....	1	6BC5 or 6AK5
Mixer.....	2A	½ 6J6
Oscillator.....	2B	½ 6J6
First Sound I-F Amp.....	3	6AU6
Second Sound I-F Amp.....	4	6AU6
Ratio Detector.....	5A	½ 6T8
Third Audio Amp.....	5B	½ 6T8
Audio Output.....	6	6AQ5
First Common I-F Amp.....	7	6CB6
Second Common I-F Amp.....	8	6CB6
Third Common I-F Amp.....	9	6CB6
Video Detector.....	10A	½ 6AL5
Noise Clipper.....	10B	½ 6AL5
Video Amp.....	11	6AH6

*Cathode Ray Tube.....	12	17BP4
Keyed A.G.C.....	13	6AU6
Sync. Amp.....	14A	½ 12AT7
Sync. Sep.....	14B	½ 12AT7
Phase Det.....	15	6C4
Vert. Multivibrator.....	16	6SN7
Vert. Output.....	17	6K6GT
Horz. Multivibrator.....	18	12AU7
Horz. Output.....	19	6BQ6GT
H.V. Rectifier.....	20	1B3
Damper.....	21	6W4GT
Rectifier.....	22	5U4G

*Serial Numbers E-42365 to E-42414 inclusive use 17HP4 Picture Tubes.

VIDEO RESPONSE.....	4.0 Mc/s.
FOCUS.....	Magnetic
BEAM WEAP DEFLECTION.....	Magnetic
SCANNING, INTERLACED.....	525 Lines
HORIZONTAL SCANNING FREQUENCY.....	15,750 CPS
VERTICAL SCANNING FREQUENCY.....	60 CPS

FRAME FREQUENCY (PICTURE REPETITION RATE)..... 30 CPS

OPERATING CONTROLS (Front Panel)

Channel Selector	}	Dual Control Knobs
Fine Tuning		
Picture Volume and On-Off Switch	}	Dual Control Knobs

*Not used on Serial Numbers E-42365 to E-42414. For "Focus" information pertaining to these serials, refer to page 3.

Not used on Serial Numbers E-42365 to E-42414

FOCALIZER

Incorrect positioning of the focalizer will cause shadows on the edge of the picture or incorrect picture centering. The adjustments that control the position of the focalizer are the focalizer bracket adjustment screws and the focalizer mounting bolts. The locations of these adjustments are shown in Fig. 1.

When correctly adjusted the focalizer bracket is as close to the back of the deflection yoke as possible, but the heads of the focalizer mounting bolts do not press against the back of the deflection yoke. In addition, the CRT cushion and the deflection yoke must be correctly positioned as explained previously. To move the focalizer and its bracket to the correct position, loosen the focalizer bracket adjustment screw, slide the bracket forward or backward as required, and retighten the screws.

FOCUS

Focusing is accomplished by adjusting the threaded slug that is located in the upper right quadrant of the focalizer. A non-magnetic screwdriver is required for the adjustment.

CENTERING

Centering is accomplished by varying the position of the magnetic ring that is located between the poles of the focalizer. This adjustment is performed by moving the centering lever horizontally and vertically until the picture is centered and there are no "neck-shadows."

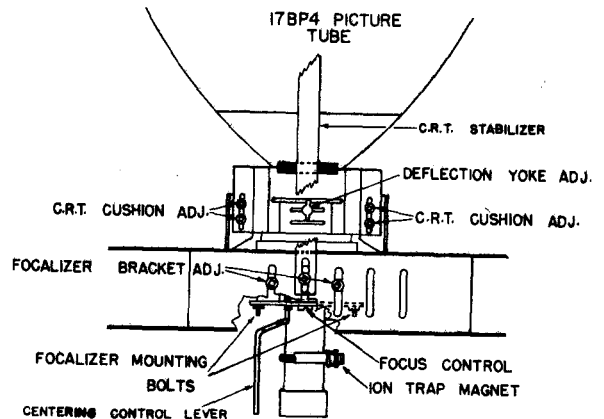


FIG. 1 C.R.T. ADJUSTMENTS

Used Only on Serials E-42365 to E-42414 Using 17HP4 C.R.T.

FOCUS

Serial Numbers E-42365 to E-42414 consecutive and inclusive are equipped with the 17HP4 low voltage electrostatic focus kinescope. This necessitates the use of a focus control and is located on the back apron of the chassis between the horizontal control and the vertical height control, as illustrated in Fig. 3. Also the use of a centering control is necessary which is located around the neck of the C.R.T. (Fig. 2) as close to the back of the deflection yoke as possible positioned in such a manner that the shortest distance between the yoke and the magnetic rings exists. Centering is accomplished in the vertical and horizontal plane by the rotation of the individual P.M. rings of the centering control.

17HP4 L.V. PARTS LIST

Ref. No.	Description	Part No.	List
R-457	Focus Control (1 meg.)	4-N-356-7	.80
	Centering Rings (P.M.)	ITS-417	.85
	Socket for C.R.T.	8-M-819-1	1.50

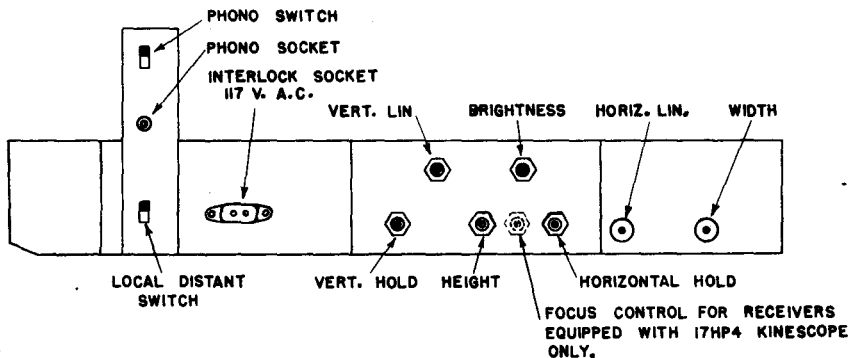


FIG 3

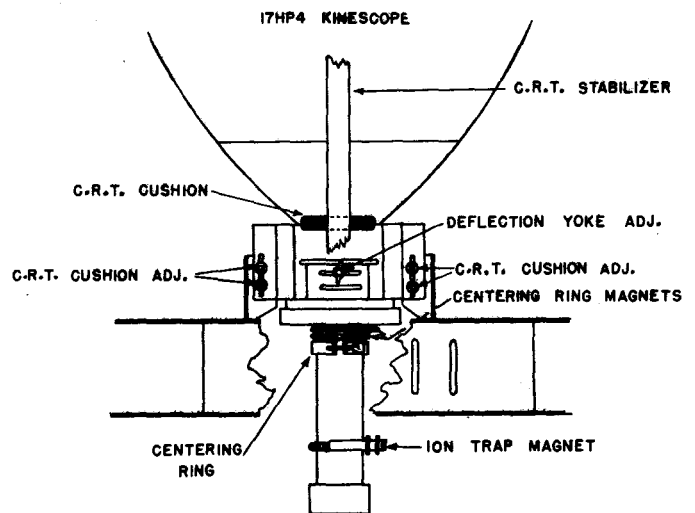


FIG. 2 C.R.T. ADJUSTMENTS

MODELS 17TV2K, 17TV5K and 17TV6K

CABINET PARTS LIST

The following parts apply to models indicated and are in lieu of the "Parts" listed in the 20TV4C Service Manual RS-289:

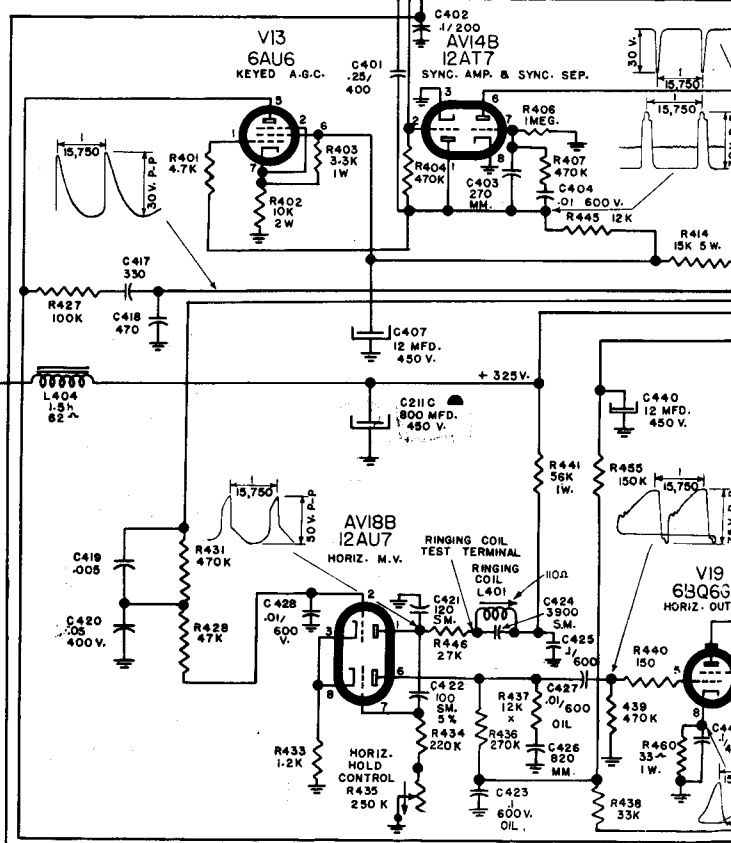
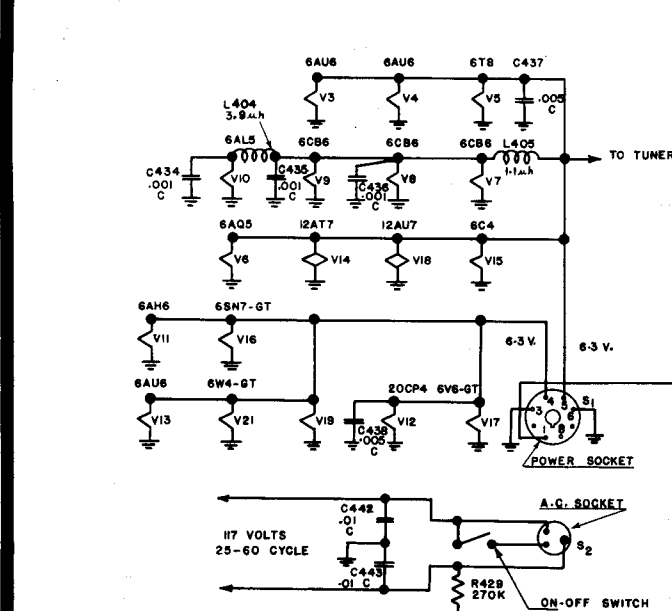
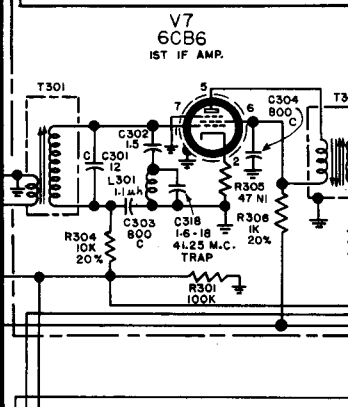
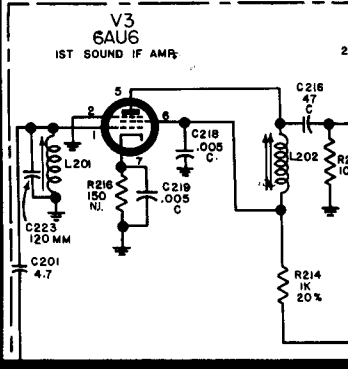
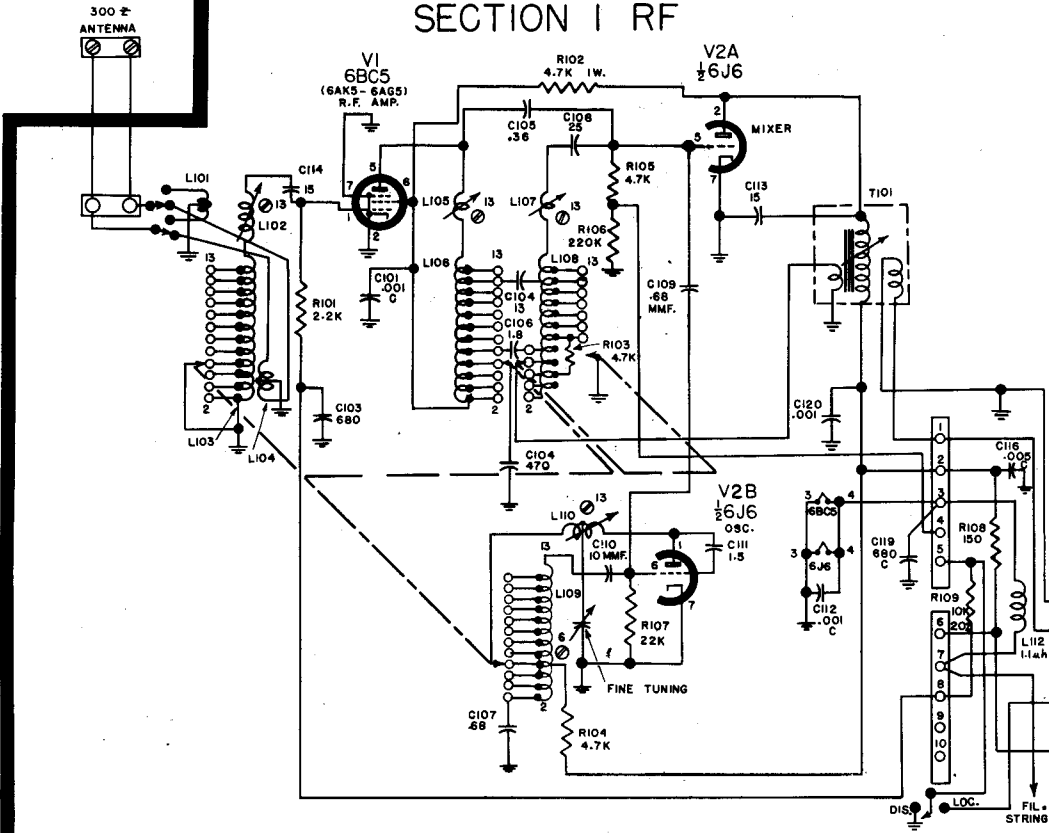
Part	Description	Part No. 17TV2K	Part No. 17TV5K	Part No. 17TV6K	List
Cabinet	Walnut.....	8-K-198-1	8-K-199-1	8-K-200-1	On App.
Cabinet	Red Mahogany.....	8-K-198-2	8-K-199-2	8-K-200-2	On App.
Cabinet	Blonde Oak.....	8-K-198-3	8-K-199-3	8-K-200-3	On App.
Nameplate	"Westinghouse".....	V-10318-2	V-10318-2	V-10318-2	.45
Plate	Front (Glass).....	8-K-195-1	8-K-195-1	8-K-195-1	10.00
Mask	Aluminium.....	V-9945-5	V-9945-5	V-9945-5	2.00
Gasket	Dust Seal.....	V-10227-1	V-10227-1	V-10227-1	.65
Escutcheon	Channel.....	V-9953-4	V-9953-4	V-9953-4	.85
Knob	Selector.....	V-9941-1	V-9941-1	V-9941-1	.45
Knob	Fine Tuning.....	V-9940-1	V-9940-1	V-9940-1	.30
Knob	Brightness.....	V-9939-1	V-9939-1	V-9939-1	.22
Knob	Volume.....	V-9938-1	V-9938-1	V-9938-1	.22
Spring	For Escutcheon.....	V-9985-1	V-9985-1	V-9985-1	.05
Disc	Knob.....	6-N-617-4	6-N-617-1	6-N-617-1	.10
Reproducer	10" P.M.....	5-N-769-1	5-N-769-1	5-N-769-1	11.00
Back	Cabinet Assem.....	8-K-211-501	8-K-211-502	8-K-211-503	On App.
Back	Only.....	8-K-210-1	8-K-210-2	8-K-210-3	2.50
Cord	Power (with Interlock Socket).....	5-N-246-2	5-N-246-2	5-N-246-2	1.25
Spring	For Knob V-9941-1.....	H-40573	H-40573	H-40573
Spring	For Knob V-9940-1.....	H-40574	H-40574	H-40574
Spring	For Knob V-9939-1.....	H-40575	H-40575	H-40575
Spring	For Knob V-9938-1.....	H-40576	H-40576	H-40576

CHASSIS PARTS LIST

Ref. No.	Part No.	Description	List
R-415	V-9922-7	Strap Assem. C.R.T.....	.35
	1-N-91-1	Phono Socket.....	.12
	4-N-231-1	Switch (Phono).....	.40
	8-L-594-501	Deflection Yoke.....	10.25
	586034-86	Resistor 100K. 1W.....	.25
R-434	586028-90	Resistor 220K.....	.17
R-436	586028-91	Resistor 270K. 1/2W.....	.17
R-438	586028-80	Resistor 33K. 1/2W.....	.17
R-441	586034-83	Resistor 56K. 1W.....	.25
R-455	586034-88	Resistor 150K. 1W.....	.25
C-422	586026-31	Capacitor 100 mmfd. Silver Mica.....	.60
C-423	4-N-384-12	Capacitor .1 mfd. 600V. Oil.....	.49
C-433	586028-86	Capacitor .5 mfd. 200V. (C-433 was a .05 mfd. capacitor in RS-289).....	.17
T-402	7-L-997-1	Horizontal Output.....	11.00

ALL PRICES SHOWN WITHIN ARE SUBJECT TO CHANGE WITHOUT NOTICE.

SECTION 1 RF



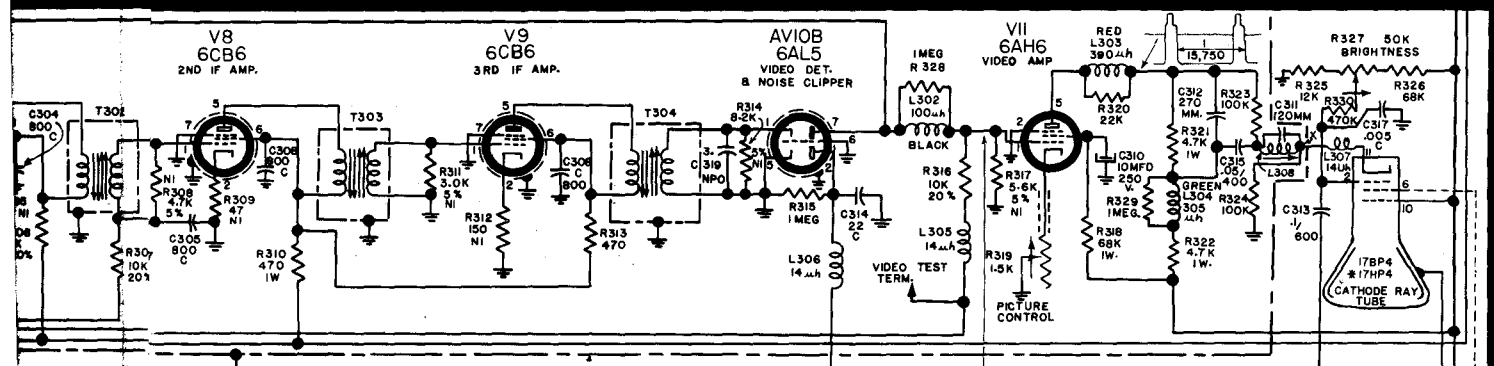
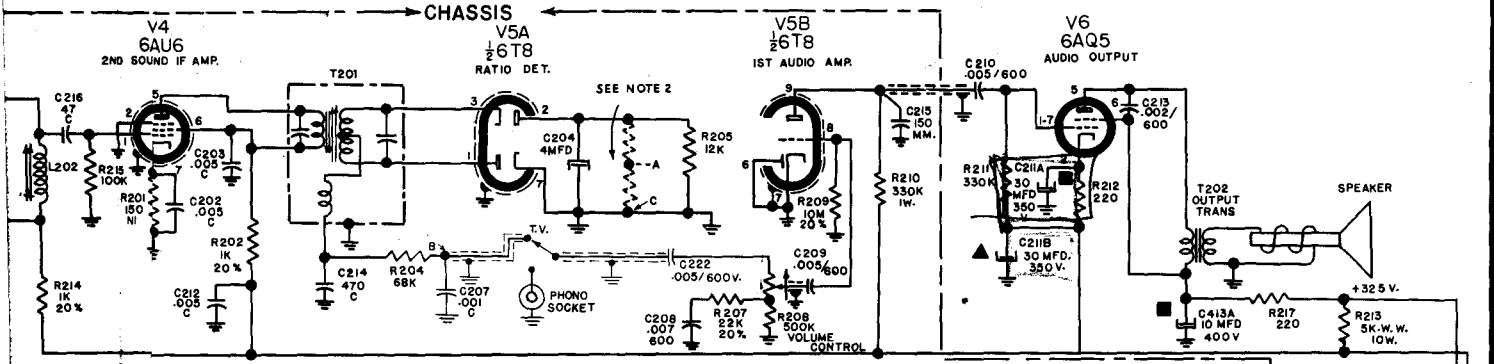
IMPORTANT:
 SINCE MANY OF THE COMPONENTS ARE VERY CRITICAL, EXACT DUPLICATES MUST BE USED FOR REPLACEMENT PURPOSES. HOWEVER, ANY SUBSTITUTE SUPPLIED BY WESTINGHOUSE WILL ASSURE PERFORMANCE EQUAL TO OR BETTER THAN THE LISTED PART.

NOTE: 1
 ALL RESISTANCE VALUES ARE IN OHMS, K=1000. TOLERANCE IS 10%, WATTAGE IS 1/2, UNLESS STATED OTHERWISE. CAPACITANCE VALUES LESS THAN 1 ARE IN MFD. AND ABOVE 1 ARE IN MMFD. UNLESS STATED OTHERWISE.
 SUFFIX "C" INDICATES CERAMIC CAPACITOR.
 SUFFIX "M.M." INDICATES MICA CAPACITOR.
 SUFFIX "W.W." INDICATES WIRE WOUND RESISTOR.
 → INDICATES CLOCKWISE ROTATION.
 SUFFIX "NPO" INDICATES ZERO TEMP. COEFFICIENT.
 SUFFIX "SM" INDICATES SILVER MICA.
 SUFFIX "NI" INDICATES NON-INDUCTIVE

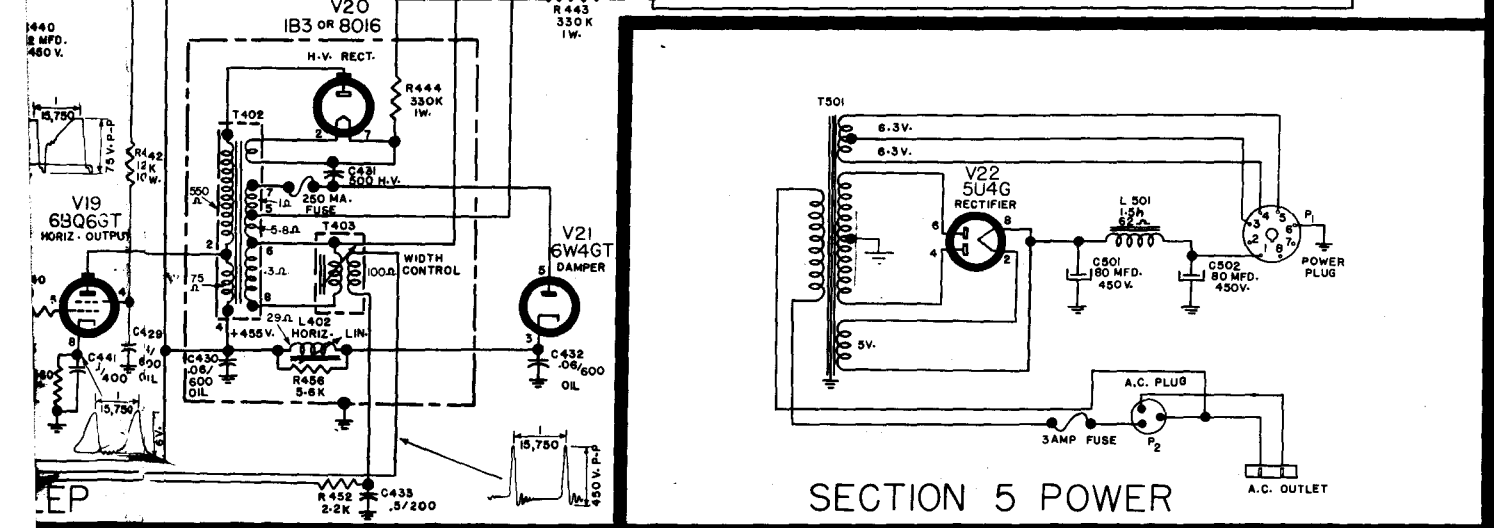
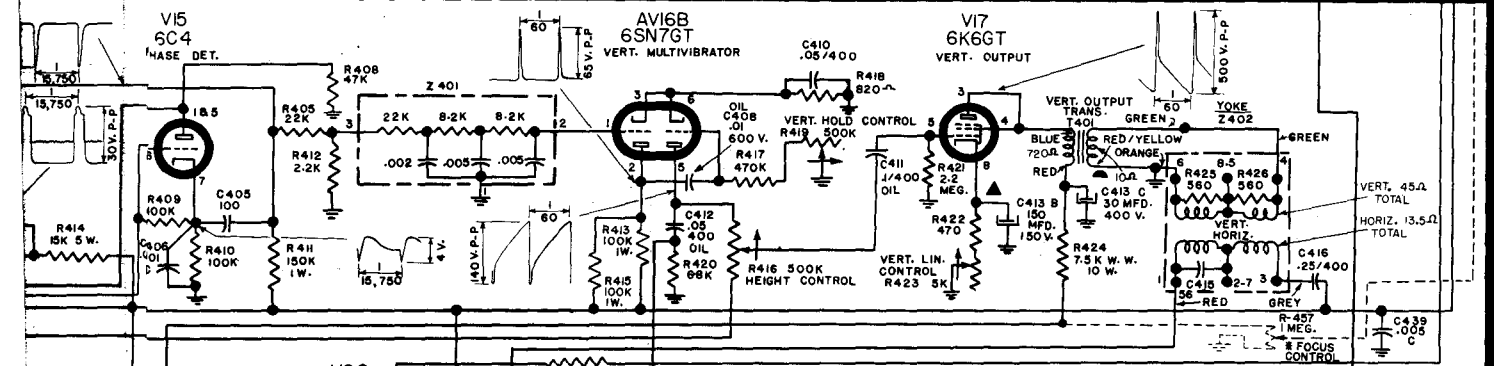
NOTE: 2 USED FOR SOUND ALIGNMENT ONLY

SECTION 4 SWEEP

SECTION 2 SOUND IF AND AUDIO



SECTION 3 VIDEO



SECTION 5 POWER

X ON SOME CHASSIS THE VALUE OF THIS RESISTOR MAY BE 4.7K, 6.8K OR 12K
 * DOTTED WIRING APPLIES TO SERIALS E-42365 TO E-42414 WHICH ARE EQUIPPED WITH 17 HP4