

FOLDER 3
SET 435

WESTINGHOUSE MODELS H-17T247, H-17T249, H-17T250,
H-17TU247, H-17TU249, H-17TU250 (Ch. V-2365-1, -2, -7, -8)

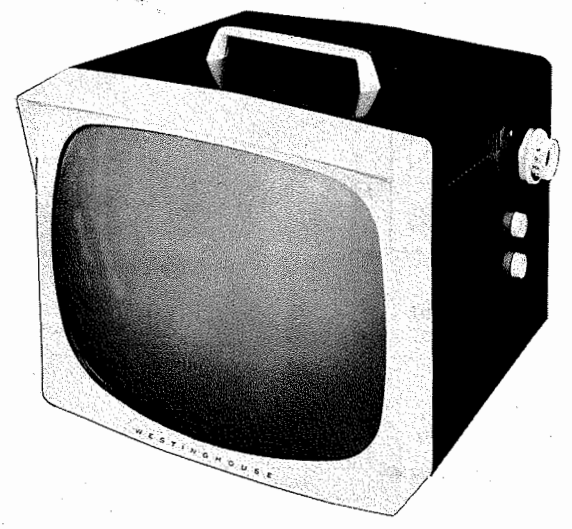
PHOTOFACT* Folder

with CIRCUITRACE*



DISASSEMBLY INSTRUCTIONS

- CHASSIS REMOVAL**
1. Pull the 4 top and 2 side knobs out approximately 1" to disengage from the control shafts. (Knobs cannot be removed.)
 2. Remove 7 metal screws holding rear cover. Remove rear cover.
 3. Remove the 2 snap-in buttons holding antenna terminal board.
 4. Remove nylon bushing between telescoping antenna arms.
 5. Remove picture tube socket, speaker leads, HV lead, yoke clamp and yoke.
 6. Remove 2 hex nuts holding speaker. Remove speaker.
 7. Remove 2 metal screws holding chassis at the top.
 8. Remove 4 bottom metal chassis screws.
 9. Remove chassis from rear of chassis.



MODEL H-17T247 (Ch. V-2365-7)

CAUTION
ONE SIDE OF AC LINE CONNECTED TO CHASSIS.
Care should be exercised when connecting test equipment or physically contacting chassis. Isolation devices employed by manufacturer should be checked and properly connected before returning receiver to owner.

TRADE NAME	Westinghouse	MODELS	CHASSIS
		H-17T249, H-17T250	V-2365-1
		H-17TU249, H-17TU250	V-2365-2
		H-17T247	V-2365-7
		H-17TU247	V-2365-8
MANUFACTURER	Westinghouse Electric Corp., Television & Radio Div., Metuchen, N.J.		
TYPE SET	Television Receiver		
TUBES	VHF - Sixteen, UHF - Seventeen		
POWER SUPPLY	105-120 Volts AC, 60 Cycle		
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS
Touch-up adjustment of the VHF Oscillator is possible by removing the rear cover, and supplying power to the receiver. Set the Fine Tuning at the center of its range. The adjustments are accessible, one at a time, thru a hole in the right side of the tuner rear cover as viewed from the rear. Adjust for best picture and sound.

PICTURE TUBE SAFETY GLASS CLEANING
Remove 2 metal screws (bottom front) holding front to cabinet. Remove front by pulling out at the bottom and up.

FOCUS
No provision is made to vary the focus on this receiver.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENTS
For adjustment of the Horizontal Multivibrator it is necessary to remove the rear cover and supply power to set. Set the Horizontal Hold at the center of its range and adjust the Horizontal Frequency slug (B2) until the picture synchronizes horizontally. (For location, see tube placement chart.)

FUSE DEVICE
A 7.5Ω fusible resistor (R75) is used for low voltage power supply protection. (For location, see tube placement chart.)

CENTERING
Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of H864R

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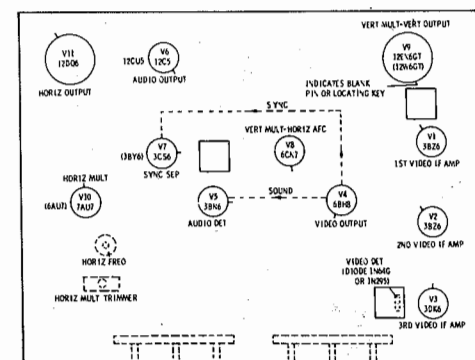
WESTINGHOUSE MODELS H-17T247, H-17T249, H-17T250,
H-17TU247, H-17TU249, H-17TU250 (Ch. V-2365-1, -2, -7, -8)

SET 435 FOLDER 3

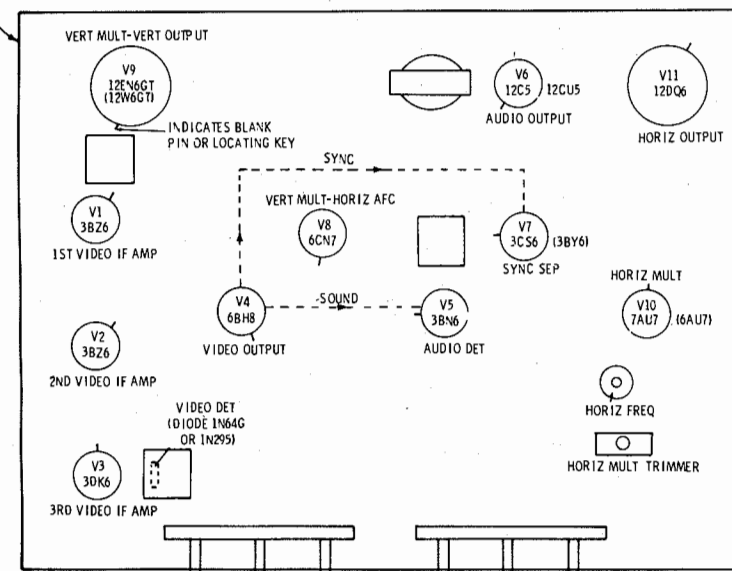
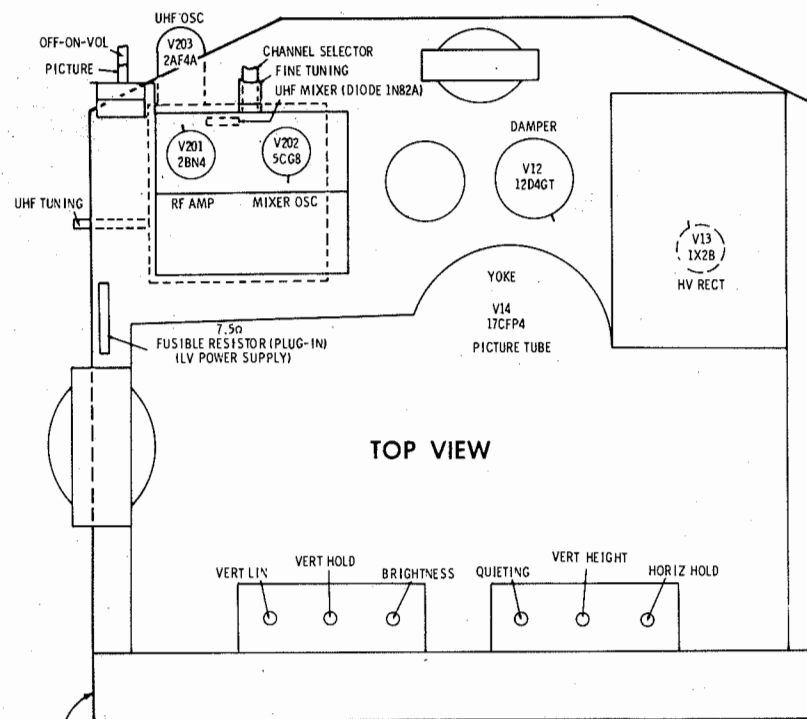
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	3BZ6	475K	47 Ω	7 Ω	6.5 Ω	†650 Ω	†650 Ω	0 Ω		
V2	3BZ6	480K	47 Ω	6.5 Ω	6 Ω	†650 Ω	†650 Ω	0 Ω		
V3	3DK6	.1 Ω	150 Ω	6 Ω	5 Ω	†650 Ω	†650 Ω	0 Ω		
V4	6BH8	100 Ω	10K	†5700 Ω	10.5 Ω	9.5 Ω	150 Ω	1meg	†180 Ω	†3800 Ω
V5	3BN6	•450 Ω	.4 Ω	11.5 Ω	10.5 Ω	†8300 Ω	7.7 Ω	†560K		
V6	12C5/ 12CU5	82 Ω	0 Ω	12 Ω	14 Ω	0 Ω	†1100 Ω	†850 Ω		
V7	3CS6	27K	0 Ω	11.5 Ω	12 Ω	†35K	†6900 Ω	2meg		
V8	6CN7	0 Ω	1.6meg	680K	0 Ω	0 Ω	0 Ω	•1.1meg	•†6meg	1 Ω
V9	12EN6GT	NC	9.5 Ω	†130 Ω	†180 Ω	•1.2meg	NC	7 Ω	0 Ω	
V10	7AU7	†180K	•240K	1500 Ω	19 Ω	19 Ω	†39K	2.3meg	1500 Ω	18 Ω
V11	12DQ6	NC	14 Ω	NC	†100 Ω	470K	NC	18 Ω	.6 Ω	TOP CAP †12 Ω
V12	12D4GT	NC	TP	†300K	NC	†19 Ω	NC	19 Ω	21 Ω	
V13	1X2B	PINS 1 THRU 9 HAVE INFINITE RESISTANCE TOP CAP †712 Ω								
V14	17CFP4	1 Ω	100K	Pin 6 †200 Ω	Pin 10 †1meg	Pin 11 •240K	Pin 12 2.5 Ω			
V201	2BN4	0 Ω	500K	5 Ω	4.5 Ω	†1100 Ω	0 Ω	100K		
V202	5CG8	10K	†5700 Ω	0 Ω	3 Ω	4.5 Ω	†1100 Ω	†10K	0 Ω	230K
V203	2AF4A	††3200 Ω	•5600 Ω	2.5 Ω	3 Ω	.1 Ω	•5600 Ω	††3200 Ω		
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

Diagram illustrating the bottom view of a television chassis, showing various components and their locations:

- Channel Selector** and **Fine Tuning** controls are located at the top center.
- UHF Mixer (Diode IN263A)** is located below the Channel Selector.
- UHF OSC** and **OFF-ON-VOL** controls are located at the top right.
- PICTURE** control is located at the top right.
- DAMPERS** are located on the left side.
- V12 12AX7** tube is located on the left side.
- V13 12X6 HV RECT** tube is located on the left side.
- V106** and **V107 12CP4 PICTURE TUBE** are located in the center.
- V201 6X4** and **V202 6X4** tubes are located in the upper right section.
- MIXER-OSC** and **RF AMP** sections are located in the upper right section.
- 7.50 FUSIBLE RESISTOR (PLUG-IN) LOW POWER SUPPLY** is located in the lower right section.
- HORIZ HOLD**, **VERT HEIGHT**, **QUIETING**, **BRIGHTNESS**, **VERT HOLD**, and **VERT LIN** controls are located along the bottom edge.



TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

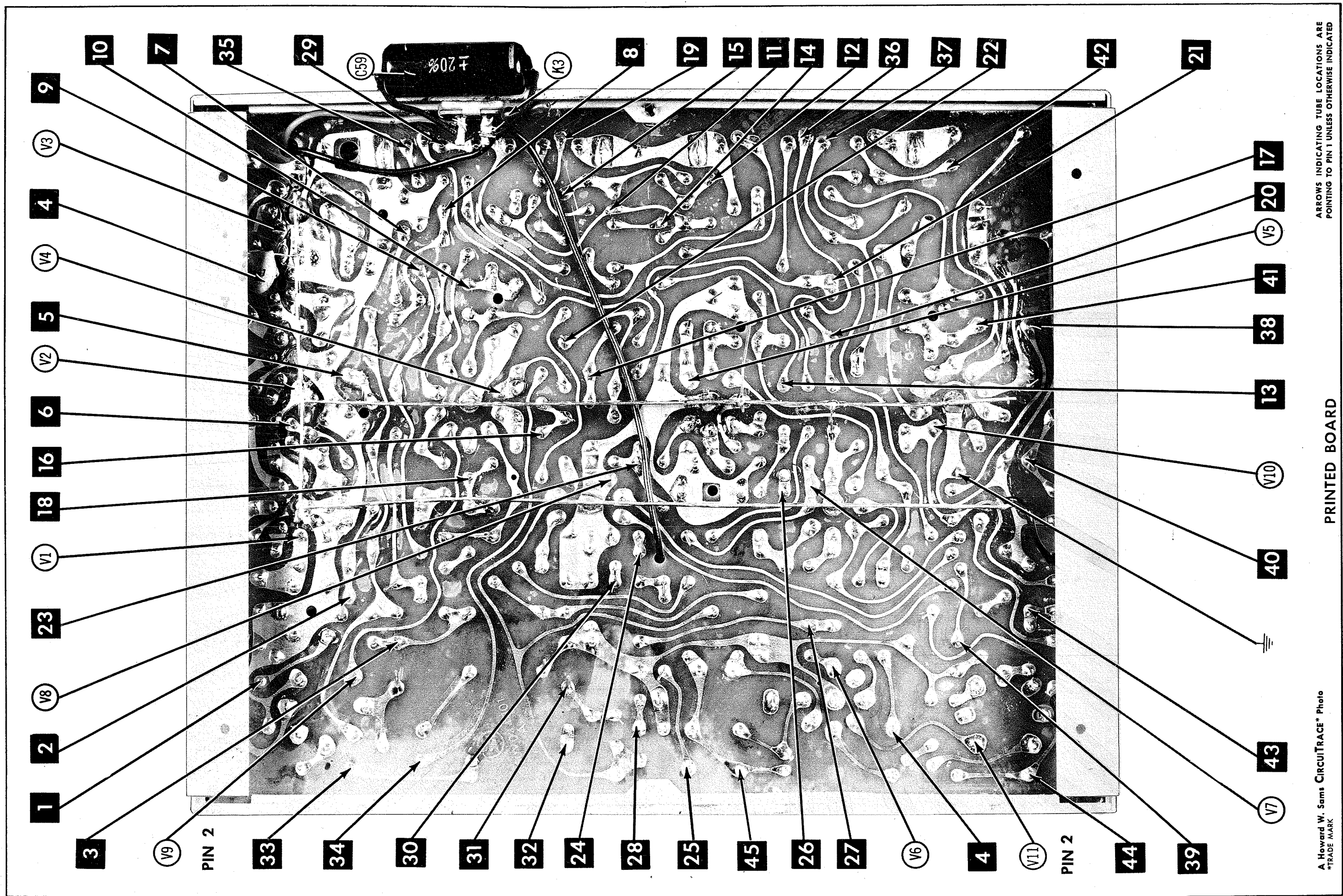
POWER SUPPLY FAILURE
No raster, no sound Fusible Resistor (R75), Rectifier (M1)

SWEEP FAILURE
No raster, has sound V8, V10, V11, V12, V13, V14
No vertical deflection V8, V9
Poor vert. linearity or foldover V8, V9
Poor horiz. linearity or foldover V10, V11, V12
Narrow picture V10, V11, V12, M1
Vert. off freq. V8, V9
Horiz. off freq. V10

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster V1, V2, V3, Diode (M2), V4
No pic, no sound, has snow V201, V202, V1 (V203 UHF)
No pic, has sound, has raster V4, V14
Has pic, no sound V5, V6

SYNC FAILURE
No vert. sync V7
No horiz. sync V7, V8
No vert. or horiz. sync V7

[illegible]

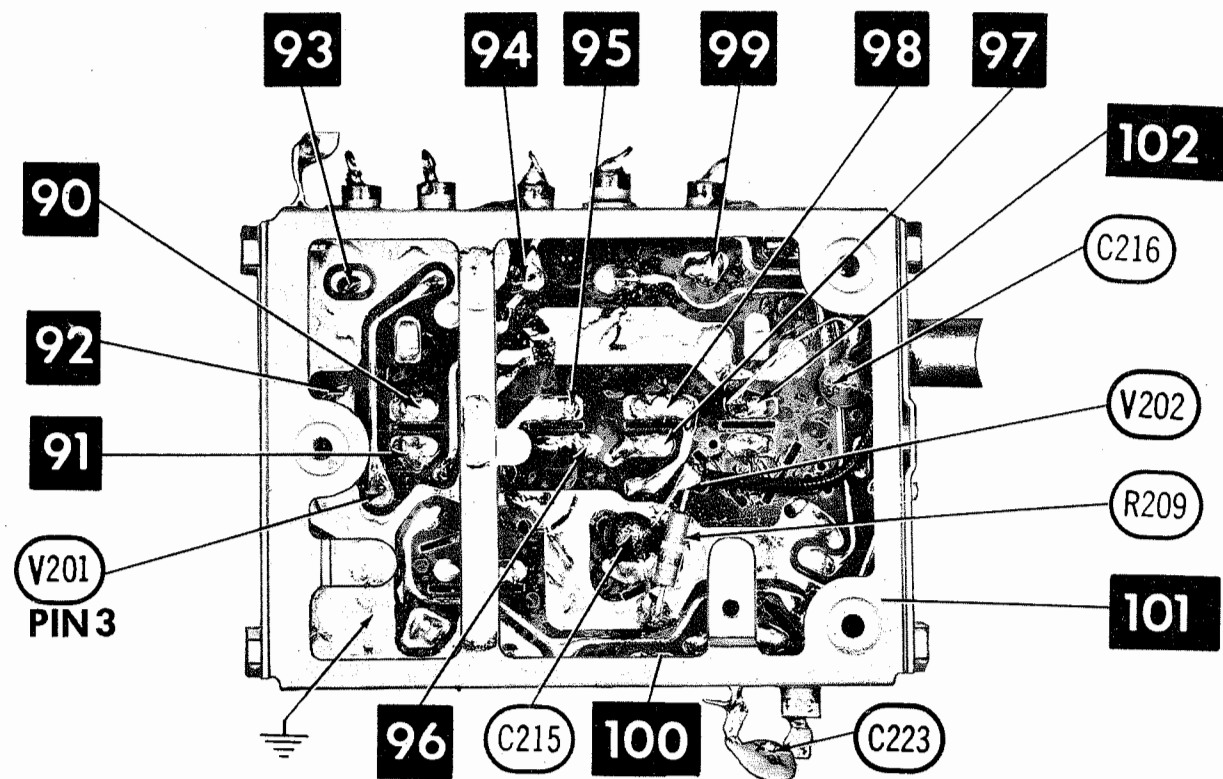


WESTINGHOUSE MODELS H-17T247, H-17T249, H-17T250,
H-17T250 (Ch. V-2365-1, -2, -7, -8)

PRINTED BOARD

FOLDER 3

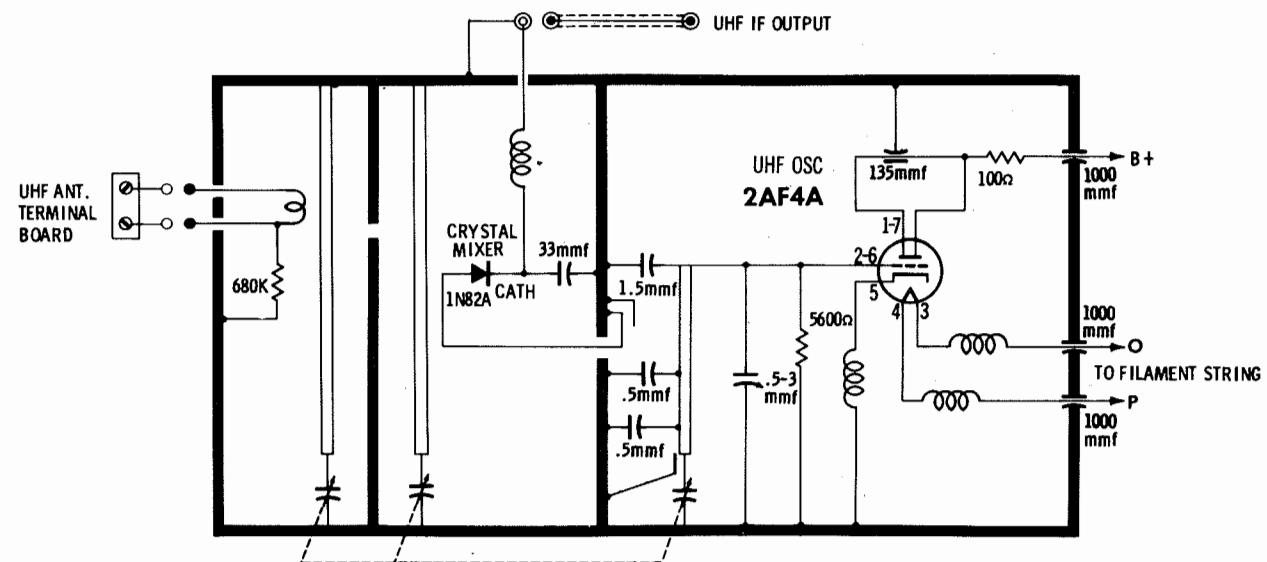
CircuitTrace Numbers 90 thru 102



A Howard W. Sams **CircuitTrace** Photo

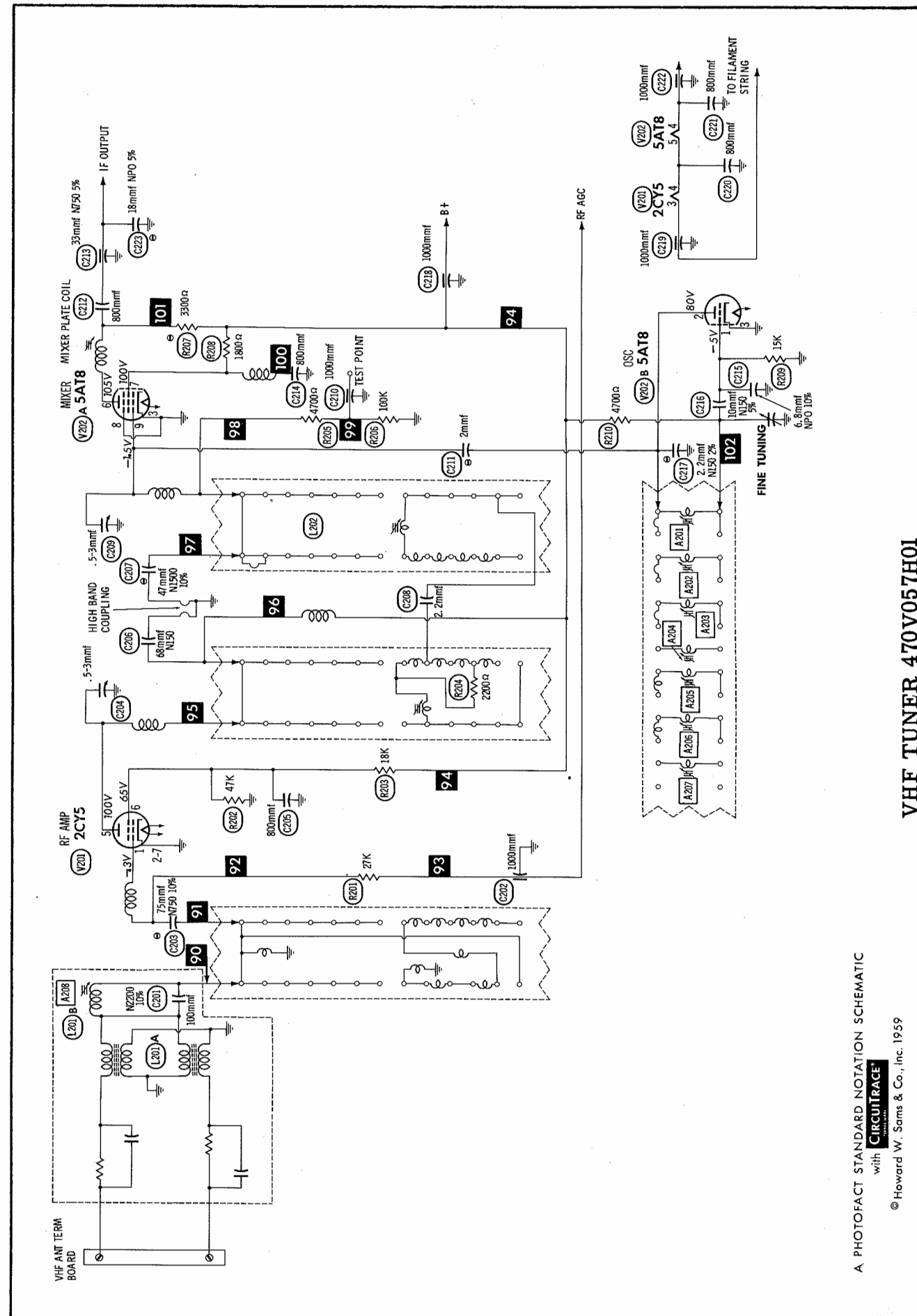
TUNER 470V057H01
BOTTOM VIEW

ARROWS INDICATING TUBE LOCATIONS ARE
POINTING TO PIN 1 UNLESS OTHERWISE INDICATED



A PHOTOFAC STANDARD NOTATION SCHEMATIC
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UHF TUNER 472V034H01



A PHOTOFAC STANDARD NOTATION SCHEMATIC
with
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WESTINGHOUSE MODELS H-17T247, H-17T249, H-17T250,
H-17TU247, H-17TU249, H-17TU250 (Ch. V-2365-1, -2, -7, -8)
10H750A017 RENUL FHA

TUNER PARTS LIST AND DESCRIPTIONS

470V057H01

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V201	RF Amp.	2CY5	
V202	Mixer-Osc.	5AT8	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT	Westinghouse PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MAILLORY PART No.	SPRAGUE PART No.	
C201	100		690V013H10						N2200 10%
C202	1000		690V013H14	EF-001	MFT-1000			503C-DI	N750 10% ①
C203	75			N750-DI 75				5TCU-Q75	
C204	.5-3		690V013H56		829-3				
C205	800		690V013H13	BPD-0008	DD-801			5GA-T8	N150
C206	68		215V126A80						N1500 10% ①
C207	47								
C208	2.2		215V300H09		TCZ-2R2	CTA6V22C			
C209	.5-3		690V013H57		829-3				
C210	1000		690V013H14	EF-001	MFT-1000			503C-DI	②
C211	2								
C212	800		690V013H13	BPD-0008	DD-801			5GA-T8	N750 5%
C213	33		690V013H01						
C214	800		690V013H13	BPD-0008	DD-801			5GA-T8	NPO 10%
C215	6.8		690V013H21	NPO-DI 6.8	DTZ-6R8			5TCCB-V68	N150 5%
C216	10		690V013H09						N150 2% ③
C217	2.2								
C218	1000		690V013H14	EF-001	MFT-1000			503C-DI	
C219	1000		690V013H14	EF-001	MFT-1000			503C-DI	
C220	800		690V013H13	BPD-0008	DD-801			5GA-T8	
C221	800		690V013H13	BPD-0008	DD-801			5GA-T8	
C222	1000		690V013H14	EF-001	MFT-1000			503C-DI	
C223	18		215V131A80			C10Q18C	CNO-418	5TCC-Q18S 5% *	NPO 5% ③

* Not normally in distributors stock. Available through distributor on order to manufacturer.
① Some versions may use 59mmf 10% in this application (Part #690V013H55).
② Some versions may use .68mmf 10% in this application (Part #690V013H53).
③ Not used in some versions.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		Westinghouse PART No.	NOTES
	OHMS	WATT		
R201	27K		250V222A73	
R202	47K		250V224A73	
R203	18K		250V221A83	
R204	2200Ω		250V222A22	
R205	4700Ω		250V224A72	
R206	100K		250V221A04	Note 1
R207	3300Ω		250V223A32	
R208	1800Ω			
R209	15K		250V221A53	
R210	4700Ω		250V224A72	

Note 1. Some versions may use 4700Ω in this application (Part #250V224A72).

COILS (RF-IF)

ITEM No.	USE	Westinghouse PART No.	NOTES
L201A	Ant. Trans.	690V013H59	Includes C201, antenna isolation & rear plate assy.
L201B	IF Trap Coil		
L202	Mixer Plate Coil	690V013H58	

TUNER ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS FOR TUNER #470V057H01

Suggested alignment tools: A201 thru A208 General Cement #5009, 8195, 8274, 8275, 8728, 8987
Walco #2531

VHF OSCILLATOR ALIGNMENT

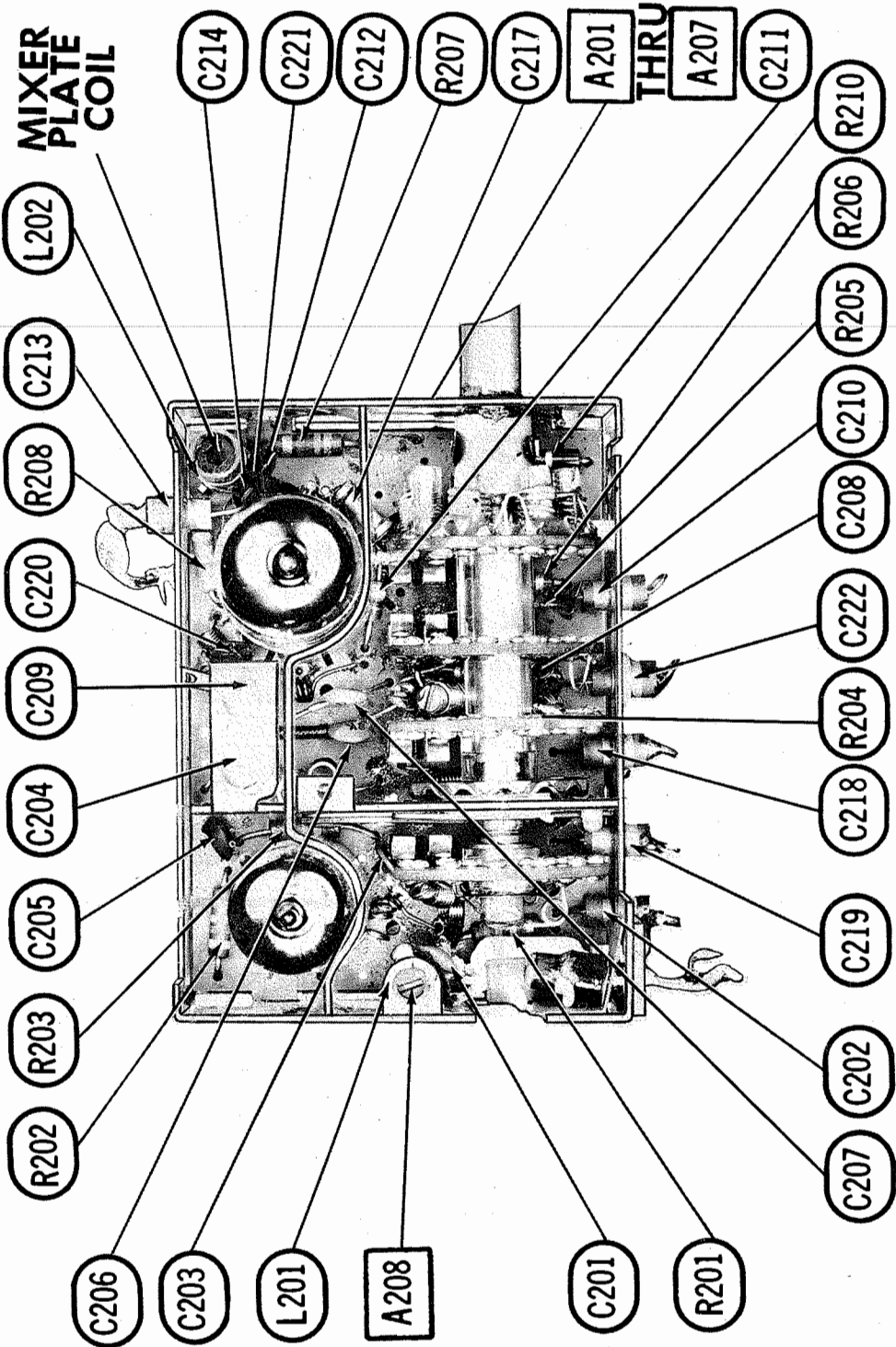
Set the Fine Tuning to the center of its range. Set the Channel Selector to the highest channel operating in the area and adjust the appropriate slug for best picture and sound. The slug for each channel operating in the area must be adjusted in a descending order from the highest to the lowest: A201 for channels 13 and 12, A202 for channels 11 and 10, A203 for channels 9 and 8, A204 for channel 7, A205 for channel 6 and 5, A206 for channels 4 and 3, and A207 for channel 2. If difficulty is experienced in adjusting channels 12, 10, 8, 5 or 3, adjust the correct coil for that channel by compressing or expanding coil turns for best picture and sound.

RF AND MIXER ALIGNMENT

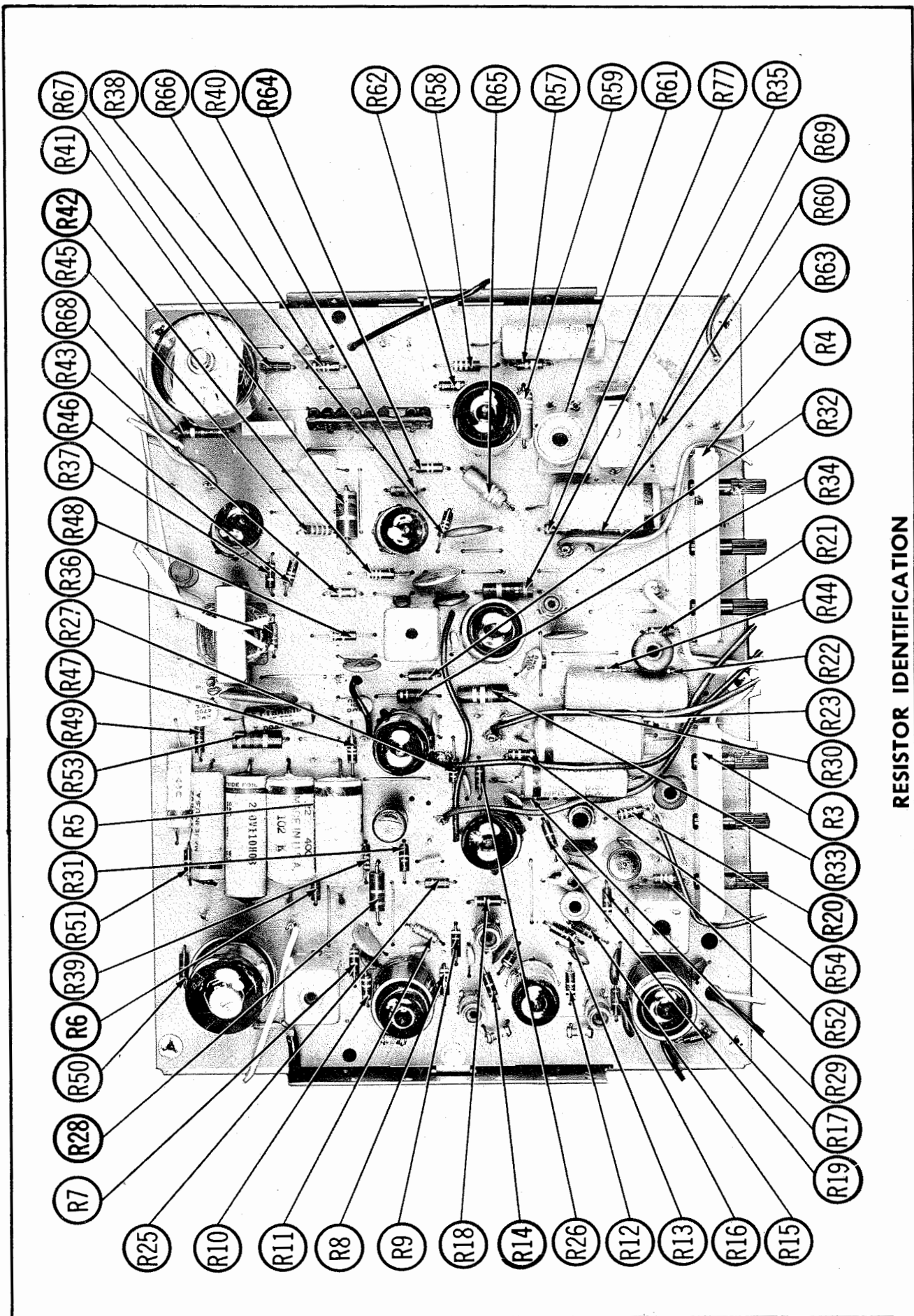
This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

RF TRAP ALIGNMENT

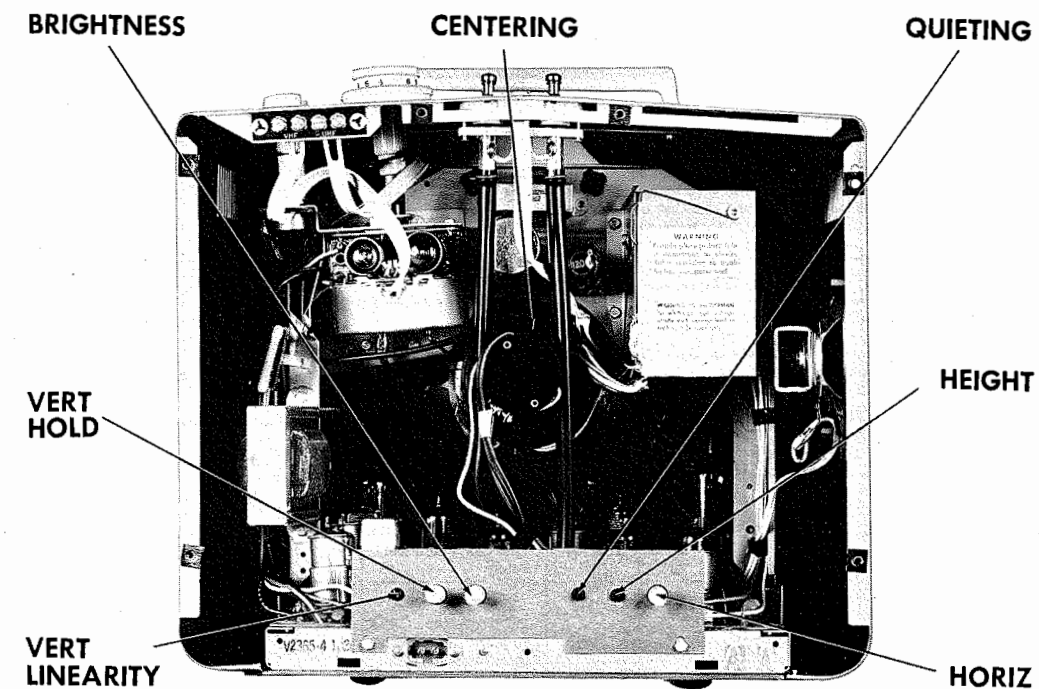
A208 may be adjusted to attenuate any interfering signal between 40MC and 46MC. Observe the picture and adjust for MINIMUM beat interference.



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RESISTOR IDENTIFICATION



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Connect a clip lead across the Horizontal Frequency coil (L15). This may be done from the top of the chassis.

Set the Horizontal Hold (R4A) to the center of its range.

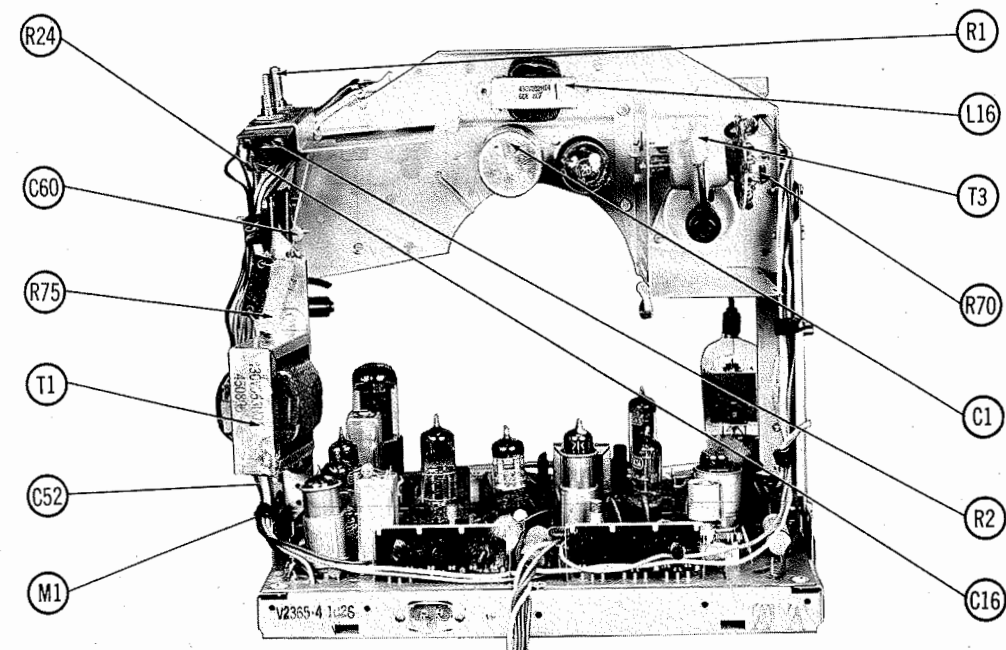
Connect the DC probe of the VTVM to pin 7 (grid) of Horizontal Multi-vibrator (V10). Common to chassis.

With the receiver tuned to a TV signal, adjust the Horizontal Multi-vibrator Trimmer (B1) for zero reading on the VTVM. If zero can be ap-

proached, but not quite reached at one extreme of B1, it may be necessary to set the Horizontal Hold SLIGHTLY to one side of mid-range to obtain zero reading on the VTVM.

Remove the clip lead from L15.

Adjust the Horizontal Frequency slug (B2) for zero reading on the VTVM and check the adjustment by switching off channel and back again. The receiver should pull into synchronization on all channels. If not, repeat adjustments.



CHASSIS-REAR VIEW

SET 435 FOLDER 3

WESTINGHOUSE MODELS H-17T247, H-17T249, H-17T250, H-17TU247, H-17TU249, H-17TU250 (Ch. V-2365-1, -2, -7, -8)

FOLDER 3

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.
The high voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested alignment tools General Cement #8282 or 8606
Walsco #2543

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt bias supply to point Ⓢ . Positive to chassis.
Preset A7 fully counterclockwise.
Connect a 470mmf capacitor across the input leads of the scope and VTVM.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. .001mfd	High side to pin 1 (grid) of 3rd. Video IF Amp. (V3). Low side to chassis	44.0MC (10MC Swp)	43.9MC	Any non-interfering channel	Vert. Amp. thru 47K to point Ⓢ . Low side to chassis. (Across Video Det. load)	A1, A2	Preset Mixer Plate coil by turning slug fully counterclockwise. Adjust A1 for maximum deflection. Adjust A2 for correct tilt.
2. " "	High side to pin 1 (grid) of 1st. Video IF Amp. (V1). Low side to chassis	Not used	43.1MC	"	USE VTVM. DC probe thru 47K to point Ⓢ . Common to chassis. (Across Video Det. load)	A3	Adjust for maximum deflection.
3. " "	" "	" "	47.25MC	"	"	A4	Adjust for MINIMUM deflection.
4. " "	" "	" "	45.2MC	"	"	A5	Adjust for maximum deflection.
5. " "	" "	44.0MC (10MC Swp)	41.25MC 42.25MC 43.0MC 44.0MC 45.0MC 45.75MC 47.25MC	"	Vert. Amp. thru 47K to point Ⓢ . Low side to chassis. (Across Video Det. load)		Retouch A1, A2, A3 and A5, if necessary for response similar to Fig. 1. NOTE: If excessive tilt is present adjust A1 and A2 to 44.5MC.
6. Direct	High side to ungrounded tube shield floating over Mixer Osc. tube (V202). Low side to chassis.	Not used	41.25MC	"	USE VTVM. DC probe thru 47K to point Ⓢ . Common to chassis. (Across Video Det. load)	A6	Adjust for MINIMUM deflection.
7. Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	"	59.75MC	2	"	Fine Tuning	"
8. " "	" "	57MC	55.25MC 59.75MC	"	Vert. Amp. thru 47K to point Ⓢ . Low side to chassis. (Across Video Det. load)	A7, & Mixer Plate Coil	Adjust for maximum gain and symmetry of response similar to Fig. 2 with markers as shown. Adjust Mixer Plate Coil for maximum gain and A7 for proper tilt.

4.5MC Trap Alignment

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
9. .001mfd	High side to point Ⓢ . Low side to chassis.	4.5MC (30% AM)	Any non-interfering channel	AC probe to pin 11 (cathode) of picture tube. Common to chassis.	A10	Adjust for MINIMUM deflection.

SOUND IF ALIGNMENT

Connect the DC probe of a VTVM thru 4.5MC detector probe (Fig. 3) to pin 2 (grid) of the Audio Detector (V5). Common to chassis.
Tune in the strongest TV signal available and set the Quieting Control (R4C) to the center of its range.
Set the Volume at a low level and adjust A8 for maximum volume.
Reduce the signal strength at the antenna. Use either loose coupling or an attenuator pad at the antenna terminals. Adjust A9 for maximum negative voltage on the VTVM.
Reduce the volume to a low sound level and attenuate the signal at the antenna terminals until a negative reading of 1 volt is obtained on the VTVM.
Readjust A8 for maximum volume.
Select the strongest TV signal available and turn the Fine Tuning away from best picture to the point where -1.5 volts is obtained on the VTVM.
(It may be necessary to misadjust the tuner oscillator slug to accomplish this. If so, be sure to readjust Oscillator when finished.) Adjust the Quieting control for MINIMUM buzz.

ALIGNMENT INSTRUCTIONS (cont)

ALTERNATE SOUND IF ALIGNMENT USING SIGNAL GENERATOR

Connect a high impedance AC voltmeter or scope across the Volume control to serve as an indicator.
Set Quieting control (R4C) to the center of its range.
Apply a 4.5MC FM signal (15KC Swp) to point Ⓢ . Connect low side to chassis.
Using a strong signal, adjust A8 for maximum deflection.
Reduce the signal strength to the lowest point that will provide an indication. Adjust A9 for maximum deflection.
Replace the FM signal with a 4.5MC AM signal (30% Mod.) and adjust the generator for a strong output.
Adjust the Quieting control for MINIMUM response or output.

TUNER ALIGNMENT INSTRUCTIONS LOCATED ON PAGE 6.

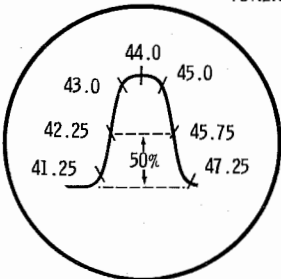


FIG. 1

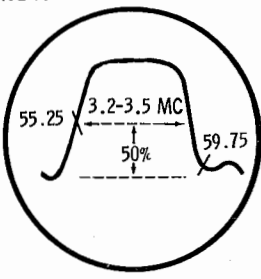


FIG. 2

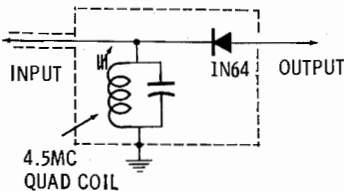
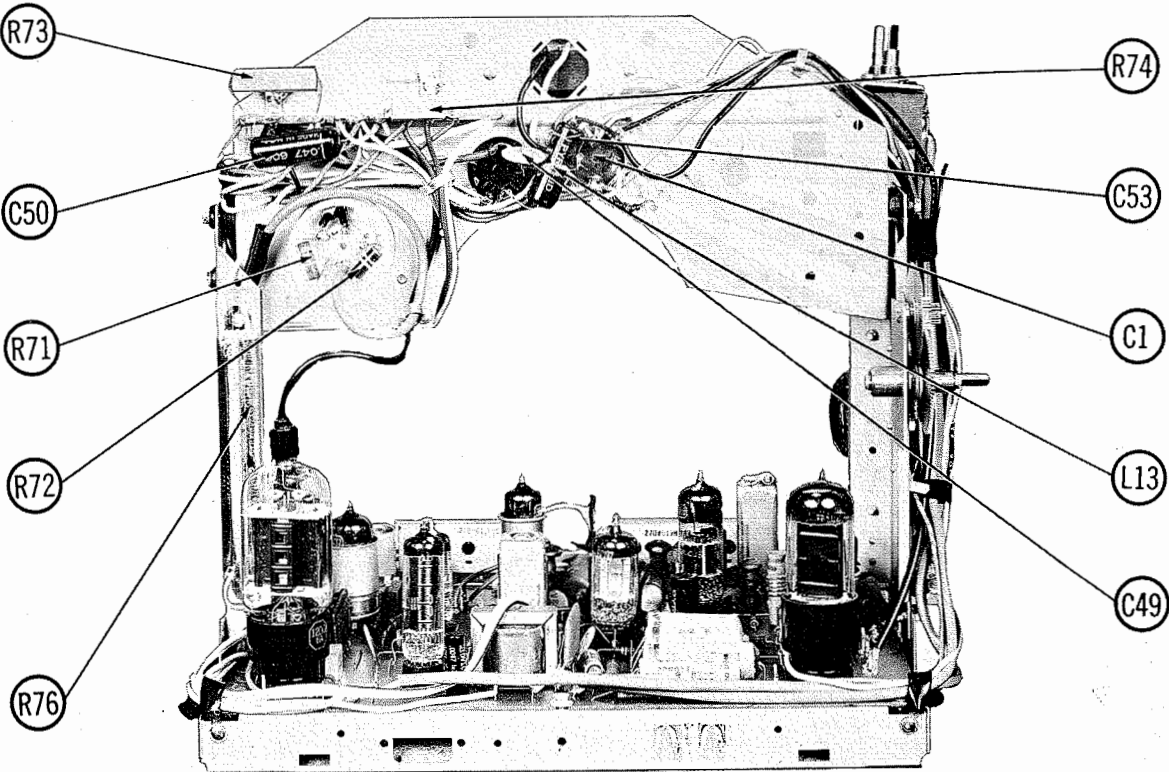


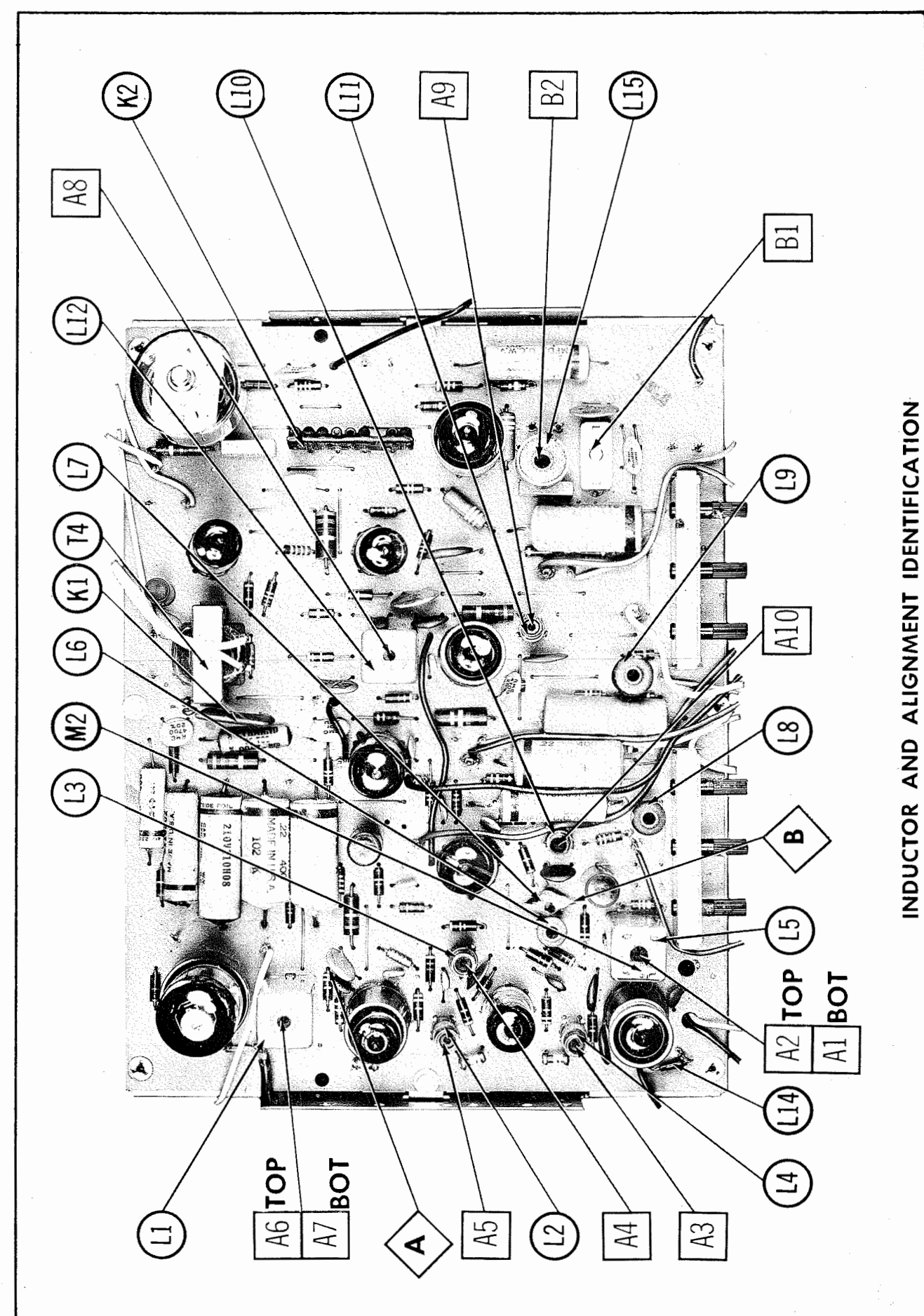
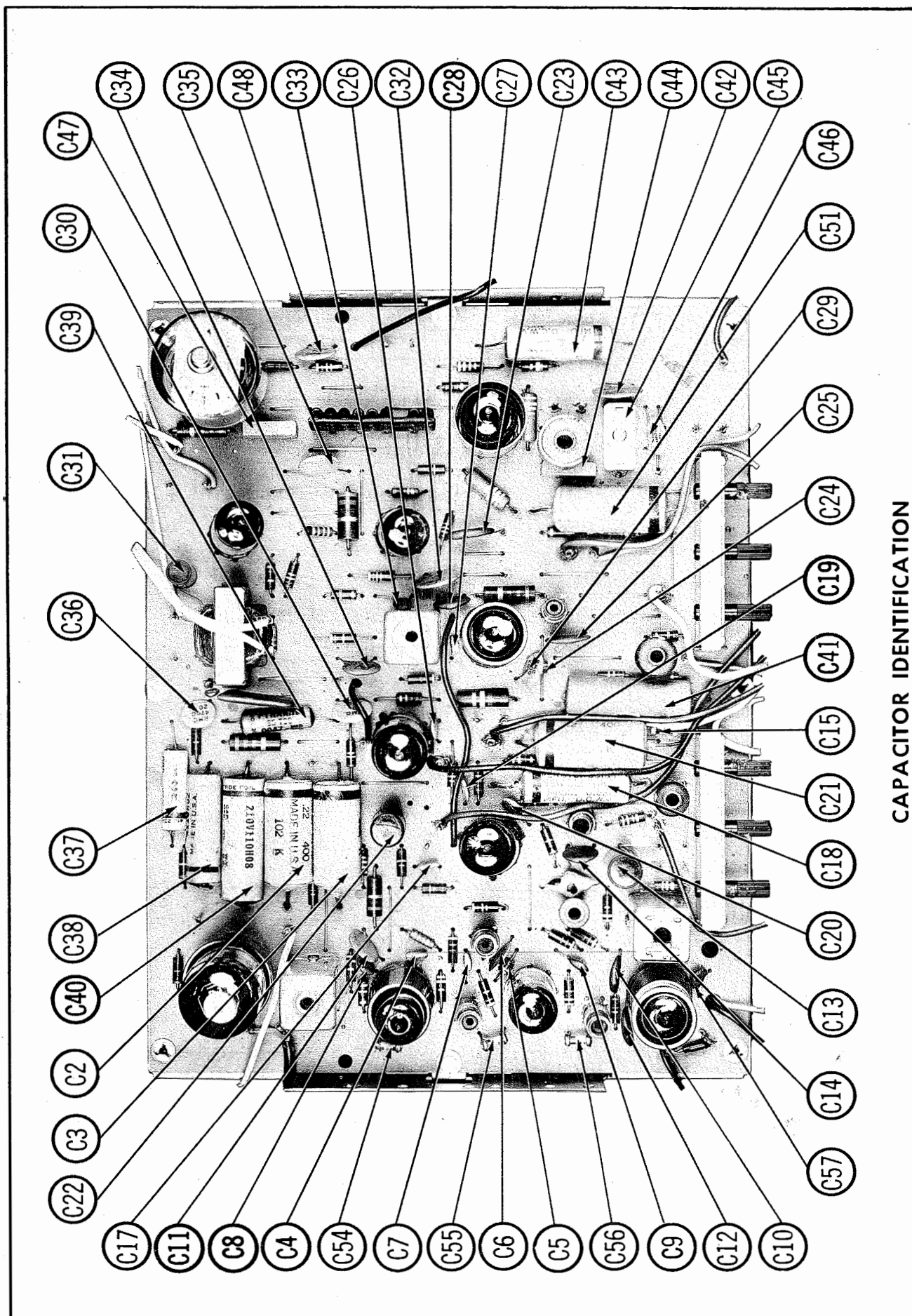
FIG. 3



CHASSIS FRONT VIEW

WESTINGHOUSE MODELS H-17T247, H-17T249, H-17T250, H-17TU247, H-17TU249, H-17TU250 (Ch. V-2365-1, -2, -7, -8)

FOLDER 3



PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	1st. Video IF Amp.	3BZ6		V7	Sync Sep.	3C98	3BY6 *
V2	2nd. Video IF Amp.	3BZ6		V8	Vert. Mult.-Horiz. AFC	6CN7	
V3	3rd. Video IF Amp.	3DK5		V9	Vert. Mult.-Vert. Output	12EN6GT	12W6GT *
V4	Video Output-Video Output	6BH8		V10	Horiz. Mult.	7AU7	8AU7 *
V5	Audio Det.	3BN6		V11	Horiz. Output	12DQ6	
V6	Audio Output	12C5/12CU5		V12	Damper	12D4GT	
				V13	HV Rect.	1X2B	

* Alternate.

PICTURE TUBE

ITEM No.	REPLACEMENT DATA	NOTES
	Westinghouse PART No. GENERAL ELECTRIC PART No. RCA PART No. SYLVANIA PART No.	
V14	17CFP4	① "Silver Screen 85"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA	NOTES
	CAP. VOLT.	Westinghouse PART No. AEROVOX PART No. CORNELL-DUBILIER PART No. MALLORY PART No. PYRAMID PART No. SANGAMO PART No. SPRAGUE PART No.	
C1A	200 175	218V018H02 ① AFH84-01-55 XD0015	
C1B	200 175		
C1C	60 175		
C1D	30 175		TVLS-4450

① Alternate Part #218V018H01.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REPLACEMENT DATA	NOTES
	CAP. VOLT.	Westinghouse PART No. AEROVOX PART No. CENTRALAB PART No. CORNELL-DUBILIER PART No. MALLORY PART No. SPRAGUE PART No.	
C2	.22 400	P488N-22 CUB4P22	
C3	.22 400	P488N-22 CUB4P22	
C4	.800	BPD-0008 L10T8	
C5	2.2	V-8963-2296 NPO-SI 2.2	
C6	.47	215V300H06 NPO-DI 47	
C7	.680	215V116A81 BPD-00068	
C8	.680	215V116A81 BPD-00068	
C9	.470	215V300H07 BPD-00047	
C10	1500	215V300H28 BPD-0015	
C11	4700	BPD-0047 DD-152	
C12	1500	BPD-0015 DD-472	
C13	.047 400	215V300H28 BPD-0015	
C14	.56	P488N-047 DF-503	
C15	.27		
C16	120	215V300H42	
C17	2200	BPD-0022 DD-222	
C18	.1 400	P488N-1 DF-104	
C19	.18		
C20	2200	BPD-0022 DD-222	
C21	.22 400	P488N-22 CUB4P22	
C22	.047 400	P488N-047 DF-503	
C23	4700 1400	HVD15-4700 DD30-472	
C24	6.8	NPO-SI 6.8 TCZ-6R8	
C25	150		
C26	.800	BPD-0008 DD-801	
C27	.10		
C28	4700	BPD-0047 DD-472	
C29	4700	BPD-0047 DD-472	
C30	10000	BPD-01 DD-103	
C31	.0047 800	P688N-0047 DD-472	
C32	10000	BPD-01 DD-103	
C33	.270	BPD-00027 DD-271	
C34	4700	BPD-0047 DD-472	
C35	10000	BPD-01 DD-103	
C36	4700	BPD-0047 DD-472	
C37	.015 400	P488N-015 DD18-153	
C38	.047 800		
C39	.0047 800		
C40	.1 800		
C41	.15 400		
C42	10000		
C43	.1 400		
C44	1000	213V131H02	
C45	19-160	217V501H01	
C46	.88	215V126A80	
C47	390	213V123H01	
C48	10000	215V11A03	
C49	180 4000	215V300H30	
C50	.047 800	P688N-047 DF-503	
C51	.22 400	P488N-22 DD-103	
C52	1500 1400	HVD15-1500 DD30-152	
C53	.033 800	P688N-033 DD-681	
C54	.680	215V116A81 SL-680	
C55	.680	215V116A81 SL-680	
C56	.680	215V116A81 SL-680	
C57	.680	215V116A81 BPD-00068	
C58	.680	215V116A81 BPD-00068	
C59	.1 800	P688N-1 DF-104	
C60	.680 1400	215V206A81 HVD15-680	
C61	1500 1500	215V201A52 HVD15-1500	

CONTROLS

ITEM No.	RATING	REPLACEMENT DATA	INSTALLATION NOTES
	RESISTANCE WATTS	Westinghouse PART No. CENTRALAB PART No. CLAROSTAT PART No. IRC PART No. MALLORY PART No.	
R1A	500K	270V056H01	B-60
R1B	500K		Not Req.
R2A	15K	270V003H06	KB-3 or KR-3
R2B	15K		B-22
R3A	100K	270V019H07	A47-15K-S FS-3
R3B	1.5meg		B11-118 SKI
R3C	500K		
R4A	60K	270V019H08	
R4B	5meg		
R4C	600K		

* Use KR with CRL "red label" controls and KB with "blue label" controls.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	Westinghouse PART No.	NOTES
	OHMS WATT		
R5	100K 5%		
R6	18meg 5%		
R7	3900Ω		
R8	3900Ω		
R9	470Ω		
R10	47Ω		
R11	8200Ω		
R12	3900Ω		
R13	470Ω		
R14	47Ω		
R15	470Ω		
R16	150Ω		
R17	3900Ω 5%		
R18	470K		
R19	1meg		
R20	4700Ω		
R21	880Ω		
R22	2700Ω		
R23	2700Ω		
R24	2700Ω		
R25	150Ω		
R26	22K		
R27	10K		
R28	5600Ω		
R29	100Ω		
R30	220K		
R31	100K		
R32	470Ω		
R33	560K		
R34	12K		
R35	8200Ω		
R36	560Ω		
R37	82Ω		
R38	27K		
R39	47K		
R40	56K		
R41	8800Ω		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA	NOTES
		Westinghouse PART No. Meissner PART No. Merit PART No. Miller PART No. Ram PART No.	
L1A	1st. Video IF	235V003H01	
L2	41.25MC Trap	235V004H01	
L3	2nd. Video IF	230V006H01	
L4	47.25MC Trap	235V004H01	
L5	3rd. Video IF	235V005H02	
L6	4th. Video IF	V-15796-1	
L7	Series Peaking Coil	19-3100	TV-181
L8	Shunt Peaking Coil	19-3250	TV-185
L9	Series Peaking Coil	19-3180	TV-184
L10	Shunt Peaking Coil	19-3500	TV-203
L11	4.5MC Trap	V-15796-1	
L12	Sound IF	V-15796-2	
L13	Quadrature Coil	230V007H03	
L14	RF Choke	230V019H01	
L15	Flt. Choke	230V056H02	

① UHF only.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.	REPLACEMENT DATA	NOTES
	PRI. SEC.	Westinghouse PART No. Meissner PART No. Merit PART No. Miller PART No. Ram PART No. Thordorson PART No.	
L15	100Ω	230V005A01	

FILTER CHOKE

ITEM No.	RATINGS	REPLACEMENT DATA	NOTES
	CURRENT (Measured) DC RES. INDUCTANCE (0 CURRENT 1000 Hz)	Westinghouse PART No. Halldorson PART No. Merit PART No. Ram PART No. Stancor PART No. Thordorson PART No. Triad PART No.	
L16	.280A 19Ω	.43 Hy. 430V032H04 ①	C-24X

① Alternate Part #430V064H01.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA	NOTES
		Westinghouse PART No. Halldorson PART No. Merit PART No. Ram PART No. Rogers PART No. Stancor PART No. Thordorson PART No. Triad PART No.	
T1	Vert. Output	430V053H01	
T2	Yoke-Horiz. (21MH) (90°)-Vert. (38MH) Alt. Yoke Rear Cover & Centering Device	21900 ① 490V001H04 ③ 496V003H09 ③ 781V083H02	
T3	Alt. Rear Cover & Centering Device Yoke Clamp Horiz. Output	DF907 ④ ⑤ Y90F19/43 ④ ⑤ PMC2045 ④ ⑤ DY-16A ④ ⑤ 26S70 ② Y-16 ④ ⑤ V-15996-2	

① Use 5 : 1 turns ratio.

② Drill new mounting hole(s).

③ Includes R55 and R56.

④ Connect same as original.

⑤ Use original rear cover and centering device.

Use original yoke damping network.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA	NOTES
	PRI. SEC.	Westinghouse PART No. Halldorson PART No. Merit PART No. Ram PART No. Stancor PART No. Thordorson PART No. Triad PART No.	
T4	2400Ω 3-4Ω	430V031H01 21101 ① A-3025 ① AU-605 ① A-3332 ① 26S58 ① S-12X ①	① Use original channel frame.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	NOTES
	SIZE FIELD V. C. IMP.	Westinghouse PART No. QUAM PART No.	
SP1	4" PM 3-4Ω	570V039H01 4A07	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Westinghouse PART No.	REPLACEMENT DATA
K1	Vert. Integrator		219V003H01	Centralab Sprague PC-104 V-3
K2	Horiz. AFC Circuit	82mmf, 82mmf, 390mmf, 680mmf, 8200Ω, 12K, 680K, 1meg	219V002H03	
K3	Chassis Isolation	1000mmf @ 1400V, 330K	219V004H03	

RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA	NOTES
	CURRENT (Measured)	Westinghouse PART No. FEDERAL PART No. GENERAL ELECTRIC PART No. INTERNATIONAL PART No. SARKES TARZIAN PART No.	
M1	.310A	295V006H02 ① HF504 ① IN1008 ② SD-94 ① M500 ①	① Silicon Type. ② Germanium Type

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA	NOTES
		Westinghouse PART No. CBS PART No. SYLVANIA PART No.	
M2	K8 *	V-10918-3 1N64 1N295	Video Detector (Pigtail) * Some versions may use 1N64G or 1N295 in this application.

MISCELLANEOUS

ITEM No.	PART NAME	Westinghouse PART No.	NOTES
M3	Tuner	470V057H01	VHF Ch. V-2365-1, -7
	Tuner	470V059H01	VHF Ch. V-2365-1, -7
	Tuner	470V060H01	VHF With UHF Provisions Ch. V-2365-2, -8
M4	Tuner	472V034H01	UHF Ch. V-2365-2, -8
	Printed Board	350V044H01	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	639V004H02	
Mask	610V011H01	Models H17T247, H17TU247
Mask	610V011H02	Models H17T249, 250, H17TU249, 250
Knob	550V032H04	VHF Channel Selector
Knob	550V031H07	VHF Fine Tuning
Knob	550V050H01	UHF Tuning
Knob	550V054H08	Contrast
Knob	550V054H07	On-Off-Volume
Handle	558V159H01	Models H17T249, 250, H17TU249, 250
Handle	558V093H01	Models H17T247, H17TU247

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8738 (Two Conductor)
Power Cord (Interlock Type)	Use BELDEN No. 8530 (Solid) Available in Ten Colors
300Ω Tuner Input Lead	Use BELDEN No. 8524 (Stranded) Available in Ten Colors
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor
	8485 (Round) - 5 Conductor
	8488 (Round) - 8 Conductor