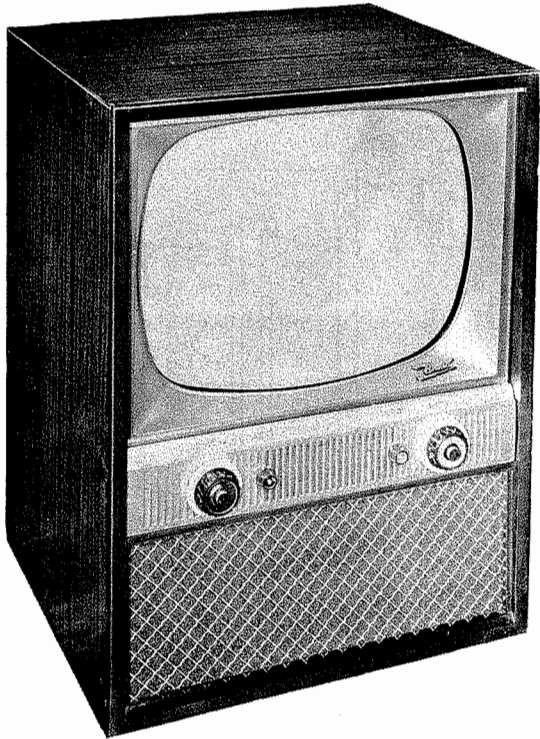




DISASSEMBLY INSTRUCTIONS

- CHASSIS REMOVAL**
- 1. Remove 6 push-on type control knobs from front panel of cabinet.
 - 2. Remove 8 wood screws and 1 metal screw Remove rear cover.
 - 3. Remove 2 wood screws holding antenna terminal bracket.
 - 4. Remove picture tube socket, yoke plug, HV lead and speaker leads.
 - 5. Remove 5 chassis bolts. Remove chassis.
 - 6. Remove 5 speaker nuts. Remove 2 speakers.



MODELS K2250, K2251, T2150, T2151 T20, T20-1

CHASSIS

BENDIX MODELS K2250, K2251, T2150, T2151 (Ch. T20, T20-1)

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

For touch-up adjustment of VHF tuner oscillator adjustments, it is necessary to remove the chassis from the cabinet. (See alignment instructions on pages 6 and 7).

PICTURE TUBE SAFETY GLASS CLEANING

Remove 3 wood screws holding metal molding at top edge of the safety glass. Remove metal molding and safety glass. Use extreme caution when removing safety glass.

SERVICE ADJUSTMENT LOCATION

See tube placement chart on page 5.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Adjustment of the horizontal oscillator is located on the rear apron of the chassis.

Set the horizontal hold control at the center of its range and adjust the horizontal oscillator slug (L29) until the picture synchronizes horizontally.

SOUND IF DETECTOR BUZZ ADJUSTMENT

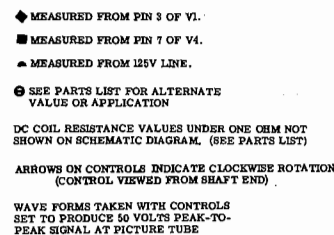
To eliminate sound IF detector buzz, adjust the ratio detector secondary (L28) located on top of the chassis.

FUSES

Two fuses are used. Both for LV power supply protection. (For location, see tube placement chart).

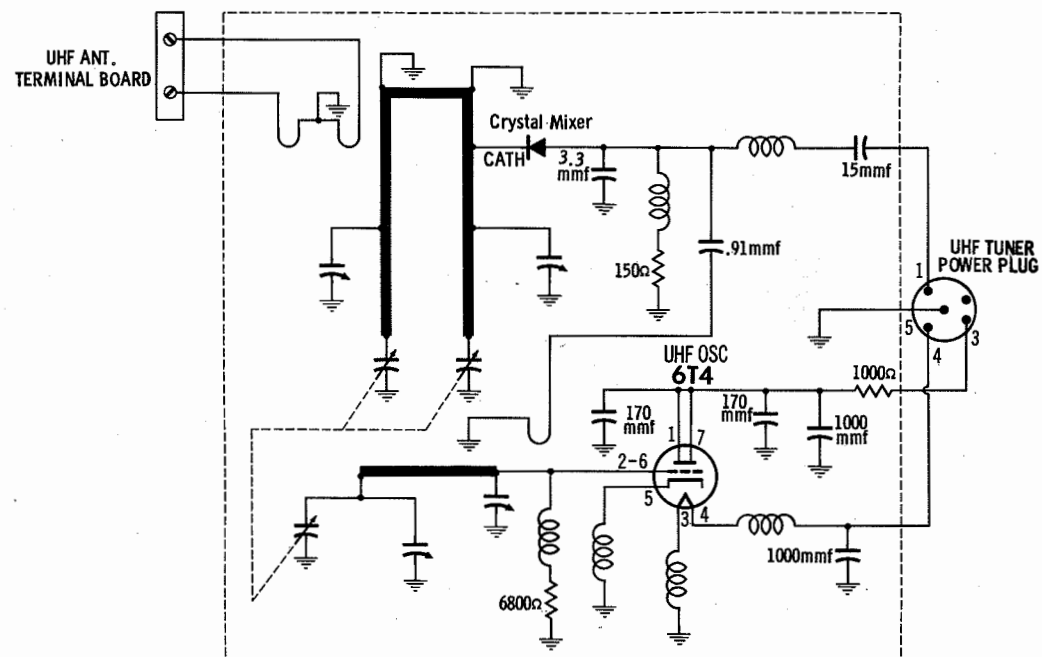
CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube, located flush against the deflection yoke. Rotate the two rings around the neck of the tube until the picture is properly centered.



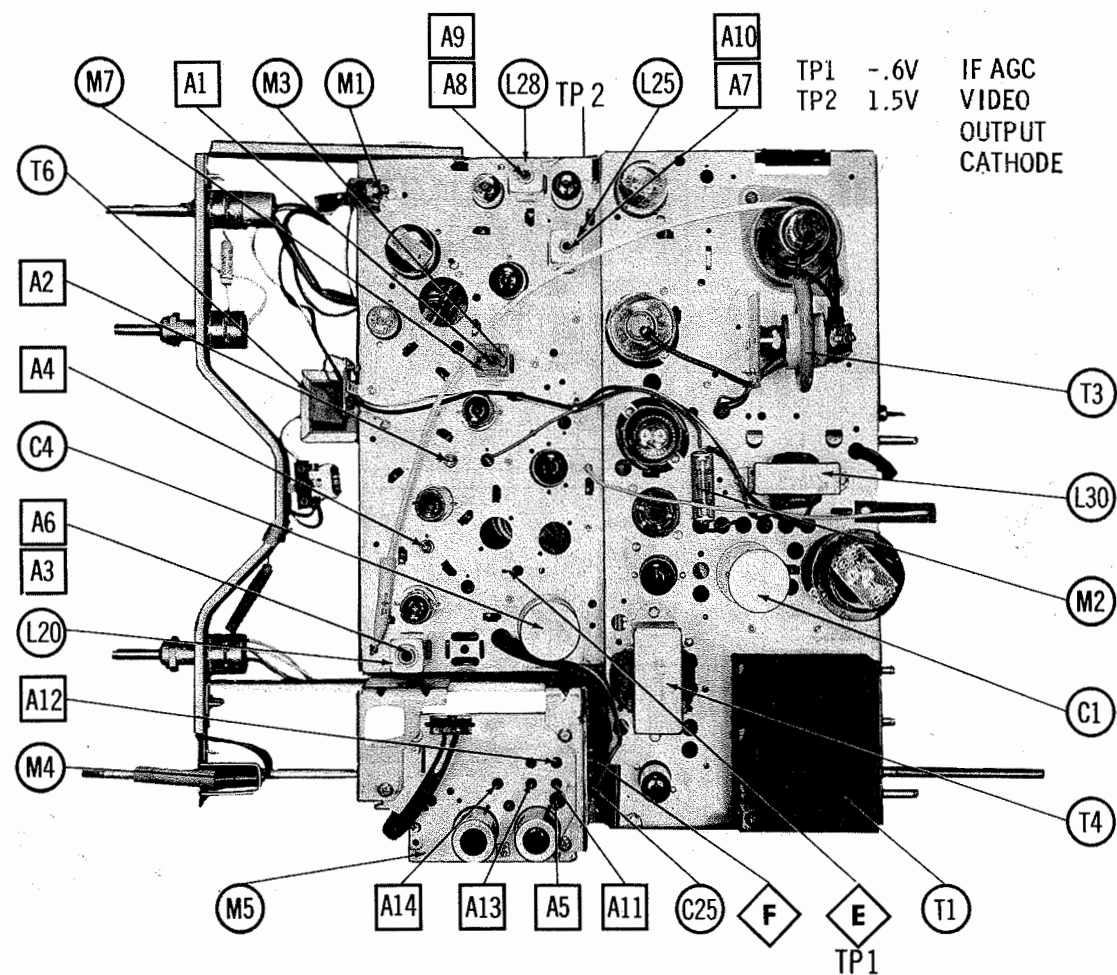
- | | |
|--|--|
| 1. DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1,000 ohms per volt. | 3. Measured values are from socket pin to common negative unless otherwise stated. |
| 2. Pin numbers are counted in a clockwise direction on bottom of socket. | 4. Line voltage maintained at 117 volts for voltage readings. |
| | 5. All controls set for normal operation; no signal applied. |

A PHOTOFACIT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1956

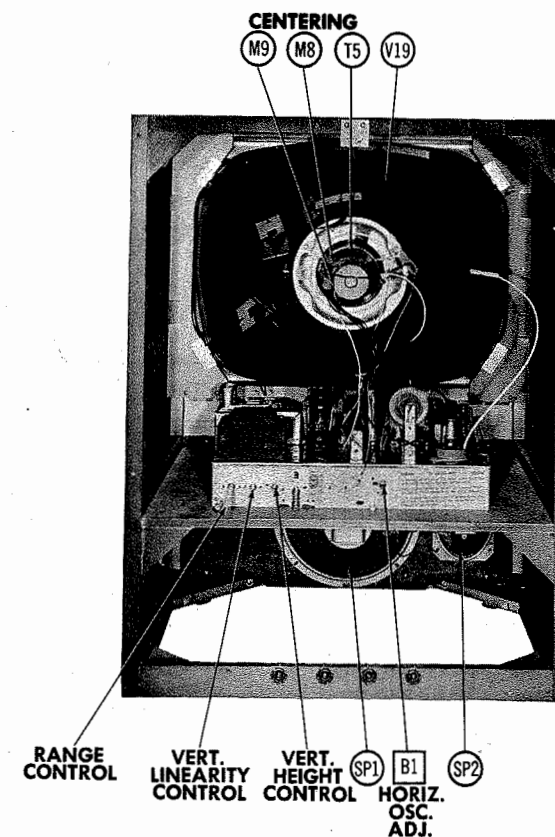


A PHOTOFAC STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1956

UHF TUNER SCHEMATIC



CHASSIS TOP VIEW



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.

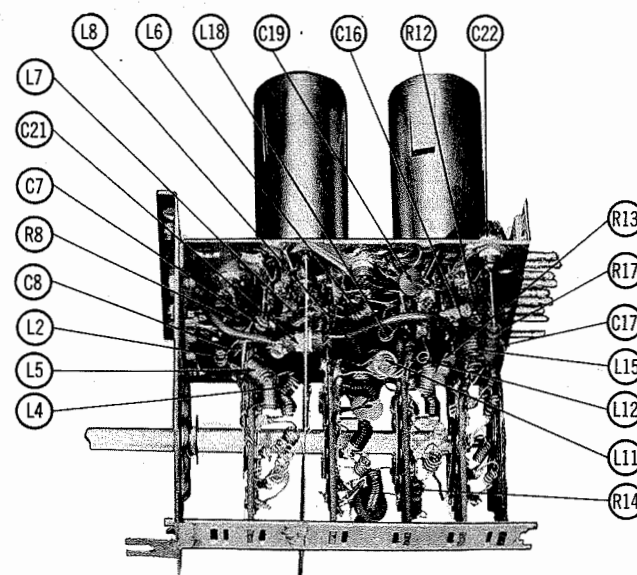
Set the horizontal hold control at the mid-position of its range.

Set the contrast control for normal operation.

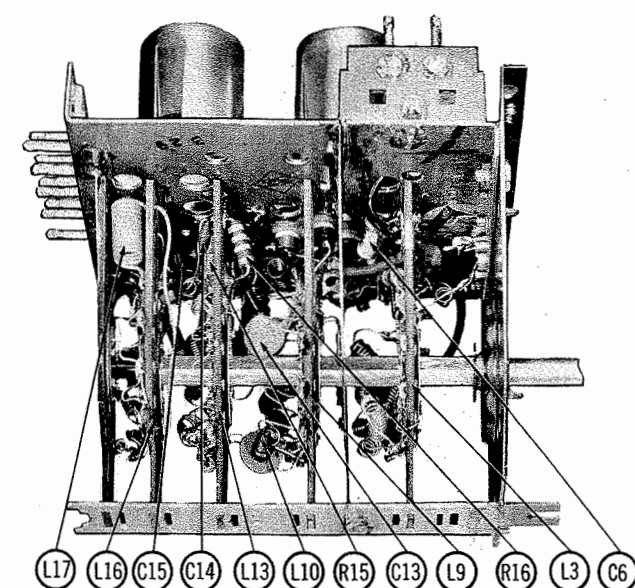
Adjust the horizontal oscillator slug (B1) until the picture synchronizes horizontally.

Turn the horizontal hold control to each extreme end of its rotation to see that the sync range is centered.

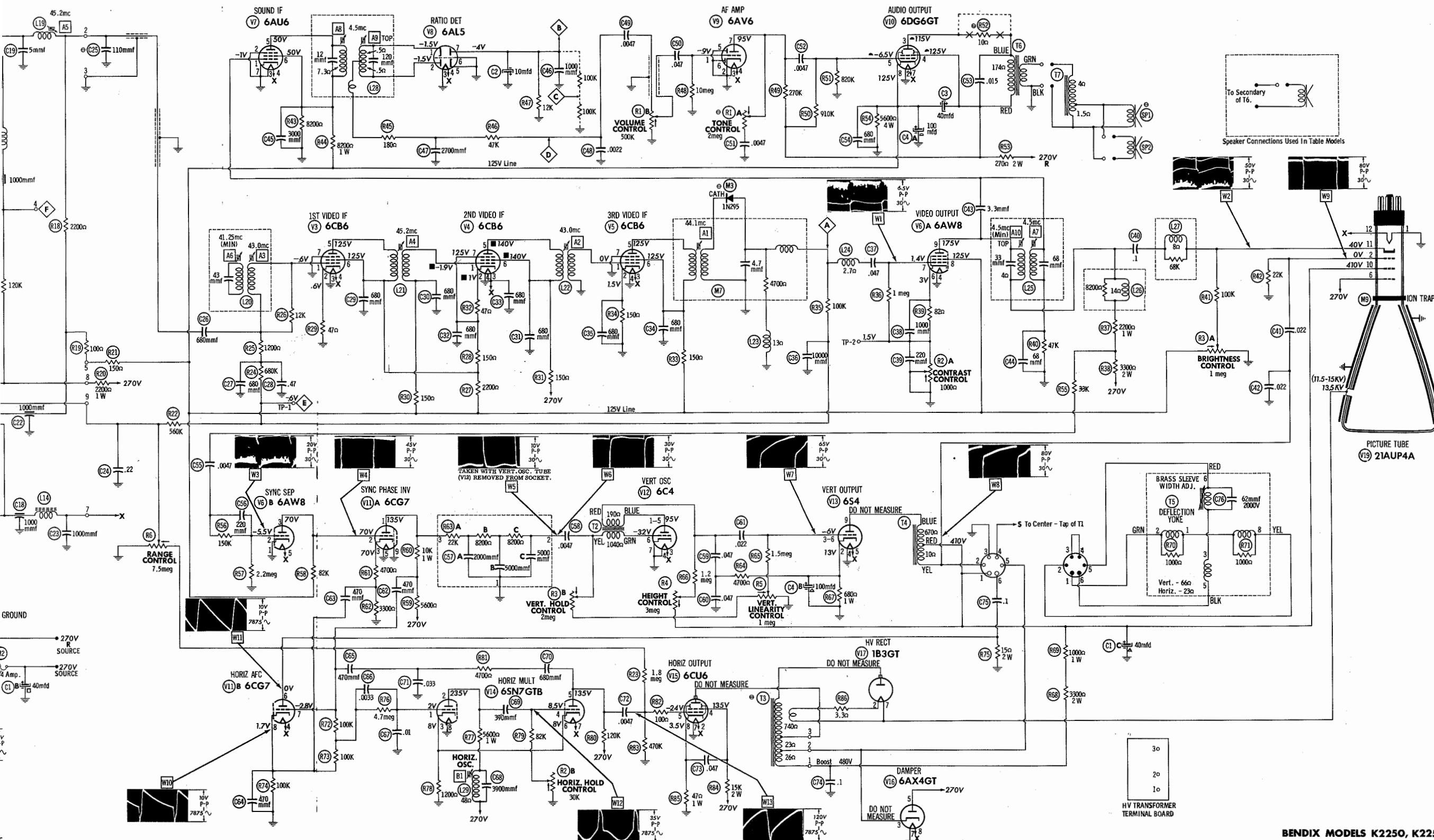
If necessary, a slight readjustment of B1 should give the desired effect.



RF TUNER RIGHT SIDE

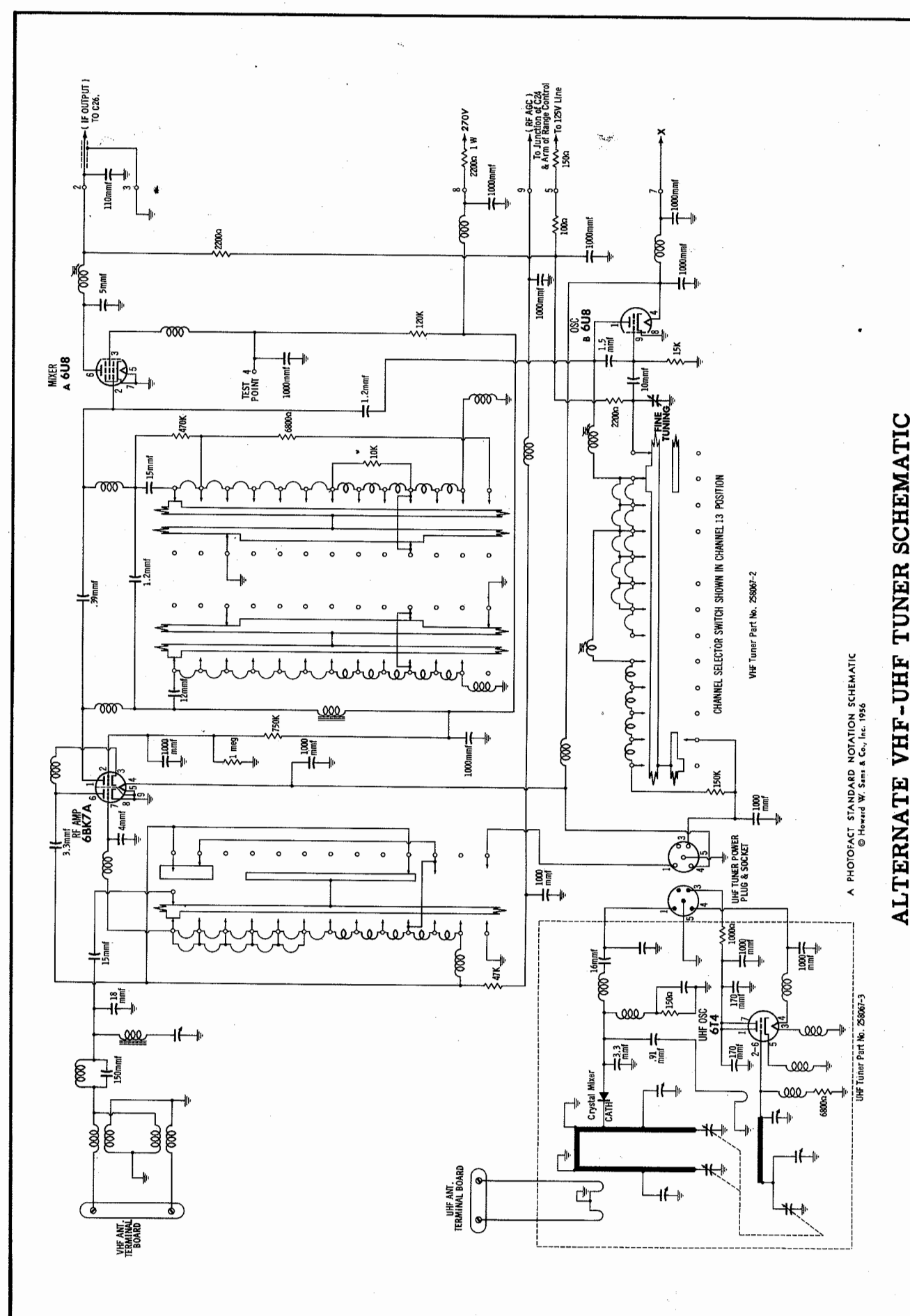
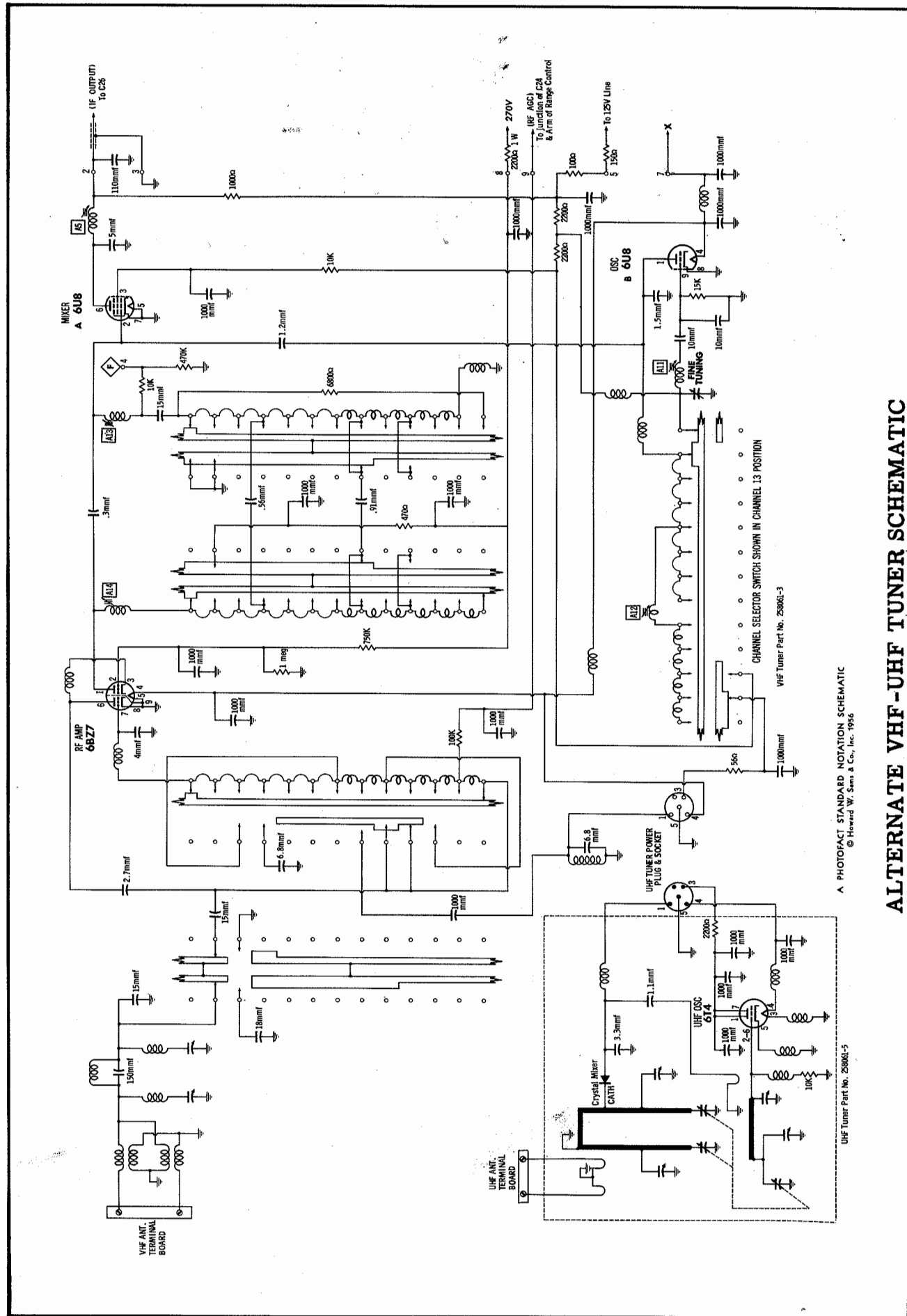


RF TUNER LEFT SIDE



**BENDIX MODELS K2250, K2251,
T2150, T2151 (Ch. T20, T20-1)**

**BENDIX MODELS K2250, K2251,
T2150, T2151 (Ch. T20, T20-1)**



TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	6BK7A		V10	Audio Output	6DG6T	
V2	Mixer-Oscillator	6U8		V11	Sync Phase Inv.-Horiz. AFC	6CG7	
V3	1st. Video IF Amplifier	6CB6		V12	Vert. Oscillator	6C4	
V4	2nd. Video IF Amplifier	6CB6		V13	Vert. Output	6S4	
V5	3rd. Video IF Amplifier	6CB6		V14	Horiz. Mult.	6SN7GTB	
V6	Video Output-Sync Sep.	6AW8		V15	Horiz. Output	6C4	
V7	Sound IF Amplifier	6AU6		V16	Damper	6X4GT	
V8	Ratio Detector	6AL5		V17	RV Rectifier	1B3GT	
V9	AF Amplifier	6AV6		V18	LV Rectifier	5U4G	

PICTURE TUBE

ITEM No.	REPLACEMENT DATA	NOTES
V18	21AUP4A ① 21AUP4A ② 21AUP4A/B ③ 21AUP4	① Aluminized ② Silver screen "85" ③ 21AUP4A/B ④

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA	NOTES
C1A	40 350	287005-15	
C1B	40 350	287005-15	
C1C	40 350	287005-15	
C2	10 50	287024-26	
C3	40 300	287024-28	
C4A	100 200	287016-5	
C4B	100 50	287016-5	

* Non-catalog item.

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
C5	470	287071-224	
C6	10	287071-224	
C7	2.7	287071-224	
C8	18	287071-224	
C9	1000	287071-224	
C10	1000	287071-224	
C11	1000	287071-224	
C12	1000	287071-224	
C13	15	287071-224	
C14	15	287071-224	
C15	1.2	287071-224	
C16	1.5	287071-224	
C17	10	287071-224	
C18	1000	287071-224	
C19	5	287071-224	
C20	1000	287071-224	
C21	1000	287071-224	
C22	1000	287071-224	
C23	1000	287071-224	
C24	.22	287071-224	
C25	.10	287071-224	
C26	.680	287071-224	
C27	.680	287071-224	
C28	.47	287071-224	
C29	.680	287071-224	
C30	.680	287071-224	
C31	.680	287071-224	
C32	.680	287071-224	
C33	.680	287071-224	
C34	.680	287071-224	
C35	.680	287071-224	
C36	.0000	287071-224	
C37	.047	287071-224	
C38	1000	287071-224	
C39	220	287071-224	
C40	.1	287071-224	
C41	.022	287071-224	
C42	.022	287071-224	
C43	.022	287071-224	
C44	.022	287071-224	
C45	.022	287071-224	
C46	.022	287071-224	
C47	.022	287071-224	
C48	.022	287071-224	
C49	.022	287071-224	
C50	.022	287071-224	
C51	.022	287071-224	
C52	.022	287071-224	
C53	.022	287071-224	
C54	.022	287071-224	
C55	.022	287071-224	
C56	.022	287071-224	
C57A	.022	287071-224	
C57B	.022	287071-224	
C57C	.022	287071-224	
C57D	.022	287071-224	
C57E	.022	287071-224	
C57F	.022	287071-224	
C57G	.022	287071-224	
C57H	.022	287071-224	
C57I	.022	287071-224	
C57J	.022	287071-224	
C57K	.022	287071-224	
C57L	.022	287071-224	
C57M	.022	287071-224	
C57N	.022	287071-224	
C57O	.022	287071-224	
C57P	.022	287071-224	
C57Q	.022	287071-224	
C57R	.022	287071-224	
C57S	.022	287071-224	
C57T	.022	287071-224	
C57U	.022	287071-224	
C57V	.022	287071-224	
C57W	.022	287071-224	
C57X	.022	287071-224	
C57Y	.022	287071-224	
C57Z	.022	287071-224	

† Items C57A, C57B, C57C, R63A, R63B and R63C are combined in one unit.

Note 1. Some versions use a 22MMF unit in this application.

PARTS LIST AND DESCRIPTIONS CONTROLS

ITEM No.	RATING	REPLACEMENT DATA	INSTALLATION NOTES
R1A	2Meg	LH262055-1	Tone (Panel)-Note 1
R2A	500K	LH262045-8	Volume & Switch (Rear)
R3A	100K	F1-5	Contrast (Panel)
R4A	1Meg	F1-51	Horiz. Hold (Rear)
R5A	2Meg	F1-51	Brightness (Panel)
R6A	3Meg	F1-51	Vert. Hold (Rear)
R7A	5Meg	F1-51	Height
R8A	10Meg	F1-51	Attach to R4A.
R9A	20Meg	F1-51	Vert. Linearity
R10A	50Meg	F1-51	Attach to R5A.
R11A	100Meg	F1-51	Range
R12A	200Meg	F1-51	Attach to R6A.

Note 1. Some versions will use an alternate control Part No. 282054-1.
 * Concentric Equivalent, K-8 Kit, Base Elements and Shafts; B17-139 & P17-126 (Panel)
 B13-133 & R1-214 (Rear)
 76-1 (Switch)

RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA	NOTES
R7	220K	BTS-5600	
R8	500K	BTS-1Meg	
R9	1Meg	BTS-1Meg	
R10	750K	BTS-750K 5%	
R11	120K	BTS-120K	
R12	15K	BTS-15K	
R13	150K	BTS-150K	
R14	22K	BTS-22K	
R15	6800K	BTS-6800	
R16	470K	BTS-470K	
R17	2200K	BTS-2200	
R18	2200K	BTS-2200	
R19	100K	BTS-100	
R20	2200K	BTS-2200	
R21	150K	BTS-150	
R22	560K	BTS-560K	
R23	1.8Meg	BTS-1.8Meg	
R24	680K	BTS-680K	
R25	1200K	BTS-1200	
R26	12K 5%	BTS-12K	
R27	2200K	BTS-2200	
R28	150K	BTS-150	
R29	47K	BTS-47K	
R30	150K	BTS-150	
R31	150K	BTS-150	
R32	47K	BTS-47K	
R33	150K	BTS-150	
R34	150K	BTS-150	
R35	100K	BTS-100K	
R36	1Meg	BTS-1Meg	
R37	2200K	BTS-2200	
R38	3300K	BTS-3300	
R39	82K	BTS-82K	
R40	47K	BTS-47K	
R41	100K	BTS-100K	
R42	22K	BTS-22K	
R43	8200K	BTS-8200	
R44	8200K	BTS-8200	
R45	180K	BTS-180	
R46	47K	BTS-47K	
R47	12K	BTS-12K	
R48	10Meg	BTS-10Meg	

Note 1. Not used in some versions.
 † Items R63A, R63B, R63C, C57A, C57B, C57C are combined in one unit.

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA
T1	117VAC 560VCT 5V 6.3V 1.46A 170A 3A 9.5A	285109-3

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA
T2	Vert. Osc. Trans.	285094-2 B8702 A-3003 208T1 ① V405 A-8125 26A03 A-97X D-48 * ①
T3	Horiz. Output Trans.	285112-1 FB460 * ① HVO-38 * 230T1 * ① X080 * ① A-8254 * ① FLY-75 * ①
T4	Vert. Output Trans.	285110-1 Z1804 A-3037 222T1 V313 A-8123 26S52 28S52 A-102X Y-22-1 ④
T5A	Yoke-Horiz. (16.5ME)	285098-5 ③ DF605 ④ 222D1 ④ Y70F17 ④ Y-9 ④ Y-9 ④
T5B	Vert. (51ME)	285098-5 ③ DF605 ④ 222D1 ④ Y70F17 ④ Y-9 ④ Y-9 ④

- ① Drill new mounting hole(s).
 ② Alternate Bendix part number.
 ③ Includes plug, rear cover and centering device, capacitor C76, resistors R70 and R71.
 ④ Use original rear cover and centering device.
 ⑤ Connect horizontal damping network across terminals #3 and #7. Use original if necessary.
 ⑥ Connect horizontal yoke terminal #3 to yoke plug pin #5, horizontal yoke terminal #1 to plug pin #6.
 ⑦ Remove capacitor from terminals #1 and #2. Use original horizontal damping network if necessary.

* HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

ORIGINAL TERMINAL CONNECTIONS	Holdorson Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Ram Replacement Connections	Stancor Replacement Connections	Thordorson Replacement Connections	Triad Replacement Connections
3	5	5	9	9	5	5	5
2	4	4	5	5	4	4	8
1	3	3	1	1	3	3	2

⑧ Jumper terminals #6 and #7.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA	NOTES
T6	2K 3-4K	BENDIX PART No. 265108-1 Holdorson PART No. Z1001 Merit PART No. A2928 Stancor PART No. A3878 Thordorson PART No. 24850 Triad PART No. S-1X	

TRANSFORMER (IMPEDANCE MATCHING)

ITEM No.	IMPEDANCE	REPLACEMENT DATA	NOTES
T7	4K 1.5K	BENDIX PART No. 265029-1 Holdorson PART No. 265030-2 Merit PART No. 10A31 Stancor PART No. 22781 Thordorson PART No. 22781 Triad PART No. 22781	Part of Speaker 265029-1

SPEAKER

ITEM No.	RATINGS	REPLACEMENT DATA	NOTES
SPI	10" PM 3-4K	BENDIX PART No. 265029-1 ① Holdorson PART No. 265030-2 Merit PART No. 10A31 Stancor PART No. 22781 Thordorson PART No. 22781 Triad PART No. 22781	① Used in Models K2250, K2250U, K2251, K2251U.

COILS (RF-IF)

ITEM No.	USE	DC RES.	REPLACEMENT DATA	NOTES
L1	VHF Ant. Trans.	10 00CT	BENDIX PART No. 259157-3 Holdorson PART No. 259144-1 Merit PART No. 259145-2 Stancor PART No. 17-4523 Thordorson PART No. 17-4522 Triad PART No. TV-130	
L2	VHF Ant. Coll.	0 0		
L3	VHF Ant. Colls	0 0		
L4	UHF IF Coll	0 0		
L5	RF Coll	0 0		
L6	File. Choke	0 0		
L7	Neut. Coll	0 0		
L8	VHF RF Coll	0 0		
L9	VHF RF Colls	0 0		
L10	VHF RF Trans.	0 0		
L11	UHF IF Trans.	0 0		
L12	VHF Mixer Grid Coll	0 0		
L13	VHF Mixer Grid Colls	0 0		
L14	File. Choke	0 0		
L15	VHF Osc. Coll	0 0		
L16	VHF Osc. Colls	0 0		
L17	VHF Osc. Coll	0 0		
L18	RF Coll	0 0		
L19	Conv. Plate	2 20		
L20	1st Video IF	1 10		
L21	2nd Video IF	1 10		
L22	3rd Video IF	1 10		
L23	Shunt Peak-ing Coll	13 0		
L24	Series Peak-ing Coll	2.7 0		
L25A	4.5MC Trap	4 40		
L26	Sound IF Shunt Peak-ing Coll	140 0		
L27	Series Peak-ing Coll	8 0		
L28	Ratio Det.	7.3 0 10CT		

* Parallel with 8.2K resistor.

■ Parallel with 88K resistor.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.	REPLACEMENT DATA	NOTES
L29	48 0	BENDIX PART No. 259121-1 Holdorson PART No. 19-1578 Merit PART No. TV-163 Stancor PART No. 6210 Thordorson PART No. HS-5	

FILTER CHOKE

ITEM No.	RATINGS	REPLACEMENT DATA
L30	TOTAL DIRECT CURRENT 1.70A D.C. RESISTANCE 55 0 INDUCTANCE (10 CURRENT 1000 1.17HY	BENDIX PART No. 265093-3 Holdorson PART No. C5040 Merit PART No. C2994 Stancor PART No. C2325 ① Thordorson PART No. 26C43 ① Triad PART No. C-21X ①

① Drill one new mounting hole.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA
M1	N	2A	BENDIX PART No. 266266-68 Holdorson PART No. 333002 Merit PART No. 346017 Stancor PART No. N2 Thordorson PART No. HN 1 3/4-2 1/2
M2	3AG	125V 1/4A 250V	BENDIX PART No. 266169-251 Holdorson PART No. 312.250 (3AG 1/4A) Merit PART No. 357001 Stancor PART No. AGC 1/4 Thordorson PART No. 4405

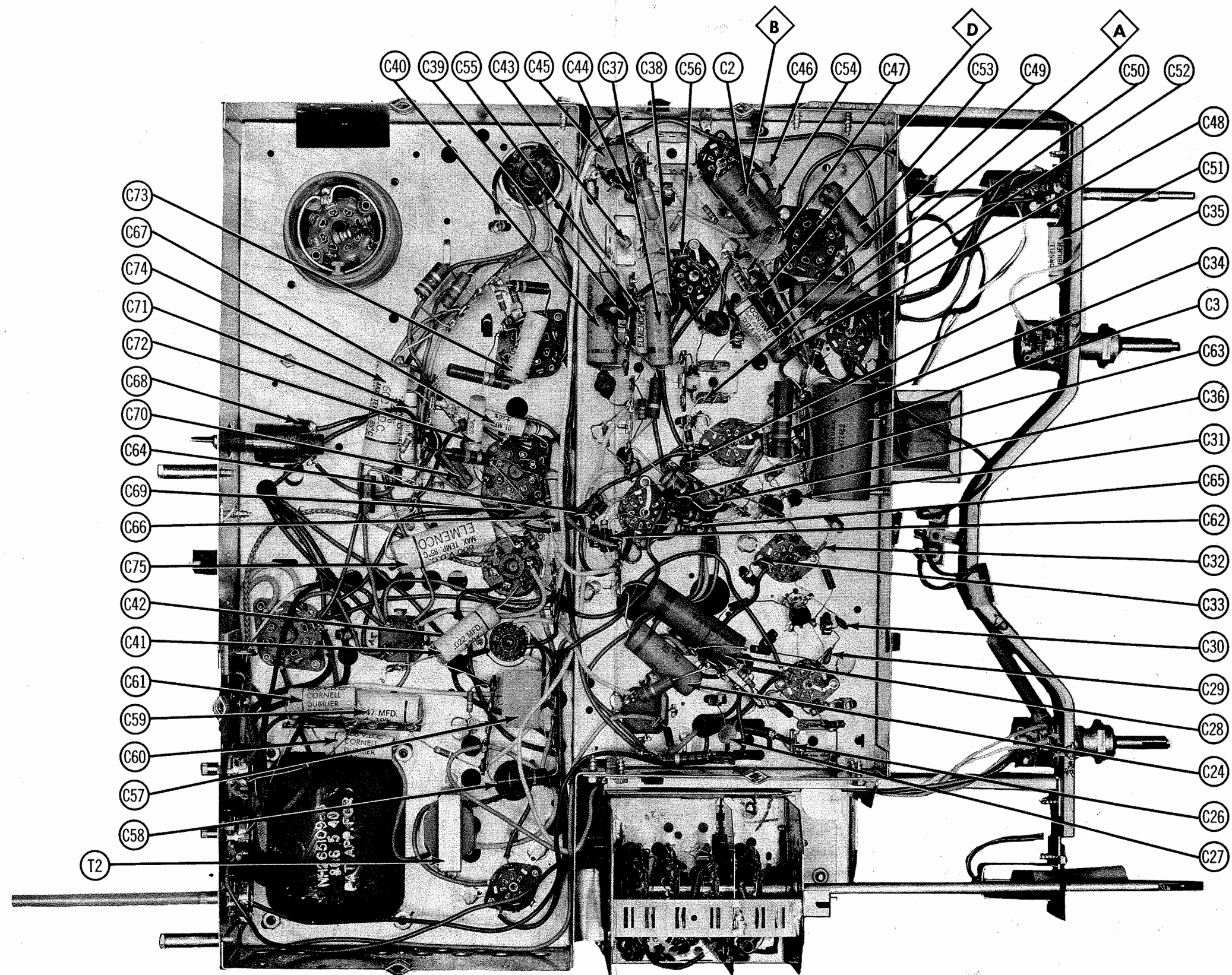
CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA	NOTES
M3	1N295 *	BENDIX PART No. 250801-2 Holdorson PART No. 1N80 Merit PART No. Video Det. (C11p 1n)	

* Some versions may use crystal diode type CK706A in this application.

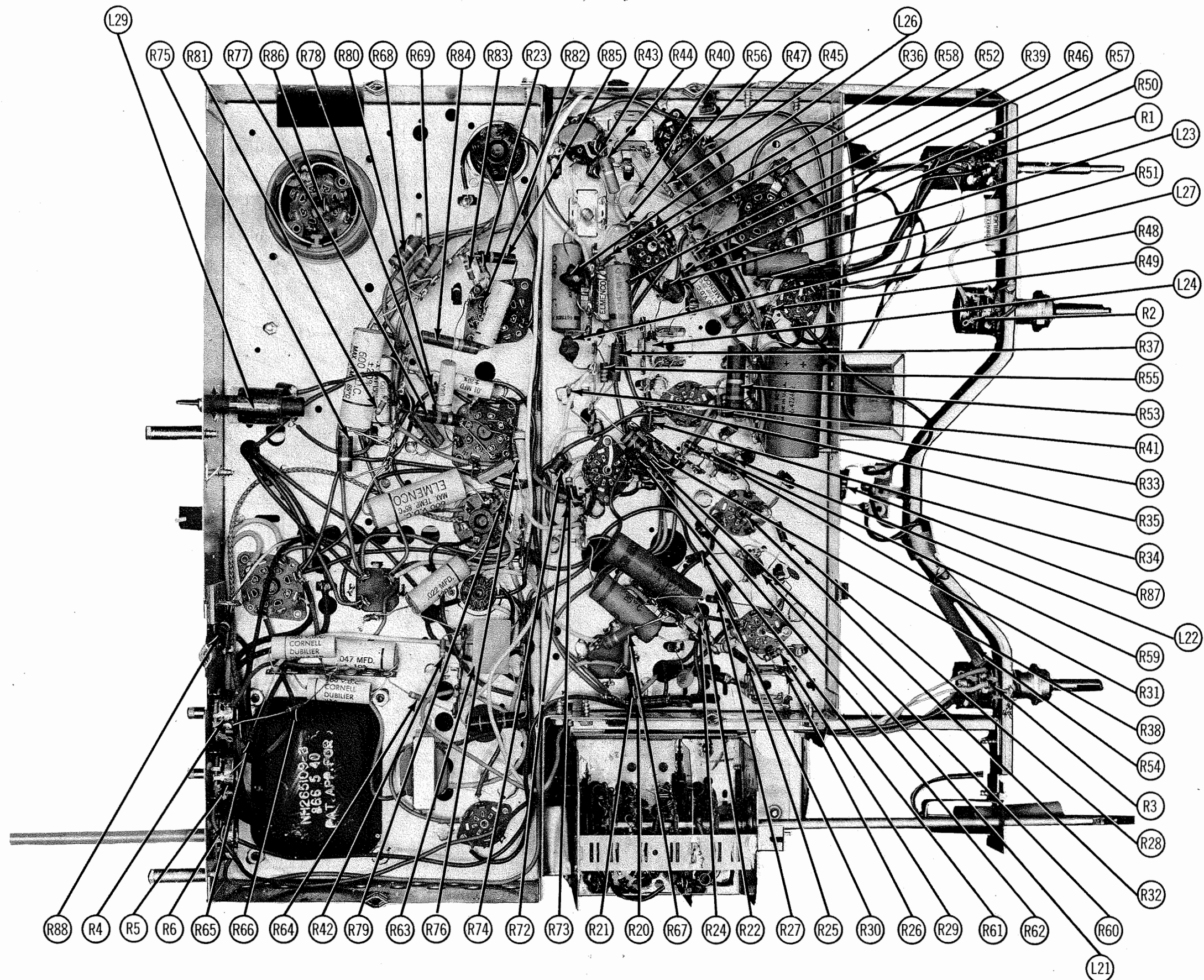
MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M4	Dial Light		#47 VHF -Chassis T20, T20-L. Not used in some versions. VHF -Chassis T20, T20-L. Not used in some versions. VHF -Chassis T20, T20-L. Not used in some versions. UHF -Chassis T20-L only. Not used in some versions. UHF -Chassis T20-L only. Not used in some versions. UHF -Chassis T20-L only. Not used in some versions. Includes M3, Colls, Capacitor, & Resistor Part of Deflection Yoke (T5) Rear Cover
M5	Tuner	258067-5	
	Tuner	258067-2	
	Tuner	258061-3	
M6	Tuner	258067- 6	
	Tuner	258067-3	
	Tuner	258061-5	
	Tuner	259166-2	
M7	Video Det. Assy.	259166-2	
M8	Centering Device		
M9	Ion Trap	274197-13	UHF -Models T2150U, T215IU, K2250U, K225IU
	Dial	269114-1	
	Safety Glass	277609-13	
	Mask	269136-1	



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

BENDIX MODELS K2250, K2251,
T2150, T2151 (Ch. T20, T20-1)



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

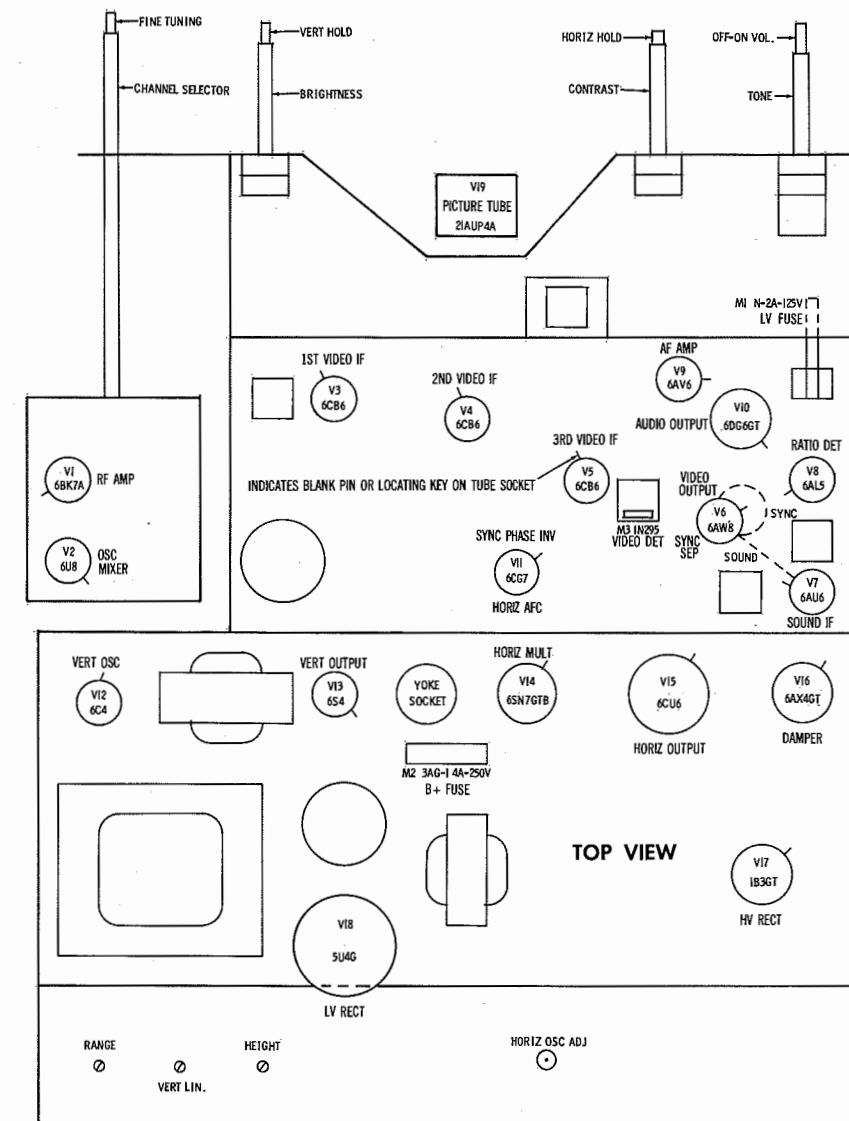
BENDIX MODELS K2250, K2251,
T2150, T2151 (Ch. T20, T20-1)

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BK7A	† 2.2K	400K	1NF.	.1Ω	0Ω	1NF.	5.5K	0Ω	0Ω
V2	6U8	■ 2.5K	470K	120K	.1Ω	0Ω	2.5K	0Ω	0Ω	15K
V3	6CB6	700K	47Ω	0Ω	.1Ω	■ 2.2K	■ 2.2K	0Ω		
V4	6CB6	■ 150Ω	■ 47Ω	.1Ω	0Ω	† 200Ω	† 200Ω	■ 2.4K		
V5	6CB6	.1Ω	150Ω	.1Ω	0Ω	■ 150Ω	■ 150Ω	0Ω		
V6	6AW8	0Ω	2.2meg	82K	0Ω	.1Ω	150Ω	1meg	4K	† 5.5K
V7	6AU6	47K	0Ω	0Ω	.1Ω	■ 5K	■ 5K	0Ω		
V8	6AL5	1NF.	1NF.	0Ω	.1Ω	0Ω	0Ω	12K		
V9	6AV6	10meg	0Ω	0Ω	.1Ω	0Ω	0Ω	† 270K		
V10	6DG6GT	TP	0Ω	† 500Ω	† 325Ω	400K	NC	.1Ω	4K	
V11	6CG7	† 15K	■ 42K	8K	.1Ω	0Ω	15Ω	300K	100K	0Ω
V12	6C4	■ 2.5meg	NC	.1Ω	0Ω	■ 2.5meg	2meg	0Ω		
V13	6S4	NC	680Ω	2meg	0Ω	.1Ω	2meg	NC	NC	■ 5K
V14	6SN7GTB	5meg	† 5.6K	1.2K	90K	† 120K	1.2K	.1Ω	0Ω	
V15	6CU6	NC	.1Ω	NC	† 15K	400K	TP	0Ω	47Ω	■ 23Ω
V16	6AX4GT	NC	NC	300K	NC	† 55Ω	NC	0Ω	.1Ω	
V17	1B3GT	PINS	1-8	HAVE	INF.	RESISTANCE				TOP CAP 763Ω
V18	5U4G	NC	100K	TP	42Ω	NC	41Ω	NC	100K	
V19	21AUP4A	0Ω	22K	PIN 6 † 55Ω	PIN 10 ■ 4.3K	PIN 11 ■ 200K	PIN 12 .1Ω			

† MEASURED FROM PIN 2 OF V18.
 ■ MEASURED FROM 125V LINE.
 ▲ MEASURED FROM PIN 3 OF V16.
 TP TIE POINT.
 NC NO CONNECTION.

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE

No raster, no sound - V18, Fuses (M1 & M2)

LOSS OF PICTURE OR SOUND

No pic, no sound, has raster - V2, V3, V4, V5, V8, V10

No pic, no sound, has snow - V1, V2, V3

No pic, has sound, has raster - V8, V19

Has pic, no sound - V7, V8, V9, V10

SYNC FAILURE

No vert. sync - V11, V12

No horiz. sync - V11, V14

No vert. or horiz. sync - V8, V11

SWEEP FAILURE

No raster, has sound - V14, V15, V16, V17, V19

No vertical deflection - V12, V13

Poor vert. linearity or foldover - V12, V13

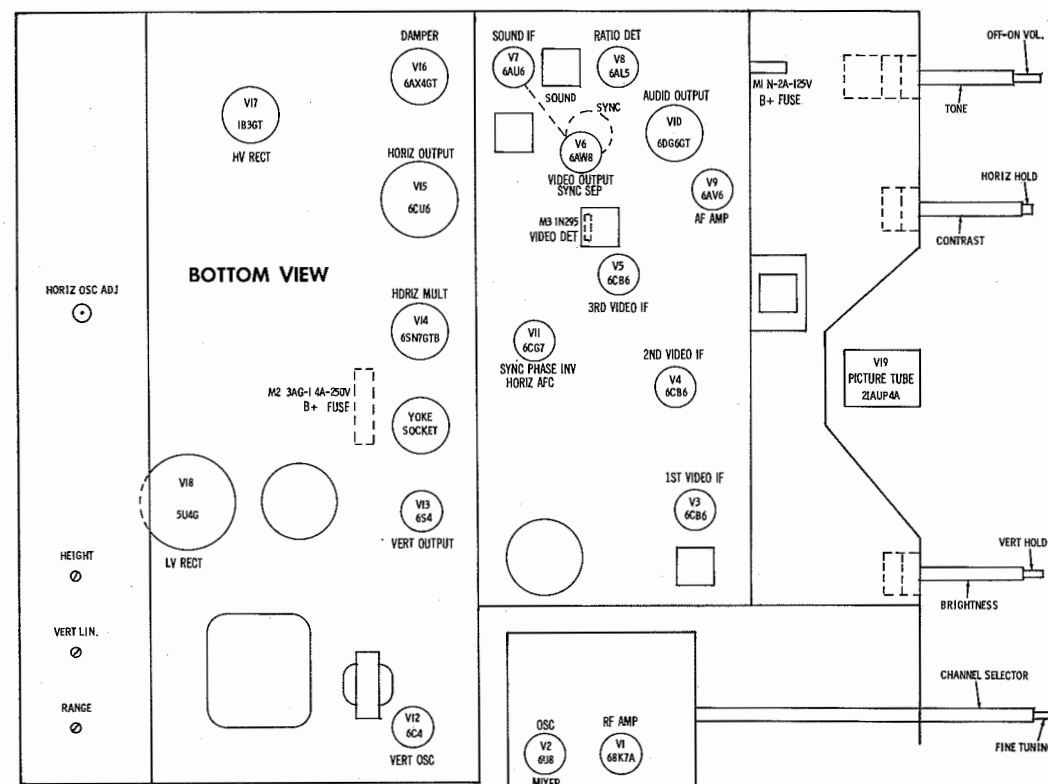
Poor horiz. linearity or foldover - V14, V15, V16

Narrow picture - V14, V15, V16, V17, V18

Vert. off freq. - V11, V12

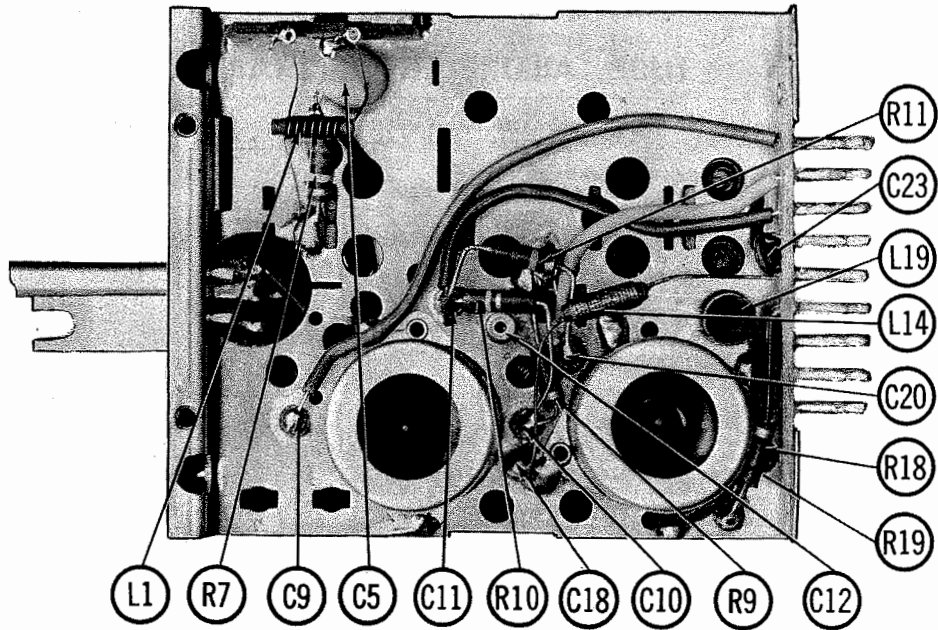
Horiz. off freq. - V11, V14

TUBE PLACEMENT CHART



ALIGNMENT INSTRUCTIONS

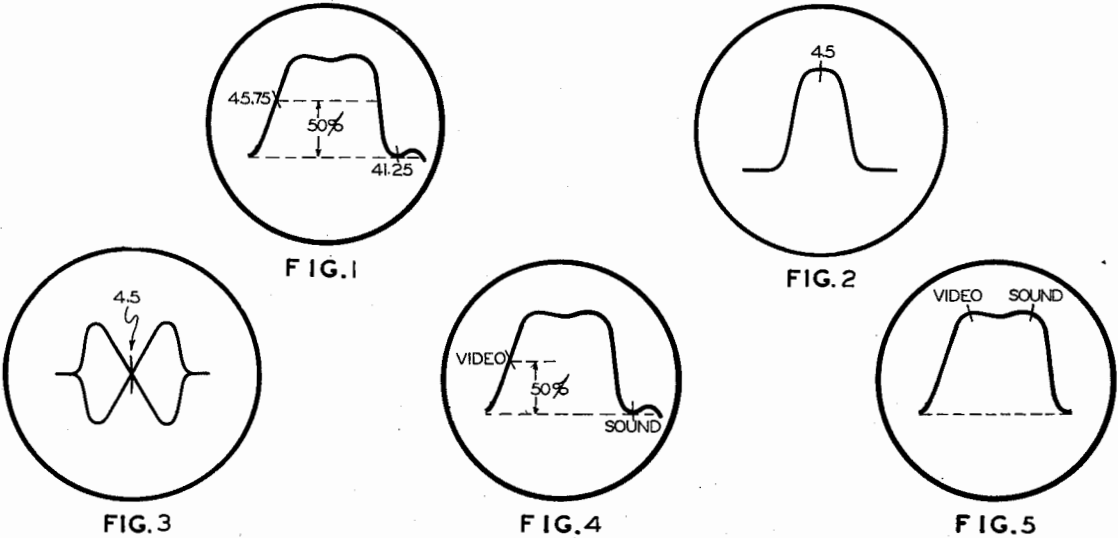
ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
The high voltage lead should be securely taped away from the chassis. Do not remove the horizontal multivibrator tube to disable the high voltage.							
VIDEO IF ALIGNMENT							
Connect the negative lead of a 3 volt bias supply to test point Ⓢ. Connect positive lead to chassis.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS	
Direct	High side to ungrounded tube shield floating over converter tube (V2). Low side to chassis.	44.1MC (Unmod.)	Any non-interfering channel	DC probe to point Ⓢ. Low side to chassis.	A1	Adjust for maximum deflection.	
"	"	43.0MC	"	"	A2, A3	"	
"	"	45.2MC	"	"	A4, A5	"	
"	"	41.25MC	"	"	A6	Increase signal generator output. Adjust A6 for MINIMUM deflection.	
OVERALL VIDEO IF RESPONSE CHECK							
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Direct	High side to an ungrounded tube shield floating over converter tube (V2). Low side to chassis.	43MC (10MC Swp.)	41.25MC 45.75MC	Any non-interfering channel	Vert. amp. thru 47K to point Ⓢ. Low side to chassis.		Check for response similar to Fig. 1. If necessary, retouch A1 thru A5 for desired response.
SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM							
Connect two matched 100K Ω ($\pm 5\%$) resistors in series from point Ⓢ to chassis. The junction of these two resistors is alignment point Ⓢ as shown on the schematic. Increase the bias as used under "Video IF Alignment" to -9 volts.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS	
Direct	High side to point Ⓢ. Low side to chassis.	4.5MC (Unmod.)	Any non-interfering channel	DC probe to point Ⓢ. Common to chassis.	A7, A8	Adjust for maximum deflection.	
"	"	"	"	DC probe to point Ⓢ. Common to point Ⓢ.	A9	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.	
SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE							
Increase the bias as used under "Video IF Alignment" to -9 volts. Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Direct	High side to point Ⓢ. Low side to chassis.	4.5MC (450KC Swp.)	4.5MC	Any non-interfering channel	Vert. amp. to point Ⓢ. Low side to chassis.	A7, A8	Disconnect stabilizing capacitor C2. Adjust for curve of maximum amplitude and symmetry similar to Fig. 2.
"	"	"	"	"	Vert. amp. to point Ⓢ. Low side to chassis.	A9	Reconnect C2. Adjust so that 4.5MC occurs at center of crossover lines as in Fig. 3. Retouch A8 SLIGHTLY for maximum amplitude and straightness of crossover lines.
4.5MC TRAP ALIGNMENT							
Tune in a TV station and examine the picture for 4.5MC beat interference. If necessary, adjust A10 for MINIMUM interference.							



RF TUNER TOP VIEW

ALIGNMENT INSTRUCTIONS (cont)

OSCILLATOR ALIGNMENT							
Connect 3 volt bias as under "Video IF Alignment". 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. Set the fine tuning control to the mid-position of its range.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Two 120Ω Carbon Resistors	Across antenna leads with 120Ω in each lead.	213MC (10MC Swp.)	211. 25MC 215. 75MC	13	Vert. amp. thru 47K to point Ⓢ. Low side to chassis.	All	Adjust to place sound marker in trap notch as in Fig. 4. Video should be at 50%.
"	"	207MC (10MC Swp.) 201MC (10MC Swp.) 195MC (10MC Swp.) 189MC (10MC Swp.) 183MC (10MC Swp.) 177MC (10MC Swp.)	205. 25MC 209. 75MC 199. 25MC 203. 75MC 193. 25MC 197. 75MC 187. 25MC 191. 75MC 181. 25MC 185. 75MC 175. 25MC 179. 75MC	12 11 10 9 8 7	"		Check high band channels for sound marker placement as in Fig. 4. If necessary, make SLIGHT compromise adjustment of All for best marker placement on all high band channels.
"	"	85MC (10MC Swp.)	83. 25MC 87. 75MC	6	"	A12	Adjust place sound marker in trap notch as in Fig. 4. Video Marker should be at 50%.
"	"	79MC (10MC Swp.) 69MC (10MC Swp.) 63MC (10MC Swp.) 57MC (10MC Swp.)	77. 25MC 81. 75MC 87. 25MC 71. 75MC 61. 25MC 65. 75MC 55. 25MC 59. 75MC	5 4 3 2	"		Check low band channels for sound marker placement as in Fig. 4. If necessary, make SLIGHT compromise adjustment of A12 for best marker placement on all low band channels.
RF AND MIXER ALIGNMENT FOR TUNERS #258061-3 AND 5							
Connect 3 volt bias as under "Video IF Alignment". 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.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp.)	211. 25MC 215. 75MC	13	Vert. amp. thru 10K to point Ⓢ. Low side to chassis.	A13, A14	Adjust for maximum response similar to Fig. 5.
"	"	207MC (10MC Swp.) 201MC (10MC Swp.) 195MC (10MC Swp.) 189MC (10MC Swp.) 183MC (10MC Swp.) 177MC (10MC Swp.) 85MC (10MC Swp.) 79MC (10MC Swp.) 69MC (10MC Swp.) 63MC (10MC Swp.) 57MC (10MC Swp.)	205. 25MC 209. 75MC 199. 25MC 203. 75MC 193. 25MC 197. 75MC 187. 25MC 191. 75MC 181. 25MC 185. 75MC 175. 25MC 179. 75MC 83. 25MC 87. 75MC 77. 25MC 81. 75MC 87. 25MC 71. 75MC 61. 25MC 65. 75MC 55. 25MC 59. 75MC	12 11 10 9 8 7 6 5 4 3 2	"		Check for response similar to Fig. 5. If markers fall below 70% on any channel, make compromise adjustment of A13 and A14 with channel switch set to that channel. Then recheck all other channels to make sure that they have not been seriously affected.
RF AND MIXER ALIGNMENT FOR TUNER #258067-8							
This portion of the receiver have been properly aligned at the factory and are very stable. Alignment of this portion should not be required in the field.							
UHF TUNER ALIGNMENT							
The UHF portion of this receiver has been properly aligned at the factory and is very stable. Alignment of this portion of the set is not recommended in the field.							



BENDIX MODELS K2250, K2251, T2150, T2151 (Ch. 120, 120-1)