

ZENITH MODEL H3477R

TRADE NAME	Zenith	MODEL	TV CHASSIS	RADIO CHASSIS
		H2437E, H2437R, H2438R, H2439R, H2449E.....	24H20	
		H2445R, H2447R	24H21	
		H3267R	24H20	.8H20
		H3467R, H3475R	24H20	.10H20
		H3477R, H3478E	24H21	.10H20
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago, Illinois			
TYPE SET	TV-AM-FM-Phono Combination Receiver (Some Models "TV Only")			
TUBES	Twenty Four (TV Chassis) Ten (Radio Chassis 10H20) Eight (Radio Chassis 8H20)			
POWER SUPPLY	110-120 Volts AC-60 Cycle			
RATINGS	2.18 Amp. at 117 Volts AC (TV Operation), .93 Amp. at 117 Volts AC (Radio Operation)			
TUNING RANGES	(TV) Channels 2 thru 13, (FM) 88-108MC, (AM) 540-1620KC			

INDEX

Alignment Instructions	6, 7
Dial Cord Stringing	10
Disassembly Instructions	11
Fine Tuning Drive Cord Stringing	10
Horiz. Sweep Circuit Adjustment	11
Parts List and Description	15 thru 19
Photographs	
Cabinet-Rear View	11
Capacitor Identification (Radio)	14
Capacitor Identification (TV)	4, 9
Chassis-Top View (Radio)	13

Photographs (continued)	
Chassis-Top View (TV)	3
Power Supply Chassis	22
RF Tuner	10
Resistor Identification (Radio)	20
Resistor Identification (TV)	12, 21
Schematic (Radio)	23, 24
Schematic (TV)	2
Tube Placement Chart (TV)	5
Voltage and Resistance Measurements (Radio)	23, 24
Voltage and Resistance Measurements (TV)	8

FOR SERVICE INFORMATION ON RADIO CHASSIS 8H20 SEE PHOTOFACT SET #114 FOLDER #12
RECORD CHANGER UNIT-ZENITH MODEL S14029

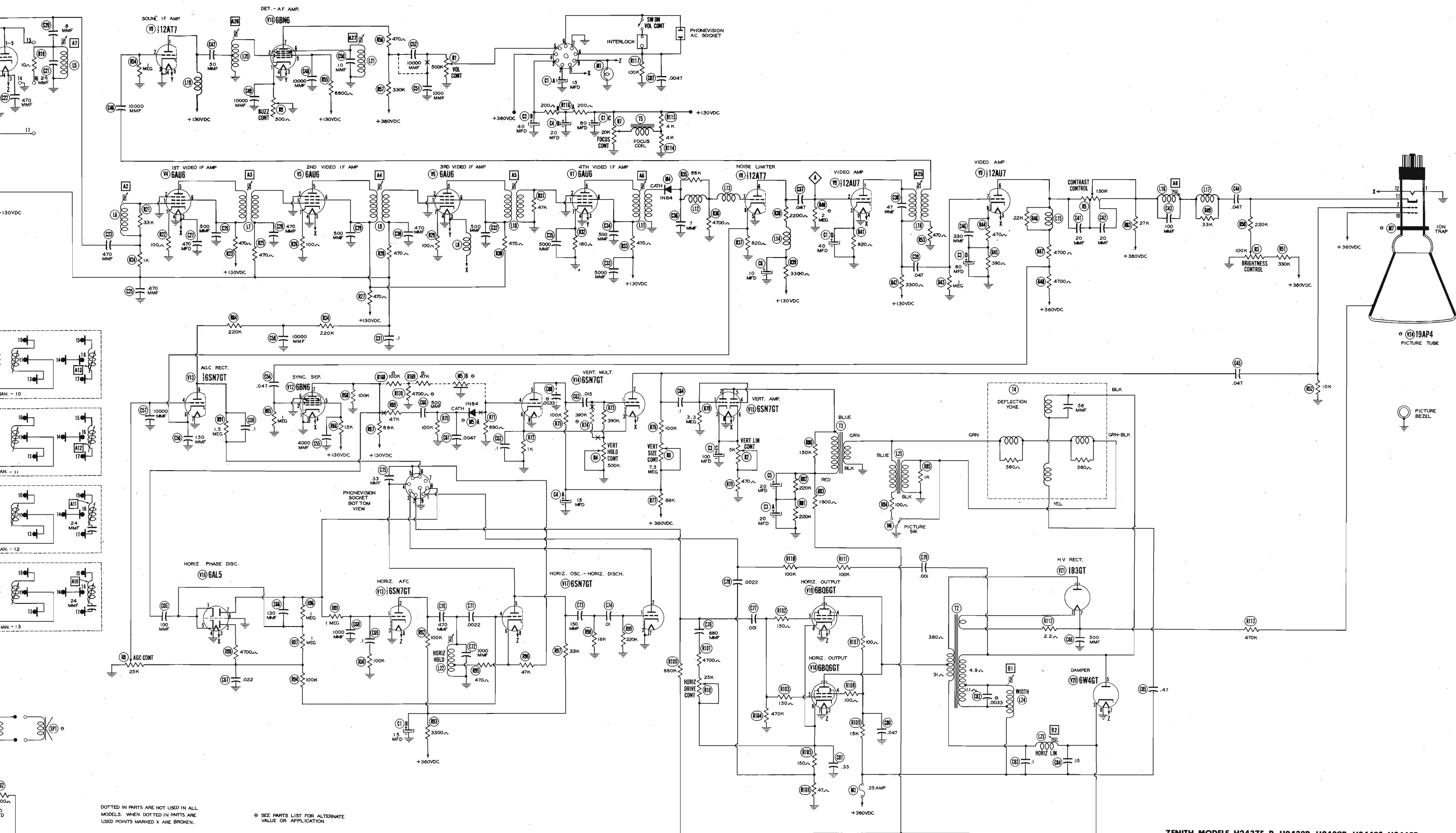
HOWARD W. SAMS & CO., INC. • Indianapolis Indiana

"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 the particular type of replacement part listed."
"Reproduction or use, without express permission, of editorial or pictorial con-

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1951 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. of America. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America

ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R, H2447R, H3267R, H3467R, H3475R, H3477R, H3478E

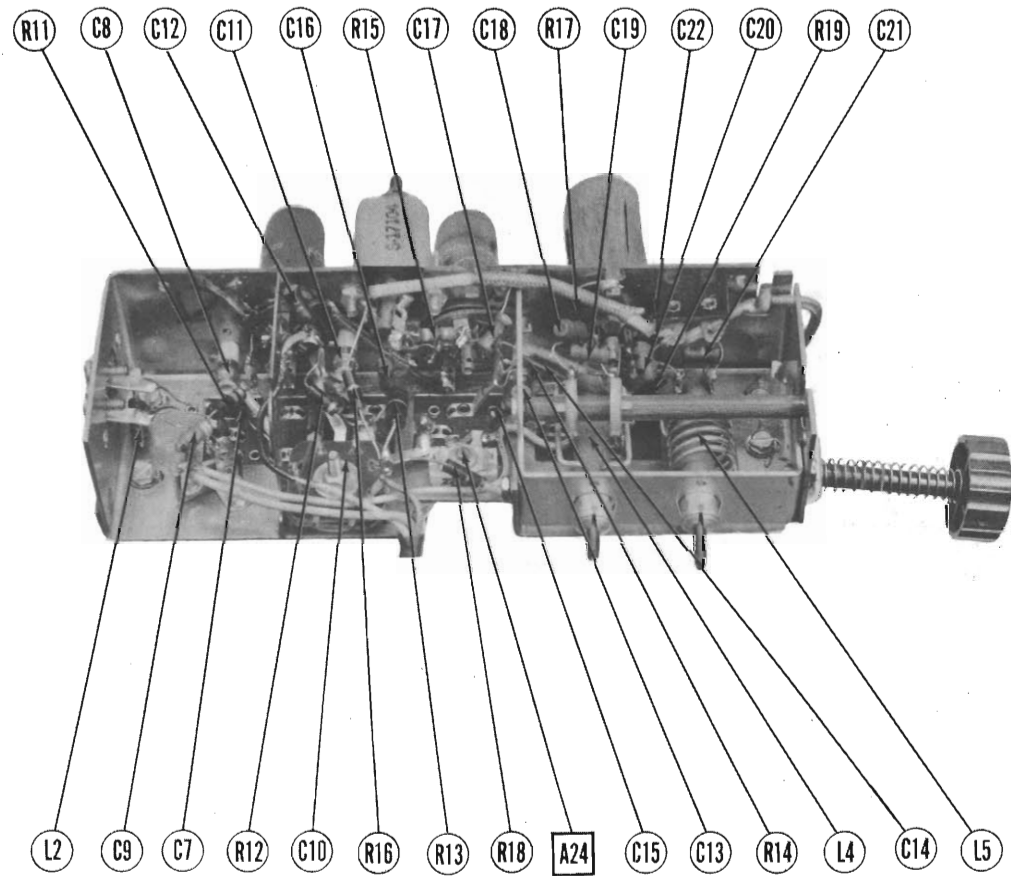
ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R,
H2447R, H3267R, H3467R, H3475R, H3477R, H3478E



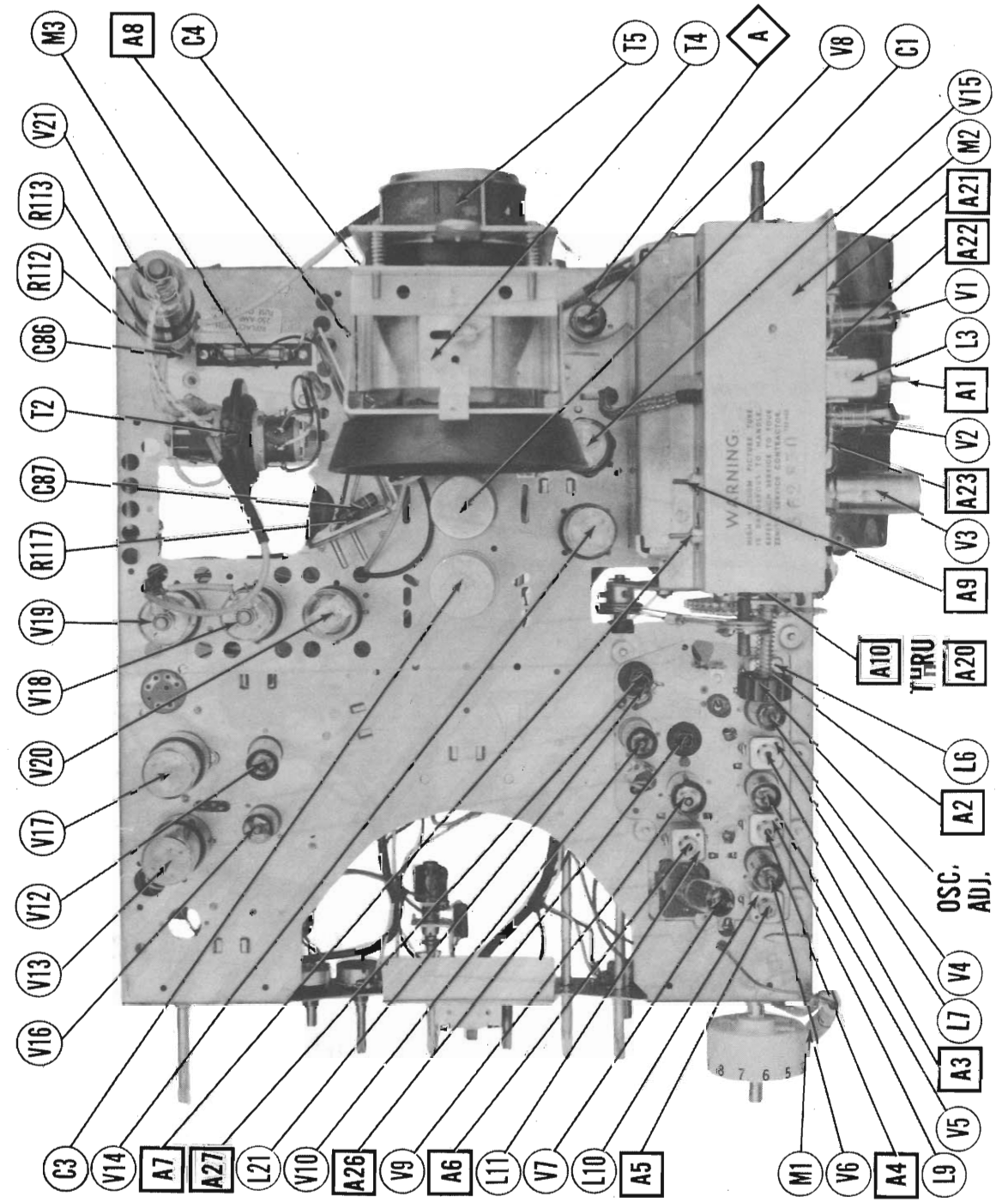
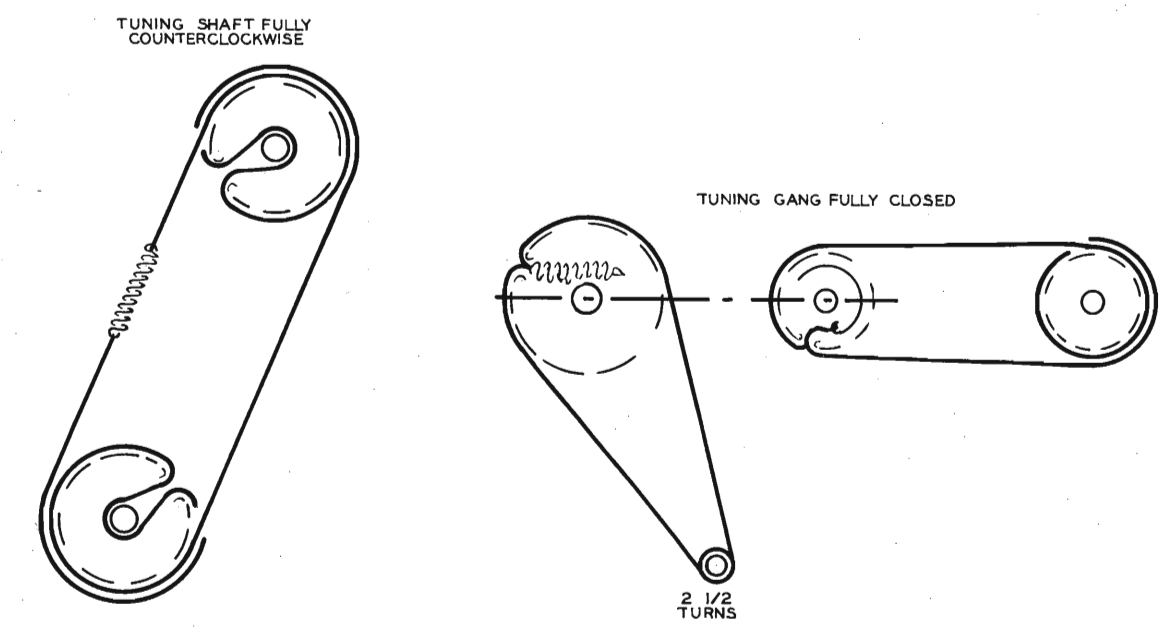
DOTTED IN PARTS ARE NOT USED IN ALL MODELS. WHEN DOTTED IN PARTS ARE USED POINTS MARKED X ARE BROKEN.

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

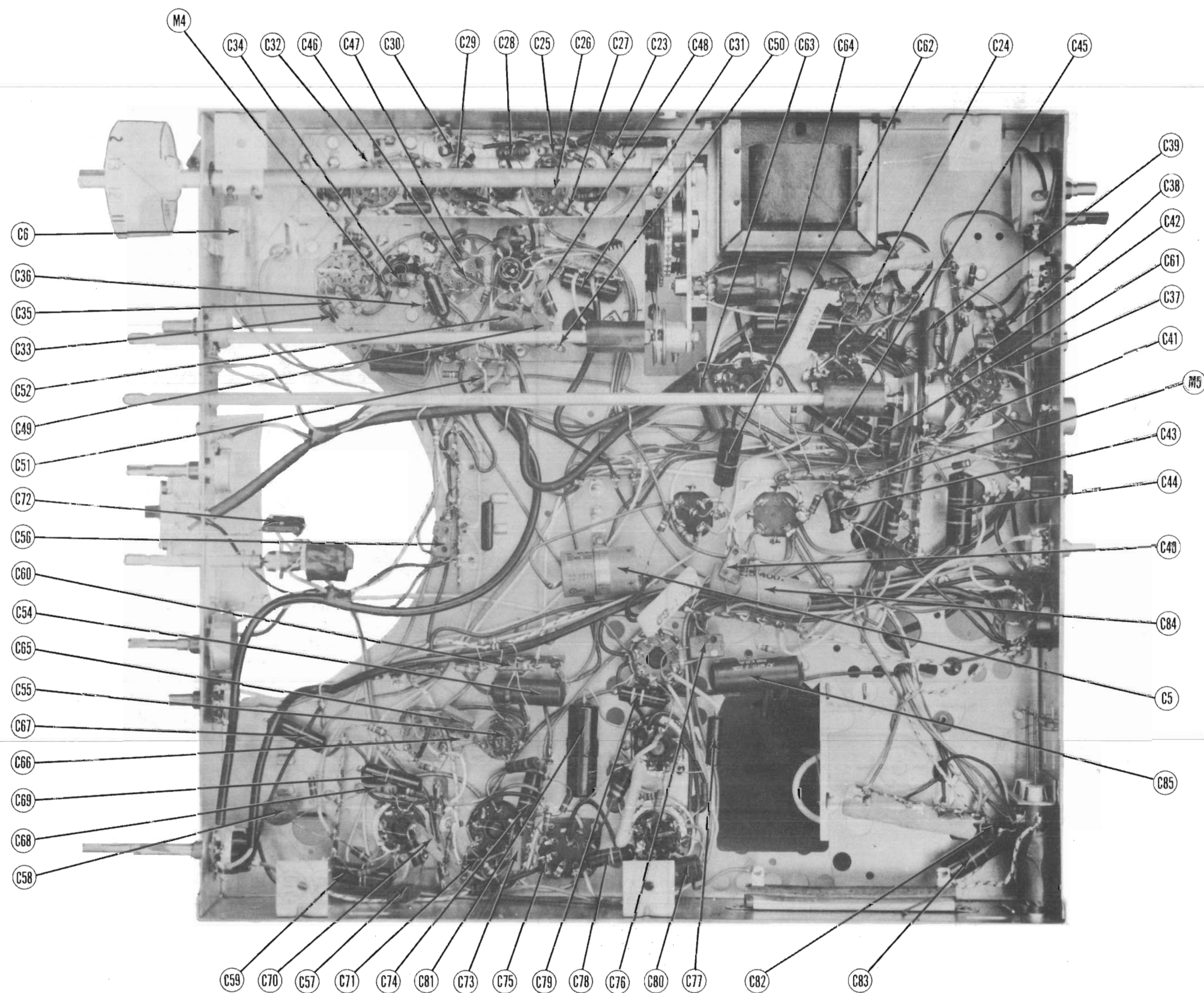
ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R,
H2447R, H3267R, H3467R, H3475R, H3477R, H3478E



RF TUNER



ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R, H2447R, H3267R, H3467R, H3475R, H3477R, H3478E
MAIN DOL SISSVHD



CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

VOLTAGE AND RESISTANCE MEASUREMENTS

RESISTANCE READINGS										
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	2Meg	0Ω	0Ω	.1Ω	12KΩ	12KΩ	0Ω		
V 2	6CB6	5.3Meg	0Ω	.1Ω	0Ω	11.5KΩ	150KΩ	0Ω		
V 3	6C4	11.5KΩ	Inf.	.1Ω	0Ω	11.5KΩ	15KΩ	0Ω		
V 4	6AU6	2Meg	0Ω	.1Ω	0Ω	1870Ω	1870Ω	100Ω		
V 5	6AU6	2Meg	0Ω	.1Ω	0Ω	1870Ω	1870Ω	100Ω		
V 6	6AU6	2Meg	0Ω	.1Ω	0Ω	11.3KΩ	11.3KΩ	100Ω		
V 7	6AU6	.1Ω	0Ω	.1Ω	0Ω	1870Ω	1870Ω	180Ω		
V 8	12AT7	1400Ω	1Meg	0Ω	0Ω	0Ω	15.9KΩ	4.7KΩ	820Ω	.1Ω
V 9	12AU7	13.7KΩ	2Meg	820Ω	.1Ω	.1Ω	19.5KΩ	1Meg	860Ω	0Ω
V 10	6BN6	500Ω	5Ω	.1Ω	0Ω	17.2Ω	4.7Ω	120KΩ		
V 11	6BF5	0Ω	330Ω	0Ω	.1Ω	14.2KΩ	13KΩ	0Ω		
V 12	6BN6	0Ω	1Meg	0Ω	.1Ω	11.5KΩ	0Ω	140KΩ		
V 13	6SN7GT	3Meg	105KΩ	0Ω	25KΩ	1.5Meg	820Ω	0Ω	.1Ω	
V 14	6SN7GT	170KΩ	170KΩ	1KΩ	680Ω	170KΩ	1KΩ	.1Ω	0Ω	
V 15	6SN7GT	3.3Meg	2.2KΩ	5.5KΩ	3.3Meg	2.2KΩ	470Ω	.1Ω	0Ω	
V 16	6AL5	1Meg	30KΩ	.1Ω	0Ω	1Meg	0Ω	2Meg		
V 17	6SN7GT	220KΩ	680KΩ	0Ω	125KΩ	136KΩ	525Ω	0Ω	.1Ω	
V 18	6BQ6GT	Inf.	.1Ω	2.1Meg	15KΩ	470KΩ	470KΩ	0Ω	200Ω	TOP CAP #41G
V 19	6BQ6GT	Inf.	0Ω	47Ω	15KΩ	470KΩ	15KΩ	.1Ω	200Ω	TOP CAP #41G
V 20	6W4GT	1.8KΩ	680KΩ	120KΩ	850KΩ	110Ω	2.2Meg	.1Ω	0Ω	TOP CAP #400Ω
V 21	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	
V 22	5U4G	Inf.	20KΩ	Inf.	18Ω	Inf.	18Ω	Inf.	20KΩ	
V 23	5Y3GT	Inf.	4.5KΩ	Inf.	10Ω	Inf.	10Ω	Inf.	4.5KΩ	
V 24	9AP4A	0Ω	10KΩ	100Ω	PIN 10 300KΩ	PIN 11 220KΩ	PIN 12 .1Ω			

FOCUS CONTROL COUNTER CLOCKWISE

† MEASURED FROM PIN 2 OF V23

‡ MEASURED FROM PIN 2 OF V22

▲ MEASURED FROM PIN 3 OF V20

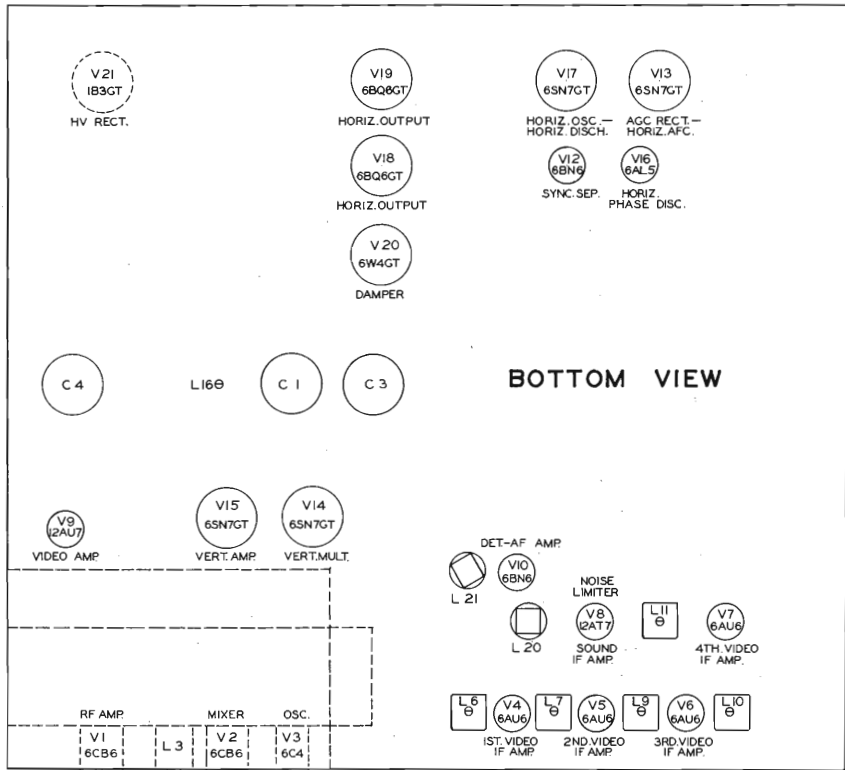
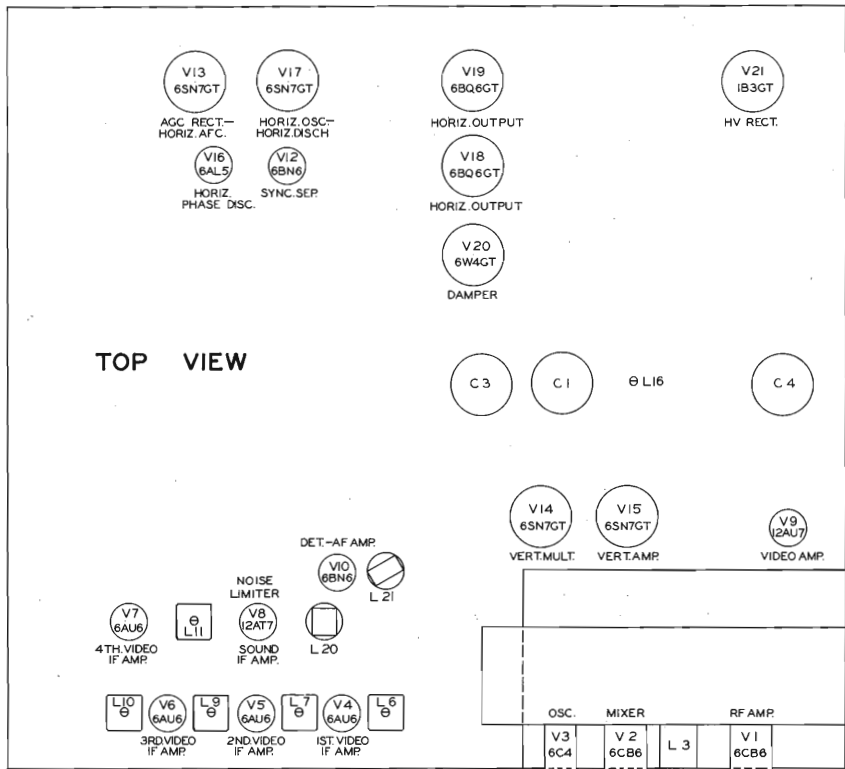
1. DC Voltage measurements are at 20,000 ohms per volt. AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. Front panels controls set at minimum.
6. Where readings may vary according to the setting of the service controls, both minimum and maximum readings are given.

VOLTAGE READINGS										
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	-1.4VDC	0V	0V	6.3VAC	120VDC	120VDC	0V		
V 2	6CB6	-2VDC	0V	6.3VAC	0V	130VDC	105VDC	0V		
V 3	6C4	115VDC	0V	6.3VAC	0V	115VDC	8-3.4VDC	0V		
V 4	6AU6	-4VDC	0V	6.3VAC	0V	125VDC	125VDC	.6VDC		
V 5	6AU6	-4VDC	0V	6.3VAC	0V	120VDC	120VDC	.8VDC		
V 6	6AU6	-4VDC	0V	6.3VAC	0V	120VDC	120VDC	1VDC		
V 7	6AU6	0V	0V	6.3VAC	0V	125VDC	125VDC	1.6VDC		
V 8	12AT7	130VDC	-1VDC	0V	0V	125VDC	-3.2VDC	.6VDC	6.3VAC	
V 9	12AU7	115VDC	0V	3.7VDC	6.3VAC	265VDC	0V	9VDC	0V	
V 10	6BN6	1.2VDC	0V	6.3VAC	0V	70VDC	0V	165VDC		
V 11	6BF5	0V	8.8VDC	0V	6.3VAC	230VDC	95VDC	0V		
V 12	6BN6	0V	-11VDC	0V	6.3VAC	60VDC	0V	70VDC		
V 13	6SN7GT	-1.7VDC	110VDC	0V	-4VDC	.6VDC	0V	6.3VAC		
V 14	6SN7GT	-8VDC	20VDC	2VDC	0V	65VDC	2VDC	6.3VAC	0V	
V 15	6SN7GT	.2VDC	480VDC	13VDC	-2VDC	480VDC	13VDC	6.3VAC	0V	
V 16	6AL5	1VDC	-4VDC	6.3VAC	0V	1VDC	0V	-2VDC		
V 17	6SN7GT	-25VDC	45VDC	0V	-20VDC	245VDC	1.6VDC	0V	6.3VAC	TOP CAP
V 18	6BQ6GT	0V	6.3VAC	-8VDC	130VDC	30VDC	30VDC	0V	33VDC	TOP CAP
V 19	6BQ6GT	0V	0V	8.8VDC	130VDC	30VDC	130VDC	6.3VAC	33VDC	*
V 20	6W4GT	495VDC	45VDC	520VDC	45VDC	360VDC	-4VDC	6.3VAC	0V	
V 21	1B3GT	* DO NOT MEASURE								
V 22	5Y4G	0V	380VDC	0V	360VAC	0V	360VAC	0V	380VDC	
V 23	5Y3GT	0V	175VDC	0V	210VAC	0V	210VAC	0V	175VDC	
V 24	19AP4A	0V	0V	360VDC	85VDC	0V	6.3VAC			

FOCUS CONTROL COUNTER CLOCKWISE

‡ TAKEN WITH VACUUM TUBE VOLTMETER

ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R, H2447R, H3267R, H3467R, H3475R, H3477R, H3478E



TUBE PLACEMENT CHART

TV ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
The high voltage shock hazard may be eliminated by removing the horizontal oscillator tube (V17) from its socket.							
VIDEO IF ALIGNMENT							
Remove the local oscillator tube (V3) from its socket to eliminate the possibility of erroneous indications. Turn the channel selector switch to channel 12. Connect the negative lead of a 4.5 volt battery to the junction of R11 and C9, connect the positive lead to chassis. Connect a 10KΩ isolation resistor in series with the oscilloscope vertical input. Connect the synchronized sweep voltage from the signal 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
1. .005MFD	High side to pin 1 (grid) of 6CB6 (V2). (Test point adjacent to tube). Low side to chassis.	44MC (10MC SWP)	42.75MC 43.5MC 45MC 45.75MC	12	Vert. amp. to point	A1, A2, A3, A4, A5, A6	Adjust for response curve similar to fig. 1. The low frequency skirt of the response curve is effected by A1, A2, and A4. The high frequency skirt is effected by A3 and A5. The flatness of the center region is effected by A6. Attenuate sweep gen. to maintain 3 volt peak to peak response curve.
2. .005MFD	"	"	47.25MC (Max. Output)	2	"	A7	Turn the channel selector to channel 2 and adjust A7 for minimum marker indication at the 47.25MC point on response curve.
3. .005MFD	High side to pin 7 (grid) of 12AU7 (V9). Low side to chassis.	Not used	4.5MC (400%AM mod.)	Any	Vert. amp. thru detector probe to pin 11 of picture tube.	A8	Adjust for minimum 400% indicator on scope.
OSCILLATOR ALIGNMENT							
Replace the local oscillator tube in its socket. Leave the bias battery connected as outlined under video IF alignment. Turn the fine tuning control until the open end of the drive pulley on the RF shelf is facing upward. The overall oscillator adjustment (A9) is used to adjust the oscillator on channel 7, since the channel strip for channel 7 has no adjustment. A9 should not be adjusted for any other channel unless the channel strip adjustment shows insufficient range, and it has been definitely established that the channel strip is not at fault. If A12 is changed it will be necessary to readjust the channel strip for all channels.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	177MC (10MC SWP)	175.25MC 179.75MC	7	Vert. amp. to point . Low side to chassis.	A9	Adjust to place video marker at 50% on response curve as shown in fig. 2. The sound marker should be at 5%.
5. Two 120Ω carbon resistors	"	213MC (10MC SWP)	211.25 MC 215.75MC	13	"	A10	"
		207MC (10MC SWP)	205.25MC 209.75 MC	12	"	A11	"
		201MC (10MC SWP)	199.25 MC 203.75 MC	11	"	A12	"
		195MC (10MC SWP)	193.25MC 197.75MC	10	"	A13	"
		189MC (10MC SWP)	187.25 MC 191.75 MC	9	"	A14	"
		183MC (10MC SWP)	181.25 MC 185.75MC	8	"	A15	"
		85MC (10MC SWP)	83.25 MC 87.75 MC	6	"	A16	"
		79MC (10MC SWP)	77.25MC 81.75MC	5	"	A17	"
		69MC (10MC SWP)	67.25MC 71.75 MC	4	"	A18	"
		63MC (10MC SWP)	61.25MC 65.75 MC	3	"	A19	"
		57MC (10MC SWP)	55.25MC 59.75MC	2	"	A20	"
RF AND MIXER ALIGNMENT							
Leave the bias battery connected.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6. Two 120Ω carbon resistor	Across antenna terminals with 120Ω in each lead.	213MC (10MC SWP)	211.25MC 215.75MC	13	Vert. amp. to point . Low side to chassis.	A21, A22, A23, A24	Check the response curve on each channel. If the response curve appears tilted a similar amount on all channels, recheck the video IF alignment. If video IF is all right, turn channel selector to channel 4 and adjust A21, A22, and A23 for maximum amplitude with sufficient band width. If the sensitivity appears to be down on the higher channels adjust A24 for maximum amplitude with sufficient bandwidth over the high band channels.
		207MC (10MC SWP)	205.25MC 209.75MC	12	"		
		201MC (10MC SWP)	199.25 MC 203.75 MC	11	"		
		195MC (10MC SWP)	193.25 MC 197.75MC	10	"		
		189MC (10MC SWP)	187.25MC 191.75 MC	9	"		
		183MC (10MC SWP)	181.25MC 185.75MC	8	"		
		177MC (10MC SWP)	175.25MC 179.75MC	7	"		
		85MC (10MC SWP)	83.25MC 87.75 MC	6	"		
		79MC (10MC SWP)	77.25MC 81.75MC	5	"		
		69MC (10MC SWP)	67.25MC 71.75MC	4	"		
		63MC (10MC SWP)	61.25MC 65.75MC	3	"		
		57MC (10MC SWP)	55.25MC 59.75MC	2	"		
AGC SHOP ADJUSTMENT							
Remove the bias battery and connect an antenna. Tune the receiver to a strong signal. Connect the vertical input of an oscilloscope to point . Adjust the AGC control for a 2.5 volt peak to peak signal on the scope.							
AGC FIELD ADJUSTMENT							
Tune in a strong signal and turn the contrast control to maximum clockwise. Adjust the AGC control until the picture has just slightly more than normal contrast, there should be no sync distortion or intercarrier buzz.							
SOUND IF ALIGNMENT							
Connect an attenuator (Zenith part No. S17203) in series with the antenna. Tune in a TV station and adjust the attenuator until the signal falls below the limiting level of the limiter-detector as indicated by a hiss similar to superregeneration. Adjust the sound take off coil slug (A25), sound IF coil slug (A26), and the quadrature coil (A27) for maximum audio with best quality. Adjust the buzz control (R9) for minimum intercarrier buzz. If any of these adjustments cause the signal to rise above the limiting level of the detector (hiss disappears) attenuate the signal until the hiss returns. If the intercarrier buzz cannot be sufficiently reduced, recheck the AGC adjustment.							

RADIO ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
To set pointer, turn tuning cap fully closed and set pointer parallel with base of dial. It is recommended that alignment be performed in the order outlined.							
AM ALIGNMENT							
Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
7. .05MFD	High side to pin 7 (grid) of 12AT7 (V26). Low side to chassis.	455KC (400%mod.)	AM (center)	Tuning gang fully open	Across voice coil	A28, A29, A30, A31, A32, A33	Adjust for maximum output.
8.	Loop	1600KC	"	1600KC	"	A34	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
9.	Loop	1400KC	"	Tune for max. output	"	A35, A36	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM							
Connect a 2 megohm resistor in series with the DC probe of the VTVM.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
10. .05MFD	High side to pin 1 (grid) of 6AU6 (V29). Low side to chassis.	10.7MC (Unmod.)	FM (Clock-wise)	Tuning gang fully open	DC probe thru 2 meg to point . Common to chassis.	A37	Adjust for maximum deflection.
11. .05MFD	"	"	"	"	DC probe thru 2 meg to point . Low side to chassis.	A38	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
12. .05MFD	High side to pin 1 (grid) of 6BA6 (V28). Low side to chassis.	"	"	"	DC probe thru 2 meg to point . Low side to chassis.	A39, A40	Adjust for maximum deflection.
13. .05MFD	High side to pin 1 (grid) of 6BA6 (V27). Low side to chassis.	"	"	"	"	A41, A42	"
14. .05MFD	High side to pin 7 (grid) of 12AT7 (V26). Low side to chassis.	"	"	"	"	A43, A44	"
FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE							
Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection. Connect a 2 megohm isolation resistor in series with the vertical input lead of the oscilloscope.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
10. .05MFD	High side to pin 1 (grid) of 6BA6 (V28). Low side to chassis.	10.7MC (450KC SWP)	FM (Clock-wise)	Point of non-interference	Vert. amp. thru 2 meg to point . Low side to chassis.	A29, A40	Adjust for maximum amplitude and symmetry as per fig. 3.
11. .05MFD	High side to pin 1 (grid) of 6BA6 (V27). Low side to chassis.	"	"	"	"	A41, A42	"
12. .05MFD	High side to pin 7 (grid) of 12AT7 (V26). Low side to chassis.	"	"	"	"	A43, A44	"
13. .05MFD	"	"	"	"	Vert. amp. to point . Low side to chassis.	A38, A37	Adjust A38 so 10.7MC occurs at center of crossover lines as per fig. 4. Adjust A37 for maximum amplitude and straightness of crossover lines. Continue with step 15.
FM RF ALIGNMENT							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
15 Direct	High side to "FM" antenna post. (Remove line antenna). Low side to chassis.	98MC (Unmod.)	FM	98MC	DC probe thru 2 meg to point . Common to chassis.	A45, A46	Adjust for maximum deflection.
PHONO OSCILLATOR ADJUSTMENT							
In the event that the receiver oscillates when switched to "Phono" adjust the phono oscillator adjustment (B3) until the oscillations cease. If the phono cartridge is changed it may be necessary to adjust B3, since the point of no oscillation may vary with different cartridges.							

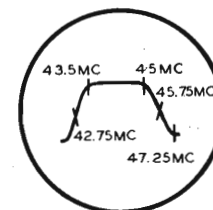


FIG. 1

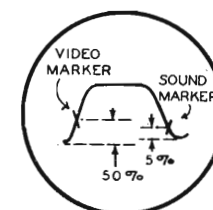


FIG. 2

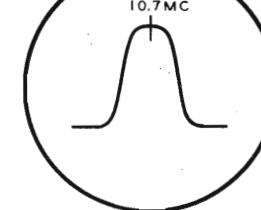


FIG. 3

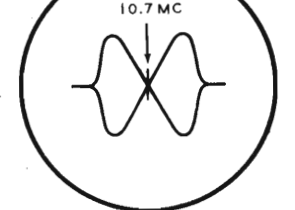
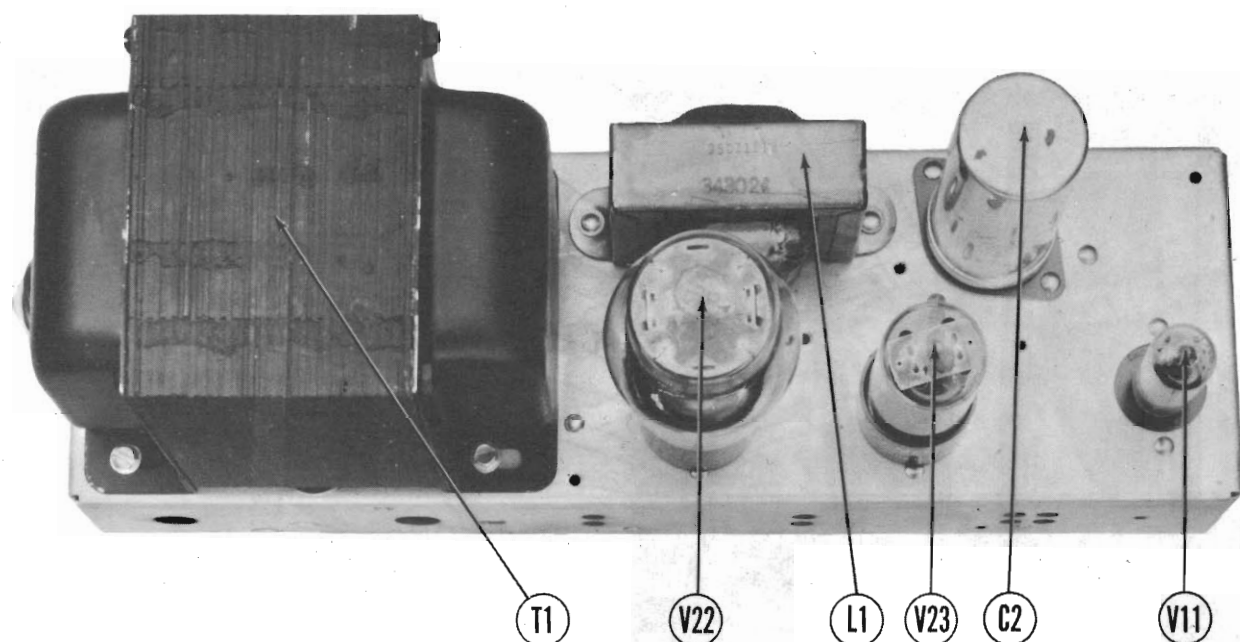
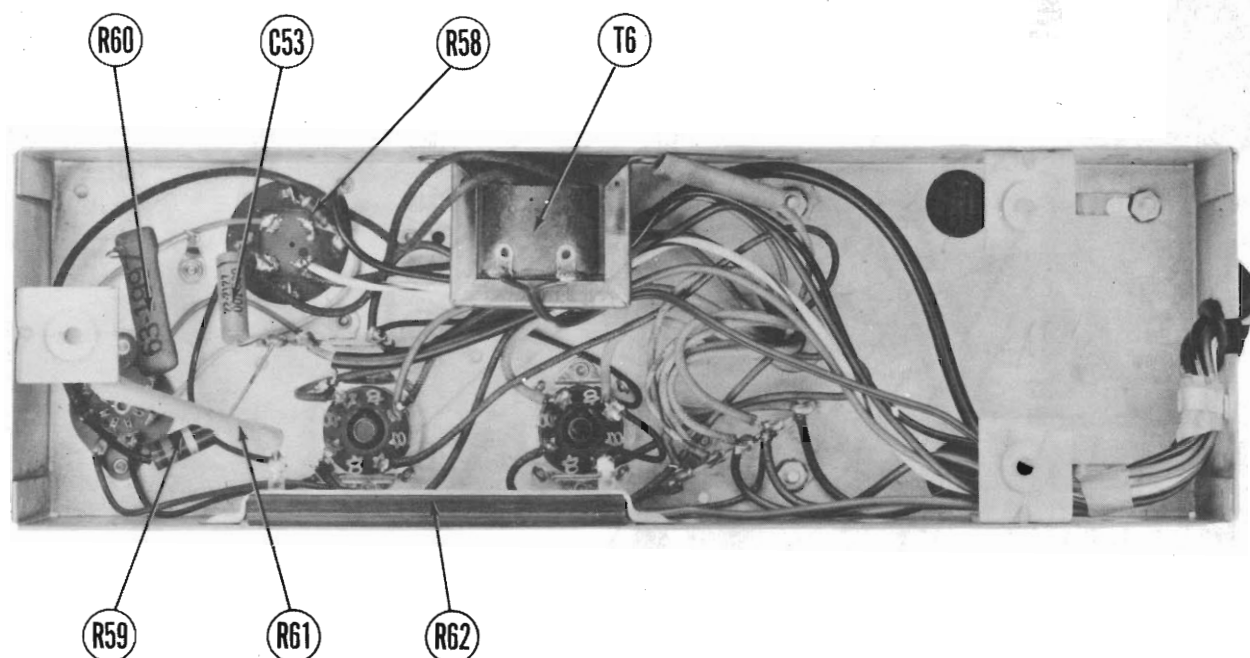


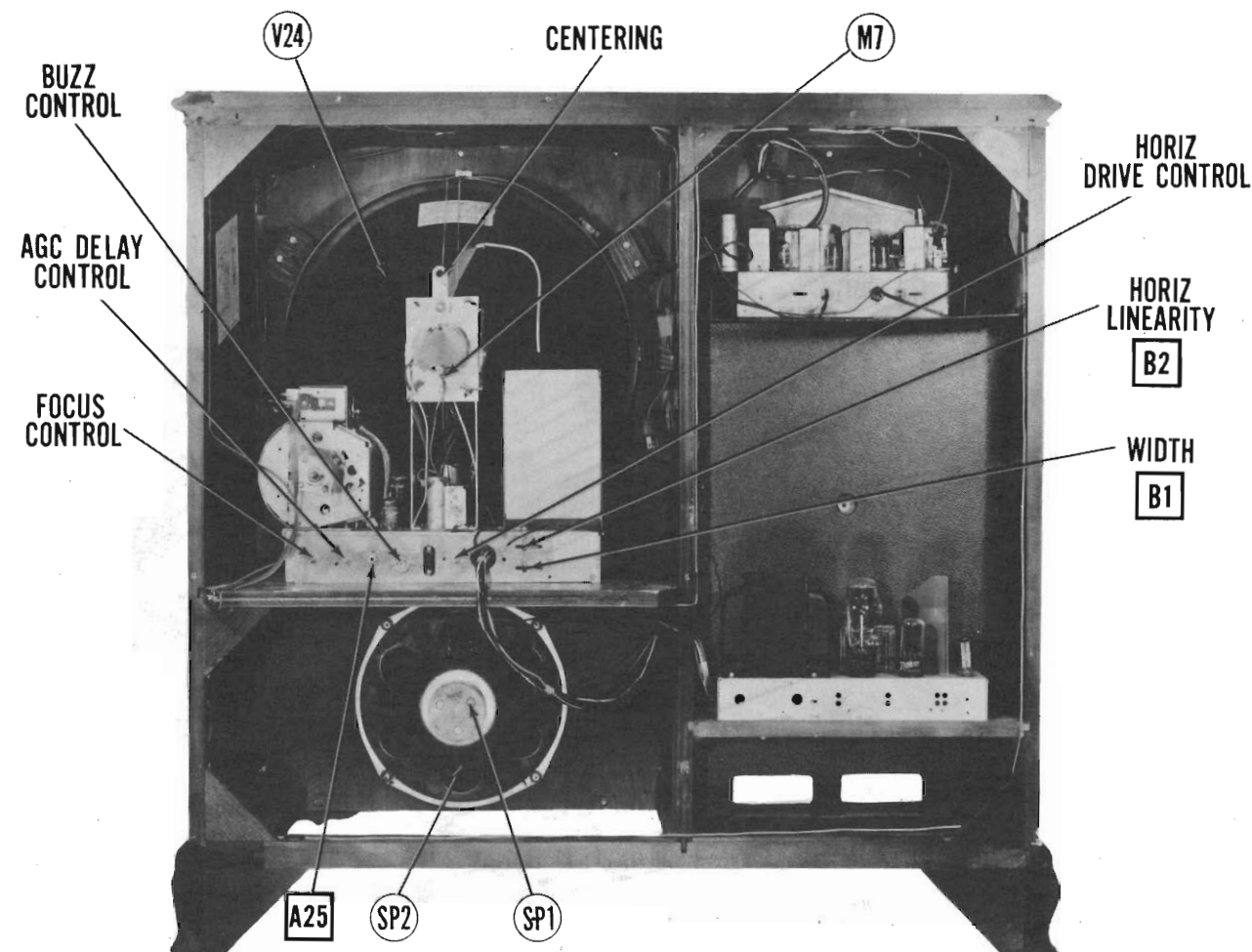
FIG. 4



POWER SUPPLY CHASSIS-TOP VIEW



POWER SUPPLY CHASSIS-BOTTOM VIEW



CABINET-REAR VIEW HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

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

Adjust the horizontal hold control until the picture synchronizes horizontally.

Turn the horizontal drive control clockwise as far as possible without crowding the right side of the picture.

Adjust the width slug (B1) until the picture fills the mask horizontally.

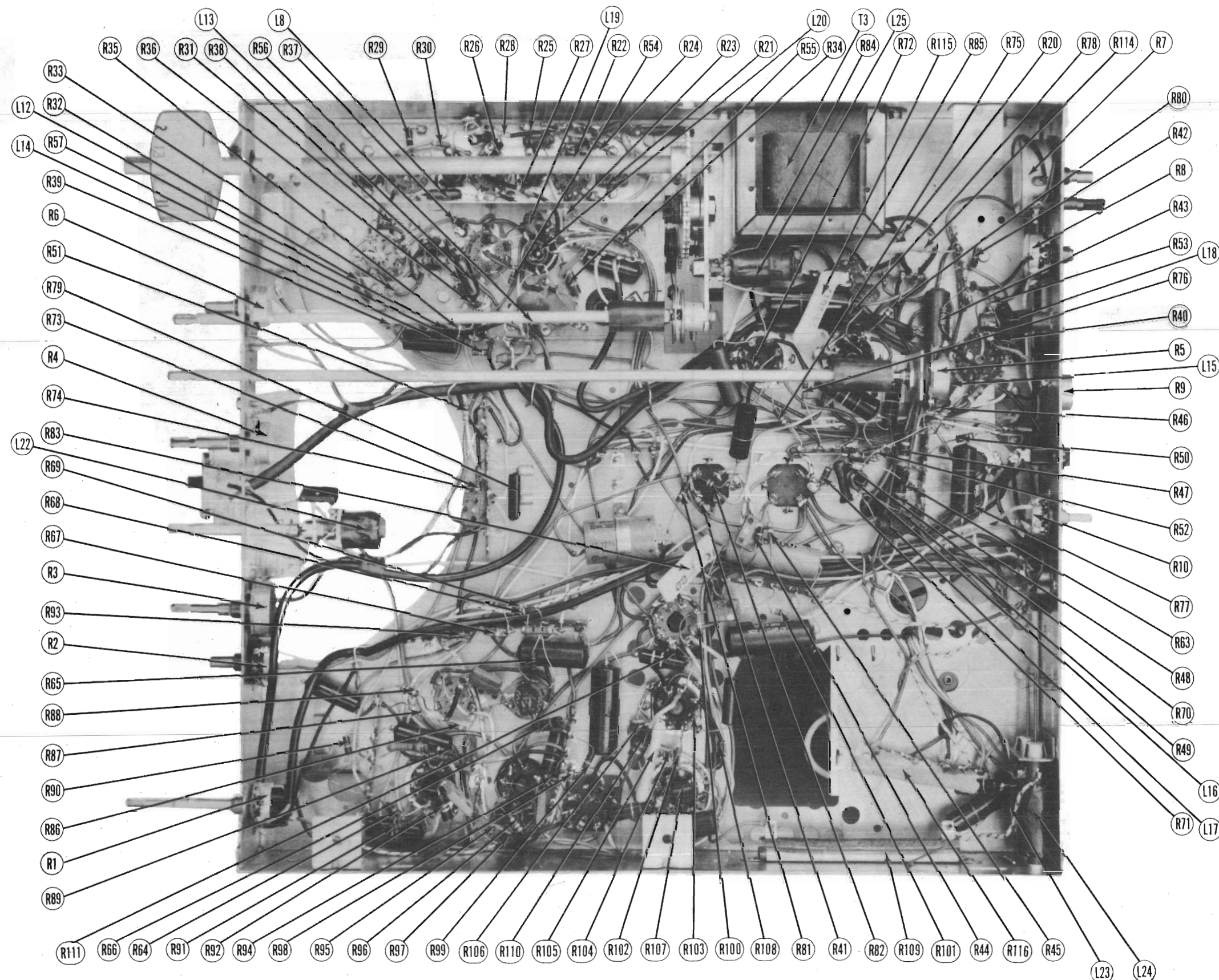
Adjust the horizontal linearity slug (B2) until the picture is symmetrical from left to right.

DISASSEMBLY INSTRUCTIONS

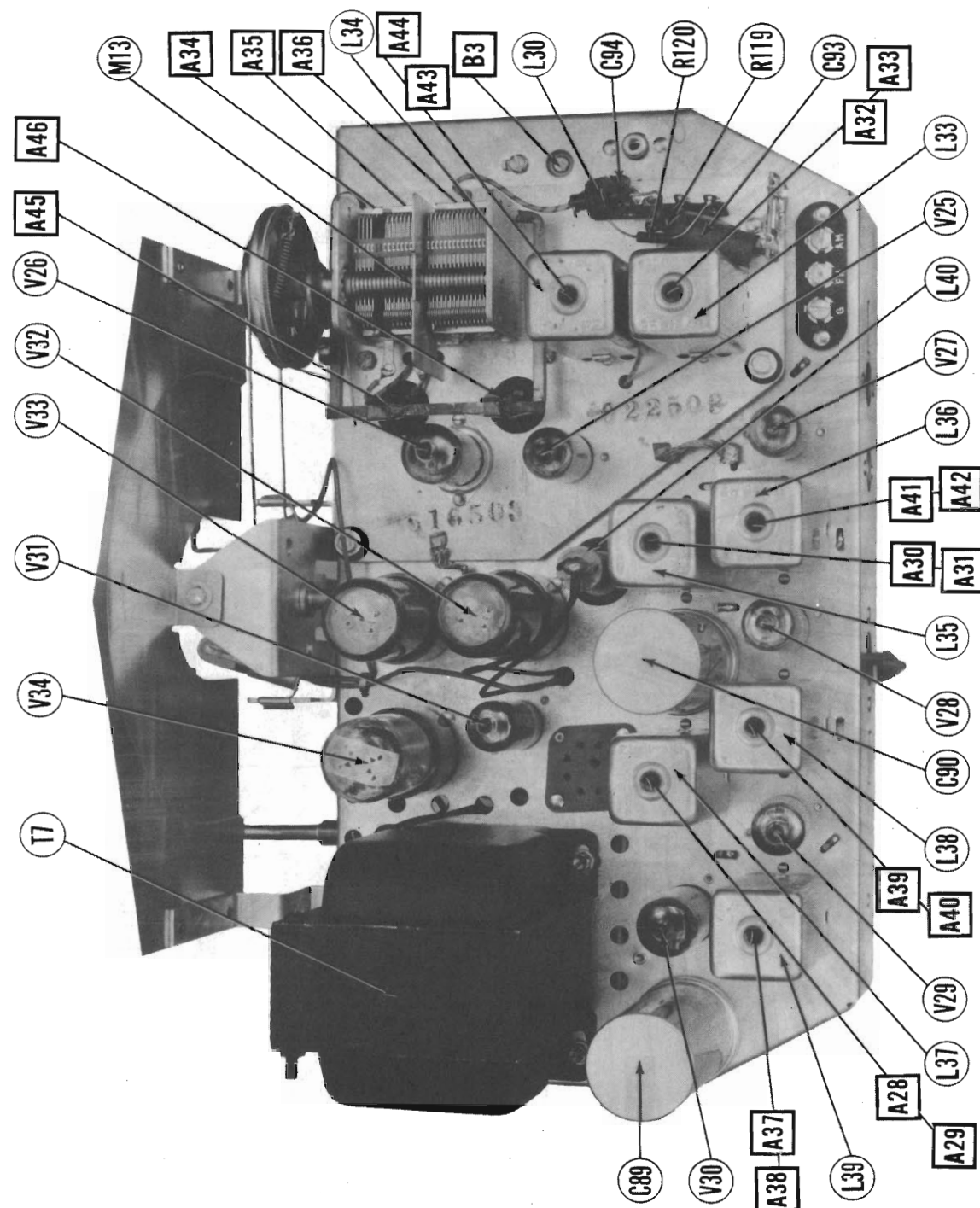
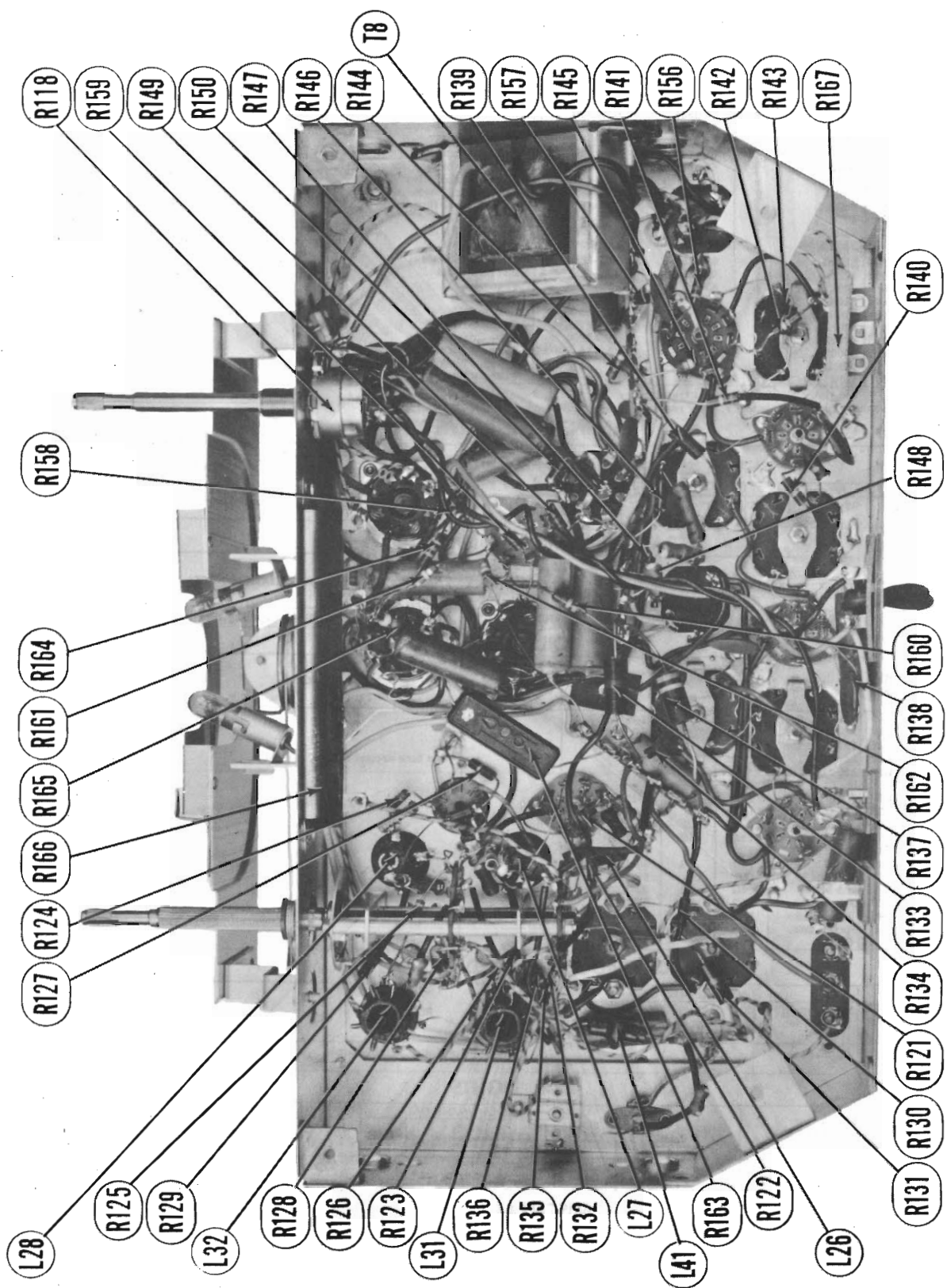
1. Remove two push-on type control knobs.
2. Remove six wood screws holding rear cover in place. Remove rear cover.
3. Disconnect built-in antenna.
4. Remove antenna terminal strip.
5. Disconnect power cable from high voltage section.
6. Disconnect chassis ground lead.
7. Disconnect speaker leads.
8. Disconnect four 3/8" hex head screws holding chassis to cabinet. Remove chassis.
9. Remove four 3/8" hex head screws holding speaker in cabinet. Remove speaker.

NOTE: FOR PICTURE TUBE REMOVAL FOLLOW INSTRUCTIONS ABOVE.

ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R,
H2447R, H3267R, H3467R, H3475R, H3477R, H3478E



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION





RADIO PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	
R140	100KΩ		63-1869	BTS-100K	Limiter Grid
R141	27KΩ		63-1845	BTS-27K	Limiter Decoup
R142	150KΩ		63-1876	BTS-150K	Disc Diode Load
R143	150KΩ		63-1876	BTS-150K	Disc Diode Load
R144	33KΩ		63-1848	BTS-33K	De-emphasis
R145	100KΩ		63-1869	BTS-100K	AVC Network
R146	22KΩ		63-1842	BTS-22K	AVC Diode Filter
R147	22KΩ		63-1842	BTS-22K	AVC Diode Filter
R148	220KΩ		63-1884	BTS-220K	AVC Network
R149	330Ω		63-1764	BTS-330	Tone Control Network
R150	33Ω		63-1722	BW- $\frac{3}{2}$ -33	Tone Control Network
R151	33Ω		63-1722	BW- $\frac{3}{2}$ -33	Tone Control Network
R152	1Meg		63-1912	BTS-1Meg	Tone Control Network
R153	4700Ω			BTS-4700	Tone Control Network
R154	68KΩ			BTS-68K	Tone Control Network
R155	680Ω			BTS-680	Tone Control Network
R156	4.7Meg		63-1940	BTS-4.7Meg	AF Amp. Grid
R157	220KΩ		63-1884	BTS-220K	AF Amp. Plate
R158	330KΩ		63-1890	BTS-330K	Inverter Grid
R159	2200Ω		63-1799	BTS-2200	Inverter Cathode
R160	47KΩ		63-1855	BTS-47K	Inverter Plate
R161	470KΩ		63-1856	BTS-470K	Feedback
R162	330KΩ		63-1890	BTS-330K	Output Grid
R163	270Ω	2	63-1452	BTB-270	Output Cathode
R164	470KΩ		63-1897	BTS-470K	Output Grid
R165	6800Ω		63-1820	BTS-6800	Tone Compensation
R166A	3000Ω	10	63-2138	* 1 3/4AA-4000	Filter - Wire Wound
B	1000Ω				Filter - Wire Wound
R167	130Ω	5	63-2142	1 3/4A-125	Filter - Wire Wound

* Set slider 1000Ω from output transformer
Note Some models use 2.2meg resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
					ZENITH PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
	PRI.	SEC. 1	SEC. 2	SEC. 3				
T7	117VAC ① .93A	730VCT ② .125A	5VAC ③ 1.94A	6.3VAC ④ 3.25A	95-1253	PC-8410	P-3173	PV-120A

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ZENITH PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T8	9000Ω	4.5Ω	600Ω	.3Ω	95-1252	A-3870	A3027	RO-110 ①	① Drill one new mtg. hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	ZENITH	MEISSNER	
				PART No.	PART No.	
L26	FM Ant. Coil	0Ω		S-16408		One turn around rear of cabinet
L27	FM RF Coil	0Ω		S-15743		
L28	FM Osc. Coil	0Ω		S-15691		
L29	Loop Ant.	.7Ω				
L30	AM Ant. Load- ing Coil	3.2Ω				
L31	AM RF Coil	3.1Ω	12Ω	S-16344		
L32	AM Osc. Coil	1.6Ω	8Ω	S-16345		
L33	1st AM IF	4.8Ω	16Ω	95-1248		
L34	1st FM IF	.5Ω	.5Ω	95-1201		
L35	2nd AM IF	4Ω	17Ω	95-1249		
L36	2nd FM IF	.4Ω	.4Ω	95-1150		
L37	3rd AM IF	17Ω	11Ω	95-1254		
L38	3rd FM IF	.4Ω	.4Ω	95-1150		
L39	Disc Trans.	.3Ω	.3Ω	95-1153		
L40	Tone Choke	2Ω		S-13800		
L41	Phono Osc. Coil	2Ω		S-12603		

PHONO CARTRIDGE and NEEDLE

ITEM No.	REPLACEMENT DATA				REMARKS	
	ZENITH PART No.	ASTATIC PART No.		SHURE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE		NEEDLE
M8	S-15780					Complete Unit (Cartridge and Needle)

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					ZENITH PART No.		
M9	Bayonet	6-8	.15	Brown	100-87		Type #47
M10	Bayonet	6-8	.15	Brown	100-87		Type #47

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M11	Switch	85-490	Function Phono AM-FM
M12	Switch	S-17255	Tone Control Assembly Complete
M13	Tuning Cap	22-2104	(21-488MMF, 42-222MMF, 12-164MMF)
	Tone Control Strip And Contact Assembly	S-14261	2 Used (Included with M12)

ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R,
H2447R, H3267R, H3467R, H3475R, H3477R, H3478E

RADIO PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		ZENITH PART No.	STANDARD REPLACEMENT		
V25	RF Amp.	6BA6	6BA6	7BK	Radio chassis 10H20
V26	Converter	12AT7	12AT7	9A	
V27	1st IF Amp.	6BA6	6BA6	7BK	
V28	2nd IF Amp.	6BA6	6BA6	7BK	
V29	Limiter	6AU6	6AU6	7BK	
V30	Discr. AVC-AF-Amp	6T8	6T8	9E	
V31	Phase Inv.	6C4	6C4	6BG	
V32	Power Output	6V6GT	6V6GT	7AC	
V33	Power Output	6V6GT	6V6GT	7AC	
V34	Rectifier	5Y3GT	5Y3GT	5T	

CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C89A	40	450	22-1612	AFH88J		UPT4445	TVL-2764	▲ Filter
B	40	450						▲ Filter
C90A	40	450	22-2243	AFH82J2H		UP4245	TVL-2764	▲ Filter
B	20	350						▲ Filter
C91	15		22-2140	SI15	D6-150	5W5Q2	GPIK-15	19C22
C92	15		22-2140	SI15	D6-150	5W5Q2	GPIK-15	19C22
C93	.05	200	22-829	P288-05	DF-503	PTE4S5		2TM-S5
C94	10			SI10	D6-100	5W5Q1	GPIK-10	19C19
C95	1000		22-1676	SI1000	D6-102	1W5D1	GP2L-001	19C1
C96	30		22-1705	SI30	D6-300	5W5Q3	GPIK-30	19C24
C97	100		22-5	SI100	D6-101	5W5T1	GPIK-100	19C11
C98	22		22-1506	SI22N080			N080-331-22	
C99	1000		22-1676	SI1000	D6-102	1W5D1	GP2L-001	19C1
C100	1		22-1762		TCZ-1			
C101	50		22-1397	SI50	D6-500	5W5Q5	GPIK-50	19C28
C102	22		22-1506	SI22N080			N080-331-22	
C103	1000		22-1676	SI1000	D6-102	1W5D1	GP2L-001	19C1
C104	1000		22-1676	SI1000	D6-102	1W5D1	GP2L-001	19C1
C105	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1
C106	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1
C107	.002	600	22-492	P688-002	D6-202	PTE6D2	GP2M-002	6TM-D2
C108	.002	600	22-1220	P688-002	D6-202	PTE6D2	GP2M-002	6TM-D2
C109	.002	600	22-1220	P688-002	D6-202	PTE6D2	GP2M-002	6TM-D2
C110	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1
C111	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1
C112	200		22-1668	SI200	D6-201	5W5T2	GP2K-200	19C30
C113	100		22-5	SI100	D6-101	5W5T1	GPIK-100	19C11
C114	100		22-5	SI100	D6-101	5W5T1	GPIK-100	19C11
C115	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1
C116	25		22-1887	SI25	D6-250	5W5Q25	GPIK-25	19C27
C117	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1
C118	.001	600	22-1203	P688-001	D6-102	PTE6D1	GP2L-001	6TM-D1
C119	.05	200	22-829	P288-05	DF-503	PTE4S5		2TM-S5
C120	50		22-1761	SI50	D6-500	5W5Q5	GPIK-50	19C28
C121	.02	600	22-830	P688-02	DF-203	PTE6S2		6TM-S2
C122	1000		22-348	1468-001	D6-102	1W5D1	GP2L-001	1FM-21
C123	.001	600	22-1203	P688-001	D6-102	PTE6D1	GP2L-001	6TM-D1
C124	.05	200	22-178	P288-05	DF-503	PTE4S5		2TM-S5
C125	.2	200	22-1531	P488-22		GT4P2		2TM-P22
C126	75	500	22-1256	1468-000075	D6-750	5W5Q7	GPIK-75	1FM-475
C127	250			SI250	D6-251	5W5T25	GP2K-250	1FM-325
C128	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1
C129	330	500	22-1645	1468-0003	D6-331	5W5T3	GP2K-330	19C14
C130	.05	600	22-171	P688-05	DF-503	PTE6S5		6TM-S5
C131	.02	600	22-830	P688-02	DF-203	PTE6S2		6TM-S2
C132	.002	1600	22-1802	PI688-002		PTE16D2		MB-D2
C133	.0047	600	22-1782	P688-0047	D6-472	PTE6D5	GP2M-0047	6TM-D47

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R118A	1Meg		63-2139	Q13-137	AG-63-Z	AN-70	Volume control
B	Shaft		Not req.	Not req.	KSS-3	AK-4	Attach to R118A per instructions
C	Switch		Not req.	76-1	SWB	K-155	Attach to R118A per instructions

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	
R119	1Meg		63-1912	BTS-1Meg	AVC Network
R120	330		63-1723		Parasitic Supp
R121	680		63-1737		RF Amp. Cathode
R122	2200		63-1758	BTS-220	RF Amp. Screen
R123	2200		63-1758	BTS-220	RF Amp. Plate Decoup
R124	10K0		63-1827		Osc. Grid
R125	4700		63-1771		Parasitic Supp
R126	4700		63-1772		Parasitic Supp
R127	2.2Meg		63-1926		Convert Grid
R128	2Meg			BTA-2Meg	AVC Network - See Note
R129	2200		63-1758	BTS-220	Osc. Plate Decoup
R130	10000		63-1786	BTS-1000	Converter Plate Decoup
R131	2Meg			BTA-2Meg	AVC Network - See Note
R132	220K		63-1884	BTS-220K	Voltage Divider
R133	22K		63-2141	BTB-22K	Voltage Divider
R134	15000		63-1793	BTS-1500	1st IF Amp. Decoup
R135	47K0		63-1855	BTS-47K	Voltage Divider
R136	10K0		63-1827	BTS-10K	Voltage Divider
R137	47000		63-966	BTB-4700	Filter
R138	1000		63-1744	BTS-100	2nd IF Amp. Cathode
R139	8200		63-2091	BW-1/2-820	2nd IF Amp. Decoup - Wire Wound

TV PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		ZENITH PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6CB6	6CB6	7CM	Radio chassis 10H20
V2	Mixer	6CB6	6CB6	7CM	
V3	Oscillator	6C4	6C4	6BG	
V4	1st Video IF Amp.	6AU6	6AU6	7BK	
V5	2nd Video IF Amp.	6AU6	6AU6	7BK	
V6	3rd Video IF Amp.	6AU6	6AU6	7BK	
V7	4th Video IF Amp.	6AU6	6AU6	7BK	
V8	Noise Limiter				
V9	Sound IF Trap	12AT7	12AT7	9A	
V10	Video Amp.	12AU7	12AU7	9A	
V11	Det.-AF Amp.	6BN6GT	6BN6GT	7DF	
V12	Audio Output	6BF5	6BF5	7BZ	
V13	Sync. Sep.	6BN6GT	6BN6GT	7DF	Radio chassis 10H20
V14	AGC Rect.-Hor. AFC	6SN7GT	6SN7GT	8BD	
V15	Vert. Mult.	6SN7GT	6SN7GT	8BD	
V16	Vert. Amp.	6SN7GTA	6SN7GTA	8BD	
V17	Hor. Phase Discr.	6AL5	6AL5	6BT	
V18	Hor. Osc. Hor. Discr.	6SN7GT	6SN7GT	8BD	
V19	Hor. Output	6BQ6GT	6BQ6GT	5BT	
V20	Hor. Output	6BQ6GT	6BQ6GT	5BT	
V21	Damper	6W4GT	6W4GT	4CG	
V22	HV Rectifier	1B3GT	1B3GT	3C	
V23	LV Rectifier	5U4G	5U4G	5T	
V24A	Picture Tube	19AP4A	19AP4A	12D	
B	Picture Tube	16GP4	16GP4	12D	

CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES	
	CAP.	VOLT	ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.		SPRAGUE PART No.
C1A	15	475	22-2122	AF33X16G8B		UPT417		TVL-4815	■ Filter
B	15	475							■ Decoupling
C	80	300							▲ Filter
D	40	50							V. Amp. Cathode
C2A	40	450	22-2224	AFH84J4E4A		UPT42245C		TVL-4732	■ Filter
B	20	450							■ Filter
C	20	200							▲ Output Screen
D	20	25							Output Cathode
C3A	20	475	22-2223	AF4X8G20B16		UPT422			▲ Vert. Output Dec.
B	40	300							■ Filter
C	100	50							▲ Vert. Output Cathode
D	80	25							V. Amp. Cathode
C4A	15	475	22-2232	AF3X4G		UPT15850-230		TVA-1608	■ Vert. MV Dec.
B	20	300							▲ Filter
C5	20	300	22-2225	PRS350/24		BR2035A		TVA-1504	Vert. Output Dec.
C6	10	250	22-2154	PRS250/12		BR1025			Noise Limiter Dec.
C7	5		22-2050	SISNPO	TCZ-4.7		NPOK-5		Fixed Padder
C8	1-3.5		22-2093		829-4				Variable Padder
C9	470		22-2219	SI470	D6-471		GP2K-470	19C15	AGC Filter
C10A	600		22-82						RF Amp. Dec.
B	475		22-69						RF Bypass
C11	1-3.5		22-2093		829-4		GP2K-470	19C15	Variable Trimmer
C12	470		22-2219	SI470	D6-471		GP2K-470	19C15	RF Amp. Fil.
C13	1-3.5		22-2093		829-4				Variable Trimmer
C14	2.5		22-1891						Osc. Coupling
C15	4.5		22-2207						Osc. Coupling
C16	500		22-2216	SI500	D6-501		GP2K-500	19C32	Mixer Screen Dec.
C17	470		22-2219	SI470	D6-471		GP2K-470	19C15	Mixer Screen Dec.
C18	47		22-1876	SI47	D6-470		GPIK-47	19C25	Osc. Grid Cap
C19	20		22-2204				N080-331-20		Fixed Trimmer
C20	6		22-2051						RF Coupling
C21	26		22-2155				N080-331-26		Fixed Trimmer
C22	470		22-2219	SI470	D6-471		GP2K-470	19C15	Osc. Fil. Bypass
C23	470		22-2219	SI470	D6-471	5W5T5	GP2K-470	19C15	IF Coupling
C24	4000		22-4	BPD-004	DD-502	1D5D4	811-005	29C1	RF Bypass
C25	470		22-2143	SI470	D6-471	5W5T5	GP2K-470	19C15	AGC Filter
C26	500		22-2216	SI500	D6-501	5W5T5	GP2K-500	19C32	1st V. IF Dec.
C27	470		22-2143	SI470	D6-471	5W5T5	GP2K-470	19C15	1st V. IF Dec.
C28	470		22-2143	SI470	D6-471	5W5T5	GP2K-470	19C15	AGC Filter
C29	500		22-2216	SI500	D6-501	5W5T5	GP2K-500	19C32	2nd V. IF Dec.
C30	470		22-2143	SI470	D6-471	5W5T5	GP2K-470	19C15	AGC Filter
C31	.1	200	22-1777	P288-1	DF-104	PTE4P1		2TM-P1	AGC Filter
C32	500		22-2216	SI500	D6-501	5W5T5	GP2K-500	19C32	3rd V. IF Dec.
C33	5000		22-4	BPD-005	DD-502	1D5D5	811-005	29C1	RF Bypass
C34	500		22-2216	SI500	D6-501	5W5T5	GP2K-500	19C32	4th V. IF Screen
C35	5000		22-4	BPD-005	DD-502	1D5D5	811-005	29C1	4th V. IF Cathode
C36	7		22-1874	SI6.8NPO	TCZ-6.8	5W5Q1	NPOK-6.8	19C3	V. Diode Filter
C37	.047	600	22-1874	P688-047	DF-503	PTE6S5		6TM-S47	Video Coupling
C38	47		22-1876	SI47N080			N080-338-47		Fixed Trimmer
C39	.047	600	22-1844	P688-047	DF-503	PTE6S5		6TM-S47	Video Coupling
C40	330	500	22-1645	1468-00035	D6-331	5W5T3	GP2K-330	19C14	V. Amp. Cath.
C41	20		22-2233	SI20	D6-200	5W5Q2	GPIK-20	MS-42	Peaking
C42	20		22-2233	SI20	D6-200	5W5Q2	GPIK-20	MS-42	Peaking
C43	100		22-2234				N030K-100		Fixed Trimmer
C44	.047	600	22-1844	P688-047	DF-503	PTE6S5		6TM-S47	Video Coupling
C45	.047	600	22-2078	P688-047	DF-503	PTE6S5		6TM-S47	Vert. Sweep Coupling
C46	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1	S. IF Coupling
C47	50		22-1761	SI50	D6-500	5W5Q5	GPIK-50	19C28	S. IF Coupling
C48	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1	Det.-AF Amp. Screen
C49	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1	Det.-AF Amp. Screen
C50	10		22-2106				N150K-10		Fixed Trimmer
C51	1000		22-2218	SI1000	D6-102	1W5D1	GP2L-001	19C1	De-emphasis
C52	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1	Audio Coupling
C53	.001	600	22-2127	P688-001	D6-102	PTE6D1	GP2L-001	6TM-D1	Tone Comp.
C54	.047	600	22-1844	P688-047	DF-503	PTE6S5		6TM-S47	Sync. Coupling
C55	4000		22-4	BPD-004	DD-502	1D5D4	811-005	29C1	Sync. Sep. Screen
C56	150	500	22-1137	1468-00015	D6-151	5W5T15	GPIK-150	1FM-315	Cathode Bypass
C57	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1	AGC Amp. Grid
C58	10000		22-3	BPD-01	DD-103	PTE6S1	821-01	36C1	AGC Filter
C59	.1	200	22-1810	P288-1	DF-104	PTE4P1		2TM-P1	Hor. Sweep Coupling

TV PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES	
	CAP.	VOLT	ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.		SPRAGUE PART No.
C60	500		22-1138	SI500	D6-501	5W5T5	GP2K-500	19C32	Vert. Sync. Coupling
C61	.0047	400	22-1842	P688-.0047	D6-472	PTE6D5	GP2M-.0047	6TM-D47	Voltage Divider
C62	.1	200	22-1777	P288-1	DF-104	PTE4P1		2TM-P1	Vert. MV Cathode
C63	.015	600	22-1843	P688-.015		PTE6S15		6TM-S15	Vert. MV Feedback
C64	.1	600	22-1841	P688-1	DF-104	PTE6P1		6TM-P1	Vert. Sweep Coupling
C65	100	500	22-365	1468-0001	D6-101	5W5T1	GP1K-100	1FM-31	Hor. Sync. Coupling
C66	130	500	22-2162		TCZ-130		NPOM-130		AFC Filter
C67	.022	200	22-2071	P488-022	DF-203	PTE4S2		4TM-S22	AFC Filter
C68	1000		22-2112	SI1000	D6-102	1W5D1	GP2L-001	19C1	AFC Filter
C69	.1	200	22-1777	P288-1	DF-104	PTE4P1		2TM-P1	AFC Filter
C70	470	500	22-1138	1468-0005	D6-471	5W5T5	GP2K-470	1FM-35	Hor. Sync. Coupling
C71	.0022	600	22-1845	P688-0022	D6-222	PTE6D2	GP2M-0022	6TM-D22	Hor. Osc. Grid Cap
C72	1000	500	22-2163	1464-001		1R5D1		MS-21	Fixed Trimmer
C73	150	500	22-470	1468-00015	D6-151	5W5T15	GP2K-150	1FM-315	Differentiator Net
C74	.01	400	22-1846	P488-01	D6-103	PTE4S1	821-01	4TM-S1	Hor. Sweep Coupling
C75	33	500	22-2168	SI33	D6-330	5W5Q3	GP1K-33	19C24	Hor. Sweep Coupling
C76	680	500	22-2034	SI680	D6-681	1W5T7	GP2K-680	1FM-37	Hor. Discharge
C77	.001	1000	22-1851	P1088-001		PTE16D1		MB-D1	Hor. Sweep Coupling
C78	.0022	600	22-1814	P688-0022	D6-222	PTE6D2	GP2M-0022	6TM-D22	Hor. Feedback
C79	.001	600	22-2128	P688-001	D6-102	PTE6D1	GP2L-001	6TM-D1	Hor. Output Screen
C80	.047	600	22-1844	P688-047	DF-503	PTE6S5		6TM-S47	Hor. Output Cathode
C81	.33	200	22-2159	P288-33		G2P25		2TM-P25	Fixed Trimmer *
C82	.0033	600	22-2248	P688-0033	D6-332	PTE6D3	GP2M-0033	6TM-D3	Damper Filter
C83	.1	400	22-2061	P488-1		PTE4P1		4TM-P1	Damper Filter
C84	.15	400	22-2261	P488-15				4TM-P15	Damper Filter
C85	.47	200	22-2244	P288-47		G2P25		2TM-P47	Hor. Sweep Coupling
C86	500	20000	22-1832	HV20C	TV3-502				HV Filter
C87	.0047	600	22-1782	P688-0047	D6-472	PTE6D5	GP2M-0047	6TM-D47	Line Filter
C88	.0033	600	22-2248	P688-0033	D6-332	PTE6D3	GP2M-0033	6TM-D3	Vert. MV. Plate †

* Chassis 24H20 uses .0047 MFD in this application.
† Used only in chassis 24H20.

CONTROLS

ITEM No.	RATING RESISTANCE WATTS	REPLACEMENT DATA				INSTALLATION NOTES
		ZENITH PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
RIA	500KΩ	63-2125	Q13-133	AG-00-Z	BSK-60-S	Volume control
B	Shaft	Not Req.	KSS-3	Not Req.	Not Req.	Attach to RIA per instructions
C	Switch	Not Req.	76-1	SW-A	Not Req.	Attach to RIA per instructions
R2A	5KΩ	63-1674	Q11-114	AG-19-S	AN-10	Vert. linearity control
B	Shaft	Not Req.	RQ	FKS-1/4	AK-1	Attach to R2A per instructions
R3A	100KΩ	63-2126	Q11-128	AM-49-S	AN-40	Brightness control
B	Shaft	Not Req.	Not Req.	KSS-3	AK-4	Attach to R3A per instructions
R4A	500KΩ	63-2140	Q11-133	AG-58-S	B-59	Vertical hold control
B	Shaft	Not Req.	Not Req.	KSS-3	Not Req.	Attach to R4A per instructions
R5	150KΩ	63-2123			SBT-217	Contrast control - tapped @ 100KΩ and 125KΩ
R6A	7.5Meg	63-2110	Q11-143		B-98 *	Vert. size control
B	Shaft	Not Req.	RQ		Not Req.	Attach to R6A per instructions
R7	20KΩ	63-2099		RTV-127	SVP-996	Focus control - wire wound
R8A	25KΩ	63-2153	Q11-120	AG-40-S	B-2 *	AGC control
B	Shaft	Not Req.	RQ	FKS-1/4	Not Req.	Attach to R8A per instructions
R9	500Ω	63-2050				Buzz control - wire wound min. resistance 100Ω
R10A	25KΩ	63-1675	Q11-120	AG-40-S	AN-26	Horiz. drive control
B	Shaft	Not Req.	RQ	FKS-1/4	AK-1	Attach to R10A per instructions

* Fashion slot to duplicate original

RESISTORS

ITEM No.	RATING RESISTANCE WATTS	REPLACEMENT DATA		IDENTIFICATION CODES ALL RESISTORS ± 10% UNLESS OTHERWISE STATED
		ZENITH PART No.	IRC PART No.	
R11	100KΩ	63-1869		RF Amp Grid
R12	10KΩ	63-1827		RF Amp. Plate
R13	1500Ω	63-1967	BTS-1500	RF Amp. Decoup
R14	3.3Meg 20%	63-1933		Mixer Grid
R15	47KΩ	63-1855		Mixer Screen
R16	1000Ω	63-1785	BTS-1000	Mixer Plate
R17	15KΩ 20%	63-1785		Osc. Grid
R18	1300Ω 5%			Osc. Plate
R19	10Ω 20%	63-1702		Trap Coil Shunt
R20	100Ω 20%	63-1743	BTS-100	Decoup
R21	33KΩ	63-1849		1st Video IF Transformer Shunt
R22	100Ω	63-1743	BTS-100	1st Video IF Amp. Cathode
R23	470Ω 20%	63-1772	BTS-470	1st Video IF Amp. Decoup
R24	1000Ω	63-1785	BTS-1000	AGC Network
R25	470Ω	63-1772	BTS-470	2nd Video IF Amp. Cathode
R26	100Ω	63-1743	BTS-100	Decoup
R27	470Ω 20%	63-1772	BTS-470	AGC Network
R28	470Ω 20%	63-1772	BTS-470	3rd Video IF Amp. Cathode
R29	100Ω	63-1743	BTS-100	3rd Video IF Amp. Decoup
R30	470Ω 20%	63-1772	BTS-470	4th Video IF Transformer Shunt
R31	47KΩ	63-1855		4th Video IF Amp. Cathode
R32	180Ω	63-1754	BTS-180	4th Video IF Amp. Decoup
R33	470Ω 20%	63-1772	BTS-470	AGC Network
R34	220KΩ 20%	63-1883	BTS-220K	Video Peaking Coil Shunt
R35	68KΩ	63-1862	BTS-68K	Video Det. Diode Load
R36	4700Ω	63-1813	BTS-4700	Limiter Cathode
R37	820Ω	63-1782	BTS-820	Limiter Plate
R38	2200Ω	63-1799	BTS-2200	Limiter Plate Decoup
R39	3300Ω	63-1806	BTS-3300	Video Amp. Grid See Note 1
R40	2Meg 5%		BTS-2Meg-5%	Video Amp. Cathode
R41	820Ω	63-1782	BTS-820	Video Amp. Plate
R42	3300Ω	63-1806	BTS-3300	Video Output Grid
R43	1Meg 20%	63-1911	BTS-1Meg	Video Output Cathode
R44	470Ω	63-1772	BTS-470	Video Output Cathode
R45	390Ω	63-1768	BTS-390	Video Peaking Coil Shunt
R46	22KΩ	63-1841	BTS-22K	Video Output Plate
R47	4700Ω	63-1843	BTS-4700	Video Output Plate
R48	4700Ω	63-1843	BTS-4700	Video Peaking Coil Shunt
R49	33KΩ	63-1848	BTS-33K	Voltage Divider
R50	220KΩ	63-1883	BTS-220K	Voltage Divider
R51	330KΩ	63-1890	BTS-330K	Picture Tube Grid
R52	10KΩ 5%	63-1826	BTS-10K-5%	Isolation
R53	470Ω	63-1772	BTS-470	

RESISTORS (CONT.)

ITEM No.	RATING RESISTANCE WATTS	REPLACEMENT DATA		IDENTIFICATION CODES
		ZENITH PART No.	IRC PART No.	
R54	1Meg 20%	63-1912	BTS-1Meg	Inter-Carrier Sound Amp. Grid
R55	6800Ω	63-1571	BTA-6800	Det. Screen
R56	470Ω	63-1772		Parasitic Supp
R57	330KΩ	63-1890	BTS-330K	AF Amp. Plate
R58	330Ω	63-1764	BTS-330	Sound Output Cathode
R59	5600Ω		BTB-5600	Tone Compensation - See Note 2
R60	6800Ω	63-1997		Voltage Divider - Wire Wound
R61	10KΩ	63-1827	BTS-10K	Filter
R62	3500Ω	63-2136	1 3/4A-3500	Filter
R63	27KΩ	63-1845	BTS-27K	Voltage Divider
R64	220KΩ	63-1884	BTS-220K	AGC Network
R65	1Meg	63-1911	BTS-1Meg	Sync. Sep. Grid
R66	15KΩ	63-1065	BTA-15K	Sync. Sep. Screen
R67	68KΩ	63-1862	BTS-68K	Sync. Sep. Plate
R68	100KΩ	63-1869	BTS-100K	Voltage Divider
R69	47KΩ	63-1855	BTS-47K	Isolation
R70	100KΩ	63-1869	BTS-100K	Integrator
R71	680Ω	63-1778	BTS-680	Vert. MV Grid
R72	1000Ω	63-1785	BTS-1000	Vert. MV Cathode
R73	390KΩ	63-1894	BTS-390K	Vert. MV Grid
R74	390KΩ	63-1894	BTS-390K	Vert. MV Grid - See Note 3
R75	100KΩ	63-1869	BTS-100K	Vert. MV Plate
R76	100KΩ	63-1869	BTS-100K	Vert. MV Plate
R77	68KΩ 20%	63-1863	BTS-68K	Voltage Divider
R78	3.3Meg 20%	63-1933	BTS-3.3Meg	Vert. Amp. Grid
R79	470Ω	63-1772	BTS-470	Vert. Amp. Cathode
R80	150KΩ	63-1876	BTS-150K	Vert. Output Transformer Shunt
R81	220KΩ	63-1883	BTS-220K	Voltage Divider
R82	220KΩ	63-1883	BTS-220K	Voltage Divider
R83	1800Ω	63-1201		Vert. Amp. Plate - Wire Wound
R84	100Ω	63-1743	BTS-100	Picture Control Network
R85	1000Ω	63-1785	BTS-1000	Picture Control Coil Shunt
R86	1Meg	63-1911	BTS-1Meg	Horiz. Phase Disc Diode Load
R87	1Meg	63-1911	BTS-1Meg	Horiz. Phase Disc Diode Load
R88	4700Ω	63-1813	BTS-4700	Horiz. Phase Disc Diode Load
R89	1Meg	63-1911	BTS-1Meg	Horiz. AFC Filter Network
R90	100KΩ 20%	63-1869	BTS-100K	AGC Network
R91	1.5Meg 20%	63-1919	BTS-1.5Meg	AGC Network
R92	100KΩ	63-2137	BTA-100K	Horiz. AFC Filter
R93	3300Ω 20%	63-1907	BTS-3300	Decoup
R94	100KΩ	63-1869	BTS-100K	Horiz. Osc. Grid
R95	470Ω	63-1772	BTS-470	Horiz. Osc. Cathode
R96	47KΩ	63-1855	BTS-47K	Voltage Divider
R97	33KΩ	63-957	BTA-33K	Horiz. Osc. Plate
R98	18KΩ	63-1838	BTS-18K	Horiz. Discharge Network
R99	220KΩ 20%	63-1884	BTS-220K	Horiz. Discharge Grid
R100	680K	63-1904	BTS-680K	Horiz. Discharge Plate
R101	4700Ω	63-1813	BTS-4700K	Horiz. Peaking
R102	150Ω 20%	63-1751		Parasitic Supp
R103	150Ω 20%	63-1751		Parasitic Supp
R104	470KΩ 20%	63-1898	BTS-470K	Horiz. Output Grid
R105	150Ω	63-2134	1 3/4A-150	Horiz. Output Cathode - Wire Wound
R106	47Ω 20%	63-1983	BW-2-47	Horiz. Output Cathode
R107	100Ω 20%	63-1744		Parasitic Supp
R108	100Ω 20%	63-1744		Parasitic Supp
R109	15KΩ	63-2135	1 3/4A-15K	Horiz. Output Screen
R110	100KΩ	63-1982	BTB-100K	Horiz. Feedback
R111	100KΩ	63-1982	BTB-100K	Horiz. Feedback
R112	2.2Ω	63-2114		HV Rectifier Filament
R113	470KΩ	63-1898		HV Filter
R114	4000Ω	63-2017	1 3/4A-4000	Focus Coil Shunt - Wire Wound
R115	4000Ω	63-2017	1 3/4A-4000	Focus Coil Shunt - Wire Wound
R116A	200Ω	63-2103	1 3/4 AA-400	Filter
R117	200Ω	63-1869	BTS-200K	Filter
B	100KΩ 20%	63-1869	BTS-100K	Isolation
R168	100KΩ	63-1869	BTS-100K	Integrator - See Note 4
R169	47KΩ	63-1855	BTS-47K	Integrator - See Note 4
R170	4700Ω	63-1813	BTS-4700	Voltage Divider - See Note 4

† Set slider to read 200Ω from each end.
Note 1. Some models use 2.2Meg resistor in this application.
Note 2. Some models use 4700Ω resistor in this application.
Note 3. Not used in all models.
Note 4. Not used in chassis 24H21.

TRANSFORMER (POWER)

ITEM No.	RATING PRI. SEC. 1 SEC. 2 SEC. 3	REPLACEMENT DATA			
		ZENITH PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC @ 2.18A 720VCT @ .210A tapped @ 440V 120ADC	95-1245			

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING DC RESISTANCE	REPLACEMENT DATA				NOTES
		ZENITH PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
T2	391Ω tapped @ 31Ω SEC. 2 6Ω tapped @ 1.1Ω	S-17233				Horiz. output trans.
T3	700Ω	95-1740	A-8113 ①	H-3035 ①	TSO-5 ①	Vert. output trans.
T4A	18Ω	95-1246	DY-7	MD-70F		Horiz. deflection coil
T5	3300Ω					Vert. deflection coil EM-PM focus coil

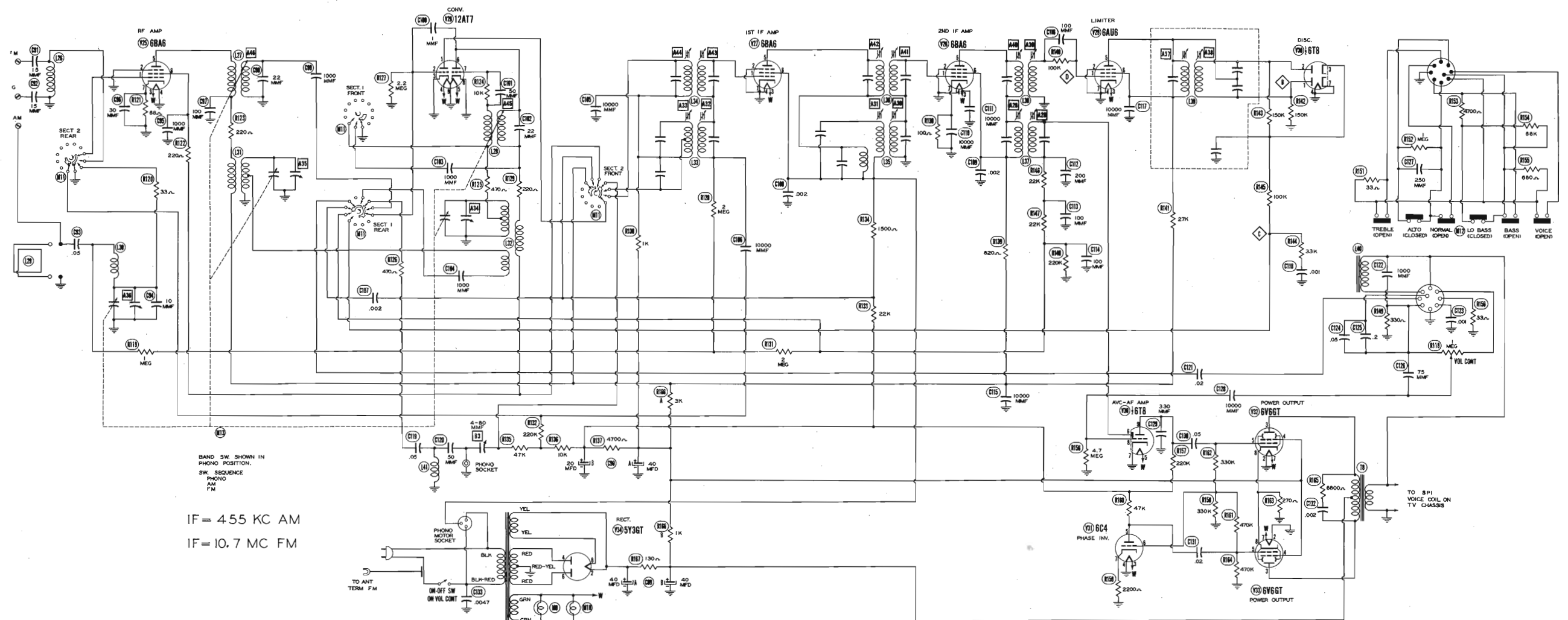
① Drill one new mtg. hole.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING IMPEDANCE PRI. SEC.	DC RES. PRI. SEC.	REPLACEMENT DATA				INSTALLATION NOTES
			ZENITH PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
T6	8700Ω 4.5Ω	710Ω .1Ω	95-1247	A-3879	A-3020	RO-16	

SPEAKER

ITEM No.	RATINGS FIELD RES. V. C. IMP.	REPLACEMENT DATA		
----------	----------------------------------	------------------	--	--



Pin	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V20	6BA6	1.5V	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V21	12AT7	1.5VDC	1.5VDC	5.3VAC	5.3VAC	100VDC	100VDC	1.5VDC	1.5VDC	0V
V22	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V23	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V24	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V25	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V26	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V27	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V28	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V29	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V30	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V31	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V32	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V33	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V34	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V

Pin	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V20	6BA6	1.5V	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V21	12AT7	1.5VDC	1.5VDC	5.3VAC	5.3VAC	100VDC	100VDC	1.5VDC	1.5VDC	0V
V22	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V23	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V24	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V25	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V26	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V27	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V28	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V29	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V30	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V31	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V32	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V33	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V
V34	6BA6	1.5VDC	0V	5.3VAC	0V	100VDC	100VDC	1.5VDC	1.5VDC	0V

A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1951

RADIO SCHEMATIC

ZENITH MODELS H2437E, R, H2438R, H2439R, H2449E, H2445R,
H2447R, H3267R, H3467R, H3475R, H3477R, H3478E

PARTS LIST AND DESCRIPTIONS (Continued)
 RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	
R3	1 Meg.		63-1912	BTS-1 Meg.	AVC Network
R4	38K		63-1726	BTS-220	Parasitic Suppressor
R5	220K		63-1758	BTS-220	RF Amp. Plate Decoupling
R6	220K		63-1758	BTS-220	RF Amp. Screen
R7	68K		63-1737	BTS-10K	RF Amp. Cathode
R8	10K		63-1827	BTS-10K	Osc. Grid
R9	220K		63-1772	BTS-220	Parasitic Supp.
R10	2.8 Meg.		63-1758	BTS-6.8 Meg.	Osc. Plate Decoupling
R11	6.8 Meg.		63-1947	BTS-6.8 Meg.	Conv. Grid
R12	2.2 Meg.		63-1947	BTS-2.2 Meg.	AVC Network
R13	220K		63-1758	BTS-220	AVC Network
R14	470K		63-1758	BTS-220	Conv. Plate Decoupling
R15	220K		63-1864	BTS-470K	AVC Network
R16	220K		63-1758	BTS-220	Voltage Divider
R17	47K		63-1856	BTS-47K	1st IF Amp. Plate Decoupling
R18	47K		63-1856	BTS-47K	Decoupling
R19	47K		63-1856	BTS-47K	Decoupling
R20	100K		63-1744	BTS-100	2nd FM IF Amp. Cathode
R21	100K		63-1870	BTS-100	2nd FM IF Amp. Decoupling-Wire Wound
R22	100K		63-1870	BTS-100	Limiter Grid
R23	27K		63-1845	BTS-27K	Diode Filter
R24	47K		63-1856	BTS-47K	Diode Load
R25	1 Meg.		63-1912	BTS-1 Meg.	Disc. Diode Load
R26	150K		63-1876	BTS-150K	Disc. Diode Load
R27	150K		63-1876	BTS-150K	De-emphasis
R28	100K		63-1869	BTS-100K	AF Amp. Grid
R29	4.7 Meg.		63-1940	BTS-4.7 Meg.	AF Amp. Plate
R30	470K		63-1897	BTS-470K	Tone Compensation
R31	10K		63-1828	BTS-10K	Output Grid
R32	470K		63-1828	BTS-470K	Tone Compensation
R33	120K		63-1861	BTS-120	Output Cathode
R34	3300K		63-1906	BTS-3300	Tone Compensation
R35	820K		63-1822	BTS-820	Tone Compensation
R36	15K		63-1824	BTS-15K	Tone Compensation
R37	220K		63-1864	BTS-220K	Phono Osc. Grid
R38	390K		63-1956	BTS-390K	Parasitic Supp.
R39	12 Meg.		63-1954	BTS-12 Meg.	Phono Isolation-See Note 1
R40A	1300K	10	63-2068	BTS-1300K	Filter-Wire Wound
R41	4700K	10	63-1914	BTS-4700	Filament Dropping-Wire Wound
R42	68K		63-1863	BTS-68K	Phono Osc. Plate
R43	47K	1	63-2093	BW-1-47	Filament Dropping-Wire Wound

Note 1. Some models use 10 Meg. resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA	
	PHI	SEC. 1	SEC. 2	ZENITH PART No.	CHICAGO PART No.
T1	117VAC ④ .030A	350VAC ④ .107	ADC	95-1188	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING		REPLACEMENT DATA		INSTALLATION NOTES
	IMPEDANCE PHI	DC RES. SEC.	ZENITH PART No.	STANCOR PART No.	
T2	2300K 4K	235K .7K	95-1189	A-3876 ①	① Drill one new mounting hole.

PARTS LIST AND DESCRIPTIONS (Continued)
 SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	FIELD	V. C. IMP.	ZENITH PART No.	JENSEN PART No.	
SP1	PM CONE DIA. 9 3/8"	4K	49-688	ST-120 ② MOD. PI0-S	② Replace output transformer to match 8-80 voice coil.
SP2		V. C. D.I.A. 1"		10A4A	

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PHI	SEC.	ZENITH PART No.	MEISSNER PART No.
L1	FM Ant.	.1Ω		S-16408	
L2	Loading Coil	.1Ω		S-15743	
L3	FM RF	0Ω	0Ω	S-15691	
L4	FM Osc.	0Ω	0Ω	S-16841	
L5	Loop Ant.	1.5Ω		S-17328	
L6	AM Ant.	3.4Ω		S-18344	
L7	AM RF Coil	3.1Ω	12Ω	S-16345	
L8	1st AM IF	1.8Ω	9Ω	S-12000	
L9	1st AM IF	5.5Ω	19Ω	S-12001	
L10	2nd AM IF	.5Ω	50	95-1102	
L11	2nd AM IF	20Ω	20Ω	95-1150	
L12	3rd FM IF	.4Ω	.4Ω	95-1152	
L13	Osc. Trans.	.2Ω	.3Ω	95-1153	
L14	Phono Osc.	2Ω		S-12603	

* Add capacitor from black lead to ground

PHONO CARTRIDGE and NEEDLE

ITEM No.	REPLACEMENT DATA	REMARKS
M1	ASTATIC PART No. CARTRIDGE NEEDLE	
M1	S-15780	

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	REPLACEMENT DATA		NOTES
				BEAD COLOR	ZENITH PART No.	
M2	Bayonet	115	10 Watt	Clear	100-97	

MISCELLANEOUS

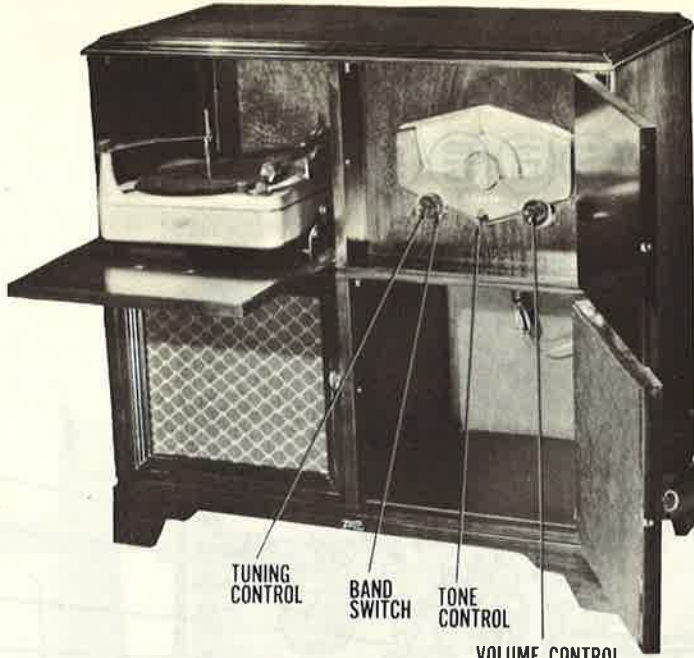
ITEM No.	PART NAME	ZENITH PART No.	NOTES
M3	Switch	85-489	Phono-AM-FM
M4	3 Gang Var. Cap.	22-2104	(21-466MMF, 40-222MMF, 12-164MMF)
	Cabinet	14-1268R	
	Knob	46-878	Tone
	Knob	46-878	Tuning
	Knob	46-899	Band
	Dial Glass	192-138	Volume
	Knob Assembly	S-17167	

ZENITH
 MODEL H880RZ (Ch. 8H20)

PHOTOFACT* Folder

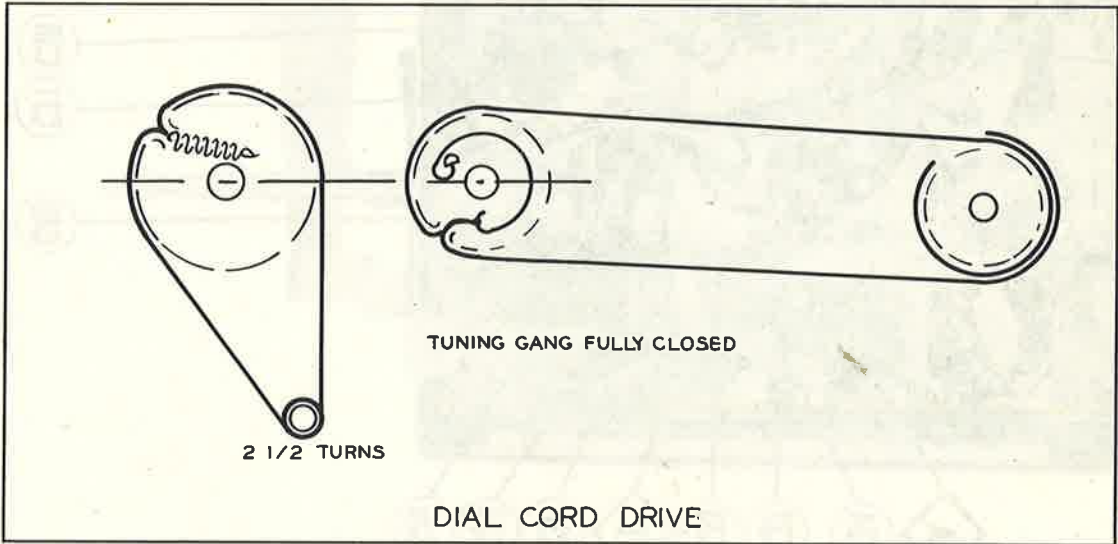


ZENITH
 MODEL H880RZ (Ch. 8H20)



ZENITH MODEL H880RZ

TRADE NAME	Zenith, Model H880RZ (Ch. 8H20)	
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago, Illinois	
TYPE SET	AC Operated Combination Phono-Radio, AM-FM Superheterodyne Receiver with Loop Antenna	
TUBES (EIGHT)	Types 12BA6 RF Amp., 12AT7 Converter, 12BA6 1st FM-AM IF Amp., 12BA6 2nd FM IF Amp., 12AU6 Limiter, 19T8 Disc. -DET-AVC-AF, 25L6GT Power Output, 25Z5GT Rectifier	
POWER SUPPLY	110-120 Volts AC	RATING .66 Amp. at 117 Volts AC
TUNING RANGE-BROADCAST	540-1620KC	FREQ. MOD. 88-108MC
FOR SERVICE INFORMATION ON RECORD CHANGER SEE ZENITH MODEL S-14025 IN PHOTFACT SET # 112 FOLDER # 15 OR RECORD CHANGER MANUAL CM-3		

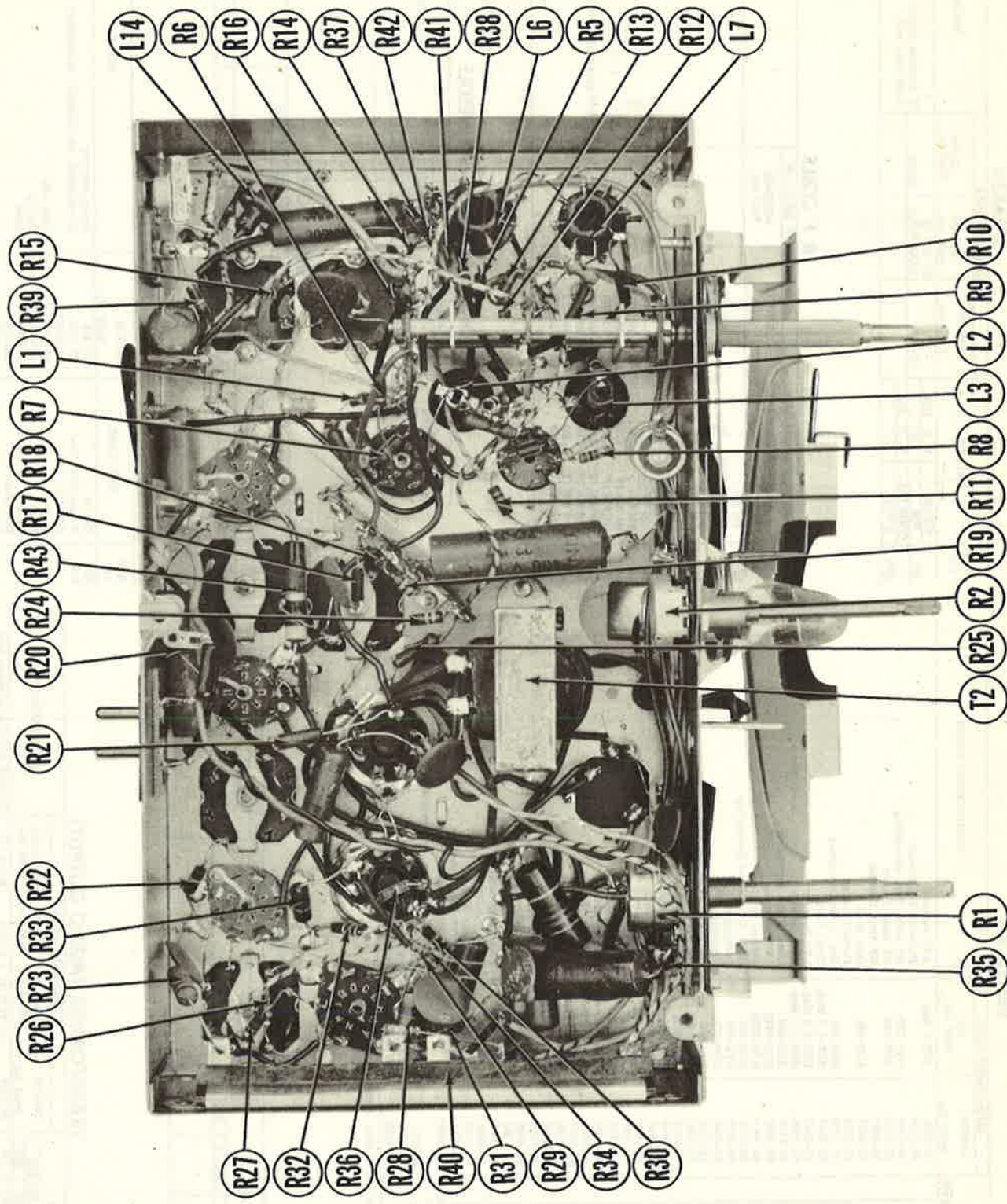
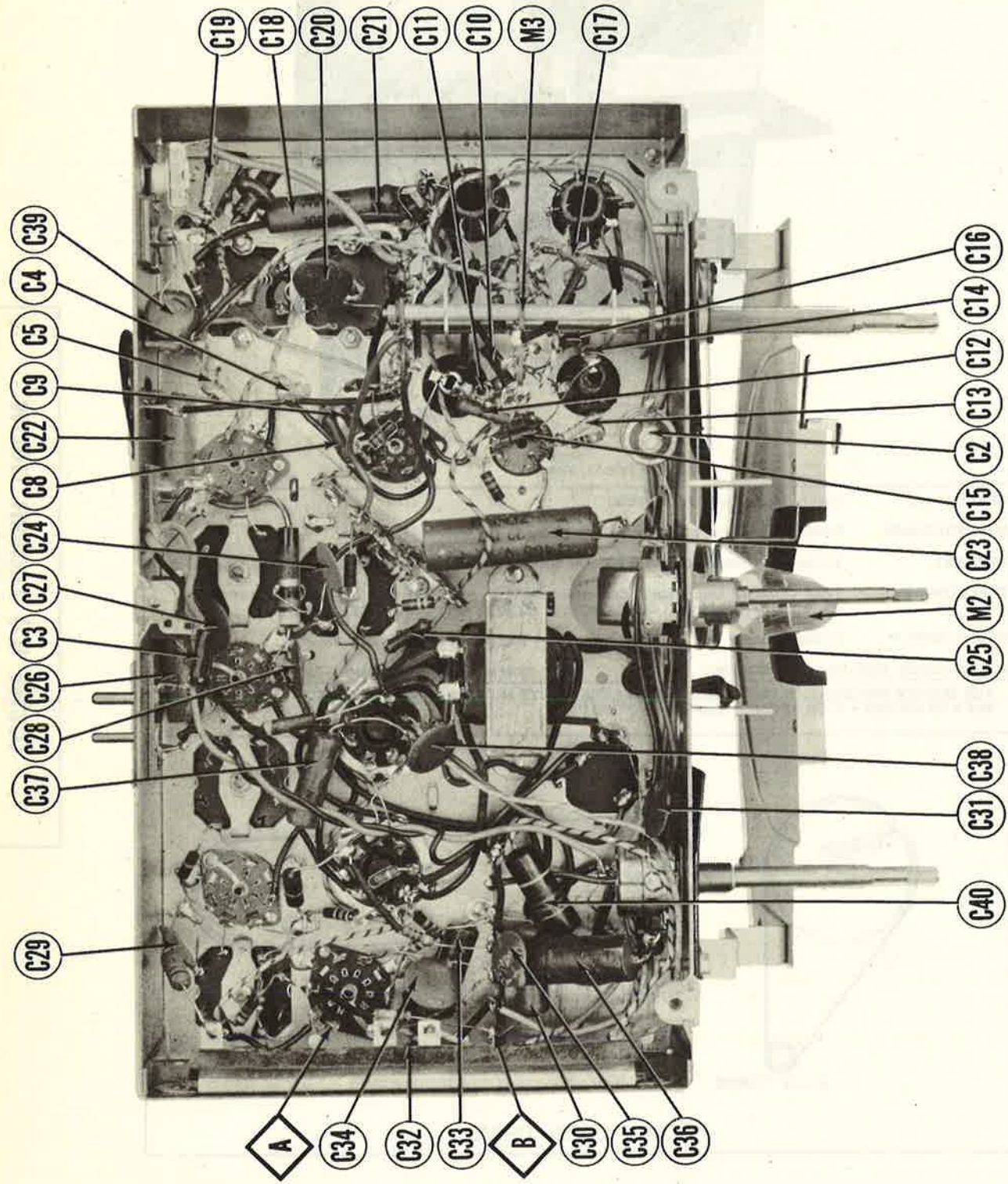


HOWARD W. SAMs & CO., INC. • Indianapolis 1, Indiana

"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 the particular type of replacement part listed."
 "Reproduction or use, without express permission, of editorial or pictorial con-

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1950 by Howard W. Sams & Co., Inc., Indianapolis 1, Indiana, U. S. of America. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc."
 Printed in U. S. of America

ZENITH
 MODEL H880RZ (Ch. 8H20)



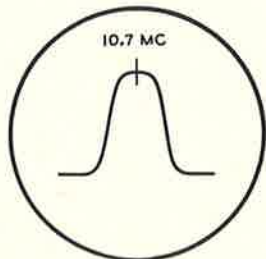


FIG. 1

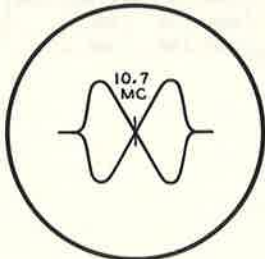


FIG. 2

PARTS LIST AND DESCRIPTIONS TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA			RMA BASE TYPE	INSTALLATION NOTES
		ZENITH PART No.	STANDARD REPLACEMENT	CENTRALAB PART No.		
V1	RF Amp. Converter	12BA6	12BA6	7BK	7BK	
V2	1st FM-AM IF	12AT7	12AT7	9A	9A	
V3	2nd FM IF	12BA6	12BA6	7BK	7BK	
V4	2nd FM IF Amp. Limiter	12BA6	12BA6	7BK	7BK	
V5	Discr. -Det. -AVC	12AU6	12AU6	7BK	7BK	
V6	-AF	19T8	19T8	9E	9E	
V7	Power Output	25L6GT	25L6GT	7AC	7AC	
V8	Rectifier	25Z5GT	25Z5GT	6E	6E	

CAPACITORS

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

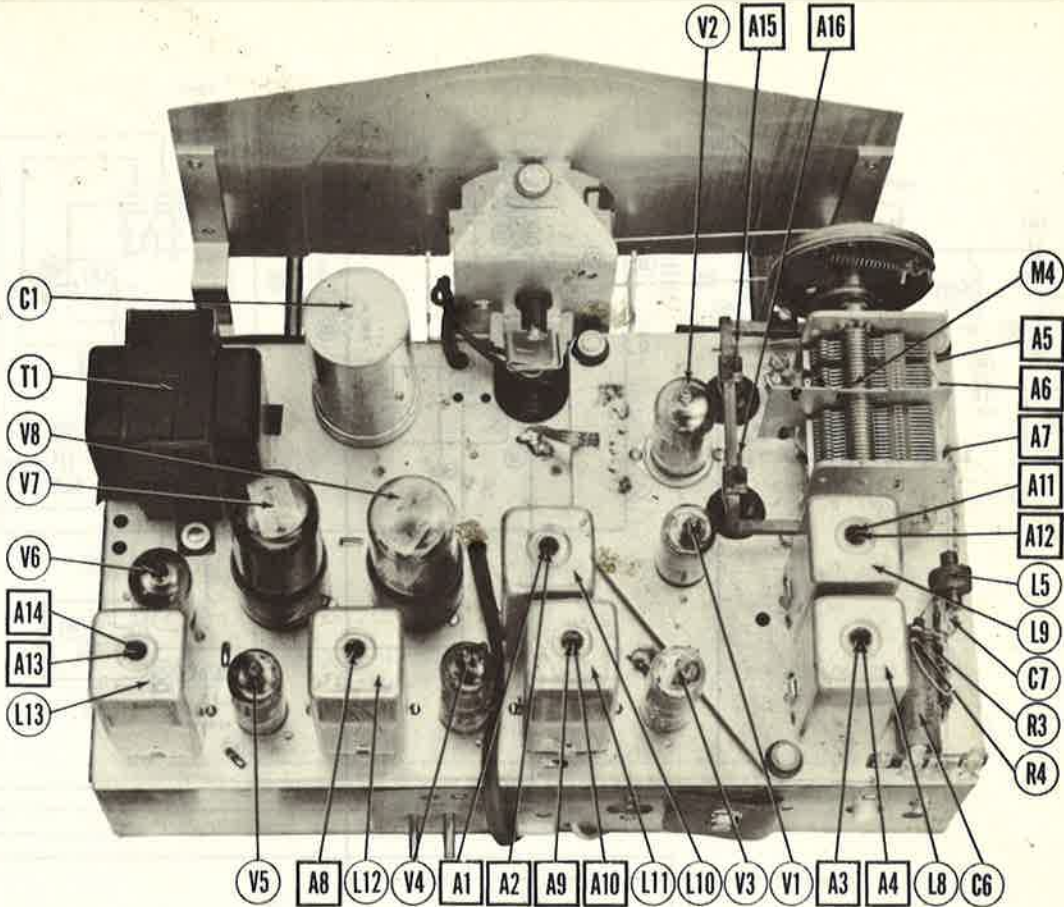
ITEM No.	RATING CAP.	VOLT	REPLACEMENT DATA				IDENTIFICATION CODES AND INSTALLATION NOTES
			ZENITH PART No.	AEROVOX PART No.	CENTRALAB PART No.	SPRAGUE PART No.	
C1	80	250	22-2105	AF888J	UPE8425	TVA-1505	Filter
C2	40	250	22-2154	PR8250/12	BR1025	19C11	Line Ant. Coupling
C3	10	250	22-5	SW5T1	SW5T1	19C22	Ant. Coupling
C4	15	100	22-2140	SI15	SI15	19C22	Ant. Coupling
C5	15	100	22-2140	SI15	SI15	19C22	Ant. Coupling
C6	.05	600	22-829	P888-05	PTE685	6TM-55	Ant. Isolation
C7	.05	600	22-2140	SI15	SI15	19C22	Fixed Trimmer
C8	1000	1000	22-1676	SI1000	1W5D1	19C1	RF Amp. Screen
C9	100	100	22-1705	SI100	SW5T1	19C24	RF Amp. Cath.
C10	100	100	22-5	SI100	SW5T1	19C11	Fixed Trimmer
C11	22	1000	22-1806	SI1000	1W5D1	19C1	Fixed Trimmer
C12	1000	1000	22-1876	SI1000	1W5D1	19C1	Fixed Trimmer
C13	50	1000	22-1387	SI50	SW5T1	19C28	Osc. Grid Cap.
C14	22	1000	22-1506	SI22	SW5T1	19C28	Osc. Coupling
C15	1	1000	22-1762	SI1000	1W5D1	19C1	Osc. Coupling
C16	1000	1000	22-1676	SI1000	1W5D1	19C1	Isolation
C17	1000	1000	22-827	PTE88-1	PTE88-1	2TM-P1	Phono Osc. Grid
C18	.1	200	22-827	SI100	SW5T1	19C28	Phono Osc. Feedback
C19	50	1000	22-1367	SI50	SW5T1	19C28	AVC Filter
C20	10000	10000	22-3	BPD-01	PTE4S1	36C1	Conv. Plate Dec.
C21	10000	10000	22-3	BPD-01	PTE4S1	36C1	1st IF Dec.
C22	.002	600	22-1220	P888-002	PTE4S1	4TM-P22	Audio Coupling
C23	.2	400	22-177	P488-22	PTE4S1	36C1	2nd IF Decoupling
C24	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C25	.004	600	22-448	P888-004	PTE4S1	36C1	2nd IF Cath.
C26	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C27	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C28	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C29	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C30	.001	200	22-1717	P888-001	PTE4S1	36C1	2nd IF Cath.
C31	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C32	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C33	.0005	600	22-854	P888-005	PTE4S1	36C1	2nd IF Cath.
C34	10000	10000	22-3	BPD-01	PTE4S1	36C1	2nd IF Cath.
C35	.05	600	22-829	P888-05	PTE4S1	36C1	2nd IF Cath.
C36	.05	600	22-829	P888-05	PTE4S1	36C1	2nd IF Cath.
C37	.01	10000	22-669	P888-01	PTE4S1	36C1	2nd IF Cath.
C38	.05	600	22-829	P888-05	PTE4S1	36C1	2nd IF Cath.
C39	.05	600	22-829	P888-05	PTE4S1	36C1	2nd IF Cath.
C40	.047	400	22-1775	P488-057	PTE4S1	36C1	2nd IF Cath.

CONTROLS

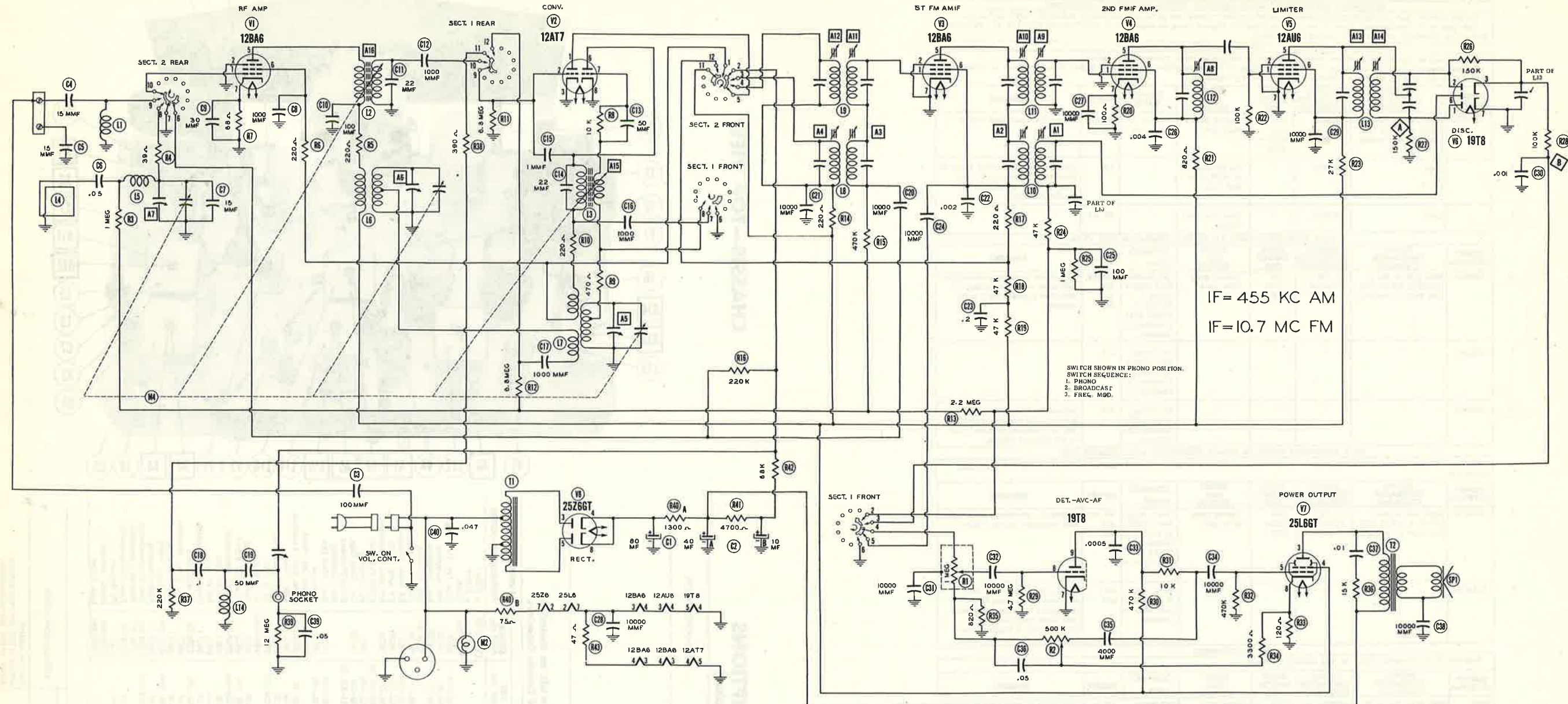
ITEM No.	RATING	REPLACEMENT DATA			INSTALLATION NOTES
		ZENITH PART No.	IRC PART No.	CENTRALAB PART No.	
RIA	1 Meg.	63-2131	Q1-137	AN-69	Volume control
B	1 Meg.	Not Req.	Not Req.	AK-4	Attach to RIA per instructions
C	500K2	Not Req.	Not Req.	K-155	Attach to RIA per instructions
R2A	500K2	Not Req.	Not Req.	SB-209	Tone control
B	500K2	Not Req.	Not Req.	Not Req.	Attach to R2A per instructions

* Cut IQ shaft to correct length so when shaft end E-190 is attached, the total length is correct.

CHASSIS—TOP VIEW



ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
To set pointer, turn tuning gang fully closed and set pointer to round dot at the low frequency end of the "AM" dial scale. The type of IF transformers used in this receiver must be aligned using an alignment wrench, Zenith Part #88-7. The upper coil is the secondary and the lower coil is the primary.							
AM ALIGNMENT							
Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. .05MFD	High side to pin 2 (Grid) of 12AT7 (V2). Low side to chassis.	455KC (400 % Mod.)	AM (1st position CW)	Tuning gang fully open	Across voice coil	A1, A2, A3, A4	Adjust for maximum output.
2.	Loop	1600KC	"	Set pointer to 1600KC on dial scale	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.	Loop	1400KC	"	Tune for max. output	"	A6, A7	"
FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
4. .05MFD	High side to pin 2 (Grid) of 12AT7 (V2). Low side to chassis.	10.7MC (Unmod.)	FM (fully CW)	Tuning gang fully open	DC Probe thru 100KΩ to pin 1 (Grid) of 12AU6 (V5). Common to chassis.	A8, A9, A10, A11, A12	Adjust for maximum deflection. Attenuate signal generator to maintain a maximum 2 volts reading.
5. .05MFD	"	"	"	"	DC Probe thru 100KΩ to Point A. Common to chassis.	A13	"
6. .05MFD	"	"	"	"	DC Probe to Point B. Common to chassis.	A14	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE							
Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
4. .05MFD	High side to pin 2 (Grid) of 12AT7 (V2). Low side to chassis.	10.7MC (450KC SWP)	FM (fully CW)	Tuning gang fully open	Vert. Amp. thru 100KΩ to pin 1 (Grid) of 12AU6 (V5). Low side to chassis.	A8, A9, A10, A11, A12	Adjust for maximum amplitude and symmetry as per figure 1.
6. .05MFD	"	"	"	"	Vert. Amp. to Point D. Low side to chassis.	A13, A14	Adjust A14 to place 10.7MC at center of diagonal line as per figure 2. Adjust A13 for maximum amplitude and straightness of diagonal line. Continue with step 7.
FM RF ALIGNMENT							
Remove the line antenna from the FM antenna terminal.							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
7. 270Ω carbon res.	High side thru 270Ω to "FM" antenna terminal "F". Low side to chassis.	98MC (Unmod.)	FM (fully CW)	Set pointer to 98MC on dial scale.	DC Probe thru 100KΩ to pin 1 (Grid) of 12AU6 (V5). Common to chassis.	A15, A16	Adjust for maximum deflection.



VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	12BA6	10V	0V	14VAC	28VAC	105VDC	105VDC	17.2VDC	0V	0V
V 2	12AT7	110VDC	11.1VDC	0V	14VAC	0V	105VDC	11.3VDC	0V	8.3VAC
V 3	12BA6	0V	0V	20VAC	28VAC	105VDC	105VDC	11.3VDC	0V	0V
V 4	12BA6	0V	0V	45VAC	33VAC	100VDC	100VDC	1.4VDC	0V	0V
V 5	12AU6	1.5VDC	0V	33VAC	20VAC	163VDC	145VDC	0V	0V	0V
V 6	19T8	11VDC	11VDC	11.3VDC	0V	20VAC	0V	0V	0V	45VDC
V 7	25L6GT	0V	72VAC	175VDC	115VDC	0V	170VDC	45VAC	6.6VDC	0V
V 8	25Z8GT	0V	72VAC	175VDC	115VDC	0V	170VDC	45VAC	6.6VDC	0V

† TAKEN WITH VACUUM TUBE VOLTMETER.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	12BA6	1.1M	0.0	120	180	11.5K	11.5K	0.0	0.0	0.0
V 2	12AT7	11.5K	11.5K	0.0	120	0.0	11.5K	11.5K	0.0	50
V 3	12BA6	11.5K	11.5K	0.0	180	250	11.5K	11.5K	0.0	0.0
V 4	12BA6	40	0.0	220	200	12.1K	12.1K	1000	0.0	0.0
V 5	12AU6	100K	0.0	200	160	128K	128K	0.0	0.0	0.0
V 6	19T8	11.5K	11.5K	11.5K	160	11.5K	11.5K	0.0	4.7M	1470K
V 7	25L6GT	0.0	280	12350	11.3K	470K	115K	220	1200	0.0
V 8	25Z8GT	0.0	280	120	40K	500	11.3K	350	40K	0.0

† MEASURED FROM PIN 4 OF V8

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.