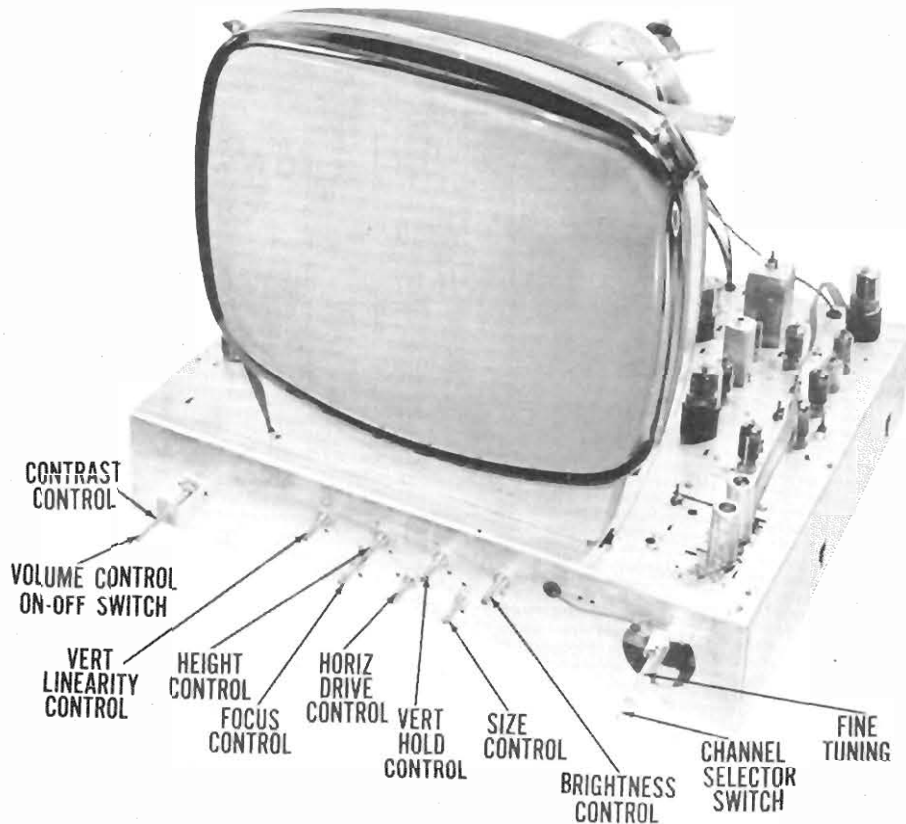


CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION



TRADE NAME	Kaye-Halbert Chassis 253 (Used in Models 014, 024, 044, 045, 046, 074, 076, 077, 424, 714, 724, 744, 745, 746, 777, 914)		
MANUFACTURER	Kaye-Halbert Corp., 3555 Hayden Avenue Culver City, California		
TYPE SET	Television Receiver		
TUBES	Twenty Five		
POWER SUPPLY	110-120 Volts AC-60 Cycle	RATING	2.0 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13		

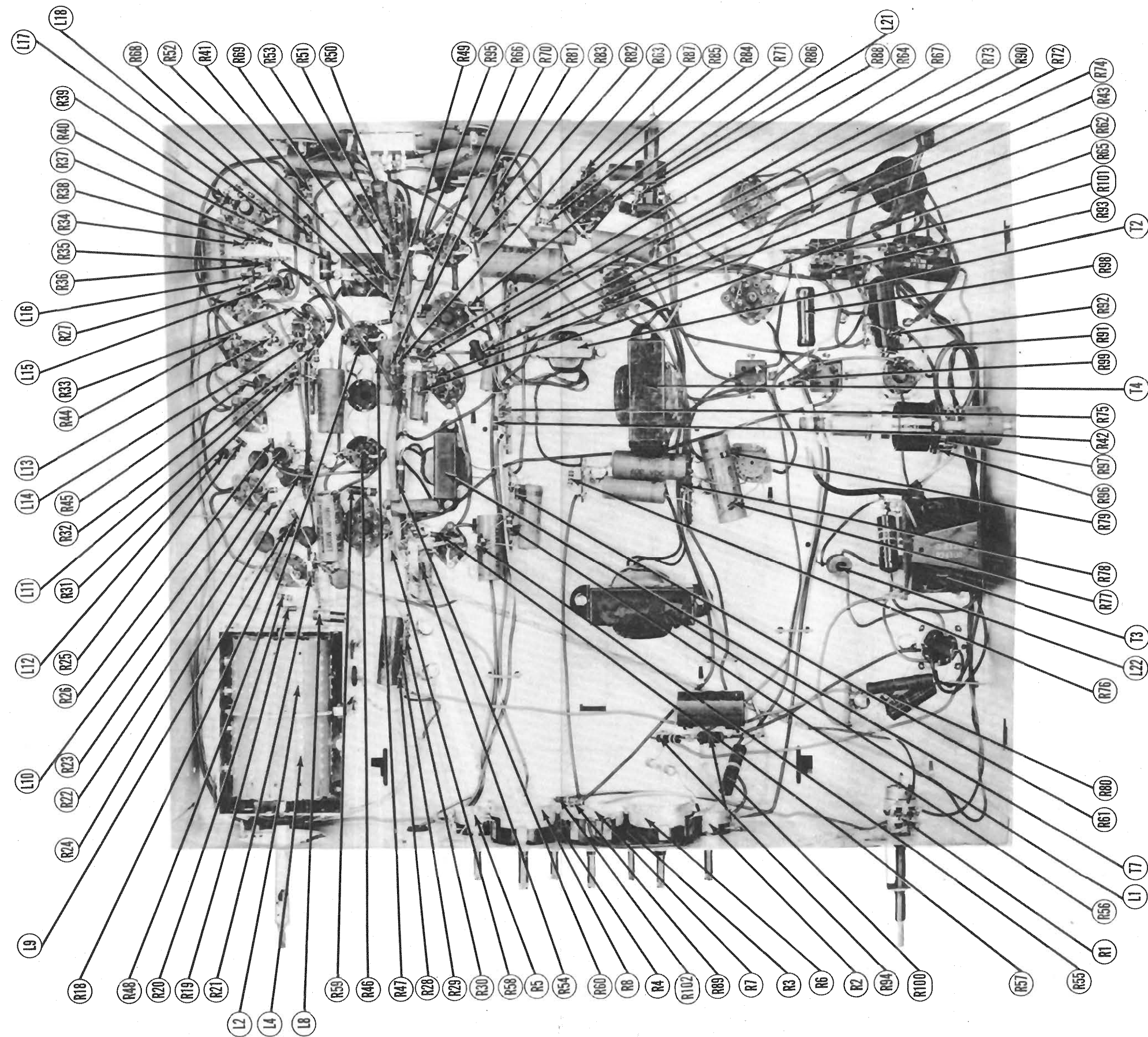
INDEX	
Alignment Instructions .....	6, 7
Horizontal Sweep Circuit Adjustments .....	11
Parts List And Description .....	12, 13, 14
Photographs	
Capacitor And Alignment Identification .....	4, 9
Chassis-Rear View .....	11
Chassis-Top View .....	3
Photographs (Cont.)	
RF Tuner .....	10
Resistor And Inductor Identification .....	15, 16
Schematic .....	2
Tube Placement Charts .....	5
Voltage and Resistance Measurements .....	8

KAYE-HALBERT MODELS 014, 024, 044, 045, 046, 074, 076, 077, 424, 714, 724, 744, 745, 777, 914

HOWARD W. SAMS & CO., INC. • Indianapolis 5, 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 content, 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



CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

CONTRAST  
CONTROL

VOLUME CO.  
ON-OFF SW

VERT  
LINEAR  
CONTRO.

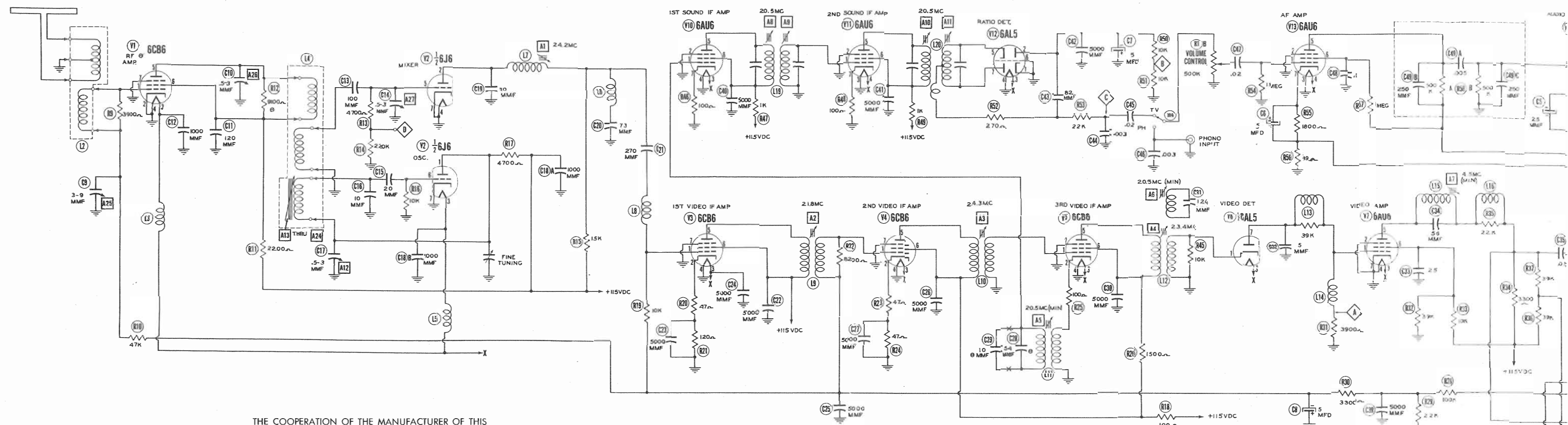
TRADE NAME	Kaye-Ha
MANUFACTURER	Kaye-Ha
TYPE SET	Televi
TUBES	Twenty

POWER SUPPLY	110-120 V
TUNING RANGE	Channel

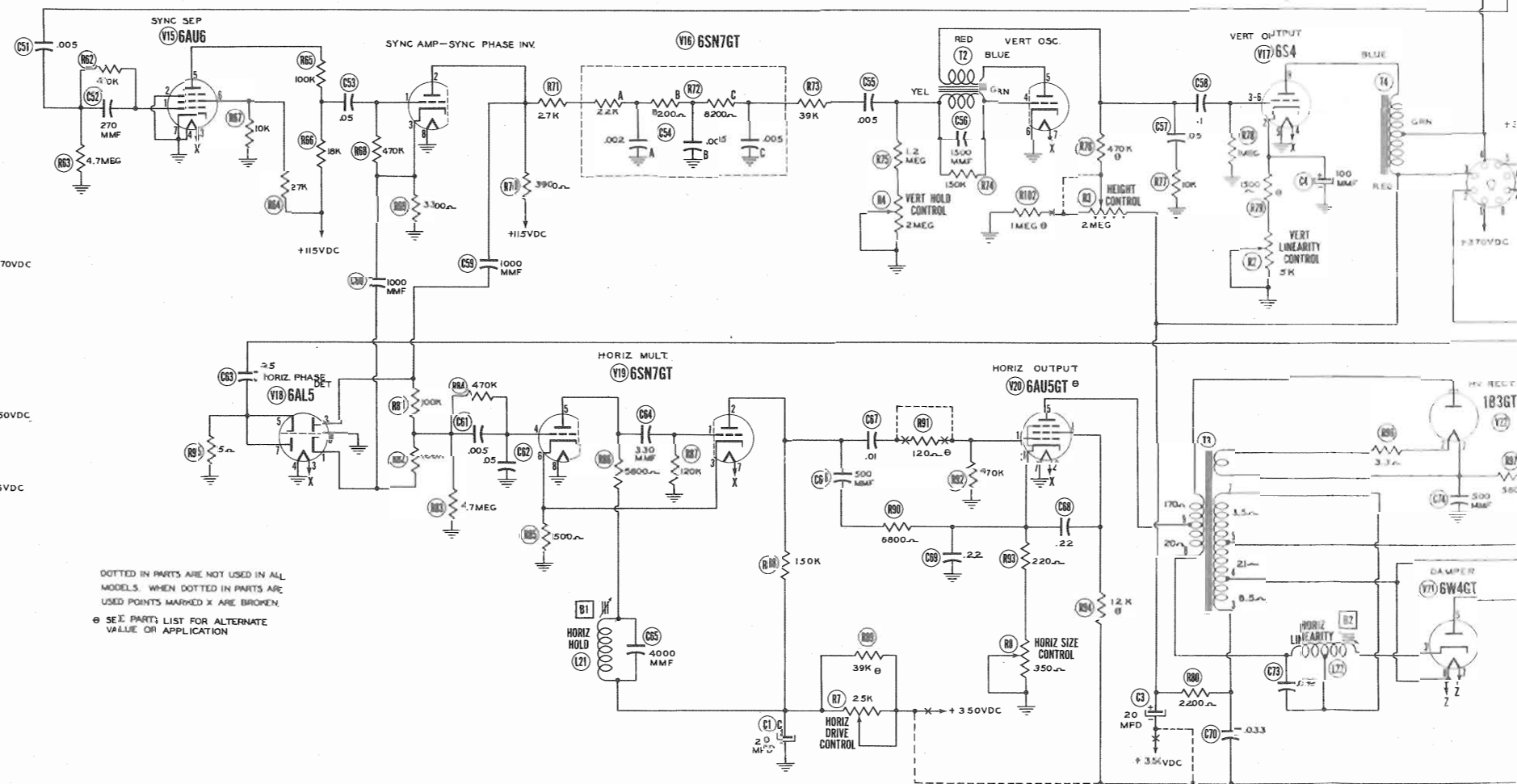
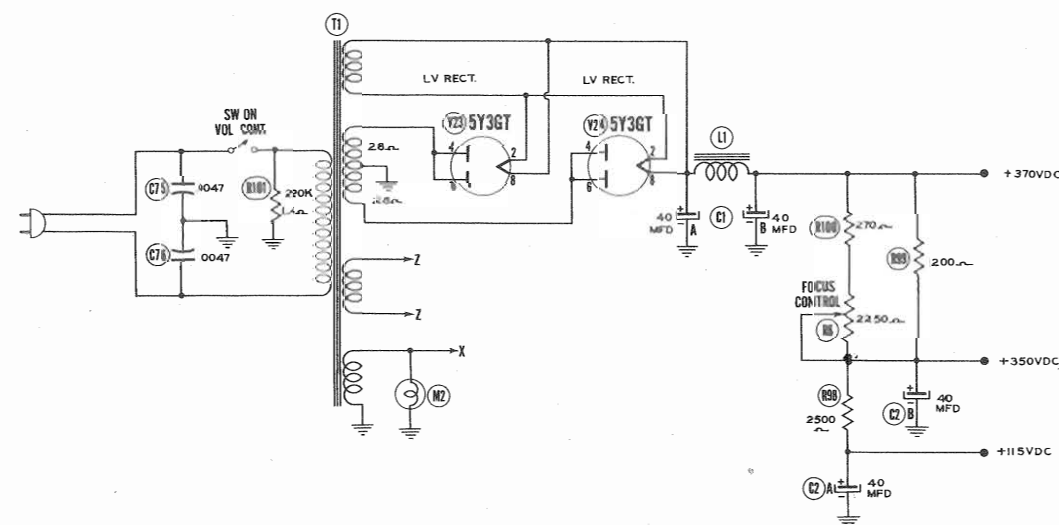
Alignment Instructions . . .
Horizontal Sweep Circuit Ac
Parts List And Description .
Photographs
Capacitor And Alignmer
Chassis-Rear View . . .
Chassis-Top View . . .

#### HOW

"The listing of any available replacem  
case a recommendation, warranty or g  
as to the quality and suitability of suc  
parts have been compiled from inform  
Inc., by the manufacturers of the parti  
"Reproduction or use, without express



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

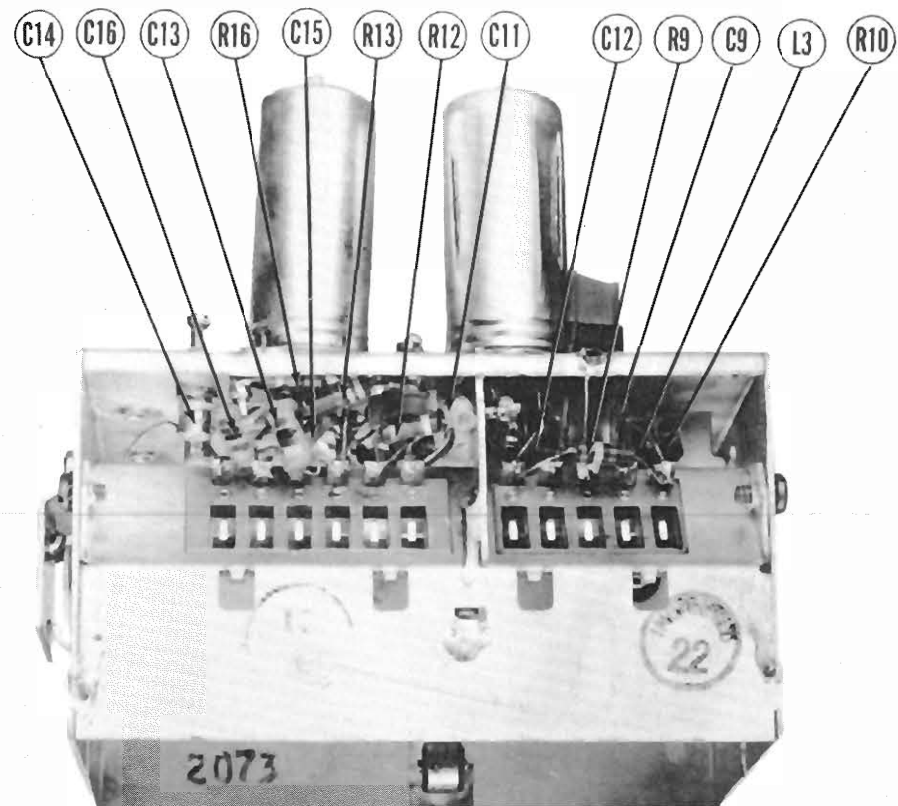


DOTTED IN PARTS ARE NOT USED IN ALL MODELS. WHEN DOTTED IN PARTS ARE USED POINTS MARKED X ARE BROKEN.  
 SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

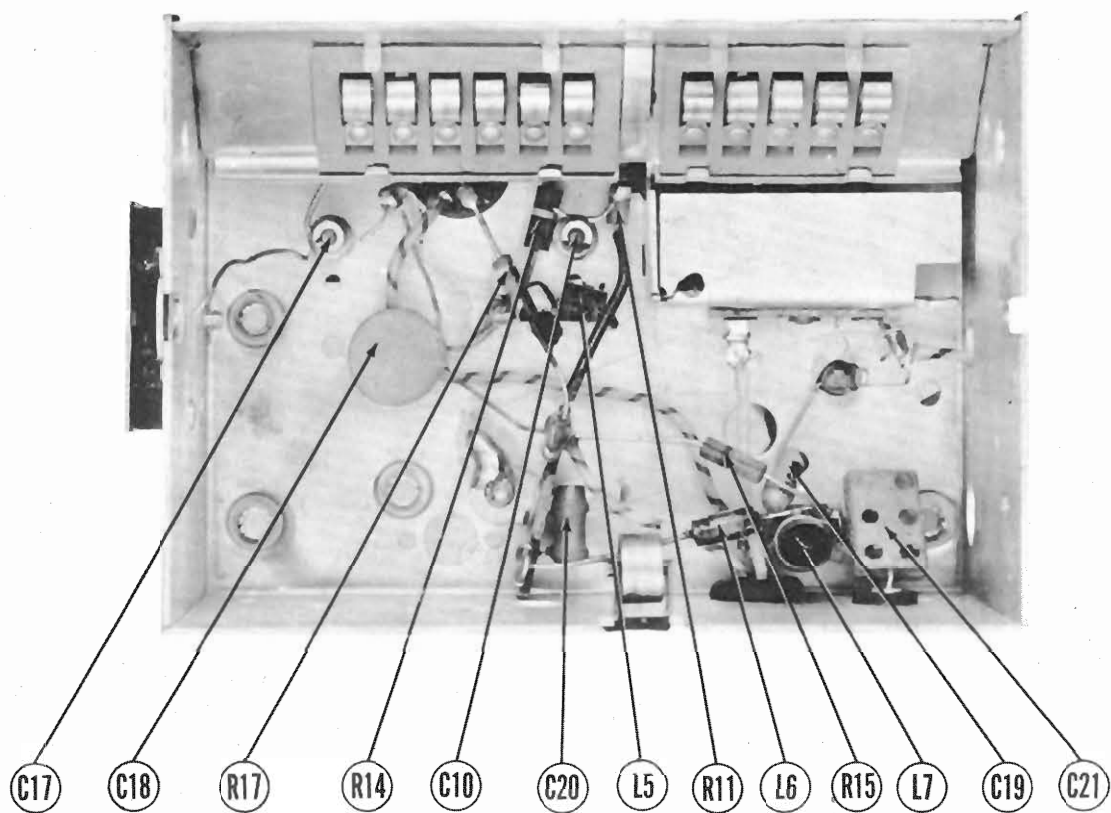
A PHOTOFACIT STANDARD NOTATION SCHEMATIC  
 ©Howard W. Sams & Co., Inc. 1951



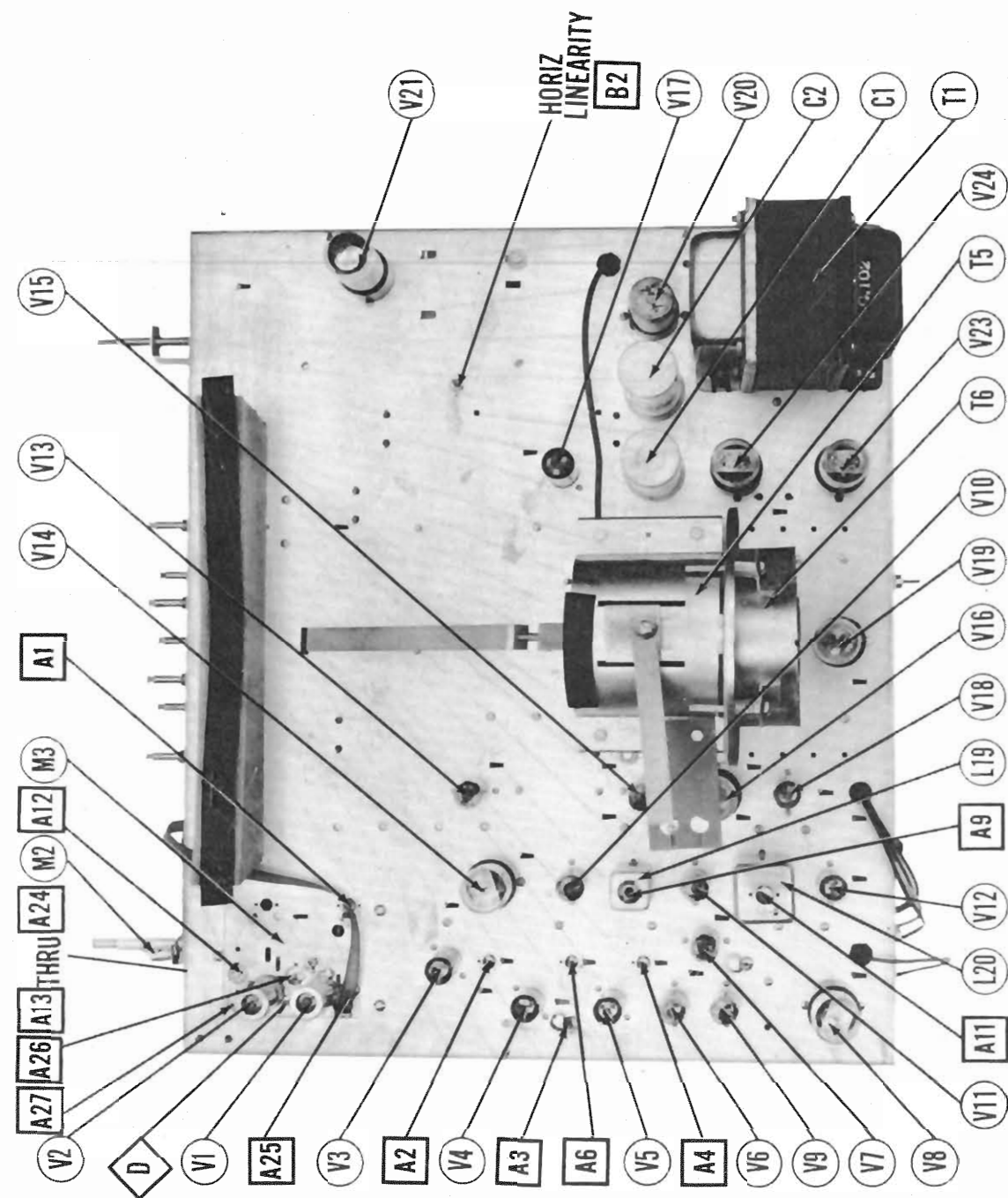




RF TUNER-RIGHT SIDE



RF TUNER-BOTTOM VIEW

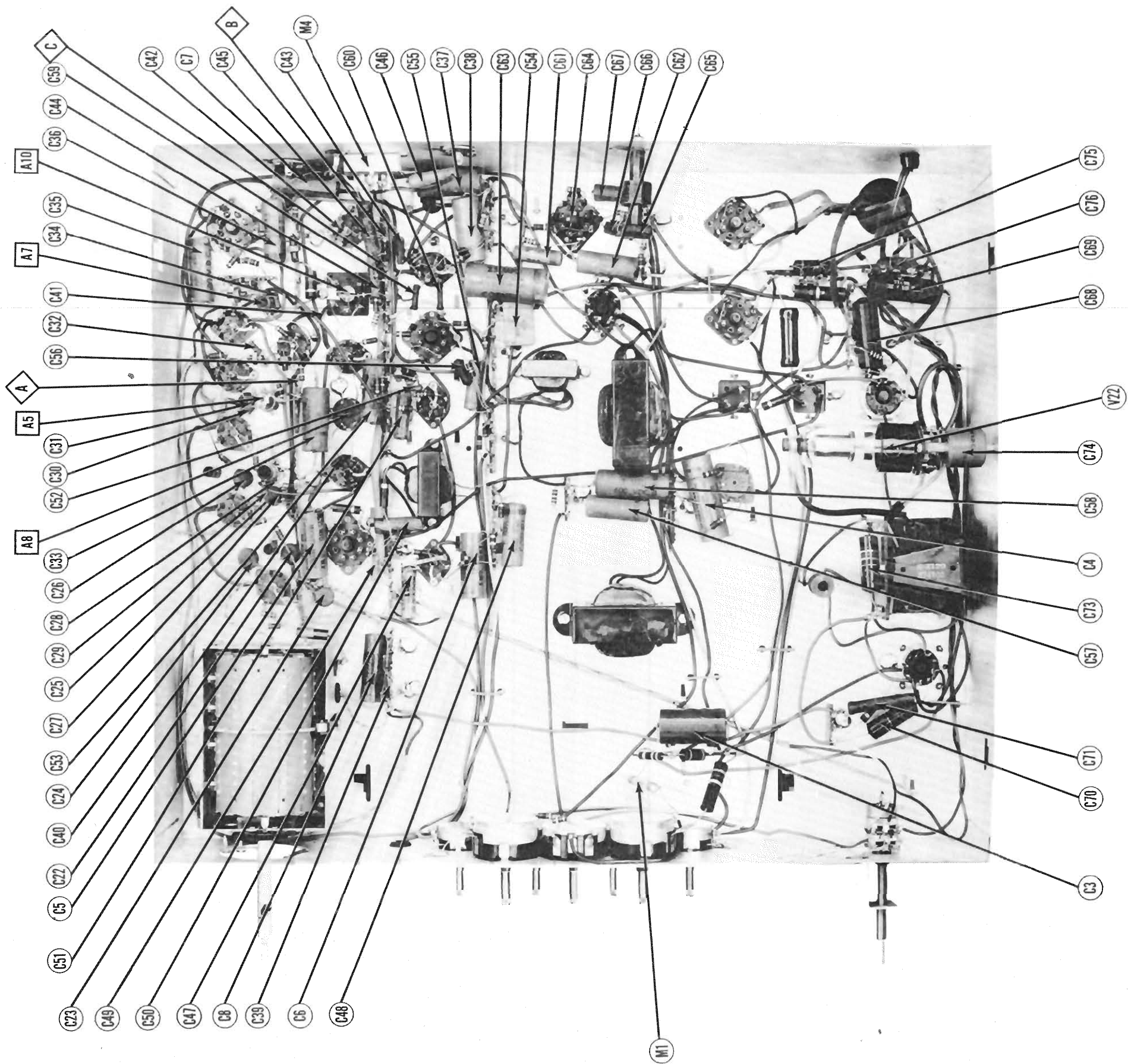


MAIN POL SISSVHO

KAYE-HALBERT MODELS 014, 024, 044, 046, 074, 076, 077, 424, 714, 724, 744, 745, 777, 914

# CHASSIS BOTTOM VIEW ALIGNMENT IDENTIFICATION

KAYE-HALBERT MODELS 014, 024, 044, 046, 074,  
076, 077, 424, 714, 724, 744, 745, 777, 914





VOLTAGE AND RESISTANCE MEASUREMENTS

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	-2.5VDC	0V	6.3VAC	0V	90VDC	90VDC	0V		
V 2	6J6	85VDC	115VDC	6.3VAC	0V	-1.4VDC	1-3VDC	0V		
V 3	6CB6	-1VDC	1.1VDC	6.3VAC	0V	110VDC	110VDC	0V		
V 4	6CB6	-1VDC	1.3VDC	6.3VAC	0V	110VDC	110VDC	0V		
V 5	6CB6	0V	1.6VDC	6.3VAC	0V	95VDC	95VDC	0V		
V 6	6AL5	0V	0V	6.3VAC	0V	1.3VDC	0V	-8VDC		
V 7	6AU6	-7VDC	0V	6.3VAC	0V	95VDC	75VDC	0V		
V 8	6K6GT	0V	0V	310VDC	110VDC	0V	9.8VDC	6.3VAC	11.9VDC	
V 9	6AU6	100VDC	110VDC	0V	6.3VAC	-2.2VDC	340VDC	110VDC		
V 10	6AU6	0V	0V	6.3VAC	0V	105VDC	105VDC	.8VDC		
V 11	6AU6	0V	0V	0V	6.3VAC	105VDC	105VDC	.8VDC		
V 12	6AL5	0V	-7VDC	6.3VAC	0V	-5.5VDC	0V	-5.5VDC		
V 13	6AU6	0V	0V	0V	6.3VAC	75VDC	54VDC	1.5VDC		
V 14	6K6GT	0V	0V	300VDC	320VDC	0V	0V	6.3VAC	26VDC	
V 15	6AU6	-8VDC	0V	6.3VAC	0V	100VDC	30VDC	0V		
V 16	6SN7GT	120VDC	85VDC	21VDC	21VDC	50VDC	50VDC	6.3VAC	0V	
V 17	6S4	0V	35VDC	0V	6.3VAC	0V	0V	0V	0V	540VDC
V 18	6AL5	2.4VDC	-2.4VDC	6.3VAC	0V	0V	0V	0V		
V 19	6SN7GT	1-8.2VDC	110VDC	9.8VDC	1.2VDC	225VDC	9.8VDC	6.3VAC	0V	
V 20	6AU6GT	0V	6.3VAC	43VDC	0V	0V	0V	0V	255VDC	
V 21	6W4GT	510VDC	0V	570VDC	0V	340VDC	0V	570VDC	570VDC	
V 22	1B3GT	* DO NOT MEASURE				340VAC	0V	340VAC	0V	380VDC
V 23	5Y3GT	0V	380VDC	0V	340VAC	0V	340VAC	0V	380VDC	
V 24	5Y3GT	0V	380VDC	0V	340VAC	0V	340VAC	0V	380VDC	
V 25	7" Pix Tube	6.3VAC	1.2VDC	340VDC	110VDC	PIN 12	H. V. CONNECTOR	1.25K. V.		

ALL MEASUREMENTS TAKEN WITH PICTURE TUBE REMOVED  
FOCUS CONTROL FULLY COUNTER-CLOCKWISE  
§ TAKEN WITH VACUUM TUBE VOLTMETER  
\* DO NOT MEASURE  
\*\* USE EXTREME CAUTION WHEN MEASURING THIS VOLTAGE

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 noted.

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.

ALL MEASUREMENTS TAKEN WITH PICTURE TUBE REMOVED  
FOCUS CONTROL FULLY COUNTER-CLOCKWISE  
† MEASURED FROM PIN 8 OF V24  
‡ MEASURED FROM PIN 3 OF V21

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	72KΩ	0Ω	.1Ω	0Ω	14.8KΩ	14.8KΩ	0Ω		
V 2	6J6	17.3KΩ	117KΩ	.1Ω	0Ω	220KΩ	10KΩ	0Ω		
V 3	6CB6	35KΩ	165Ω	.1Ω	0Ω	12.6KΩ	12.6KΩ	0Ω		
V 4	6CB6	25KΩ	95Ω	.1Ω	0Ω	12.7KΩ	12.7KΩ	0Ω		
V 5	6CB6	.3Ω	100Ω	.1Ω	0Ω	14.2KΩ	14.2KΩ	0Ω		
V 6	6AL5	.3Ω	0Ω	.1Ω	0Ω	1.5Meg	0Ω	3.9KΩ		
V 7	6AU6	3.9KΩ	0Ω	.1Ω	0Ω	15.9KΩ	111KΩ	0Ω		
V 8	6K6GT	Inf.	0Ω	13.4KΩ	12.6KΩ	470KΩ	2KΩ	.1Ω	2.3KΩ	
V 9	6AU6	153KΩ	12.9KΩ	0Ω	.1Ω	122KΩ	1140Ω	12.6KΩ		
V 10	6AU6	0Ω	0Ω	.1Ω	0Ω	13.6KΩ	13.6KΩ	100Ω		
V 11	6AU6	.1Ω	0Ω	0Ω	.1Ω	13.6KΩ	13.6KΩ	100Ω		
V 12	6AL5	0Ω	20KΩ	.1Ω	0Ω	Inf.	0Ω	Inf.		
V 13	6AU6	1Meg	0Ω	0Ω	.1Ω	1500KΩ	11Meg	1.8KΩ		
V 14	6K6GT	0Ω	0Ω	11.7KΩ	11.1KΩ	500KΩ	Inf.	.1Ω	1KΩ	
V 15	6AU6	5.1Meg	0Ω	.1Ω	0Ω	1120KΩ	114KΩ	0Ω		
V 16	6SN7GT	470KΩ	16.4KΩ	3.3KΩ	1.3Meg	470KΩ	0Ω	.1Ω	0Ω	
V 17	6S4	Inf.	1.5KΩ	1Meg	.1Ω	0Ω	1Meg	Inf.	43.7KΩ	
V 18	6AL5	4.8Meg	4.8Meg	.1Ω	0Ω	15Ω	0Ω	15Ω		
V 19	6SN7GT	120KΩ	1150KΩ	1.5KΩ	5.1Meg	15.7KΩ	1.5KΩ	.1Ω	0Ω	
V 20	6AU6GT	470KΩ	.1Ω	220Ω	Inf.	42Ω	Inf.	0Ω	112KΩ	
V 21	6W4GT	42.2KΩ	Inf.	120KΩ	Inf.	1140Ω	Inf.	425Ω	25Ω	Top Cap #2000
V 22	1B3GT	Inf.	23KΩ	Inf.	25Ω	Inf.	25Ω	Inf.	23KΩ	
V 23	5Y3GT	Inf.	23KΩ	Inf.	27Ω	Inf.	27Ω	Inf.	23KΩ	
V 24	5Y3GT	Inf.	23KΩ	Inf.	27Ω	Inf.	27Ω	Inf.	23KΩ	
V 25	7" Pix Tube	.1Ω	1.5Meg	110KΩ	1150KΩ	0Ω				

BOTTOM VIEW

TOP VIEW

TUBE PLACEMENT CHART

KAYE-HALBERT MODELS 014, 024, 044, 046, 074, 076, 077, 424, 714, 724, 744, 745, 777, 914

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Turn the horizontal size control to fully counter-clockwise and remove the horizontal oscillator tube, (V19), from its socket to eliminate the high voltage shock hazard.

VIDEO IF ALIGNMENT

Remove the converter tube, (V2), and replace it with a 6J6 which has pin 1 removed, this will disable the local oscillator and prevent the possibility of erroneous indications.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis.	24.2MC (unmod.)	Any	DC probe to Point A. Common to chassis.	A1	Adjust for maximum deflection.
2. "	"	21.8MC	"	"	A2	"
3. "	"	24.3MC	"	"	A3	"
4. "	"	23.4MC	"	"	A4	"
5. "	"	20.5MC	"	"	A5, A6	Detune A6 by placing your finger on the windings while adjusting A5 for MINIMUM deflection. Then adjust A6 for MINIMUM deflection. If necessary detune A5 with finger while adjusting A6.

OVERALL VIDEO IF RESPONSE CHECK

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	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6. Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis.	24MC (10MC SWP)	20.5MC 21.4MC 25MC	Any	Vert. Amp. to Point A. Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A1 through A4 for proper response. If A4 is changed recheck trap A5. In extreme fringe areas, greater gain may be obtained by aligning the IF's so the 25MC marker occurs at the top of the curve. Adjacent channel traps are available if needed. It is possible to tune A5 to 20.5MC to use it as an adjacent sound trap.

4.5 MC TRAP ADJUSTMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7. .01MFD.	High side to Point A. Low side to chassis.	Not used	4.5MC (400% mod.)	Any	Vert. Amp. to pin 2 of picture tube. Low side to chassis.	A7	Adjust for MINIMUM 400% indication on scope

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
8. .01MFD.	High side to pin 1, (Grid) of 6AU6, (V10). Low side to chassis.	20.5MC (unmod.)	Any	DC probe to Point B. Common to chassis.	A8, A9, A10	Adjust for maximum deflection.
9. "	"	"	"	DC probe to Point C. Common to Point B.	All	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

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8. .01MFD.	High side to pin 1, (Grid) of 6AV6, (V10). Low side to chassis.	20.5MC (10MC SWP)	20.5MC	Any	Vert. Amp. to Point A. Low side to chassis.	A8, A9, A10	Disconnect stabilizer capacitor C7. Adjust for maximum amplitude and symmetry as per fig. 2.
9. "	"	"	"	"	Vert. Amp. to Point C. Low side to chassis.	All	Reconnect capacitor C7. Adjust All so 10.5MC occurs at center of crossover lines as per fig. 3. SLIGHTLY retouch A10 for maximum amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace the original 6J6 in its socket.

Complete oscillator alignment may not be necessary. If the oscillator seems to be off frequency approximately the same amount for a majority of the channels, it may be possible to correct them in one step using A12. It should be noted that this is an all channel oscillator circuit adjustment and should not be adjusted for any individual channel. If adjustment of A12 will not bring all channels well within the range of the fine tuning control, it will be necessary to adjust the channel strip adjustment for each channel that is off frequency. The channel strip adjustments are reached through a hole just to the right of the channel switch shaft. The correct adjustment screw is accessible through this hole as the channel switch is turned to each channel. The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
10. Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	215.75MC	13	DC probe to Point C. Common to Point B.	A13	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
		209.75MC	12		A14	
		203.75MC	11		A15	
		197.75MC	10		A16	
		191.75MC	9		A17	
		185.75MC	8		A18	
		179.75MC	7		A19	
		87.75MC	6		A20	
		81.75MC	5		A21	
		71.75MC	4		A22	
		65.75MC	3		A23	
		59.75MC	2		A24	

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT							
Connect the synchronized sweep voltage from the signal 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.	207MC (10MC SWP)	205.25MC 209.75MC	12	Vert. Amp. thru 10KΩ to Point C. Low side to chassis.	A25, A26 A27	Adjust for response curve similar to fig. 4 with markers above 90%.
"	"	213MC (10MC SWP)	211.25MC 215.75MC	13	"		Check for response curve similar to fig. 4. If markers fall below 70% on any channel, make slight adjustments to A25, A26, and A27 with channel selector set for that channel. Recheck all channels to see that they have not been seriously effected.
		201MC (10MC SWP)	199.25MC 203.75MC	11			
		195MC (10MC SWP)	193.25MC 197.75MC	10			
		189MC (10MC SWP)	187.25MC 191.75MC	9			
		183MC (10MC SWP)	181.25MC 185.75MC	8			
		177MC (10MC SWP)	175.25MC 179.75MC	7			
		85MC (10MC SWP)	83.25MC 87.75MC	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			

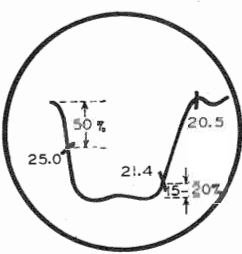


FIG. 1

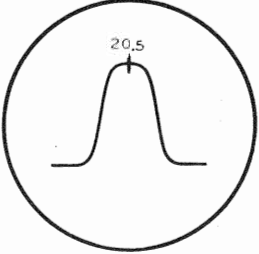


FIG. 2

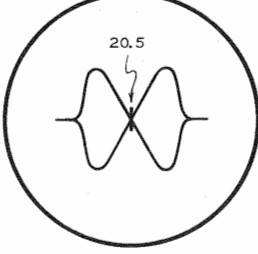


FIG. 3

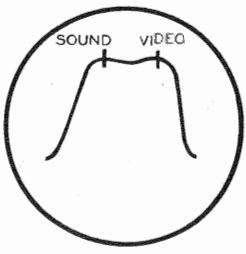


FIG. 4

KAYE-HALBERT MODELS 014, 024, 044, 045, 046, 074, 076, 077, 424, 714, 724, 744, 745, 777, 914



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		Kaye-Halbert PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T7	5.2K $\Omega$	3.2 $\Omega$	590 $\Omega$	.6 $\Omega$	C2002	A-3877	A-2930	RO-9 ①	① Drill one new mounting hole.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 $\mu$ )	Kaye-Halbert	STANCOR	MERIT	CHICAGO	
				PART No.	PART No.	PART No.	PART No.	
L1	.230A	40 $\Omega$	1.5 Henries	C1002	C-2326 ①	C-2991 ①	TR-3300 ①	Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	KAYE-HALBERT	MEISSNER	
				PART No.	PART No.	
L2	Ant. Coil	0 $\Omega$	0 $\Omega$			
L3	Fil. Choke	0 $\Omega$				
L4	RF, Mixer Grid and Osc. Coil	0 $\Omega$				
L5	Fil. Choke	0 $\Omega$				
L6	RF Choke	.5 $\Omega$				
L7	1st. Video IF	.5 $\Omega$				
L8	Coupling Coil	1.1 $\Omega$		H2114		
L9	2nd. Video IF	.3 $\Omega$	.3 $\Omega$	H112		
L10	3rd. Video IF	.3 $\Omega$	.3 $\Omega$	H112		
L11	Sound Take Off	0 $\Omega$	0 $\Omega$	H6104		
L12	4th. Video IF	.3 $\Omega$	.3 $\Omega$	H122		
L13	Peaking	9 $\Omega$		H2108	19-1921 †	Includes Trap
L14	Peaking	12 $\Omega$		H2116	19-1922	180 Microhenries wound on 39K $\Omega$ resistor (white dot)
L15	4.5MC Trap	1.8 $\Omega$		H6102		250 Microhenries (green dot)
L16	Peaking	12 $\Omega$		H2116	19-1922	250 Microhenries (green dot)
L17	Peaking	7.5 $\Omega$		H2112	19-1921 ▲	120 Microhenries wound on 22K $\Omega$ resistor (black dot)
L18	Peaking	4.5 $\Omega$		H2110	19-1920	93 Microhenries (red dot)
L19	2nd. Sound IF	.1 $\Omega$	.1 $\Omega$	H118		
L20	Ratio Det.					
	Trans.	.2 $\Omega$	.1 $\Omega$	H120		Tap .1 $\Omega$
L21	Horiz. Osc.	115 $\Omega$		H5104		
L22	Horiz. Lin.	5.7 $\Omega$	Tap 4.1 $\Omega$	H4104		

† Parallel with 39K $\Omega$  resistor  
▲ Parallel with 22K $\Omega$  resistor

FUSES

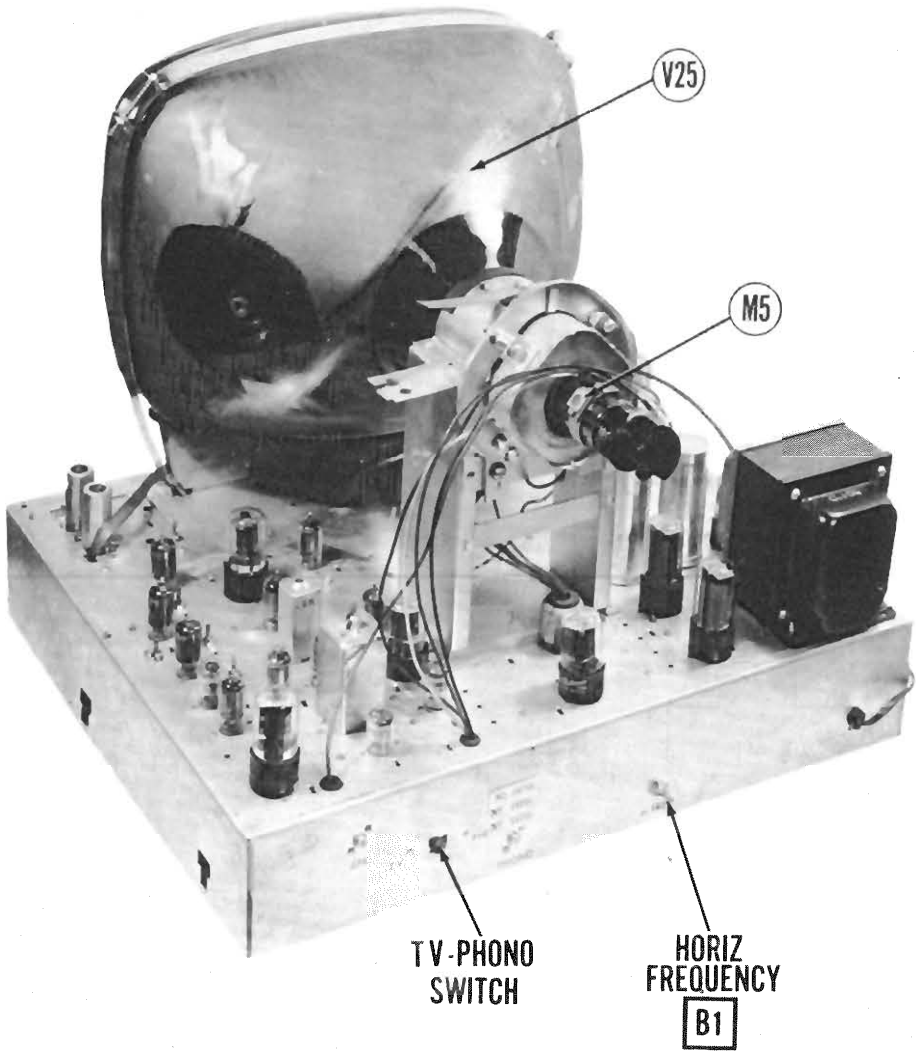
ITEM No.	TYPE	RATING	REPLACEMENT DATA				REMARKS
			KAYE-HALBERT PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG Slo Blo Pigtail	.250A	A-8120		315.250		

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					KAYE-HALBERT PART No.		
M2	Bayonet	6-8	.15	Brown			Type # 47

MISCELLANEOUS

ITEM No.	PART NAME	KAYE-HALBERT PART No.	NOTES
M3	RF Tuner	K510	
M4	Switch	R210	TV-Phono



CHASSIS-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

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

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

Adjust the horizontal drive control clockwise until bright vertical lines appear in the picture. Then turn the control counter clockwise just far enough to remove the lines. NOTE: If the vertical lines cannot be removed see SIZE CONTROL CIRCUIT MODIFICATIONS below.

Adjust the size control until the picture is slightly wider than necessary to fill the mask horizontally. The size control affects both height and width, therefore whenever the size control is changed, height and vertical linearity will also require adjustment.

Adjust the horizontal linearity slug, (B2), until the picture is symmetrical from left to right. Readjustment of the horizontal drive control may be necessary for optimum horizontal linearity

SIZE CONTROL CIRCUIT MODIFICATIONS

If the bright vertical drive lines cannot be removed by adjusting the drive control, especially in set using a 6AV5 horizontal output, they may be eliminated by making the following circuit changes.

Disconnect R93, (220 $\Omega$  2W) from the size control R8.

Connect the bottom of R93 to chassis.

Disconnect the size control R8 from chassis.

Connect a 1200 $\Omega$ , 1W resistor between the center arm of R8 and one end.

Break the lead connecting the fuse to R94 and the plate, (Pin 5), of the damper tube, (V21).

Connect the center arm of R8 to the junction of R94 and pin 5 of V21.

Connect the end of R8, (to which the 1200 $\Omega$  resistor is connected), to the fuse.

KAYE-HALBERT MODELS 014, 024, 044, 045, 046, 074, 076, 077, 424, 714, 724, 744, 745, 777, 914

## TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		KAYE-HALBERT PART No.	STANDARD REPLACEMENT		
V1A	RF Amplifier	6CB6	6CB6	6CK	
B	RF Amplifier	6AG5	6AG5	7BD	
V2	Converter	6J6	6J6	7BF	
V3	1st. Video IF Amp.	6CB6	6CB6	6CK	
V4	2nd. Video IF Amp.	6CB6	6CB6	6CK	
V5	3rd. Video IF Amp.	6CB6	6CB6	6CK	
V6	Video Detector-DC Restorer	6AL5	6AL5	6BT	
V7	Video Amplifier	6AU6	6AU6	7BK	
V8	Video Output	6K6GT	6K6GT	7S	
V9	AGC Keying	6AU6	6AU6	7BK	
V10	1st. Sound IF Amp.	6AU6	6AU6	7BK	
V11	2nd. Sound IF Amp.	6AU6	6AU6	7BK	
V12	Ratio Detector	6AL5	6AL5	6BT	
V13	AF Amplifier	6AU6	6AU6	7BK	
V14	Audio Output	6K6GT	6K6GT	7S	
V15	Sync. Separator	6AU6	6AU6	7BK	
V16	Sync. Amplifier-Sync. Phase Inv.-Vert. Oscillator	6SN7GT	6SN7GT	8BD	
V17	Vert. Output	6B4	6B4	9AC	
V18	Horiz. Phase Det.	6AL5	6AL5	6BT	
V19	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V20A	Horiz. Output	6AU5	6AU5	6CK	
B	Horiz. Output	6AV5	6AV5	6CK	
V21	Damper	6W4GT	6W4GT	4CG	
V22	RV Rectifier	1B3GT	1B3GT	3C	
V23	LV Rectifier	5Y3GT	5Y3GT	5T	
V24	LV Rectifier	5Y3GT	5Y3GT	5T	

## CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA			RTMA TYPE	NOTES
	KAYE-HALBERT PART No.	SYLVANIA PART No.	THOMAS PART No.		
V25A	17BP4	17BP4A	17BP4		Models 714, 724, 744, 745, 746, 777
B	19EP4				Model 914 (Alternate Tubes-19AP4, 19DP4)
C	20CP4	20CP4	20CP4		Models 014, 024, 044, 045, 046, 074, 076, 077
D	24AP4				Model 424

① Outer coating must be grounded.

## 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
		KAYE-HALBERT PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C1A	40 400	B6530			UPT4445 V2	R1060	Filter
B	40 400						Filter
C	20 400						Filter
C2A	40 400	B6530			UPT4445 V2	R1060	Filter
B	40 400						Filter
C	20 400						Filter
C3	20 350	B5140	PR8450/20		DR2035A	TVA-1608	Vert. Output Dec.
C4	100 50	B5180	PR850/100		BRH501	TVA-1310	Vert. Output Cathode
C5	25 50	B5150	PR850/25		BR255A	TVA-1306	Audio Output Cathode
C6	5 50	B5120	PR8150/4		BR550	TVA-1303	AF Amp. Cathode
C7	5 50	B5120	PR8150/4		BR550	TVA-1303	Stabilizing Cap.
C8	5 50	B5120	PR8150/4		BR550	TVA-1303	AGC Filter
C9	2-9			829-10			Variable Trimmer
C10	5-3			829-3			Variable Trimmer
C11	120			D6-121		GP2K-121	RF Amp. Decoupling
C12	1000			D6-102		GP2L-102	RF Amp. Fil.
C13	100			N750L-101		STCU-T1	RF Coupling
C14	5-3			829-3			Variable Trimmer
C15	20			TCZ-20		NPOK-200	Osc. Grid Cap.
C16	10			TCN-10		N750K-100	Fixed Trimmer
C17	5-3			829-3			Variable Trimmer
C18A	1000 1000			DD-2-102		SHK-2D1	RF Bypass
B	10						Conv. Fil.
C19	10			TCZ-10		STCC-Q1	Fixed Trimmer
C20	73						Fixed Trimmer
C21	270						Fixed Trimmer
C22	5000	B455	1468-0003	D6-271	DS55	811-005	IF Coupling
C23	5000	B455	BPD-005	DD-502	DS55	811-005	1st. Video IF Dec.
C24	5000	B455	BPD-005	DD-502	DS55	811-005	1st. Video IF Cathode
C25	5000	B455	BPD-005	DD-502	DS55	811-005	1st. Video IF Fil.
C26	5000	B455	BPD-005	DD-502	DS55	811-005	AGC Filter
C27	5000	B455	BPD-005	DD-502	DS55	811-005	2nd. Video IF Dec.
C28	54						2nd. Video IF Cathode
C29	10						Fixed Trimmer
C30	5000	B455	BPD-005	DD-502	DS55	811-005	Fixed Trimmer
C31	120			TCN-120		N750L-121	Fixed Trimmer
C32	5	B145	S15	TCZ-4.7	5W5V5	GP1K-050	Video Det. Filter
C33	25 200	B2660	1468-25	DF-503	PT685	6TM-S5	Video Amp. Screen
C34	56	B197	S156			GP1K-560	Fixed Trimmer
C35	.05 600	B2480	P688-05	DF-503	PT685	6TM-S5	Video Coupling
C36	.05 600	B2480	P688-05	DF-503	PT685	6TM-S5	Video Coupling
C37	.25 200	B2660	1468-25	DF-503	PT685	6TM-S5	Picture Tube Cathode
C38	.068 600	B2500	P688-068				Vert. Sweep Coupling
C39	5000	B455	3PD-005	DD-502	DS55	811-005	AGC Filter
C40	5000	B455	3PD-005	DD-502	DS55	811-005	1st. Sound IF Dec.
C41	5000	B455	3PD-005	DD-502	DS55	811-005	2nd. Sound IF Dec.
C42	5000	B455	BPD-005	DD-502	DS55	811-005	RF Bypass
C43	82					2PK-82 0	Diode Load Cap.
C44	.003 600	B2180	P688-003	D6-302	ITE6D3	6TM-D3	De-emphasis
C45	.02 400	B2340	P688-02	DF-203	ITE482	4TM-S2	Audio Coupling
C46	.003 600	B2180	P688-003	D6-302	ITE6D3	6TM-D3	Tone Comp.
C47	.02 400	B2340	P688-02	DF-203	ITE482	4TM-S2	Audio Coupling

## PARTS LIST AND DESCRIPTIONS

## CAPACITORS (CONT.)

ITEM No.	RATING	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
		KAYE-HALBERT PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C48	.1 400	B2540	P488-1	DF-104	PT4P1	4TM-P1	AF Amp. Screen
C49A	.005 250						Audio Coupling
B							AF Amp. Plate
C							Audio Output Grid
C50	.005 600	B2200	P688-005	D6-502	PT6D5	GP2-333-502	Audio Output Plate
C51	.005 600	B2200	P688-005	D6-502	PT6D5	GP2-333-502	Sync. Coupling
C52	.270	B2370	S1270	D6-271	SR5T3	GP2K-271	Sync. Coupling
C53	.05 600	B2480	P688-05	DF-503	PT685	6TM-S5	Sync. Coupling
C54A	.002						Vert. Integrator Net.
B							Vert. Integrator Net.
C							Vert. Integrator Net.
C55	.005 600	B2200	P688-005	D6-502	PT6D5	GP2-333-502	Vert. Sweep Coupling
C56	.1500	B1510	SH500	D6-152	IWS01	GP2L-152	Fixed Trimmer
C57	.1 600	B2560	P688-1	DF-104	PT6P1	6TM-P1	Vert. Discharge
C58	.05 600	B2480	P688-05	DF-503	PT685	6TM-S5	Vert. Sweep Coupling
C59	1000	B270	SH000	D6-102	IWS01	GP2L-102	Horiz. Sync. Coupling
C60	1000	B270	SH000	D6-102	IWS01	GP2L-102	Horiz. Sync. Coupling
C61	.005 600	B2200	P688-005	D6-502	PT6D5	GP2-333-502	AF Filter
C62	.05 600	B2480	P688-05	DF-503	PT685	6TM-S5	AF Filter
C63	.25 600	B2620	684-25				Horiz. Feedback
C64	330 500	B1190	1469-00035				Horiz. MV Feedback
C65	4000 500	B1712	1464-004				Fixed Trimmer
C66	500 500	B1287	1469-0005				Horiz. Discharge
C67	.01 400	B2320	P488-01	D6-103	PT4S1	GP2-333-103	Horiz. Sweep Coupling
C68	.22 400	B2620	P488-22				Horiz. Output Screen
C69	.22 400	B2620	P488-22				Horiz. Output Cathode
C70	.033 600	B2960	P688-033				Horiz. Feedback
C71	200 2500	B8140					Horiz. Sweep Coupling
C72	100 2500	B8130					Voltage Divider
C73	.039 600		P688-04				Fixed Trimmer
C74	500 20000	B8110	HV20C	TV3-502	PT685	6TM-S4	HV Filter
C75	.0047 600		P688-0047	D6-472	PT6D5	GP2-333-472	Line Filter
C76	.0047 600		P688-0047	D6-472	PT6D5	GP2-333-472	Line Filter

\* Not used in all models.

† Some models use 82MMF. in this application.

‡ Items C54A, C54B, C54C, R72A, R72B, R72C are combined in one unit.

♦ Items C49A, C49B, C49C, R58A, R58B, are combined in one unit.

When replacing separately, C49B and C49C should total 250MMF.

## CONTROLS

ITEM No.	RATING	REPLACEMENT DATA				INSTALLATION NOTES
		KAYE-HALBERT PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R1A	2000Ω					Contrast Control - Front
B	500KΩ					Volume Control - Rear
C	Shaft end					Attach per instructions in Concentrik
D	Switch					Attach per instructions in Concentrik
R2A	5000Ω					Vert. Linearity Control
B	Shaft					Attach to R2A per instructions
R3A	2Meg					Height Control
B	Shaft					Attach to R3A per instructions
R4A	2Meg					Vert. Hold Control
B	Shaft					Attach to R4A per instructions
R5A	500KΩ					Brightness Control
B	Shaft					Attach to R5A per instructions
R6	250Ω					Focus Control - Wire Wound
R7	25KΩ					Horiz. Drive Control - Wire Wound
R8	350Ω					Horiz. Size Control - Wire Wound

♦ Additional parts to be used with Concentrik

## RESISTORS

ITEM No.	RATING	REPLACEMENT DATA				IDENTIFICATION CODES
		KAYE-HALBERT PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
R9	3000Ω					Antenna Coil Shunt
R10	47KΩ					AGC Network
R11	2200Ω					RF Amp. Decoupling
R12	9100Ω					RF Coil Shunt - See Note 2
R13	4700Ω					Mixer Grid
R14	220KΩ					Mixer Grid
R15	15KΩ					Mixer Plate
R16	10KΩ					Osc. Grid
R17	4700Ω					Osc. Plate
R18	100Ω					Decoupling
R19	10KΩ					1st. Video IF Amp. Grid
R20	47Ω					1st. Video IF Amp. Cathode
R21	120Ω					1st. Video IF Amp. Cathode
R22	8200Ω					2nd. Video IF Transformer Shunt
R23	47Ω					2nd. Video IF Amp. Cathode
R24	47Ω					2nd. Video IF Amp. Cathode
R25	100Ω					3rd. Video IF Amp. Cathode
R26	1500Ω					3rd. Video IF Amp. Decoupling
R27	47KΩ					Keyed AGC Grid
R28	100KΩ					AGC Network
R29	22KΩ					AGC Network
R30	3300Ω					AGC Network
R31	3900Ω					Video Det. Diode Load
R32	39KΩ					Voltage Divider
R33	10KΩ					Video Amp. Screen
R34	3300Ω					Video Amp. Plate
R35	22KΩ					Video Peaking Coil Shunt
R36	39KΩ					Voltage Divider
R37	39KΩ					Voltage Divider
R38	470KΩ					Video Output Grid
R39	330Ω					Video Output Cathode
R40	3300Ω					Video Output Plate
R41	68KΩ					Picture Tube Grid
R42	100KΩ					Picture Tube Cathode
R43	10KΩ					Acc. Anode Load
R44	1.5Meg					DC Restorer Diode Load

## RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	KAYE-HALBERT PART No.	IRC PART No.	
R45	10KΩ		A755		4th. Video IF Transformer Shunt
R46	100Ω		A395	BTS-100	1st. Sound IF Amp. Cathode
R47	1000Ω		A575	BTS-1000	1st. Sound IF Amp. Decoupling
R48	100Ω		A395	BTS-100	2nd. Sound IF Amp. Cathode
R49	1000Ω		A575	BTS-1000	2nd. Sound IF Amp. Decoupling
R50	10KΩ		A755	BTS-10K	Ratio Det. Diode Load
R51	10KΩ		A755	BTS-10K	Ratio Det. Diode Load
R52	270Ω		A470	BTS-270	Balancing
R53	22KΩ		A815	BTS-22K	De-emphasis
R54	1Meg		A1115	BTS-1Meg	AF Amp. Grid
R55	1800Ω		A620	BTS-1800	AF Amp. Cathode
R56	39Ω		A320	BW-J-39	AF Amp. Cathode
R57	1Meg		A1115	BTS-1Meg	AF Amp. Screen
R58A	500KΩ		K230	BTS-470K	AF Amp. Plate
B	500KΩ			BTS-470K	Output Grid
R59	1000Ω		A2575	BTA-1000	Output Cathode
R60	1000Ω		A2575	BTA-1000	Decoupling
R61	1000Ω		A575	BTS-1000	Feedback
R62	470KΩ		A1055	BTS-470K	Sync. Sep. Grid
R63	4.7Meg		A1235	BTS-4.7Meg	Sync. Sep. Grid
R64	27KΩ	20%	A830	BTS-27K	Sync. Sep. Screen
R65	100KΩ		A935	BTS-100K	Sync. Sep. Plate
R66	18KΩ		A800	BTS-18K	Sync. Sep. Plate
R67	10KΩ		A755	BTS-10K	Voltage Divider
R68	470KΩ		A1055	BTS-470K	Sync. Amp. Grid
R69	3300Ω		A665	BTS-3300	Sync. Amp. Cathode
R70	3900Ω	20%	A680	BTS-3900	Sync. Amp. Plate
R71	27KΩ	20%	A830	BTS-27K	Integrator
R72A	22KΩ		K220	BTS-22K	Integrator
B	8200Ω			BTS-8200	Integrator
C	8200Ω			BTS-8200	Integrator
R73	39KΩ		A860	BTS-39K	Integrator
R74	150KΩ		A965	BTS-150K	Vert. Osc. Transformer Shunt
R75	1.2Meg		A1130	BTS-1.2Meg	Vert. Osc. Grid
R76	470KΩ		A1055	BTS-470K	Vert. Osc. Plate - See Note 3
R77	10KΩ		A755	BTS-10K	Vert. Peaking
R78	1Meg		A1115	BTS-1Meg	Vert. Output Grid
R79	1500Ω		A605	BTS-1500	Vert. Output Cathode - See Note 5
R80	2200Ω		A2635	BTA-2200	Decoupling
R81	100KΩ		A935	BTS-100K	Horiz. Phase Det. Diode Load
R82	100KΩ		A935	BTS-100K	Horiz. Phase Det. Diode Load
R83	4.7Meg		A1235	BTS-4.7Meg	Horiz. Phase Det. Diode Load
R84	470KΩ		A1055	BTS-470K	Horiz. AFC Filter
R85	1500Ω		A605	BTS-1500	Horiz. MV Cathode
R86	5600Ω	20%	A710	BTS-5600	Horiz. MV Plate
R87	120KΩ	5%	A945	BTS-120K	Horiz. MV Grid
R88	150KΩ		A965	BTS-150K	Horiz. MV Plate
R89	39KΩ		A860	BTS-39K	Horiz. Drive Control Shunt - See Note 1
R90	6800Ω		A725	BTS-6800	Horiz. Peaking
R91	120Ω				Parasitic Suppressor - See Note 1 and 6
R92	470KΩ		A1055	BTS-470K	Horiz. Output Grid
R93	220Ω	2	A4455	BTB-220	Horiz. Output Cathode
R94	12KΩ	2	A4700	BTB-12K	Horiz. Output Screen - See Note 4
R95	15Ω		A245	BW-J-15	Horiz. Feedback
R96	3.3Ω		A150		HV Rectifier Filament
R97	560KΩ	1	A710		HV Filter
R98	2500Ω	15	A6285	2D-2500	Voltage Divider - Wire Wound
R99	1200Ω	1	A2590	BTB-1200	Focus Coil Shunt
R100	270Ω	1	A4470	BW-2-270	Focus Coil Shunt
R101	220KΩ	2	A995	BTS-220K	Isolation
R102	1Meg		A1115	BTS-1Meg	Voltage Divider - See Note 1