

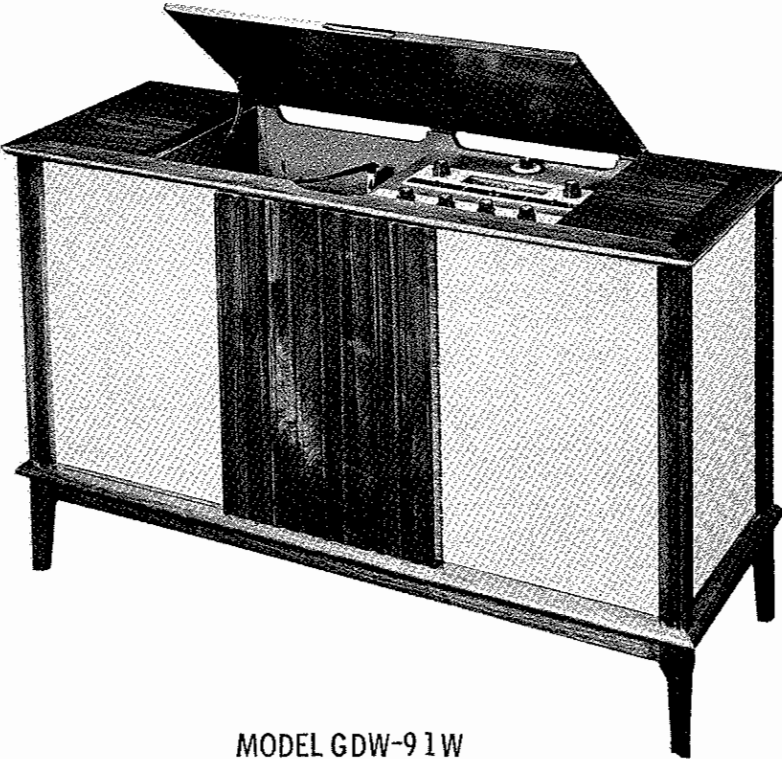
SET 637 FOLDER 8

HEATH MODELS
AJ10, AJW10, GDW-91W

PHOTOFACT® Folder



HEATH MODELS
AJ10, AJW10, GDW-91W



MODEL GDW-91W

TRADE NAME	Heath Models AJ-10, AJW-10, GDW-91W		
MANUFACTURER	Heath Co., A Subsidiary of Daystrom, Inc., Benton Harbor, Michigan		
TYPE SET	AC Operated 12 Tube AM-FM Tuner (AJ-10, AJW-10), 3 Tube Stereo Preamplifier, 5 Tube Stereo Amplifier and 4 Speed Automatic Record Changer		
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles	RATING	160 Watts, 1.55 Amp. @117 Volts AC (Total) 40 Watts, .35 Amp. @117 Volts AC (Tuner) 120 Watts, 1.2 Amp. @117 Volts AC (Preamp. -Amp.)
TUNING RANGE - BROADCAST	535 - 1625KC	FREQ. MOD.	88 - 108MC

FOR SERVICE INFORMATION ON RECORD CHANGER PART #415-11 - SEE SIMILAR V-M1572 - PHOTOFACT SET 527 FOLDER 14

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



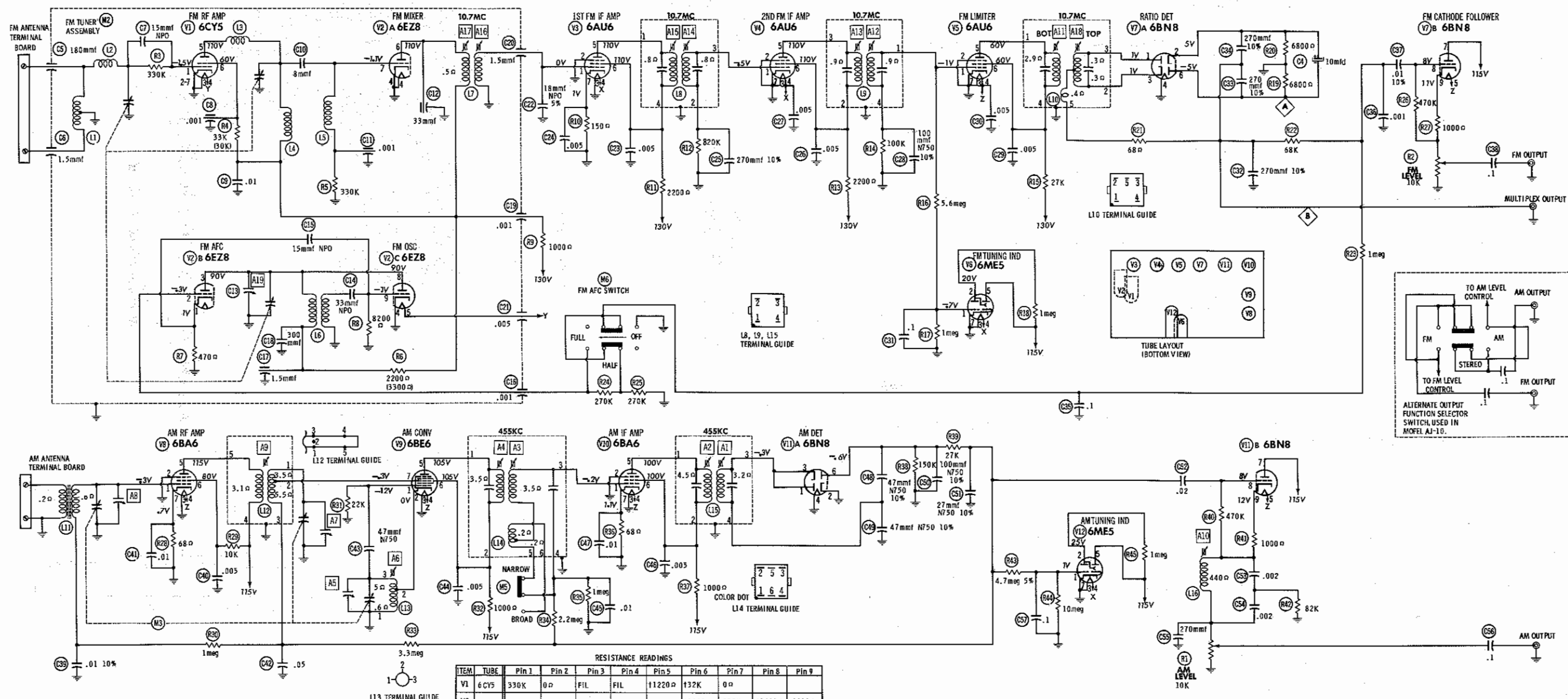
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement LN873

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HEATH MODELS
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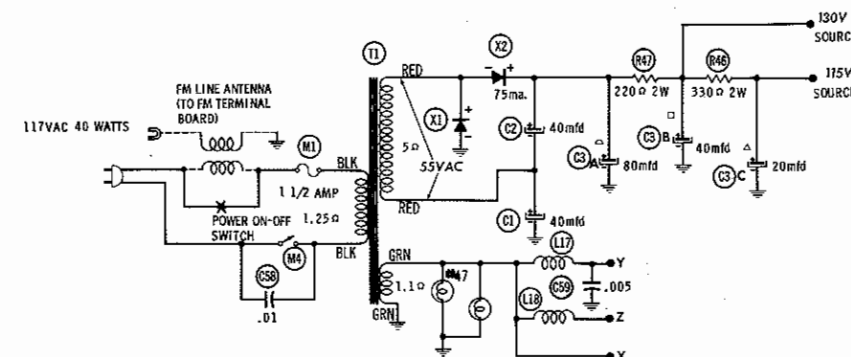
RESISTANCE READINGS									
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V1	6CY5	330K	0	FIL	FIL	11220	132K	0	
V2	6EZ8	470	540K	13400	FIL	11220	330K	13400	8200
V3	6AU6	0	0	FIL	FIL	12420	12420	150	
V4	6AU6	820K	0	FIL	FIL	12420	12420	0	
V5	6AU6	97K	0	FIL	FIL	127K	127K	0	
V6	6ME5	1meg	11meg	FIL	FIL	1550	NC	0	
V7	6BN8	1.6meg	6800	1.6meg	FIL	FIL	6800	1550	480K
V8	6BE6	4.6meg	0	FIL	FIL	1550	111K	68	
V9	6BE6	22K	.8	FIL	FIL	11550	11550	3.4meg	
V10	6BE6	1meg	0	FIL	FIL	11550	11550	68	
V11	6BN8	1NF	0	1NF	FIL	FIL	150K	1550	480K
V12	6ME5	3.2meg	11meg	FIL	FIL	1550	NC	0	

ALL MEASUREMENTS MADE IN "FM AFC" POSITION WITH FM AFC SWITCH IN "FULL" POSITION
 † MEASURED FROM OUTPUT OF X2.
 NC NO CONNECTION TP TIE POINT

- See parts list for alternate value or application.
 1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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TUNER SCHEMATIC



HEATH MODELS
 AJ10, AJW10, GDW-91W

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 AJ10, AJW10, GDW-91W

FOLDER 8

ALIGNMENT INSTRUCTIONS

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

A1, A2, A3, A4, A11 thru A18..... GENERAL CEMENT #8282, 8606, 8608-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
A5, A7, A8..... GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520
A6, A9, A10, A19..... GENERAL CEMENT #5000, 5003, 5066, 8271, 8272, 8276, 8277, 8290, 8609, 8722, 9150, 9298
WALSCO #2515, 2516, 2518, 2519, 2525, 2541

AM ALIGNMENT - SELECTOR IN AM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .01mfd to pin 7 (grid) of AM Converter, low side to chassis.	455KC (Unmod.)	(AM) Tuning gang fully open.	DC VTVM across AM Level control.	A1, A2, A3, A4	Adjust for maximum.
2.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1600KC	1600KC	"	A5	"
3.	"	600KC	600KC	"	A6	Adjust for maximum while rocking tuning gang. Repeat step 2.
4.	"	1400KC	1400KC	"	A7, A8	"
5.	"	600KC	600KC	"	A9	"
6.	High side to pin 8 (grid) of AM Cathode Follower, low side to chassis.	10KC		"	A10	Adjust for MINIMUM.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM - SELECTOR IN FM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
7.	High side to ungrounded tube over FM Mixer, low side to chassis.	10.7MC (Unmod.)	(FM) Point of non-interference.	DC probe of VTVM to point A, common to chassis.	A11, A12, A13, A14, A15, A16, A17	Adjust for maximum.
8.	"	"	"	DC probe to point B, common to chassis.	A18	"

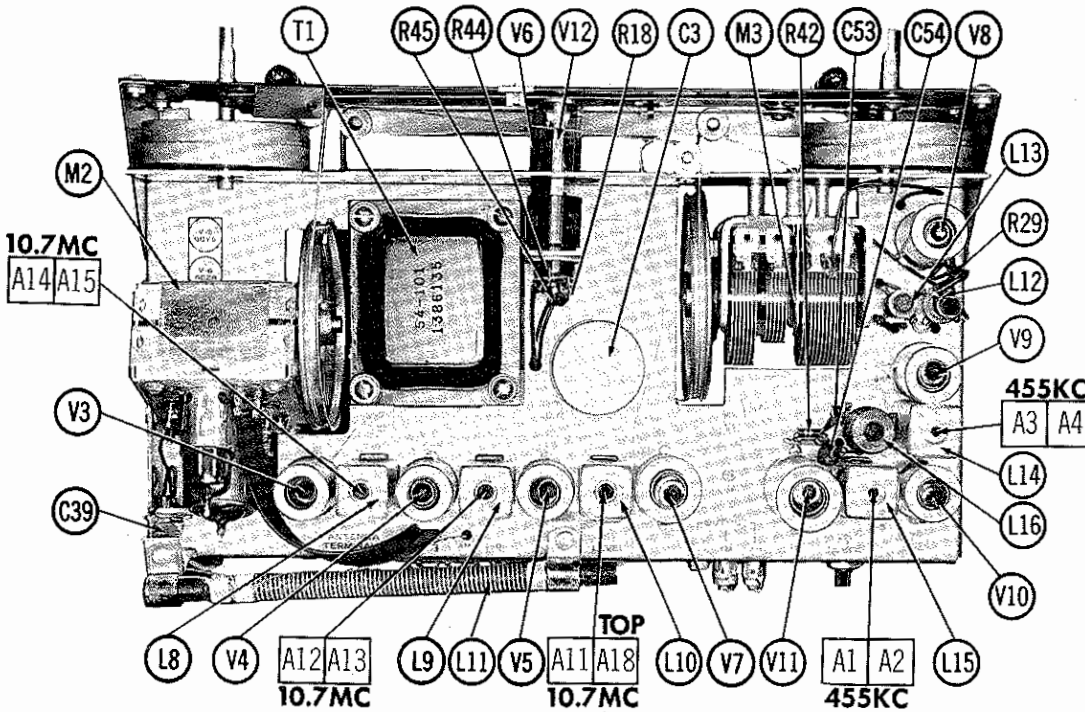
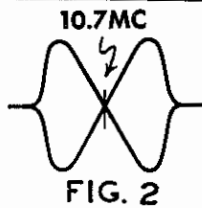
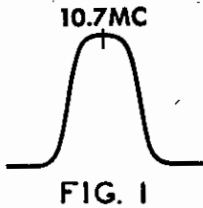
FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE - SELECTOR IN FM POSITION

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

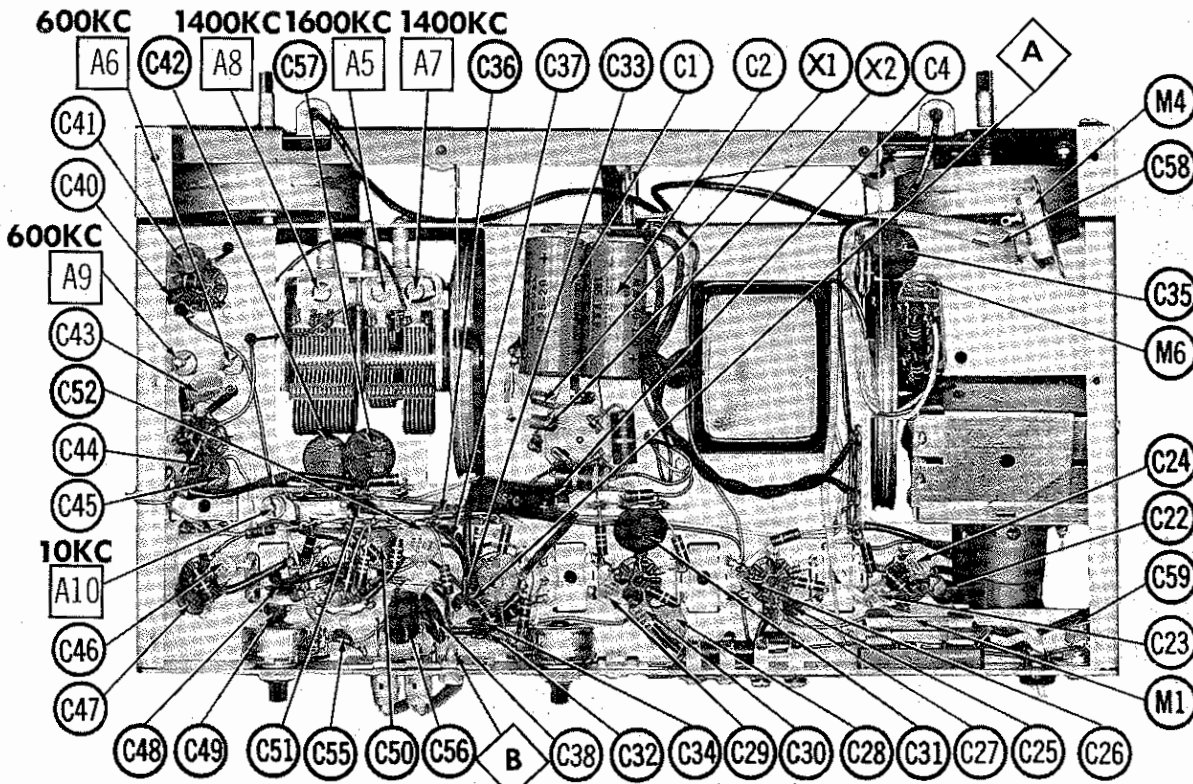
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
7.	High side to ungrounded tube shield over FM Mixer, low side to chassis.	10.7MC (450KC Swp.)	(FM) Point of non-interference.	Vert. amp. of scope to point A, low side to chassis.	A11, A12, A13, A14, A15, A16, A17	Disconnect Stabilizing Capacitor C4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C4.
8.	"	"	"	Vert. amp. to point B, low side to chassis.	A18	Adjust to place marker at center of crossover lines similar to Fig. 2. SLIGHTLY retouch A11 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT - SELECTOR IN FM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
9.	Across FM antenna terminals with 150Ω in each side.	98MC (Unmod.)	(FM) 98MC	DC probe of VTVM to point A, common to chassis.	A19	Adjust for maximum.



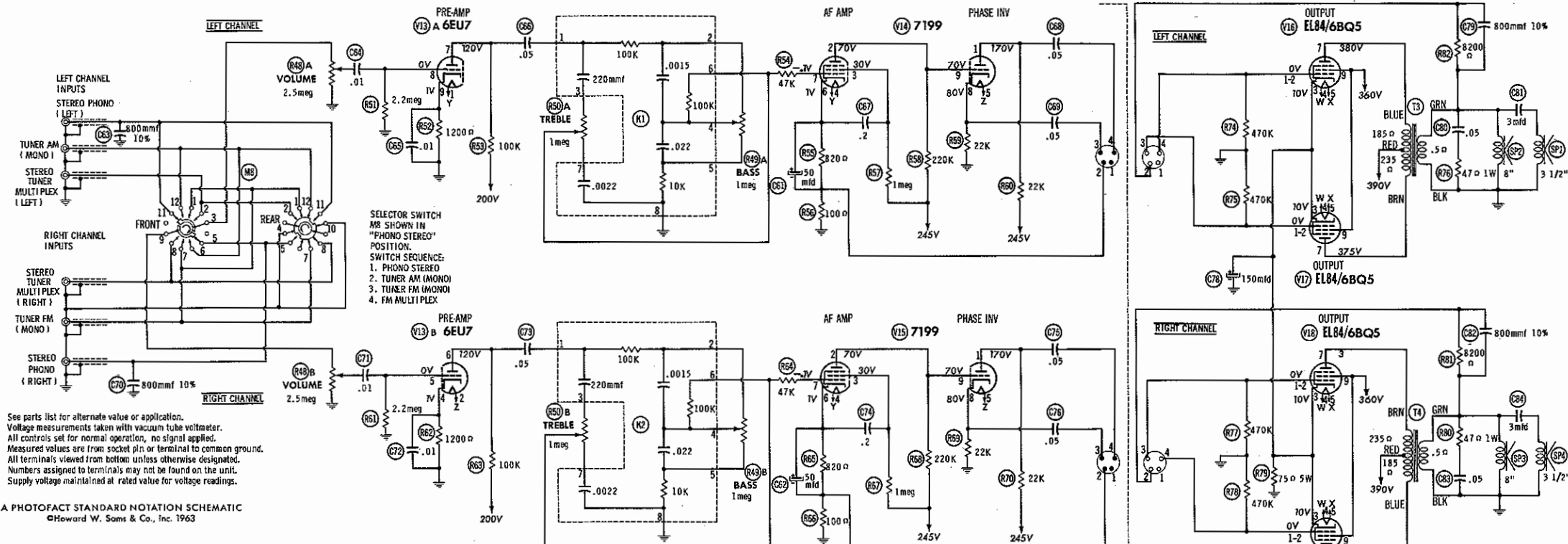
TUNER CHASSIS - TOP VIEW



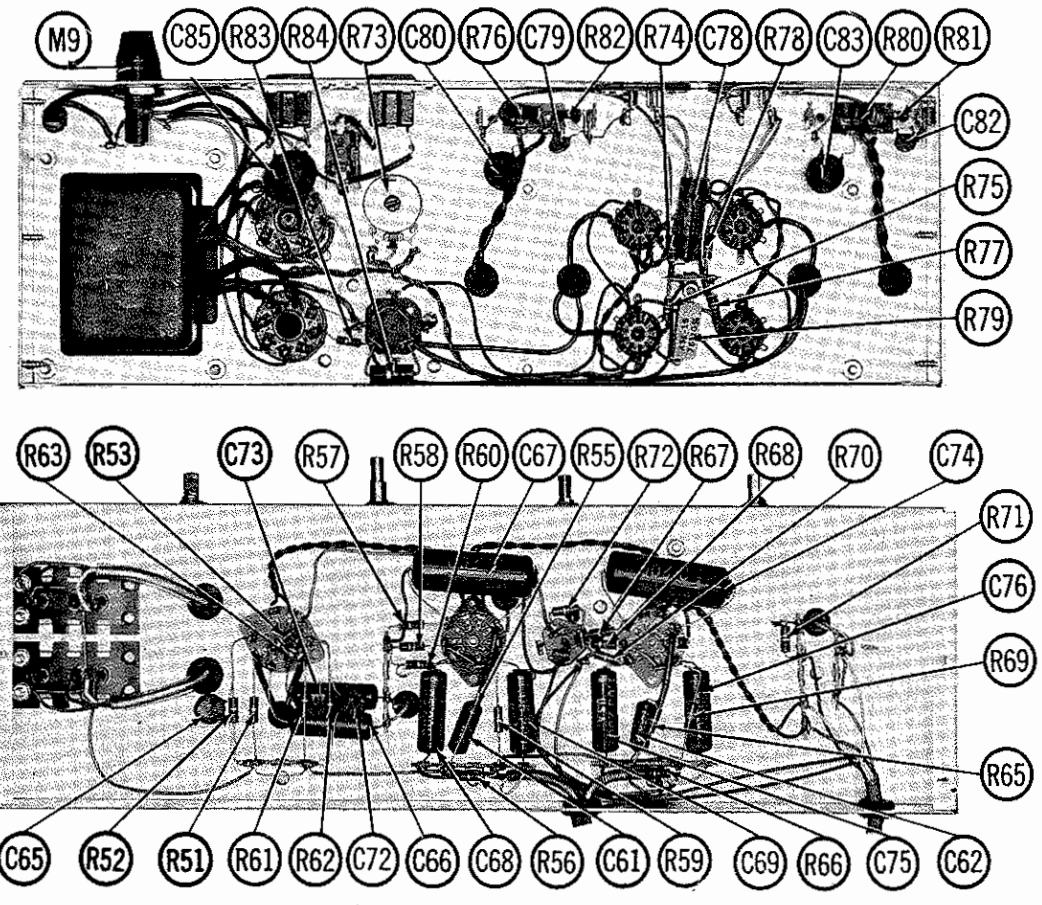
TUNER CHASSIS BOTTOM VIEW - ALIGNMENT, CAPACITOR AND MISC. IDENT.

HEATH MODELS
AJ10, AJW10, GDW-91W

FOLDER 8

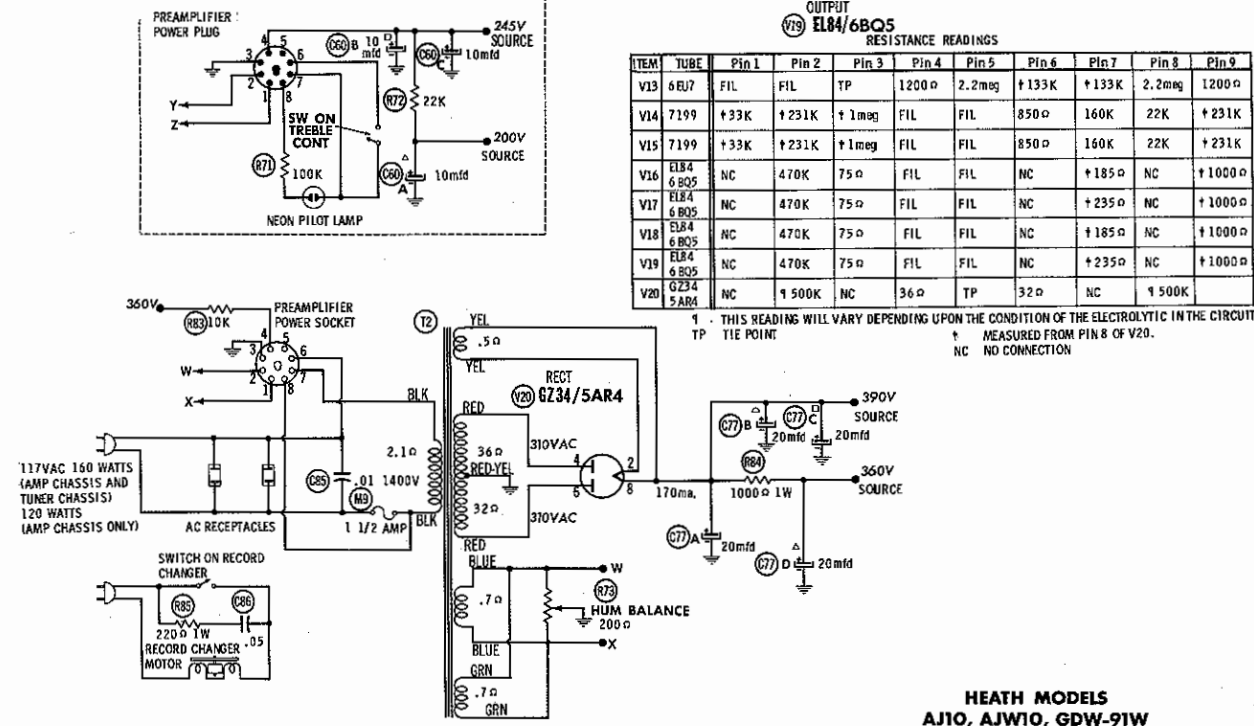


PREAMP-AMP SCHEMATIC



AMP CHASSIS BOTTOM VIEW

PREAMP CHASSIS BOTTOM VIEW



PREAMP-AMP SCHEMATIC

HEATH MODELS
 AJ10, AJW10, GDW-91W

FOLDER 8

PREAMP CHASSIS—TOP VIEW FIXED CAPACITORS (cont)

TUBES			TUBES		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V13	Preamp.	6EU7	V15	AF Amp. - Phase Inv.	7199
V14	AF Amp. - Phase Inv.	7199			

ELECTROLYTIC CAPACITORS

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C60A	10 350	25-13	AFH3-27	C0210	XC3-7	FP330.5	TMT8423	TVL-3776
B	10 350							
C	10 350							
C61	50 10							
C62	50 10		PTT45	NLW50-10	MT1-16	TT10X50	MLV50-10	TE-1119
			PTT45	NLW50-10	MT1-16	TT10X50	MLV50-10	TE-1119

FIXED CAPACITORS

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C63	800 10%		P488N-01	D6-103	5R5T8	CCD-801	GEM-411	10TS-T80
C64	.01 400V		BPD-01	DD-503	CUB4S1	4CP-1-103	B-110	4TM-S10
C65	.01		P288N-05	DD-503	BYA10S1	CCD-103	5HK-S10	5HK-S10
C66	.05 200V		P288N-2	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-P22
C67	.2 200V		P288N-05	DD-503	CUB2P22	2CP-5-204	GEM-2022	2TM-P22
C68	.05 200V		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C69	.05 200V		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50
C70	800 10%		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50
C71	.01 400V		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50
C72	.01		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50
C73	.05 200V		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50
C74	.2 200V		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50
C75	.05 200V		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50
C76	.05 200V		P288N-05	DD-503	CUB2S5	2CP-3-503	GEM-415	2TM-S50

CONTROLS

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

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
R48A	2.5meg	12-36						
B	2.5meg	12-36						
R49A	1meg	12-35						
B	1meg	12-35						
R50A	1meg	14-3						
B	1meg	14-3						

* "SNAPTROL"

AMP CHASSIS—TOP VIEW

CONTROLS

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

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
R73	200G	10-81						
		10-81						

* "SNAPTROL"

RESISTORS (Power and Special)

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
R79	75W 5W	PW5-75	5W-SQ-75					

TRANSFORMER (POWER)

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
T2	117VAC @ 1.2A	620VCT @ 1.70A DC	5VAC @ 1.9A					

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	HEATH PART No.	REPLACEMENT DATA
K1	Tone Compensation	220mmf., .0015mfd., .022mfd., .0022mfd, 100K, 10K, 100K	84-13	
K2	Tone Compensation	220mmf., .0015mfd., .022mfd., .0022mfd, 100K, 10K, 100K	84-13	

PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

REPLACEMENT DATA		REPLACEMENT DATA		REPLACEMENT DATA		REPLACEMENT DATA		NOTES
ITEM No.	HEATH PART No.	ASTATIC PART No.	ELECTRO-VOICE PART No.	SONOTONE PART No.	SONOTONE PART No.	SONOTONE PART No.	SONOTONE PART No.	
M7	425-23	17	N41 N876 ①	26	2804 2805	8TA4-S	N8TA4-S	① Replacement for original cartridge needles.

MISCELLANEOUS

ITEM No.	PART NAME	HEATH PART No.	NOTES
M8	Switch	63-258	Selector (Rotary)

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors
Power Cord Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft.
17108 (Plastic) or 17128 (Rubber) - 9 Ft.
Power Cord (Interlock Type) Use BELDEN No. 9874 (Rubber) or 8895 (Plastic)
Low-Loss Shielded Lead (Interconnecting) Use BELDEN No. 8401 or 8421
Phono Pick-up Arm Cable Use BELDEN No. 8430 (Two Conductor-Unshielded)
8429 (Two Conductor-Shielded)
8419 (Three Conductor-Shielded)

TRANSFORMER (AUDIO OUTPUT)

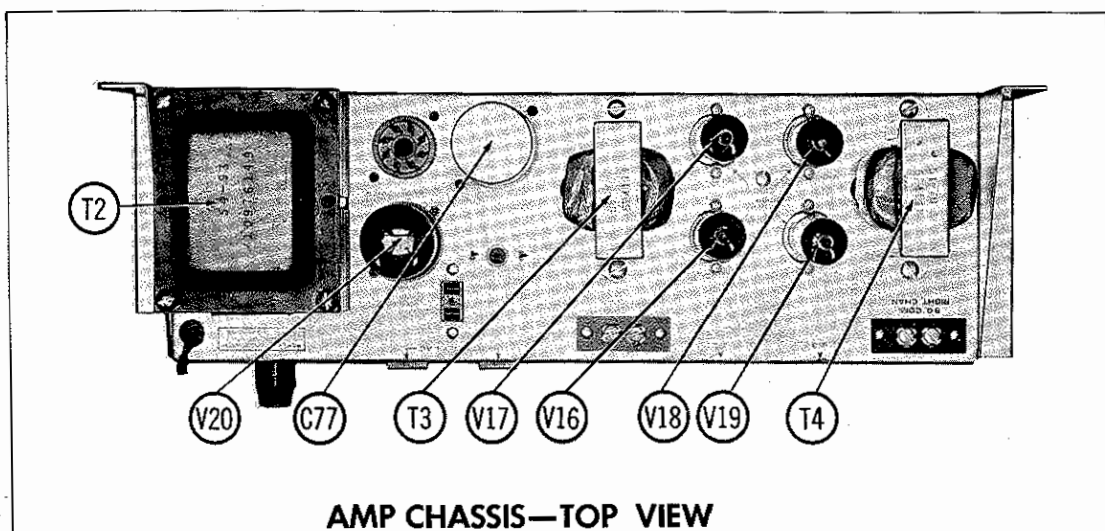
IMPEDANCE		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
T3	8400Ω CT	6-8Ω	51-70	A-4081	A-3830	22858	5-57Z	
T4	8400Ω CT	6-8Ω	51-70	A-4081	A-3830	22858	5-57Z	

SPEAKER

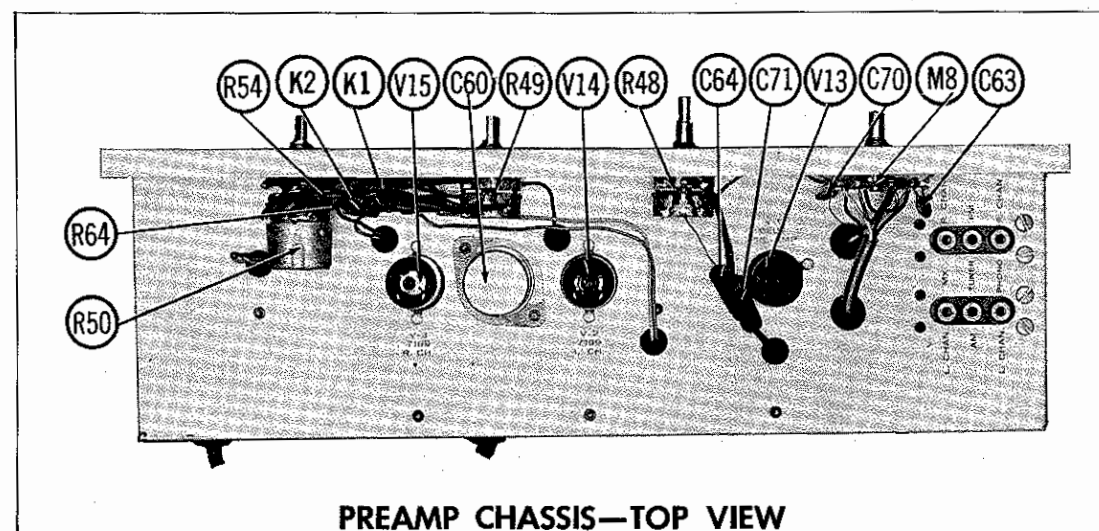
TYPE		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
SP1	3 1/2" PM 14-16Ω	401-44	3A15T					
SP2	8" PM 6-8Ω	401-58	8A4PA					
SP3	8" PM 6-8Ω	401-58	8A4PA					
SP4	3 1/2" PM 14-16Ω	401-44	3A15T					

FUSES

RATING		REPLACEMENT DATA						
ITEM No.	CAP. VOLT.	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
M9	3AG 1 1/2 Amp S/B	421-1	31201.5 (3AG 1 1/2 A S/B)	342001	MDX 1 1/2	HKP		



AMP CHASSIS—TOP VIEW



PREAMP CHASSIS—TOP VIEW

SET 637 FOLDER 8

TUNER PARTS LIST AND DESCRIPTION

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	FM RF Amp.	6CY5	V7	Ratio Det., -FM Cath. Foll.	6BN8
V2	FM Mixer-FM Osc.-AFC	6E28	V8	AM RF Amp.	6BE6
V3	1st FM IF Amp.	6AU6	V9	AM Converter	6BE6
V4	2nd FM IF Amp.	6AU6	V10	AM IF Amp.	6BE6
V5	FM Limiter	6AU6	V11	AM Det., -AM Cath. Foll.	6BN8
V6	FM Tuning Indicator	6ME5	V12	AM Tuning Indicator	6ME5

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	HEATH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	40 150	25-20	PRS1470	BR40-150	QTI-13	TC-48	TD-40-150	TVA-1413
C2	40 150	25-20	PRS1470	BR40-150	QTI-13	TC-48	TD-40-150	TVA-1413
C3A	80 150	25-23	AFH4-01					
C4	20 150	25-23	AFH4-01					
C5	10 25	25-25	PRS1250	BR10-25	QTI-5	TC-22	TD-10-25	TVA-1204

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	NOTES
X1	75MA	57-23	A300	1N1763	2F4	
X2	75MA	57-23	A300	1N1763	2F4	

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELUMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C5	180 1.5		NPO-DI 15	DTZ-15	C10Q15C	CCTO-150	CNO-415
C6	15 NPO		EF-001	MFT-1000	BYA10S1	CCF-102	CT280A
C7	.001		BPD-01	DD-103		CCD-103	
C8	.01						
C9	.01		EF-001	MFT-1000		CCF-102	CT280A
C10	.001						
C11	.001						
C12	.001						
C13	.001						
C14	33 NPO		NPO-DI 33	DTZ-33	C10Q33C	CCTO-330	CNO-433
C15	15 NPO		EF-001	MFT-1000	BYA10S1	CCF-102	CT280A
C16	.001						
C17	15		DI-300	DD-301	L10T3	CCD-301	GP330
C18	300		EF-001	MFT-1000		CCF-102	CT280A
C19	.001						

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELUMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C20	1.5						
C21	.005						
C22	18 NPO 5%						
C23	.005						
C24	.005						
C25	270 10%						
C26	.005						
C27	.005						
C28	100 N750 10%						
C29	.005						
C30	.005						
C31	.1						
C32	270 10%						
C33	270 10%						
C34	270 10%						
C35	.1						
C36	.001						
C37	.01 10%						
C38	.1						
C39	.01 10%						
C40	.005						
C41	.01						
C42	.05						
C43	47 N750						
C44	.005						
C45	.01						
C46	.005						
C47	.01						
C48	47 N750 10%						
C49	47 N750 10%						
C50	100 N750 10%						
C51	27 N750 10%						
C52	.02						
C53	.002						
C54	.002						
C55	.002						
C56	.1						
C57	.1						
C58	.01						
C59	.005						

CONTROLS

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

ITEM No.	USE	RESISTANCE	HEATH PART No.	CORNELL-DUBILIER PART No.	ELUMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
R1	AM Level	10K	10-88	B-15, or (F1-10K, SN1010)	A47-10K-Z, FKS-1/4	B13-116, SK6	U18 or (U1A4A, SN1000)
R2	FM Level	10K	10-88	B-15, or (F1-10K, SN1010)	A47-10K-Z, FKS-1/4	B13-116, SK6	U18 or (U1A4A, SN1000)

COILS (RF-IF)

ITEM No.	USE	HEATH PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	NOTES
L1	FM Ant.						
L2	RF Choke						
L3	RF Choke						
L4	FM RF						
L5	RF Choke						
L6	FM Osc.						
L7	1st FM IF						
L8	2nd FM IF	52-26	FM-254	1463	RTC-8599	T633	
L9	3rd FM IF	52-27	FM-254	1463	RTC-8599	T633	
L10	Radio Detector	53-4	FM-265	1465	RTC-8600	T635	
L11	Loopstick	40-309	BC-418	705-A	RTC-8615	T632	
L12	AM RF	40-88					
L13	AM Osc.	40-88	BC-393	70-Osc.	RTC-8647	T612	
L14	1st AM IF	52-27					
L15	2nd AM IF	52-27					
L16	10KC Filter	40-80	BC-353	12-C2	RTC-8633	T608	
L17	Filter Choke(1.7uh)	45-35	BC-562	4604	RTC-8516	T856	
L18	Filter Choke(1.7uh)	45-35	BC-562	4604	RTC-8516	T856	

TRANSFORMER (POWER)

ITEM No.	RATING	HEATH PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	NOTES
T1	117VAC @ .35A	55VAC @ 3.5A	5.3VAC @ 3.5A	54-101			

FUSES

ITEM No.	TYPE	RATING	HEATH PART No.	LITTELFUSE PART No.	BUSS PART No.
M1	3AG	1/2 Amp. S/B	421-1	31201, 5 (3AG 1/2A S/B)	MDX 1 1/2 3823-1

MISCELLANEOUS

ITEM No.	PART NAME	HEATH PART No.	NOTES
M2	FM Tuner	110-3	Complete
M3	Tuning Cap.	26-33	AM, 3 Gang
M4	Switch	60-11	Power Off-On (Slide Type)
M5	Switch	60-11	AM Band, Narrow-Broad (Slide Type)
M6	Switch	60-10	FM AFC, Full, Half, Off (Slide Type)

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8830 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors
Power Cord Use BELDEN No. 17108 (Plastic) or 17126 (Rubber) - 6 Ft.
17109 (Plastic) or 17129 (Rubber) - 9 Ft.
Power Cord (Interlock Type) Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)

