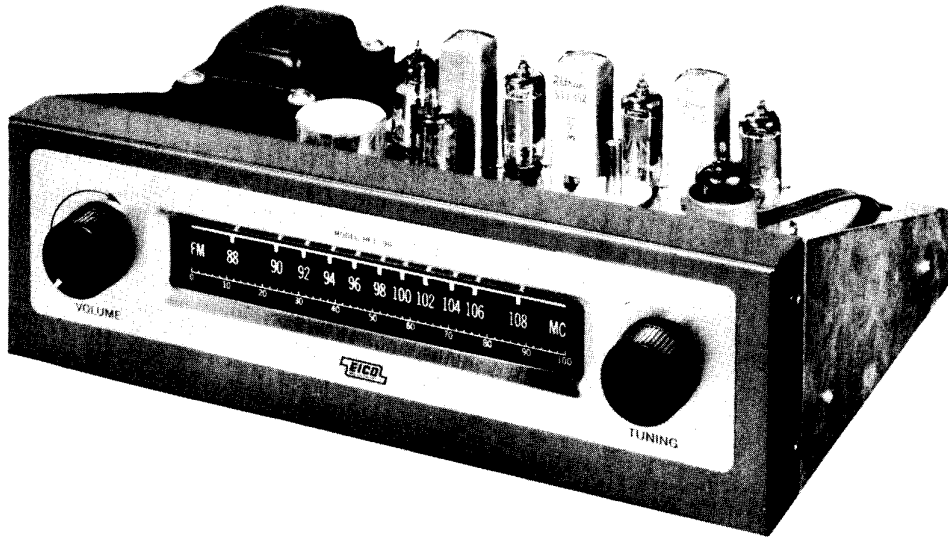


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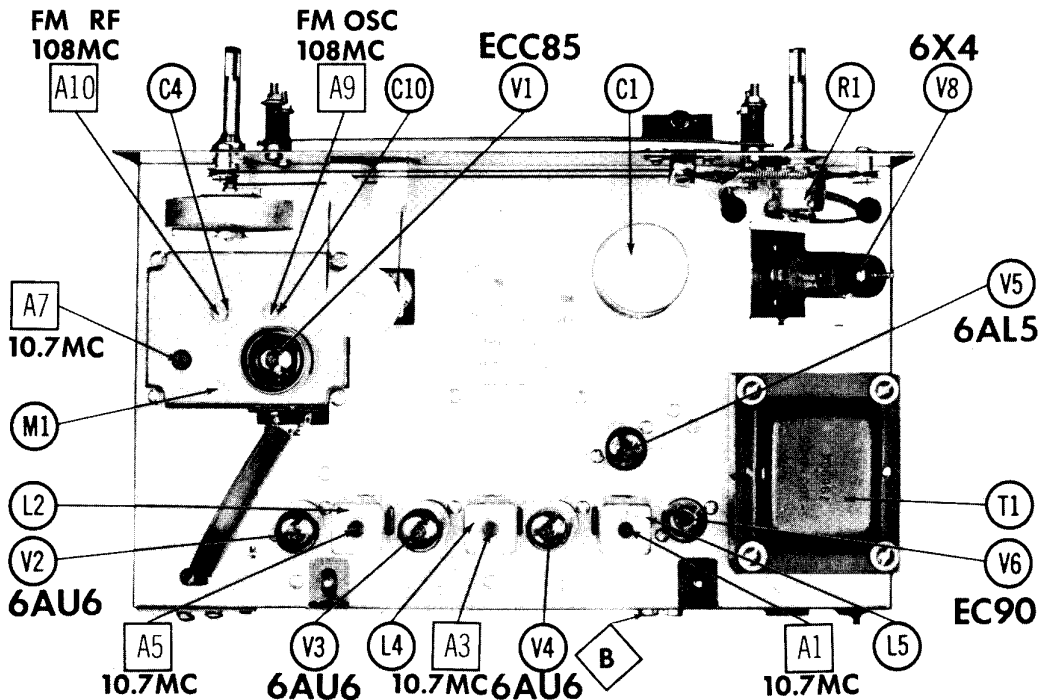
EICO MODEL  
HFT-90

EICO MODEL  
HFT-90



TRADE NAME	Eico Model HFT-90
MANUFACTURER	Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City 1, N. Y.
TYPE SET	AC Operated 8 Tube FM Tuner
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles
TUNING RANGE-FREQ. MOD.	88 - 108MC RATING 32 Watts, .3 Amp. @117 Volts AC

EICO MODEL  
HFT-90



**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 JJ625

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# PARTS LIST AND DESCRIPTIONS

## TUBES

ITEM No.	GENERAL ELECTRIC		ITEM No.	USE	RAYTHEON		SYLVANIA
	TYPE	TYPE			TYPE	TYPE	
V1	RF Amp. -Conv.	ECC85	V5	Ratio Detector	6AL5		
V2	1st IF Amplifier	6AU6	V6	Cathode Follower	EC90/6C4		
V3	2nd IF Amplifier	6AU6	V7	Tuning Indicator	DM70		
V4	3rd IF Amplifier	6AU6	V8	Rectifier	6X4		

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA			
		AEROVOX PART No.	CORNELL-DUBIERRE PART No.	MALLOY PART No.	SPRAGUE PART No.
C1A	40	24010	D0032		TVLS-3639.16*
C1B	20				
C1C	250				
C2	10	23001	NLW10-25	TY50X10	ML10-25 TE-1204

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

## FIXED CAPACITORS

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

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			CENTRALAB PART No.	CORNELL-DUBIERRE PART No.	ELMENDO PART No.	MALLOY PART No.	SPRAGUE PART No.	
C3	10 N750 ±1mmf		TCN-10	C10Q1U	CCTN-100	CNT-410	10TCC-Q10	
C4	2-20		DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C5	1000 PFO		TCZ-20	C10Q2C	CCTO-200	CNO-422	10TCC-Q20	
C6	20 NFO		TCZ-20	C10Q2C	CCTO-200	CNO-422	10TCC-Q20	
C7	8 1/2 PFO		TCN-68	C10Q8U	CCTN-680	CNT-468	10TCC-Q68	
C8	68 N750 3%		829-6		C-3	CT152		
C9	10 N470 ±1mmf		TCZ-15	C10Q15C	CCTO-150	CNO-415	10TCC-Q15	
C10	15 NFO 10%		DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C11	10000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C12	25 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C13	10000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C14	25 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C15	10000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C16	5000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C17	10000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C18	5000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C19	5000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C20	10000 10%		DD-250	L10Q25	CCD-250	GP425	10TS-D50	
C21	47 10%		DD-47	L10Q47	CCD-470	GP447	10TS-D47	
C22	5000 10%		DD-5000	L10Q5000	CCD-5000	GP4500	10TS-D5000	
C23	5000 10%		DD-5000	L10Q5000	CCD-5000	GP4500	10TS-D5000	
C24	5000 10%		DD-5000	L10Q5000	CCD-5000	GP4500	10TS-D5000	
C25	330 10%		DD-331	L10T33	CCD-331	GP333	10TS-T33	
C26	330 10%		DD-331	L10T33	CCD-331	GP333	10TS-T33	
C27	330 10%		DD-331	L10T33	CCD-331	GP333	10TS-T33	
C28	1000 10%		DD-102	L10T1000	CCD-102	GP210	10TS-D10	
C29	.05 400V 10%		DD-102	L10T1000	CCD-102	GP210	10TS-D10	
C30	10000 10%		DD-10000	L10T10000	CCD-10000	GP4500	10TS-D10000	
C31	25000		DD-10000	L10T10000	CCD-10000	GP4500	10TS-D10000	
C32	10000 10%		DD-10000	L10T10000	CCD-10000	GP4500	10TS-D10000	

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

## CONTROLS

ITEM No.	RATING	REPLACEMENT DATA				INSTALLATION NOTES
		CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLOY PART No.	
R1A	250K Shift Switch	B-51	A47-250K-Z	Q13-150	U44	Volume
B		KR-1	KCS-3	Not Req.	Not Req.	Not Req.
C			SWE-12	76-1	US-26	Power Off-On

## RESISTORS

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

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R2	1meg		R20	68K	
R3	10K 1W		R21	1meg	
R4	10K 1W		R22	47000	
R5	470K		R23	47K 1W	
R6	470K		R24	18000 5W	
R7	12000 1W		R25	5000 5W	
R8	1000		R26	2200 5W 1W	
R9	12000 1W				
R10	1000				

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		EICO PART No.	Grammer PART No.	Weissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L1	Fl. Choke	35024	16-3487	16-3487	FM-254	1463	1. 2uh	
L2	2nd IF Trans.	34600	19-1002	19-1002	BC-563	4606	2. 2uh	
L3	RF Choke	35025	16-3487	16-3487	FM-254	1463		
L4	3rd IF Trans.	34601	17-3498	17-3498	FM-255	1465		
L5	Ratio Detector	34602			BC-561			
L6	Fl. Choke	35024					1. 2uh	

## TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA					
		EICO PART No.	Holliderson PART No.	Merit PART No.	Ram PART No.	Stencor PART No.	Thorderson PART No.
T1	117V @ .3A 420 VCT @ 2.6A @ .040A	30024	24R11			PM618	24R11

## MISCELLANEOUS

ITEM No.	PART NAME	EICO PART No.	NOTES
M1	FM Tuner	37001	

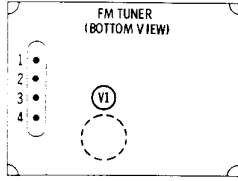
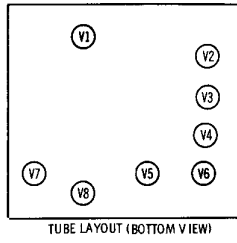
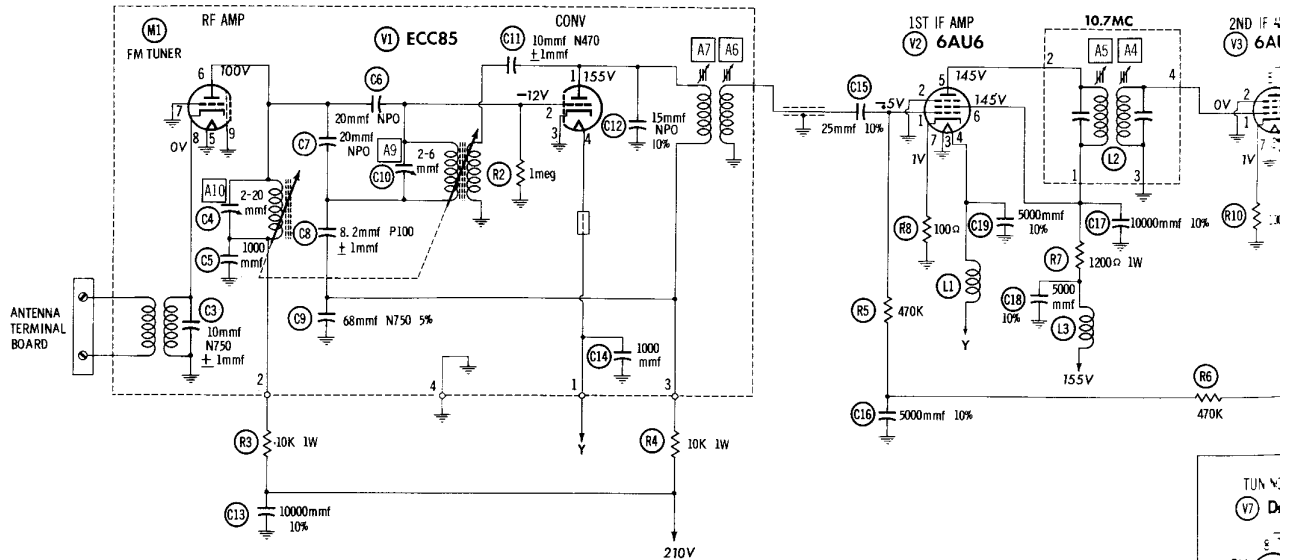
## CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Knob	53007	(With dot) Off-On Volume
Knob	53019	Tuning

## WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1765-B (6 Ft. Length) 1725-K (1 1/2 Ft. Length)

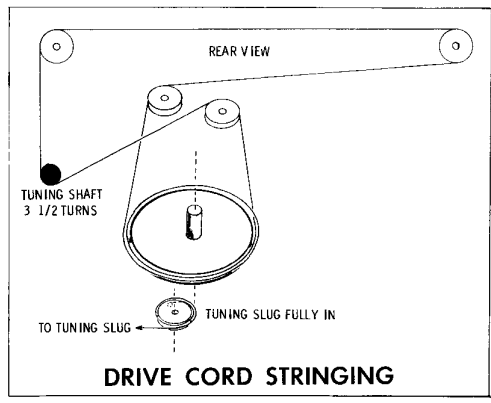


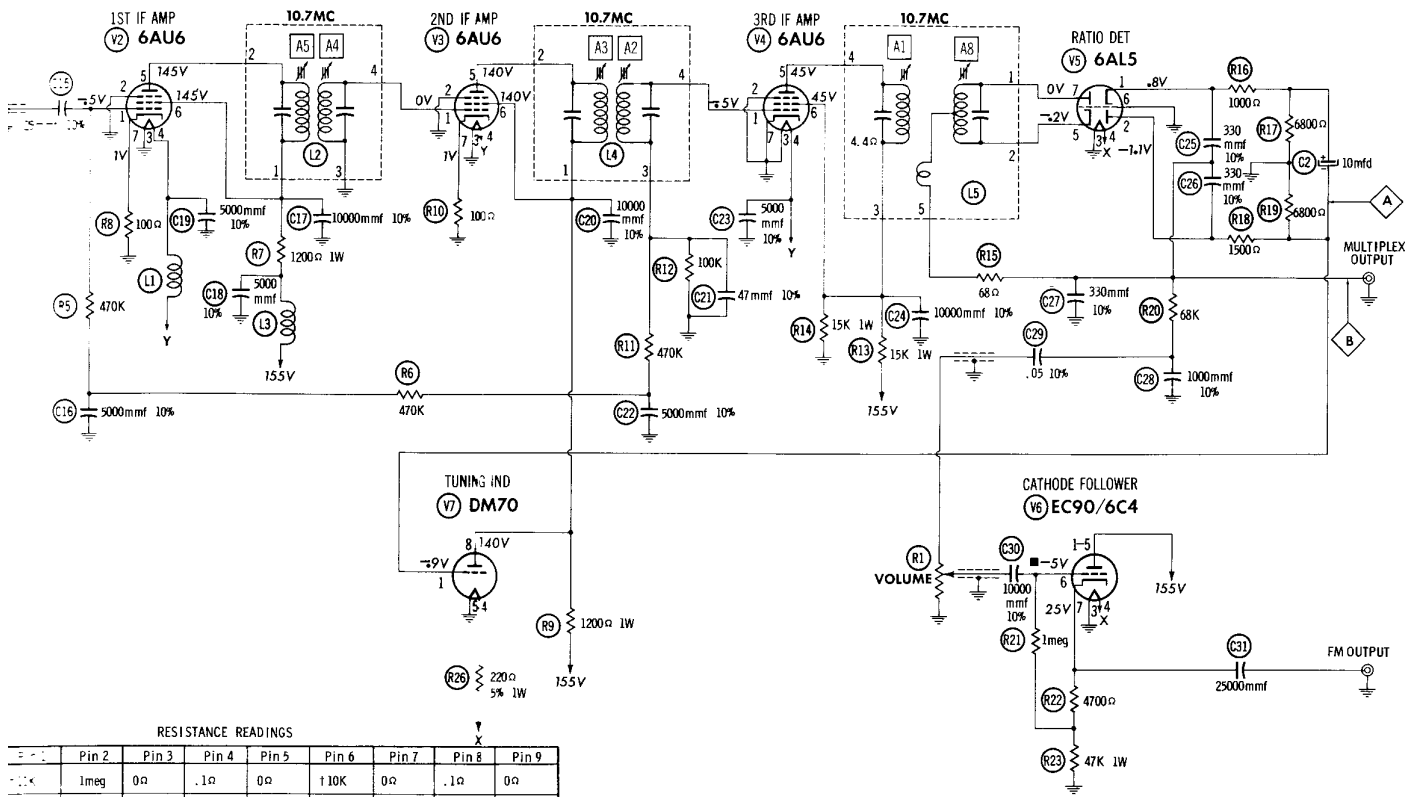
RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	P-1
V1	ECC85	†10K	1meg	0Ω	.1Ω	0Ω	†10K	0Ω	.1Ω
V2	6AU6	1.5meg	0Ω	0Ω	.1Ω	†3500Ω	†3500Ω	100Ω	
V3	6AU6	.8Ω	0Ω	0Ω	.1Ω	†3500Ω	†3500Ω	100Ω	
V4	6AU6	100K	0Ω	0Ω	.1Ω	†17K	†17K	0Ω	
V5	6AL5	7800Ω	8300Ω	0Ω	.1Ω	INF	0Ω	INF	
V6	EC90	†2300Ω	NC	0Ω	.1Ω	†2300Ω	1meg	52K	
V7	DM70	6800Ω	NC	NC	.1Ω	0Ω	NC	NC	†3500Ω
V8	6X4	310Ω	NC	0Ω	.1Ω	NC	300Ω	†1	

- DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common negative.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.

† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE ...  
 † MEASURED FROM PIN 7 OF V8.  
 † MEASURED FROM PIN 7 OF V6.  
 NC NO CONNECTION

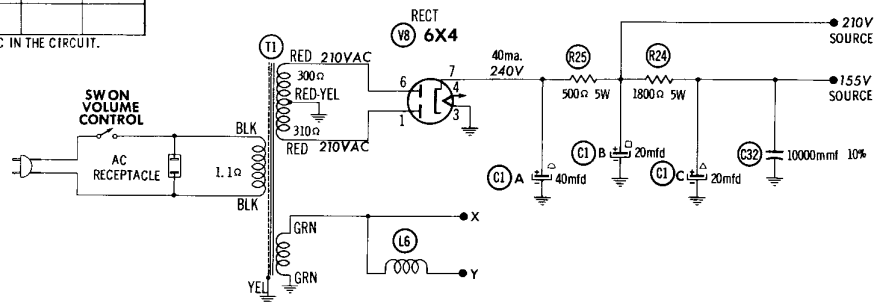
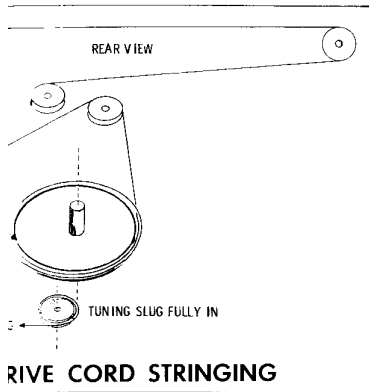




RESISTANCE READINGS

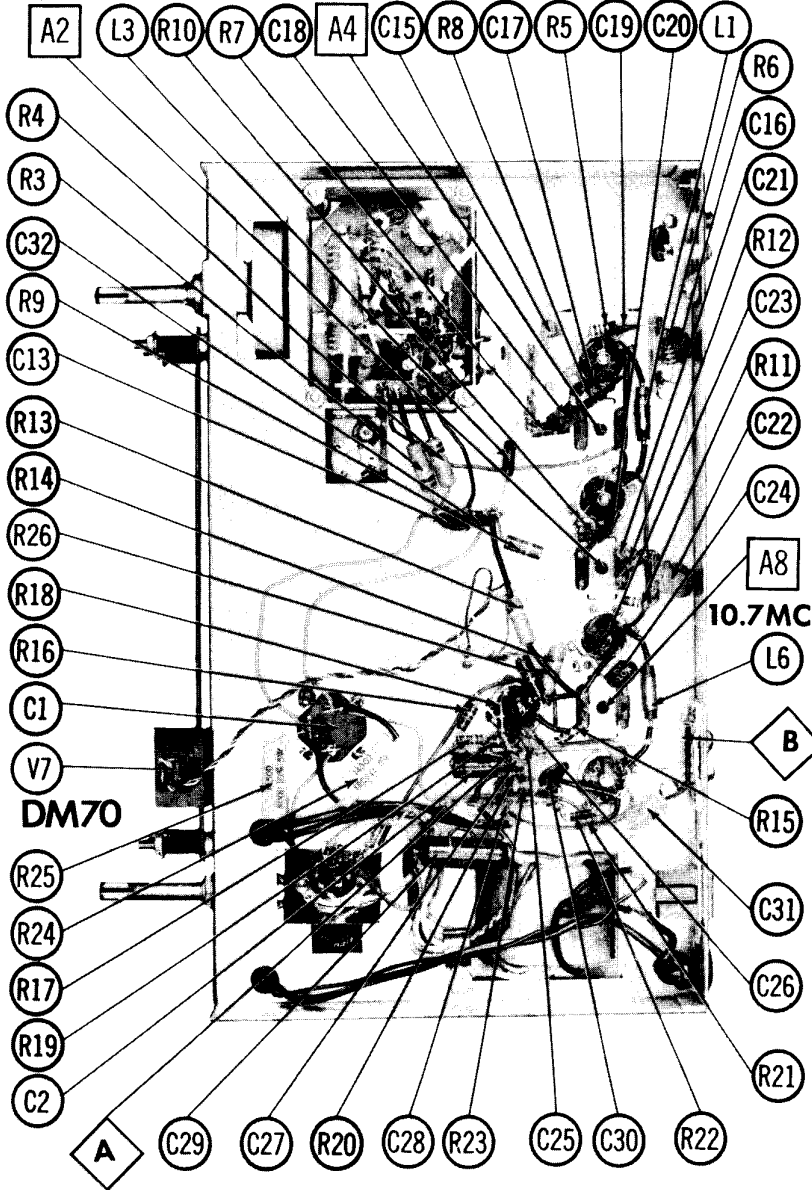
	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
10K	1meg	0Ω	.1Ω	0Ω	†10K	0Ω	.1Ω	0Ω
100K	0Ω	0Ω	.1Ω	†3500Ω	†3500Ω	100Ω		
1M	0Ω	0Ω	.1Ω	†3500Ω	†3500Ω	100Ω		
100K	0Ω	0Ω	.1Ω	†17K	†17K	0Ω		
100Ω	8300Ω	0Ω	.1Ω	INF	0Ω	INF		
100Ω	NC	0Ω	.1Ω	†2300Ω	1meg	52K		
100Ω	NC	NC	.1Ω	0Ω	NC	NC	†3500Ω	
100Ω	NC	0Ω	.1Ω	NC	300Ω	†		

† ALL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.  
 † FROM PIN 7 OF V8.  
 † FROM PIN 7 OF V6.  
 † 10Ω



10.7MC

10.7MC



CHASSIS BOTTOM VIEW

# ALIGNMENT INSTRUCTIONS

## ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested alignment tools: A1 thru A5, A8..... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987  
 WALSCO #2531  
 A6, A7..... GENERAL CEMENT #8282, 8606, 8606L, 9091  
 WALSCO #2526, 2541, 2543, 2544  
 A9, A10..... GENERAL CEMENT #5000, 5003, 5014, 5015, 5016, 8276, 8290  
 WALSCO #2512, 2515, 2522, 2523, 2525, 2537

### IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru 5mmf to pin 2 (grid) of Converter. Low side to chassis.	10.7MC (Unmod.)	Point of non-interference.	DC probe to point (A). Common to chassis.	A1, A2, A3, A4, A5, A6, A7	Adjust for maximum deflection.
2.	"	"	"	DC probe to point (B). Common to chassis.	A8	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

### 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.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
1.	High side thru 5mmf to pin 2 (grid) of Converter. Low side to chassis.	10.7MC (450KC Swp)	Point of non-interference.	Vert. amp. to point (A). Low side to chassis.	A1, A2, A3, A4, A5, A6, A7	Disconnect stabilizing capacitor C2. Adjust for maximum gain and symmetry of response similar to Fig. 1. Reconnect C2.
2.	"	"	"	Vert. amp. to point (B). Low side to chassis.	A8	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A1 for maximum amplitude and straightness of crossover lines.

### RF ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
3.	Across antenna terminals with 120Ω in each lead.	108MC (Unmod.)	108MC	DC probe to point (A). Common to chassis.	A9, A10	Adjust for maximum deflection.

