

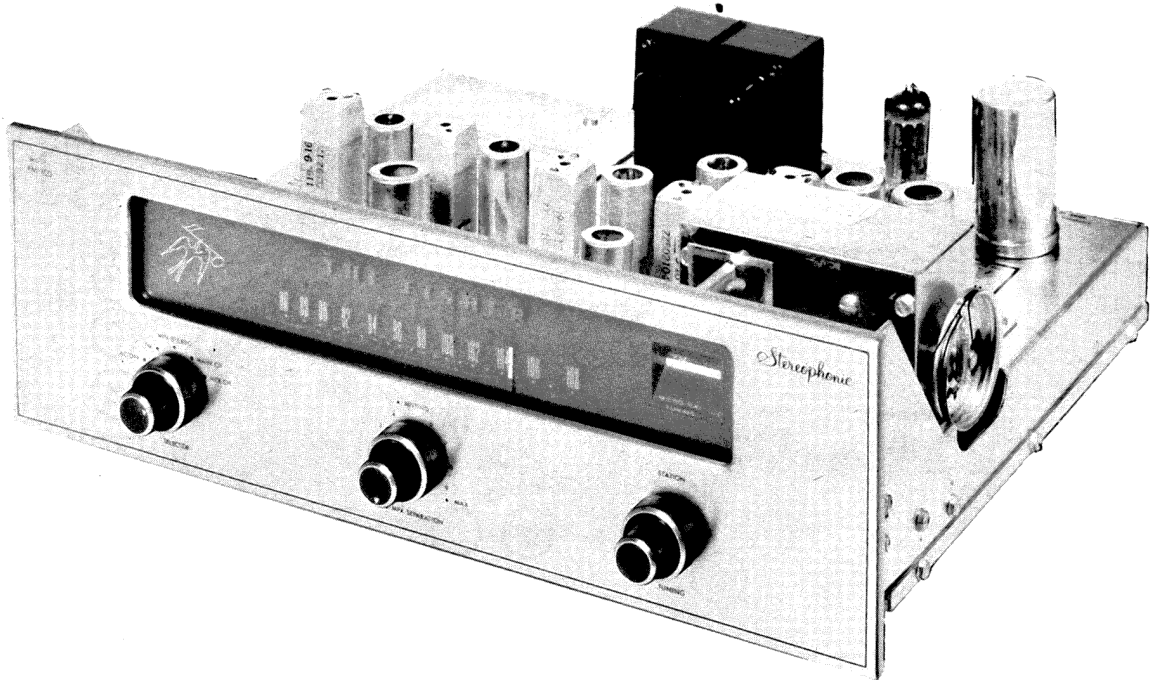
SET 477

PHOTOFACT® Folder



FISHER
MODEL FM-100

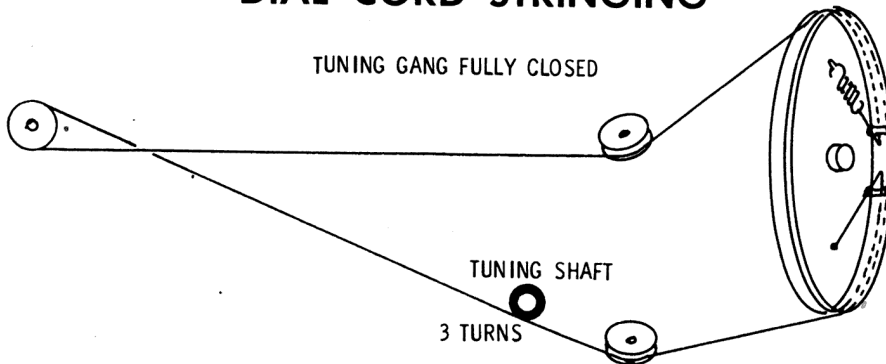
FISHER
MODEL FM-100



FISHER
MODEL FM-100

TRADE NAME	Fisher Model FM-100 (Serial #10001-19999 Inclusive)		
MANUFACTURER	Fisher Radio Corp., 21-21 44th Drive., Long Island City 1, N. Y.		
TYPE SET	AC Operated 10 Tube FM Tuner		
POWER SUPPLY	105-120 Volts AC, 60 Cycles		
TUNING RANGE - FREQ. MOD.	88-108	RATING	43 Watts, .4 Amp. @117 Volts AC

DIAL CORD STRINGING



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

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DATE 3-60

SET 477

FOLDER 5

SET 477
FOLDER 5

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.
 Remove external antenna and link between terminals 1 and 2.
 To set pointer, turn tuning capacitor fully closed and set pointer to last reference mark at low frequency end of dial.
 Suggested alignment tools: A1 thru A9, A13, A14, A15..... GENERAL CEMENT #8606, 8606L, 8282, 9295
 WALSCO #2526, 2543, 2544, 2545
 A10, A11, A12..... 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 to un-grounded tube shield floating over Mixer-Osc. (V2). 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	"
3.	"	"	"	DC probe to point C . Common to chassis.	A9	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 60v modulation and 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
1.	High side to un-grounded tube shield floating over Mixer-Osc. (V2). 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	Adjust for maximum gain and symmetry of response similar to Fig. 1.
2.	"	"	"	Vert. amp. to point B . Low side to chassis.	A8	Disconnect stabilizing capacitor C4. Adjust for maximum gain and symmetry of response similar to Fig. 1. Reconnect C4.
3.	"	"	"	Vert. amp. to point C . Low side to chassis.	A9	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A8 for maximum amplitude and straightness of crossover lines.

RF ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
4.	Across antenna terminals 2 and 3 with 120Ω in each lead.	106MC (Unmod.)	106MC	DC probe to point A . Common to chassis.	A10, A11, A12	Adjust for maximum deflection.
5.	"	90MC	90MC	"	A13, A14, A15	"

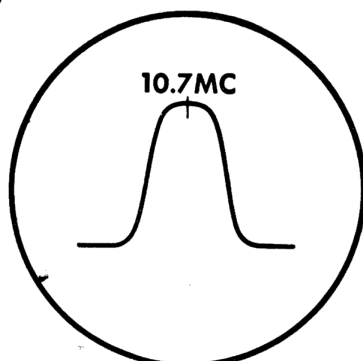


FIG. 1

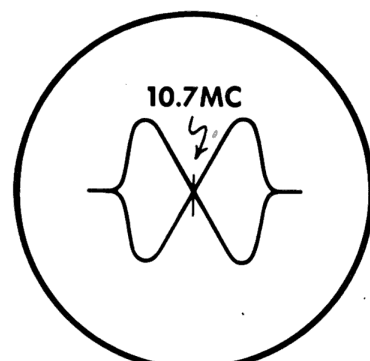
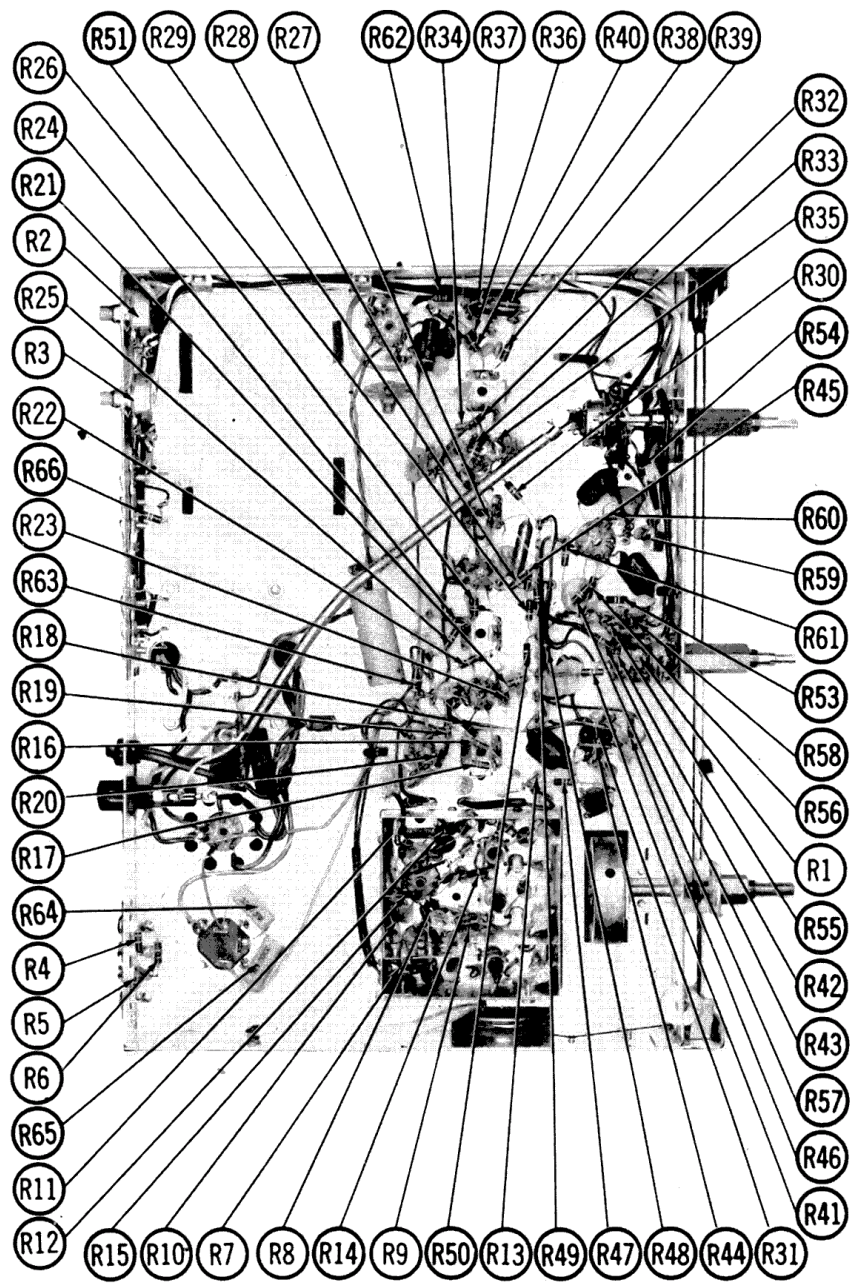
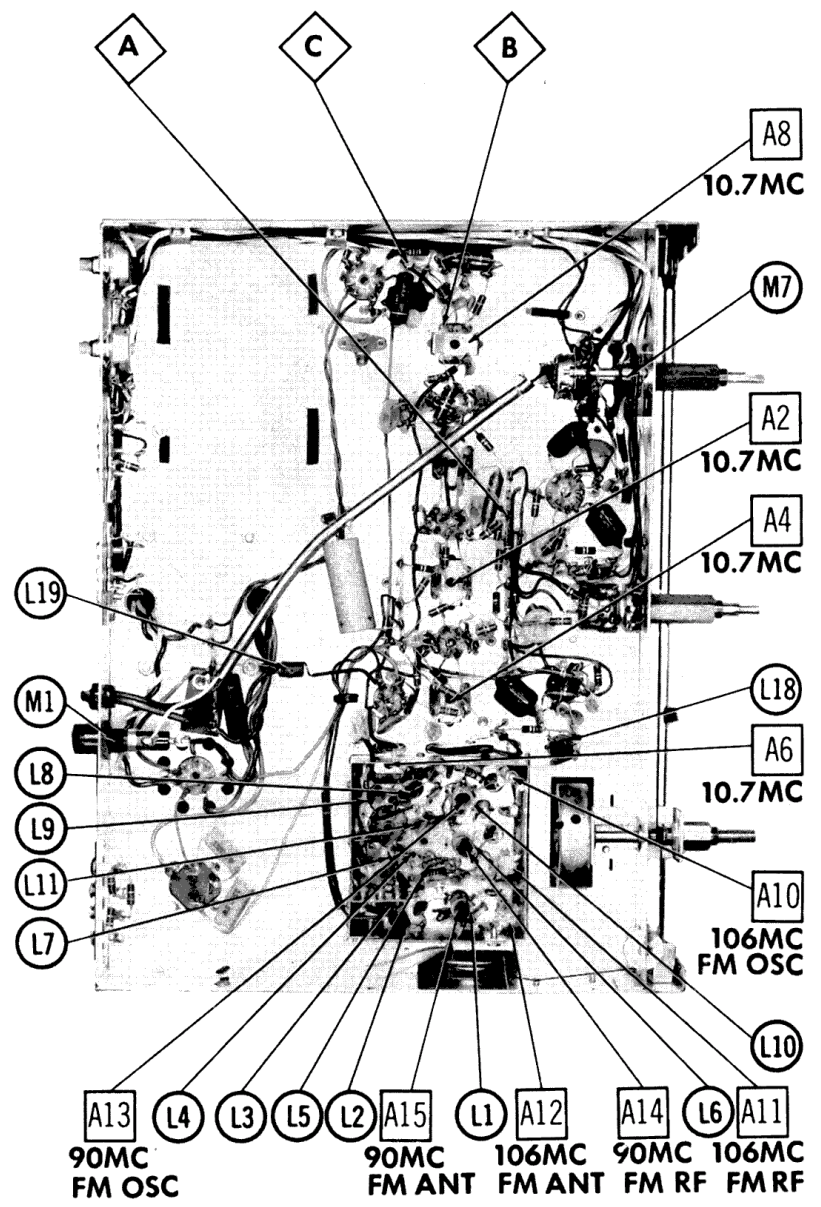


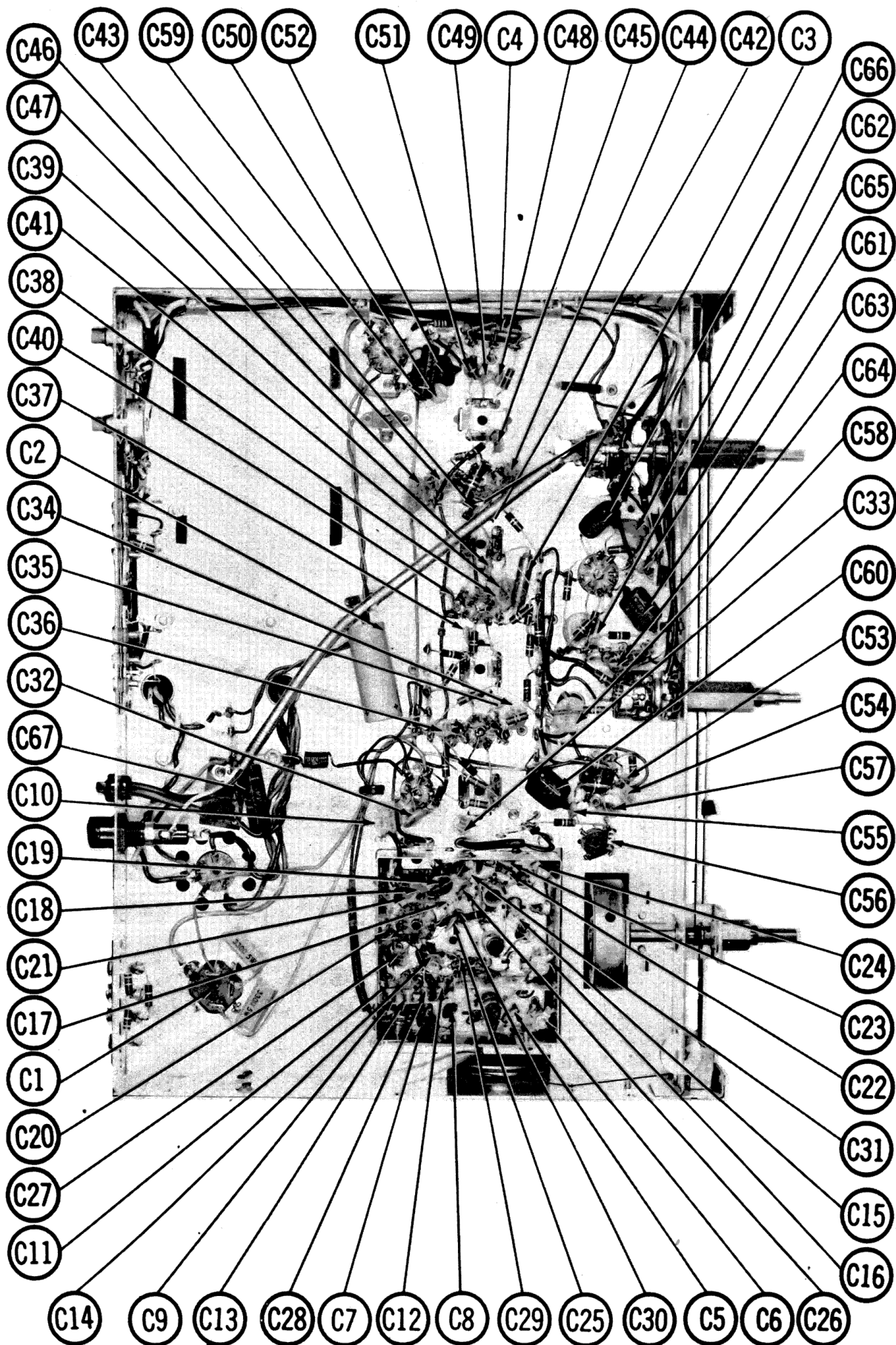
FIG. 2



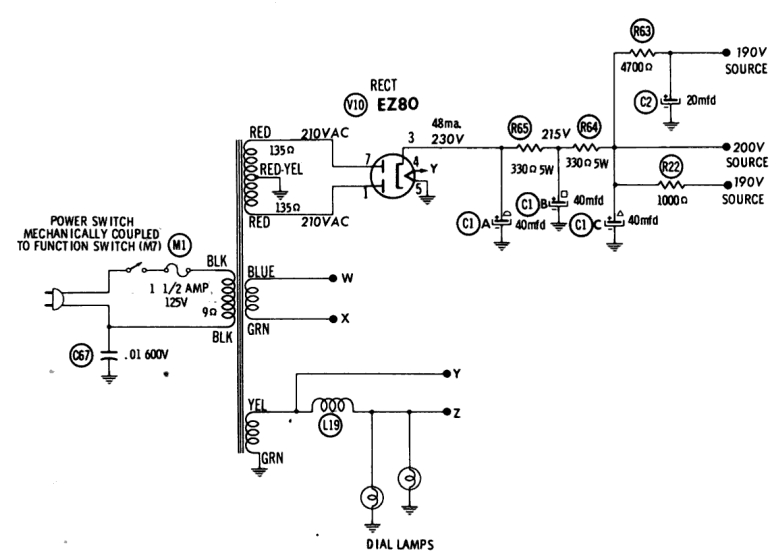
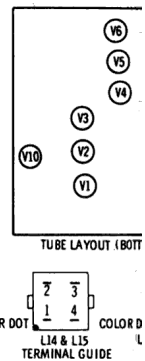
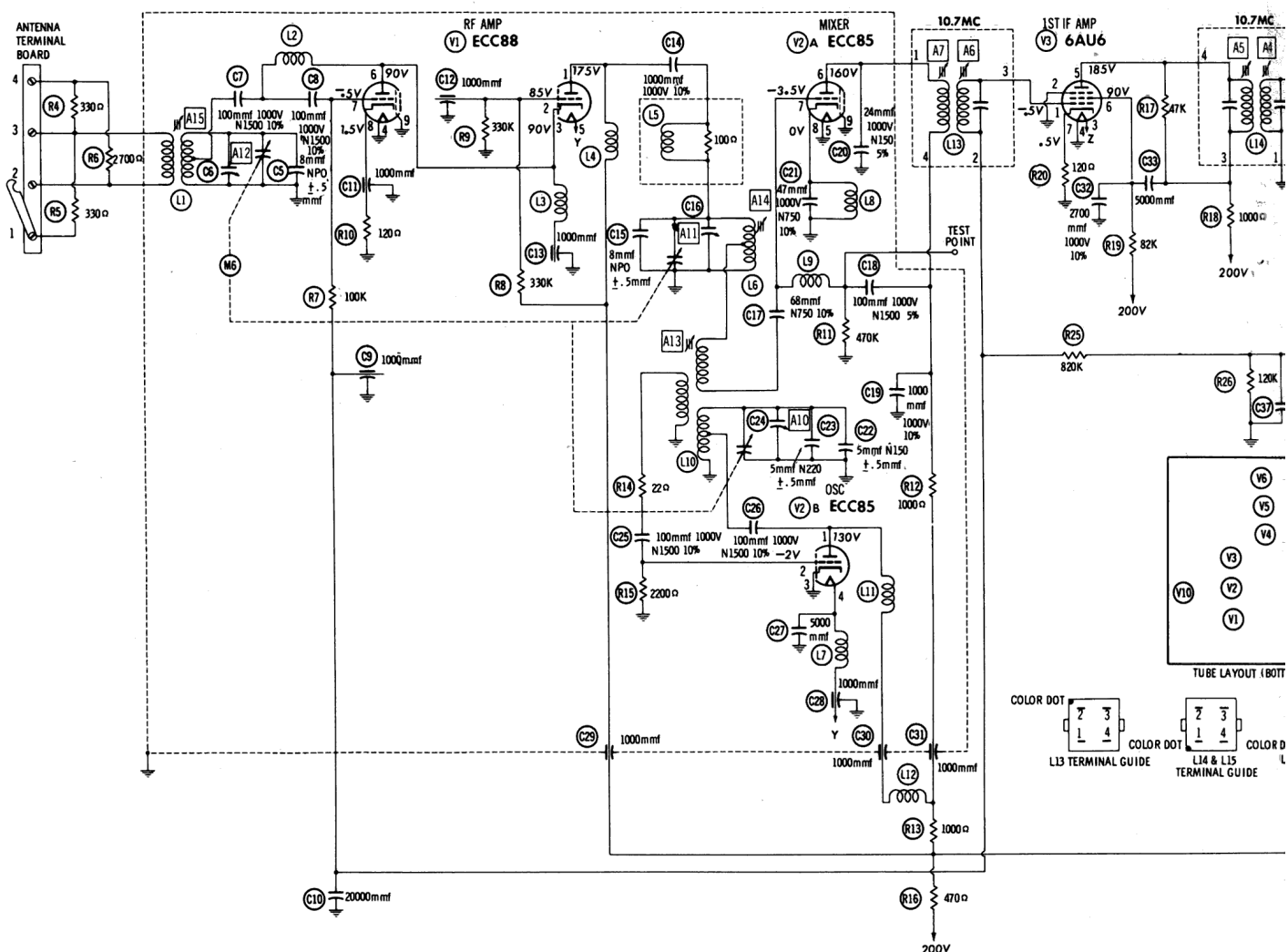
CHASSIS BOTTOM VIEW - RESISTOR IDENT.



CHASSIS BOTTOM VIEW
ALIGNMENT, INDUCTOR & MISC IDENT.



CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

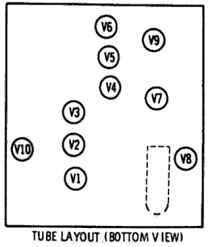
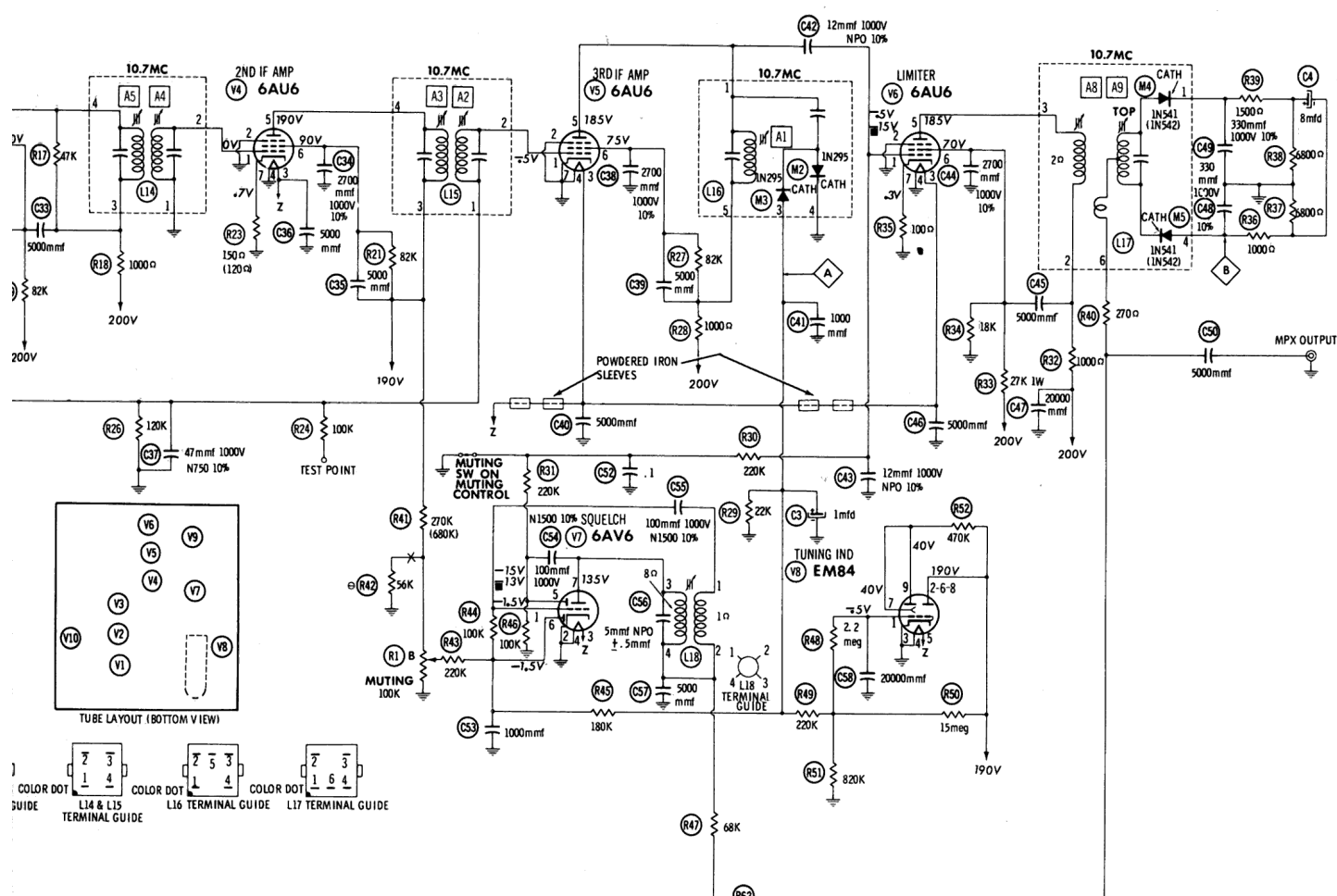


RESISTANCE READINGS

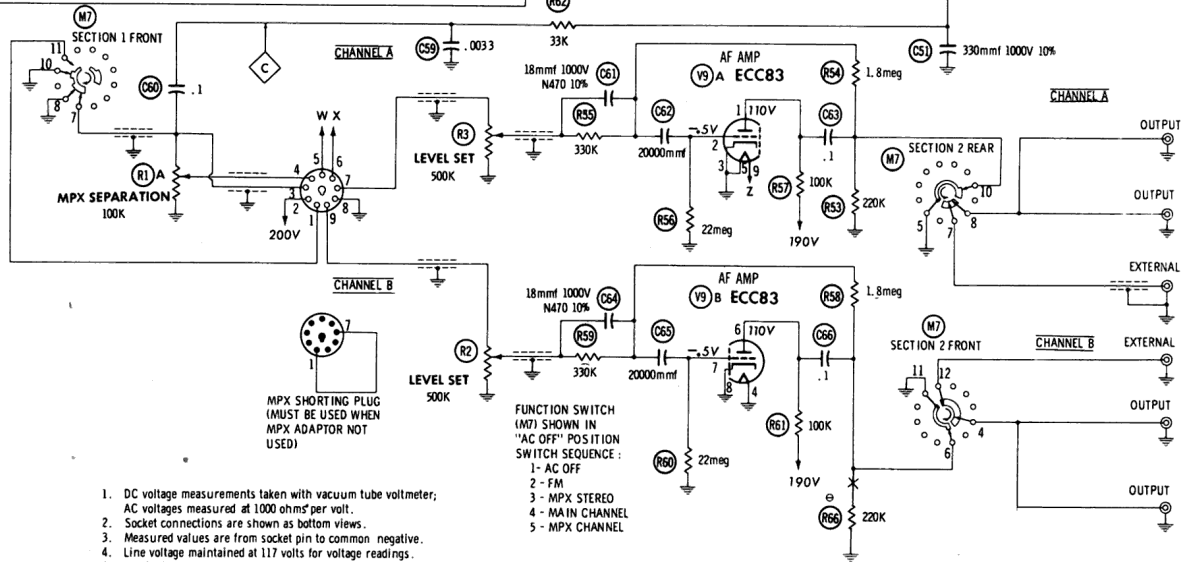
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC88	↑ 1100Ω	200K	INF	0Ω	.1Ω	INF	1meg	120Ω	0Ω
V2	ECC85	↑ 2100Ω	2200Ω	0Ω	.1Ω	0Ω	↑ 3100Ω	470K	.2Ω	0Ω
V3	6AU6	940K	0Ω	.1Ω	0Ω	↑ 1600Ω	↑ 83K	120Ω		
V4	6AU6	.7Ω	0Ω	.1Ω	0Ω	↑ 1600Ω	↑ 83K	150Ω		
V5	6AU6	120K	0Ω	.1Ω	0Ω	↑ 1600Ω	↑ 83K	0Ω		
V6	6AU6	220K	0Ω	.1Ω	0Ω	↑ 1600Ω	↑ 25K	100Ω		
V7	6AV6	320K	0Ω	.1Ω	0Ω	70K	220K	↑ 69K		
V8	EM84	2.4meg	↑ 1600Ω	0Ω	0Ω	.1Ω	↑ 1600Ω	↑ 470K	↑ 1600Ω	↑ 470K
V9	ECC83	↑ 100K	22meg	0Ω	0Ω	0Ω	↑ 100K	22meg	0Ω	.1Ω
V10	EZ80	135Ω	NC	↑	0Ω	.1Ω	NC	135Ω	NC	NC

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED.
 † THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
 ‡ MEASURED FROM PIN 3 OF V10.
 • MUTING SWITCH "ON".

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
 ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)



Pin 6	Pin 7	Pin 8	Pin 9
1meg	120Ω	0Ω	
100Ω	470K	.2Ω	0Ω
3K	120Ω		
3K	150Ω		
3K	0Ω		
5K	100Ω		
5K	1.69K		
500Ω	1.47K	1.1600Ω	1.47K
10K	22meg	0Ω	.1Ω
	135Ω	NC	NC



- 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.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

PARTS LIST AND DESCRIPTIONS

TUBES

CBS			GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	ECC88 (6DJ8) *	V6	Limiter	6AU6	V7	Squelch	6AV6	V8	EM84 (6FG6) *	
V2	Mixer-Osc.	ECC85 (6AQ8) *	V8	Tuning Indicator	6AU6	V9	Channel A AF Amp.	ECC83	V9	Channel B AF Amp.	EZ80 (6V4) *
V3	1st IF Amplifier	6AU6	V10	Rectifier	6AU6						
V4	2nd IF Amplifier	6AU6									
V5	3rd IF Amplifier	6AU6									

* Alternate

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT.	FISHER PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.		
CLA	40	300	C670-125	AFH4-02	C0870	FP327.89	TMT-181	TVLS-3561.4*		
B	40	250			BR4025					
C	40	250								
C2	20	250	C746-145	PRS1570	BR2025	TC55	TD-20-250	TVA-1508		
C3	1	50	C746-144	SRE50V1	NLW1-50	TC-31	MLI-50	TE-1300		
C4	8	50	C629-138	PRS1405	NLW8-100	TT150X8	ML8-50	TE-1303.3		

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

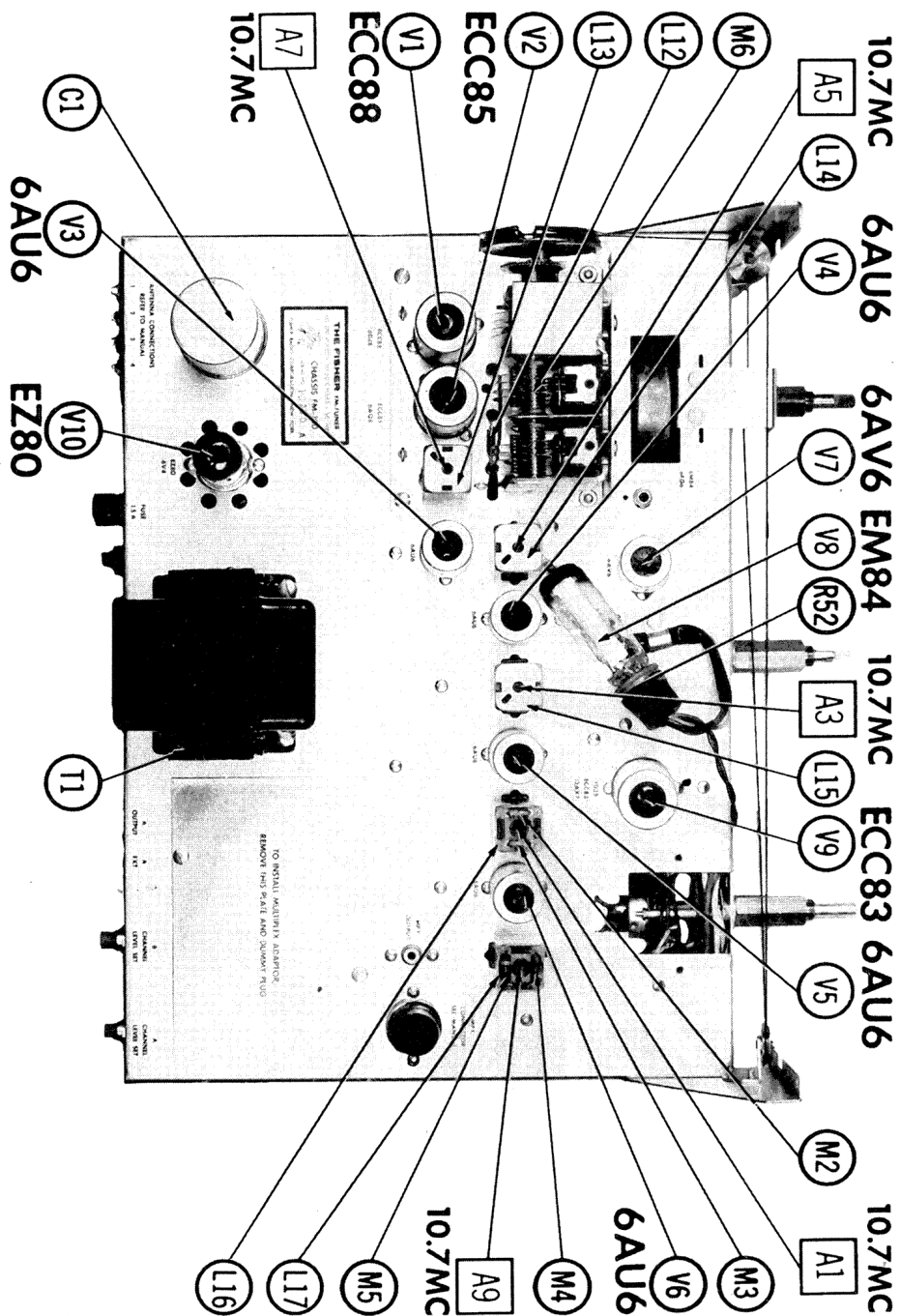
FIXED CAPACITORS

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						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMenco PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	8 NPO .5mmf	#CC20CJ080D5			C10V8C				
C6		#C662-123							
C7	100 N1500 10% 1000V	#C50070-6							
C8	100 N1500 10% 1000V	#C50070-6							
C9	1000		EF-001	MFT-1000			CCF-102	CT280A	
C10	20000		BPD-02	DD-203	BYB6S2		CCD-203	GP120	
C11	1000		EF-001	MFT-1000			CCF-102	CT280A	
C12	1000		EF-001	MFT-1000			CCF-102	CT280A	
C13	1000		EF-001	MFT-1000			CCF-102	CT280A	
C14	1000 1000V 10%		DI-1000	DD-102			CCD-102	GP210	
C15	8 NPO .5mmf	#CC20CJ080D5			C10V8C				
C16		#C662-123							
C17	68 N750 10%		N750-SI 68	TCN-68	C10Q68U		CCTN-680	CN7-468	
C18	100 N1500 5% 1000V	#C-50070-19							
C19	1000 1000V 10%		DI-1000	DD-102			CCD-102	GP210	
C20	24 N150 5% 1000V	#C50070-8					CCTN-470	CN7-447	
C21	47 N750 10% 1000V				C10Q47U				
C22	5 N150 .5mmf	#CC20PJ050D5							
C23	5 N220 .5mmf	#CC20RH050D5							
C24		#C662-123							
C25	100 N1500 10% 1000V	#C50070-6							
C26	100 N1500 10% 1000V	#C50070-6							
C27	5000	Note 1	BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C28	1000		EF-001	MFT-1000			CCF-102	CT280A	
C29	1000		EF-001	MFT-1000			CCF-102	CT280A	
C30	1000		EF-001	MFT-1000			CCF-102	CT280A	
C31	1000		EF-001	MFT-1000			CCF-102	CT280A	
C32	2700 1000V 10%		DI-2700				CCD-272		
C33	5000		BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C34	2700 1000V 10%		DI-2700				CCD-272		
C35	5000		BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C36	5000		BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C37	47 N750 10% 1000V				C10Q47U		CCTN-470	CN7-447	
C38	2700 1000V 10%		DI-2700				CCD-272		
C39	5000		BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C40	5000		BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C41	1000		BPD-001	DD-102	BYA10D1		CCD-102	GP210	
C42	12 NPO 1000V 10%				C10Q12C		CCTO-120	CNO-412	
C43	12 NPO 1000V 10%				C10Q12C		CCTO-120	CNO-412	
C44	2700 1000V 10%		DI-2700				CCD-272		
C45	5000		BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C46	5000		BPD-005	DD-502	BYA10D5		CCD-502	GP250	
C47	20000		BPD-02	DD-203	BYB6S2		CCD-203	GP120	

FOLDER 5

CHASSIS-TOP VIEW



MODEL FM-100
FISHER

PARTS LIST AND DESCRIPTIONS (Continued)

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C48	330 1000V 10%		DI-330	DD-331	L10T33	CCD-331	GP333	10TS-T33
C49	330 1000V 10%		DI-330	DD-331	L10T33	CCD-331	GP333	10TS-T33
C50	5000		BPD-005	DD-502	BYA10D5	CCD-502	GP250	5HK-D50
C51	330 1000V 10%		DI-330	DD-331	L10T33	CCD-331	GP333	10TS-T33
C52	.1 250V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P1
C53	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10
C54	100 N1500 1000V 10%	#C50070-6						
C55	100 N1500 1000V 10%	#C50070-6						
C56	5 NPO .5mmf		NPO-SI 5.0	TCZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C57	5000		BPD-005	DD-502	BYA10D5	CCD-502	GP250	5HK-D50
C58	20000		BPD-02	DD-203	BYB6S2	CCD-203	GP120	5HK-S20
C59	.0033 200V		P288N-0033	D6-332	CUB6D33	6DP-1-332	GEM-6233	6TM-D33
C60	.1 250V		P288N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P1
C61	18 N470 1000V 10%	#C50070-13						
C62	20000		BPD-02	DD-203	BYB6S2	CCD-203	GP120	5HK-S20
C63	.1 250V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P1
C64	18 N470 1000V 10%	#C50070-13						
C65	20000		BPD-02	DD-203	BYB6S2	CCD-203	GP120	5HK-S20
C66	.1 250V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P1
C67	.01 600V		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S1

Note 1. Not used in some versions. # Fisher Part Number.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	FISHER PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
RIA	100K		R50160-10					MPX Separation Muting Muting Switch Level Set, Channel A Level Set, Channel B
B	100K							
C	Switch							
R2	500K		R50103-6	BX-59	B47-500K-S	Q11-133	PTA55L	
R3	500K		R50103-6	BX-59	B47-500K-S	Q11-133	PTA55L	

RESISTORS

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

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R4	330Ω		R25	820K		R46	100K	
R5	330Ω		R26	120K		R47	68K	
R6	2700Ω		R27	82K		R48	2.2meg	
R7	100K		R28	1000Ω		R49	220K	
R8	330K		R29	22K		R50	15meg	
R9	330K		R30	220K		R51	820K	
R10	120Ω		R31	220K		R52	470K	
R11	470K		R32	1000Ω		R53	220K	
R12	1000Ω		R33	27K 1W		R54	1.8meg	
R13	1000Ω		R34	18K		R55	330K	
R14	22Ω		R35	100Ω		R56	22meg	
R15	2200Ω		R36	1000Ω		R57	100K	
R16	470Ω		R37	6800Ω		R58	1.8meg	
R17	47K		R38	6800Ω		R59	330K	
R18	1000Ω		R39	1500Ω		R60	22meg	
R19	82K		R40	270Ω		R61	100K	
R20	120Ω		R41	270K	(680K) *	R62	33K	
R21	82K		R42	56K	Note 1	R63	4700Ω	
R22	1000Ω		R43	220K		R64	330Ω 5W	
R23	150Ω	(120Ω) *	R44	100K		R65	330Ω 5W	
R24	100K		R45	180K		R66	220K	Note 1

* Alternate Value.
Note 1. Not used in some versions.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		FISHER PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Ram PART No.	
L1	Ant. Trans.	L726-124					
L2	RF Choke	L50066-2	19-1000	19-1000	BC-561	4602	1uh
L3	Cathode Choke	L50066-19					.56uh

COILS (RF-IF) (cont)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		FISHER PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L4	RF Choke	L50066-19						.56uh
L5	RF Choke	L629-180						①
L6	RF Coil	L726-126						
L7	Fil. Choke	L50066-3	19-1000	19-1000	BC-561	4602		1.2uh
L8	Cathode Choke	L50066-19						.56uh
L9	RF Choke	L50066-2	19-1000	19-1000	BC-561	4602		1uh
L10	Osc. Coil	L726-125						
L11	RF Choke	L50066-2	19-1000	19-1000	BC-561	4602		1uh
L12	RF Choke	L50066-3	19-1000	19-1000	BC-561	4602		1.2uh
L13	1st IF Trans.	Z2662-117	16-3490	16-3490				1463-PC
L14	2nd IF Trans.	Z250210-2	16-3487	16-3487	FM-254	1463		
L15	3rd IF Trans.	Z250210-2	16-3487	16-3487	FM-254	1463		
L16	Limitter	L551-121						
L17	Ratio Det.	Z2592-170						
L18	Muting Osc. Coil	L50210-21						
L19	Fil. Choke	L520-156	19-1000	19-1000	BC-561	4602		1.2uh

① 5 Turns of Wire on 100Ω Resistor.

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA						
	PRI.	SEC. 1	SEC. 2	FISHER PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117V @ .4A	420 VCT @ .048A	6.3V (Not Used)	T746-115						
	SEC. 3	SEC. 4	SEC. 5							
	6.3V @ 3.6A									

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			FISHER PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	1½A 125V S/B	F684-143	X1036	31301.5 (1½A 125V S/B)	342012	MDL 1½	HKP-CC

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA				NOTES
		FISHER PART No.	CBS PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M2	1N295	V-1N295	1N636	1N295	1N295	Limiter (Clip In) Limiter (Clip In) Ratio Det. (Clip In) Matched Ratio Det. (Clip In) Pair
M3	1N295	V-1N295	1N636	1N295	1N295	
M4	1N541	*V-1N541	1N636	1N295	1N295	
M5	1N541	*V-1N541	1N636	1N295	1N295	

* Some versions may use a 1N542 in this application (Part #V-1N542).

MISCELLANEOUS

ITEM No.	PART NAME	FISHER PART No.	NOTES
M6	Tuning Cap.	C726-116	3 Gang
M7	Switch	S746-118	Function Selector

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 (7½ Ft. Length)