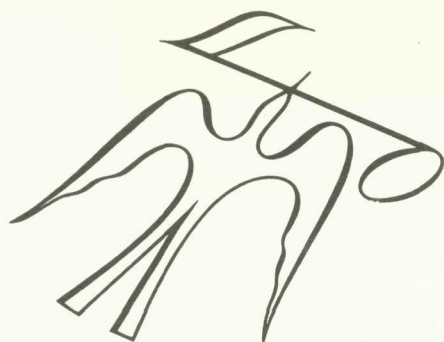


Dup



THE FISHER 100-R SERVICE MANUAL



MODEL 100-R

CHASSIS SERIAL NUMBERS
FROM 10001 TO 19999 INCLUSIVE

PRICE: \$1.00

FISHER RADIO CORPORATION • NEW YORK

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PARTS DESCRIPTION LIST

CAPACITORS

10% tolerance for all fixed capacitors, unless otherwise noted or marked GMV (guaranteed minimum value.)

Symbol	Description	Part No.
C1	Ceramic, 3uuf, NPO, 1000V	C50070-28
C2	AM, variable	C799-119
C3	Ceramic, 8uuf, ± 5 uuf, NPO, 500V	CC20CJ080D5
C4	Ceramic, 100uuf, N1500, 1000V	C50070-6
C5	Ceramic, 100uuf, GMV, N1500, 1000V	C50070-5
C6	Ceramic trimmer	C662-123
C7	Ceramic, 100uuf, N1500, 1000V	C50070-6
C8	FM, variable	C726-116
C9, 10	Ceramic, feedthru, .001uuf, GMV	C592-187
C11	Ceramic, 18uuf, 1000V	C50070-13
C12	Ceramic, .001uuf, 1000V	C50072-3
C13	Ceramic, feedthru, .001uuf, GMV	C592-187
C14	Ceramic, .02uuf, +80 - 20%, 500V	C50089-4
C15	Ceramic, 5uuf, ± 5 uuf, NPO, 1000V	CC20CJ050D5
	Ceramic trimmer	C662-123
C17	Ceramic, .02uuf, +80 - 20%, 500V	C50089-4
C18	Ceramic, 100uuf, N1500, 1000V	C50070-6
C19	Ceramic, 68uuf, N750, 500V	CC20UJ680K5
C20	Ceramic, 100uuf, N1500, 1000V	C50070-6
C21	Ceramic, 5uuf, ± 5 uuf, N1500, 500V	CC20PJ050D5
C22	Ceramic, 5uuf, NPO, 1000V	C50070-24
C23	Ceramic, 5uuf, +5uuf, N220, 500V	CC20RH050D5
C24	Ceramic, 47uuf, N750, 1000V	C50070-4
C25	Ceramic, feedthru, .001uuf, GMV	C592-187
C26	Ceramic trimmer	C662-123
C27	Molded, .01uuf, 20%, 600V	C2747
C28	Ceramic, feedthru, .001uuf, GMV	C592-187
C29	Ceramic, 24uuf, 5%, N150, 1000V	C50070-8
C30	Ceramic, 100uuf, GMV, N1500, 1000V	C50070-5
C31	Ceramic, 100uuf, 5%, N1500, 1000V	C50070-19
C32	Ceramic, .001uuf, 1000V	C50072-3
C33	Ceramic, feedthru, .001uuf, GMV	C592-187
C34	Ceramic, 100uuf, GMV, N1500, 1000V	C50070-5
C35	Ceramic, 10uuf, ± 5 uuf, NPO, 500V	CC20CH100D5
C36	Ceramic, .005uuf, 20%, 500V	C50089-1
C37	Electrolytic, three sections A — 40uuf 300V C — 40uuf 250V B — 40uuf 250V	C670-125
C38	Ceramic, .0027uuf, 1000V	C50072-17
C39	Ceramic, .005uuf, 20%, 500V	C50089-1
C40	Ceramic, .02uuf, +80 - 20%, 500V	C50089-4
C41	Ceramic, 330uuf, 1000V	C50072-1
C42	Ceramic, .005uuf, 20%, 500V	C50089-1
C43	Ceramic, 330uuf, 1000V	C50072-1
C44	Ceramic, .005uuf, 20%, 500V	C50089-1
C45	Ceramic, .02uuf, +80 - 20%, 500V	C50089-4
C46	Ceramic, .68uuf, 500V	C50077-6N
C47	Ceramic, feedthru, .001uuf, GMV	C592-187
C48	Ceramic, .0027uuf, 1000V	C50072-17
C49	Ceramic, .02uuf, +80 - 20%, 500V	C50089-4
C50, 51, 52, 53	Ceramic, .005uuf, 20%, 500V	C50089-1
C54	Mylar, .047uuf, 250V	C50197-52
C55	Ceramic, 220uuf, 1000V	C50072-20
C56	Ceramic, .0027uuf, 1000V	C50072-17
C57	Electrolytic, 20uuf, 250V	C746-145
C58	Ceramic, 330uuf, 1000V	C50072-1
C59	Mylar, .047uuf, 250V	C50197-52
C60	Mylar, .1uuf, 250V	C50197-54
C61	Ceramic, .0033uuf, 1000V	C50072-11
C62	Mylar, .047uuf, 250V	C50197-52
C63	Ceramic, .02uuf, +80 - 20%, 500V	C50089-4
C64, 65	Ceramic, .005uuf, 20%, 500V	C50089-1
C66	Electrolytic, 8uf, 50V	C629-138
C67	Mylar, .1uuf, 250V	C50197-54
C68	Ceramic, .02uuf, +80 - 20%, 500V	C50089-4
C69	Ceramic, 2.2uuf, 500V	C3039
C70	Ceramic, .005uuf, 20%, 500V	C50089-1

RESISTORS AND POTENTIOMETERS

In ohms, 10% tolerance, $\frac{1}{2}$ watt, unless otherwise noted. K=kilohm, M=megohm.

Symbol	Description	Part No.
R1	Composition, 270, $\frac{1}{2}$ W	RC20BF271K
R2, 3	Composition, 330K, $\frac{1}{2}$ W	RC20BF334K
R4	Composition, 100K, $\frac{1}{2}$ W	RC20BF104K
R5	Composition, 820K, $\frac{1}{2}$ W	RC20BF824K
R6	Composition, 100K, $\frac{1}{2}$ W	RC20BF104K
R7	Composition, 100, $\frac{1}{2}$ W	RC20BF101K
R8	Composition, 820K, $\frac{1}{2}$ W	RC20BF824K
R9	Composition, 22, $\frac{1}{2}$ W	RC20BF220K

R10	Composition, 2.2K, $\frac{1}{2}$ W	
R11	Composition, 47K, $\frac{1}{2}$ W	
R12	Composition, 470K, $\frac{1}{2}$ W	
R13	Composition, 820K, $\frac{1}{2}$ W	
R14	Composition, 1K, $\frac{1}{2}$ W	
R15	Composition, 22K, $\frac{1}{2}$ W	
R16	Composition, 18K, 1W	
R17	Composition, 100, $\frac{1}{2}$ W	
R18	Composition, 150, $\frac{1}{2}$ W	
R19	Composition, 47K, $\frac{1}{2}$ W	
R20	Wirewound, 220, 5W	
R21	Composition, 1K, $\frac{1}{2}$ W	
R22	Composition, 470, $\frac{1}{2}$ W	
R23	Composition, 1K, $\frac{1}{2}$ W	
R24	Wirewound, 220, 5W	
R25	Composition, 1.5M, $\frac{1}{2}$ W	
R26	Composition, 150, $\frac{1}{2}$ W	
R27	Composition, 180, $\frac{1}{2}$ W	
R28	Composition, 47K, $\frac{1}{2}$ W	
R29	Composition, 1K, $\frac{1}{2}$ W	
R30	Composition, 27K, $\frac{1}{2}$ W	
R31	Composition, 1K, $\frac{1}{2}$ W	
R32	Composition, 2.2M, $\frac{1}{2}$ W	
R33	Composition, 47K, $\frac{1}{2}$ W	
R34	Composition, 820K, $\frac{1}{2}$ W	
R35	Composition, 2.2M, $\frac{1}{2}$ W	
R36, 37	Composition, 82K, $\frac{1}{2}$ W	
R38	Composition, 47K, $\frac{1}{2}$ W	
R39	Composition, 4.7K, $\frac{1}{2}$ W	
R40, 41	Composition, 1M, $\frac{1}{2}$ W	
R42	Composition, 27K, $\frac{1}{2}$ W	
R43	Composition, 1K, $\frac{1}{2}$ W	
R44	Composition, 3.9M, $\frac{1}{2}$ W	
R45	Composition, 270, $\frac{1}{2}$ W	
R46, 47	Dep. carbon, 100K, 5%, $\frac{1}{3}$ W	
R48	Composition, 100K, $\frac{1}{2}$ W	
R49	Dep. carbon, 22K, 5%, $\frac{1}{3}$ W	
R50	Composition, 1.8M, 5%, $\frac{1}{2}$ W	
R51	Dep. carbon, 470K, 5%, $\frac{1}{3}$ W	
R52, 53	Composition, 6.8K, $\frac{1}{2}$ W	
R54, 55	Composition, 22M, $\frac{1}{2}$ W	
R56	Composition, 1.5M, $\frac{1}{2}$ W	
R57	Dep. carbon, 330K, 5%, $\frac{1}{3}$ W	
R58	Potentiometer, 250K, AM level set	
R59	Potentiometer, 250K, FM level set	
R60	Composition, 820K, $\frac{1}{2}$ W	
R61	Composition, 1.5K, $\frac{1}{2}$ W	
R62	Composition, 1K, $\frac{1}{2}$ W	

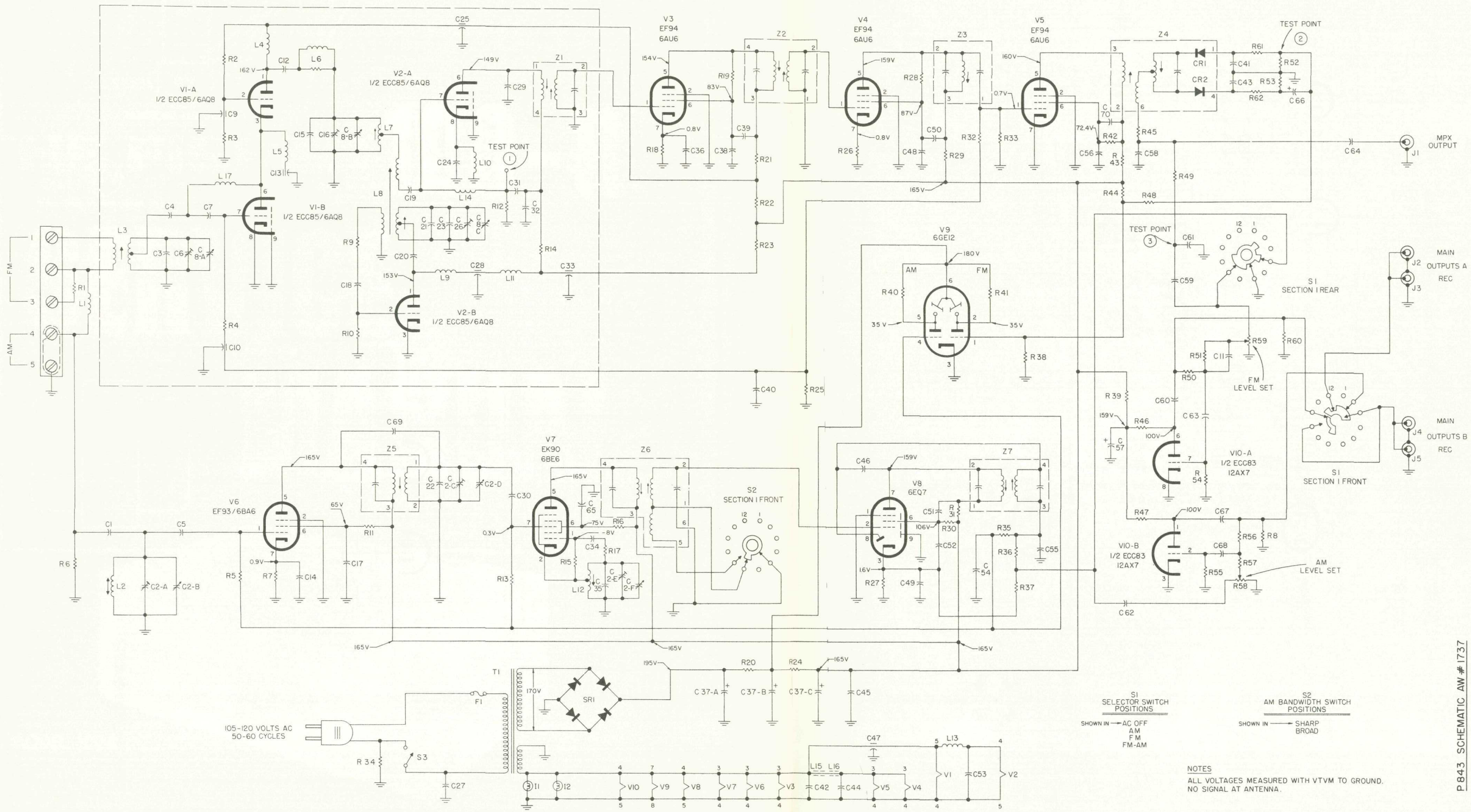
COILS, CHOKES AND TRANSFORMERS

Symbol	Description	Part No.
L1	Choke, 3.3 microhenries	L50066-8
L2	AM ferrite loop	L50210-26
L3	Coil, FM ant.	L726-124
L4, 5	Choke, .56 microhenry	L50066-19
L6	Choke, RF	L629-180
L7	Coil, FM, RF	L726-126
L8	Coil, FM, osc.	AS726-123
L9	Choke, 1 microhenry	L50066-2
L10	Choke, .56 microhenry	L50066-19
L11	Choke, 1.2 microhenry	L50066-3
L12	Coil, AM, osc.	L50210-22
L13, 14	Choke, 1 microhenry	L50066-2
L15, 16	Choke, filament, ferrite bead	L592-189
T1	Transformer, power	T796-115
Z1	Transformer, FM, IF	ZZ662-117
Z2	Transformer, FM, IF	ZZ2987
Z3	Coil, FM, Lim.	L670-145
Z4	Transformer, FM ratio det.	ZZ592-170
Z5	Transformer, AM, RF	L50210-23
Z6	Transformer, AM, IF	ZZ50210-1
Z7	Transformer, AM, IF	ZZ2984

MISCELLANEOUS

Symbol	Description	Part No.
CR1, CR2	Diode, 1N542	V-1N542
F1	Fuse, 1 amp. slo-blo	F629-132
I1, I2	Lamp, dial	I50082-6
S1	Switch, selector	S843-126
S2	Switch, AM, bandwidth	S843-124
S3	Switch, power	Part of S1
SR1	Rectifier, selenium	SR50253-3
—	Knob, tuning	E50133-1
—	Knob, switch	E50133-2
—	Dress panel	AS843-108
—	Dipole assembly	AS50227-1
—	Dial glass	N843-109

SCHEMATIC DIAGRAM



S1 SELECTOR SWITCH POSITIONS
 SHOWN IN → AC OFF
 AM
 FM
 FM-AM

S2 AM BANDWIDTH SWITCH POSITIONS
 SHOWN IN → SHARP
 BROAD

NOTES
 ALL VOLTAGES MEASURED WITH VTVM TO GROUND.
 NO SIGNAL AT ANTENNA.

RESISTORS	R1 R6	R2 R3 R4	R5 R9 R11 R10 R34	R7 R12 R13	R14 R15 R16 R17	R18 R19 R20 R21 R22 R23	R24 R25	R26 R27 R40	R28 R29 R30	R32 R33 R41 R36 R37	R42 R39 R44 R46 R47	R43 R45 R48 R49	R50 R51 R54 R55	R56 R57 R58 R61	R59 R8 R62 R52 R53 R60	
CAPACITORS	C1	C2-A C3 C4	C2-B C5 C6 C8-A C10	C7 C9 C12 C13	C14 C15 C16 C17 C18 C19 C20	C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32	C33 C34 C35 C2-E C2-F	C36 C37-A C38 C39 C40 C37-B	C42 C37-C	C44 C45 C46 C47	C48 C49 C50 C51 C52	C54 C53	C55	C56 C57 C62 C70	C58 C59 C60 C61 C63 C67 C68	C64

P 843 SCHEMATIC AW # 1737

ALIGNMENT INSTRUCTIONS

Read These Instructions With Extreme Care Before Attempting Alignment.

CHASSIS: Turn the station selectors completely counterclockwise, without forcing. Dial pointers should be at zero index mark on logging scale. If not, reset the dial pointers. Disconnect the external antennas and the antenna link. Set Ferrite Loop to normal position, parallel to rear panel. When using an oscilloscope for alignment, set the output level controls for no overload, as shown by the proper waveform shape.

SIGNAL GENERATORS: The signal generator equipment must be able to supply the following: FM RF modulated 30% (± 22.5 KC deviation) at 400 cps; AM RF modulated 30% at 400 cps;

AM IF with 30KC sweep for AM bandwidth adjustment.
INDICATOR: DC VTVM, AC VTVM, and scope for alignment. AC VTVM for 10 KC AM whistle filter adjustment.

ALIGNMENT: Allow the chassis and test instruments to warm up for at least fifteen minutes. Adjust the line voltage for 117 volts AC, 50-60 cycles. Use fully insulated tools: a small screw-driver for all trimming capacitors; a K-Tran tool for Z1, Z2, Z5, Z6 and Z7; a hex tool for Z3, Z4, L1, L8 and L9. For AM alignment, short test point AVC to ground.

AM ALIGNMENT

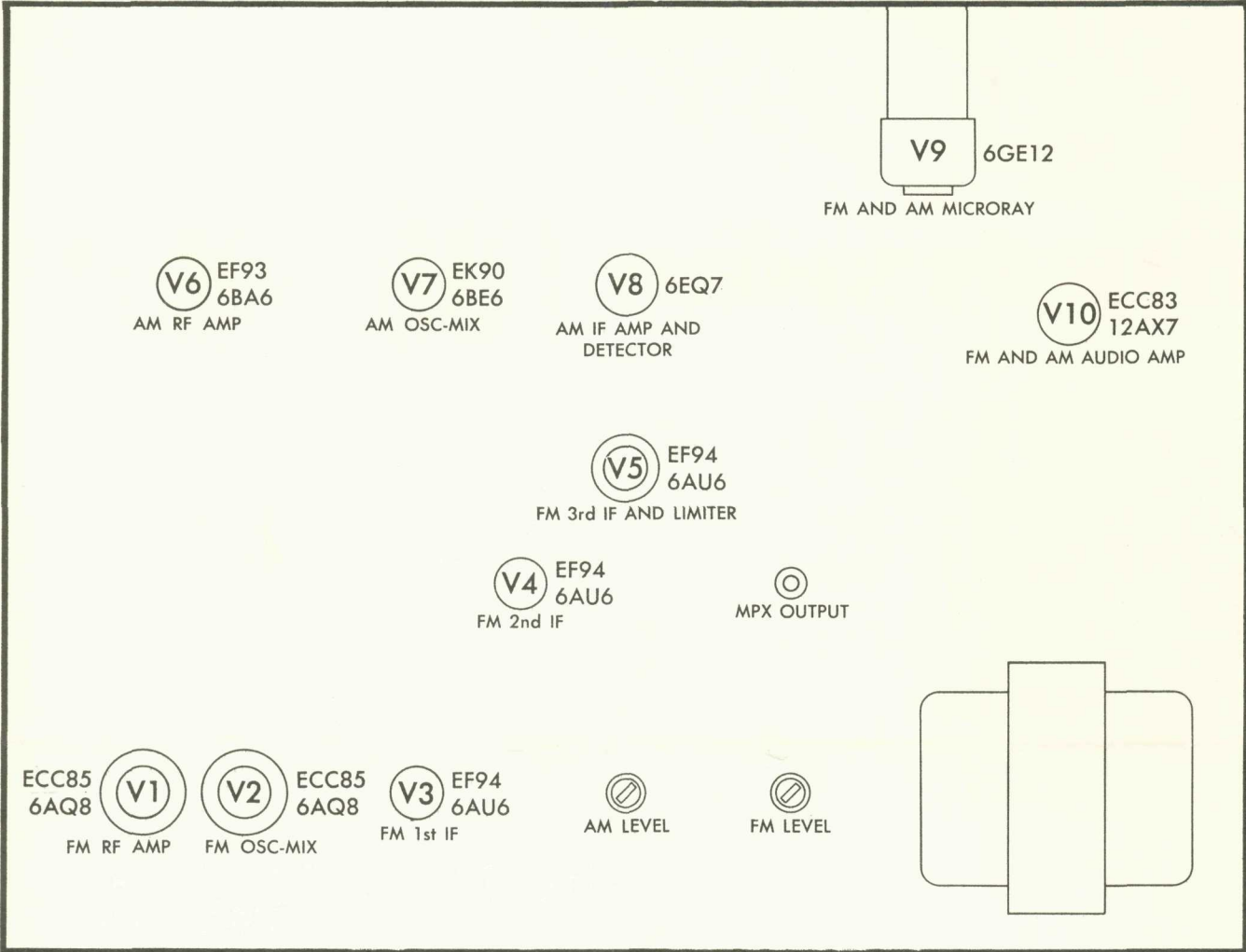
STEPS	CHASSIS			SIGNAL GENERATOR				INDICATOR		ALIGNMENT
	AM BANDWIDTH	SELECTOR	SELECTOR STATION	COUPLING	FREQ.	MOD.	TYPE	CONNECTION	ADJUST	
1	SHARP	AM	Point of no signal and no interference	AM Gen. connected thru .01-uf cap. in series with hot lead to V7, Pin 7	455 KC	30% AM at 400 cps	AC VTVM to Ch. A Output	Z6, Z7 top and bottom	Maximum voltage	
2	BROAD	AM	Point of no signal and no interference	AM Gen. connected thru .01-uf cap. in series with hot lead to V7, Pin 7	455 KC	30% KC sweep	Scope to Ch. A Output	Z6 Bottom	Adjust slightly for symmetrical curve	
3	SHARP	AM	600 KC	AM Gen. connected thru 220-uf cap. in series with hot lead to antenna terminal 4. Disconnect link between 4 & 5	600 KC	30% AM at 400 cps	AC VTVM to Ch. A Output	L12, Z5 L2	Maximum voltage	
4	SHARP	AM	1400 KC	AM Gen. connected thru 220-uf cap. in series with hot lead to antenna terminal 4. Disconnect link between 4 & 5	1400 KC	30% AM at 400 cps	AC VTVM to Ch. A Output	C2E, C2C, C24	Maximum voltage	
5	Repeat steps 3 and 4 for proper dial calibration and maximum output.									

FM ALIGNMENT

6	FM	Point of no signal and no interference	FM Gen. connected to ungrounded tube shield of V2	10.7 MC	None	DC VTVM to test point 2	Z1, Z2, Z3 and Z4, top & bottom	Maximum negative voltage		
7	FM	Point of no signal and no interference	FM Gen. connected to ungrounded tube shield of V2	10.7 MC	None	Connect VT VM to test point 3	Z4 top	Zero reading on zero center scale		
8	FM	90 MC	FM Gen. connected thru two 120-ohm carbon resistors in series with lead to antenna terminals 4 and 5	90 MC	30% FM (22.5 KC Dev.) at 400 cps	DC VTVM to the junction of R32 and R25 and scope to Ch. A. Output	L8, L7 and L3	Check for sine waveform and adjust for maximum negative voltage		
9	FM	106 MC	FM Gen. connected thru two 120-ohm carbon resistors in series with lead to antenna terminals 4 and 5	106 MC	30% FM (22.5 KC Dev.) at 400 cps	DC VTVM to the junction of R32 and R25 and scope to Ch. A. Output	C26, C16 and C6	Check for sine waveform and adjust for maximum negative voltage		
10	Repeat steps 8 and 9 for proper dial calibration and maximum output.									

NOTE: For calibrating both the AM and FM, use as low an output voltage as possible from your signal generator.

TUBE LAYOUT



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