

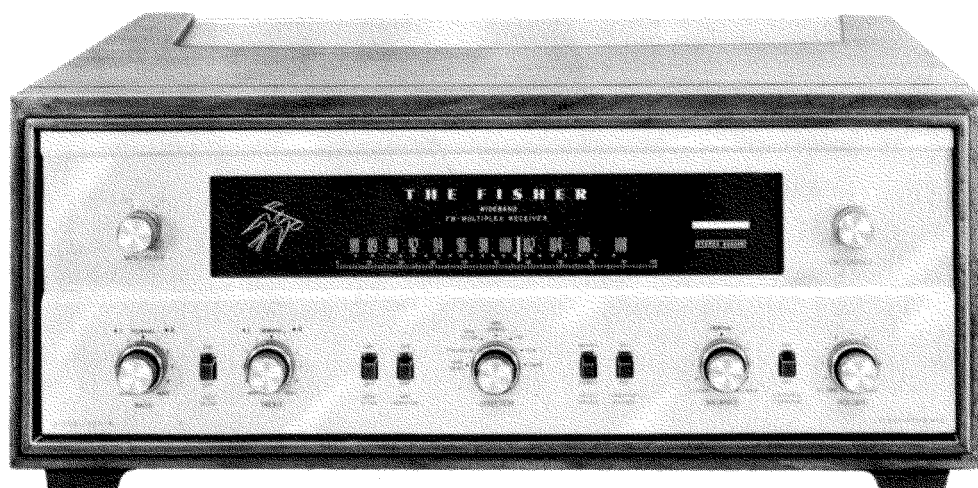


Stereophonic

THE FISHER 500-B

SERVICE

MANUAL



MODEL 500-B

CHASSIS SERIAL NUMBERS
FROM 20001 TO 29999 INCLUSIVE

PRICE: \$1.00

FISHER RADIO CORPORATION · NEW YORK

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CHASSIS SERIAL NUMBERS
FROM 20001 TO 29999 INCLUSIVE

THE FISHER 500-B



PARTS DESCRIPTION LIST

CAPACITORS

10 % tolerance for all fixed capacitors, unless otherwise noted or marked GMV (guaranteed minimum value). All capacitors not marked uf are pF (uuf).

Symbol	Description	Part No.
C1, 2	Ceramic, 100 GMV, N1500, 1000V	C50070-5
C3	Ceramic, 21, 5 %, N750, 1000V	C50070-32
C4	Ceramic, 1000 GMV, 1000V	C50071-2
C5	Ceramic, Feedthru, 1000 GMV	C592-187
C6	Ceramic, .02uf, +80 — 20 %, 500V	C50089-4
C7	Ceramic, Feedthru, 1000 GMV	C592-187
C8, 9	Ceramic, .01uf, 20 %, 500V	C50089-3
C10	Ceramic, Trimmer	C662-123
C11	FM, Variable	C818-116
C12	Ceramic, 1000 GMV, 1000V	C50071-2
C13	Ceramic, 8, ±.5, NPO, 500V	CC20CJ080D5
C14, 15	Mylar, .022uf, 250V	C50197-25
C16	Ceramic, 33, 5 %, N750, 1000V	C50070-25
C17	Ceramic, 21, 5 %, N750, 1000V	C50070-32
C18	Ceramic, 10, NPO, 1000V	C50070-11
C19	Ceramic, 24, 5 %, N150, 1000V	C50070-8
C20	Ceramic, Trimmer	C662-123
C21	Ceramic, 47, 5 %, N750, 1000V	C50070-29
C22	Ceramic, 100, 5 %, N1500, 1000V	C50070-19
C23	Ceramic, 8, ±.5, NPO, 500V	CC20CJ080D5
C24	Ceramic, 1000, 1000V	C50072-3
C25	Ceramic, 27, 5 %, N150, 1000V	C50070-37
C26	Ceramic, 21, 5 %, N750, 1000V	C50070-32
C27	Ceramic, 1000, 1000V	C50072-3
C28	Ceramic, 10, ±.5, N150, 500V	CC20PJ100D5
C29	Ceramic, Feedthru, 1000, GMV	C592-187
C30	Ceramic, 1000, 1000V	C50072-3
C31, 32	Ceramic, .02uf, 20 %, 500V	C50089-5
C33, 34	Ceramic, 2200, 1000V	C50072-5
C35	Ceramic, 2700, 1000V	C50072-17
C36	Ceramic, 5000, +80 — 20 %, 500V	C50089-6
C37	Ceramic, .02uf, +80 — 20 %, 500V	C50089-4
C38, 39	Ceramic, 82, N1500, 1000V	C50070-7
C40	Ceramic, 5000, +80 — 20 %, 500V	C50089-6
C41	Ceramic, 2700, 1000V	C50072-17
C42	Ceramic, 5000, +80 — 20 %, 500V	C50089-6
C43, 44	Mylar, .047uf, 400V	C50197-30
C45	Ceramic, 470, 1000V	C50072-13
C46	Ceramic, 24, 5 %, 1000V	C50070-8
C47	Ceramic, 470, 1000V	C50072-13
C48, 49	Ceramic, 68, N2200, 1000V	C50070-12
C50, 51	Ceramic, .02uf, 20 %, 500V	C50089-5
C52	Ceramic, 2700, 1000V	C50072-17
C53, 54	Ceramic, 7, NPO, 1000V	C50070-20
C55	Ceramic, 5000, +80 — 20 %, 500V	C50089-6
C56	Ceramic, .01uf, 20 %, 500V	C50089-3
C57	Mylar, .047uf, 400V	C50197-30
C58	Mylar, .047, 10 %, 250V	C50197-52
C59	Ceramic, 330, 1000V	C50072-1
C60	Mylar, .047uf, 400V	C50197-30
C61	Mylar, .047, 10 %, 250V	C50197-52
C62	Ceramic, 330, 1000V	C50072-1
C63, 64	Ceramic, 18, N470, 1000V	C50070-13
C65	Ceramic, 2700, 1000V	C50072-17
C66	Ceramic, 1800, 1000V	C50072-8
C67	Ceramic, 5000, +80 — 20 %, 500V	C50089-6
C68, 69	Ceramic, 330, 1000V	C50072-1
C70	Ceramic, .05uf, +80 — 20 %, 100V	C50073-2
C71, 72, 73	Ceramic, 330, 1000V	C50072-1
C74	Electrolytic, 8uf, 50V	C629-138
C75	Ceramic, Feedthru, 1000, GMV	C592-187
C76	Ceramic, 560, 1000V	C50072-14
C77	Electrolytic, 4 section: A — 50uf, 250V B — 50uf, 250V C — 50uf, 250V D — 50uf, 250V	C50180-21
C78	Electrolytic, 3 section: A — 20uf, 300V B — 40uf, 400V C — 40uf, 450V	C50180-18
C79	Electrolytic, 2 section: A — 1000uf, 35V B — 1000uf, 35V	C50180-29
C80, 81, 82, 83	Ceramic, .005uf, +80 — 20 %, 500V	C50089-6
C84	Electrolytic, 2 section: A — 40uf, 500V B — 200uf, 250V	C50180-19
C85	Electrolytic, 100uf, 25V	C643-145
C86, 87	Ceramic, .005uf, +80 — 20 %, 500V	C50089-6
C88	Electrolytic, 200uf, 250V	C50180-26
C89, 90	Ceramic, .005uf, +80 — 20 %, 500V	C50089-6
C91, 92	Molded, .01uf, 20 %, 600V	C2747

RESISTORS AND POTENTIOMETERS

In ohms, 10 % tolerance, 1/2 watt, unless otherwise noted. K=Kilohm, M=Megohm.

Symbol	Description	Part No.
R1	Composition, 270	RC20BF271K
R2, 3	Dep. Carbon, 100K, 5 %, 1/3 W	R33DC104J
R4	Composition, 100K	RC20BF104K
R5	Dep. Carbon, 100K, 5 %, 1/3 W	R33DC104J
R6	Composition, 10	RC20BF100K
R7	Dep. Carbon, 100K, 5 %, 1/3 W	R33DC104J
R8	Composition, 10	RC20BF100K
R9	Composition, 100K	RC20BF104K
R10	Dep. Carbon, 10K, 5 %, 1/3 W	R33DC103J
R11	Glass, 2.7K, 5 %, 1W	R30G272J
R12	Dep. Carbon, 10K, 5 %, 1/3 W	R33DC103J
R13	Glass, 2.7K, 5 %, 1W	R30G272J
R14	Glass, 330K, 5 %, 1W	R30G334J
R15	Dep. Carbon, 4.7M, 5 %, 1/3 W	R33DC475J
R16	Glass, 330K, 5 %, 1W	R30G334J
R17	Dep. Carbon, 4.7M, 5 %, 1/3 W	R33DC475J
R18, 19	Dep. Carbon, 220K, 5 %, 1/3 W	R33DC224J
R20, 21	Potentiometer, 250K, Phono Level	R50103-1
R22	Composition, 470	RC20BF471K
R23	Composition, 820	RC20BF821K
R24, 25	Dep. Carbon, 330K, 5 %, 1/3 W	R33DC334J
R26	Composition, 560K, 5 %	RC20BF564J
R27	Composition, 82K, 5 %	RC20BF823J
R28	Composition, 560K, 5 %	RC20BF564J
R29	Composition, 150K	RC20BF154K
R30	Composition, 82K, 5 %	RC20BF823J
R31, 32	Dep. Carbon, 470K, 5 %, 1/3 W	R33DC474J
R33, 34	Dep. Carbon, 120K, 5 %, 1/3 W	R33DC124J

PARTS DESCRIPTION LIST

R35, 36	Composition, 1K	RC20BF102K	R119	Composition, 15K	RC20BF153K
R37, 38	Composition, 2.7M, 5%	RC20BF275J	R120	Composition, 470K	RC20BF474K
R39, 40	Composition, 1.2M, 5%	RC20BF125J	R121, 122	Composition, 220	RC20BF221K
R41, 42	Composition, 1K	RC20BF102K	R123	Composition, 100K	RC20BF104K
R43	Composition, 56K	RC20BF563K	R124	Composition, 5.6K, 5%	RC20BF564J
R44	Composition, 150	RC20BF151K	R125	Dep. Carbon, 22K, 5%, 1/3 W	R33DC223J
R45	Potentiometer, 500K, Bass Control	R50160-101-1	R126	Composition, 2.7K	RC20BF272K
R46, 47	Composition, 680K	RC20BF684K	R127	Glass, 180, 3W	RPG3W181K
R48	Composition, 47K	RC20BF473K	R128	Wirewound, 15, 5W	R719-106
R49	Composition, 1K	RC20BF102K	R129	Composition, 5.6K, 5%	RC20BF562J
R50	Potentiometer, 500K, Treble Control	R50160-101-2	R130	Composition, 3.3M, 5%	RC20BF335J
R51, 52	Dep. Carbon, 220K, 5%, 1/3 W	R33DC224J	R131	Composition, 1.2K, 1W	RC20BF122K
R53	Composition, 150	RC20BF151K	R132	Glass, 180, 3W	RPG3W181K
R54	Composition, 47K	RC20BF473K	R133	Glass, 1.2K, 7W	RPG7W122K
R55	Composition, 27K	RC20BF372K	R134	Glass, 180, 3W	RPG3W181K
R56, 57	Composition, 3.3M, 5%	RC20BF335J	R135	Dep. Carbon, 10K, 5%, 1/3 W	R33DC103J
R58, 59	Composition, 10M	RC20BF106K	R136	Composition, 820K	RC20BF824K
R60	Composition, 1K	RC20BF102K			
R61	Dep. Carbon, 2.2M, 5%, 1/3 W	R33DC225J			
R62, 63,					
64	Dep. Carbon, 220K, 5%, 1/3 W	R33DC224J			
R65	Composition, 560	RC20BF561K			
R66	Dep. Carbon, 220K, 5%, 1/3 W	R33DC224J			
R67	Composition, 560	RC20BF561K			
R68	Composition, 68K	RC20BF683K			
R69	Dep. Carbon, 1.8M, 5%, 1/3 W	R33DC185J			
R70, 71	Dep. Carbon, 47K, 5%, 1/3 W	R33DC473J			
R72	Potentiometer, 500K, Balance Control	R50160-103			
R73, 74	Dep. Carbon, 22K, 5%, 1/3 W	R33DC223J			
R75	Potentiometer, 500K, Volume	R50160-104			
R77, 78	Dep. Carbon, 47K, 5%, 1/3 W	R33DC473J			
R79	Composition, 27K	RC20BF273K			
R80	Composition, 82K	RC20BF823K			
R81	Composition, 1.2K, 5%	RC20BF122J			
R82	Dep. Carbon, 220, 5%, 1/3 W	R33DC221J			
R83	Composition, 1.2K, 5%	RC20BF122J			
R84	Dep. Carbon, 220, 5%, 1/3 W	R33DC221J			
R85	Composition, 1K	RC20BF102K			
R86, 87	Composition, 390K, 5%	RC20BF394J			
R88	Potentiometer, 25K Phase Inv. Adj.	R50103-2			
R89	Composition, 33K	RC20BF333K			
R90	Composition, 68K, 5%	RC20BF683J			
R91	Potentiometer, 25K Phase Inv. Adj.	R50103-2			
R92	Composition, 33K	RC20BF333K			
R93	Composition, 68K, 5%	RC20BF683J			
R94	Composition, 10M	RC20BF106K			
R95, 96	Dep. Carbon, 3.9K, 5%, 1/3 W	R33DC392J			
R97	Composition, 33K	RC20BF333K			
R98	Composition, 12K	RC20BF123K			
R99, 100	Dep. Carbon, 150K, 5%, 1/3 W	R33DC154J			
R101, 102,					
103, 104,					
105	Dep. Carbon, 330K, 5%, 1/3 W	R33DC334J			
R106, 107,					
108, 109	Composition, 1K	RC20BF102K			
R110	Composition, 56K	RC20BF563K			
R111	Composition, 1K	RC20BF102K			
R112	Dep. Carbon, 47K, 5%, 1/3 W	R33DC473J			
R113	Composition, 270	RC20BF271K			
R114, 115,					
116	Composition, 1K	RC20BF102K			
R117	Composition, 1.5K	RC20BF152K			
R118	Composition, 1K	RC20BF102K			

COILS, CHOKES & TRANSFORMERS

Symbol	Description	Part No.
L1	FM Antenna Coil	L818-113
L2	Choke, 1.5 Micro Henries	L50066-4
L3	Choke, RF	L629-180
L4	FM RF Coil	L818-114
L5	FM Oscillator Coil	AS818-118
L6	Choke, .68 Micro Henry	L50066-1
L7	Choke, .2 Micro Henry	L50026-21
L8	Choke, 3.3 Micro Henries	L50066-8
T1	Transformer, Output	T860-116-3
T2	Transformer, Output	T860-116-4
T3	Transformer, Power	T860-142
Z1	Transformer, FM, IF	ZZ662-117
Z2	Transformer, FM, IF	ZZ2987
Z3	Transformer, FM, IF	ZZ5010-2
Z4	FM Limiter Coil	L670-145
Z5	FM Ratio Detector	ZZ50210-9

MISCELLANEOUS

Symbol	Description	Part No.
CR3, 4	Silicon Diode	SR806-126
F1	Fuse, 3,2A, Slo-Blo	S3319
I1, 2	Dial Lamp	I50082-8
PC1, 2	Printed Cir., Phono, Tape Equalization	PC50187-3
PC3, 4	Printed Circuit, Tone Control	PC50187-9
PC5, 6	Printed Circuit, High Filter	PC50187-2
S1	Switch, Selector	S859-118
S2, 3, 4,		
5, 6, 7	Switch, Slide	S50200-5
S8	Switch, Slide, Phase Reverse	S50200-2
S9	Switch, MPX-Filter	S859-120
S10	Switch, Power	Part of R75
SR1	Selenium Rectifier, Bridge	SR755-140
—	Dipole Assembly	AS50227-1
—	Dress Panel	AS859-112
—	Knob, Dual, Rear	E50221
—	Knob, Dual, Front	E50323
—	Knob, Dummy, Dual	E50324
—	Knob, Tuning	E50325-2
—	Knob, MPX-Filter	E5325-1
—	Dial, Glass	N857-109
—	Fuse Holder	X563-151

ALIGNMENT INSTRUCTIONS

Read These Instructions With Extreme Care Before Attempting Alignment.

CHASSIS: 1 — For the entire alignment procedure, set the Selector Switch to the FM position and the volume control to minimum.

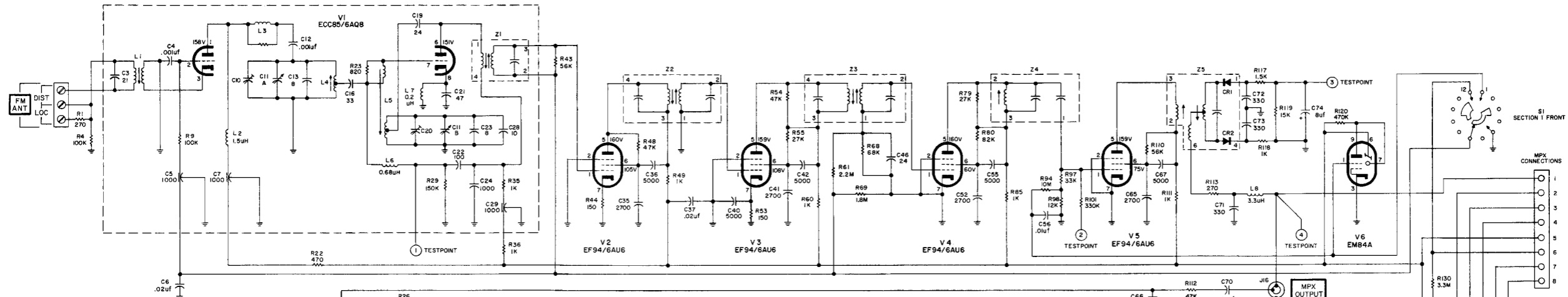
2 — Turn the Tuning knob maximum counterclockwise. (Dial pointer should line up with calibration mark at the beginning of the dial. Reset the dial pointer if necessary.)

3 — Allow the Receiver and test equipment at least 15 minutes warm-up time. Adjust the line voltage for 117 volts AC 50-60 cps. Use fully insulated tools: a small screw-driver for trimmer capacitors C10 and C20, a K-Tran tool for Z1, Z2 and Z3; a hex tool for all Z4, Z5, L1, L4 and L5.

STEP	DIAL	SIGNAL GENERATOR			DC VTVM	ADJUST	INDICATION
		GENERATOR COUPLING	FREQ.	MOD.			
1	Set dial pointer for extreme C.C.W. position.	Ungrounded tube shield of V1	10.7 MC	None	Test Point 2	Z1, Z2, Z3 top and bottom and bottom Z4	Maximum negative voltage (below 5 volts)
2		Ungrounded tube shield of V1	10.7 MC	None	Test Point 3	Z5 top and bottom	Maximum negative voltage (below 20 volts)
3		Ungrounded tube shield of V1	10.7 MC	None	Hot lead of DC VTVM to Test point 4. Ground lead of DC VTVM to junction of two series connected resistors (47K), wired between Test point 3 and ground.	Z5 top	Zero indication on zero center dial.
4	90 MC	Two 120 ohm carbon resistors in series with generator leads to the Distance antenna terminals.	90 MC	± 22.5 KC deviation at 400 cps.	Test Point 2	L5, L4 and L1	Adjust for maximum negative voltages and check for sine wave-form, with scope at A or B RCDR output.
5	106 MC		106 MC	± 22.5 KC deviation at 400 cps.	Test Point 2	C20 and C10	

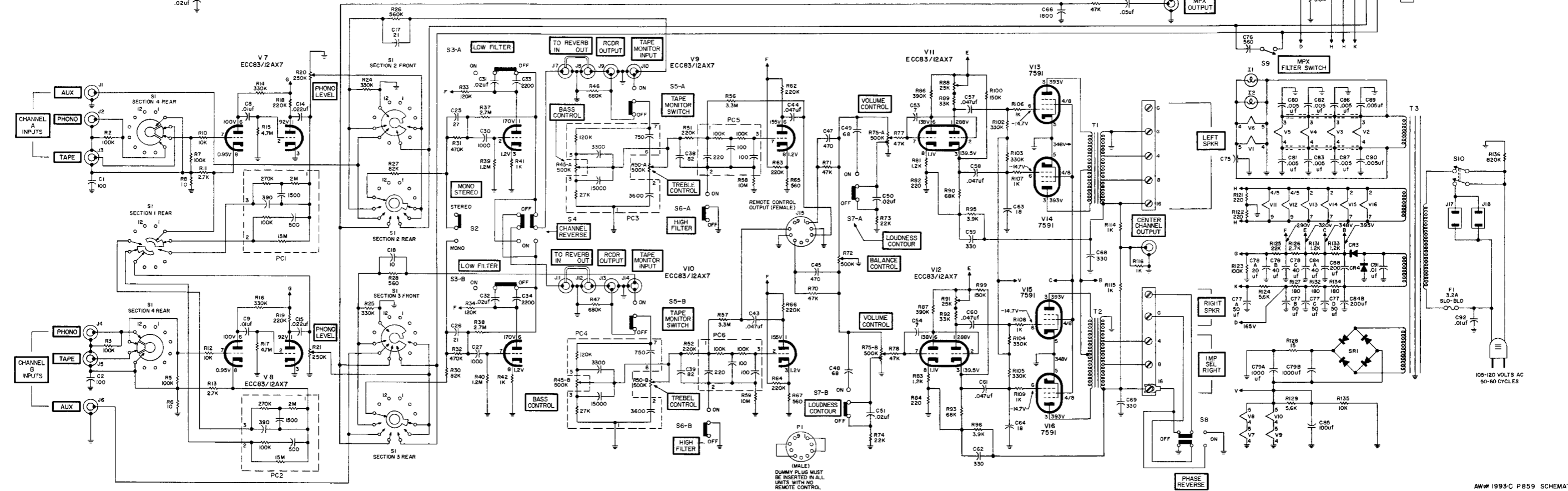
NOTE: (Steps 1 and 2): Decrease signal generator output while aligning IF transformers so that the VTVM indicates not more than specified voltages. Repeat steps 4 and 5 to obtain proper dial calibration and maximum sensitivity.

SCHEMATIC DIAGRAM



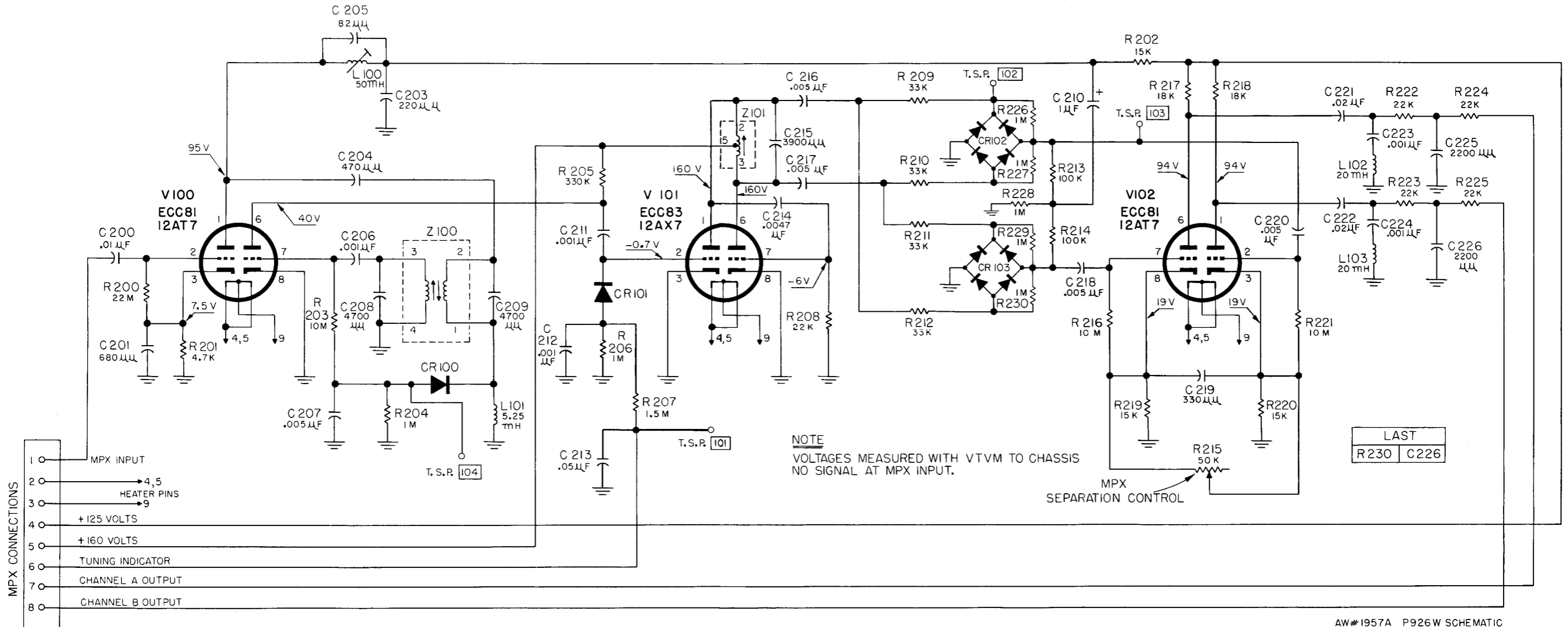
SWITCH POSITIONS	
POS NO.	S1 SELECTOR SWITCH
1	TAPE HEAD (SHOWN)
2	PHONO
3	MPX STEREO
4	FM
5	AUX
6	TAPE

LAST
R136 C92



(MALE)
DUMMY PLUG MUST BE INSERTED IN ALL UNITS WITH NO REMOTE CONTROL.

SCHEMATIC DIAGRAM • MULTIPLEX SECTION



MPX CONNECTIONS

- 1 ○ MPX INPUT
- 2 ○ → 4,5 HEATER PINS
- 3 ○ → 9 HEATER PINS
- 4 ○ +125 VOLTS
- 5 ○ +160 VOLTS
- 6 ○ TUNING INDICATOR
- 7 ○ CHANNEL A OUTPUT
- 8 ○ CHANNEL B OUTPUT

PARTS DESCRIPTION LIST • MULTIPLEX SECTION

CAPACITORS

10 % tolerance for all fixed capacitors, unless otherwise noted or marked GMV (guaranteed minimum value). All capacitors not marked uf are pF (uuf).

Symbol	Description	Part No.
C200	Ceramic, .01uf, +80 — 20 %, 500V	C50089-7
C201	Ceramic, 680, 1000V	C50072-2
C203	Ceramic, 220, 1000V	C50183-3
C204	Mica, 470, 5 %, 300V	C50332-4
C205	Ceramic, 82, N1500, 1000V	C50070-7
C206	Ceramic, .001uf, GMV, 500V	C50089-2
C207	Ceramic, .005uf, +80 — 20 %, 500V	C50089-6
C208, 209	Mica, 4700, 5 %, 500V	C50332-5
C210	Electrolytic, .1uf, 350V	C50283-3
C211, 212	Ceramic, .001uf, GMV, 500V	C50089-2
C213	Ceramic, .05uf, +80 — 20 %, 100V	C50073-2
C214	Mylar, .0047uf, 400V	C50197-25
C215	Mica, 3900, 5 %, 500V	C50332-6
C216, 217, 218	Ceramic, .005uf, 20 %, 500V	C50089-1
C219	Ceramic, 330, 1000V	C50072-1
C220	Ceramic, .005uf, 20 %, 500V	C50089-1
C221, 222	Ceramic, .02uf, +80 — 20 %, 500V	C50089-4
C223, 224	Ceramic, .001uf, 1000V	C50072-3
C225, 226	Ceramic, 2200, 1000V	C50072-5

RESISTORS AND POTENTIOMETERS

In ohms, 10 % tolerance, 1/2 Watt, unless otherwise noted. K=Kilohm, M=Megohm.

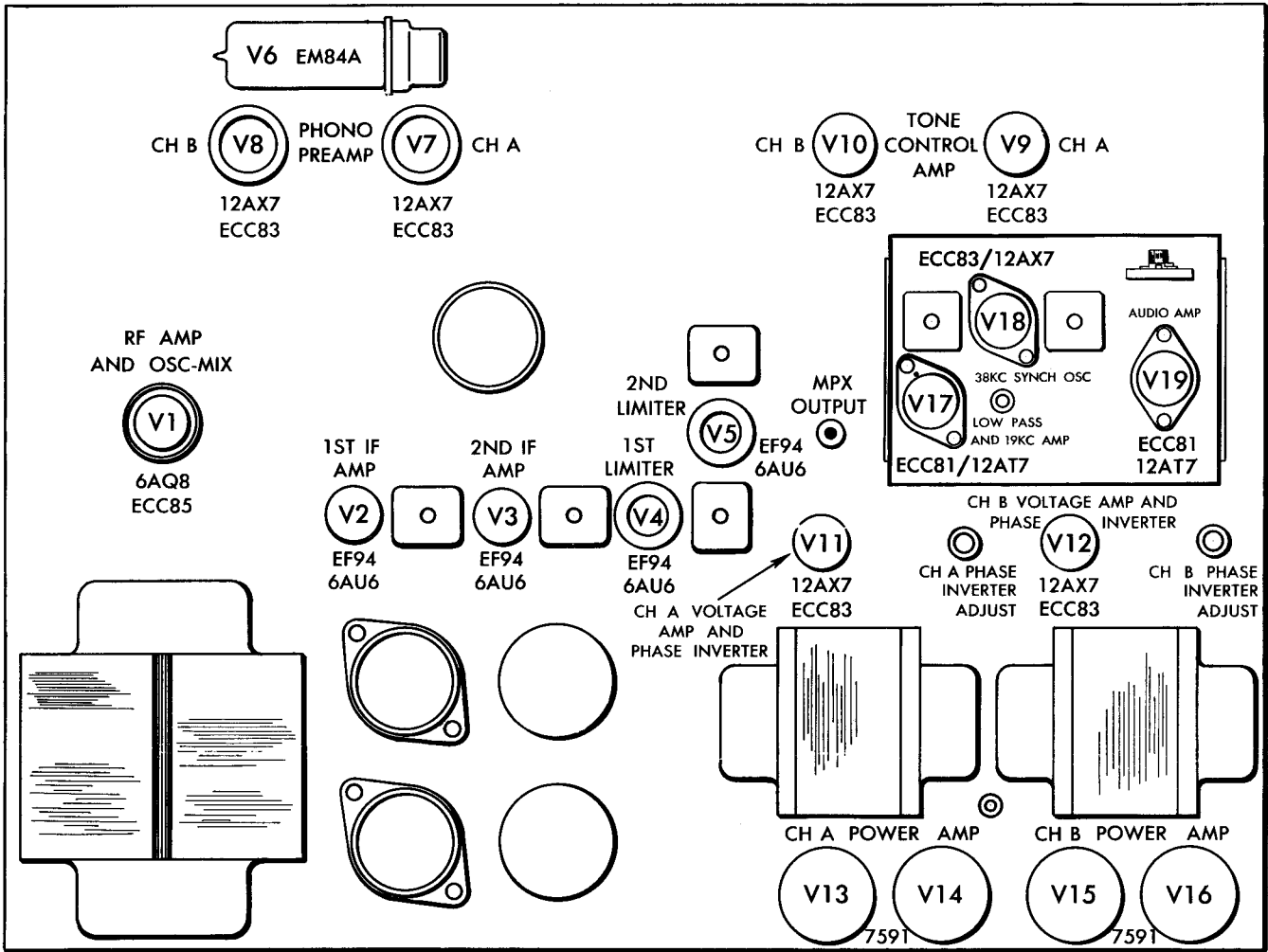
Symbol	Description	Part No.
R200	Composition, 22M	RC20BF226K

R201	Composition, 4.7K, 5 %	RC20BF742J
R202	Composition, 15K, 5 %	RC20BF135J
R203	Composition, 10M	RC20BF106K
R204	Dep. Carbon, 1M, 5 %, 1/3 W	R33DC105J
R205	Dep. Carbon, 330K, 5 %, 1/3 W	R33DC334J
R206	Dep. Carbon, 1M, 5 %, 1/3 W	R33DC105J
R207	Dep. Carbon, 1.5M, 5 %, 1/3 W	R33DC155J
R208	Dep. Carbon, 22K, 5 %, 1/3 W	R33DC223J
R209, 210, 211, 212	Composition, 33K, 5 %	RC20BF333J
R213, 214	Dep. Carbon, 100K, 5 %, 1/3 W	R33DC104J
R215	Potentiometer, 50K, MPX-separation	R50150-4
R216	Composition, 10M	RC20BF106K
R217, 218	Dep. Carbon, 18K, 5 %, 1/3 W	R33DC183J
R219, 220	Dep. Carbon, 15K, 5 %, 1/3 W	R33DC153J
R221	Composition, 10M	RC20BF106K
R222, 223, 224, 225	Dep. Carbon, 22K, 5 %, 1/3 W	R33DC223J
R226, 227, 228, 229, 230	Dep. Carbon, 1M, 5 %, 1/8 W	R12DC105J

MISCELLANEOUS

Symbol	Description	Part No.
CR100, 101, 102, 103	Diode, Type 1112	V-1112
L100	Coil, Low Pass	L50210-30
L101	Coil, 5.25, M.H., 5 %	L50334-1
L102, 103	Coil, 20, M.H., 5 %	L50334-2
Z100	Transformer, 19Kc	ZZ50210-34
Z101	Coil, 38Kc	ZZ50210-33

TUBE LAYOUT



AW 1945 A



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N859-104

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