



*Stereophonic*

# THE FISHER 500-C

# SERVICE

# MANUAL



MODEL 500-C

CHASSIS SERIAL NUMBERS  
FROM 30001 TO 49999 INCLUSIVE

PRICE: \$1.00

FISHER RADIO CORPORATION • NEW YORK



# THE FISHER 500-C

CHASSIS SERIAL NUMBERS FROM 30001 TO 49999 INCLUSIVE



# 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, 8, 5%, NPO, 1000V	C50070-45
C5	Ceramic Trimmer	C662-123
C6	Ceramic, 1000, GMV, 500V	C50089-2
C8	FM Variable	C966-109-1
C9	Ceramic, 1000, GMV, 500V	C50089-2
C11	Ceramic, Feedthru, 1000, GMV	C592-187
C12	Ceramic Trimmer	C662-123
C13, 14	Ceramic, .01uf, 20%, 500V	C50089-3
C15	Ceramic, 8, 5%, NPO, 1000V	C50070-45
C16, 17	Mylar, .022uf, 250V	C50197-49
C18	Ceramic, 68, 5%, N750, 1000V	C50070-35
C19	Ceramic Trimmer	C662-123
C20	Ceramic, 24, 5%, N150, 1000V	C50070-8
C21	Ceramic, 100, 5%, N1500, 1000V	C50070-19
C22, 23	Ceramic, 100, N1500, 1000V	C50070-6
C24	Ceramic, 8, ±.5, N330, 500V	CC205J080D5
C26	Ceramic, 1000, 1000V	C50072-3
C27, 28	Ceramic, Feedthru, 1000, GMV	C592-187
C29	Ceramic, .02uf, +80 — 20%, 500V	C50089-4
C30	Ceramic, 120, N1500, 1000V	C50070-9
C31	Ceramic, 24, 5%, N150, 1000V	C50070-8
C32	Ceramic, 120, N1500, 1000V	C50070-9
C33	Ceramic, 24, 5%, N150, 1000V	C50070-8
C34	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C35, 36	Ceramic, 1000, 1000V	C50072-3
C37	Ceramic, 2700, 1000V	C50072-17
C38	Ceramic, 2200, 1000V	C50072-5
C39	Ceramic, .02uf, 20%, 500V	C50089-5
C40	Ceramic, 2200, 1000V	C50072-5
C41	Ceramic, .02uf, 20%, 500V	C50089-5
C42	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C43	Ceramic, .02uf, GMV, 1000V	C50071-6
C44, 45	Ceramic, 5000 +80 — 20%, 500V	C50089-6
C46	Ceramic, 2700, 1000V	C50072-17
C47, 48	Ceramic, 100, 5%, N1500, 1000V	C50070-19
C49	Ceramic, 24, 5%, N150, 1000V	C50070-8
C50	Ceramic, .02uf, +80 — 20%, 500V	C50089-4
C51	Electrolytic, 2uf, 70V	C721-142
C52, 53	Mylar, .047uf, 400V	C50197-30
C54, 55	Ceramic, 820, 1000V	C50072-7
C56	Ceramic, 2700, 1000V	C50072-17
C57	Electrolytic, 5uf, 350V	C50283-7
C58	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C59	Mylar, .1uf, 125V	C50435-7
C60	Ceramic, 560, 1000V	C50072-14
C61	Mylar, 1uf, 125V	C50435-7
C62	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C63	Ceramic, 68, N2200, 1000V	C50070-12
C64, 65	Ceramic, .02uf, 20%, 500V	C50089-5
C66	Ceramic, 2700, 1000V	C50072-17
C67	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C68	Polystyrene, 1800, 5%, 125V	CP50394-11
C69, 70	Electrolytic, 50uf, 10V	C50283-6
C71	Ceramic, 330, 1000V	C50072-1
C72	Mylar, .1uf, 125V	C50435-7
C75, 76	Ceramic, 330, 1000V	C50072-1
C77	Mylar, .047uf, 630V	C50197-101
C78	Mylar, .047uf, 250V	C50197-52
C79	Mylar, .047uf, 630V	C50197-101
C80	Mylar, .047uf, 250V	
C81	Ceramic, 1000, 1000V	
C82	Ceramic, 18, N470, 1000V	
C83	Ceramic, 1000, 1000V	
C84	Ceramic, 18, N470, 1000V	
C85	Electrolytic, 8uf, 50V	
C86	Mylar, .1uf, 125V	
C89, 90	Ceramic, 5000, +80 — 20%, 500V	
C91	Electrolytic, 4 Section:	
	A — 20uf, 300V	
	B — 40uf, 400V	
	C — 40uf, 450V	
	D — 40uf, 500V	
C92	Electrolytic, 4 Section:	
	A — 50uf, 250V	
	B — 50uf, 250V	
	C — 50uf, 250V	
	D — 200uf, 250V	
C93, 94, 95, 96	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C97	Electrolytic, 2 Section:	
	A — 1000uf, 35V	
	B — 1000uf, 35V	
C98	Electrolytic, 200uf, 250V	C50180-20
C99, 100, 101	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C102, 103	Molded, .01uf, 20%, 600V	C2747
C104, 105	Ceramic, Feedthru, 1000, GMV	C592-187
C106	Ceramic, 68, N2200, 1000V	C50070-12
C107	Mylar, .1uf, 125V	C50435-7

## RESISTORS AND POTENTIOMETERS

In ohms, 5% tolerance, 1/8 Watt unless otherwise noted. K = Kilohm, M = Megohm.

Symbol	Description	Part No.
R1	Composition, 270, 10%, 1/2 W	RC20BF271K
R2	Composition, 100K, 10%, 1/2 W	RC20BF104K
R3	Dep. Carbon, 220K	R12DC224J
R4	Dep. Carbon, 150K	R12DC154JD
R5	Dep. Carbon, 68K	R12DC683J
R6	Dep. Carbon, 150K	R12DC154J
R7	Dep. Carbon, 68K	R12DC683J
R8	Dep. Carbon, 220K	R12DC224J
R10	Dep. Carbon, 10K	R12DC103J
R11	Dep. Carbon, 100K	R12DC104J
R12	Glass, 2.7K, 1/2 W	R20G272J
R13	Dep. Carbon, 10	R12DC100J
R14	Dep. Carbon, 10K	R12DC103J
R15	Dep. Carbon, 100K	R12DC104J
R16	Glass, 2.7K, 1/2 W	R20G272J
R17	Dep. Carbon, 10	R12DC100J
R18, 19	Glass, 330K, 1W	R30G334J
R20	Dep. Carbon, 220K	R12DC224J
R21	Dep. Carbon, 4.7M, 1/3 W	R33DC475J
R22	Dep. Carbon, 220K, 1/3 W	R33DC224J
R23	Dep. Carbon, 4.7M, 1/3 W	R33DC475J
R24	Dep. Carbon, 220K, 1/3 W	R33DC224J
R25, 26	Dep. Carbon, 330K	R12DC334J
R27	Dep. Carbon, 390	R12DC391J
R28	Dep. Carbon, 220K	R12DC224J
R29, 30	Dep. Carbon, 82K	R12DC823J
R31	Dep. Carbon, 1.2K	R12DC122J
R32	Dep. Carbon, 1K	R12DC102J
R33, 34	Dep. Carbon, 330K	R12DC334J
R35	Dep. Carbon, 56K	R12DC563J
R36	Glass, 4.7K, 10%, 3W	RPG3W472K
R37	Composition, 3.3K, 10%, 1W	RC30BF332
R38, 39	Dep. Carbon, 470K	R12DC474J
R40	Dep. Carbon, 2.7M, 1/3 W	R33DC275J

# PARTS DESCRIPTION LIST

<b>R41, 42</b>	Dep. Carbon, 1.5M, 1/3 W	<b>R33DC155J</b>	<b>R128</b>	Dep. Carbon, 2.2K, 1/3 W	<b>R33DC222J</b>
<b>R43</b>	Composition, 180, 10%, 1/2 W	<b>RC20BF181K</b>	<b>R129, 130</b>	Dep. Carbon, 1K, 1/3 W	<b>R33DC102J</b>
<b>R44</b>	Dep. Carbon, 120K, 1/3 W	<b>R33DC124J</b>	<b>R131</b>	Dep. Carbon, 15K, 1/3 W	<b>R33DC153J</b>
<b>R45</b>	Dep. Carbon, 1K, 1/3 W	<b>R33DC102J</b>	<b>R132</b>	Dep. Carbon, 5.6K, 1/3 W	<b>R33DC562J</b>
<b>R46</b>	Dep. Carbon, 120K, 1/3 W	<b>R33DC124J</b>	<b>R133</b>	Composition, 82K, 10%, 1/2 W	<b>RC20BF823K</b>
<b>R47</b>	Dep. Carbon, 2.7M, 1/3 W	<b>R33DC275J</b>	<b>R135</b>	Composition, 2.7K, 10%, 1W	<b>RC30BF272K</b>
<b>R48</b>	Dep. Carbon, 1K, 1/3 W	<b>R33DC102J</b>	<b>R136</b>	Glass, 470, 10%, 3W	<b>RPG3W471K</b>
<b>R49</b>	Dep. Carbon, 39K	<b>R12DC393J</b>	<b>R139</b>	Composition, 1.2K, 10%, 1W	<b>RC30BF122K</b>
<b>R50</b>	Composition, 27K, 10%, 1/2 W	<b>RC20BF273K</b>	<b>R140</b>	Wirewound, 25, 10%, 5W	<b>R688-117</b>
<b>R51</b>	Composition, 1K, 10%, 1/2 W	<b>RC20BF102K</b>	<b>R142</b>	Wirewound, 15, 10%, 5W	<b>R719-106</b>
<b>R52</b>	Dep. Carbon, 680K	<b>R12DC684J</b>	<b>R143</b>	Glass, 1.2K, 10%, 7W	<b>RPG7W122K</b>
<b>R53</b>	Potentiometer, 500K, Dual Treble	<b>R50150-101-2</b>	<b>R144</b>	Glass, 470, 10%, 3W	<b>RPG3W471K</b>
<b>R54</b>	Potentiometer, 500K, Dual Bass	<b>R50160-101-2</b>	<b>R145, 146</b>	Composition, 330, 10%, 1W	<b>RC30BF331K</b>
<b>R55</b>	Dep. Carbon, 680K	<b>R12DC684J</b>	<b>R149</b>	Composition, 820K, 10%, 1/2 W	<b>RC20BF824K</b>
<b>R58</b>	Dep. Carbon, 1K	<b>R12DC102J</b>			
<b>R59</b>	Composition, 150, 10%, 1/2 W	<b>RC20BF151K</b>			
<b>R60</b>	Composition, 10K, 10%, 1/2 W	<b>RC20BF103K</b>			
<b>R61</b>	Composition, 100, 10%, 1/2 W	<b>RC20BF101K</b>			
<b>R62</b>	Composition, 47K, 10%, 1/2 W	<b>RC20BF473K</b>			
<b>R63</b>	Composition, 1K, 10%, 1/2 W	<b>RC20BF102K</b>			
<b>R64</b>	Dep. Carbon, 680K	<b>R12DC684J</b>			
<b>R66</b>	Dep. Carbon, 120K, 1/3 W	<b>R33DC124J</b>			
<b>R67</b>	Dep. Carbon, 1K, 1/3 W	<b>R33DC102J</b>			
<b>R68</b>	Dep. Carbon, 120K, 1/3 W	<b>R33DC124J</b>			
<b>R69</b>	Dep. Carbon, 1K, 1/3 W	<b>R33DC102J</b>			
<b>R70</b>	Dep. Carbon, 2.2M, 1/3 W	<b>R33DC225J</b>			
<b>R71</b>	Dep. Carbon, 820K	<b>R12DC824J</b>			
<b>R72, 73</b>	Dep. Carbon, 220K	<b>R12DC224J</b>			
<b>R74</b>	Dep. Carbon, 68K	<b>R12DC683J</b>			
<b>R75</b>	Dep. Carbon, 270K	<b>R12DC274J</b>			
<b>R76</b>	Dep. Carbon, 56K	<b>R12DC563J</b>			
<b>R77</b>	Dep. Carbon, 150K	<b>R12DC154J</b>			
<b>R78, 79</b>	Dep. Carbon, 2.7M, 1/3 W	<b>R33DC275J</b>			
<b>R80</b>	Composition, 100, 10%, 1/2 W	<b>RC20BF101K</b>			
<b>R81</b>	Dep. Carbon, 22K	<b>R12DC223J</b>			
<b>R82</b>	Composition, 82K, 10%, 1/2 W	<b>RC20BF823K</b>			
<b>R83</b>	Dep. Carbon, 470K, 1/3 W	<b>R12DC474J</b>			
<b>R84</b>	Potentiometer, 300K, Dual Balance	<b>R50160-130</b>			
<b>R85</b>	Composition, 220, 10%, 1/2 W	<b>RC20BF221K</b>			
<b>R86</b>	Composition, 1K, 10%, 1/2 W	<b>RC20BF102K</b>			
<b>R87</b>	Dep. Carbon, 180	<b>R12DC181J</b>			
<b>R88, 89</b>	Dep. Carbon, 820K	<b>R12DC824J</b>			
<b>R90</b>	Dep. Carbon, 47K	<b>R12DC473J</b>			
<b>R91, 92</b>	Dep. Carbon, 22K	<b>R12DC223J</b>			
<b>R93, 94</b>	Dep. Carbon, 820K	<b>R12DC824J</b>			
<b>R95</b>	Potentiometer, 500K, Dual Volume	<b>R50160-104</b>			
<b>R96</b>	Wirewound, 25, 10%, 5W	<b>R688-117</b>			
<b>R97</b>	Composition, 68K, 10%, 1/2 W	<b>RC20BF683K</b>			
<b>R98, 99,</b>					
<b>100</b>	Dep. Carbon, 47K	<b>R12DC473J</b>			
<b>R101</b>	Dep. Carbon, 470K, 1/3 W	<b>R33DC474J</b>			
<b>R103</b>	Dep. Carbon, 220, 1/3 W	<b>R33DC221J</b>			
<b>R104</b>	Dep. Carbon, 470K, 1/3 W	<b>R33DC474J</b>			
<b>R105</b>	Dep. Carbon, 2.2K, 1/3 W	<b>R33DC222J</b>			
<b>R106</b>	Dep. Carbon, 220, 1/3 W	<b>R33DC221J</b>			
<b>R107</b>	Composition, 1K, 10%, 1/2 W	<b>RC20BF102K</b>			
<b>R108, 109</b>	Potentiometer, 25K	<b>R50103-2</b>			
<b>R110</b>	Composition, 270, 1/2 W	<b>RC20BF271J</b>			
<b>R111, 112</b>	Dep. Carbon, 33K, 1/3 W	<b>R33DC333J</b>			
<b>R113</b>	Dep. Carbon, 180K, 1/3 W	<b>R33DC184J</b>			
<b>R114</b>	Dep. Carbon, 68K, 1/3 W	<b>R33DC683J</b>			
<b>R115</b>	Dep. Carbon, 180K, 1/3 W	<b>R33DC184J</b>			
<b>R116</b>	Dep. Carbon, 68K, 1/3 W	<b>R33DC683J</b>			
<b>R117</b>	Dep. Carbon, 2.2K, 1/3 W	<b>R33DC222J</b>			
<b>R118</b>	Composition, 1.5K, 1/2 W	<b>RC20BF152J</b>			
<b>R119</b>	Composition, 1K, 1/2 W	<b>RC20BF102J</b>			
<b>R120</b>	Composition, 220, 10%, 1/2 W	<b>RC20BF221K</b>			
<b>R121, 122,</b>					
<b>123</b>	Dep. Carbon, 330K	<b>R12DC334J</b>			
<b>R125</b>	Dep. Carbon, 15K	<b>R12DC153J</b>			
<b>R126, 127</b>	Dep. Carbon, 1K, 1/3 W	<b>R33DC102J</b>			

## COILS, CHOKES & TRANSFORMERS

Symbol	Description	Part No.
<b>L1</b>	FM Antenna Coil	<b>L966-113</b>
<b>L2</b>	FM RF Coil	<b>L1034-113</b>
<b>L3</b>	FM Mixer Coil	<b>L966-115</b>
<b>L4</b>	FM Oscillator Coil Assembly	<b>A5966-107</b>
<b>L5</b>	Choke, .68 Microhenry	<b>L50066-1</b>
<b>L6, 7</b>	Choke, 1.2 Microhenry	<b>L50066-3</b>
<b>L9</b>	Choke, 3.3 Microhenries	<b>L50066-8</b>
<b>T1</b>	Transformer Output	<b>T991-116-1</b>
<b>T2</b>	Transformer Output	<b>T991-116-2</b>
<b>T3</b>	Transformer, Power	<b>T991-115</b>
<b>Z1</b>	Transformer, FM IF	<b>ZZ50210-42</b>
<b>Z2</b>	Transformer, FM IF	<b>ZZ50210-39</b>
<b>Z3</b>	Transformer, FM IF	<b>ZZ50210-2</b>
<b>Z4</b>	FM Limiter Coil	<b>ZZ50210-6</b>
<b>Z5</b>	FM Ratio Detector	<b>ZZ50210-9</b>

## MISCELLANEOUS

Symbol	Description	Part No.
<b>CR1, 2, 3, 4</b>	Diode, Silicon	<b>V50260-10</b>
<b>CR5</b>	Diode, Silicon	<b>SR50411-1</b>
<b>CR6</b>	Selenium Rectifier, Bridge	<b>SR50253-1</b>
<b>CR7</b>	Diode, Silicon	<b>SR50411-1</b>
<b>F1</b>	Fuse, 3.2 Amp, Slo-Blo	<b>F3319</b>
<b>I1, 2</b>	Lamp, #47 OF	<b>I50009-4</b>
<b>I3, 4</b>	Lamp, Dial	<b>I50441-4</b>
<b>J17</b>	Jack, Headphone	<b>J846-120-1</b>
<b>M1</b>	Meter, Tuning	<b>M990-124</b>
<b>PC1, 2</b>	Printed Circuit, Equalization	<b>PC50187-3</b>
<b>PC3, 4</b>	Printed Circuit, Tone Control	<b>PC50187-9</b>
<b>PC5, 6</b>	Printed Circuit, High Filter	<b>PC50187-2</b>
<b>RL1</b>	Relay	<b>K50314</b>
<b>S1</b>	Switch, Selector	<b>S991-112</b>
<b>S2</b>	Switch, Slide, FM Filter	<b>S50200-5</b>
<b>S3</b>	Switch, Speaker Selector	<b>S990-130</b>
<b>S4</b>	Switch, Loudness Contour	<b>S990-129</b>
<b>S5, 6, 7</b>	Switch, Slide	<b>S50200-5</b>
<b>S8</b>	Switch, Power	<b>Part of R95</b>
—	FM Dipole	<b>A550227-1</b>
—	Dress Panel	<b>AS991-108</b>
—	Knob, Dummy Dual	<b>E50324</b>
—	Knob, Dual Rear	<b>E50321</b>
—	Knob, Dual Front	<b>E50321</b>
—	Knob, Speaker Selector	<b>E50325-1</b>
—	Knob, Tuning	<b>E50325-2</b>
—	Dial Glass	<b>N991-107</b>
—	Fuse Holder	<b>X563-151</b>

# ALIGNMENT INSTRUCTIONS

**Read These Instructions With Extreme Care Before Attempting Alignment.**

**CHASSIS:** Turn the station selector completely counterclockwise, without forcing. Dial pointer should be at zero index mark on logging scale. If not, reset the dial pointer. Disconnect the external antenna.

When using an oscilloscope for alignment, set the output level controls for no overload, as shown by the proper waveform shape. Connect loads to main output and turn volume control to minimum.

**SIGNAL GENERATORS:** The signal generator equipment must be able to supply the following: FM RF modulated 30% ( $\pm 22.5$  KC deviation) at 400 cps,

**INDICATOR:** DC VTVM, AC VTVM, and scope for alignment.

**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 screwdriver for all trimming capacitors; a K-Tran tool for Z1, Z2, and Z3; a hex tool for L1, L2, L3, L4, Z4, and Z5.

**NOTE: For calibrating use as low an output voltage as possible from your signal generator.**

STEPS	CHASSIS		SIGNAL GENERATOR			INDICATOR		ALIGNMENT	
	SELECTOR	STATION SELECTOR	COUPLING	FREQ.	MOD.	TYPE	CONNECTION	ADJUST	INDICATION
1	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 3	Z1, Z2, Z3, Z4, and Z5 top and bottom	Maximum negative voltage
2	FM	Point of no signal and no interference	FM Gen. connected to ungrounded tube shield of V2	10.7 MC	None	DC VTVM	Connect hot lead of DC VTVM to MPX output, ground to junction of resistors (47K) connected in series from TSP3 to GND.	Z5, top	Zero reading on zero center scale
3	FM	90 MC	FM Gen. connected thru two 120-ohm carbon resistors in series with lead to antenna terminals Normal.	90 MC	30% FM (22.5 KC Dev.) at 400 cps	DC VTVM	to TSP3 and scope to Ch. A. Rec. output	L4, L3, L2 and L1	Check for sine waveform and adjust for maximum negative voltage
4	FM	106 MC	FM Gen. connected thru two 120-ohm carbon resistors in series with lead to antenna terminals Normal.	106 MC	30% FM (22.5 KC Dev.) at 400 cps	DC VTVM	to TSP3 and scope to Ch. A. Rec. output	C19, C12 and C5	Check for sine waveform and adjust for maximum negative voltage
5	Repeat steps 3 and 4 for proper dial calibration and maximum output.								

## FM ALIGNMENT

# ALIGNMENT INSTRUCTIONS • MULTIPLEX SECTION

STEPS	GENERATOR			INDICATOR	ALIGNMENT		
	CONNECTION	AUDIO FREQUENCY	RF MODULATION	TYPE & CONNECTION	ADJUST	INDICATION	NOTES
1	Audio oscillator connected to lug 1	80 KC—1 volt	None	AC VTVM to junction of C210 and R228	L100 (Use hex alignment tool)	Minimum voltage	
2	Multiplex generator audio output to lug 1 (See Note 1)	19 KC ( $\pm 5$ cps) pilot tone, 100 mv	None	DC VTVM to T.S.P. 101	Z100 top and bottom (Use hex alignment tool)	Maximum voltage	1
3	Same as Step 2	19 KC pilot tone, 50 mv	None	Scope horiz. input to 19 KC output of gen.; vert. input to junction of C216 and R209. External sweep	Z101 (Use K-tran alignment tool)	Stable 2:1 Lissajous pattern. Disregard phase of pattern	1
4	Same as Step 2	19 KC	None	Same as Step 3	Vary generator 19 KC output from 50 to 200 mv	Lissajous pattern should remain stationary over the entire 150 mv range	1, 2
5	Same as Step 2	1000 cps on left (A) channel only, 1 volt rms (2.8 P-P)	None	AC VTVM and scope vert. input to channel A output lug. Internal sweep. DC VTVM to T.S.P. 101	Z100 top (Use hex tool)	Maximum indication on AC VTVM. Clean 1000 cps waveform on scope	1, 3
6	Same as Step 2	1000 cps on right (B) channel only, 1 volt rms (2.8 P-P)	None	Same as Step 5	MPX separation R215	Minimum reading on AC VTVM should be at least 33 db below reading obtained in Step 5	1
7	Same as Step 2	Same as Step 6	None	Move scope input and AC VTVM to channel B output lug	-----	Note and record voltage reading on AC VTVM	1
8	Same as Step 2	1000 cps on left (A) channel only, 1 volt rms (2.8 P-P)	None	Same as Step 7	-----	AC VTVM reading should be at least 33 db below reading observed in Step 7	1
9	Same as Step 2	8000 cps on right (B) channel only, 1 volt rms (2.8 P-P)	None	Same as Step 7	-----	AC VTVM reading should be the same as observed in Step 7	1
10	Same as Step 2	8000 cps on left (A) channel only, 1 volt rms (2.8 P-P)	None	Same as Step 7	-----	AC VTVM reading should be at least 18 db below reading observed in Step 9	1
11	Repeat Steps 9 and 10 with scope and AC VTVM connected to channel A output lug, but start with 8000 cps applied to left channel for first reading, then switch to right channel for second reading.						
12	Multiplex generator RF output to 300-ohm antenna terminals	1000 cps on left (A) channel only	100% (75 KC Dev.) No pre-emphasis	Move scope input and AC VTVM to channel A output lug	-----	Note and record voltage reading on AC VTVM	4
13	Same as Step 12	1000 cps on right (B) channel only	Same as Step 12	Same as Step 12	R215	Minimum reading on AC VTVM should be at least 33 db below reading observed in Step 12	4
14	Same as Step 12	8000 cps on left (A) channel only	Same as Step 12	Same as Step 12	-----	AC VTVM reading should be 10 db below reading observed in Step 12	4
15	Same as Step 12	8000 cps on right (B) channel only	Same as Step 12	Same as Step 12	-----	AC VTVM reading should be 28 db below reading observed in Step 12	4

**NOTE:** The above procedure is based on the use of the FISHER Model 300 Multiplex Generator.

1 — In steps 2 through 11, the audio output of the Multiplex Generator should be connected to lug 1 of the multiplex sub-chassis through a 12,000 ohm, ½-watt, carbon resistor, and a 180 uuf capacitor should be connected between lug 1 and ground. The wiring from the MPX TEST jack on the main chassis to lug 1 must be disconnected during Steps 2 through 11.

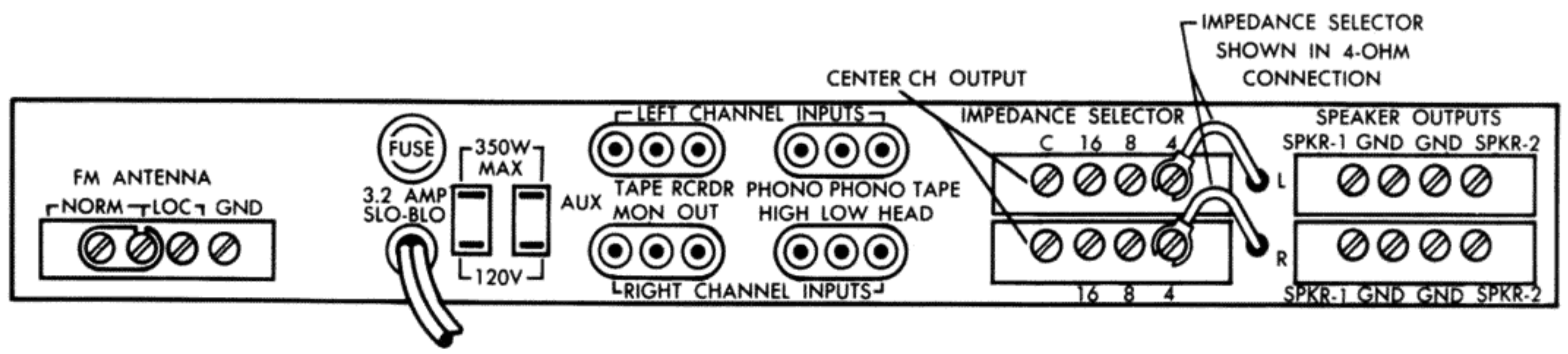
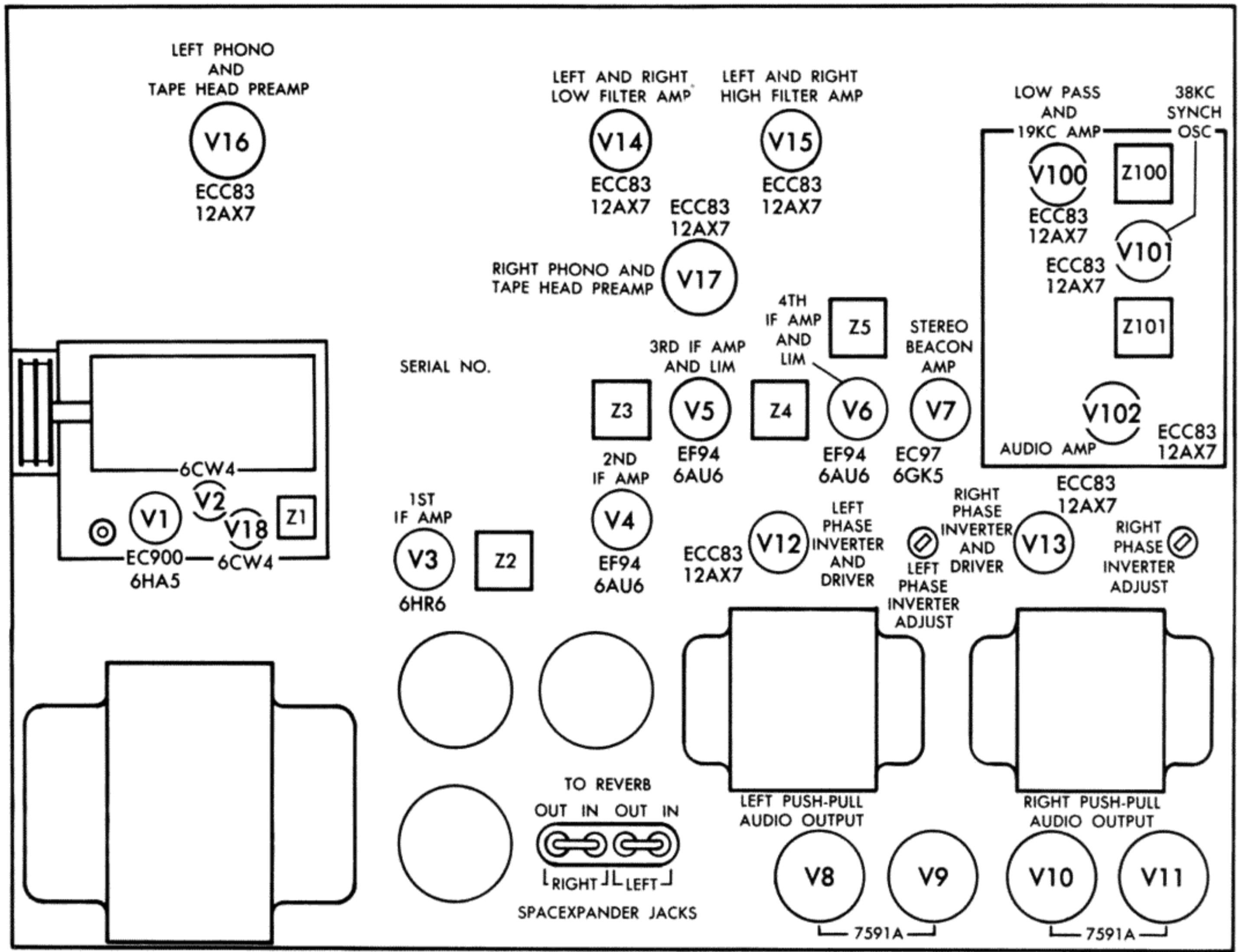
2 — The vertical amplitude of the Lissajous pattern will increase slightly

as the generator output is increased. This is a normal occurrence.

3 — If DC VTVM reading falls below -9 volts when maximum reading is obtained on the AC VTVM, readjust bottom of Z100, then repeat Step 5. Repeat this procedure until maximum AC VTVM reading is obtained with DC VTVM reading greater than -9 volts.

4 — Tune the FISHER to the RF output frequency of the Multiplex Generator.

# TUBE LAYOUT

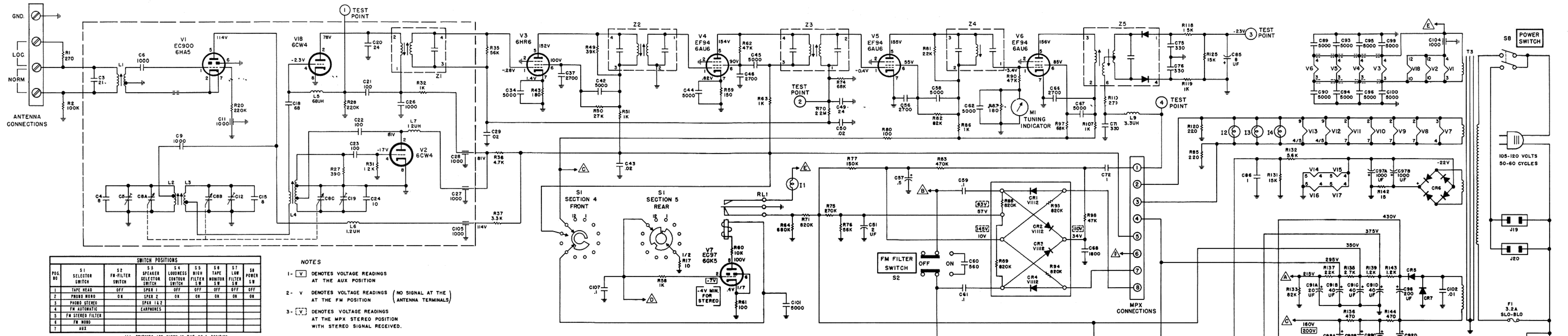


# SERVICE NOTES



**FISHER RADIO CORPORATION • NEW YORK**

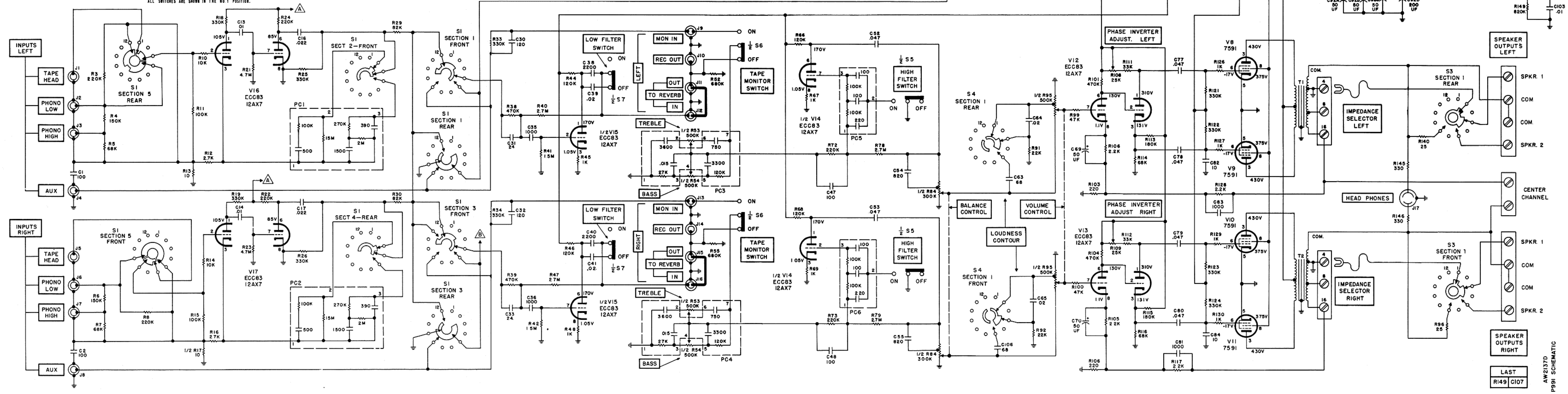
# SCHEMATIC DIAGRAM • TUNER AND PREAMPLIFIER



SWITCH POSITIONS								
POS. NO.	S1 SELECTOR SWITCH	S2 FM-FILTER SWITCH	S3 SPEAKER SELECTOR SWITCH	S4 LOUDNESS CONTROL SWITCH	S5 HIGH TAPE POSITION SWITCH	S6 TAPES MONITOR SWITCH	S7 LOW FILTER SWITCH	S8 POWER SW
1	TAPE HEAD	OFF	SPER 1	OFF	OFF	OFF	OFF	OFF
2	PHONO MONO	ON	SPER 2	ON	ON	ON	ON	ON
3	PHONO STEREO	OFF	SPER 1,2	OFF	OFF	OFF	OFF	OFF
4	FM AUTOMATIC	OFF	EARPHONES	OFF	OFF	OFF	OFF	OFF
5	FM STEREO FILTER	OFF						
6	FM MONO	OFF						
7	AUX	OFF						

ALL SWITCHES ARE SHOWN IN THE NO. 1 POSITION.

- NOTES**
- 1- [V] DENOTES VOLTAGE READINGS AT THE AUX POSITION
  - 2- [V] DENOTES VOLTAGE READINGS AT THE FM POSITION (NO SIGNAL AT THE ANTENNA TERMINALS)
  - 3- [V] DENOTES VOLTAGE READINGS AT THE MPX STEREO POSITION WITH STEREO SIGNAL RECEIVED.





# 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	Polystyrene, 470, 5%, 500V	C50394-1
C205	Ceramic, 82, 1000V	C50070-1
C206	Ceramic, 1000, GMV, 500V	C50089-2
C207	Ceramic, 5000, +80 — 20%, 500V	C50089-6
C208, 209	Mica, 4700, 5%, 500V	C50332-5
C210	Electrolytic, 1uf, 350V	C50283-3
C211	Ceramic, 1000, GMV, 500V	C50089-2

C212	Ceramic, .05uf, +80 — 20%, 100V	C50073-2
C214	Mylar, 4700, 400V	C50197-25
C215	Mica, 3900, 5%, 500V	C50332-6
C216, 217	Ceramic, 1000, GMV, 500V	C50089-2
C218	Ceramic, .02uf, 20%, 500V	C50089-5
C219	Ceramic, 330, 1000V	C50183-5
C220	Ceramic, .02uf, 20%, 500V	C50089-5
C221, 222	Mylar, .047uf, 250V	C50197-52
C223, 224	Ceramic, 1000, 1000V	C50072-3
C225, 226	Ceramic, 2200, 1000V	C50072-5

## RESISTORS

In ohms, 5% tolerance, 1/8 W unless otherwise noted. K=Kilohms, M=Megohms.

Symbol	Description	Part No.
R200	Composition, 22M, 10%, 1/2 W	RC20BF226K

R201	Composition, 4.7K, 1/2 W	R209, 210, 211, 212
R202	Composition, 15K, 1/2 W	Dep. Carbon, 33K
R203	Composition, 10M, 10%, 1/2 W	R213, 214
R204	Dep. Carbon, 1M	Dep. Carbon, 100K
R205	Dep. Carbon, 220K, 1/2 W	R215
R207	Dep. Carbon, 1M	Potentiometer, 50K, MPX Separation
R208	Dep. Carbon, 22K	R216
R209, 210,	211, 212	Composition, 22M, 10%, 1/2 W
R213, 214	Dep. Carbon, 100K	R217, 218
R215	Potentiometer, 50K, MPX Separation	Dep. Carbon, 18K, 1/2 W
R216	Composition, 22M, 10%, 1/2 W	R219, 220
R217, 218	Dep. Carbon, 18K, 1/2 W	Dep. Carbon, 15K, 1/2 W
R219, 220	Dep. Carbon, 15K, 1/2 W	R221
R221	Composition, 22M, 10%, 1/2 W	R222, 223
R222, 223	Dep. Carbon, 27K	

RC20BF472J	
RC20BF153J	
RC20BF106K	
R12DC105J	
R33DC224J	
R12DC105J	
R12DC223J	
R12DC333J	
R12DC104J	
R50150-4	
RC20BF226K	
R33DC183J	
R33DC153J	
RC20BF226K	
R12DC273J	

R224, 225	Dep. Carbon, 22K	R12DC223J
R226, 227,		
228, 229,		
230, 231	Dep. Carbon, 1M	R12DC105J

## MISCELLANEOUS

Symbol	Description	Part No.
CR100, 102,		
103	Diodes, Type 1112	V-1112
L100	Coil, low pass	L50210-30
L101	Coil, 5.25MH	L50334-1
L102, 103	Coil, 20MH	L50334-2
Z100	Transformer, 19Kc	ZZ50210-34
Z101	Coil, 38Kc	ZZ50210-33

# SCHEMATIC DIAGRAM • MULTIPLEX SECTION

