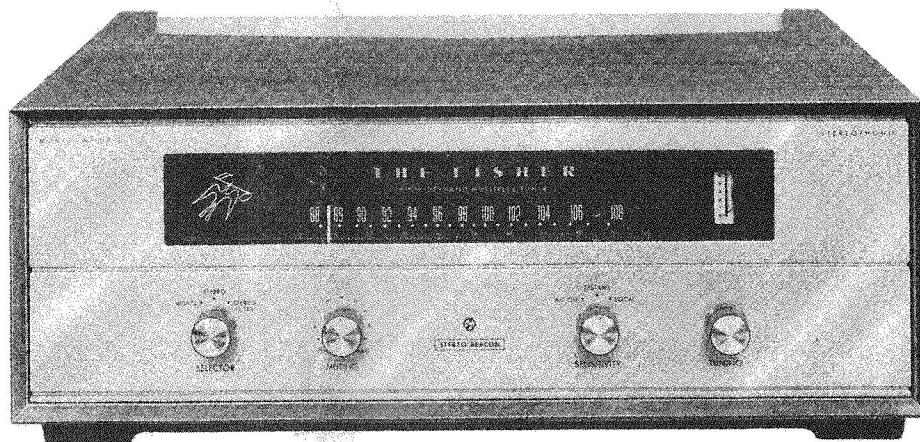


THE FISHER FM-100-B SERVICE MANUAL



MODEL FM-100-B

CHASSIS SERIAL NUMBERS
FROM 10001 TO 19999 INCLUSIVE

PRICE: \$1.00

FISHER RADIO CORPORATION • NEW YORK

CHASSIS SERIAL NUMBERS
FROM 10001 TO 19999 INCLUSIVE

THE FISHER FM-100-B



PARTS DESCRIPTION LIST

CAPACITORS

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

| | | |
|-------------|---------------------------------|-------------|
| C1 | Ceramic, 8 ± 5, NPO, 500V | CC20C1080D5 |
| C2 | Ceramic, 100, N1500, 1000V | C50070-6 |
| C3 | Ceramic, Trimmer | C662-123 |
| C4 | FM, Variable | C726-116 |
| C5 | Ceramic, 100, N1500, 1000V | C50070-6 |
| C6, 7, 8, 9 | Ceramic, Feedthru, 1000, GMV | C592-187 |
| C10 | Molded, .01uf, 20%, 600V | C2747 |
| C11 | Ceramic, 1000, 1000V | C50072-3 |
| C12 | Ceramic, Feedthru, 1000, GMV | C592-187 |
| C13 | Ceramic, 8 ± 5, NPO, 500V | CC20C1080D5 |
| C14 | Ceramic, Trimmer | C662-123 |
| C15 | Ceramic, 100, N1500, 1000V | C50070-6 |
| C16 | Ceramic, 68, N750 500V | CC20U1680K5 |
| C17 | Ceramic, 100, N1500, 1000V | C50070-6 |
| C18 | Ceramic, 5 ± 5, N220, 500V | CC20RH050D5 |
| C19 | Ceramic, 5 ± 5, N150, 500V | CC20P1050D5 |
| C20 | Ceramic, 47, N750, 1000V | C50070-4 |
| C21 | Ceramic, Trimmer | C662-123 |
| C22, 23 | Ceramic, Feedthru, 1000, GMV | C592-187 |
| | Electrolytic, A-section: | C670-125B |
| | A — 40uf, 300V | |
| | B — 40uf, 300V | |
| | C — 40uf, 250V | |
| | D — 40uf, 250V | |
| C25 | Ceramic, 100, N1500, 1000V | C50070-6 |
| C26 | Ceramic, 1000, 1000V | C50072-3 |
| C27 | Ceramic, Feedthru, 1000, GMV | C592-187 |
| C28 | Ceramic, .02uf, +80 — 20%, 500V | C50089-4 |
| C29 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C30 | Ceramic, 2700, 1000V | C50072-17 |
| C31, 32 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C33 | Ceramic, 7 ± 5, NPO, 500V | CC20C1070D5 |
| C34, 35 | Ceramic, 5000 +80 — 20%, 500V | C50089-6 |
| C36 | Mylar, 1uf, 250V | C50197-54 |
| C37, 38 | Ceramic, 100, N1500, 1000V | C50070-6 |
| C39, 40 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C41 | Ceramic, 2700, 1000V | C50072-17 |
| C42 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C43 | Ceramic, 24, 5%, N150, 1000V | C50070-8 |
| C44 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C45 | Mylar, 1uf, 250V | C50197-54 |
| C46 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C47 | Ceramic, 2700, 1000V | C50072-17 |
| C48 | Ceramic, 15, N150, 1000V | C50070-18 |
| C49 | Mylar, 1uf, 250V | C50197-54 |
| C50 | Ceramic, .02uf, 20%, 500V | C50089-5 |
| C51, 52 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C53 | Ceramic, 2700, 1000V | C50072-17 |
| C54 | Mylar, 1uf, 250V | C50197-54 |
| C55 | Ceramic, .02uf, 20%, 500V | C50089-5 |
| C56 | Ceramic, 15, N150, 1000V | C50070-18 |
| C57 | Ceramic, 12, NPO, 1000V | C50070-2 |
| C58 | Ceramic, 5000, +80 — 20%, 500V | C50089-6 |
| C59 | Ceramic, 2700, 1000V | C50072-17 |
| C60 | Ceramic, .02uf, +80 — 20%, 500V | C50089-4 |
| C61 | Ceramic, 330, 1000V | C50072-1 |

| | | |
|---------|---------------------------------|-----------|
| C62 | Ceramic, .05uf, +80 — 20%, 100V | C50073-2 |
| C63 | Ceramic, 2200, 1000V | C50072-5 |
| C64 | Ceramic, 560, 1000V | C50072-14 |
| C65 | Electrolytic, Buf, 50V | C629-138 |
| C66, 67 | Ceramic, 330, 1000V | C50072-1 |

RESISTORS & POTENTIOMETERS

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

| | | |
|---------|----------------------------------|------------|
| R1 | Composition, 100K | RC20BF104K |
| R2 | Composition, 2.7K | RC20BF272K |
| R3, 4 | Composition, 270 | RC20BF271K |
| R5 | Composition, 100K | RC20BF104K |
| R6 | Composition, 470K | RC20BF474K |
| R7 | Composition, 120 | RC20BF121K |
| R8 | Dep. Carbon, 1M, 5%, 1/2 W | R33DC105J |
| R9, 10 | Composition, 330K | RC20BF334K |
| R11 | Composition, 820K | RC20BF824K |
| R12 | Composition, 22 | RC20BF220K |
| R13 | Composition, 2.2K | RC20BF222K |
| R14, 15 | Composition, 120 | RC20BF121K |
| R16 | Composition, 470K | RC20BF474K |
| R17 | Glass, 270, 3W | RP63W271K |
| R18 | Composition, 470 | RC20BF471K |
| R19 | Glass, 270, 3W | RP63W271K |
| R20, 21 | Composition, 1K | RC20BF102K |
| R22 | Composition, 56K | RC20BF563K |
| R23 | Composition, 150 | RC20BF151K |
| R24 | Composition, 39K | RC20BF393K |
| R25 | Composition, 1K | RC20BF102K |
| R26 | Composition, 680K | RC20BF684K |
| R27 | Potentiometer, Muting Control | R50160-108 |
| R28 | Dep. Carbon, 330K, 5%, 1/2 W | RC20BF334J |
| R29 | Composition, 150 | RC20BF151K |
| R30 | Composition, 470K | RC20BF474K |
| R31 | Composition, 100K | RC20BF104K |
| R32 | Composition, 27K | RC20BF273K |
| R33 | Dep. Carbon, 220K, 5%, 1/2 W | R33DC224J |
| R34 | Composition, 39K | RC20BF393K |
| R35 | Composition, 1K | RC20BF102K |
| R36 | Dep. Carbon, 1K, 5%, 1/2 W | R33DC102J |
| R39 | Composition, 1.8M | RC20BF185K |
| R40, 41 | Composition, 82K | RC20BF823K |
| R42 | Composition, 68K | RC20BF683K |
| R43 | Composition, 10K | RC20BF103K |
| R44 | Composition, 1K | RC20BF102K |
| R45 | Composition, 270K | RC20BF274K |
| R46 | Composition, 1.8M | RC20BF185K |
| R47 | Composition, 22K | RC20BF223K |
| R48 | Composition, 180 | RC20BF181K |
| R49 | Dep. Carbon, 470K, 5%, 1/2 W | R33DC474J |
| R50 | Potentiometer, 500K, Level Set B | R50103-6 |
| R51 | Dep. Carbon, 100K, 5%, 1/2 W | R33DC104J |
| R52 | Composition, 15M | RC20BF156K |
| R53 | Composition, 56K | RC20BF563K |
| R54 | Dep. Carbon, 100K, 5%, 1/2 W | R33DC104J |
| R55 | Composition, 1K | RC20BF102K |
| R56 | Composition, 15M | RC20BF156K |
| R57 | Composition, 1K | RC20BF102K |
| R58 | Dep. Carbon, 470K, 5%, 1/2 W | R33DC474J |

| | | |
|-----|----------------------------------|------------|
| R59 | Potentiometer, 500K, Level Set A | R50103-6 |
| R60 | Composition, 47K | RC20BF473K |
| R61 | Composition, 1.8M | RC20BF185K |
| R62 | Composition, 4.7K | RC20BF473K |
| R63 | Composition, 47K | RC20BF473K |
| R64 | Composition, 1K | RC20BF102K |
| R65 | Dep. Carbon, 47K, 5%, 1/2 W | R33DC4773J |
| R66 | Composition, 270 | RC20BF271K |
| R67 | Composition, 820K | RC20BF824K |
| R68 | Dep. Carbon, 1K, 5%, 1/2 W | R33DC102J |
| R69 | Composition, 15K | RC20BF153K |
| R70 | Composition, 820K | RC20BF824K |
| R71 | Dep. Carbon, 1.5K, 5%, 1/2 W | R33DC152J |
| R72 | Composition, 820K | RC20BF824K |

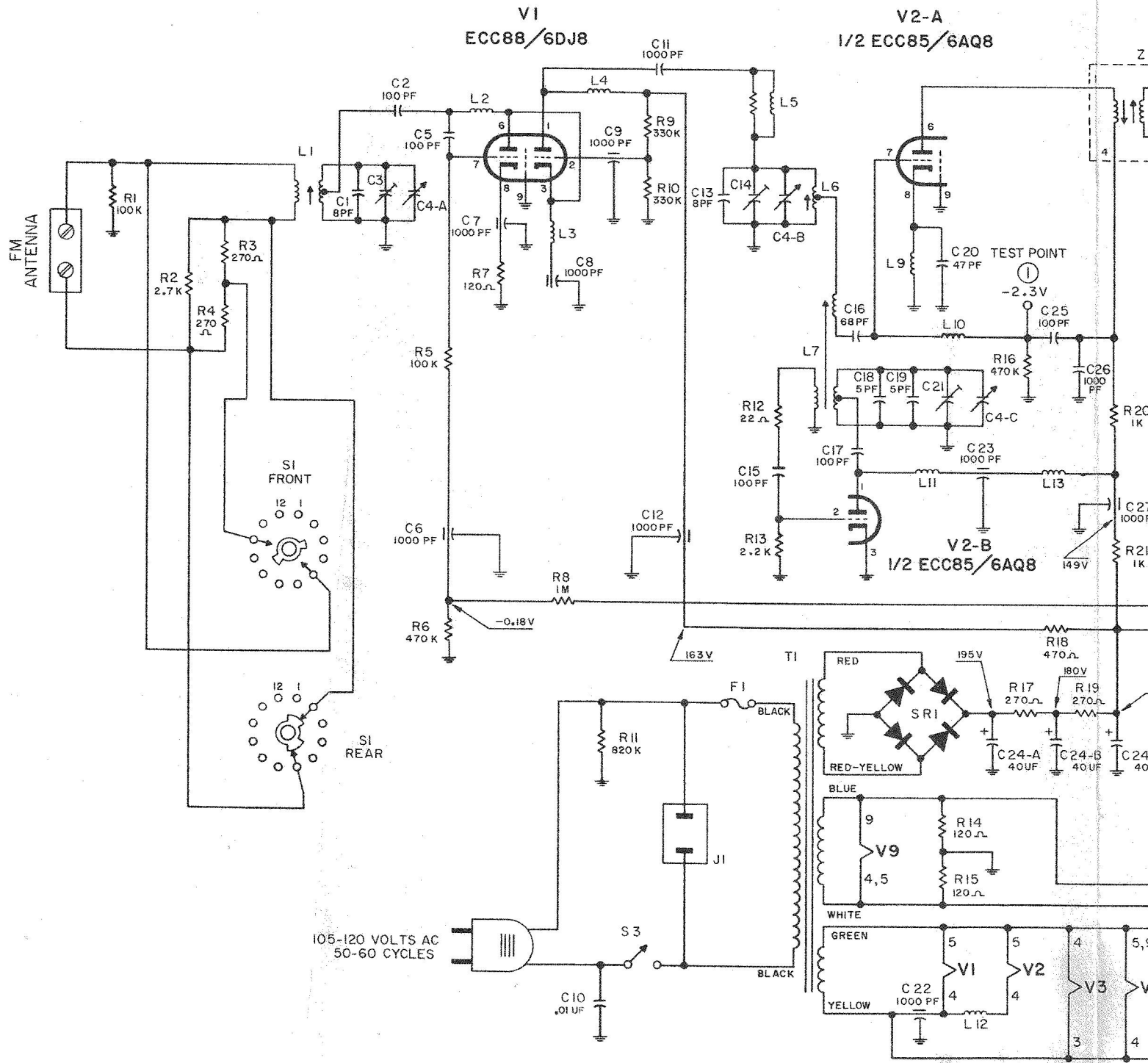
COILS, CHOKES & TRANSFORMERS

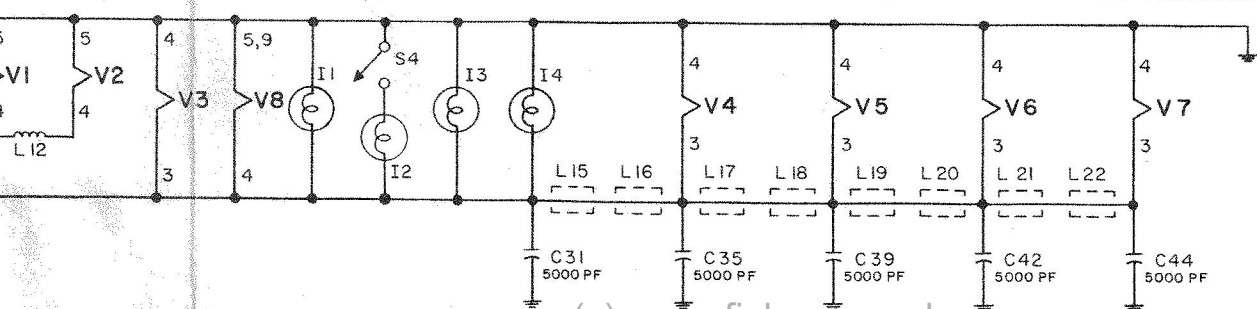
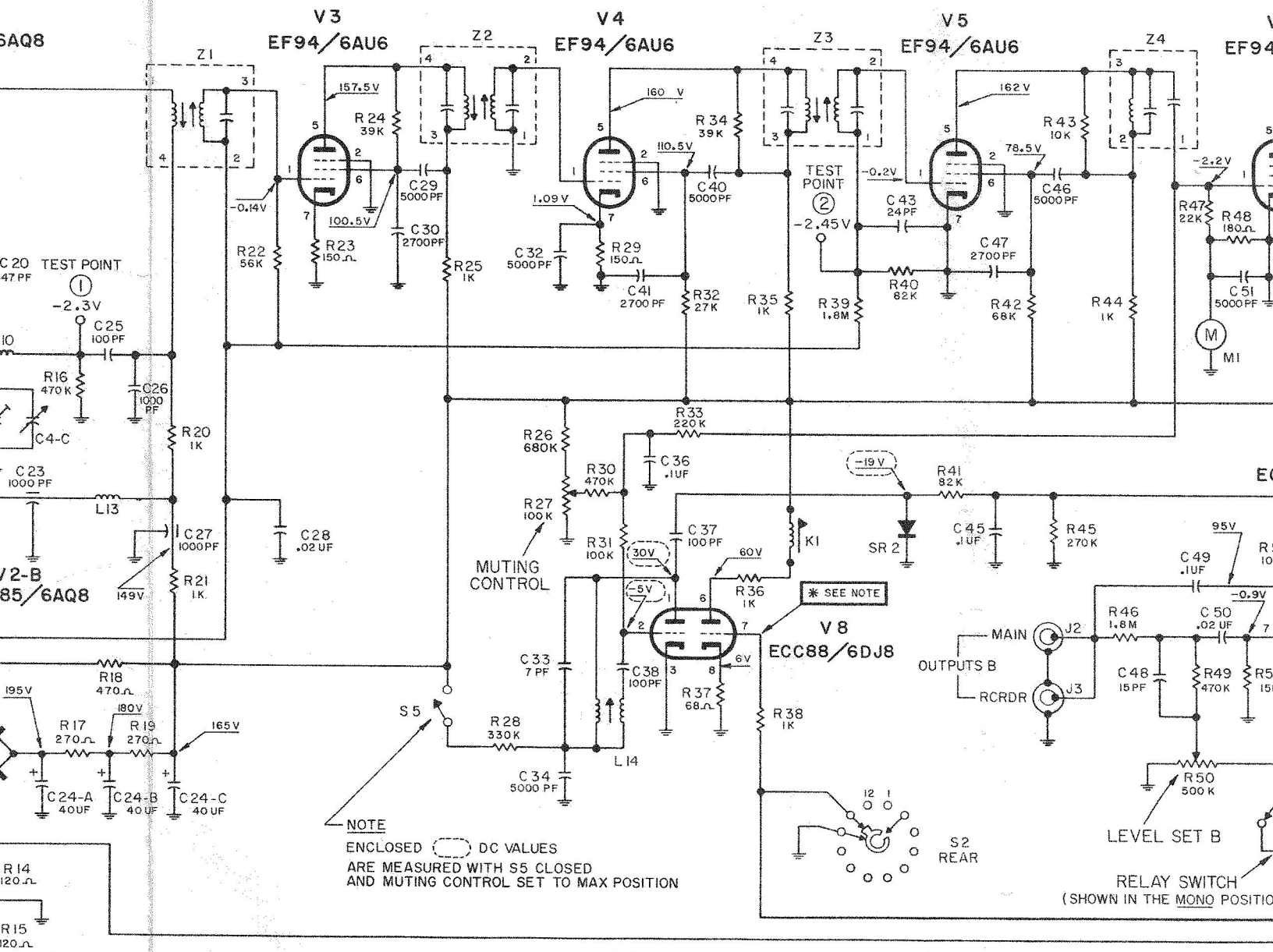
| | | |
|----------|-----------------------------|-----------|
| L1 | Coil, FM Antenna | L726-124 |
| L2 | Choke, 1 Micro Henry | L50066-2 |
| L3, 4 | Choke, .56 Micro Henries | L50066-19 |
| L5 | Choke, R.F. | L629-180 |
| L6 | Coil, FM RF | L726-126 |
| L7 | Coil, FM Oscillator | L726-125 |
| L9 | Choke, .56 Micro Henries | L50066-19 |
| L10, 11 | Choke, 1 Micro Henry | L50066-2 |
| L12, 13 | Choke, 1.2 Micro Henries | L50066-3 |
| L14 | Coil, Muting Oscillator | L50210-22 |
| L15, 16, | | |
| L17, 18, | | |
| L19, 20 | | |
| L21, 22 | | |
| L23 | Coil Filament, Ferrite Bead | L592-189 |
| L24 | Coil, 3.3 Micro Henries | L50066-8 |
| L25 | Transformer, Power | T903-115 |
| L26 | Transformer, FM IF | ZZ662-117 |
| L27 | Transformer, FM IF | ZZ2987 |
| L28 | Transformer, FM IF | ZZ50210-2 |
| L29 | Transformer, FM IF | ZZ50210-6 |
| L30 | FM Limiter Coil | ZZ50210-9 |
| L31 | FM Ratio Detector | |

MISCELLANEOUS

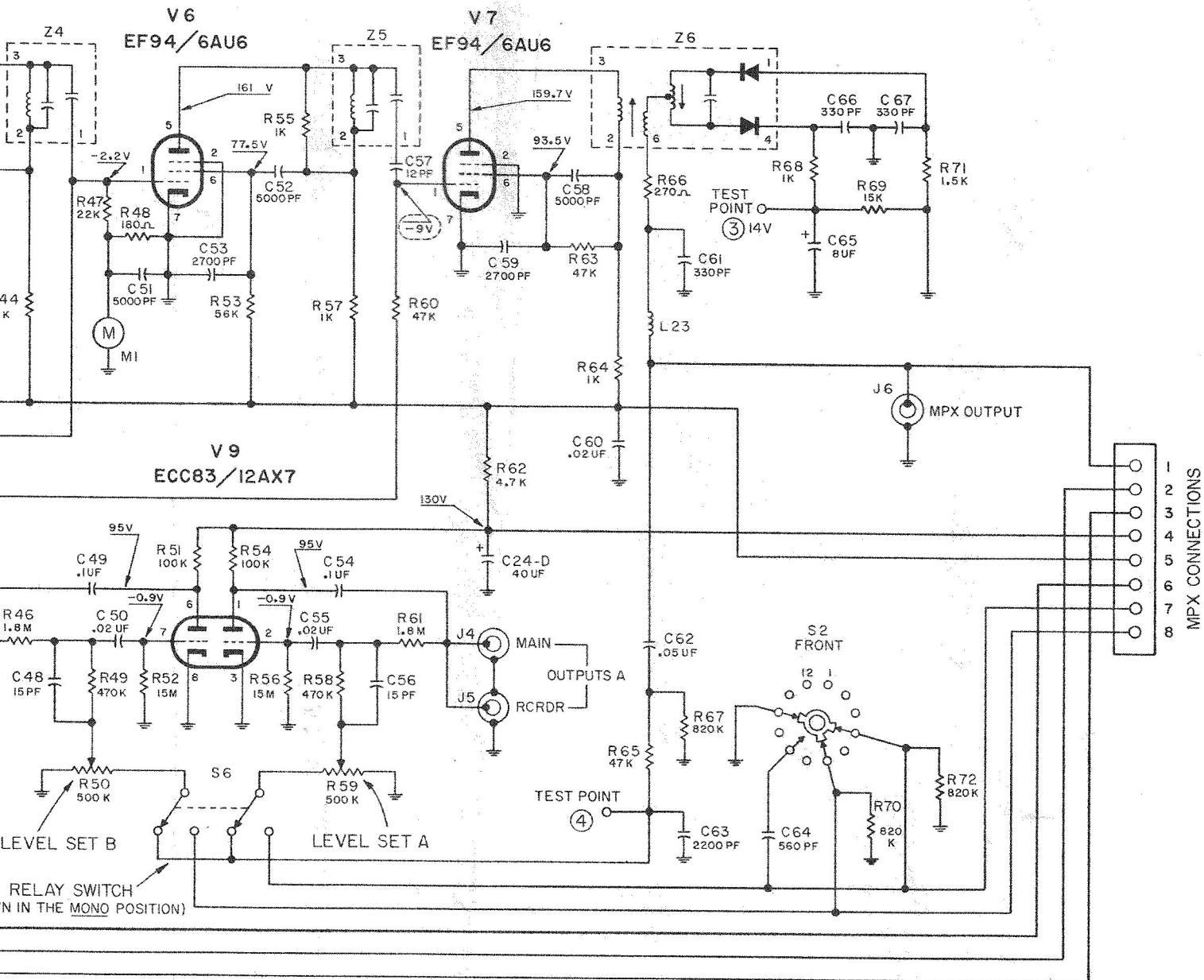
| | | |
|--------|----------------------------|------------|
| F1 | Fuse, 1 Amp, Slo-Ble | F692-132 |
| F11 | Bulb Meter #470F | 150009-4 |
| F12 | Lamp, Stereo Beacon #47 | 150009-1 |
| F13, 4 | Lamp, Dial | 1500882-7 |
| K1 | Relay | K925-126 |
| M1 | Meter, Tuning | M766-137 |
| S1 | Switch, Sensitivity | S903-120 |
| S2 | Switch, Selector | S903-121 |
| S3 | Switch, Power | Part of S1 |
| SRI | Selenium Rectifier, bridge | SR50279-1 |
| SR2 | Diode, 1N294A or 1112 | V-1N294A |
| | or | |
| | Dress Panel | V-1112 |
| | Dipole Assembly | AS903-122 |
| | Knob, Tuning | AS50227-1 |
| | Knob | E50325-2 |
| | Jewel, Green | E50325-1 |
| | Fuse Holder | 150162-4 |
| | | X1036 |

SCHEMATIC DIAGRAM





S1 SENSITIVITY S
 SHOWN IN → AC OFF
 DISTANT
 LOCAL



*** NOTE**

5.5V READING WHILE RECEIVING AN MPX STEREO STATION ONLY.

S1
SENSITIVITY SWITCH

S2
SELECTOR SWITCH

DOWN IN → AC OFF
DISTANT
LOCAL

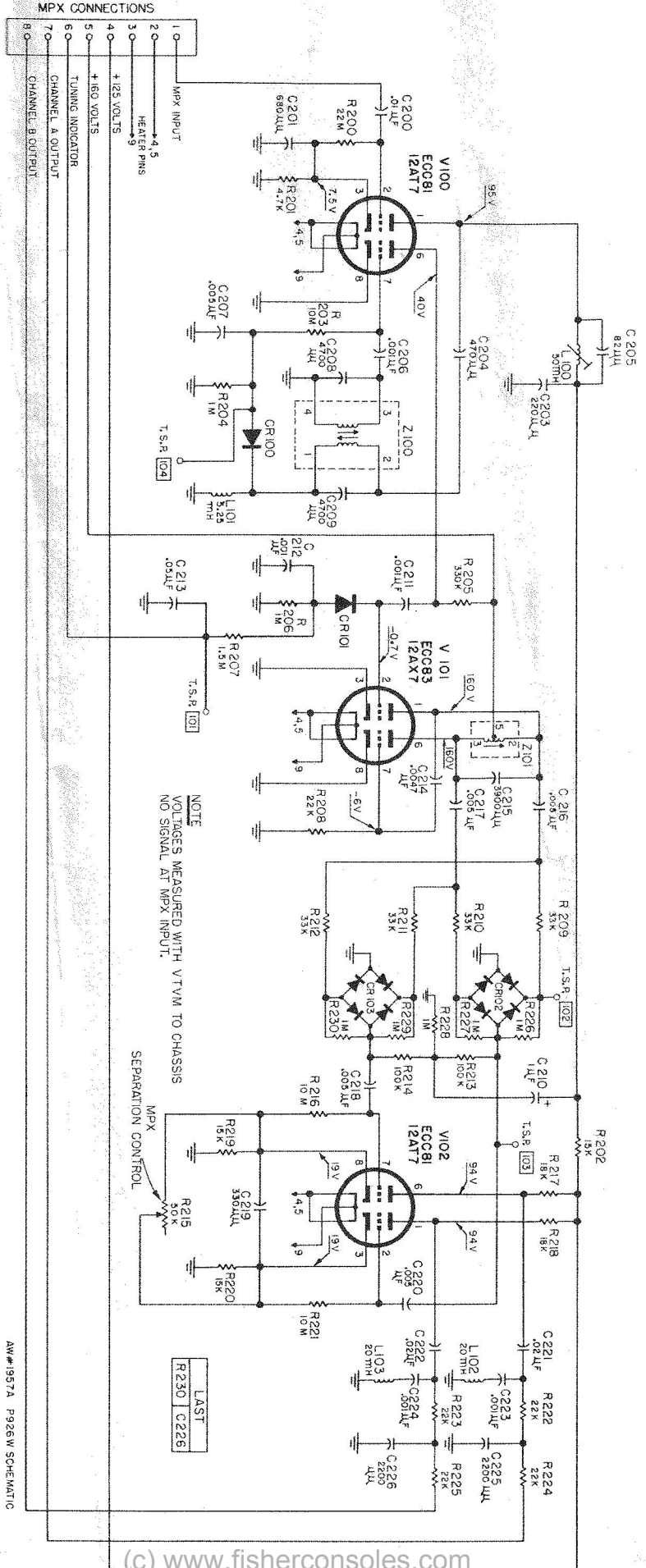
SHOWN IN → MONO
STEREO-MONO AUTOMATIC
STEREO-FILTER

NOTE

CAPACITOR VALUES IN PF ARE EQUAL TO VALUES IN UF.

| | |
|------|-----|
| LAST | |
| R72 | C67 |

SCHEMATIC DIAGRAM • MULTIPLEX SECTION



NOTE
VOLTAGES MEASURED WITH VTVM TO CHASSIS
NO SIGNAL AT MPX INPUT.

LAST
R230 C226

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.

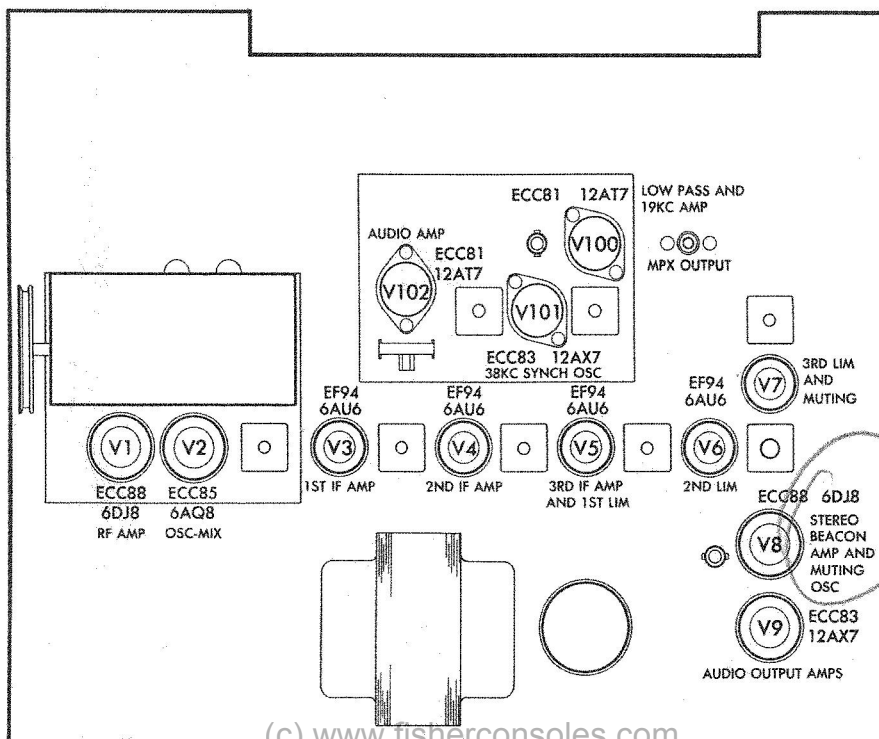
| Symbol | Description | Part No. |
|--------|------------------|------------|
| R200 | Composition, 22M | RC20BF226K |

| | | |
|--------------------------|------------------------------------|------------|
| 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%, 1/3 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 SOCKET LAYOUT



ALIGNMENT INSTRUCTIONS

Read These Instructions With Extreme Care Before Attempting Alignment.

TEST EQUIPMENT: FM Signal Generator, DC VTVM, Oscilloscope.

CHASSIS: 1 — For the entire alignment procedure, set the Selector Switch to Mono position, the Muting Control to OFF position, the Channel A Level Set to MAXIMUM, and connect the oscilloscope to the Channel A output.

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 tuner 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 C21, C14 and C3; a K-Tran tool for Z1, Z2 and Z3; a hex tool for all L1, L6, L7, Z4, Z5 and Z6.

| STEP | DIAL | SIGNAL GENERATOR | | | DC VTVM | ADJUST | INDICATION |
|------|---|---|---------|--------------------------------|--------------|-------------------------------|---|
| | | GENERATOR COUPLING | FREQ. | MOD. | | | |
| 1 | Set dial pointer for extreme C.C.W. position. | Pin 1, V5 | 10.7 MC | None | Test Point 3 | Z4 Z5 Z6 top and bottom | Maximum negative voltage (below 10 volts) |
| 2 | | Ungrounded tube shield of V2 | 10.7 MC | None | Test Point 2 | Z1, Z2, Z3 top and bottom | Maximum negative voltage (below 2 volts) |
| 3 | 90 MC | Two 120 ohm carbon resistors in series with generator leads to the antenna terminals. | 90 MC | ±22.5 KC deviation at 400 cps. | Test Point 2 | L7, L6 and L1 | Adjust for maximum negative voltages and check for sine wave-form, with scope at Ch A output. |
| 4 | 106 MC | | 106 MC | ±22.5 KC deviation at 400 cps. | Test Point 2 | C21 C14 and C3 | |

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 3 and 4 to obtain proper dial calibration and maximum sensitivity.



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