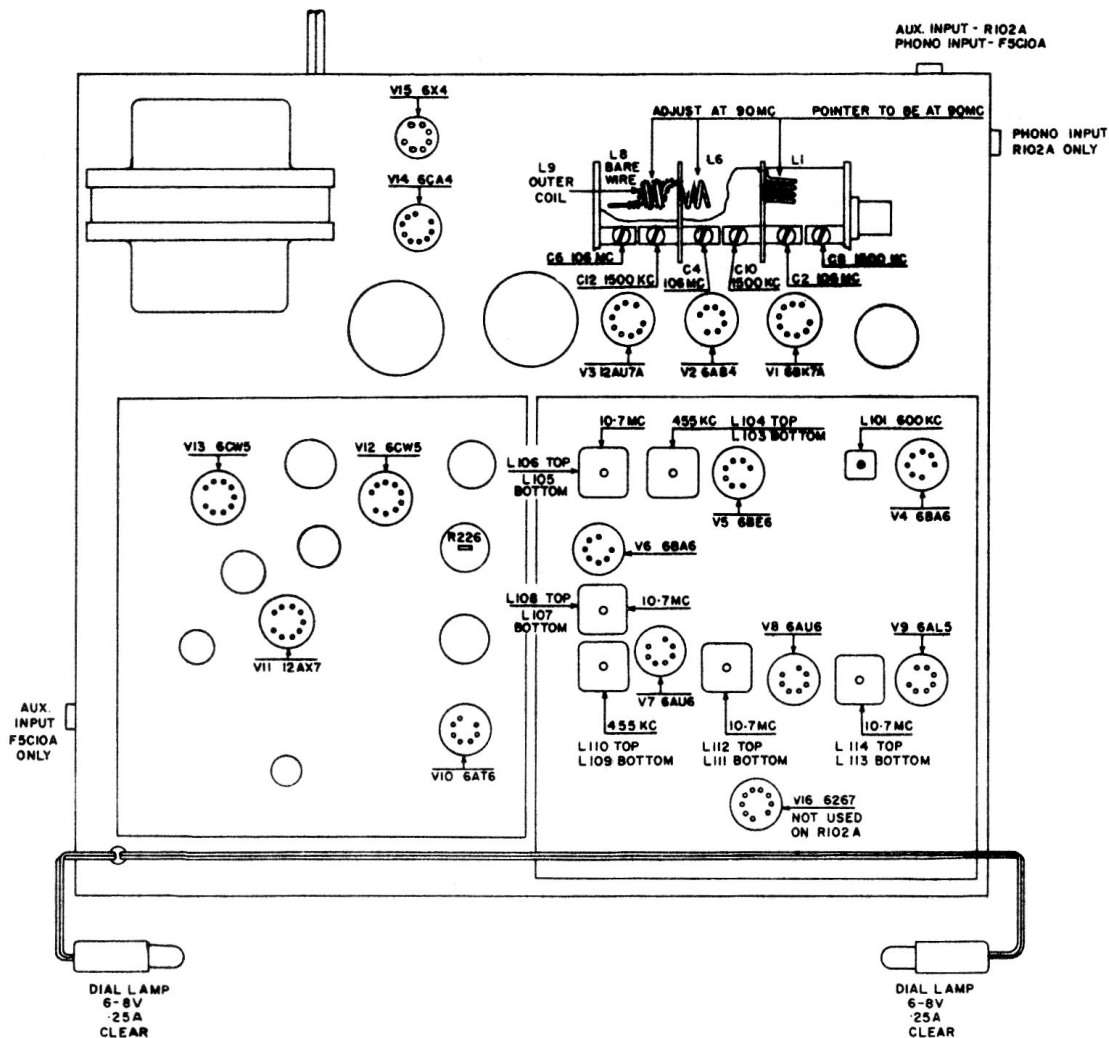
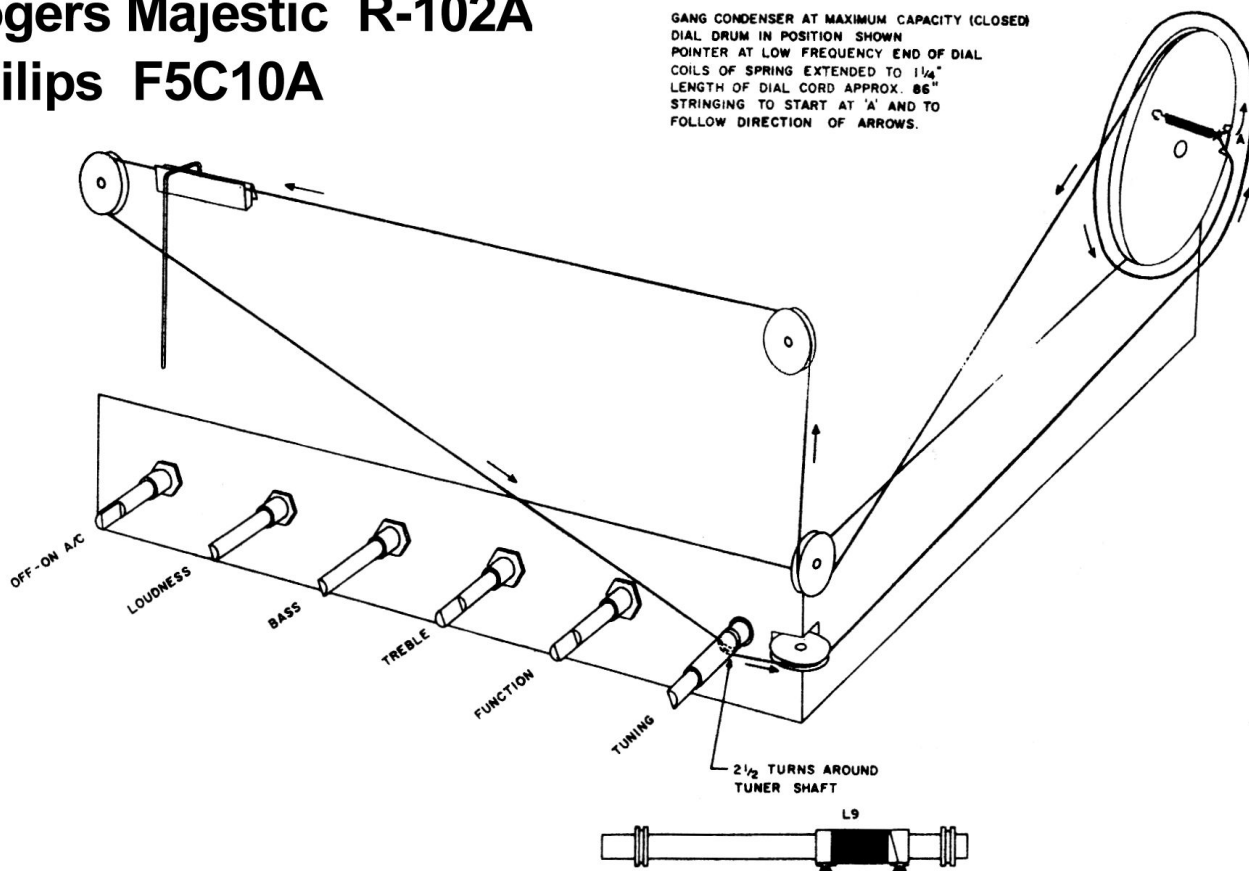


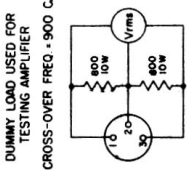
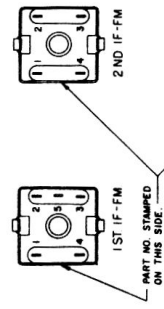
Rogers Majestic R-102A

Philips F5C10A

GANG CONDENSER AT MAXIMUM CAPACITY (CLOSED)
DIAL DRUM IN POSITION SHOWN
POINTER AT LOW FREQUENCY END OF DIAL
COILS OF SPRING EXTENDED TO $1\frac{1}{4}$ "
LENGTH OF DIAL CORD APPROX. 86"
STRINGING TO START AT 'A' AND TO
FOLLOW DIRECTION OF ARROWS.

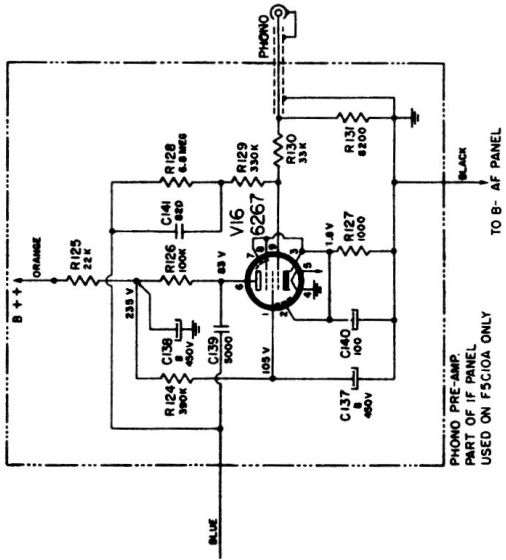
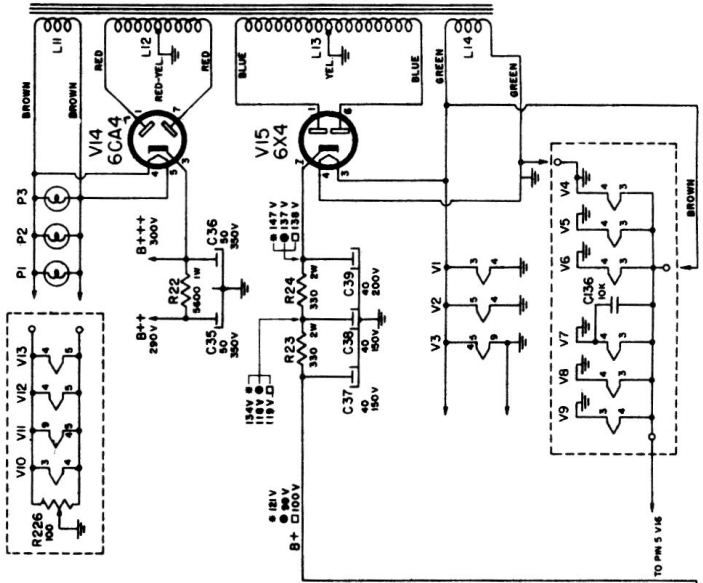
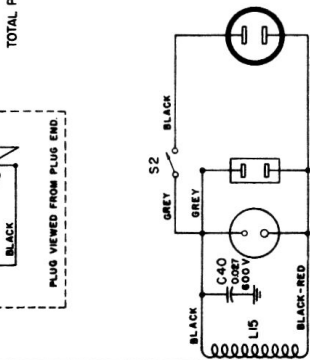
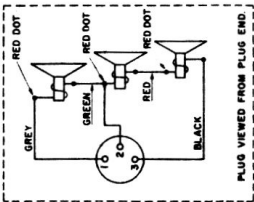
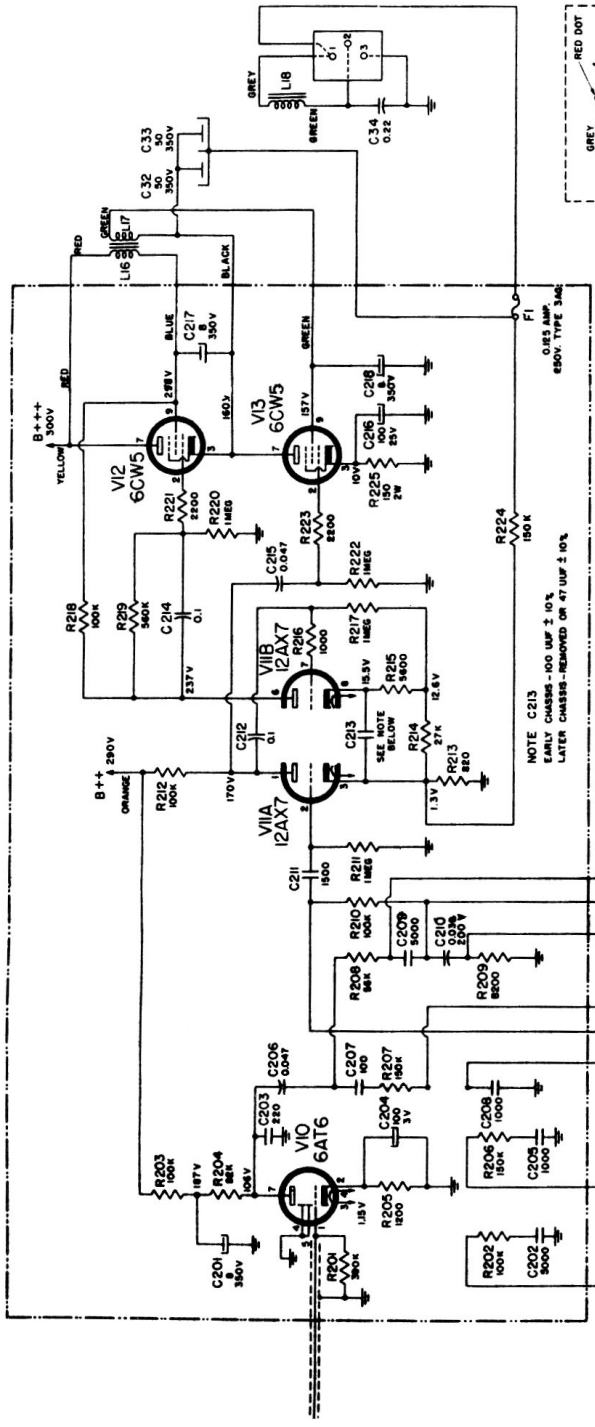
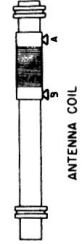
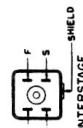
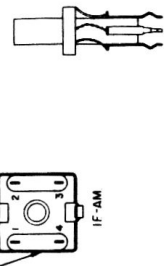


NOTES
 ARROWS INDICATE CLOCKWISE ROTATION OF SHAFTS.
 RESISTOR VALUES INDICATED IN OHMS K-1000 OHMS,
 MEG-1000000 OHMS, CAPACITOR VALUES —(—) INDICATED IN
 MICROFARADS, —(—) INDICATED IN MICROFARADS.
 S1 SWITCH FUNCTIONS (SHOWN IN POSITION 1)
 POSN 1 AUXILIARY
 2 PHONO
 3 AM
 4 FM
 5 FM (AFC DEFEAT)
 B+ INDICATED BY *
 INDICATED BY •
 INDICATED BY □
 B+, B++ AND B+++ VOLTAGES MEASURED TO GROUND
 WITH A 20 000 OHMS PER VOLT METER.

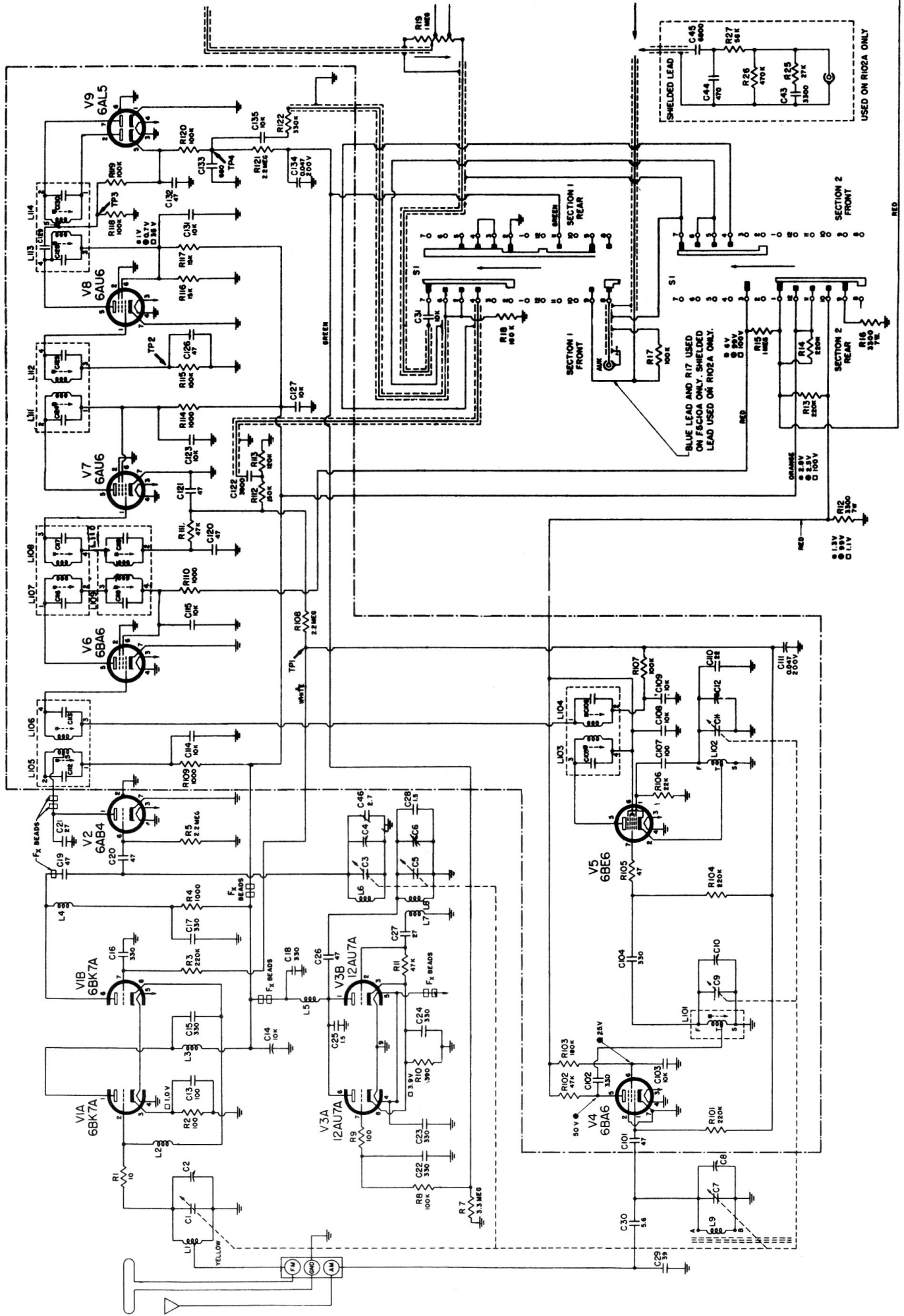


IF-AM
 PART NO. STAMPED ON THIS SIDE

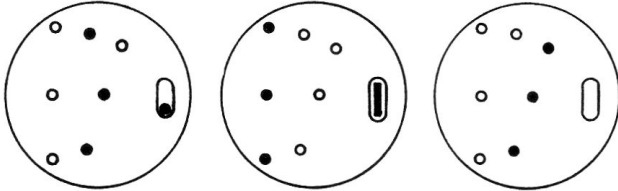
AM OSCILLATOR



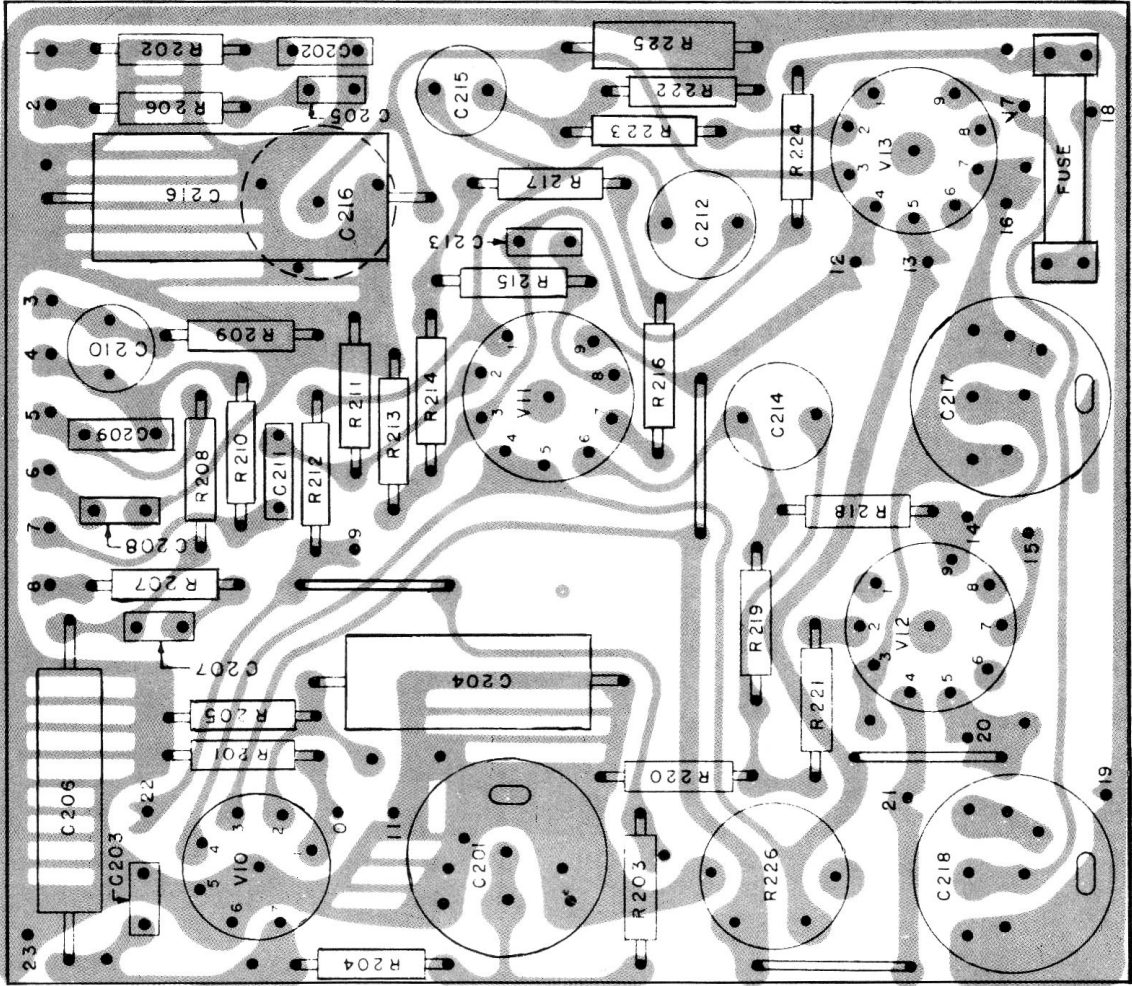
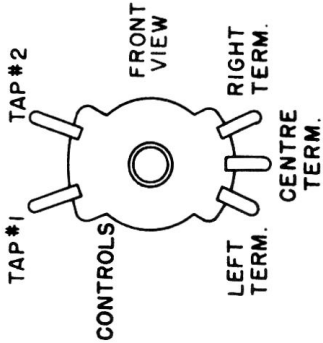
PHONO PRE-AMP.
 PART OF IF PANEL
 USED ON F5C10A ONLY



HOLE GROUPINGS USED FOR
ALTERNATE TYPES OF
ELECTROLYTIC CAPACITORS



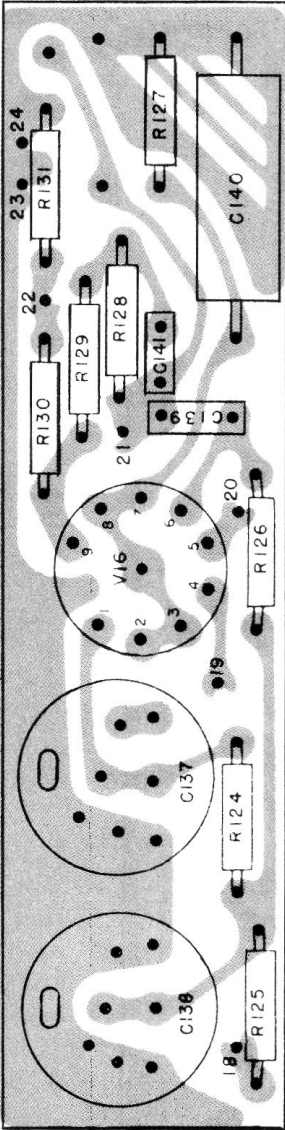
JUMPER CONNECTION



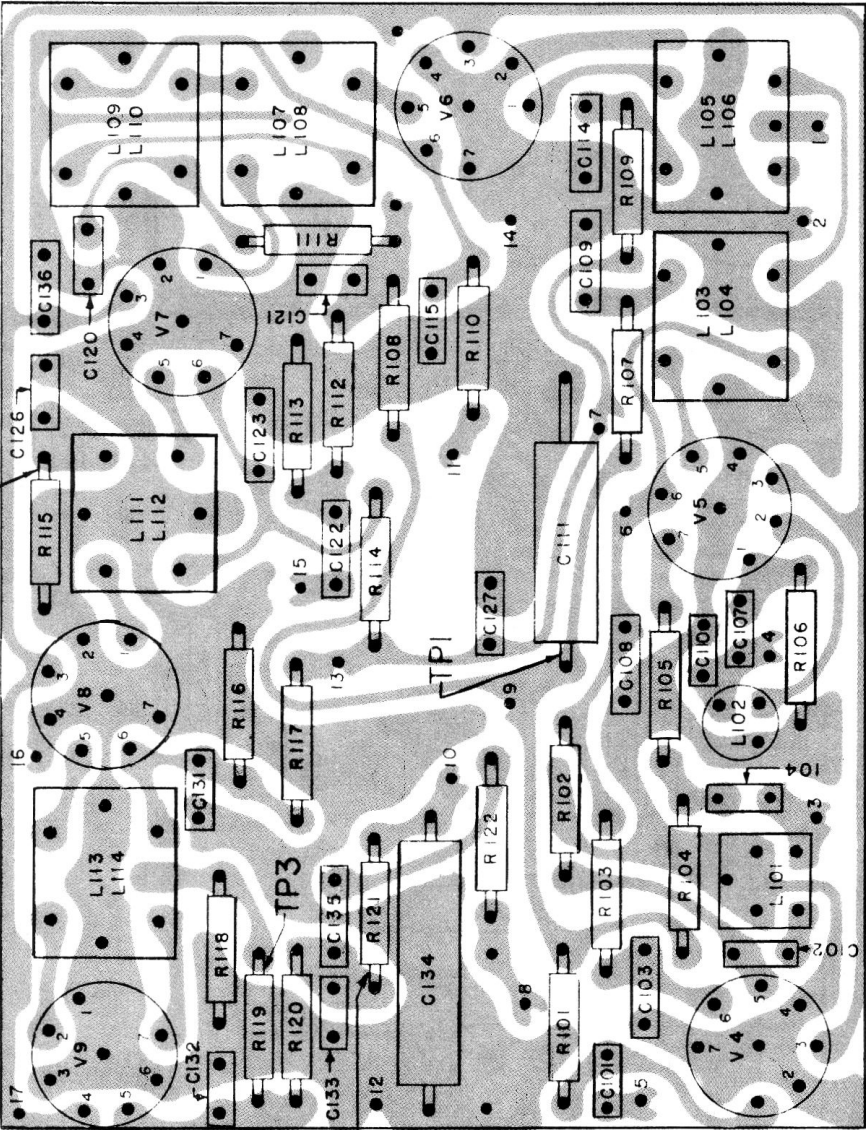
A.F. PANEL

A.F. PANEL

TERM	WIRE COLOR	DESTINATION
1	WHITE	LOUDNESS CONTROL TAP #1
2	WHITE	LOUDNESS CONTROL TAP #2
3	WHITE	BASS CONTROL LEFT TERM.
4	WHITE	BASS CONTROL CENTRE TERM.
5	WHITE	BASS CONTROL RIGHT TERM.
6	WHITE	TREBLE CONTROL LEFT TERM.
7	WHITE	TREBLE CONTROL CENTRE TERM.
8	WHITE	TREBLE CONTROL RIGHT TERM.
9	ORANGE	B ++
10	SHIELDED	LOUDNESS CONTROL CENTRE TERM.
11	SHIELD	LOUDNESS CONTROL LEFT TERM.
12	BROWN	6.3 VOLTS POWER TRANS.
13	BROWN	6.3 VOLTS POWER TRANS.
14	BLUE	DOUBLE CHOKE
15	YELLOW	B +++
16	BLACK	DOUBLE CHOKE AND OUTPUT ELCO.
17	GREEN	DOUBLE CHOKE
18	GREY	SPEAKER SOCKET
19	BARE	GROUND
20		
21		
22	BLACK	TO TERM. #24 OF PREAMP I.F. PANEL
23	ORANGE	TO TERM. #18 OF PREAMP I.F. PANEL



TP2



TP4

I. F. AND PREAMP. PANEL		
TERM	WIRE COLOR	DESTINATION
1	BLUE	PIN #1 6AB4
2	BARE	GROUND
3	CLEAR	TUNING CAPACITOR C9
4	CLEAR	TUNING CAPACITOR C11
5	CLEAR	TUNING CAPACITOR C7
6	RED	FUNCTION SWITCH SECTION 2 CONTACT 10
7	ORANGE	RF CHOKE L3
8	SHIELDED	FUNCTION SW. SECTION 1 CONTACTS 5 & 6
9	WHITE	R3
10,	GREEN	JUNCTION R7 & R8
11	RED	FUNCTION SW SECTION 2 CONTACT 3
12	BARE	GROUND
13	ORANGE	FUNCTION SW. SECTION 2 CONTACTS 11 & 12
14	SHIELD	FUNCTION SW. SECTION 2 CONTACT 4
15	SHIELDED	FUNCTION SW SECTION 1 CONTACT 4
16	BARE	GROUND
17	BROWN	TO TERM. #20 PREAMP
18	ORANGE	TO TERM. #23 A.F. PANEL
19	BLACK	GROUND (RIGHT SKIRT)
20	BROWN	TO TERM. #17 I.F. PANEL
21	BLUE	FUNCTION SW SECTION 1 CONTACT 9
22	SHIELDED	PHONO JACK
23	SHIELD	
24	BLACK	TO TERM. #22 A.F. PANEL

I.F. AND PREAMP. PANEL

record changer AG1014

DESCRIPTION

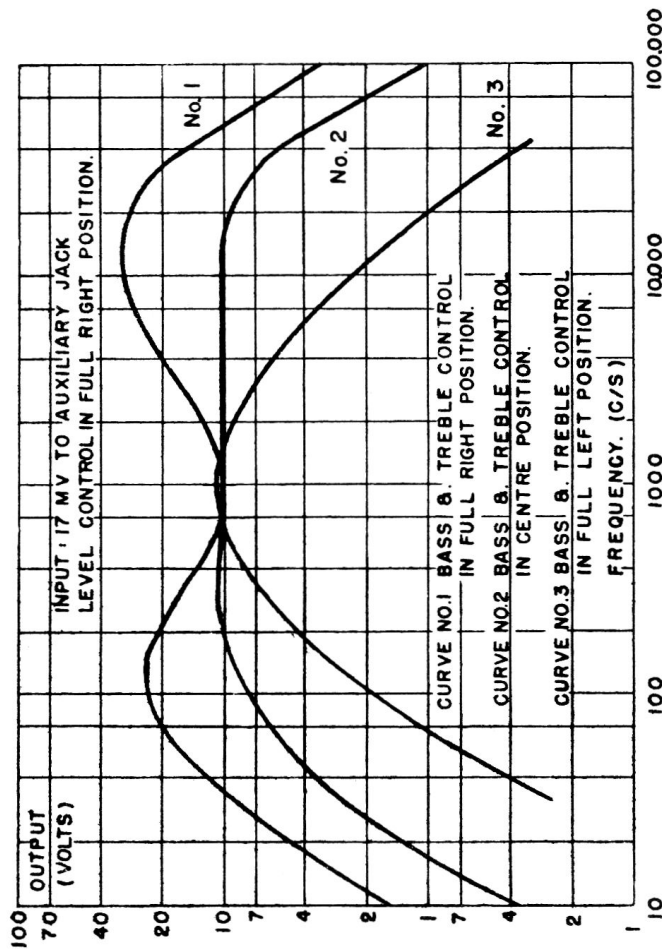
Models F5C10A and R102A are High Fidelity Radio-Phonograph combinations consisting of an AM-FM superheterodyne radio tuner combined with a High Fidelity 8 watt audio amplifier, an automatic record changer and three high impedance loudspeakers with matching crossover unit. By using high impedance loudspeakers, the usual audio output transformer is eliminated.

The Radio Phonograph combination is provided with an auxiliary audio input and a convenience outlet (1 Amp. rating) to be used with a tape recorder or other device.

TESTING OF AUDIO SECTION

The operation of the amplifier may be checked by using a dummy load consisting of two, 10 W, 800 ohm resistors as indicated on the Schematic Diagram.

For 8 watt output the voltage across the total load is 80 V r.m.s. The frequency response of the amplifier may be checked by connecting a signal generator to the auxiliary input jack with the function switch in the auxiliary position and the loudness control in the full right position. The audio a-c voltmeter must be connected to the speaker terminals 1 and 3 (See Schematic Diagram: Dummy Load).



(Audio frequency response)

Note:

The a-c voltmeter used should be capable of measuring accurately up to at least 10 kc., otherwise incorrect reading may be obtained for the middle range and higher audio frequencies.

When replacing the first audio frequency amplifier tube 6AT6, it may be necessary to readjust the hum control.

The hum control must be adjusted for minimum output across or from the low frequency speakers (2 x AD3800B) with the loudness and bass controls in the full right position, the function switch in auxiliary position, no connection to auxiliary input.

ALIGNMENT OF TUNER SECTION

For Alignment and Test Points:

Refer to diagram for tube location and alignment. (344-507)

Refer to diagram for location of test points, layout of components, printed wiring panels. (344-539)

A.M. Band

The RF signal generator must be capable of supplying modulated RF frequencies from 450 kc to 1640 kc.

The output indicator may be connected across the dummy load as indicated on the

Schematic Diagram (do not exceed 20 V (500 mW) during alignment) or a VTVM may be connected to TP1 (do not exceed 2 volts during alignment).

With the gang tuning capacitor at its maximum capacitance point (rotor fully closed) the dial pointer must correspond to the index mark on the low frequency end of the alignment scale.

A.M. Band I.F. Amplifier Alignment 455 Kc.

1. Turn the tuning knob until the pointer is at 1500 on the dial scale.

2. Set the RF signal generator at 455 kc. and connect the direct output through a 0.05 μ F capacitor to the stator lug of C 10.

3. Adjust L109, L110, L103 and L104 in that order to obtain maximum output.

A.M. Band Oscillator and RF Amplifier Alignment

1. Turn the tuning knob until the pointer is at 1500 on the dial scale.

2. Set the RF signal generator at 1500 kc. and connect the direct output through a 0.05 μ F capacitor to the stator lug of C8.

3. Adjust C6, then C10 for maximum output.

4. Set the generator at 600 kc. and tune in the signal on the receiver.

5. Adjust L2 for maximum output.

6. Set the generator at 1500 kc. and tune in the signal on the receiver.

7. Readjust C10 for maximum output.

A.M. Band Antenna Circuit Alignment

1. Turn the tuning knob until the pointer is at 1500 on the dial scale.

2. Adjust C8 for maximum noise output.

F. M. Band Instruments Required and General Instruction

R. F. Signal generator for 10.6, 10.7 and 10.8 M/c.
 R. F. Signal generator 88 to 108 Mc. Total output impedance to be 300Ω tolerance 10%.
 If generator output impedance is less than 300Ω, connect a resistor, of the proper value, in series with the "hot" terminal.
 Example:
 If the generator output impedance is 55Ω, the correct series resistor would be 245Ω.
 In this case either a 220Ω or 270Ω resistor may be used. Modulation of R. F. generators is not required but may be frequency modulated 30%, (deviation 22.5 Kc) 400 c. or 1000 c.
 V. T. V. M. with a one megohm resistor connected in series with the "hot" terminal at or near the end of the probe.
 During adjustments, except for I. F. items 10 and 11, the voltage indicated by the V. T. V. M. is to be between 1.7 and 2 volts. Reduce the output of the signal generator as required to obtain this condition.

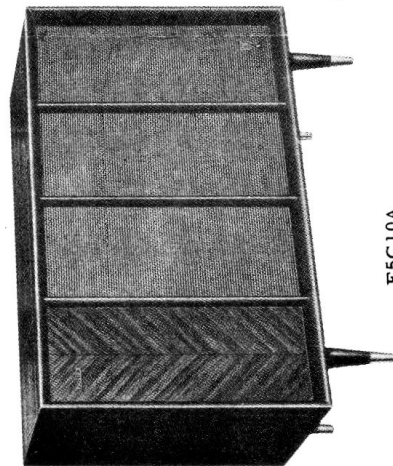
F. M. Band Alignment 10.7 M/c.

1. Connect the signal generator between C4 and the tuning capacitor frame and turn the dial pointer to approximately 108 M/c.
2. Connect the V. T. V. M. between TP2 and chassis.
3. Turn the cores of L112 and L108 about three turns to the left.
4. Set the signal generator at 10.7 Mc and adjust L111, L107, L105 and L106 for peak as indicated by the V. T. V. M.
5. Set the signal generator at 10.6 M/c and adjust for peak L112 only.
6. Set the signal generator at 10.8 M/c and adjust for peak L108 only.
7. Repeat 4, 5 and 6 until no further improvement can be obtained.
8. Leave the generator output as in 7 above and note the voltage indicated by V. T. V. M. when 10.6 and 10.8 M/c signals are applied. If the voltages for 10.6 and 10.8 M/c signal are within 0.2 volts, no further adjustment is necessary. Should the voltage difference exceed 0.2 volts, readjust L106 to obtain the best balance. If the voltages for 10.6 and 10.8 M/c signals are now within 0.2 volts, no further adjustment is necessary. Should the voltage difference still exceed 0.2 volts, apply 10.7 M/c signal and readjust L111, L107, L105 for peak indication.
9. If necessary, recheck steps 3 to 8 inclusive.
10. Set the signal generator to 10.7 M/c and leave its output as in 7 above. Connect V. T. V. M. to TP3. Adjust L113 for maximum peak indication of the V. T. V. M.
11. Connect the V. T. V. M. to TP4, generator as in 10 above. Adjust L114 for zero indication of the V. T. V. M.

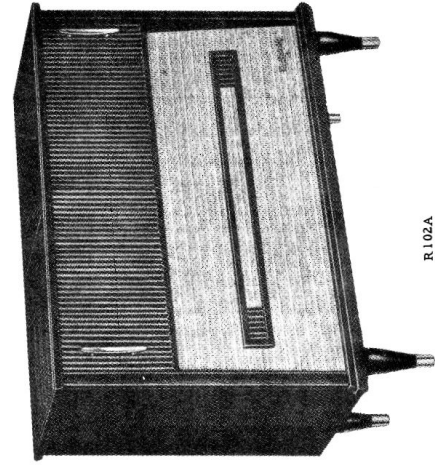
F. M. Band R. F. Alignment 88 to 108 Mc.

1. Turn the adjustment screws of C4 and C2 to nearly tight.
2. Connect signal generator (with proper series resistor, see general instructions) to FM antenna and ground terminals.
3. Connect V. T. V. M. between TP2 and chassis.
4. Turn receiver dial pointer to 106 M/c and set signal generator at 106 M/c. Adjust C6 for peak as indicated by V. T. V. M.

5. Turn receiver dial pointer to 90 M/c and set signal generator at 90 M/c. Adjust L8 by squeezing or spreading the turns for peak indication of V. T. V. M.
6. Repeat 4 and 5 until 106 M/c and 90 M/c signals can be tuned in at 106 M/c and 90 M/c on the alignment scale.
7. Turn receiver pointer to 106 M/c and set signal generator at 106 M/c. While rocking the tuning capacitor, adjust C4 for peak.
8. Turn receiver pointer to 90 M/c and set signal generator at 90 M/c. While rocking the tuning capacitor, adjust L6 by squeezing or spreading the turns, for peak.
9. Repeat 7 and 8 until no improvement can be obtained.
10. Set signal generator at 106 M/c., tune in signal on receiver. If signal is not at 106 M/c. on alignment scale, turn pointer to 106 M/c. and slightly readjust C6 and C4.
11. With dial pointer and signal generator at 106 M/c., adjust C2 for peak.
12. Set signal generator at 90 M/c. Tune in signal on receiver and adjust L1 by squeezing or spreading the turn, for peak.
13. Repeat 11 and 12 until no improvement can be obtained.



F5C10A



R102A