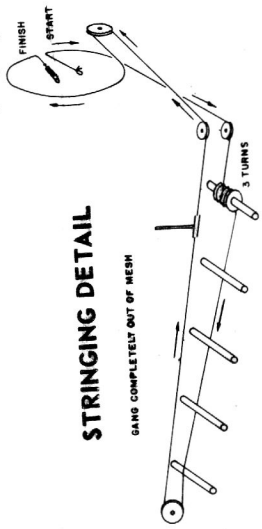


00-174-01  
PART 01

## AM-FM TUNER



### STRINGING DETAIL

GANG COMPLETELY OUT OF MESH

**LEGEND**  
**RESISTORS**  
 HALF WATT UNLESS OTHERWISE NOTED  
 20% TOL. 1% TOL.  
 M-1,000,000 OHMS

**CAPACITORS**  
 TUBULAR CAPACITY IN  $\mu$ F AND D.C.W.V.  
 CURVED LINE, OUTSIDE TOL.  
 ELECTROLYTIC CAPACITY IN  $\mu$ F, AND D.C.W.V.  
 CAPACITORS WITH NO  
 DESIGNATION OUTSIDE OF SQUARES WITH NO  
 CAPACITY IN  $\mu$ F, TOL. IF CRITICAL, AND D.C.W.V.  
 NPO - NEG. POS. ZERO  
 N4700 - TEMP. COMPENSATION

SPECIAL CAPACITORS SUCH AS TEMPERATURE  
 COMPENSATED TYPES ARE IDENTIFIED BY A  
 NOTE AT CAPACITOR LOCATION.

\* M-MICA  
 \* M-PP  
 \* NPO - NEG. POS. ZERO  
 \* N4700 - TEMP. COMPENSATION

TO USE LONG WIRE AM ANTENNA  
 REMOVE JUMPER BETWEEN #1 AND 0"

AM ANC  
 AND FMV  
 GROUND ON FM  
 6.3V  
 AT 100V AC

LONG WIRE  
 ANTENNA  
 100V

LOW  
 RESISTANCE  
 LOOP

AM CONVERTER  
 6BE6

FM 3rd IF 2nd LIM.  
 6AU6A

FM 2nd IF - 1st LIM.  
 6BA6

FM RATIO DET.  
 6AL5

VI  
**ECC85/6AQ8**  
 FM RF & CONVERTER

V2  
 6AU6A  
 FM 3rd IF

V3  
 6BA6  
 AM-FM 2nd IF - 1st LIM.

V4  
 6AU6A  
 FM 3rd IF 2nd LIM.

V5  
 6AL5  
 FM RATIO DET.

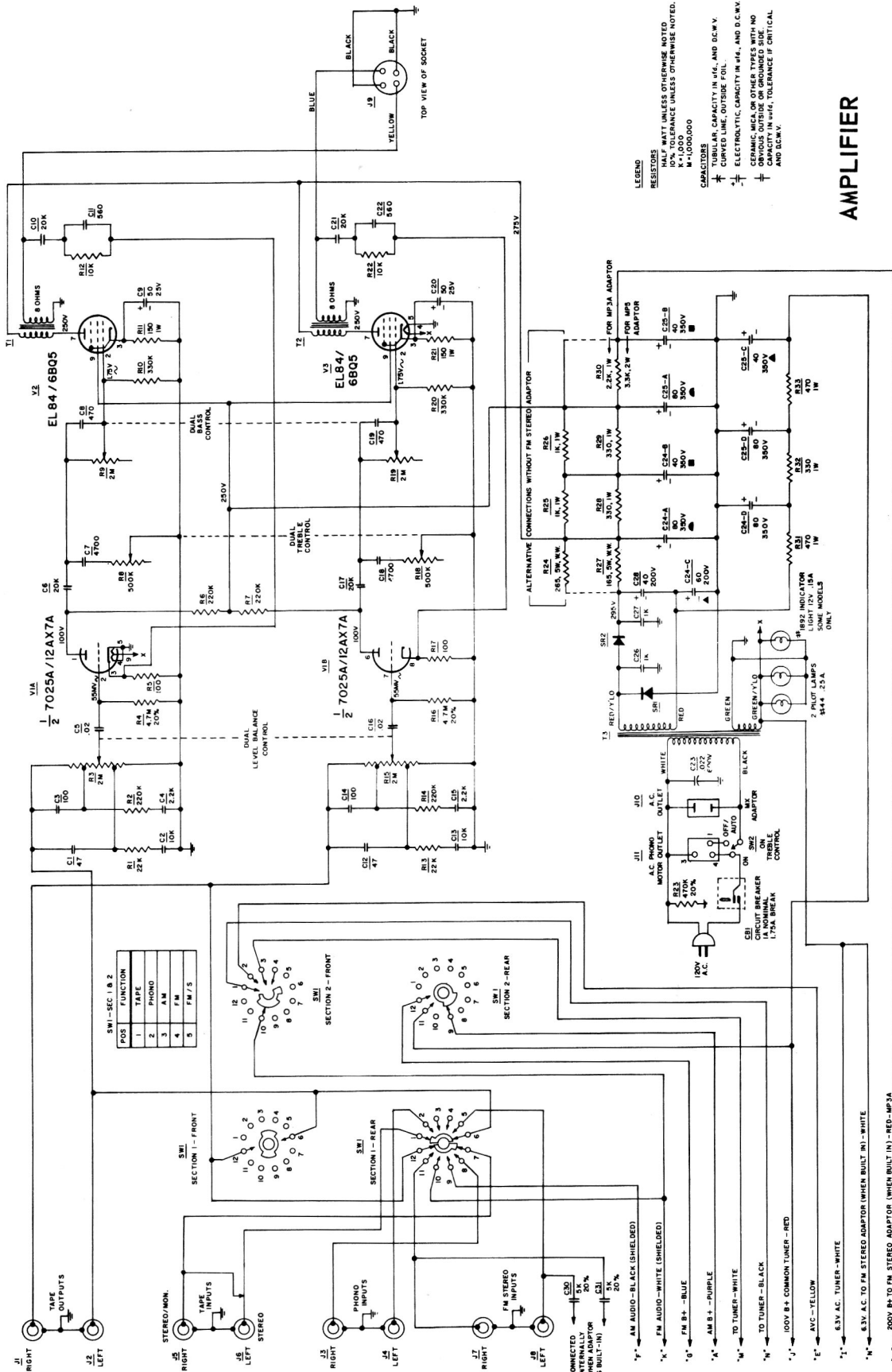
V6  
 6BE6  
 AM CONVERTER

### AM-FM TUNER ALIGNMENT PROCEDURE

STEP	DUMMY ANTENNA	SIGNAL APPLIED TO	FREQ.	MODULATION	BAND SWITCH SETTING	DIAL POINTER SETTING	INDICATING METER	ADJUST	REMARKS	NOMINAL SENSITIVITY
1	.05 uf	Pin #1 V3 6BA6	455 Kc/s	400 C.P.S. AM at 30%	AM	600 Kc/s	AC-VTVM To Point "I"	T7 2nd AM-IF	Adjust for maximum output	3000 uv. for 70 Mv. output
2	.05 uf	Pin #7 V6 6BE6	455 Kc/s	400 C.P.S. AM at 30%	AM	600 Kc/s	AC-VTVM To Point "I"	T5 1st AM-IF	Adjust for maximum output	100 uv. for 70 Mv. output
3	200 uuf	AM Ant. Term. Strip #1	600 Kc/s	400 C.P.S. AM at 30%	AM	600 Kc/s	AC-VTVM To Point "I"	T10 and T9 AM-Osc. & AM Ant.	Connect for long wire ant. Adjust for Max. output***	35 uv. for 70 Mv. output
4	200 uuf	AM Ant. Term. Strip #1	1400 Kc/s	400 C.P.S. AM at 30%	AM	1400 Kc/s	AC-VTVM To Point "I"	C2D and C2B Trimmers	Connect for long wire ant. Adjust for Max. output***	45 uv. for 70 Mv. output
5	Repeat steps 3 and 4, check band coverage at 535 Kc/s - 1650 Kc/s and for tracking at 950 Kc/s.									
6	—	Pin #1 V3 6BA6	10.7 Mc/s	Nil	FM	Point of no inter- ference	DC-VTVM To Point "K"	T6, 3rd. FM-IF	Adjust for maximum meter deflection	10000 uv. for 1V output
7	—	Pin #1 V3 6BA6	10.7 Mc/s	Nil	FM	Point of no inter- ference	DC-VTVM To MX Output	T8 FM Ratio Det. Primary (Bo.t)	Adjust for maximum meter deflection	1250 uv. for 1V output
8	—	Pin #1 V3 6BA6	10.7 Mc/s	Nil	FM	Point of no inter- ference	DC-VTVM To MX Output	T8 FM Ratio Detector Sec'dary (Top)	Adjust for zero voltage. NOTE**	—
9	—	Pin #1 V2 6AU6A	10.7 Mc/s	Nil	FM	Point of no inter- ference	DC-VTVM To Point "K"	T4 2nd FM-IF	Adjust for maximum meter deflection	160 uv. for 1V output
10	—	C1A FM Gang	10.7 Mc/s	Nil	FM	Point of no inter- ference	DC-VTVM To Point "K"	T3, 1st. FM-IF	Adjust for maximum meter deflection	—
11	NOTE *	FM Ant. Term. Strip	90 Mc/s	400 C.P.S. FM 22.5 Kc/s Dev.	FM	90 Mc/s	AC-VTVM To Point "H"	T2 Slug and L3 coil	Adjust for maximum output	3 uv. for 200 Mv. output
12	NOTE *	FM Ant. Term. Strip	106 Mc/s	400 C.P.S. FM 22.5 Kc/s Dev.	FM	106 Mc/s	AC-VTVM To Point "H"	C1D and C1B Trimmers	Adjust for maximum output	3 uv. for 200 Mv. output
13	Repeat steps 11 and 12 until output drops at least 20 db. when mod. is turned off.									
NOTE: To achieve more accurate alignment of FM IF's and ratio detector it is preferable to use a proper sweep generator and oscilloscope.										

\* For FM dummy antenna connect one 150 ohm carbon resistor from grounded side of sig. gen. to antenna terminal and one 120 ohm carbon resistor from hot side of signal generator to antenna terminal.  
 \*\* With ground lead of DC VTVM connected to two 100 K resistors. To be temporarily connected in series across C31 (4 ufd CAP)  
 \*\*\* For AM-RE alignment purpose. The low impedance loop, installed in the cabinet or its electrical equivalent must be connected to the set as shown in the schematic.

NOTE: Input to set is one half, output reading of signal generator.



**LEGEND**

**RESISTORS**  
 HALF WATT UNLESS OTHERWISE NOTED  
 1/4 WATT UNLESS OTHERWISE NOTED  
 K=1,000  
 M=1,000,000

**CAPACITORS**  
 TUBULAR CAPACITY IN  $\mu$ F. AND DC W.V.  
 CERAMIC CAPACITORS FOR  
 ELECTROLYTIC CAPACITY IN  $\mu$ F. AND DC W.V.  
 CERAMIC MICA OR OTHER TYPES WITH NO  
 CAPACITY IN  $\mu$ F. TOLERANCE IF CRITICAL  
 AND DC W.V.

### AMPLIFIER

SW1 - SEC 1 & 2

POS	FUNCTION
1	TAPE
2	PHONO
3	FM
4	FM
5	FM / S

- "Y" - AM AUDIO - BLACK (SHIELDED)
- "X" - FM AUDIO - WHITE (SHIELDED)
- "0" - FM B+ - BLUE
- "A" - AM B+ - PURPLE
- "M" - TO TUNER - WHITE
- "N" - TO TUNER - BLACK
- "J" - 100V B+ COMMON TUNER - RED
- "E" - AVC - YELLOW
- "I" - 6.3V AC. TUNER - WHITE
- "K" - 6.3V AC. TO FM STEREO ADAPTOR (WHEN BUILT M1) - WHITE
- "L" - 200V B+ TO FM STEREO ADAPTOR (WHEN BUILT IN) - RED - MP3A
- "M" - 175V B+ TO FM STEREO ADAPTOR (WHEN BUILT IN) - RED - MP5

(CONNECTED INTERNALLY WHEN ADAPTOR IS BUILT-IN)

20% 5% 20% 20%

100V A.C.

250V 1.75A CIRCUIT BREAKER

250V 20% CAPACITOR

