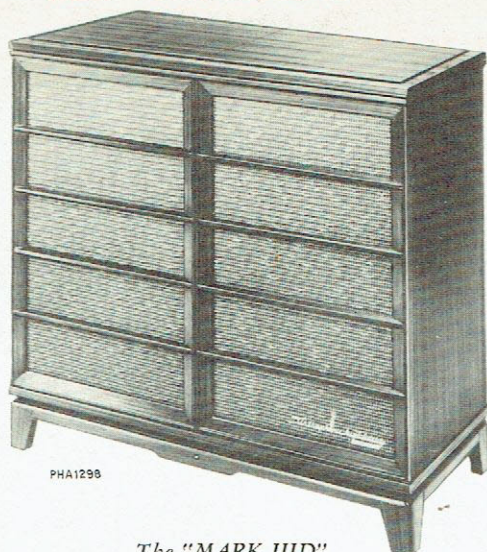


AMERICAN RADIO CO., INC.
445 PARK AVENUE
NEW YORK 22, N. Y.



RCA VICTOR



PHA1298

The "MARK IIID"
Model 7-HFR-1
Mahogany or Light Oak

High-Fidelity Combination

MODEL 7-HFR-1

Tuner/Amp. Chassis No. RC-1168

Tape Rec. Chassis No. RS-161

Record Changer RP-205-5

Tape Recorder TR-2-5

SERVICE DATA

- 1956 No. 26 -

PREPARED BY COMMERCIAL SERVICE
RCA SERVICE CO., INC.
CAMDEN 8, N. J.

FOR

RADIO CORPORATION OF AMERICA

RCA VICTOR RADIO AND "VICTROLA" DIVISION

SPECIFICATIONS

TUNING RANGE

Standard Broadcast (AM) 540-1,600 kc.
Frequency Modulation (FM) 88-108 mc.

TUBE COMPLEMENT

Tuner/Amplifier Chassis RC-1168

- (1) RCA 6CB6 R.F. Amplifier
- (2) RCA 6X8 Mixer & Oscillator
- (3) RCA 6BA6 I.F. Amplifier
- (4) RCA 6AU6 2nd F.M. I.F. Ampl.
- (5) RCA 6AU6 3rd F.M. I.F. Ampl.
- (6) RCA 6AL5 Ratio Detector
- (7) RCA 6AV6 A.M. Det.—AVC
- (8) RCA 6AL7-GT Tuning Eye
- (9) RCA 5Y3GT Rectifier
- (10) RCA 6CG7 Two-Stage A.F. Ampl.
- (11) RCA 6CG7 A.F. Amp. & Phase Splitter
- (12) RCA 6V6GT Output
- (13) RCA 6V6GT Output

Tape Recorder Chassis RS-161

- (1) RCA 12AX7 A.F. Amplifier
- (2) RCA 12AU7 A.F. Amplifier
- (3) RCA 6CG7 Oscillator
- (4) RCA 6X4 Rectifier
- (5) RCA 6E5 Rec. Level Ind.

RECORD CHANGER (RP-205-5)

Turntable speed 16 $\frac{2}{3}$, 33 $\frac{1}{3}$, 45 or 78 r.p.m.
Record capacity Up to fourteen 7 inch or
twelve 10 inch or
ten 12 inch or
ten 10 inch and 12 inch intermixed
Pickup Stock No. 103422 Ceramic

AUDIO POWER OUTPUT

10 watts With less than 1 $\frac{1}{2}$ % distortion
15 watts Maximum

TUNING DRIVE RATIO 7 $\frac{1}{2}$:1 (3 $\frac{3}{4}$ turns of knob)

LOUDSPEAKERS

One 12" PM "woofer" 6-8 ohms @ 400 cycles
Two 3 $\frac{1}{2}$ " PM "tweeters" 6-8 ohms @ 3000 cycles

CABINET DIMENSIONS

Height, 35" Width, 37" Depth, 17 $\frac{1}{8}$ "

POWER SUPPLY RATING

115 volts, 60 cycles, 250 watts (includes record changer and tape recorder).

DESCRIPTION

The "MARK IIID" is a high-fidelity combination instrument consisting of a tuner/amplifier, record changer, tape recorder and three speakers all in one cabinet.

The tuner/amplifier incorporates a tuned r.f. stage, mixer/oscillator, one stage of AM i.f. amplification and three stages of FM i.f. amplification. Audio amplification consists of three AF amplifier stages, phase splitter and push-pull output on all four functions. Inverse feed-back, applied to the third AF amplifier, is derived from a tapped resistive output load. The circuit is designed to enable tape recordings to be made from either radio programs or records. The program being recorded can be monitored on the speakers. A type

6AL7-GT tuning eye is used for accurate tuning on both AM and FM.

One 12-inch wide-range speaker and two 3 $\frac{1}{2}$ -inch speakers are used for wide acoustic range and panoramic sound distribution.

The four-speed record changer is housed in a roll-out drawer. It utilizes a ceramic dual-stylus pickup in a die-cast aluminum pickup arm.

The high-fidelity tape recorder is housed in a top-opening compartment. Features include: tuning eye for recording level indication, pushbutton controls, two-speed operation and easy loading. Recording level can be set when tape is not in motion.

Tmks. ® Reg. U. S. Pat. Off.

First Edition—First Printing 11-1-56

Printed in U. S. A.

ALIGNMENT PROCEDURE

Alignment Sequence

Due to the use of separate I.F. transformers, there is little interaction between the 10.7 mc. and the 455 kc. adjustments. There is a slight interaction of adjustments on the tuning condenser between AM and FM.

If a large amount of adjustment is required of any circuit, all others should be checked in the following order:

- FM I.F.
- AM I.F.
- AM Osc., ant. and r.f.
- FM Osc., ant. and r.f.

Final adjustment of AM ant. trimmer should be made with chassis and antenna in cabinet.

Alignment Indicators

For measuring the developed d-c voltage across R36 or R37 during FM alignment an RCA VoltOhmyst® or an equivalent meter should be used.

The RCA VoltOhmyst can also be used to indicate audio output voltage across the voice coil or developed voltage on the AVC bus.

Signal Generator

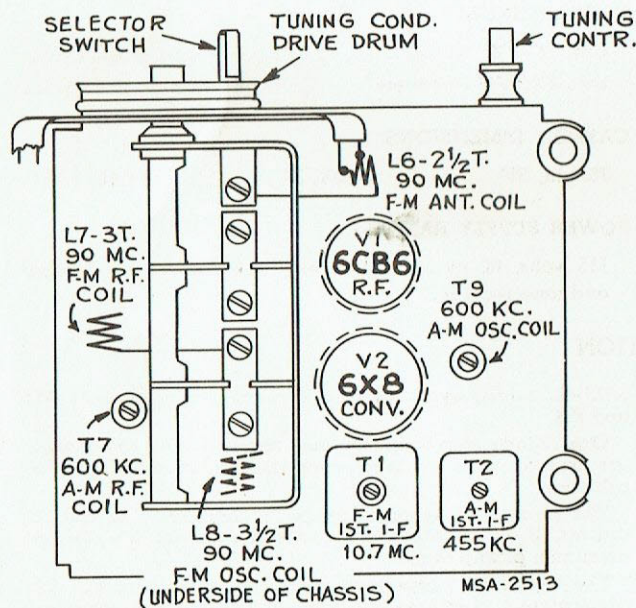
For alignment operations connect the low side of the signal generator to the receiver chassis. The output of the signal generator should always be controlled to prevent over-loading or excessive AVC action.

Oscilloscope Alignment

It is preferable to use a sweep generator and oscilloscope for aligning I.F. and R.F. circuits to obtain a visual observation of curve shape during alignment.

With FM sweep generator connected between FM ant. (#3) terminal and chassis, and oscilloscope connected between the junction of R33-C27 and chassis, the overall FM linearity may be observed. There should be a peak-to-peak separation of 250 kc. with 50,000 microvolts input.

For FM alignment of the ratio detector, connect oscilloscope to junction of R33-C27 as in alignment table, adjusting T6 top and bottom cores for 10.7 mc. crossover and balanced peaks. When aligning other FM tuned circuits, connect oscilloscope to pin #1 of V5 (3rd FM IF) and disconnect C24. Follow alignment table sequence, adjusting for maximum gain and symmetry.



FM Coil Locations

FM Alignment

RANGE SWITCH IN FM POSITION
VOLUME CONTROL MAXIMUM—TONE CONTROL CENTER

Steps	Connect high side of sig. gen. to—	Sig. gen. output	Turn radio dial to—	Adjust for peak output
1	Pin 1 of V5 6BA6 in series with .01 mfd.*	10.7 mc.	Quiet point at low freq. end	
2	Connect VoltOhmyst across R36 or R37 resistor. Adjust Sig. gen. output to give 6 volts d-c on VoltOhmyst.			T6 top core for max. d-c voltage across R36 or R37
3	Connect VoltOhmyst from chassis to junction of R33 and C27.			T6 bottom core for 0 volts d-c
4	Connect VoltOhmyst to pin #1 of V5			
5	Pin 1 of V3 6BA6 in series with .01 mfd.*	10.7 mc.	Quiet point at low freq. end	T5 top core, T3 top & bottom cores.
6	Stator of C1D in series with .01 mfd.*			T1 top and bottom cores
7	FM Ant. terminals thru 120 ohms in each side of line	90 mc.	90 mc.	Remove bottom shield. *Osc. coil L8
8		106 mc.	106 mc. signal	Replace bottom shield. C1A-T ant., C1D-T r.f.
9		90 mc.	90 mc.	**L6 ant. L7 r.f.
10	Repeat steps 7, 8 and 9 until further adjustment does not improve calibration.			

*Use ceramic disc capacitor with short leads.

†† Alternate loading may be necessary to provide accurate observation of peaks.

Alternate loading involves the use of a 270 ohm resistor to load the plate winding while the grid winding of the SAME TRANSFORMER is being peaked. Then the grid winding is loaded with the resistor while the plate winding is peaked. Only one winding is loaded at any one time. Remove the 270 ohm resistor after T3 and T1 have been aligned.

The position of the FM IF transformer screws should be noted after adjustment. These cores should be peaked with the core part way out of the coil toward the adjusting hole. It is possible to run the IF cores all the way through the FM windings and obtain a second peak. This will cause serious overcoupling and should be avoided by using a marked adjusting stick. The correct peak is always the first peak obtained when the core is started in from the "backed all the way out" position.

Incorrect peaking can seriously affect gain and bandwidth.

Extreme care should be used to avoid running the I.F. cores all the way through the winding and out the other end.

** Note: FM antenna, mixer and oscillator coils are adjustable by increasing or decreasing the spacing between turns. The location of the tap on the antenna coil is 3/8 turn from the ground end.

Oscillator frequency is above signal frequency on both AM and FM.

ALIGNMENT PROCEDURE—LEAD DRESS

AM Alignment

RANGE SWITCH IN AM POSITION

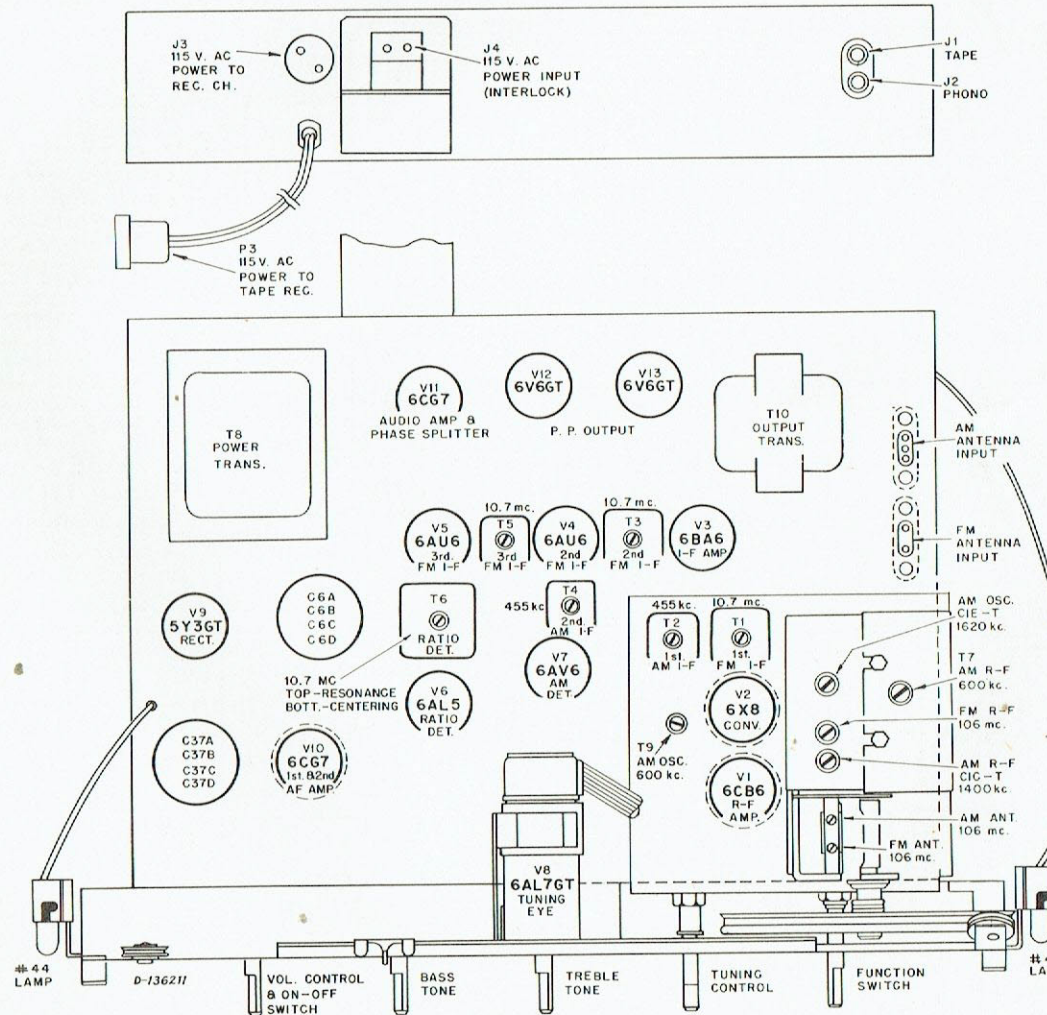
Steps	Connect high side of sig. gen. to—	Sig. gen. output (400 cy. modulation)	Turn radio dial to—	Adjust for peak output
1	Pin 1 of V3 6BA6 in series with .01 mfd.	455 kc.	Quiet point at low freq. end	T4 bottom core (pri.) T4 top core (sec.)
2	T7 term. 4 in series with .01 mfd.			T2 top core (sec.) T2 bottom core (pri.)
3		1620 kc.	High freq. end of dial (min. cap.)	C1E-T
4	AM terminal on ant. input strip	1400 kc.	1400 kc. signal	C1B-T ant. C1C-T r.f.
5		Shunt a 10,000 ohm resistor across the r.f. section of the gang.		
6		600 kc.	600 kc. signal	T9 osc. (Rock gang.)
7		Remove the 10,000 ohm resistor and peak T7 r.f. at 600 kc.		
8	Repeat 3, 4, 5, 6 and 7			

The RF transformer (T7) core screw should be adjusted on the peak position furthest removed from the coil mounting clip. An incorrect peak may sometimes be obtained with the core screw almost all the way into the clip.

The oscillator coil (T9) should be adjusted on the peak obtained with the core coming out the lug end of the coil. When adjusting from the top of the chassis, this is the peak with the core furthest into the coil.

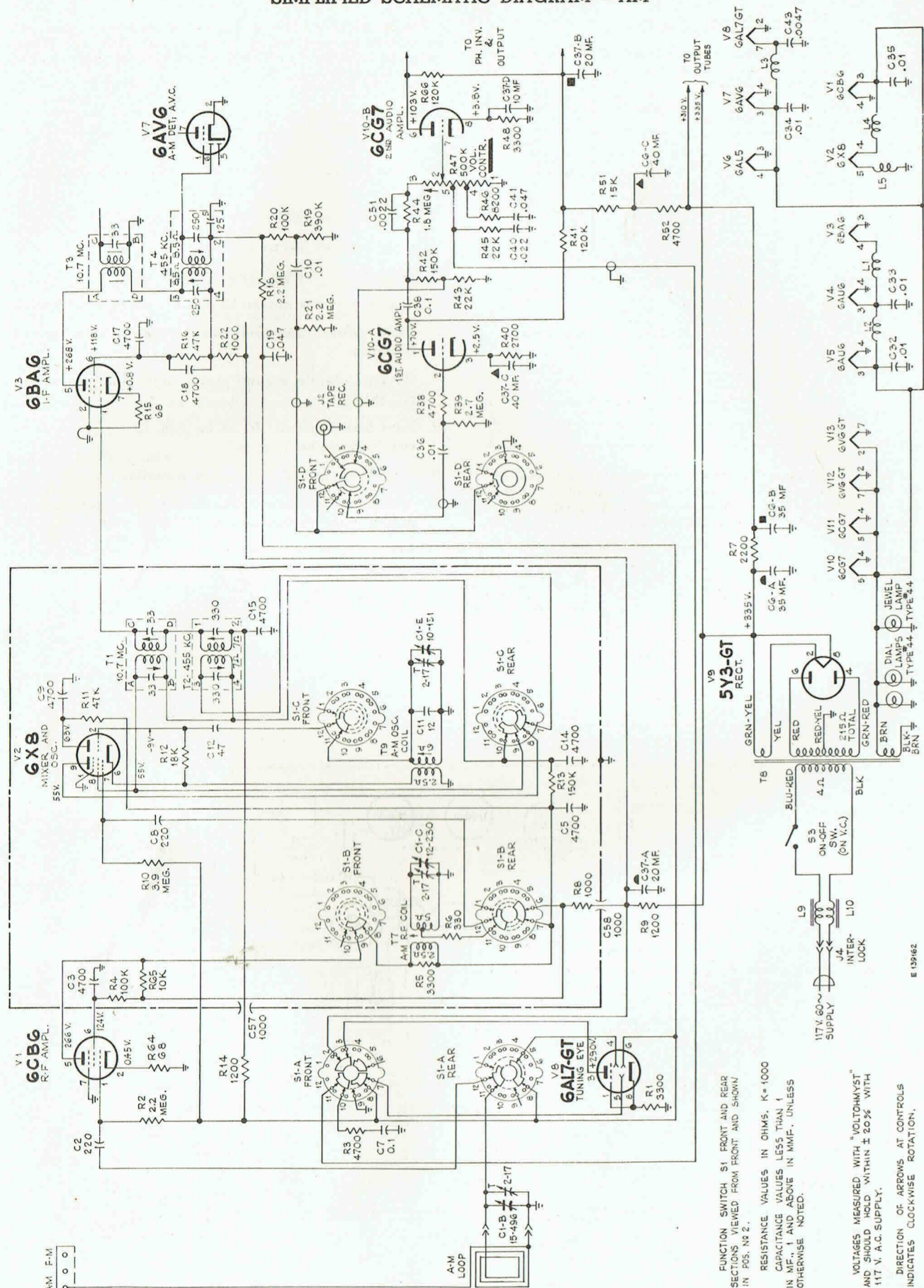
Critical Lead Dress

1. Dress R9, R30, and R61 away from chassis and all other components.
2. Dress R38 and R39 down against chassis.
3. Keep leads of R44 and C51 short.
4. Keep all I.F. bypass capacitor leads short.
5. Keep power line chokes L9 and L10 away from chassis.
6. Dress power line leads away from volume control terminals.
7. Do not relocate ground straps connecting chassis to R.F. shelf.
8. Lead from terminal "B" of 1st F.M. I.F. transformer to switch should be 3" ± 1/4".
9. Keep leads of C30 as short as possible.
10. Replace all shields securely if it has been necessary to remove them during service.



Tube and Trimmer Locations

SIMPLIFIED SCHEMATIC DIAGRAM—"AM"



Simplified Schematic Diagram—"AM" Function

FUNCTION SWITCH S1 FRONT AND REAR SECTIONS VIEWED FROM FRONT AND SHOWN IN POS. NO. 2.

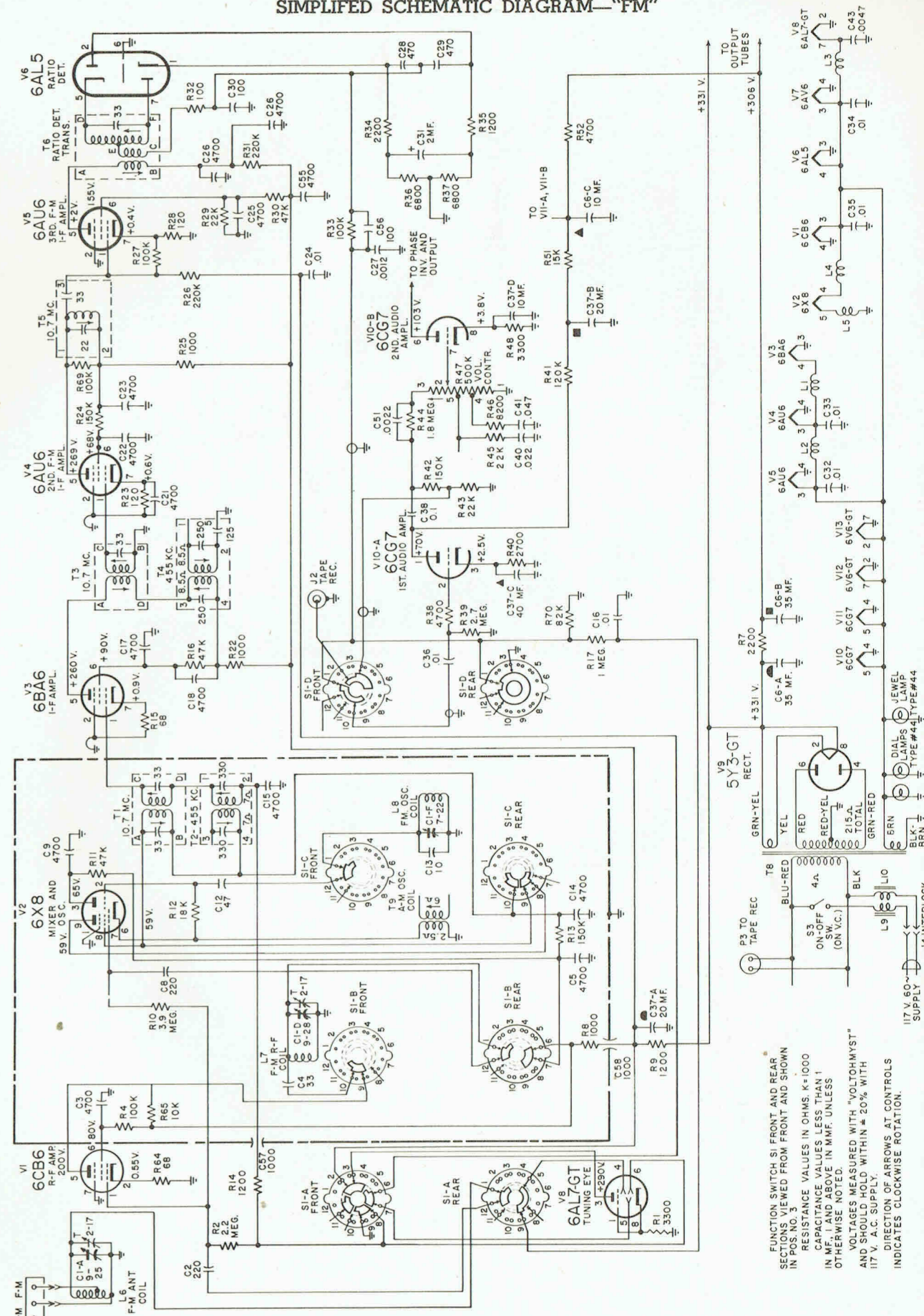
RESISTANCE VALUES IN OHMS, K=1000 CAPACITANCE VALUES LESS THAN 1 IN MF, 1 AND ABOVE IN MMF. UNLESS OTHERWISE NOTED.

VOLTAGES MEASURED WITH "VOLTOHMYST" AND SHOULD HOLD WITHIN ± 20% WITH 117 V. A.C. SUPPLY.

DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.

E-139162

SIMPLIFIED SCHEMATIC DIAGRAM—"FM"



Simplified Schematic Diagram—"FM" Function

FUNCTION SWITCH S1 FRONT AND REAR SECTIONS VIEWED FROM FRONT AND SHOWN IN POS. NO. 1.

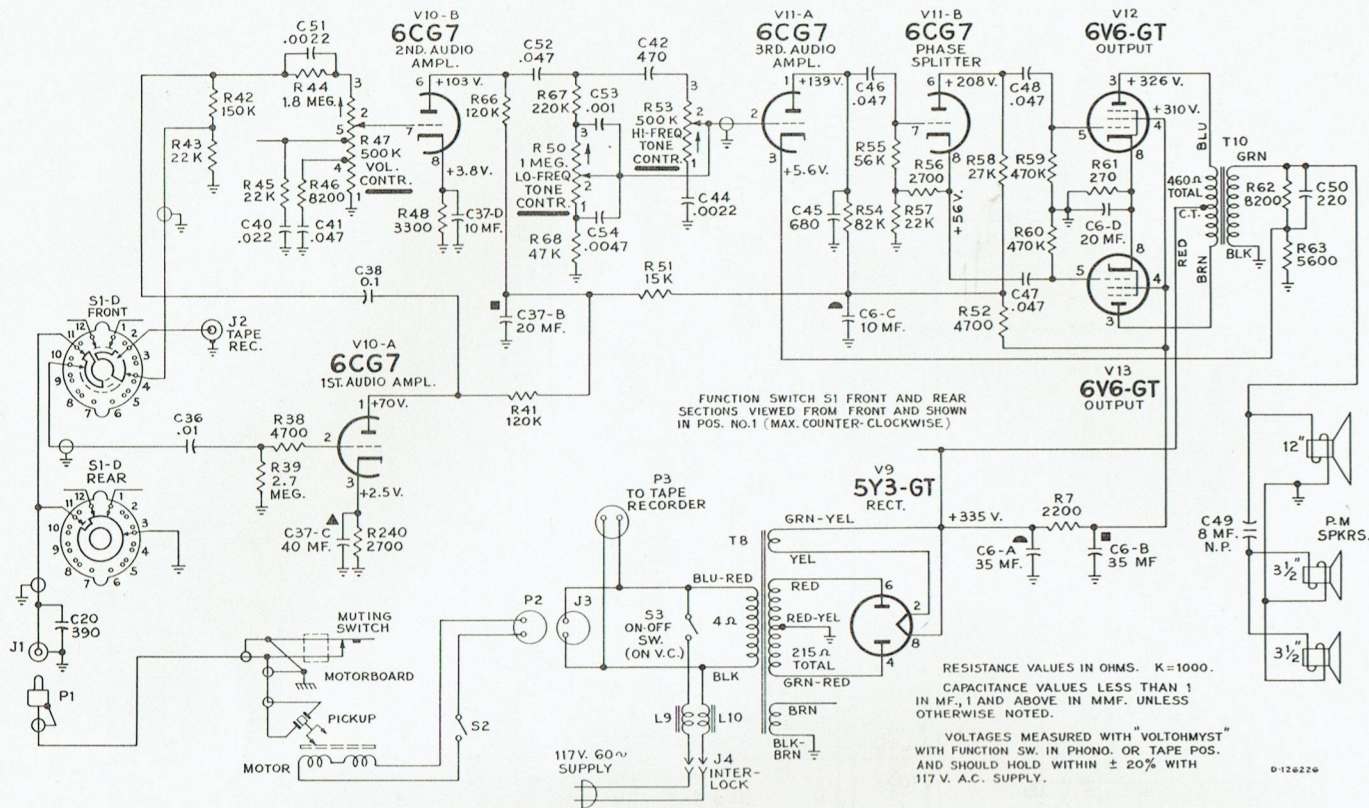
RESISTANCE VALUES IN OHMS, K=1000 CAPACITANCE VALUES LESS THAN 1 IN MF, 1 AND ABOVE IN MMF. UNLESS OTHERWISE NOTED.

VOLTAGES MEASURED WITH "VOLTOHMYST" AND SHOULD HOLD WITHIN ± 20% WITH 117 V. A.C. SUPPLY.

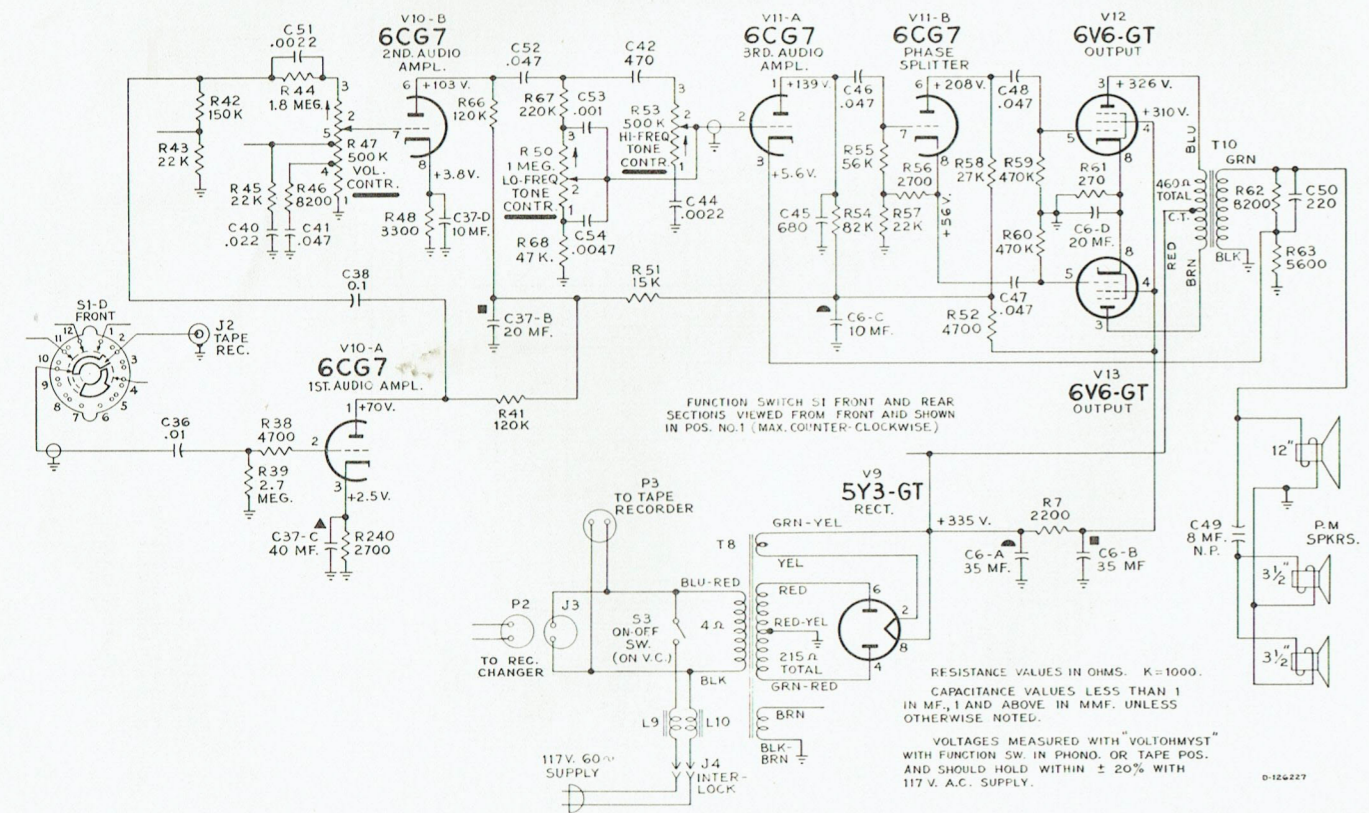
DIRECTION OF ARROWS AT CONTROLS INDICATES CLOCKWISE ROTATION.

SIMPLIFIED SCHEMATIC DIAGRAMS

RADIO CONTROLS—VOLTAGES—DIAL CORD



Simplified Schematic Diagram—"Phono" Function



Simplified Schematic Diagram—"Tape" Function

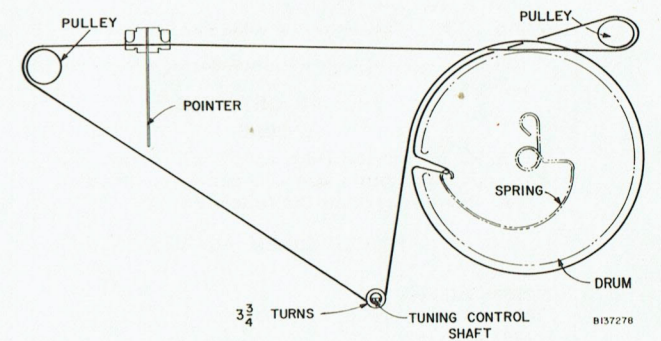
RADIO CONTROLS	LOUDNESS	BASS	TREBLE	TUNING	AM FM PH TAPE
	OFF				
TO PLAY RECORDS	Turn "on," set at desired level	set as desired			PH
TO RECORD FROM PHONOGRAPH†	" "				"
TO RECEIVE AM PROGRAMS	" "	set as desired		Tune to desired station	AM
TO RECORD AM PROGRAMS†	" "			" "	"
TO RECEIVE FM PROGRAMS	" "	set as desired		" "	FM
TO RECORD FM PROGRAMS†	" "			" "	"
TO RECORD FROM MICROPHONE†	" "				TAPE
TO PLAY BACK RECORDED TAPE††	" "	set as desired			"

† Recording level is controlled only by LEVEL control on tape recorder. LOUDNESS control controls only monitoring loudness level.

†† Sound output from speakers is controlled BOTH by LOUDNESS control and LEVEL control on tape recorder.

VOLTAGE CHART

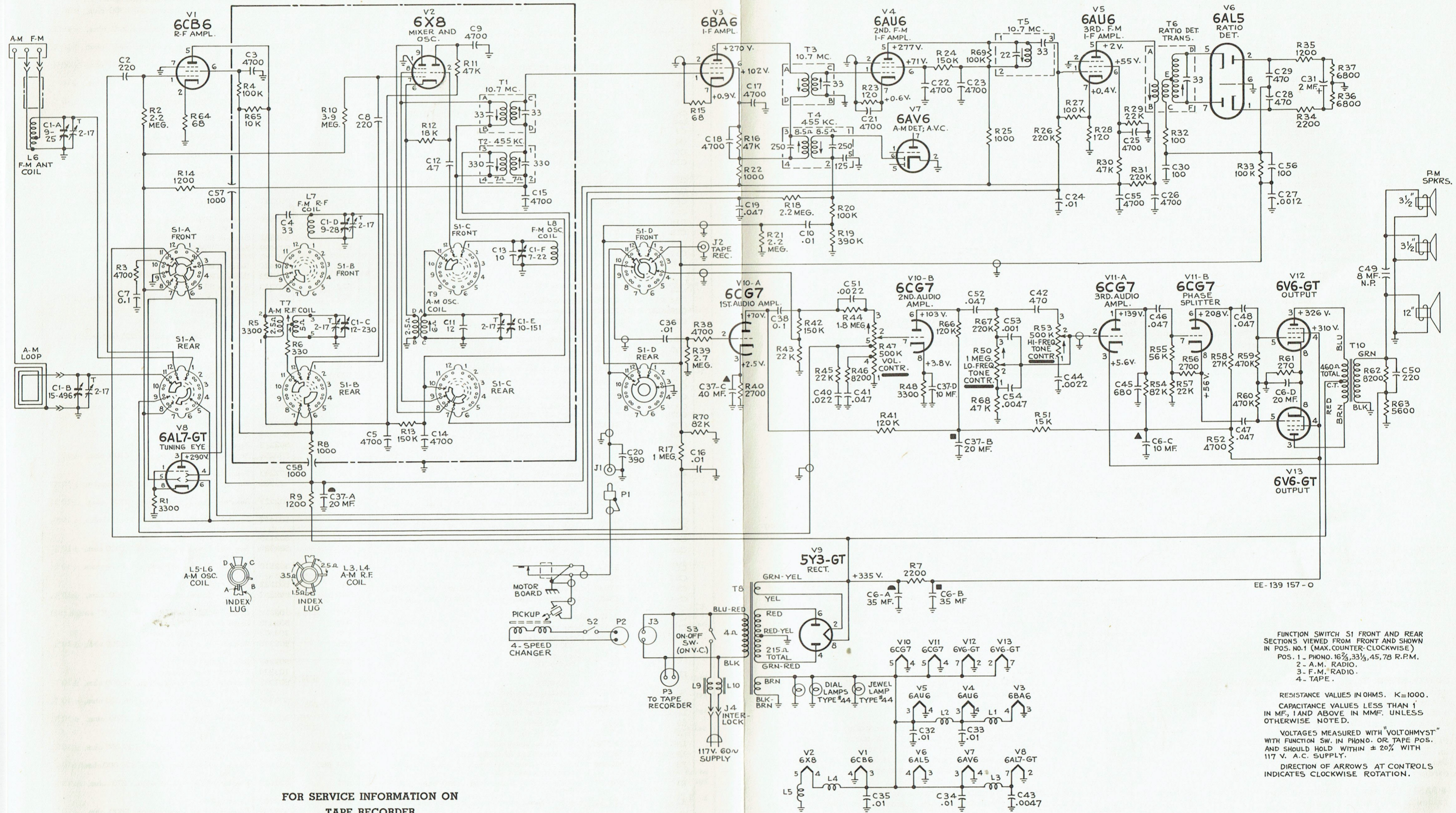
Tube	Type	Elements	Pin No.	"AM"	"FM"	"Phono," or "Tape"	
1	RF amp. 6CB6	Plate	5	266	200	218	
		Screen	6	124	80	97	
		Cathode	2	0.45	0.55	0.55	
2	Mixer 6X8	Plate	9	55	59	0	
		Screen	8	55	59	0	
		Grid	7	-4.5	-1.6	-0.9	
3	Osc. 6X8	Plate	3	63	65	0	
		Grid	2	-8.6	-2.6	-0.4	
3	IF amp. 6BA6	Plate	5	268	260	270	
		Screen	6	118	90	102	
		Cathode	7	0.8	0.9	0.9	
		Grid	1	-1.8	0	-0.5	
4	IF amp. 6AU6	Plate	5	273	269	277	
		Screen	6	70	68	71	
		Cathode	7	0.6	0.6	0.6	
		Grid	1	-0.1	-0.1	-0.1	
5	IF amp. 6AU6	Plate	5	2.0	2.0	2.0	
		Screen	6	55	55	55	
		Cathode	7	0.4	0.4	0.4	
		Grid	1	-0.1	-0.1	-0.1	
6	Ratio Det.	6AL5	—	—	—		
7	AM Detector	6AV6	—	—	—		
8	Tuning Eye	6AL7 GT	Target	3	285	277	290
			Cathode	8	1.1	1.1	1.1
9	Rectifier	5Y3GT	Filament	8	333 @ 110 ma.	331 @ 113 ma.	335 @ 108 ma.
10	Audio Amp 6CG7	Plate	1	70	70	70	
		Cathode	3	2.5	2.5	2.5	
		Plate	6	103	103	103	
		Cathode	8	3.8	3.8	3.8	
11	AF Amp & Phase Splitter 6CG7	Plate	1	139	139	139	
		Cathode	3	5.6	5.6	5.6	
		Plate	6	208	208	208	
		Cathode	8	56	56	56	
12 & 13	Push-Pull Output 6V6GT	Plate	3	325	323	326	
		Screen	4	308	306	310	
		Cathode	8	19.0	18.8	19.0	



TUNING DRIVE CORD ASSEMBLY SHOWN WITH GANG IN CLOSED POSITION

Dial Cord and Drive Assembly

COMPLETE SCHEMATIC DIAGRAM



FOR SERVICE INFORMATION ON
TAPE RECORDER
REFER TO TR-2-5 SERVICE DATA

FUNCTION SWITCH S1 FRONT AND REAR
SECTIONS VIEWED FROM FRONT AND SHOWN
IN POS. NO.1 (MAX. COUNTER-CLOCKWISE)
POS. 1 - PHONO. 16 2/3, 33 1/3, 45, 78 R.P.M.
2 - A.M. RADIO.
3 - F.M. RADIO.
4 - TAPE.

RESISTANCE VALUES IN OHMS. K=1000.
CAPACITANCE VALUES LESS THAN 1
IN MF, 1 AND ABOVE IN MMF. UNLESS
OTHERWISE NOTED.

VOLTAGES MEASURED WITH "VOLTOHMYST"
WITH FUNCTION SW. IN PHONO. OR TAPE POS.
AND SHOULD HOLD WITHIN ± 20% WITH
117 V. A.C. SUPPLY.

DIRECTION OF ARROWS AT CONTROLS
INDICATES CLOCKWISE ROTATION.

Complete Schematic Diagram—Tuner Chassis & Record Changer

RECORD CHANGER AND TAPE RECORDER CONTROLS

The record changer has a dual control on the motorboard and a stylus selector control on the pickup arm. The metal lever of the dual control is the OFF-ON-REJECT control. Turning this lever to the center position energizes the motor and starts the turntable, when turned to the clockwise position it starts the mechanism into complete automatic operation. The mechanism will shut off automatically after the last record has been played but can be shut off manually by turning this lever counter-clockwise.

The circular knob of the dual control is the speed control. It has four positions: "16 2/3", "33", "45", "78", to select the turntable speed desired.

The stylus control has two positions; to change position, push the end of the control lever down and under.

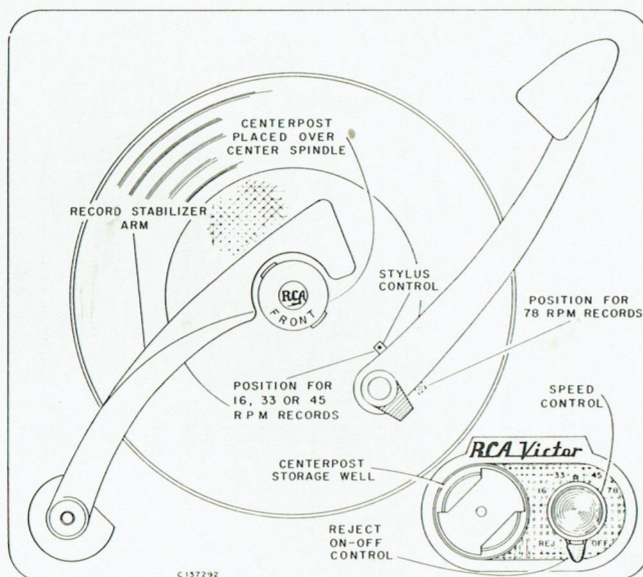
The removable centerpost is for use with 16 2/3 or 45 r.p.m. records having the large centerhole. It must be placed over the center spindle with the word "FRONT" FACING to the FRONT. Care should be exercised in inserting and removing the centerpost so as to prevent damage to smaller spindle.

A well is provided on the record changer for storage of the centerpost when not in use. Projections on the sides of the well enable the centerpost to be secured by pressing down on the centerpost until a slight click is heard. It may be necessary to twist slightly while pressing down.

To load or remove records, lift and turn the record stabilizer arm off to the side. After loading, the stabilizer arm should be turned to the center so it rests on the stack of records.

STYLUS REPLACEMENT

The dual stylus is held in position by a spring clamp. To remove, simply hold pickup sideways and pull spring clamp away from stylus and allow stylus to drop out. When inserting stylus, be certain that the small diameter rod holding the styli rests in the notch of the drive arm connecting to the cartridge element.

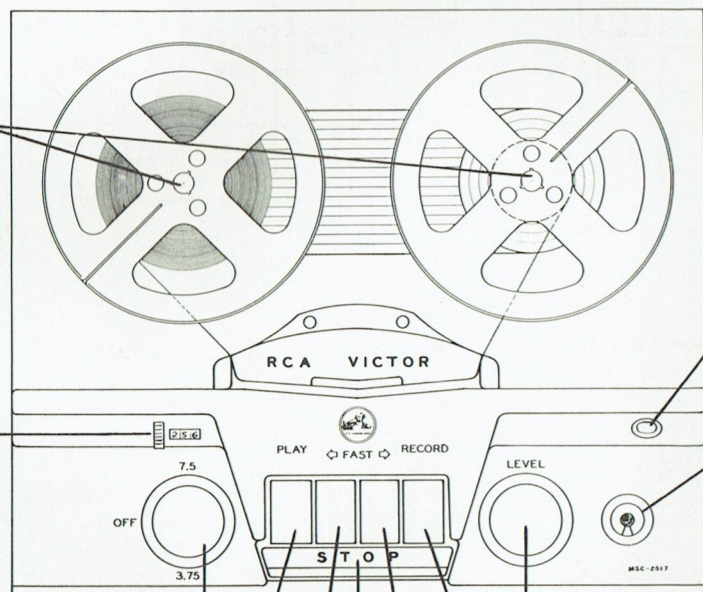


Record Changer Controls

FOR SERVICE INFORMATION—
REFER TO RP-205 SERIES SERVICE DATA

REPLACEMENT PARTS

SYMBOL NO.	STOCK NO.	DESCRIPTION	SYMBOL NO.	STOCK NO.	DESCRIPTION
TUNER/AMPLIFIER CHASSIS RC-1168					
C1A to C1F Incl.	103364	Capacitor—Variable tuning capacitor	R5	502233	Resistor—Fixed, composition, 3300 ohm, ±10%, 1/2 w.
C2	71920	Capacitor—Fixed, ceramic, 220 mmf., ±10%, 500 v.	R6	502133	Resistor—Fixed, composition, 330 ohm, ±10%, 1/2 w.
C3	73473	Capacitor—Fixed, ceramic, 4700 mmf., +100% -0%, 500 v.	R7	502222	Resistor—Fixed, composition, 2200 ohm, ±10%, 1/2 w.
C4	76739	Capacitor—Fixed, ceramic, 33 mmf., ±10%, 500 v.	R8	502210	Resistor—Fixed, composition, 1000 ohm, ±20%, 1/2 w.
C5	73473	Same as C3	R9	522212	Resistor—Fixed, composition, 1200 ohm, ±10%, 2 w.
C6A to C6D Incl.	101414	Capacitor—Electrolytic, 35/35/10/20 mf., 400/400/350/25 v.	R10	502539	Resistor—Fixed, composition, 3.9 megohms, ±10%, 1 w.
C7	78922	Capacitor—Fixed, paper, 0.1 mf., ±10%, 400 v.	R11	512347	Resistor—Fixed, composition, 47,000 ohm, ±20%, 1 w.
C8	71920	Same as C2	R12	502318	Resistor—Fixed, composition, 18,000 ohm, ±10%, 1/2 w.
C9	73473	Same as C3	R13	502415	Resistor—Fixed, composition, 150,000 ohm, ±10%, 1/2 w.
C10	73960	Capacitor—Fixed, ceramic, 0.01 mf., +100% -0%, 500 v.	R14	502212	Resistor—Fixed, composition, 1200 ohm, ±10%, 1/2 w.
C11	76349	Capacitor—Fixed, ceramic, 12 mmf., ±10%, 500 v.	R15	502068	Resistor—Fixed, composition, 68 ohm, ±10%, 1/2 w.
C12	39042	Capacitor—Fixed, ceramic, 47 mmf., ±10%, 500 v.	R16	502347	Resistor—Fixed, composition, 47,000 ohm, ±10%, 1/2 w.
C13	76350	Capacitor—Fixed, ceramic, 10 mmf., ±5%, 500 v.	R17	502510	Resistor—Fixed, composition, 1 megohm, ±20%, 1/2 w.
C14	39668	Capacitor—Fixed, mica, 4700 mmf., ±20%, 500 v.	R18	502522	Same as R2
C15	73473	Same as C3	R19	502439	Resistor—Fixed, composition, 390,000 ohm, ±10%, 1/2 w.
C16	73960	Same as C10	R20	502410	Same as R4
C17, C18	73473	Same as C3	R21	502522	Same as R2
C19	73558	Capacitor—Fixed, paper, 0.047 mf., ±10%, 200 v.	R22	502210	Same as R8
C20	103333	Capacitor—Fixed, ceramic, 390 mmf., ±10%, 500 v.	R23	502112	Resistor—Fixed, composition, 120 ohm, ±10%, 1/2 w.
C21, C22, C23	73473	Same as C3	R24	502415	Same as R13
C24	73960	Same as C10	R25	502210	Same as R8
C25, C26	73473	Same as C3	R26	502422	Resistor—Fixed, composition, 220,000 ohm, ±10%, 1/2 w.
C27	103332	Capacitor—Fixed, paper, 0.0012 mf., ±10%, 200 v.	R27	502410	Same as R4
C28, C29	76992	Capacitor—Fixed, mica, 470 mmf., ±10%, 300 v.	R28	502112	Same as R23
C30	103166	Capacitor—Fixed, ceramic, 100 mmf., ±20%, 500 v.	R29	502322	Same as R43
C31	79181	Capacitor—Electrolytic, 2 mf., 50 v.	R30	512347	Same as R11
C32, C33, C34, C35	73960	Same as C10	R31	502422	Same as R26
C36	73561	Capacitor—Fixed, paper, 0.01 mf., ±10%, 400 v.	R32	502110	Resistor—Fixed, composition, 100 ohm, ±20%, 1/2 w.
C37A to C37D	101357	Capacitor—Electrolytic, 20/20/40/10 mf., 400/400/25/25 v.	R33	502410	Same as R4
C38	78922	Same as C7	R34	502222	Same as R7
C40	79343	Capacitor—Fixed, paper, 0.022 mf., ±10%, 200 v.	R35	502212	Same as R14
C41	73558	Same as C19	R36, R37	502268	Resistor—Fixed, composition, 6800 ohm, ±10%, 1/2 w.
C42	75198	Capacitor—Fixed, ceramic, 470 mmf., ±10%, 500 v.	R38	502247	Same as R3
C43	73473	Same as C3	R39	72788	Resistor—Fixed, composition, 2.7 megohm, ±10%, 1/2 w.
C44	73595	Capacitor—Fixed, paper, 0.0022 mf., ±10%, 600 v.	R40	502227	Resistor—Fixed, composition, 2700 ohm, ±10%, 1/2 w.
C45	102721	Capacitor—Fixed, ceramic, 680 mmf., ±10%, 500 v.	R41	502412	Resistor—Fixed, composition, 120,000 ohm, ±10%, 1/2 w.
C46, C47, C48	73553	Capacitor—Fixed, paper, 0.047 mf., ±10%, 400 v.	R42	502415	Same as R13
C49	100509	Part of Speaker Assembly	R43	502322	Resistor—Fixed, composition, 22,000 ohm, ±10%, 1/2 w.
C50	77460	Capacitor—Fixed, ceramic, 220 mmf., ±10%, 500 v.	R44	502518	Resistor—Fixed, composition, 1.8 megohms, ±10%, 1/2 w.
C51	73595	Same as C44	R45	502322	Same as R43
C52	73553	Same as C46	R46	502282	Resistor—Fixed, composition, 8200 ohm, ±10%, 1/2 w.
C53	77533	Capacitor—Fixed, paper, 0.001 mf., ±10%, 200 v.	R47	103372	Control—Volume control with "on-off" switch (S3)
C54	73920	Capacitor—Fixed, paper, 0.0047 mf., ±10%, 400 v.	R48	502233	Same as R5
C55	73473	Same as C3	R50	103373	Control—Bass tone control
C56	103166	Same as C30	R51	502315	Resistor—Fixed, composition, 15,000 ohm, ±10%, 1/2 w.
C57, C58	77084	Capacitor—Feed-thru, 1000 mmf., +100%-0%-500 v.	R52	502247	Same as R3
I1, I2	33514	Connector—Phono & tape recorder dual input connector	R53	103374	Control—Treble tone control
I3	75543	Connector—2-contact female phono power connector	R54	502382	Resistor—Fixed, composition, 82,000 ohm, ±10%, 1/2 w.
I4	100029	Connector—2-contact male interlock connector	R55	502356	Resistor—Fixed, composition, 56,000 ohm, ±10%, 1/2 w.
L1, L2, L3	71942	Coil—Filament RF choke coil	R56	502227	Resistor—Fixed, composition, 2700 ohm, ±10%, 1/2 w.
L4, L5	76351	Coil—Filament RF choke coil	R57	502322	Same as R43
L6	103501	Coil—FM antenna coil	R58	502327	Resistor—Fixed, composition, 27,000 ohm, ±10%, 1/2 w.
L7	76353	Coil—FM RF coil	R59, R60	502447	Resistor—Fixed, composition, 470,000 ohm, ±10%, 1/2 w.
L8	77973	Coil—FM oscillator coil	R61	522127	Resistor—Fixed, composition, 270 ohm, ±10%, 2 w.
L9, L10	103599	Coil—Power line RF choke coil	R62	502282	Same as R46
P3	101800	Connector—2-contact female connector for tape recorder power cable	R63	502256	Resistor—Fixed, composition, 5600 ohm, ±10%, 1/2 w.
R1	502233	Resistor—Fixed, composition, 3300 ohm, ±20%, 1/2 w.	R64	502068	Same as R15
R2	502522	Resistor—Fixed, composition, 2.2 megohm, ±20%, 1/2 w.	R65	502310	Resistor—Fixed, composition, 10,000 ohm, ±20%, 1/2 w.
R3	502247	Resistor—Fixed, composition, 4700 ohm, ±10%, 1/2 w.			
R4	502410	Resistor—Fixed, composition, 100,000 ohm, ±20%, 1/2 w.			



Tape Recorder Controls

SPINDLES The two vertical shafts are spindles for the tape reels. The tape is threaded as shown with dull side in.

PROGRAM INDICATOR By turning the INDICATOR to zero when beginning each reel, the numerals on the INDICATOR will act as a ready reference to any desired portion of the recorded tape.

POWER-SPEED This control turns the instrument "on" and at the same time selects the speed at which it is desired to record or play. This knob cannot be turned while either the FAST (fast forward) or the FAST (fast rewind) pushbutton is pushed down.

PLAY: For advancing the tape at a normal rate. Use alone for listening to a tape which contains recorded material. Use in conjunction with RECORD pushbutton when recording.

FAST: For rapidly rewinding tape which has just been recorded or played.

STOP: For stopping tape motion. Always, before pressing any pushbutton, push the STOP bar. The STOP bar should also be depressed before turning the POWER-SPEED control.

MICROPHONE JACK The plug at the end of the microphone cord fits this receptacle.

"MAGIC EYE" This is a recording level indicator. Recording level is adjusted so that "eye" just closes on peaks.

LEVEL During "playback," turning this control makes the sound louder or softer; when recording, it controls recording level.

RECORD: For making a tape recording or for automatically erasing a previous one. Use alone to set recording level before recording. Use in conjunction with PLAY pushbutton to make a recording. Use of two pushbuttons for recording prevents unintentional erasure.

FAST: For advancing the tape at a fast rate in order to playback or begin recording at some inside spot on the reel of tape.

REPLACEMENT PARTS—Continued

SYMBOL NO.	STOCK NO.	DESCRIPTION	SYMBOL NO.	STOCK NO.	DESCRIPTION		
R66	502412	Same as R41			MICROPHONE ASSEMBLY		
R67	502422	Same as R26					
R68	502347	Same as R16		101995		Cable—Microphone cable and male connector	
R69	502410	Same as R4		101997		Case—Microphone back case—clear plastic	
R70	502382	Same as R54		97011		Connector—Male connector for microphone cable	
S1A to S1D	103338	Switch—Function switch		100162		Emblem—Trademark emblem	
S2		Part of Record Changer		101994		Microphone—Microphone assembly complete	
S3	103372	Switch—Part of R47		101996		Screen—Black metal screen	
T1	75559	Transformer—1st FM IF transformer				TAPE RECORDER TR-2-5 Refer to Service Data for TR-2-5 for Complete Information	
T2	76335	Transformer—1st AM IF transformer					
T3	76329	Transformer—2nd FM IF transformer					
T4	76328	Transformer—2nd AM IF transformer					
T5	77939	Transformer—3rd FM IF transformer					
T6	77938	Transformer—Ratio detector transformer				SPEAKER ASSEMBLIES	
T7	76338	Coil—AM RF coil					
T8	103335	Transformer—Power transformer		100465			Speaker—3½" PM speaker complete with cone—Speaker stamped 961616-1
T9	76337	Coil—AM oscillator coil		100897			Speaker—12" PM speaker complete with cone—Speaker stamped 961628-1
T10	103336	Transformer—Output transformer		100509			Capacitor—Electrolytic, 8 mf., 10 v.
	101344	Bushing—Metal bushing for tuning control shaft		100909			Cone—12" speaker Cone & voice coil kit
	103339	Bushing—Metal bushing for mtg. RF shelf assembly		100467			Housing—Plastic housing for 3½" speaker
	73935	Clip—IF transformer mtg. clip (2nd AM & 3rd FM)					
	73935	Clip—Mounting clip for 1st AM IF transformer					
	74879	Connector—2-contact female connector for AM loop antenna					
	101998	Connector—3-contact (polarized) female connector for FM antenna					
	68592	Connector—8-contact female connector for tuning eye (V8)					
	72953	Cord—Drive cord (approx. 55 inches reg'd)					
	74839	Fastener—Metal push fastener for mtg. RF shelf assembly					
	16058	Grommet—Rubber grommet—RF shelf mounting					
	100270	Grommet—Strain relief grommet for AC power cord (1 set)					
	103337	Plate—Dial back plate with pulleys, brackets & tube clip					
	101349	Pointer—Dial pointer					
	102627	Pulley—Aluminum drive pulley ¾" O.D. for dial back plate					
	103334	Shaft—Tuning control shaft					
	75708	Shell—Shell & grommet for connector #68592					
	73584	Shield—Tube shield for V1					
	76331	Shield—Tube shield for V2					
	76972	Shield—Tube shield for V10					
	100642	Socket—Dial lamp socket & lead assembly					
	100643	Socket—Pilot lamp (jewel) socket & lead assembly					
	74179	Socket—Tube socket 7 pin miniature for V1					
	77937	Socket—Tube socket 7 pin miniature for V3, V4, V5, V6 & V7					
	31251	Socket—Tube socket octal for V9					
	68590	Socket—Tube socket octal for V12 & V13					
	76336	Socket—Tube socket 9 pin miniature for V2					
	76971	Socket—Tube socket 9 pin miniature for V10					
	100474	Socket—Tube socket 9 pin miniature for V11					
	77585	Washer—"C" type retaining washer for tuning control shaft					
		RECORD CHANGER WIRING ASSEMBLY					
P1	31048	Connector—Male pin connector for shielded pickup cable					
P2	30870	Connector—2-contact male connector for power cable					
S2		Part of Record Changer					
	74296	Cable—Shielded pickup cable with pin connector (P1)					
	100211	Connector—Closed end connector for power leads					
		RECORD CHANGER RP-205-5					
		Refer to Service Data for RP-205 Series. Replacement parts are the same as listed for RP-205-2 except for the following:					
		PICKUP & ARM ASSEMBLY					
Delete:							
5	100653	Pickup—		103438	Knob—Tuning control knob with spring		
5A	78827	Stylus—		11891	Lamp—Mazda #44 dial or jewel lamp		
13	101265	Spring—		103432	Motif—Record changer drawer motif		
Add:				100641	Nameplate—"New Orthophonic High Fidelity RCA Victor" nameplate		
5	103422	Pickup—Ceramic pickup complete with dual stylus		76894	Nut—#10-32 spring nut for record changer mounting stud		
5A	103423	Stylus—Dual stylus assembly, synthetic sapphire		73203	Nut—Speednut, retainer for nameplate		
13	103682	Spring—Counterbalance spring		101847	Pull—Door pull for mahogany cabinet		
				103358	Pull—Door pull for oak cabinet		
				103256	Reel—7" tape reel (less tape)		
				103425	Rivet—Rivet type aluminum glide for changer drawer extension slide		
				103427	Slide—Extension slide for record changer tray (drawer) (1 set) less spacers & rivets		
				103426	Spacer—Vinyl spacer, glide for changer drawer extension slide		
				100248	Spring—Conical compression spring for mounting record changer		
				30900	Spring—Retaining spring for control knobs		
				78750	Stud—Record changer mounting stud		
				103357	Support—Cabinet lid support		
				101787	Washer—Felt washer for radio/tuner control knobs		
				79340	Washer—Fishpaper insulating washer for record changer mounting stud		
				78753	Washer—Rubber insulating washer ⅜" O.D. x ⅜" I.D. for record changer mounting stud		
				103430	Washer—Rubber washer for tape mechanism mounting		
				102915	Washer—Vellutex washer for tuning dial mounting		

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