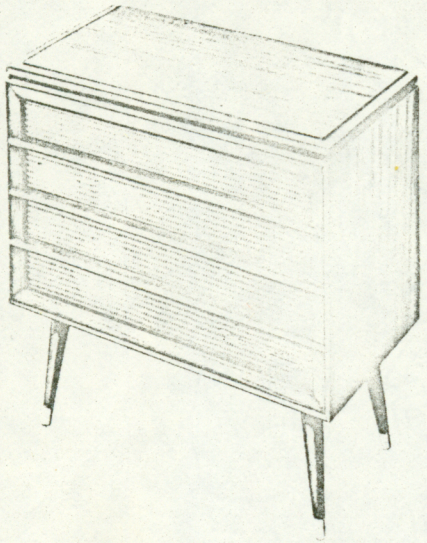
RCA VICTOR



The "MARK IV"
Model HF-191
Mahogany, Maple or Oak

High Fidelity Record Player

Model HF-191

SERVICE DATA

— 1956 No. 18 —

ISSUED BY
GENERAL SERVICE DEPARTMENT
RCA VICTOR COMPANY, LTD.
MONTREAL, CANADA

GENERAL DESCRIPTION

The HF-191 is a high fidelity consolette model phonograph having four tubes and a selenium rectifier operating on 105-125 volts, 60 cycles A.C. It has a modern style cabinet in mahogany, maple or oak finish.

A special feature of Model HF-191 is the provision for using the speakers of this instrument for stereophonic sound reproduction from another source, such as a tape recorder. The same speaker connection may also be used to supply a recording signal to a tape recorder.

A four-speed (16⅔, 33⅓, 45, and 78 RPM) record changer is used. It utilizes a ceramic dual stylus pickup in a die-cast aluminum tone arm. A well for the 16⅔/45 RPM spindle is provided in the record changer.

The amplifier has three controls marked "LOUDNESS", "BASS", and "TREBLE", which operate in a clockwise direction for maximum response. Each control is marked with numbers from 0 to 10. The amplifier is designed to give two watts output with less than 1% distortion or 5 watts with less than 10% distortion from 100 cycles to 10,000 cycles. This is accomplished by using a well designed output transformer and 12.5DB of negative feedback applied from the transformer secondary to the stage ahead of the phase inverter.

The instrument employs three speakers; the two 3½-inch speakers are mounted on plastic housings to give panoramic distribution of the higher frequencies.

FOR RECORD CHANGER SERVICE INFORMATION— REFER TO COLLARO 456 SERVICE DATA

ELECTRICAL & MECHANICAL SPECIFICATIONS

TUBE COMPLEMENT

(1) RCA 6C4	1st A.F. Amplifier
(2) RCA 12AX7	2nd A.F. Amplifier & Phase Inv.
(3) RCA 50C5	Output
(4) RCA 50C5	Output

POWER SUPPLY RATING

115 volts, 60 cycles ..... 50 watts

POWER OUTPUT

100 cycles to 10,000 cycles
2 watts with less than 1% distortion
5 watts with less than 10% distortion

DIMENSIONS (Overall)

Height 31¼" Width 29" Depth 15⅝"

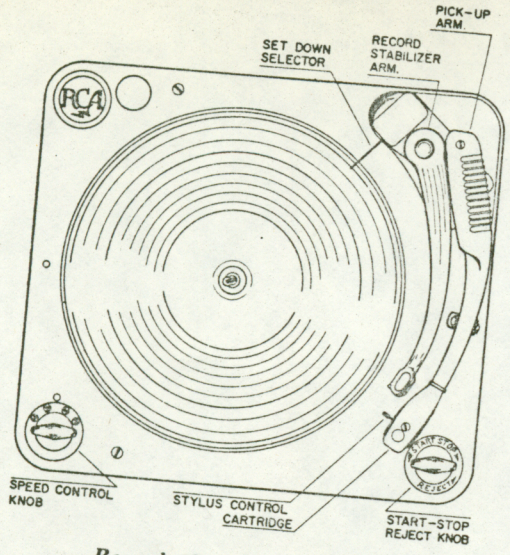
LOUDSPEAKERS

One 8" PM woofer"	3.2 ohm v.c.
Two 3½" PM "tweeters"	6.4 ohm v.c.

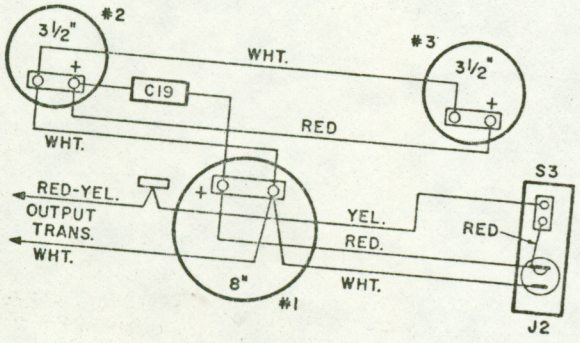
RECORD CHANGER (Collaro 456)

Turntable speed ..... 16⅔, 33⅓, 45 or 78 r.p.m.
Record capacity ..... Up to fourteen 7 inch
or twelve 10 inch.
or ten 12 inch.
or ten 10 in. and 12 in. intermixed.

WEIGHT ..... 50 lbs. net



Record Changer Controls



Speaker Connection Diagram

RECORD CHANGER CONTROLS

The record changer has two controls on the motorboard and a stylus selector control on the pickup arm. The lever of the right control is the OFF-ON-REJECT control. Turning this lever to the start position energizes the motor and starts the turntable, when turned to the position it starts the mechansim 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 to "stop".

The left knob on the Motorboard is the speed control. It has four positions; "16-2/33," "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 right hand position ("78" showing) is for 78 r.p.m. records and the left hand position ("MG" showing) is for 16-2/3, 33-1/3 or 45 r.p.m. records.

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.

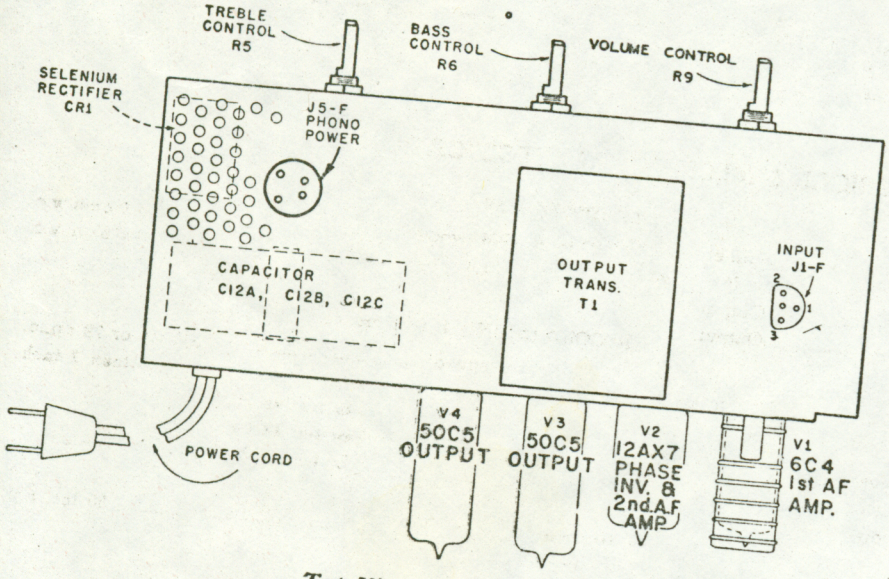
A well is provided near the record changer for storage of the centerpost when not in use.

To load or remove records, life 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.

IMPORTANT

The three speakers must be connected as shown in the illustration at left. Improper connections may result in distorted or weak reproduction.

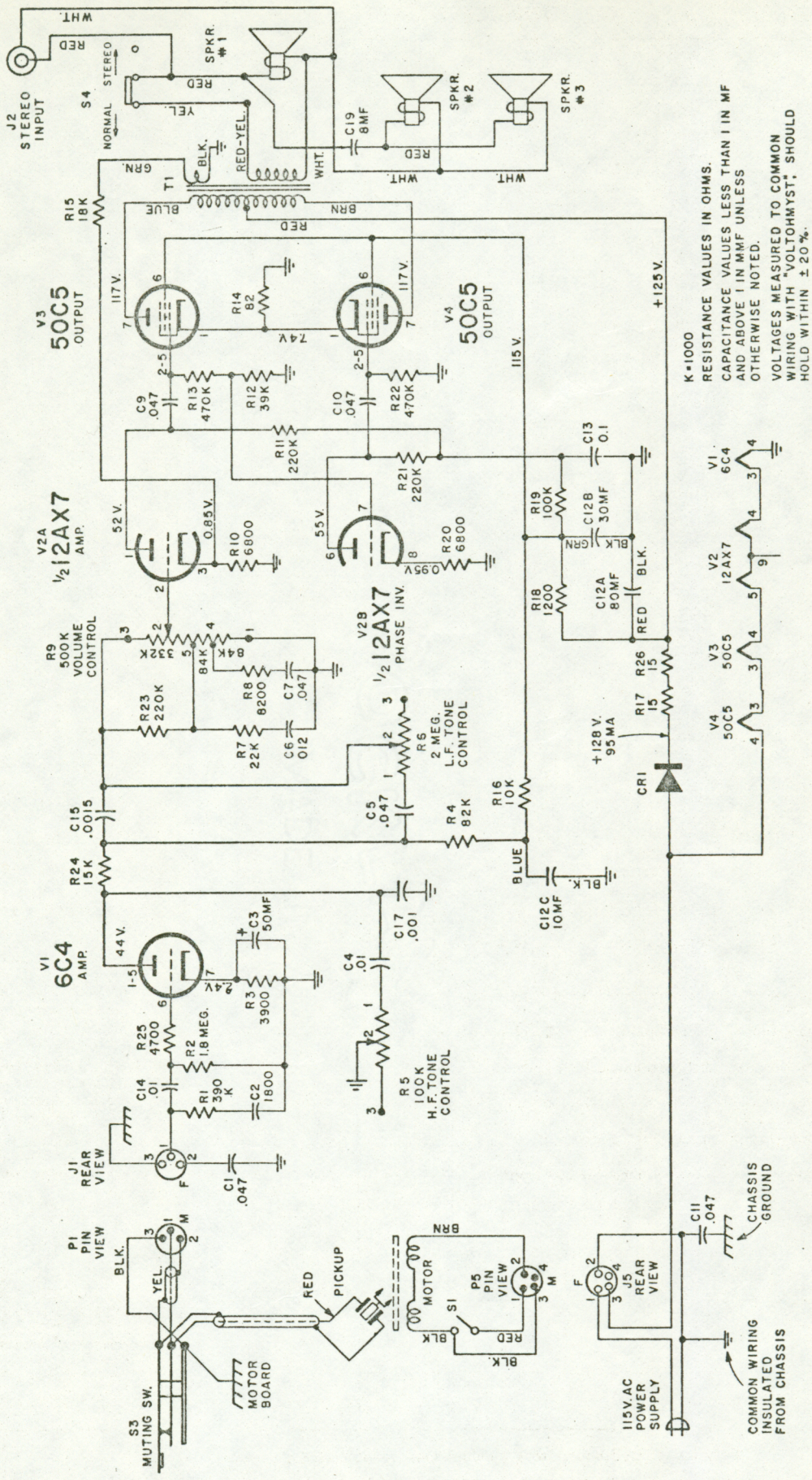
The "NORMAL-STEREO" switch should be placed in the STEREO position when using the speakers of this instrument for stereophonic sound reproduction from another source.



Top View of Amplifier

STYLUS REPLACEMENT

The dual stylus is held in position by a spring clamp. To remove stylus, simply hold pickup sideways and pull spring clamp away from stylus and allow it 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.



Schematic Diagram

CRITICAL LEAD DRESS

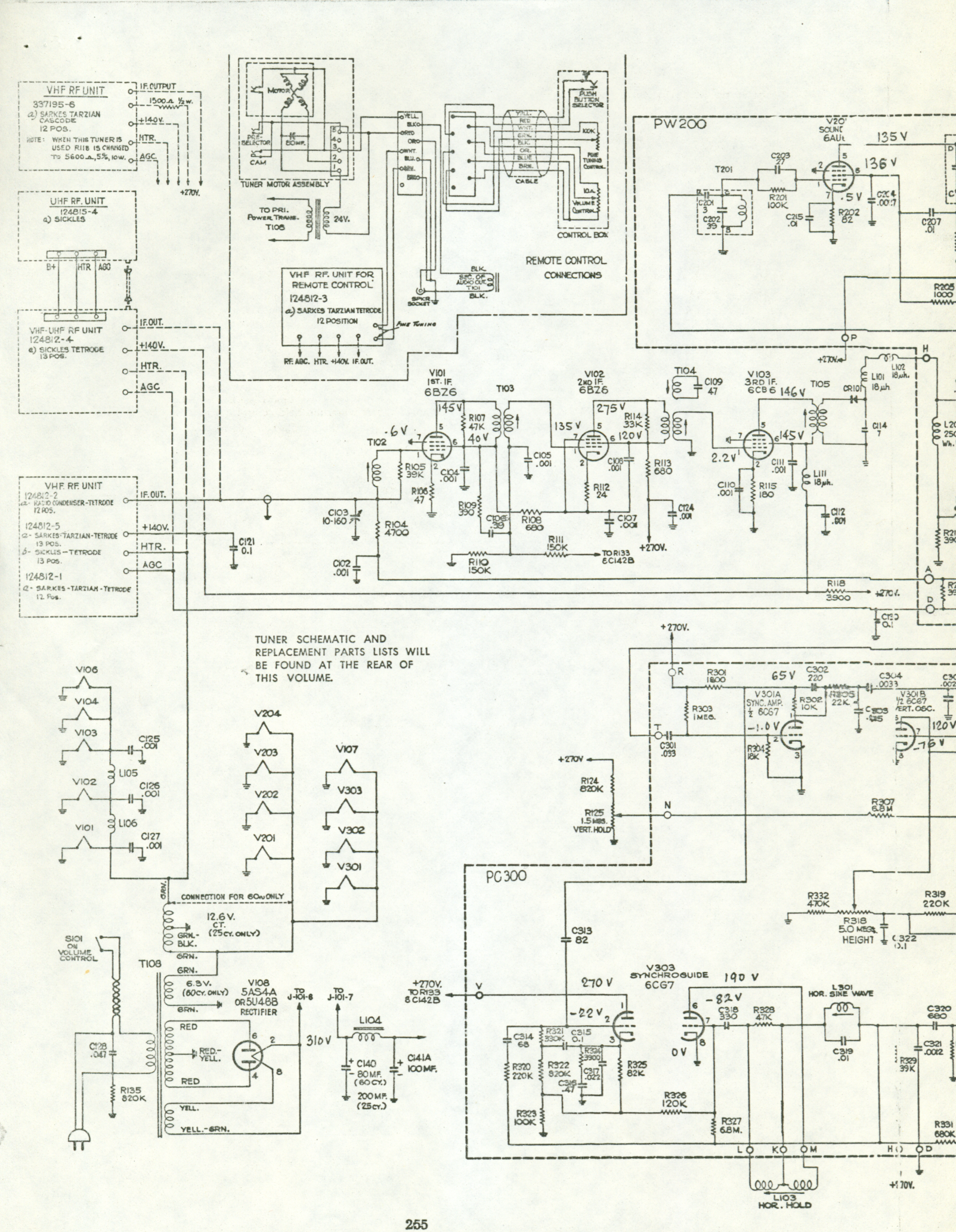
1. Dress all capacitors except C4 and C5 against chassis.
2. Dress R17 at least ½" away from C11 and C12.
3. Dress all leads away from R18.
4. Keep all leads on R1, R2, C2, and C14 as short as possible.
5. Dress all filament wiring against chassis.

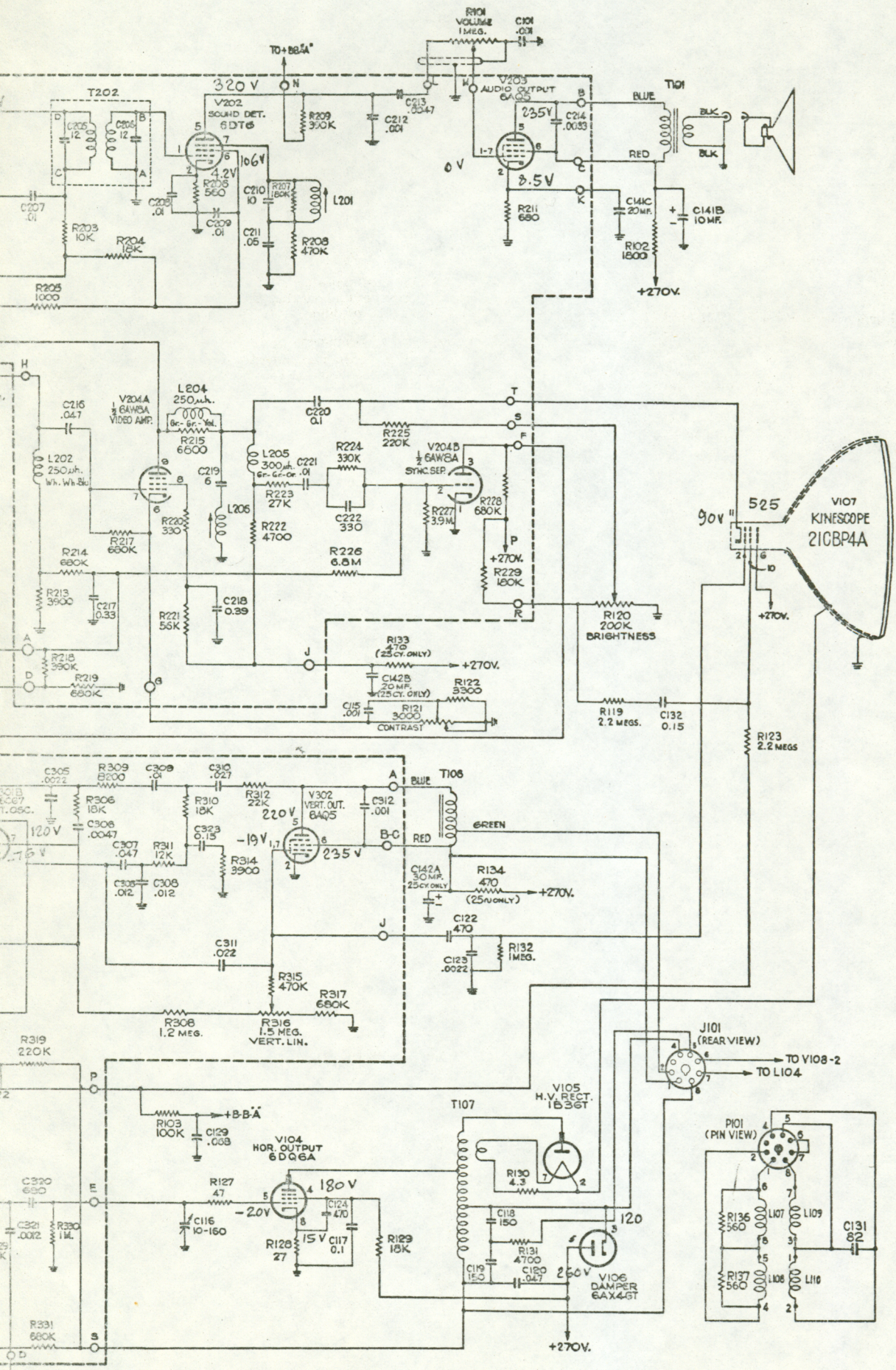
REPLACEMENT PARTS

Symbol No.	Stock No.	Description
		AMPLIFIER ASSEMBLY RS-146F
C1	73553	Capacitor—Fixed, paper, 0.047 mf ±10%, 400 v
C2	74850	Capacitor—Fixed, ceramic, 1800 mmf ±10%, 500 v
C3	78573	Capacitor—electrolytic, 50 mf, 6 volts
C4	73561	Capacitor—Fixed, paper, 0.01 mf ±10%, 400 v
C5	73553	Same as C1
C6		Capacitor—Fixed, paper, 0.012 mf ±10%, 200 v
C7	73558	Capacitor—Fixed, paper, 0.047 mf ±10%, 200 v
C9, C10, C11	73553	Same as C1
C12A, B, C	78617	Capacitor—Electrolytic, 80/30/10 mf, 150 v
C13	73551	Capacitor—Fixed, paper, 0.1 mf ±10%, 400 v
C14	101000	Capacitor—Fixed, paper, 0.01 mf ±10%, 200 v
C15		Capacitor—Fixed, paper, 0.0015 mf ±10%, 600 v
C17	75249	Capacitor—Fixed, paper, 0.001 mf ±10%, 600 v
C19	100509	See "Speaker Assembly"
CR1	S-21276	Rectifier—Selenium rectifier
J1	36422	Connector—3 contact female connector for phono pickup input cable
J2		See "Miscellaneous"
J5	38853	Connector—4 contact female connector for phono motor cable
R1		Resistor—Fixed, composition, 390,000 ohm ±10%, ½ w
R2		Resistor—Fixed, composition, 1.8 megohm ±10% ½ w
R3		Resistor—Fixed, composition, 3900 ohm ±10%, ½ w
R4		Resistor—Fixed, composition, 82,000 ohm ±10% ½ w
R5	S-21278	Control—Treble tone control
R6	S-21279	Control—Bass tone control
R7		Resistor—Fixed, composition, 22,000 ohm ±10% ½ w
R8		Resistor—Fixed, composition, 8200 ohm ±10%, ½ w
R9	S-21277	Control—Volume control
R10		Resistor—Fixed, composition, 6800 ohm ±10%, ½ w
R11		Resistor—Fixed, composition, 220,000 ohm ±10%, ½ w
R12		Resistor—Fixed, composition, 39,000 ohm ±10%, ½ w
R13		Resistor—Fixed, composition, 470,000 ohm ±10%, ½ w
R14		Resistor—Fixed, composition, 82 ohm ±10%, 1 w
R15		Resistor—Fixed, composition, 18,000 ohm ±10%, ½ w
R16		Resistor—Fixed, composition, 10,000 ohm ±10%, ½ w
R17		Resistor—Fixed, composition, 15 ohm ±20%, 1 w
R18		Resistor—Fixed, composition, 1200 ohm ±10%, 1 w
R19		Resistor—Fixed, composition, 100,000 ohm ±10%, ½ w
R20		Same as R10
R21		Same as R11
R22		Same as R13
R23		Same as R11
R24		Resistor—Fixed, composition, 15,000 ohm ±10%, ½ w
R25		Resistor—Fixed, composition, 4700 ohm ±10%, ½ w
R26		Same as R17
S1, S3		Pt. of Record Changer
S4	100185	See "Miscellaneous"
T1	S-21275	Transformer—Output transformer
	70392	Cord—AC power cord & plug
	73584	Shield—Tube shield for V1
	101375	Socket—Tube socket, 7 pin miniature for V1, V3 and V4
	100474	Socket—Tube socket, 9 pin miniature for V2
		SPEAKER ASSEMBLIES
	100465	Speaker—3½" PM speaker complete with cone.
	78597	Speaker—8" PM speaker complete with cone.
	100467	Housing—Plastic housing for 3½" speakers (2 req'd)
C19	100509	Capacitor—Electrolytic, 8 mf, 10 volt AC
		MISCELLANEOUS
J2	35787	Connector—Female pin connector for tape recorder
S4	100185	Switch—Slide switch for stereophonic sound
	S-21273	Back—Cabinet back cover
	X3573	Cloth—Grille cloth for blond oak cabinet
	X3582	Cloth—Grille cloth for mahogany cabinet
	X3574	Cloth—Grille cloth for maple cabinet
	100459	Cushion—Felt cushion for cabinet lid (2 req'd)
	102348	Escutcheon—Control knob escutcheon with tone & loudness calibrations
	101050	Ferrule—Brass ferrule for cabinet leg
	102420	Hinge—Cabinet lid hinge (less screws)
	102347	Knob—Control knob with spring
	100641	Nameplate—"New Orthophonic High Fidelity RCA Victor" nameplate
	70999	Spring—Cabinet lid support spring
	30900	Spring—Retaining spring for control knob
	330720-96	Book—Instruction book

Only items listed under stock numbers are available as Replacement Parts.

All parts subject to change or withdrawal without notice.


VHF RF UNIT
337195-6
a) SARKES TARZIAN CASCODE 12 POS.
NOTE: WHEN THIS TUNER IS USED R118 IS CHANGED TO 5600Ω, 5%, 10W.
IF. OUTPUT
1500Ω ½ W.
+140V.
HTR.
AGC.
+270V.
UHF RF. UNIT
124815-4
a) SICKLES
B+ HTR AGC
VHF-UHF RF UNIT
124812-4
a) SICKLES TETRODE 13 POS.
IF.OUT.
+140V.
HTR.
AGC
VHF RF UNIT
124812-2
a- RATIO CONDENSER-TETRODE 12 POS.
124812-5
a- SARKES-TARZIAN-TETRODE 13 POS.
b- SICKLES - TETRODE 13 POS.
124812-1
a- SARKES-TARZIAN-TETRODE 12 Pos.
TUNER MOTOR ASSEMBLY
MOTOR
PUSH BUTTON SELECTOR
CAM
CABLE
CONTROL BOX
TO PRI. POWER TRANS. T108
24V.
REMOTE CONTROL CONNECTIONS
VHF RF. UNIT FOR REMOTE CONTROL
124812-3
a) SARKES TARZIAN TETRODE 12 POSITION
FINE TUNING
RF. AGC. HTR. +140V. IF.OUT.
SPKR. SOCKET
BLK.
SEC. OF AUDIO OUT. T101
PW200
V20 SOUND 6AU6
135 V
136 V
.5 V
T201
C203 27
R201 100K
C202 39
C215 .01
R202 82
C204 .0017
C207 .01
R205 1000
+270V.
P
H
V101 1ST. IF. 6BZ6
T103
V102 2ND IF. 6BZ6
T104
C109 47
V103 3RD IF. 6CB6
T105
CR101
L101 18 µh.
L102 18 µh.
L111 18 µh.
C114 7
C111 .001
C110 .001
R115 180
C112 .001
C113 .001
R116 390
R117 3900
A
D
145V
-6 V
40 V
R107 47K
R105 39K
R106 47
C104 .001
C105 .001
C103 10-160
R104 4700
C102 .001
C121 0.1
R109 390
C106 39
R108 680
R110 150K
R111 150K
TO R133 & C142B
275 V
120 V
R114 33K
R113 680
R112 24
C106 .001
C107 .001
C124 .001
2.2 V
146 V
TUNER SCHEMATIC AND REPLACEMENT PARTS LISTS WILL BE FOUND AT THE REAR OF THIS VOLUME.
V106
V104
V103
V102
V101
C125 .001
C126 .001
C127 .001
L105
L106
V204
V203
V202
V201
V107
V303
V302
V301
GRN.
CONNECTION FOR 60~ ONLY
12.6 V. CT. (25 CY. ONLY)
GRN.-BLK.
GRN.
S101 ON VOLUME CONTROL
T108
6.3 V. (60 CY. ONLY)
V108 5AS4-A OR 5U4GB RECTIFIER
TO J-101-8
TO J-101-7
310 V
L104
C140 80 MF. (60 CY.) 200 MF. (25 CY.)
C141A 100 MF.
C128 .047
R135 820K
RED
RED.-YELL.
YELL.
YELL.-GRN.
+270V. TO R133 & C142B
V
270 V
-22 V
V303 SYNCHROGUIDE 6CG7
190 V
-82 V
0 V
C313 82
C314 68
R321 330K
C315 0.1
R320 220K
R322 820K
C316 .47
C317 .022
R324 3900
R325 82K
R326 120K
R323 100K
C318 330
R328 47K
R327 6.8M.
L301 HOR. SINE WAVE
C319 .01
C320 680
C321 .0012
R329 39K
R331 680K
L
K
M
H
D
L103 HOR. HOLD
+270V.
+270V.
R
T
N
R301 1800
R303 1MEG.
V301A SYNC. AMP. ½ 6CG7
65 V
C301 .033
R302 10K
C302 220
R305 22K
C303 .015
C304 .0033
V301B ½ 6CG7 VERT. OSC.
120 V
-16 V
-1.0 V
R304 18K
R124 820K
R125 1.5 MEG. VERT. HOLD
R307 6.8 M
PC300
R332 470K
R318 5.0 MEG. HEIGHT
R319 220K
C322 .1


R101 VOLUME 1 MEG.
C101 .001
TO +B-A
T202
320 V
V202 SOUND DET. 6DT6
R209 390K
C212 .001
C213 .0047
V203 AUDIO OUTPUT 6AQ5
T101
BLUE
BLK
BLK
RED
235V
C214 .0033
0 V
3.5V
R211 680
C141C 20 MF.
C141B 10 MF.
R102 1800
+270V.
106V
4.2V
R208 560
C210 10
R207 180K
L201
C211 .05
R208 470K
C207 .01
R203 10K
R204 18K
R205 1000
C205 12
C206 12
C208 .01
C209 .01
V204A ½ 6AW8A VIDEO AMP.
L204 250 μh.
C216 .047
L202 250 μh.
R215 6600
C220 0.1
R225 220K
R224 330K
L205 300 μh.
C221 .01
R223 27K
C222 330
V204B ½ 6AW8A SYNC. SEP.
R227 3.9M
R228 680K
C219 6
L206
R220 330
R222 4700
R217 680K
R214 680K
R226 6.8M
+270V.
R229 180K
R213 3900
C217 0.33
R221 56K
C218 0.39
R218 330K
R219 680K
R133 470 (25 CY. ONLY)
C142B 20 MF. (25 CY. ONLY)
R122 3300
C115 .001
R121 3000 CONTRAST
R120 200K BRIGHTNESS
R119 2.2 MEGS.
C132 0.15
R123 2.2 MEGS
90V
525
V107 KINESCOPE 21CBP4A
+270V.
C305 .0022
R309 8200
C309 .01
C310 .027
R312 22K
V302 VERT. OUT. 6AQ5
C312 .001
T108
BLUE
GREEN
RED
220 V
-19 V
235 V
R306 18K
C306 .0047
R310 18K
C307 .047
R311 12K
C323 0.15
R314 3900
C303 .012
C308 .012
C142A 30 MF. 25 CY. ONLY
R134 470 (25 CY. ONLY)
+270V.
C122 470
C123 .0022
R132 1 MEG.
C311 .022
R315 470K
R317 680K
R308 1.2 MEG.
R316 1.5 MEG. VERT. LIN.
R319 220K
J101 (REAR VIEW)
TO V108-2
TO L104
+B-B-A
R103 100K
C129 .008
V104 HOR. OUTPUT 6DQ6A
T107
V105 H.V. RECT. 1B3GT
R130 4.3
180 V
R127 47
-20V
C116 10-160
C124 470
R128 27
15 V
C117 0.1
R129 18K
C118 150
R131 4700
C119 150
C120 .047
120
260 V
V106 DAMPER 6AX4GT
+270V.
C320 680
C321 .0012
R330 1 M.
R331 680K
P101 (PIN VIEW)
R136 560
L107
L109
C131 82
R137 560
L108
L110

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THANK YOU FOR YOUR INTEREST

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