The Harman-Kardon Model 330B

AM/FM/Stereo FM Solid State Receiver

Technical Manual Addendum

This addendum is to be used with all 330B models with suffix "A" after serial number.

harman/kardon

ALIGNMENT PROCEDURES

AM ALIGNMENT PROCEDURE

INSTRUMENTS: AM Signal Generator modulated with 400Hz at 30%, V.T.V.M. and Oscilloscope.

NOTE: Set FUNCTION selector to AM.
Connect signal source to a loop placed to radiate signals into AM ANT LOOP STICK.

Step	SIGNAL SOURCE OUTPUT	CONNECT OUTPUT METER TO	DIAL SETTING	ADJUST	ADJUST FOR
1	455kHz of sweep generator AM Sig. Gen.	V.T.V.M. & oscilloscope to Tape Out	Quiet point near 600kHz	T251	Maximum and undistorted pattern on SCOPE
2				T252	
3				T253	
4	Repeat step 1 through 3 for best sensitivity.				
5	530kHz of AM Sig. Gen.	V.T.V.M. to oscilloscope to Tape Out	Gang fully closed	L252	Maximum output
6	1600kHz of AM Sig. Gen.		1600kHz	AM oscillator trimmer	
7	Repeat step 5 and 6 for best dial accuracy.				
8	600kHz of AM Sig. Gen.	Same as above	600kHz	AM ANT LOOP STICK	Same as above
9	1600kHz of AM Sig. Gen.		1600kHz	AM ANT trimmer	
10	Repeat step 8 and 9 for best sensitivity.				

FM ALIGNMENT PROCEDURE

INSTRUMENTS: FM Signal Generator, AC/DC VTWM, Oscilloscope.

NOTE: Set Function Switch to FM, signal generator for 400 or 1000 cps 100% mod.

Step	FREQUENCY	SIG. STRENGTH	DIAL SETTING	ADJUST	FOR	AT
1	—	0	Quiet point on band	T52 top & bottom (on front end)	Max. noise	LP206 ("OUT" term on IF Board
2	—	0	Same as above	T201 top (on FM IF board)	Zero Volts D.C.	LP206
3	Near 98 mc	—1 db of Limiter saturation	Tune for Zero Volts D.C. at LP206	T201 bottom T52 top and bottom	Max. symmetric output (on scope)	Tape Out
4	Repeat steps 2 and 3 until no further improvement is noticed.					
5	90 mc	approx. 10 μv	90 mc	L52 (osc)	Zero Volts D.C.	LP206
6	106 mc	Same as above	106 mc	TC53 (osc)	Zero Volts D.C.	LP206
7	Repeat steps 5 and 6 until no further improvement is noticed.					
8	90 mc	—3 db of Limiter saturation	Tune for Zero Volts D.C. at LP206	L51 (RF) T51 (Ant)	Max. Output	Tape Out
9	106 mc	Same	Same	TC52 (RF) TC51 (Ant)	Max. Output	Tape Out
10	Repeat steps 9 and 10 until no further improvement is noticed.					

POWER AMP ALIGNMENT

NOTES: 1. Set up 330B as follows

FUNCTION – – – – AUX
TONE & BALANCE – – – – MID
STEREO/MONO SWITCH – – – – STEREO
SPEAKER SWITCH – – – – ON

2. Connect 8 Ohm (50W) Resistor across Left and Right Speaker Terminals

(1) IDLING ADJUSTMENT

INSTRUMENT: DC Voltmeter

NOTE: Set VOLUME Control to Minimum Output

Step	DC VOLTMETER CONNECTION	ADJUST	ADJUST FOR
1	Across R432 Resistor	VR404	8mV DC
2	Across R431 Resistor	VR403	8mV DC

(2) DC BALANCE ADJUSTMENT

INSTRUMENTS: Audio Generator Oscilloscope
AC VTVM

NOTE: Set VOLUME Control to maximum output

Step	VTVM AND OSCILLOSCOPE CONNECTION	ADJUST	ADJUST FOR
1	Connect an audio generator, set for 1000Hz (sine wave) to the left channel "AUX" input.		
2	To Left Speaker Terminal		Increase generator output until sine wave on scope just starts clipping
3		VR402	Equal clipping on the positive and negative half cycles on the signal
4	To Right Speaker Termianl	VR401	Same as above.

MPX ALIGNMENT PROCEDURE

INSTRUMENTS: Frequency counter, stereo signal generator

NOTE: Set Function switch to FM Stereo

1	Short LP206 (on FM board) to ground.
2	Connect frequency counter to LP301 (Marked "19KC", on MPX Board.
3	Adjust VR301 for 19KC ± 50C.
4	Remove short from LP206 to ground.
5	Check Pilot level that Stereo indication lights at 6% of pilot level and that the indicator does not light at 1%.
6	Return Pilot level to 9% and check Stereo separation at 1kHz, 100Hz, and 10kHz.
7	At 25 μv of signal adjust Stereo threshold VR201 for Stereo indicator on.

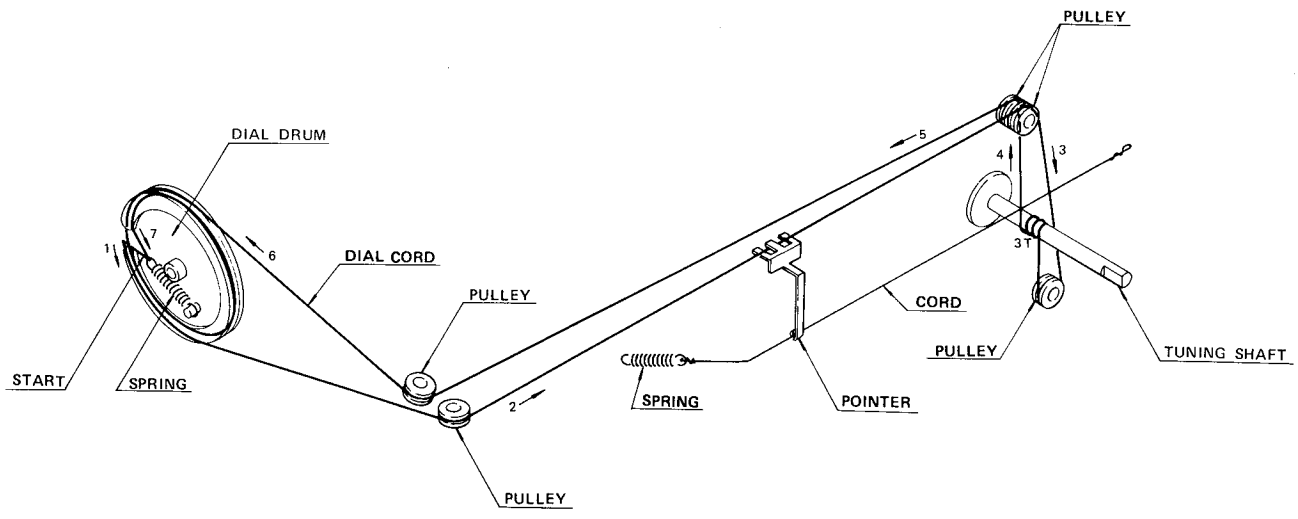
TUNING INDICATOR ADJUSTMENT

INSTRUMENT: FM Signal Generator.

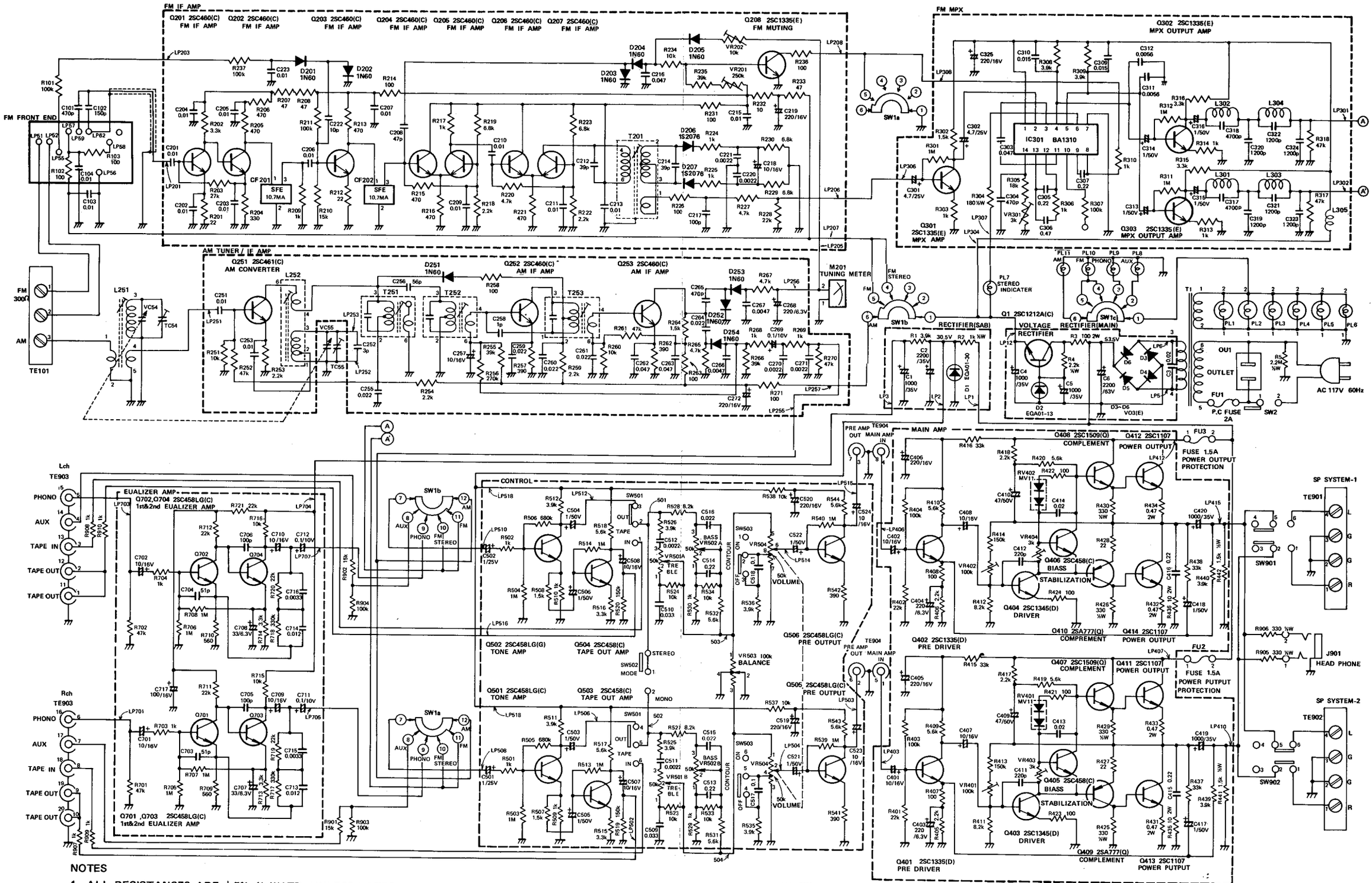
NOTE: Set FUNCTION switch to FM

Step	FM STEREO SIGNAL GENERATOR		ADJUST	ADJUST FOR
	CONNECTED TO	SIGNAL STRENGTH		
1	FM Antenna Terminal	1mV	VR202	To indicate 9 on Tuning Meter

STRINGING DIAGRAM



SCHEMATIC DIAGRAM RV



NOTES

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2. ALL CAPACITANCES VALUES BELOW 1.0 ARE IN MF, THOSE 1.0 AND ABOVE ARE IN PF. UNLESS NOTED OTHERWISE. (EXCEPT ELECTROLYTICS)
3. VOLTAGE READINGS TO NEGATIVE LINE (–) ARE MEASURED WITH V.T.V.M. UNDER NO SIGNAL
4. FUNCTION SWITCH SW1 IS IN AM POSITION.

T251 T252 T253 L252

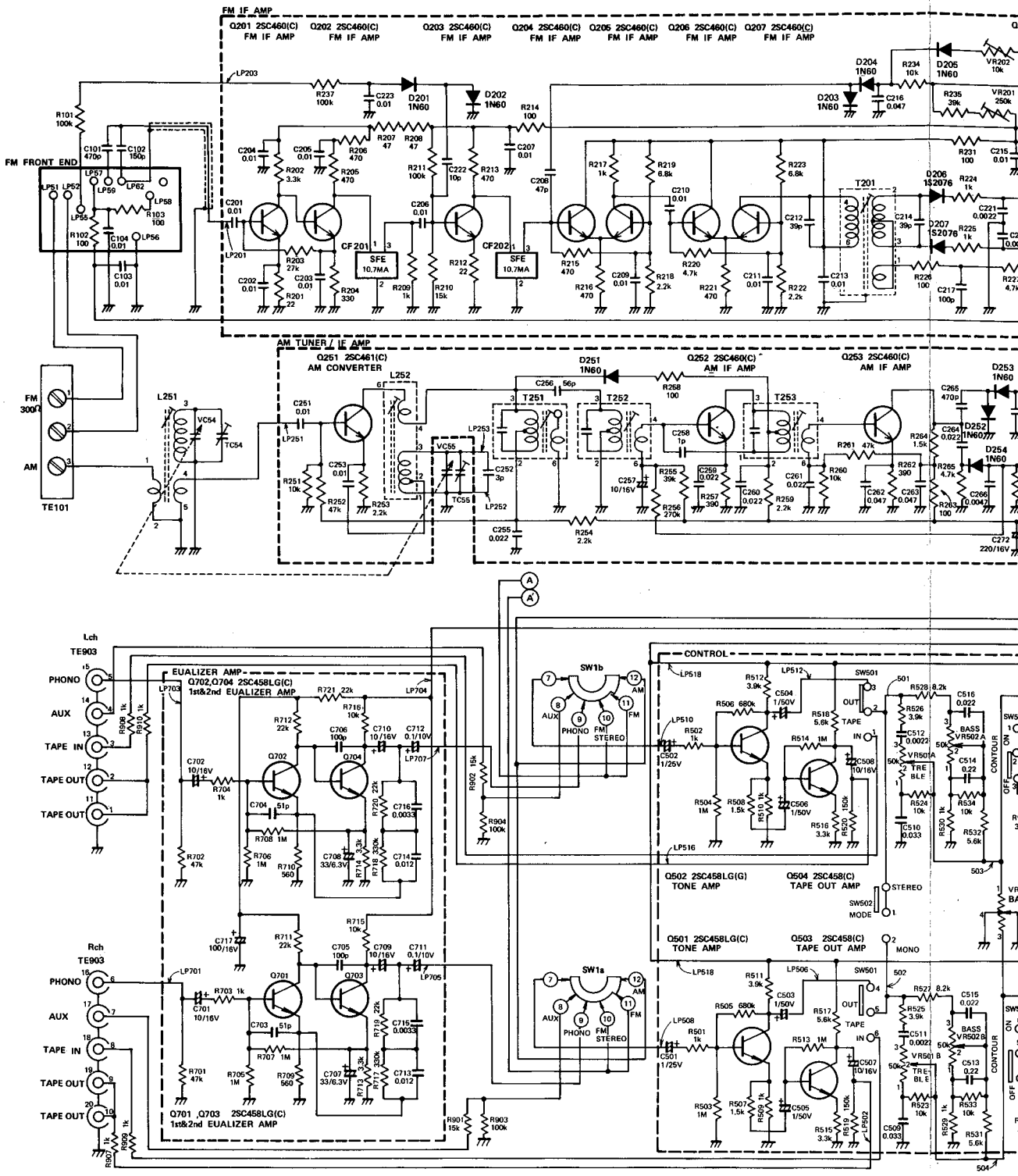
T201

TRANSISTOR ELEMENTS VOLTAGES

Volts

	Q1	Q201	Q202	Q203	Q204	Q205	Q206	Q207	Q208	Q251	Q252	Q253	Q301	Q302	Q303	Q401	Q402	Q404	Q405	Q406
Collector	47.9	2.0	6.0	7.6	10.6	8.4	10.6	10.6	0.02	10.7	9.2	7.2	8.4	6.1	6.1	6.5	6.5	24.6	26.4	26.4
Base	13.6	0.7	2.0	0.8	2.5	2.5	2.5	2.5	0.6	1.8	1.2	1.9	3.1	2.4	2.4	2.3	2.3	1.0	25.3	25.3
Emitter	12.9	0.05	1.3	0.1	1.9	1.9	1.9	1.9	0	1.2	0.6	1.2	2.5	1.8	1.8	1.6	1.6	0.4	24.6	24.6
	Q407	Q408	Q409	Q410	Q411	Q412	Q413	Q414	Q501	Q502	Q503	Q504	Q505	Q506	Q701	Q702	Q703	Q704		
Collector	53.5	53.5	0.6	0.6	53.5	53.5	25.2	25.2	16.9	16.9	17.2	17.2	6.8	6.8	3.6	3.6	10.8	10.8		
Base	26.4	26.4	24.6	24.6	25.8	25.8	0.6	0.6	4.2	4.2	8.4	8.4	1.2	1.2	0.8	0.8	3.8	3.8		
Emitter	25.8	25.8	25.2	25.2	25.2	25.2	0	0	3.6	3.6	7.9	7.9	0.6	0.6	0.1	0.1	3.2	3.2		

SCHEMATIC DIAGRAM RV



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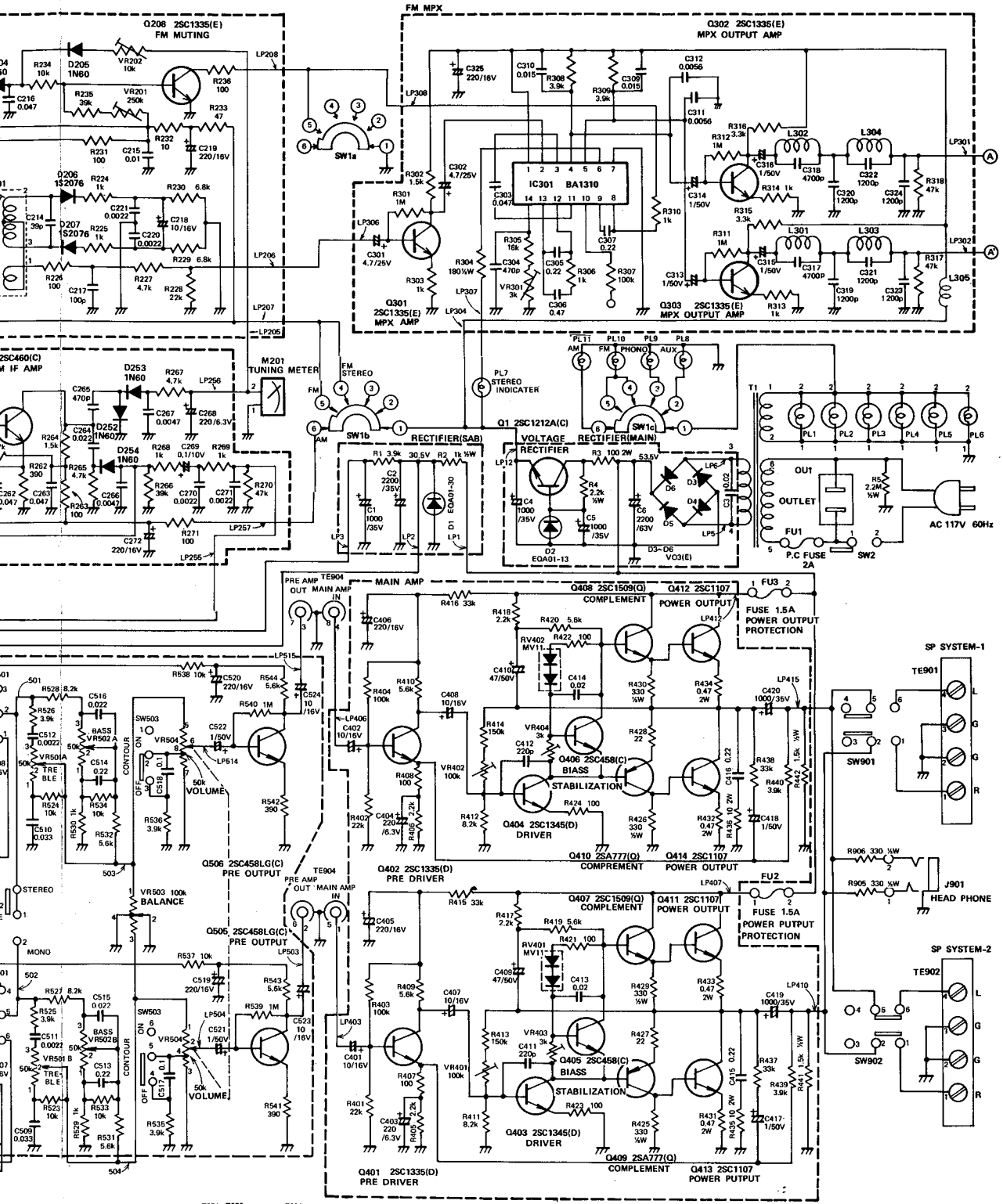
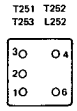
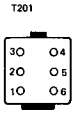


T251 T252 T253 L252



T201

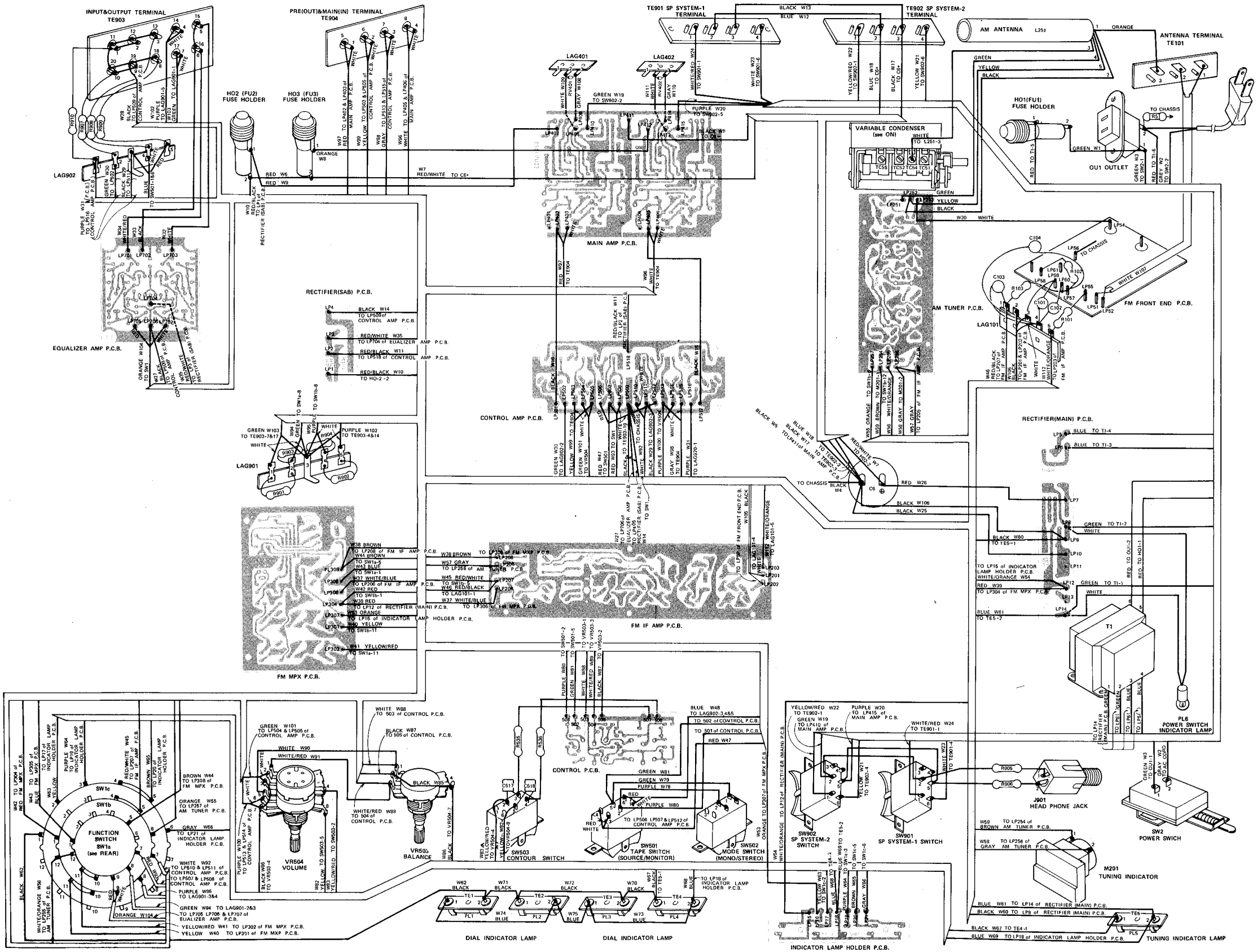


TRANSISTOR ELEMENTS VOLTAGES

Volts

	Q1	Q201	Q202	Q203	Q204	Q205	Q206	Q207	Q208	Q251	Q252	Q253	Q301	Q302	Q303	Q401	Q402	Q404	Q405	Q406
Collector	47.9	2.0	6.0	7.6	10.6	8.4	10.6	10.6	0.02	10.7	9.2	7.2	8.4	6.1	6.1	6.5	6.5	24.6	26.4	26.4
Base	13.5	0.7	2.0	0.8	2.5	2.5	2.5	2.5	0.6	1.8	1.2	1.9	3.1	2.4	2.4	2.3	2.3	1.0	25.3	25.3
Emitter	12.9	0.05	1.3	0.1	1.9	1.9	1.9	1.9	0	1.2	0.6	1.2	2.5	1.8	1.8	1.6	1.6	0.4	24.6	24.6
	Q407	Q408	Q409	Q410	Q411	Q412	Q413	Q414	Q501	Q502	Q503	Q504	Q505	Q506	Q701	Q702	Q703	Q704		
Collector	53.5	53.5	0.6	0.6	53.5	53.5	25.2	25.2	16.9	16.9	17.2	17.2	6.8	6.8	3.6	3.6	10.8	10.8		
Base	26.4	26.4	24.6	24.6	26.8	25.8	0.6	0.6	4.2	4.2	8.4	8.4	1.2	1.2	0.8	0.8	3.8	3.8		
Emitter	25.8	25.8	25.2	25.2	26.2	25.2	0	0	3.6	3.8	7.9	7.9	0.6	0.6	0.1	0.1	3.2	3.2		

WIRING DIAGRAM RV



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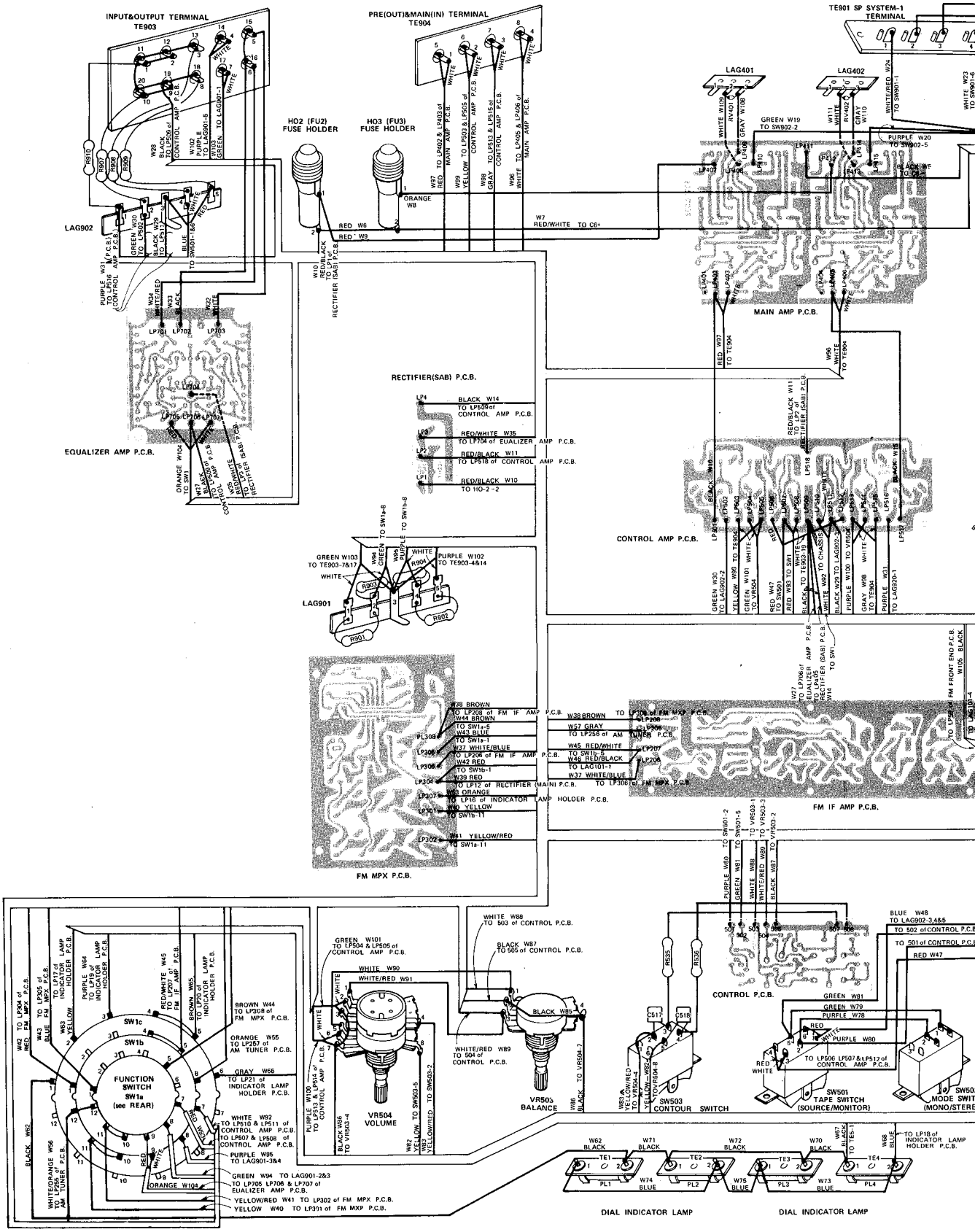
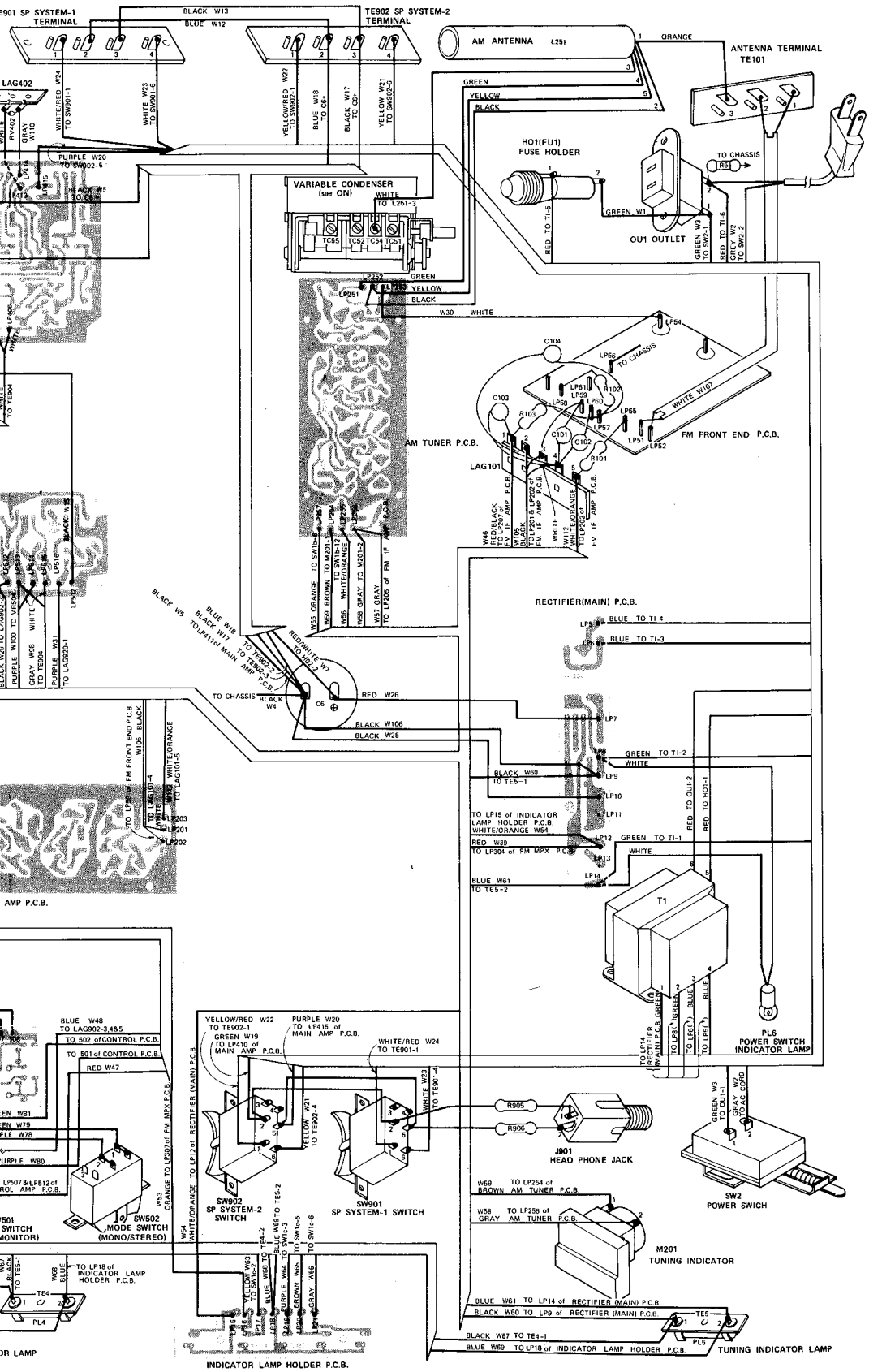
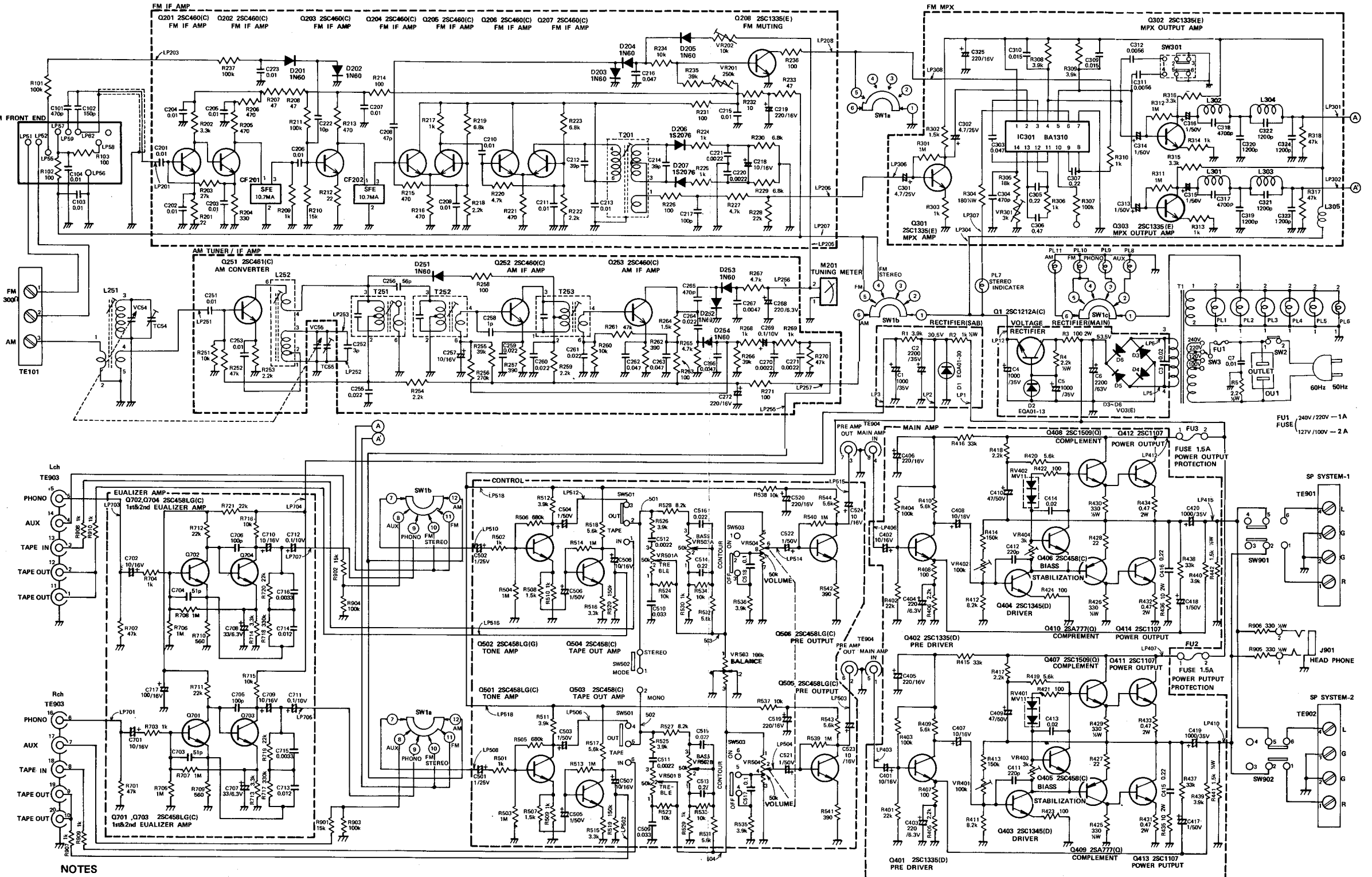



TE901 SP SYSTEM-1 TERMINAL
TE902 SP SYSTEM-2 TERMINAL
BLACK W13
BLUE W12
AM ANTENNA L251
ORANGE
ANTENNA TERMINAL TE101
GREEN
YELLOW
BLACK
HO1(FU1) FUSE HOLDER
TO CHASSIS
R5
GREEN W1
OU1 OUTLET
RED TO TI-5
GREEN W3 TO SW2-1
RED TO TI-6
GREY W2 TO SW2-2
VARIABLE CONDENSER (see ON)
WHITE TO L251-3
TC55
TC52
TC54
TC51
LP252
LP251
GREEN
YELLOW
BLACK
W30 WHITE
AM TUNER P.C.B.
C104
LP56
TO CHASSIS
LP54
LP61
LP59
LP60
R102
C103
R103
LP58
LP55
WHITE W107
LP57
C101
C102
R101
LP51
LP52
FM FRONT END P.C.B.
LAG101
RECTIFIER(MAIN) P.C.B.
BLUE TO TI-4
BLUE TO TI-3
BLACK W5
BLUE W18
BLACK W17
TO LP411 of MAIN AMP P.C.B.
RED/WHITE W7
TO LP2 of MAIN AMP P.C.B.
TO CHASSIS
BLACK W4
C6
RED W26
BLACK W106
BLACK W25
GREEN TO TI-2
WHITE
BLACK W60 TO TE5-1
TO LP15 of INDICATOR LAMP HOLDER P.C.B. WHITE/ORANGE W54
RED W39 TO LP304 of FM MPX P.C.B.
GREEN TO TI-1
WHITE
BLUE W61 TO TE5-2
T1
PL6 POWER SWITCH INDICATOR LAMP
AMP P.C.B.
BLUE W48 TO LAG902-3,4&5
TO 502 of CONTROL P.C.B.
TO 501 of CONTROL P.C.B.
RED W47
YELLOW/RED W22 TO TE902-1
PURPLE W20 TO LP415 of MAIN AMP P.C.B.
GREEN W19 TO LP410 of MAIN AMP P.C.B.
WHITE/RED W24 TO TE901-1
WHITE W23 TO TE901-4
YELLOW W21 TO TE902-4
R905
R906
J901 HEAD PHONE JACK
SW902 SP SYSTEM-2 SWITCH
SW901 SP SYSTEM-1 SWITCH
SW502 MODE SWITCH (MONO/STEREO)
SW2 POWER SWICH
GREEN W3 TO OU1-1
GRAY W2 TO AC CORD
W59 BROWN TO LP254 of AM TUNER P.C.B.
W58 GRAY TO LP256 of AM TUNER P.C.B.
M201 TUNING INDICATOR
BLUE W61 TO LP14 of RECTIFIER (MAIN) P.C.B.
BLACK W60 TO LP9 of RECTIFIER (MAIN) P.C.B.
BLACK W67 TO TE4-1
BLUE W69 TO LP18 of INDICATOR LAMP HOLDER P.C.B.
TUNING INDICATOR LAMP
INDICATOR LAMP HOLDER P.C.B.

SCHEMATIC DIAGRAM MV



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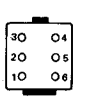
T251 T252 T253 L252

T201



TRANSISTOR ELEMENTS VOLTAGES

Volts

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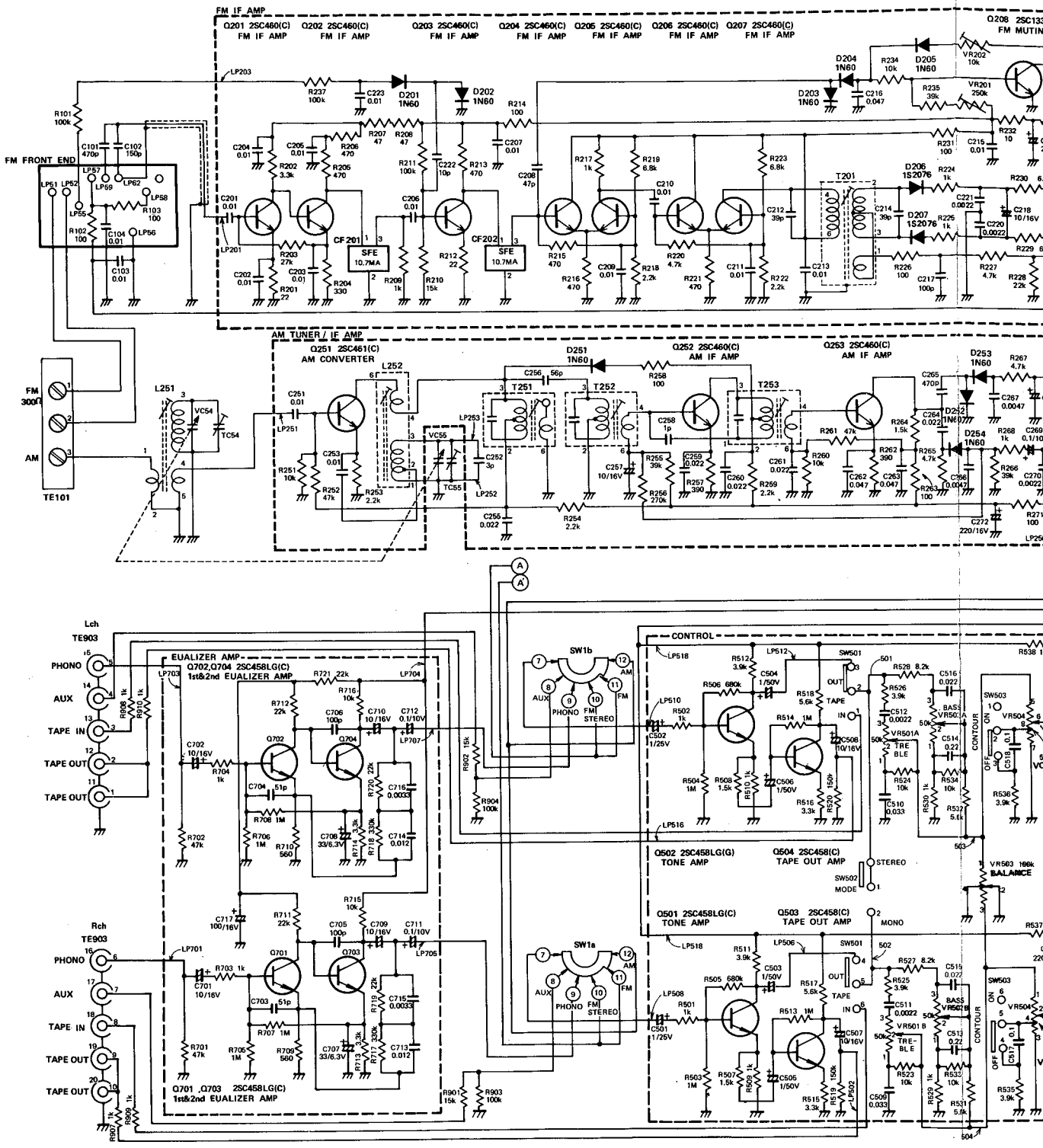
Collector	47.9	2.0	6.0	7.6	10.6	8.4	10.6	10.6	0.02	10.7	9.2	7.2	8.4	6.1	6.1	6.5	6.5	24.6	26.4	26.4
Base	13.5	0.7	2.0	0.8	2.5	2.5	2.5	2.5	0.6	1.8	1.2	1.9	3.1	2.4	2.4	2.3	2.3	1.0	25.3	25.3
Emitter	12.9	0.05	1.3	0.1	1.9	1.9	1.9	1.9	0	1.2	0.6	1.2	2.5	1.8	1.8	1.6	1.6	0.4	24.8	24.6
	Q407	Q408	Q409	Q410	Q411	Q412	Q413	Q414	Q501	Q502	Q503	Q504	Q505	Q506	Q701	Q702	Q703	Q704		
Collector	53.5	53.5	0.6	0.6	53.5	53.5	25.2	25.2	16.9	16.9	17.2	17.2	6.8	6.8	3.6	3.6	10.8	10.8		
Base	26.4	26.4	24.6	24.6	25.8	25.8	0.6	0.6	4.2	4.2	8.4	8.4	1.2	1.2	0.8	0.8	3.8	3.8		
Emitter	26.8	26.8	25.2	25.2	25.2	25.2	0	0	3.6	3.6	7.9	7.9	0.6	0.6	0.1	0.1	3.2	3.2		

SCHEMATIC DIAGRAM MV



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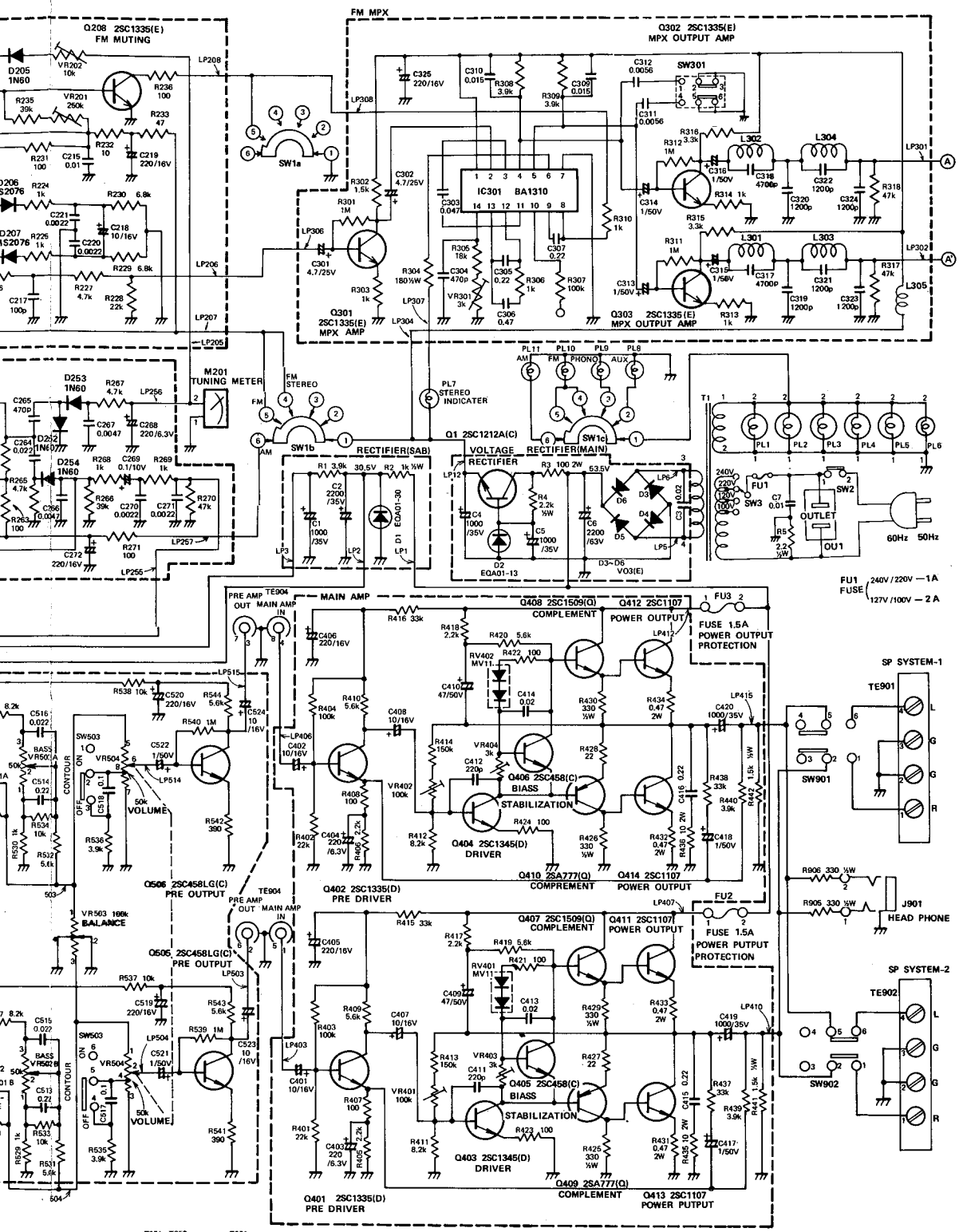


T251 T252
T253 L252

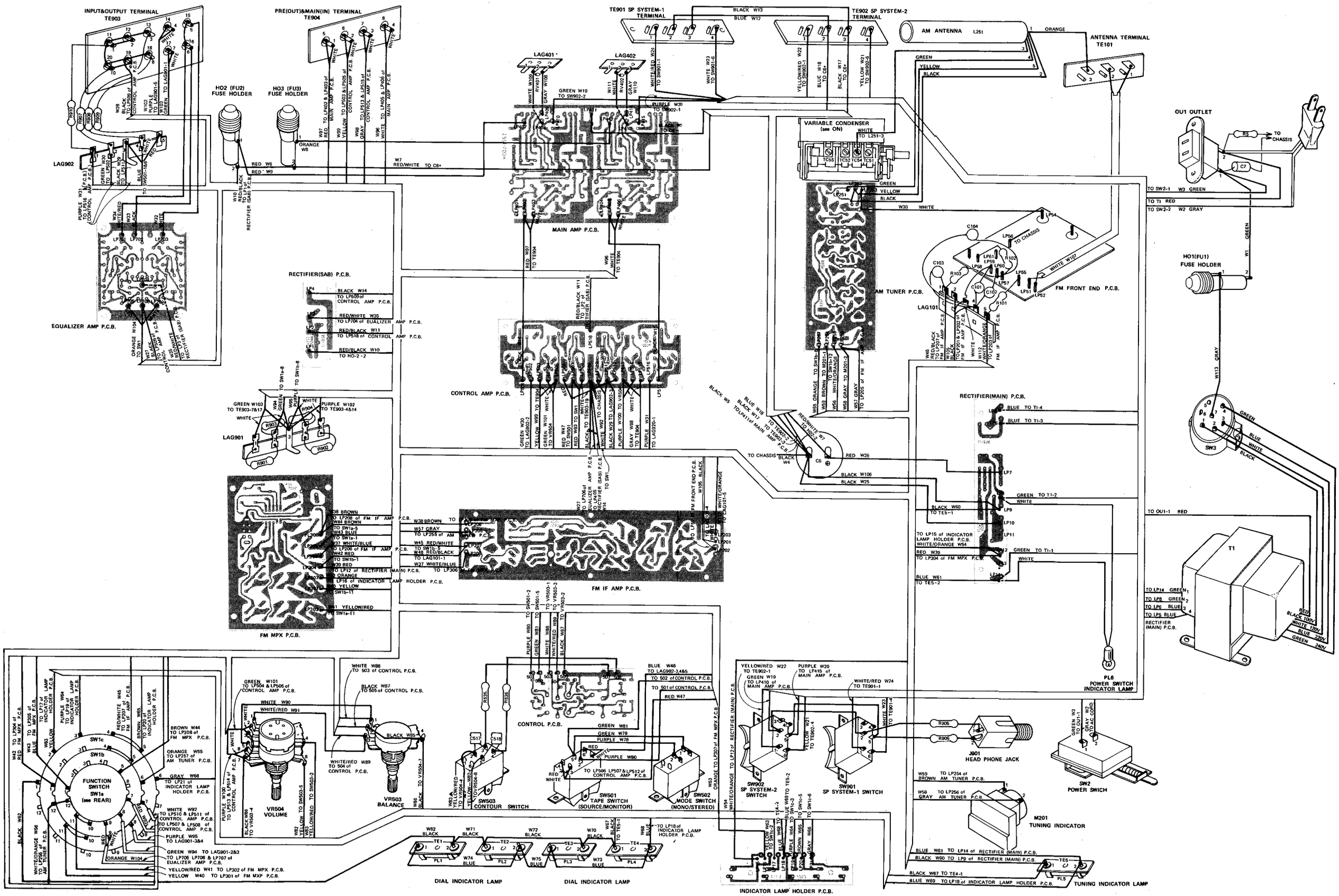
T201

TRANSISTOR ELEMENTS VOLTAGES

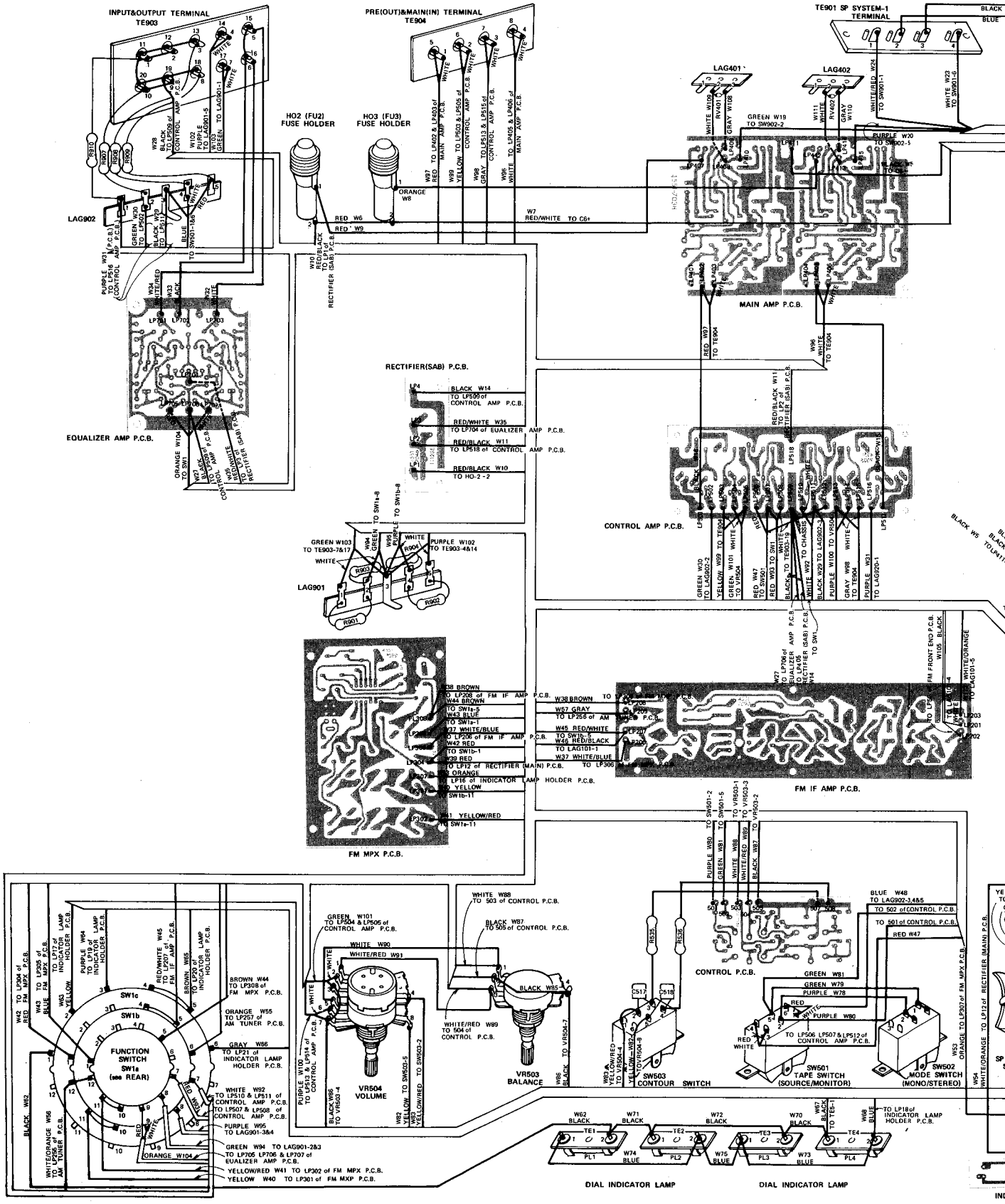
Volts

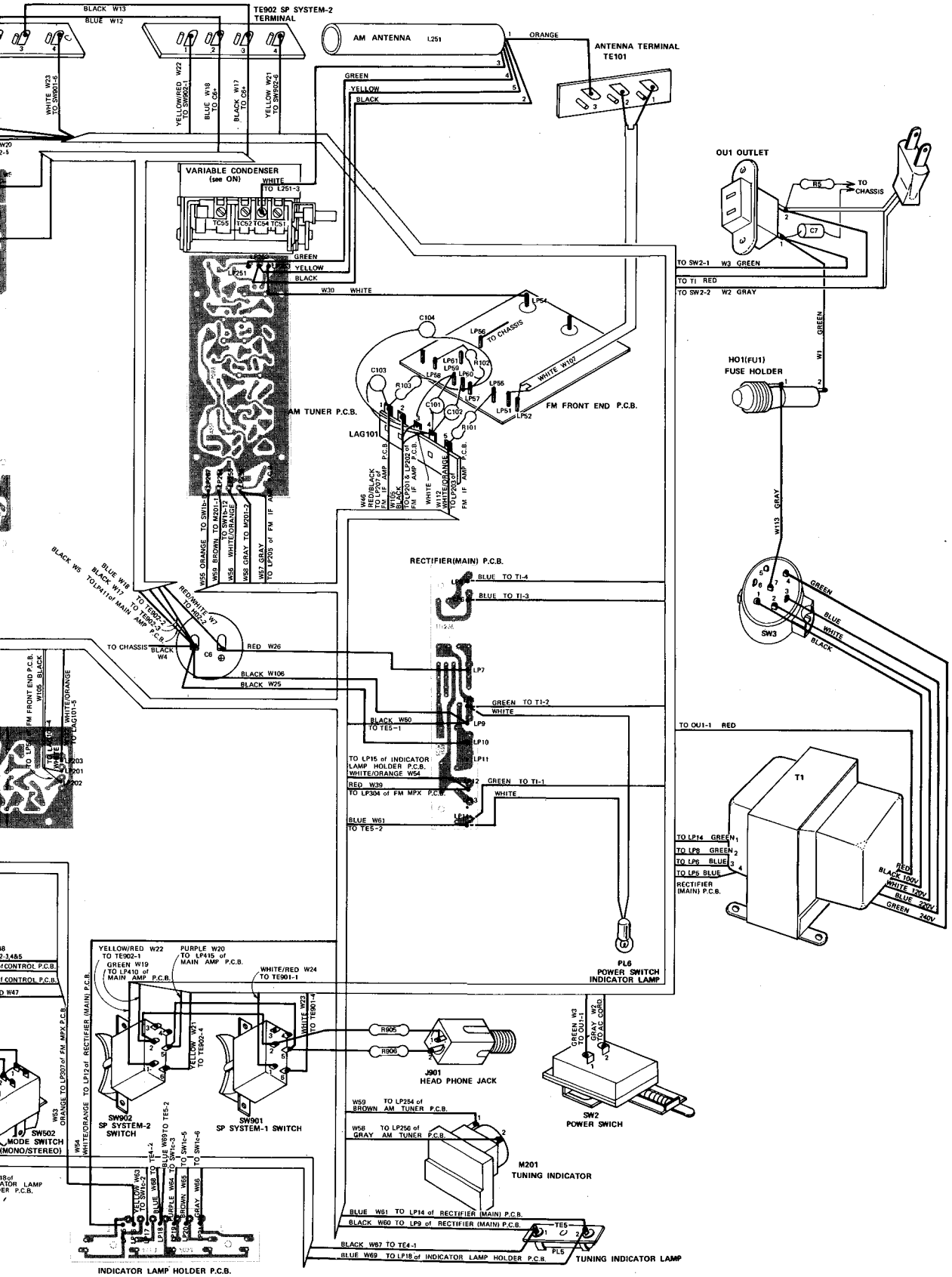
	Q1	Q201	Q202	Q203	Q204	Q205	Q206	Q207	Q208	Q251	Q252	Q253	Q301	Q302	Q303	Q401	Q402	Q404	Q405	Q406
Collector	47.9	2.0	6.0	7.6	10.6	8.4	10.6	10.6	0.02	10.7	9.2	7.2	8.4	6.1	6.1	6.5	6.5	24.6	26.4	26.4
Base	13.5	0.7	2.0	0.8	2.5	2.5	2.5	2.5	0.6	1.8	1.2	1.9	3.1	2.4	2.4	2.3	2.3	1.0	25.3	25.3
Emitter	12.9	0.05	1.3	0.1	1.9	1.9	1.9	1.9	0	1.2	0.6	1.2	2.5	1.8	1.8	1.6	1.6	0.4	24.6	24.6
	Q407	Q408	Q409	Q410	Q411	Q412	Q413	Q414	Q501	Q502	Q503	Q504	Q505	Q506	Q701	Q702	Q703	Q704		
Collector	53.6	53.5	0.6	0.6	53.5	53.5	25.2	25.2	16.9	16.9	17.2	17.2	6.8	6.8	3.6	3.6	10.8	10.8		
Base	26.4	26.4	24.6	24.6	25.8	25.8	0.6	0.6	4.2	4.2	8.4	8.4	1.2	1.2	0.8	0.8	3.8	3.8		
Emitter	25.8	25.8	25.2	25.2	25.2	25.2	0	0	3.6	3.6	7.9	7.9	0.6	0.6	0.1	0.1	3.2	3.2		

WIRING DIAGRAM MV

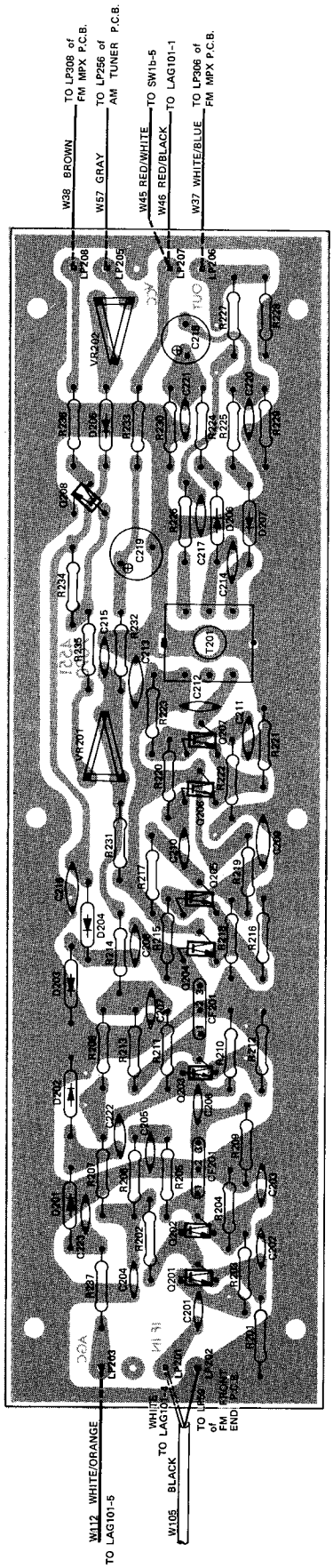


WIRING DIAGRAM MV

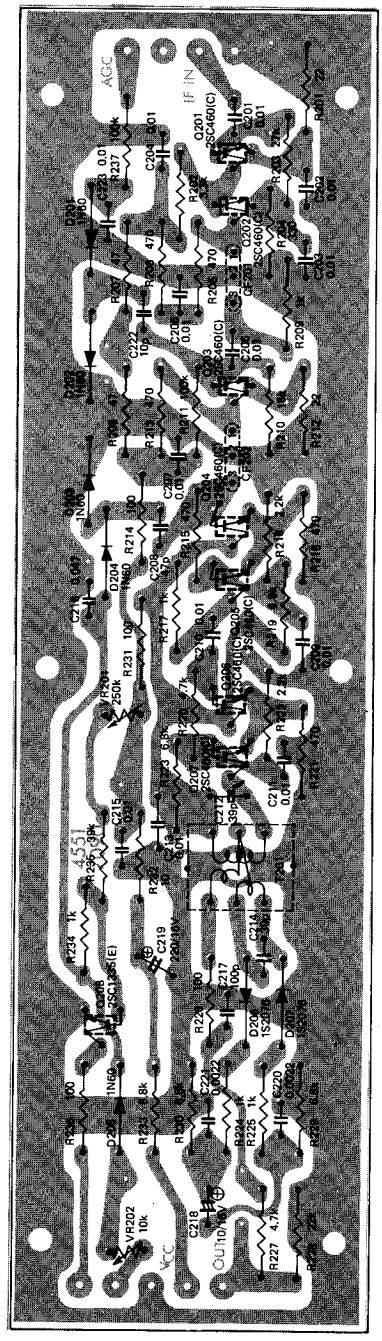



TE902 SP SYSTEM-2 TERMINAL
BLACK W13
BLUE W12
AM ANTENNA L251
ORANGE
ANTENNA TERMINAL TE101
GREEN
YELLOW
BLACK
VARIABLE CONDENSER (see ON)
WHITE TO L251-3
TC55 TC52 TC54 TC51
L251
OU1 OUTLET
R5
TO CHASSIS
C7
TO SW2-1 W3 GREEN
TO TI RED
TO SW2-2 W2 GRAY
W30 WHITE
LP54
C104
LP56
TO CHASSIS
LP61
LP59
R102
C103
LP58
LP60
R103
LP57
LP55
C101
C102
LP51
LP52
R101
WHITE W107
FM FRONT END P.C.B.
AM TUNER P.C.B.
LAG101
HO1(FU1) FUSE HOLDER
W1 GREEN
W113 GRAY
SW3
GREEN
BLUE
WHITE
BLACK
RECTIFIER(MAIN) P.C.B.
BLUE TO TI-4
BLUE TO TI-3
GREEN TO TI-2
WHITE
BLACK W106
BLACK W25
RED W26
TO CHASSIS
BLACK W4
BLACK W50 TO TE5-1
LP7
LP9
LP10
LP11
LP12
LP13
TO LP15 of INDICATOR LAMP HOLDER P.C.B. WHITE/ORANGE W54
RED W39 TO LP304 of FM MPX P.C.B.
BLUE W61 TO TE5-2
GREEN TO TI-1
WHITE
TO OU1-1 RED
T1
TO LP14 GREEN
TO LP8 GREEN
TO LP6 BLUE
TO LP5 BLUE
RECTIFIER (MAIN) P.C.B.
RED
BLACK 100V
WHITE 120V
BLUE 220V
GREEN 240V
PL6
POWER SWITCH INDICATOR LAMP
YELLOW/RED W22 TO TE902-1
PURPLE W20 TO LP415 of MAIN AMP P.C.B.
GREEN W19 TO LP410 of MAIN AMP P.C.B.
WHITE/RED W24 TO TE901-1
WHITE W23 TO TE901-4
YELLOW W21 TO TE902-4
SW902 SP SYSTEM-2 SWITCH
SW901 SP SYSTEM-1 SWITCH
R905
R906
J901 HEAD PHONE JACK
GREEN W3 TO OU1-1
GRAY W4 TO AC CORD
SW2 POWER SWICH
W59 TO LP254 of BROWN AM TUNER P.C.B.
W58 TO LP256 of GRAY AM TUNER P.C.B.
M201 TUNING INDICATOR
BLUE W61 TO LP14 of RECTIFIER (MAIN) P.C.B.
BLACK W60 TO LP9 of RECTIFIER (MAIN) P.C.B.
BLACK W67 TO TE4-1
BLUE W69 TO LP18 of INDICATOR LAMP HOLDER P.C.B.
TE5
PL5
TUNING INDICATOR LAMP
INDICATOR LAMP HOLDER P.C.B.
SW502 MODE SWITCH (MONO/STEREO)

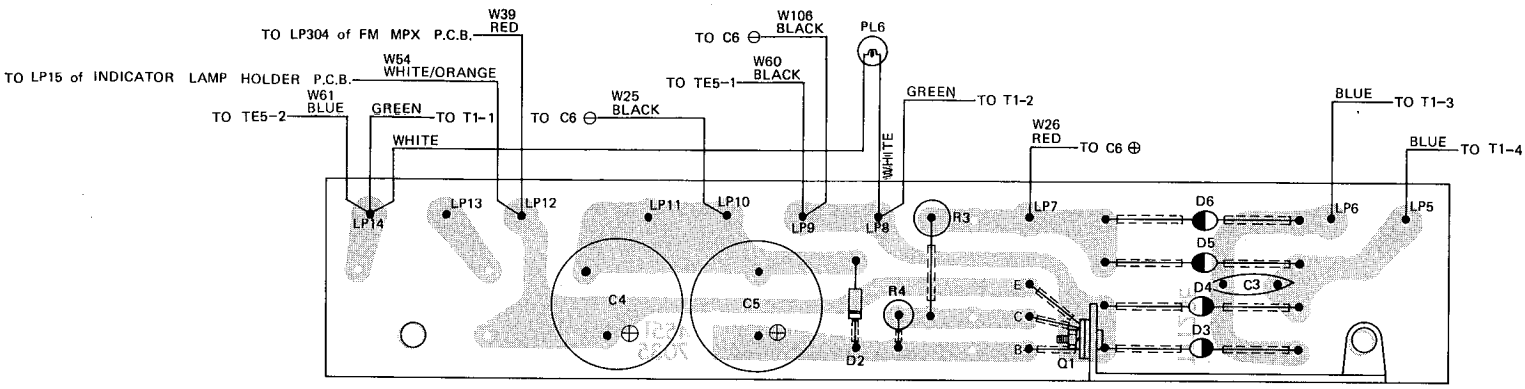
FM IF AMP BOARD (COMPONENT SIDE)

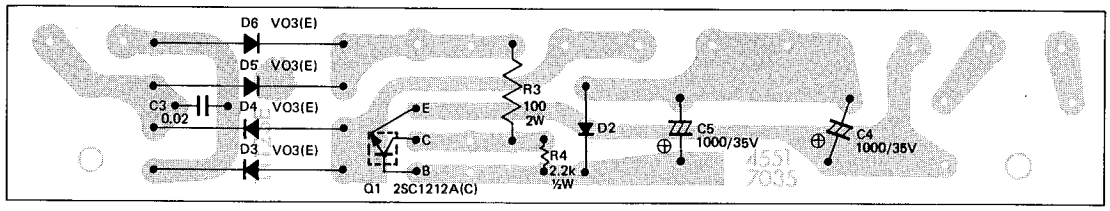


FM IF AMP BOARD (CIRCUIT SIDE)

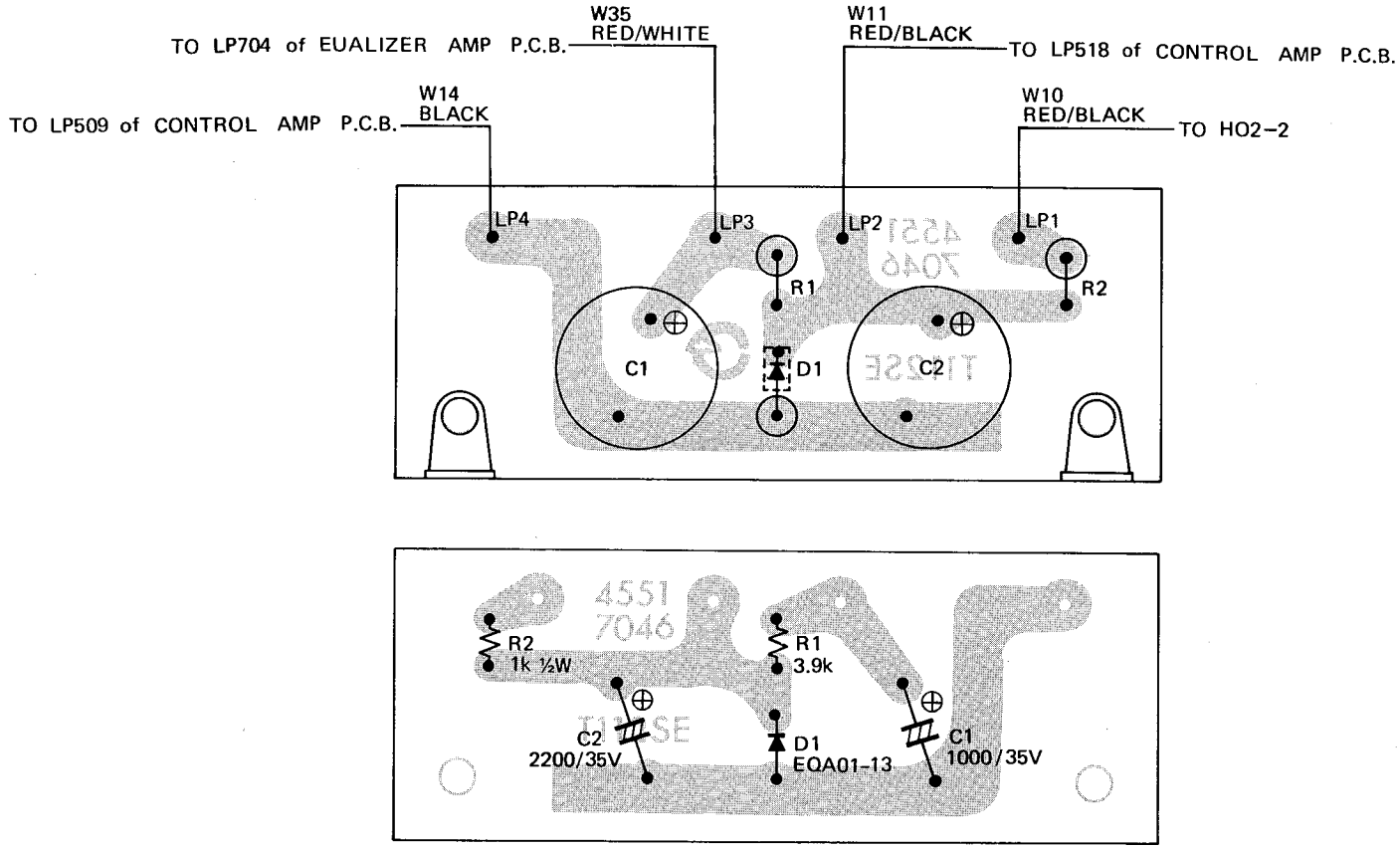


RECTIFIER (MAIN) BOARD

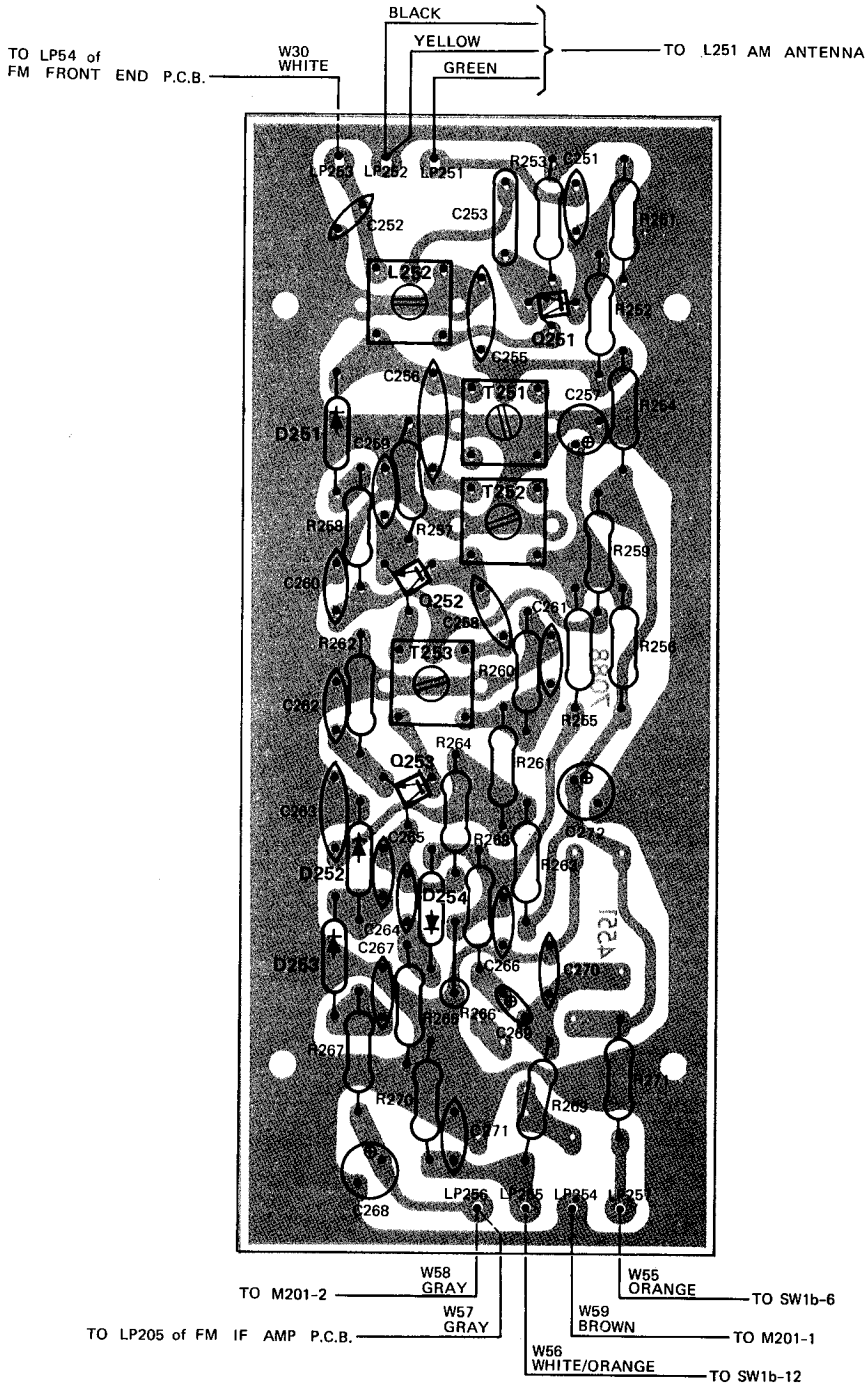




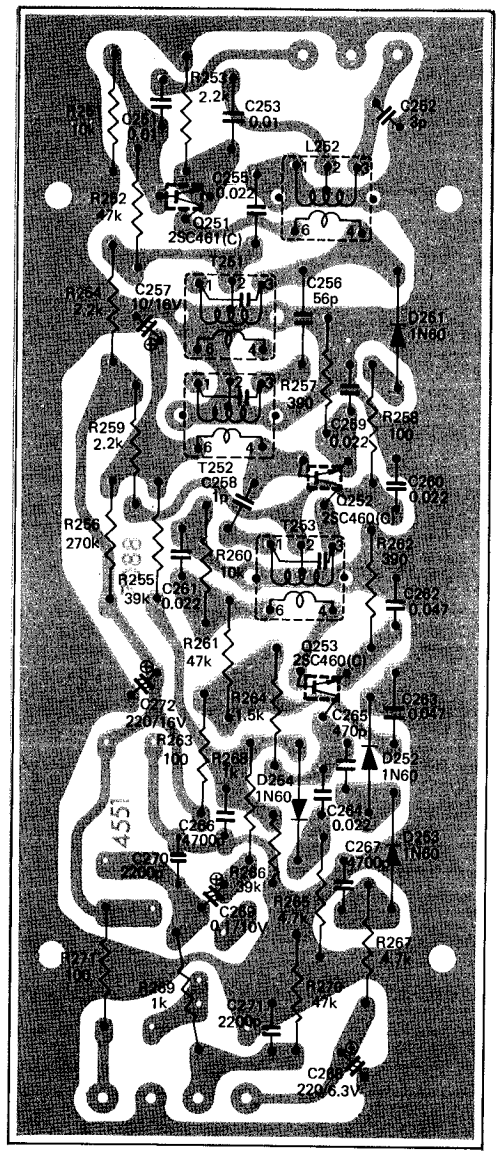
RECTIFIER (SUB) BOARD



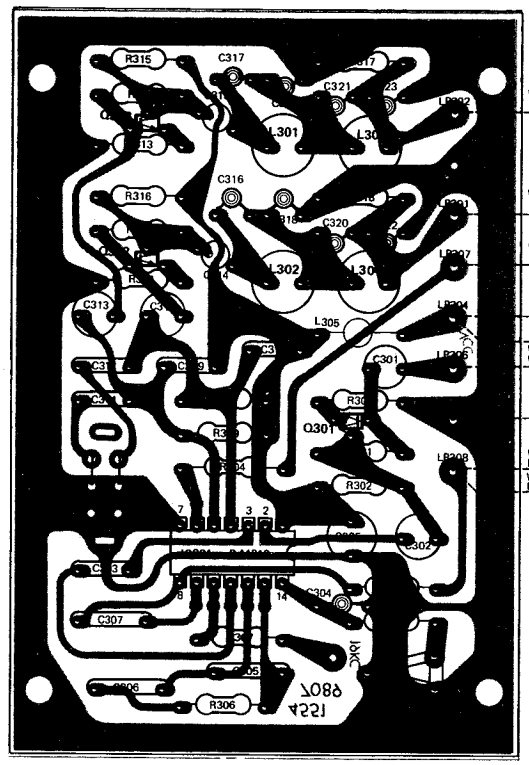
AM TUNER BOARD (COMPONENT SIDE)

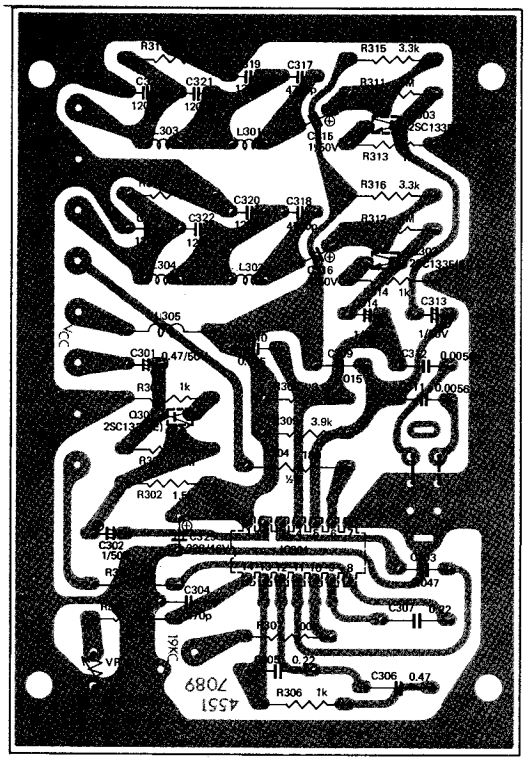


AM TUNER BOARD (CIRCUIT SIDE)

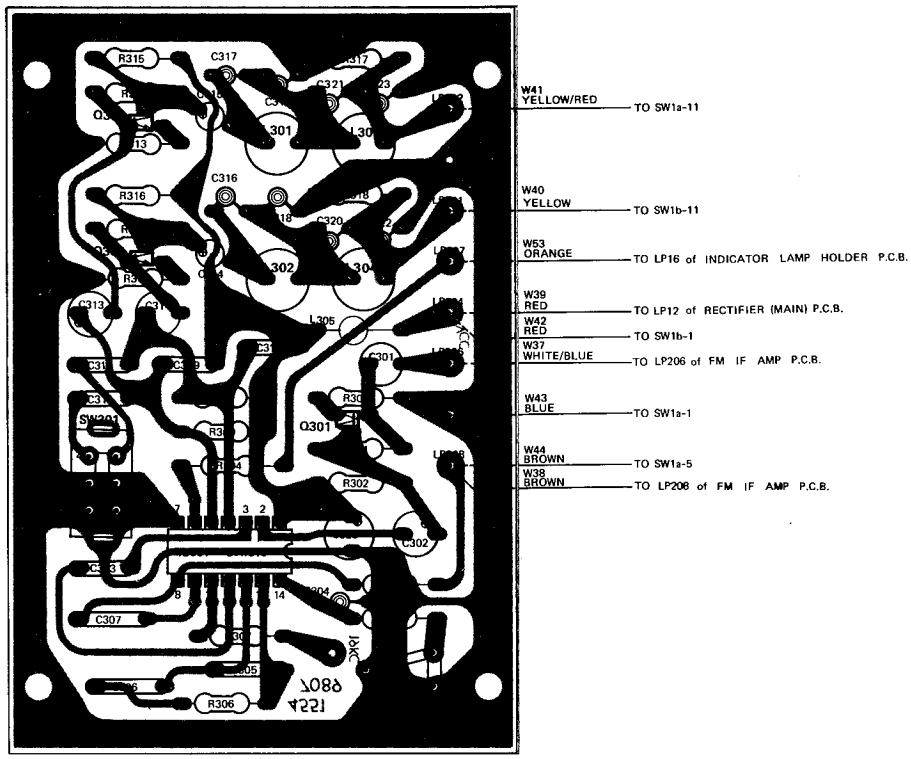


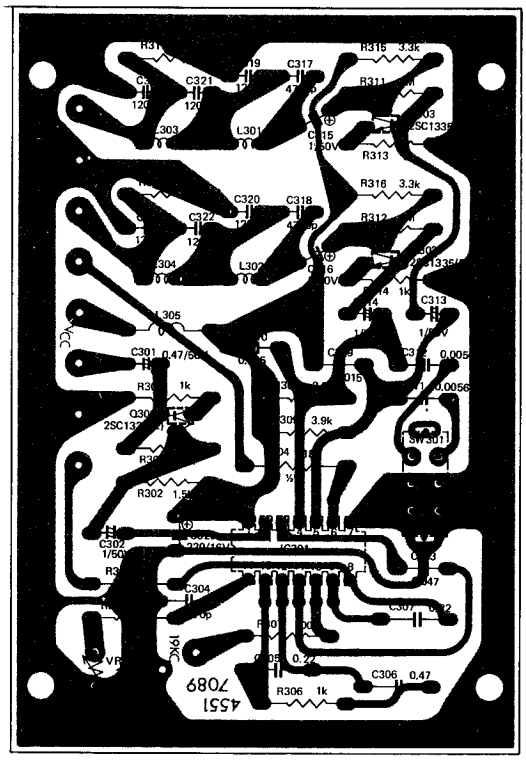
FM MPX BOARD RV



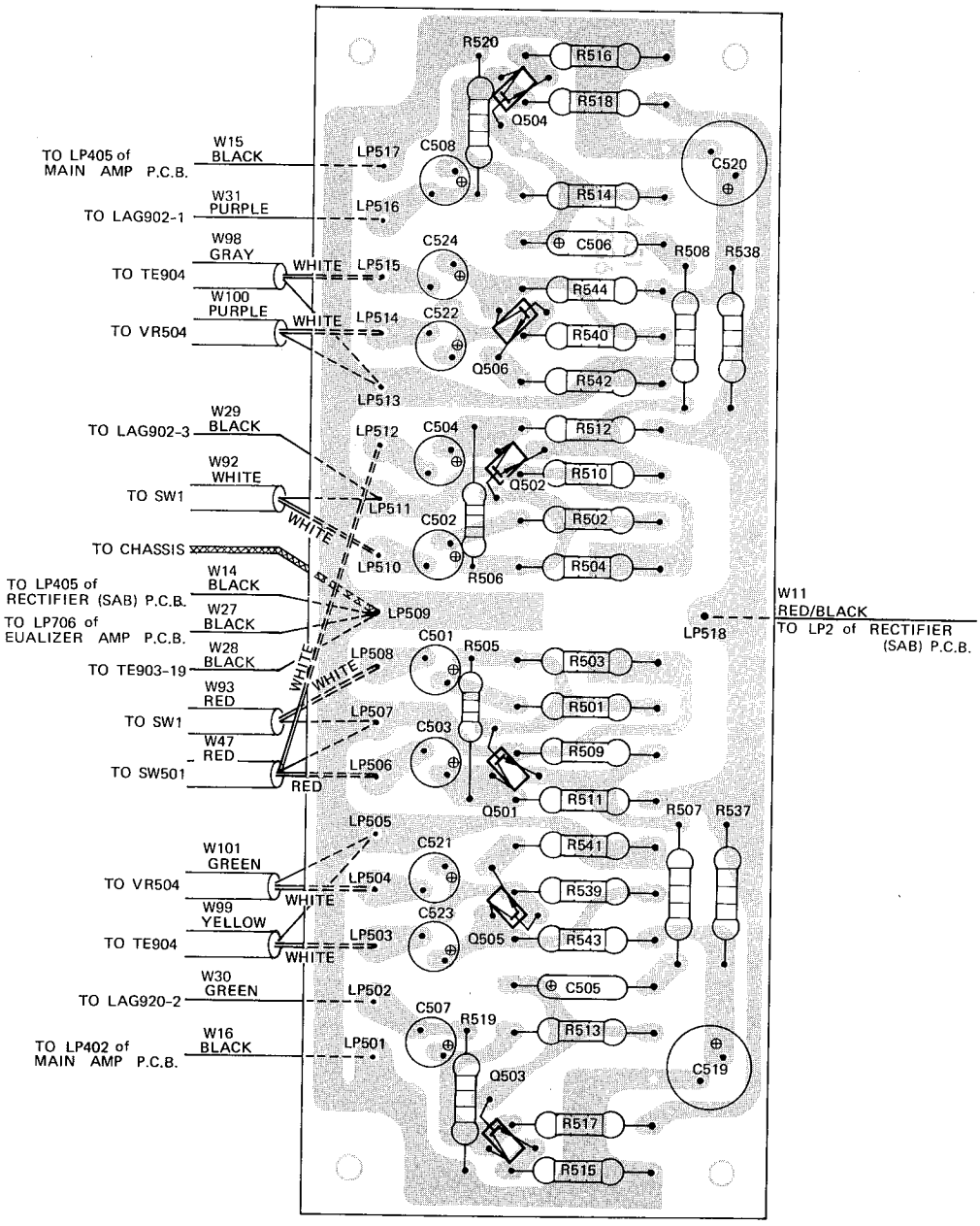


FM MPX BOARD MV

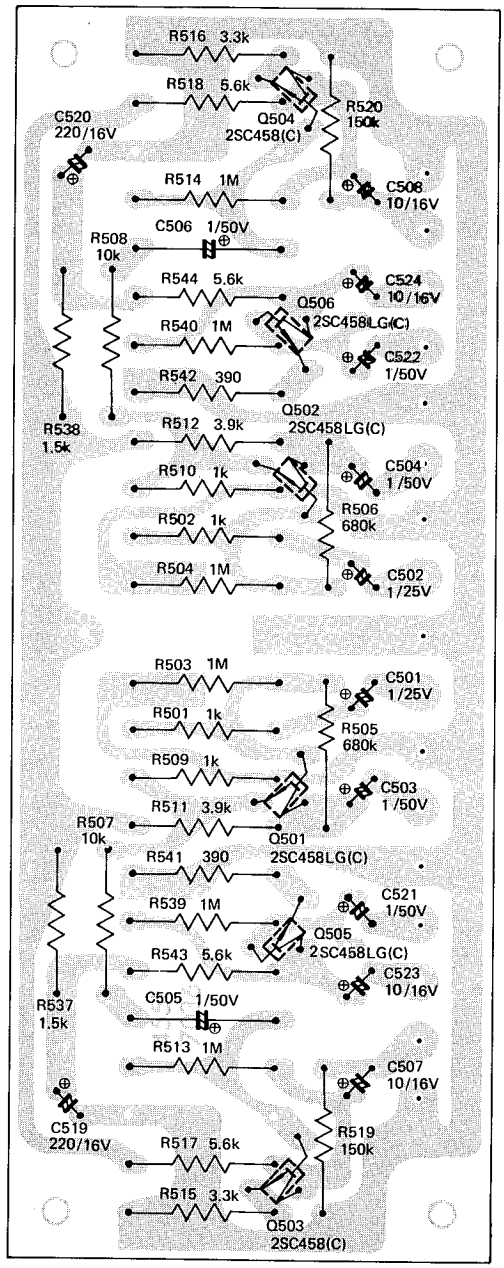




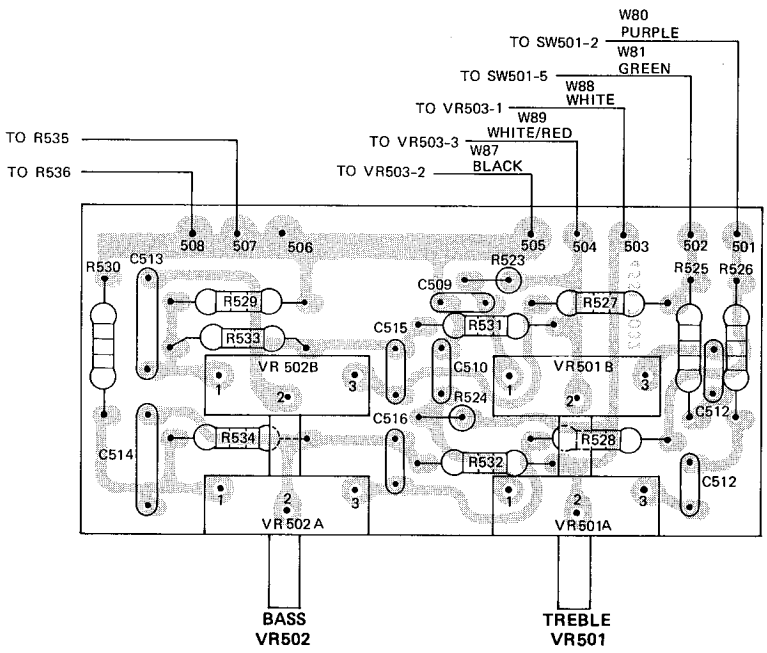
CONTROL AMP BOARD (COMPONENT SIDE)



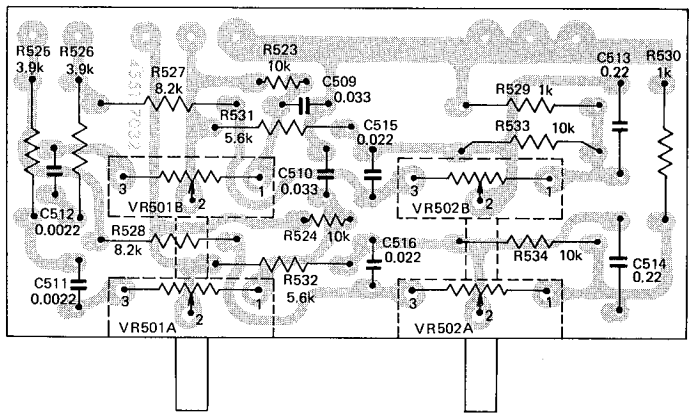
CONTROL AMP BOARD (CIRCUIT SIDE)



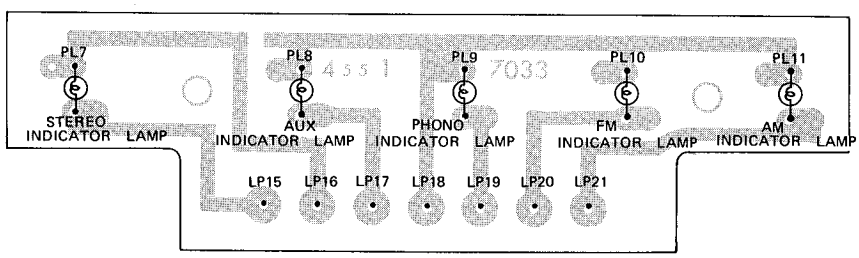
CONTROL BOARD (COMPONENT SIDE)



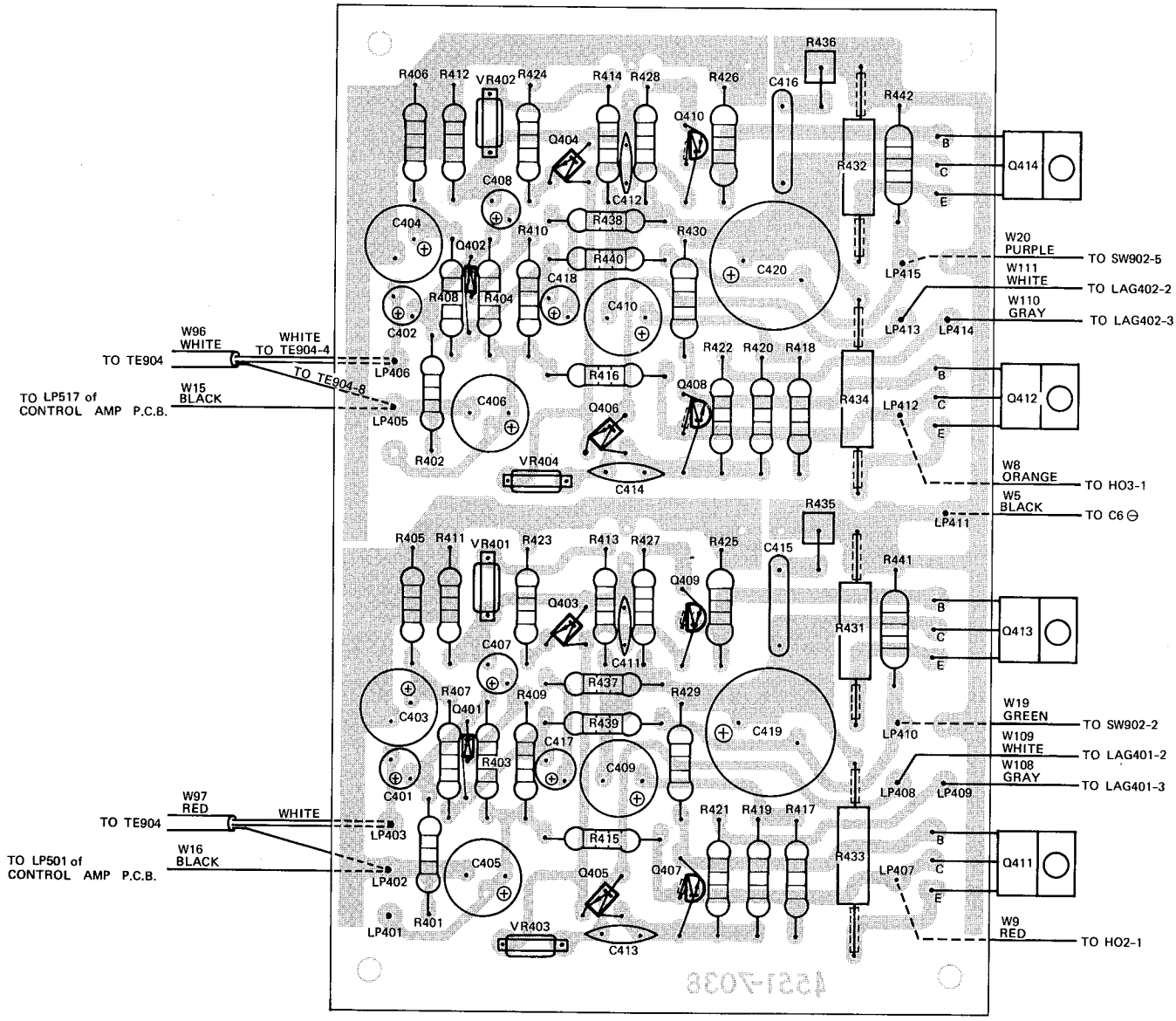
CONTROL BOARD (CIRCUIT SIDE)



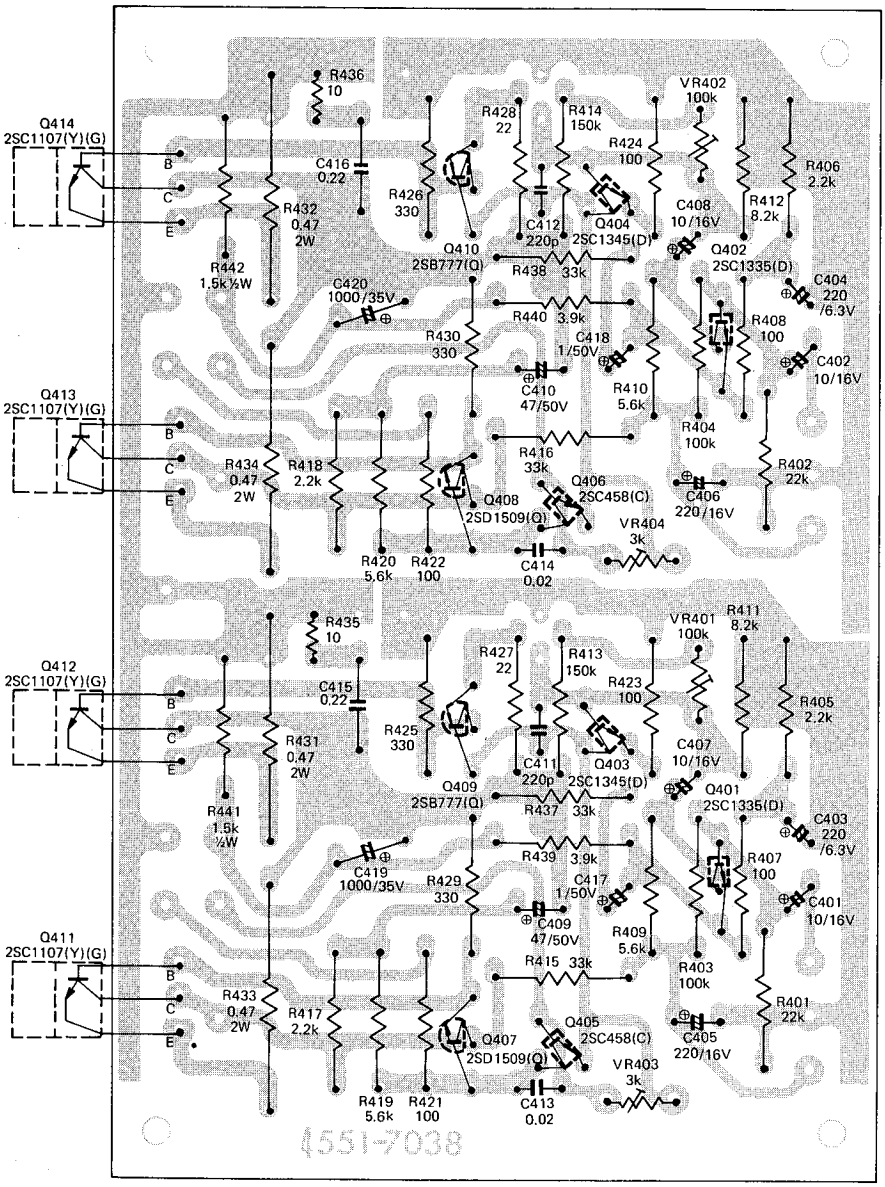
INDICATOR LAMP HOLDER BOARD



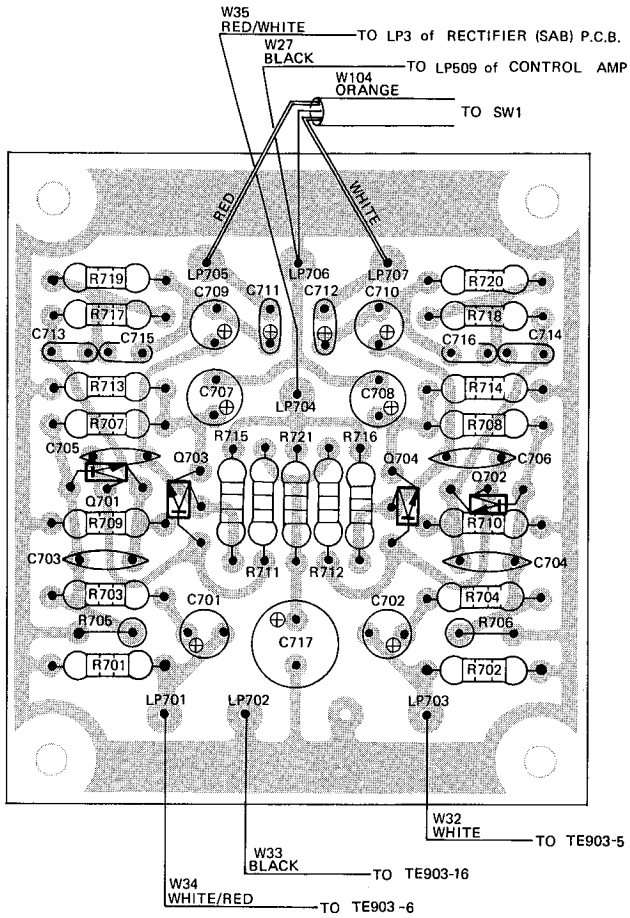
MAIN AMP BOARD (COMPONENT SIDE)



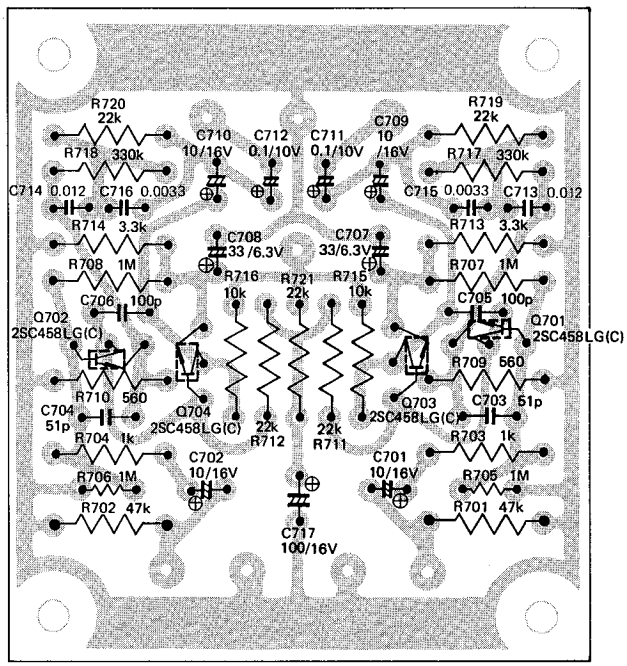
MAIN AMP BOARD (CIRCUIT SIDE)



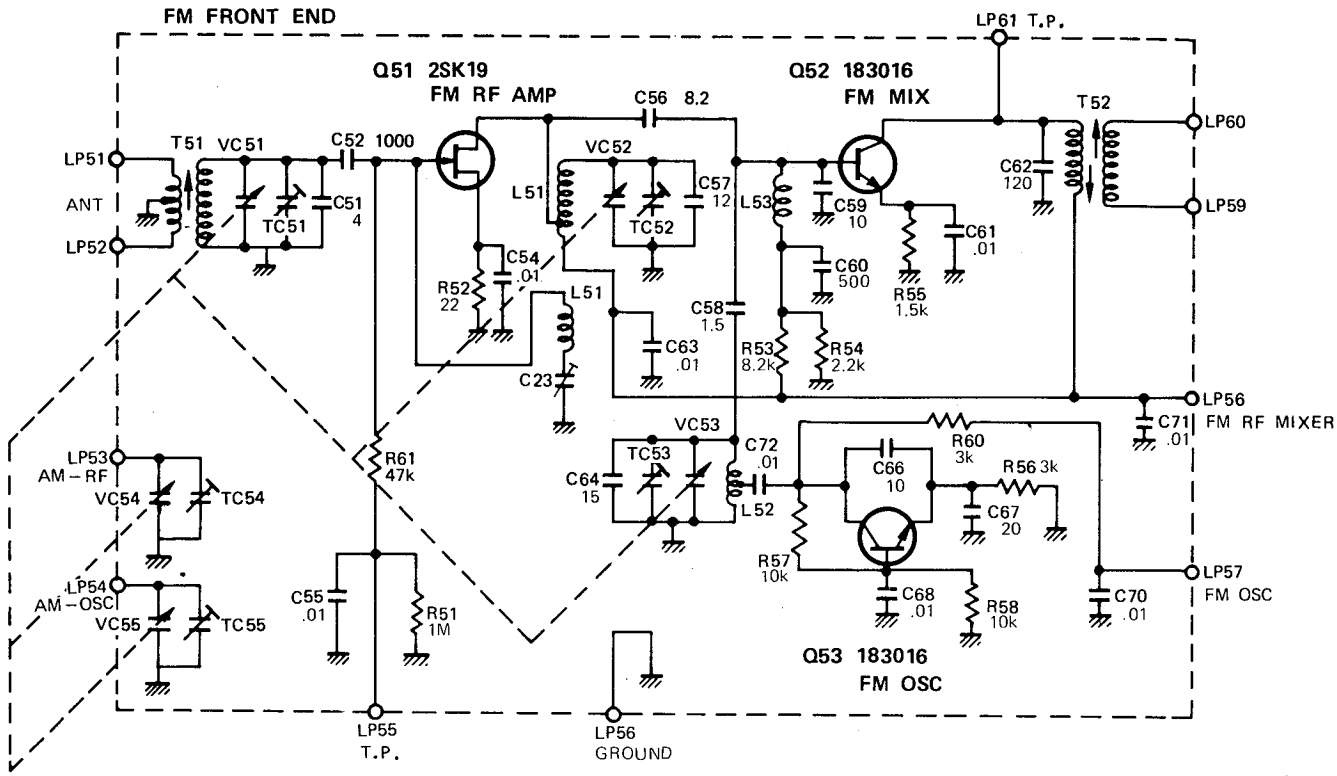
EQUALIZER AMP BOARD (COMPONENT SIDE)



EQUALIZER AMP BOARD (CIRCUIT SIDE)

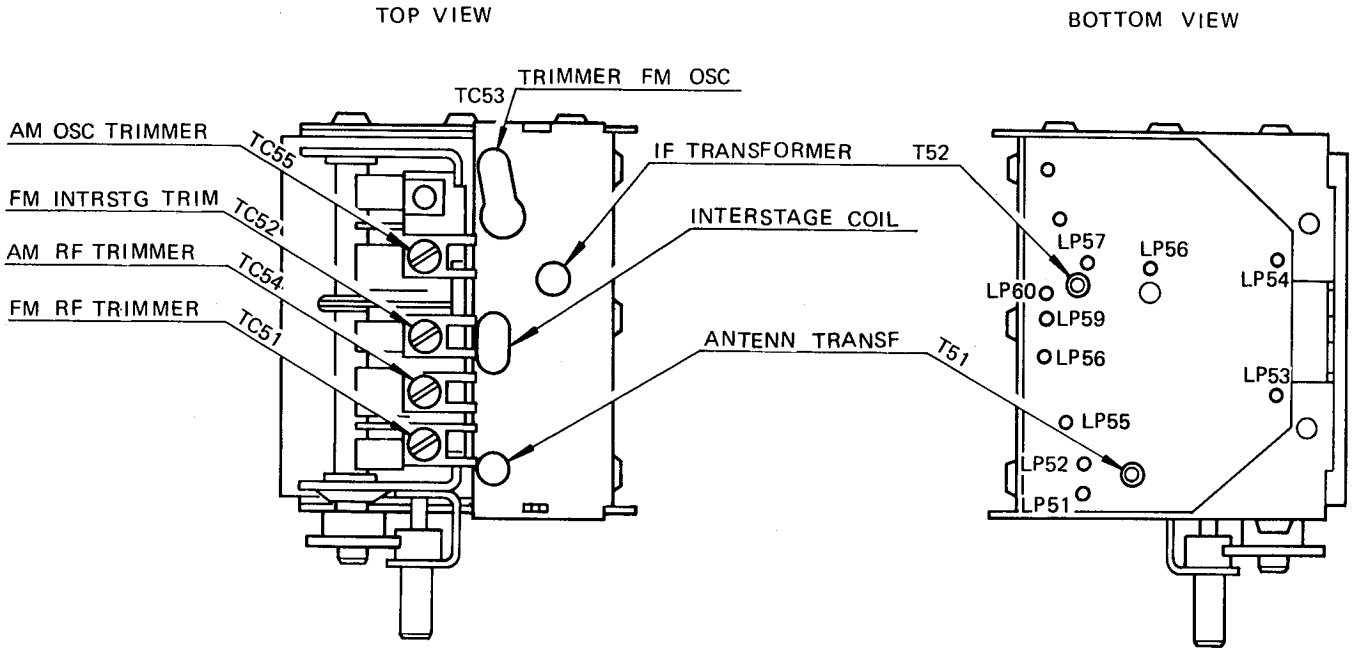


FM FRONT END BOARD

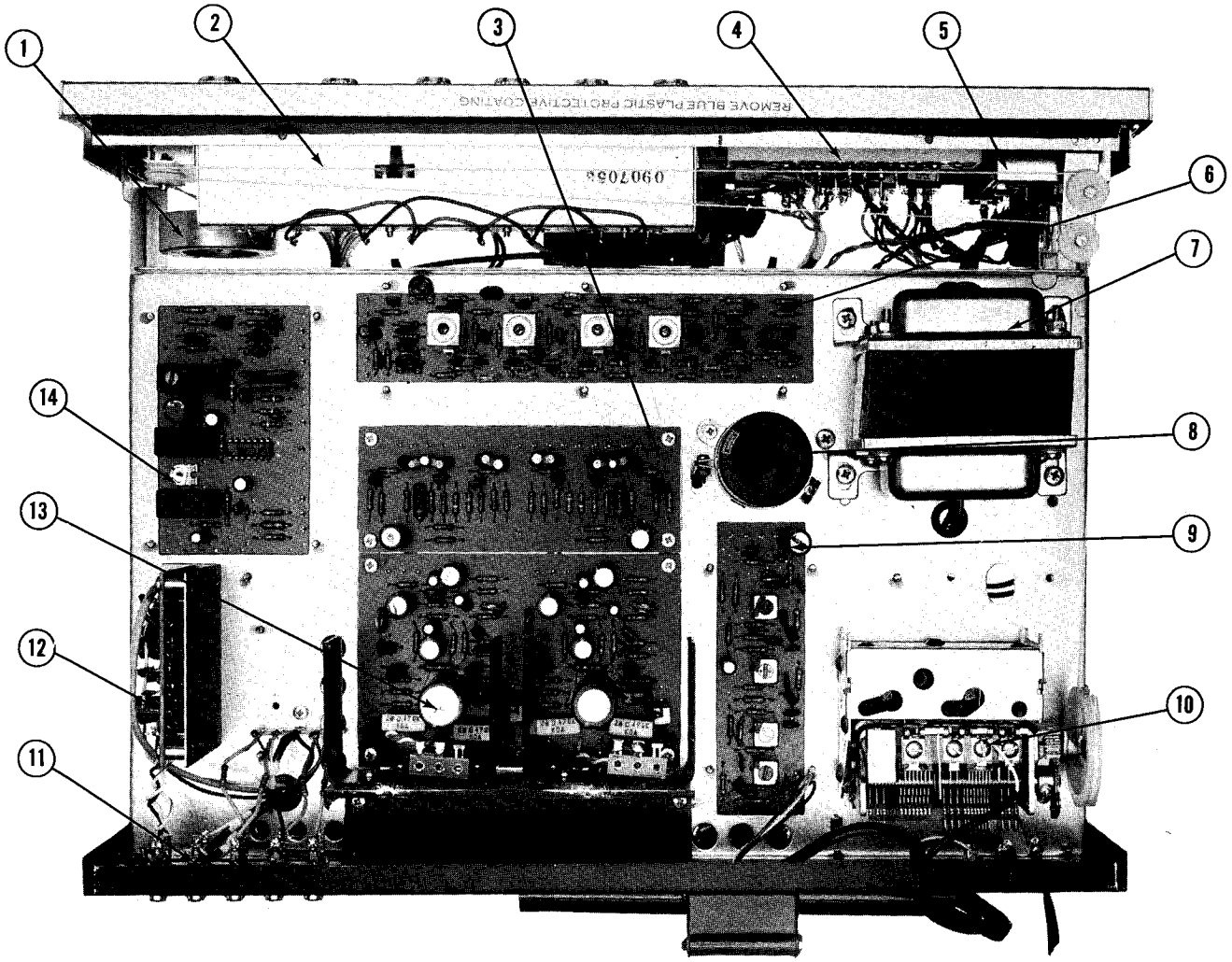


NOTES:

1. ALL CAPACITANCE VALUES IN $\mu\mu$F EXCEPT DECIMAL VALUES IN MF.
2. ALL RESISTANCE VALUES IN OHMS.

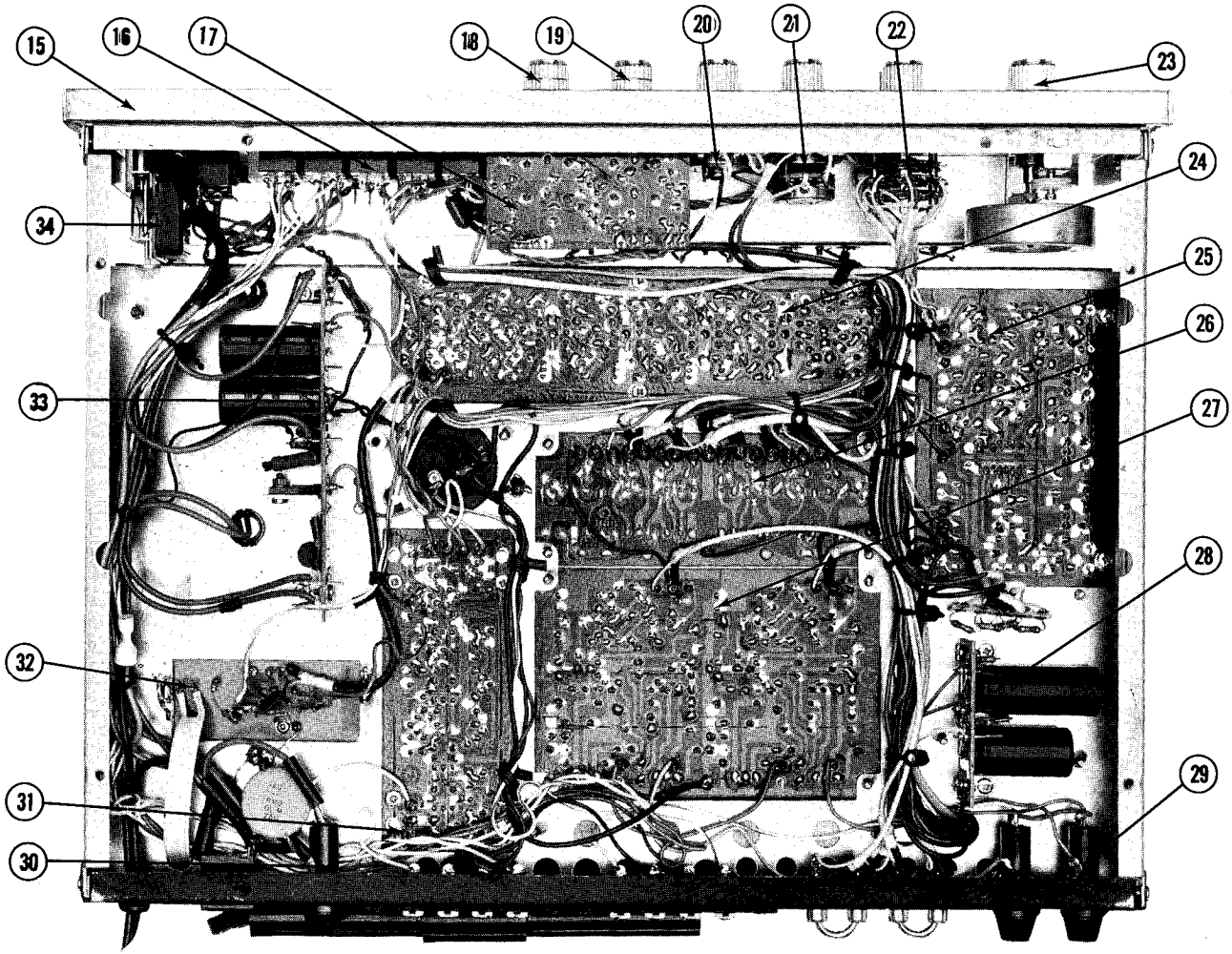


TOP VIEW



1. FLYWHEEL
2. LAMP HOUSING
3. CONTROL AMP P.C.B. (PG. 18)
4. INDICATOR LAMP HOLDER P.C.B. (PG. 19)
5. TUNING INDICATOR M201, & LAMP PL5
6. FM-IF AMP P.C.B. (PG. 13)
7. POWER TRANSFORMER TI
8. ELECTROLYTIC CAPACITOR, 2200μF, 63V
9. AM TUNER P.C.B. (PG. 15)
10. VARIABLE CONDENSOR (PG. 23)
11. INPUT & OUTPUT TERMINAL TE903
12. EQUALIZER AMP P.C.B. (PG. 22)
13. MAIN AMP P.C.B. (PG. 20 and 21)
14. FM MPX P.C.B. (PG. 16 and 17)

BOTTOM VIEW



(15) FRONT PANEL
(16) ROCKER SW501-503,901,902
(17) CONTROL P.C.B. (PG. 19)
(18) BASS CONTROL
(19) TREBLE CONTROL
(20) BALANCE CONTROL
(21) VOLUME CONTROL
(22) FUNCTION SWITCH SW1
(23) TUNING
(24) FM-IF AMP P.C.B. (PG. 13)
(25) FM MPX P.C.B. (PG. 16 and 17)
(26) CONTROL AMP P.C.B. (PG. 18)
(27) MAIN AMP P.C.B. (PG. 20 and 21)
(28) RECTIFIER (SUB) P.C.B. (PG. 14)
(29) SPEAKER FUSES FU2,FU3
(30) AC FUSE FU1
(31) AM TUNER P.C.B. (PG. 15)
(32) VARIABLE CONDENSOR
(33) RECTIFIER (MAIN) P.C.B. (PG. 14)
(34) POWER SWITCH SW2

REPLACEMENT PARTS LIST

REF. NO.	HK PART NO.	DESCRIPTION
POWER SOURCE		
C1,4,5	31129491	1000μF +50% – 10% 35V Electrolytic
C2	31819227	2200μF +50% – 10% 35V Electrolytic
C6	31825664	2200μF +50% – 10% 63V Electrolytic
D1	41029498	Diode EQA01-30
D2	42029566	Diode EQA01-13
D3,4,5,6	41029499	Diode V03(E)
Q1	43025972	Transistor 2SC1212A(C) Voltage Rectifier
T1	10130560	Transformer, Power, Export
T1	10129497	Transformer, Power, Domestic
D551-HK330K	00129462	Indicator Lamp Holder, P.C.B. Complete
D551-HK330H	00129460	Rectifier (Main) P.C.B. Complete
D551-HK330J	00129464	Rectifier (Sub) P.C.B. Complete
SW1	24029523	Function Switch
SW2	24029514	Power Switch
SW3	25530562	Switch, Power Source Volt. Sel.
H01,2,3	65424895	Fuse Holder
FU1	45012856	Fuse 2.0A AC Power Export
FU1	45029684	Fuse 1.0A AC Power Domestic
FU2,3	45012953	Fuse 1.5A Power Output Protection
TE1,2,3,4,5	65429517	Terminal Dial & Tuning Indicator Lamp
PL1,2,3,4,5	46529502	Lamp, Dial & Tuning Indicator
PL6	46529501	Lamp, 6.3V 50mA Power Switch Indicator
PL7,8,9,10,11	46529500	Lamp, 60V 30mA Stereo AM FM, Phono Aux Indicator
FM FRONT END		
TE101	00229511	FM Front End, P.C.B. Complete
4214-49	65129518	Antenna Terminal Strip

REF. NO.	HK PART NO.	DESCRIPTION
FM IF AMP		
CF201,202	12030549	Ceramic Filter, SFE 10.7mA
D201,202 203,204, 205	41029290	Diode, 1N60, FM Detector
D206,207	41030552	Diode, IS2076, FM Ratio Detector
T201	12030553	Transformer
Q201,202, 203,204, 205,206, 207	43029472	Transistor 2SC460(C) 1st thru 7th FM IF AMP
Q208	43030569	Transistor 2SC1335(E) FM Muting
VR201	23530558	250K ohm Variable Resistor
VR202	23530559	10K ohm Variable Resistor
M201	12529522	Meter, Tuning Indicator
AM TUNER		
D251,252, 253,254	41029290	Diode, 1N60, AM Det
L251	12030563	Coil AM Antenna
L252	12030561	Coil AM OSC
T251,252	10130556	Transformer AM IF
T253	10130557	Transformer 3rd AM IF
Q251	43029471	Transistor 2SC461(C) AM Converter
Q252,253	43025972	Transistor 2SC460(C) 1st & 2nd AM IF AMP
FM MPX		
CR301,302	21029766	CR Component B3EN0120
VR301	23530554	3K ohm Variable Resistor
T301,302	10429769	Transformer Filter 19KHz
T303	10429770	Transformer Filament 38kHz
Q301,302, 303	43030569	Transistor 2SC1335(E) FM MPX Output AMP
IC301	43130555	IC BA1310

REF. NO.	HK PART NO.	DESCRIPTION
MAIN AMP		
RV401,402	38128541	Varistor MV11
VR401,402	23529513	100K ohm
VR403,404	23528597	3K ohm
Q401,402	43025972	Transistor 2SC1335(D) Pre Driver
Q403,404	43029483	Transistor 2SC1345(D) Driver
Q405,406	43025972	Transistor 2SC458(C) Bias Stabilization
Q407,408	43029484	Transistor 2SC1509(Q) Complement
Q409,410	43029485	Transistor 2SA777(Q) Complement
Q411,412, 413,414	43029486	Transistor 2SC1107(Y)(G) Power Output
CONTROL		
VR501,502	21529526	Variable Resistor 50K ohm Bass, Treble
VR504	21529525	Variable Resistor 50K ohm Volume
VR503	21529524	Variable Resistor 100K ohm Balance
Q501,502, 505,506	43025972	Transistor 2SC458LG(C) Tone AMP, Pre Output
Q503,504		Transistor 2SC458(C) Tape Out AMP
SW501,502, 503	25529515	Switch, Contour, Tape, Mode

REF. NO.	HK PART NO.	DESCRIPTION
EQUALIZER AMP		
Q701,702, 703,704	43025972	Transistor 2SC458LG(C) 1st & 2nd Equalizer AMP
SW901,902	25529515	Switch, SP System 1&2
TE903	65429520	Multi-Pin Jack (Input/Output Term.)
TE904	65429521	4-Pin Jack, 4484-5
CABINETRY		
A314-HK330	00229468	Top Cover
A338-HK330	00229469	Front Panel Assembly
1352-017007	63229503	Knob, Tuning
1352-017008	63229504	Knob, Volume, Balance, Function
1352-017009	63229505	Knob, Bass (Left), Treble (Left)
1352-017010	63229506	Knob, Bass (Right), Treble (Right)
1353-017011	63229507	Push Button, Power Switch Assembly
CHASSIS		
3602-HK330	00229470	Tuning Shaft Assembly
2631-017006	60729510	Pointer, Dial
MISCELLANEOUS		
1221-017032	90129508	Carton, Shipping
1222-7032	90129509	Packing Cushion

NOTE: To speed handling of your order be sure to include both the model and serial numbers which appear at the back of the chassis, in addition to the quantity, part number and part description of the items ordered. Orders from independent dealers, independent servicemen, and retail customers will be shipped on a cash in advance basis. Harman-Kardon reserves the right to substitute equivalent parts for those originally installed in this chassis. All parts should be ordered from Harman-Kardon, 55 Ames Court, Plainview, L.I., N.Y. 11803, Att: Parts Department.

TEST SPECIFICATIONS

The following test specifications are to be used as a guide and indicate satisfactory performance within established Quality Control limits.

All measurements are taken at 120 volts AC line.

	SPECIFICATION	TEST CONDITIONS	330B TEST SPECIFICATIONS
1.	Continuous Power Stereo Mode	8 Ohm Load, 2 Channels Driven Simultaneously 0.5% Total Harmonic Distortion (THD) at 50 – 20kHz	20 Watts RMS Per Channel
2.	Frequency Response Stereo Mode	8 Ohm Loads Both Channels Driven Simultaneously at 1.0 Watt per channel	10 Hz to 35 KHz
3.	Hum and Noise	0dB = .775 VRMS Reference	
		Phono	–30dB min.
		Aux. Tape MON 1	–35dB min.
		Residual	–50dB min.
4.	Sensitivity	20 Watts, 8 Ohm Load, 1KHz	
		Tape MON	530 to 750mV
		Aux	160 to 300mV
		Phono	4.0 mV max.
5.	Phono Overload	1KHz	45mV min.
6.	Limiter Saturation	±75KHz –3dB	10μV max.
7.	IHF Sensitivity (Usable Sensitivity)	3% THD, 300 Ohm Source ±75KHz 90, 98, 106MHz	8μV max.
8.	MPX Separation	100% 1 Channel only Modulated 1000μV RF Input	
		100Hz	25dB min.
		1KHz	35dB min.
		10KHz	20dB min.