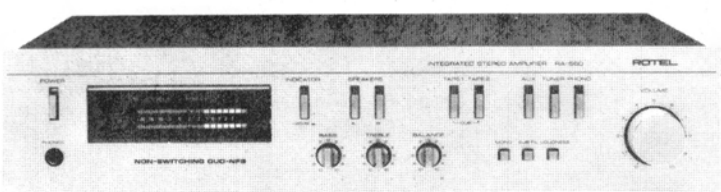
Quality Uncompromised

ROTEL®

Technical Manual



STEREO INTEGRATED AMPLIFIER
RA-560

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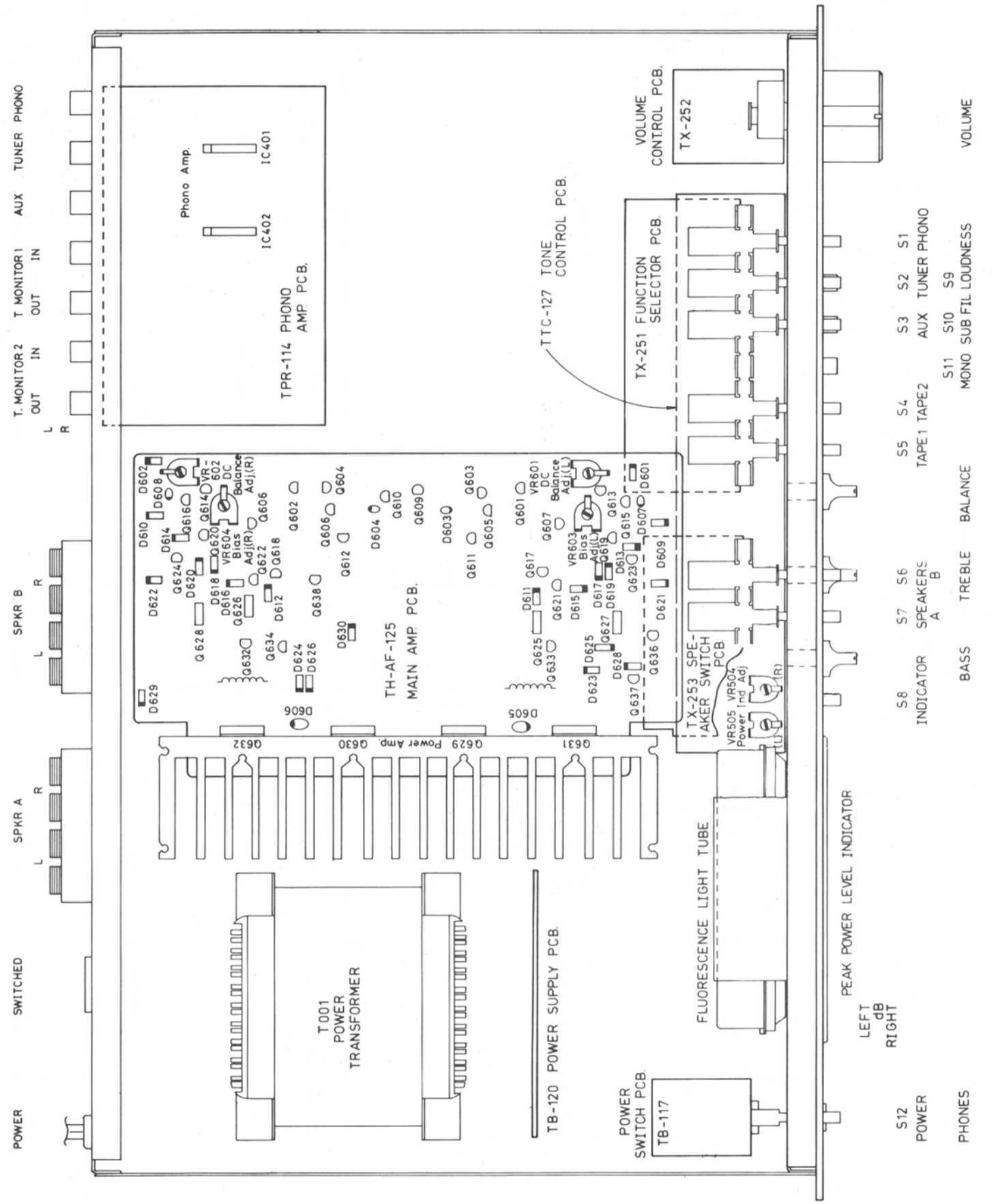
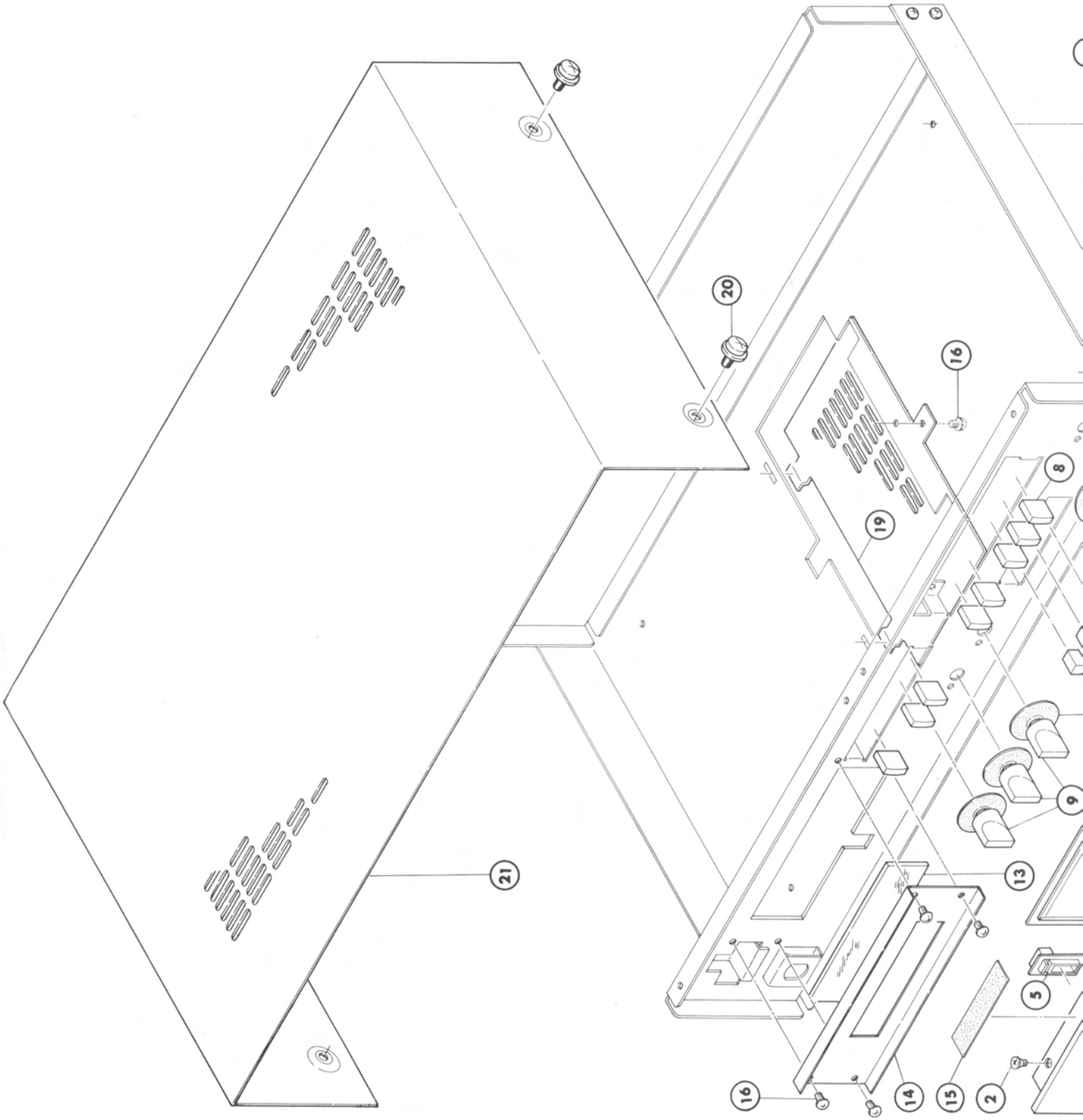
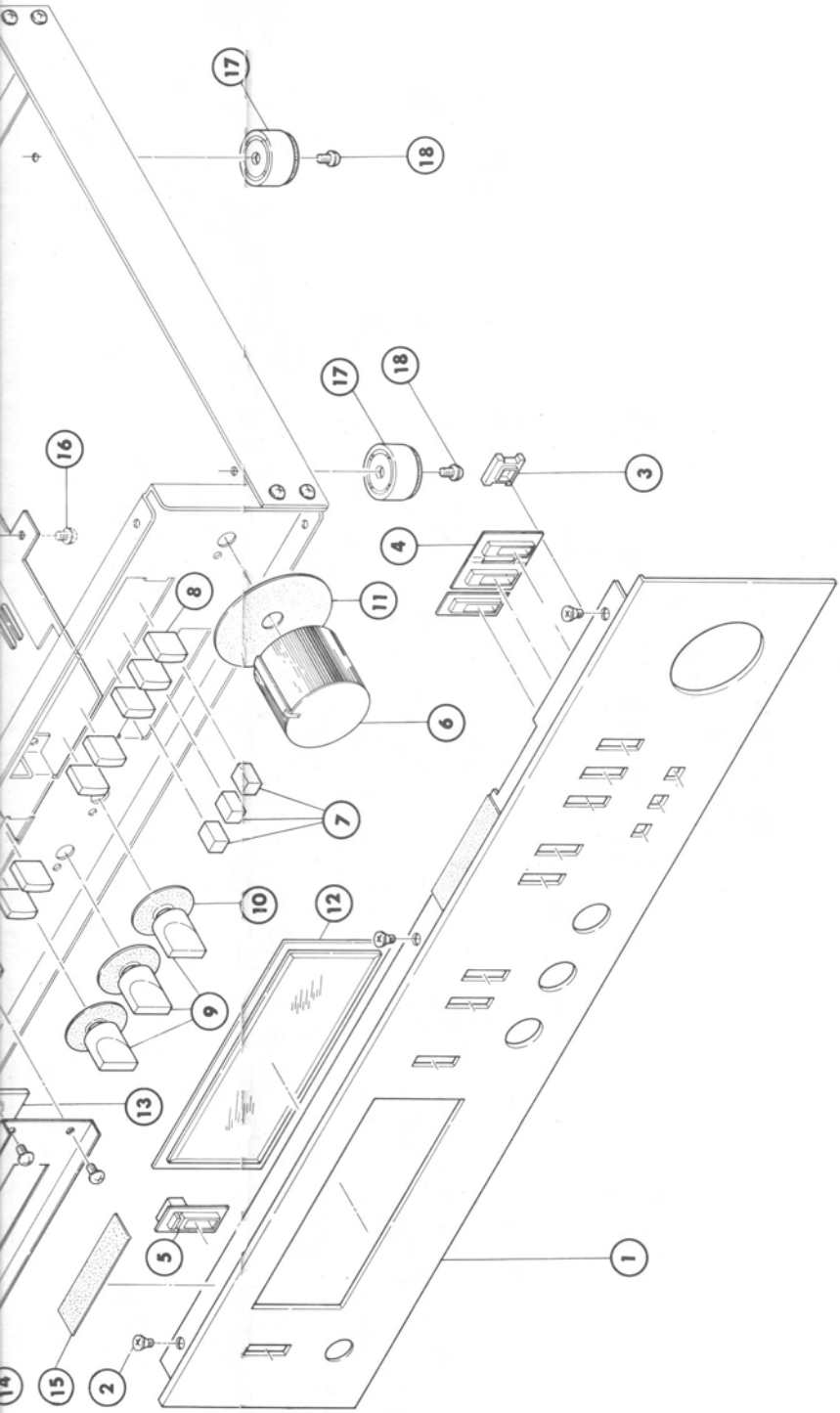
Chassis Layout



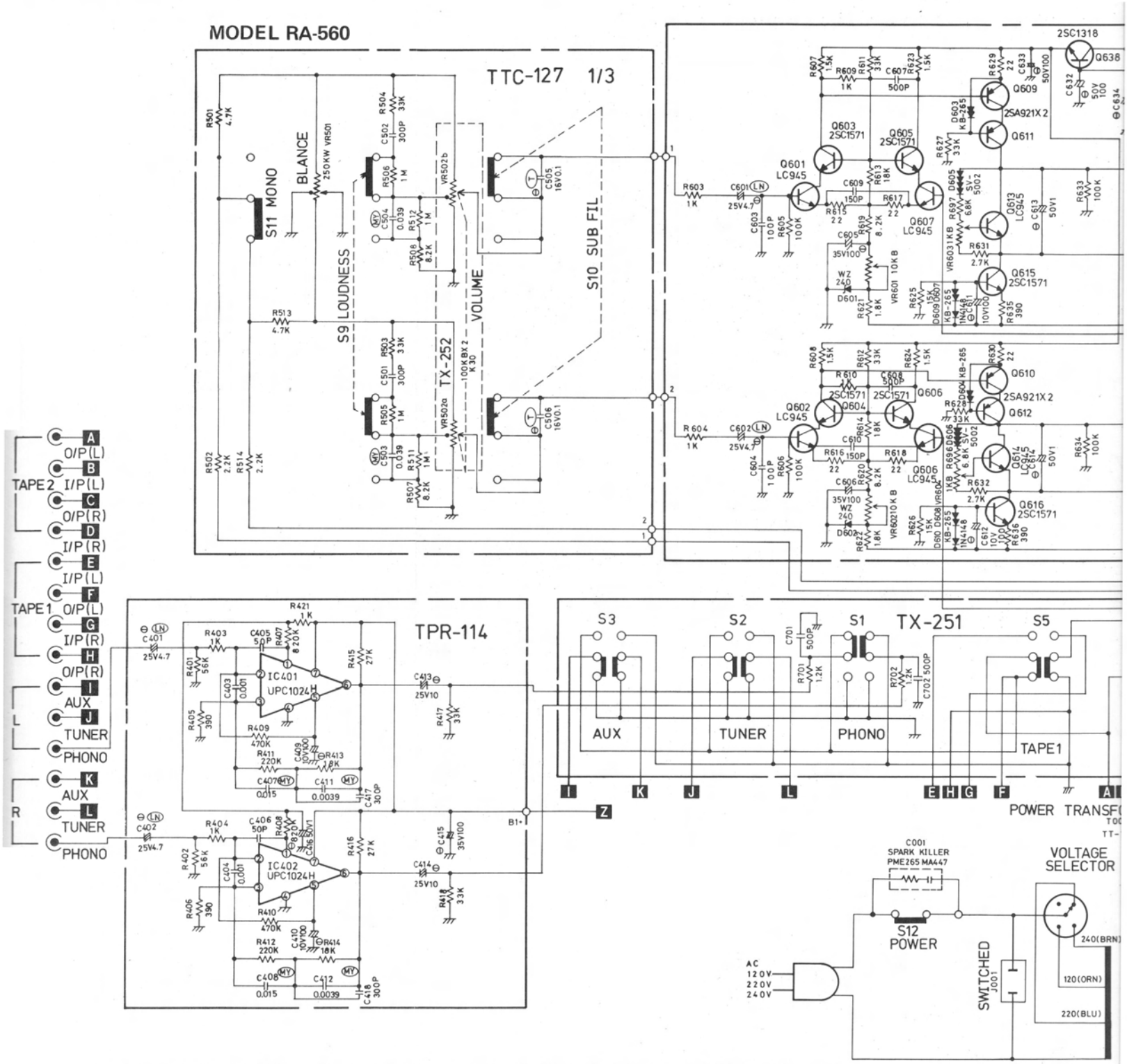
Disassembly Diagram





Key No.	Parts No.	Description
1	111911598	Front Panel
2	701203006	Screw, +M3x6 SMF
3	114902319	Push Switch, Connector Frame
4	114902374	Push Ring
5	114902373	Push Ring (LED)
6	116310351	Knob, 33 ¢ Volume
7	116210074	Push Button, MONO/SUB FIL/LOUDNESS
8	116210073	Push Button, PHONO
9	116310304	Knob, 13 ¢ BASS/TREBLE/ BALANCE
10	990201328	Felt, Knob (13 ¢)
11	990201330	Felt, Knob (33 ¢)
12	114902376	Panel Window
13	114902392	Filter Board
14	120013091	Fluorescence Light Tube Ornamental Plate
15	990201134	Felt, Front Panel
16	726203006	Screw, +M3x6 BTV MC
17	673402055	Plastic Foot
18	726203006	Screw, +M3x6 BTV MC
19	120013094	Bottom Mask
20	756224006	Screw, +M4x6 W/SP BK
21	138011311	Upper Cover

Schematic Diagram



● SPECIFICATIONS OR WIRING DIAGRAMS OF THIS MODEL ARE SUBJECT TO CHANGE FOR THE IMPROVEMENT WITHOUT PRIOR NOTICE.

J001 AC OUTLET SOCKET IS NOT AVAILABLE FOR EUROPE AUSTRALIA.

ITEM	SCHEMATIC LOCATION (LAS	
EQUALIZER	R421	C418
VOLUME/TONE CONTROL	R524	C516
MAIN AMP	R6101	C638
FUNCTION SELECTOR	R702	C702
SPEAKER TERMINAL	R810	C802
POWER SUPPLY	R905	C907
CHASSIS		C001

CAPACITORS

(MY)----MYLAR FILM CAPACITORS

----ELECTROLYTIC CAPACITORS

(LN)----LOW NOISE TYPE CAPACITORS

(NP)----NON POLARITY ELECTROLYTIC CAPACITORS

NON MARK-CERAMIC CAPACITORS

● UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD

● VOLTAGE READING MAY VARY ± 20%

RESISTORS

5%---TOLERANCE UNLESS OTHER

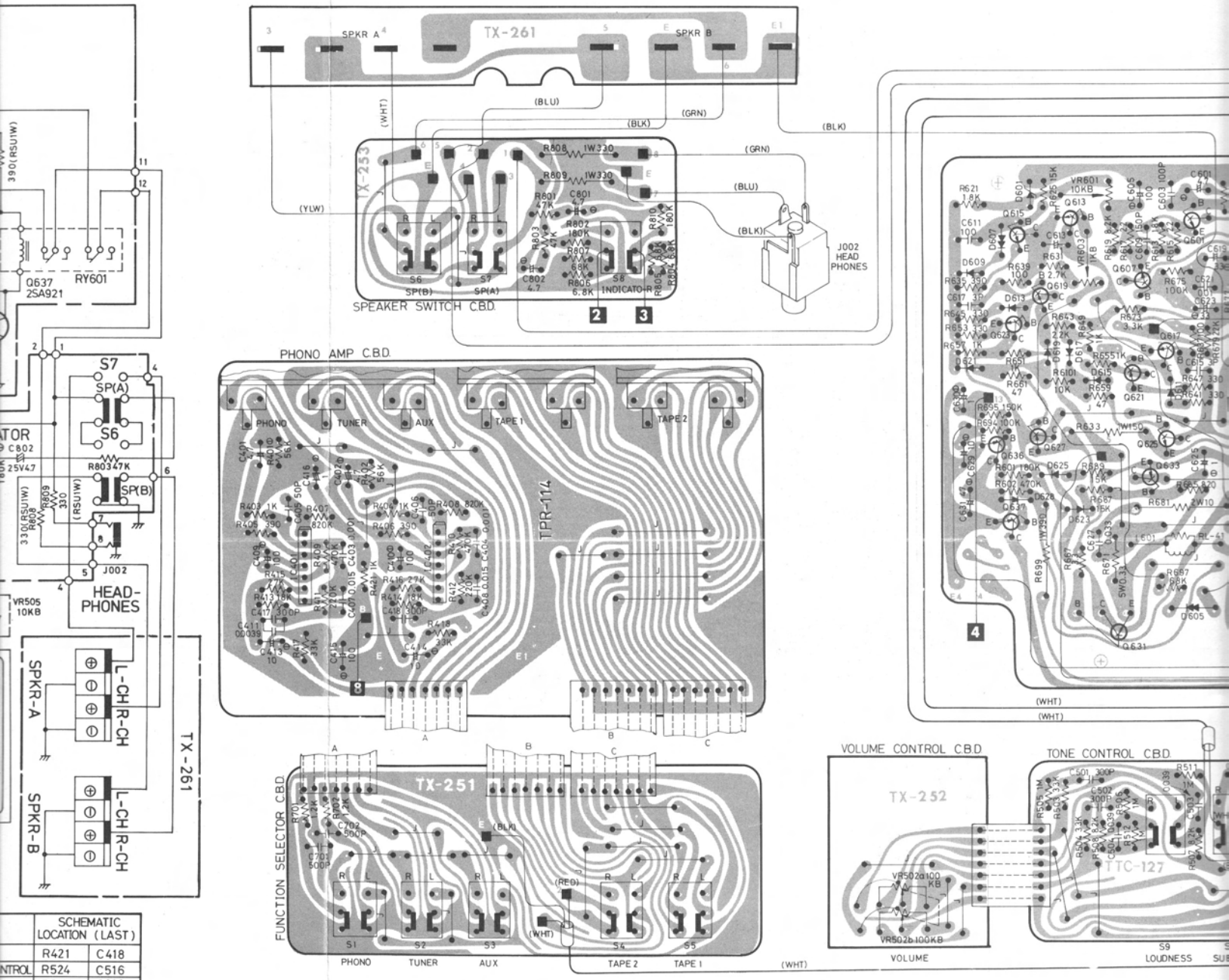
K----KILO OHM

M----MEGA OHM

RSU---METAL OXIDE FILM RESIST

NON MARK-LOW NOISE TYPE CARBON

Wiring Diagram



	SCHEMATIC LOCATION (LAST)	
	R421	C418
NTROL	R524	C516
	R6101	C638
CTOR	R702	C702
INAL	R810	C802
	R905	C907
		C001

TORS

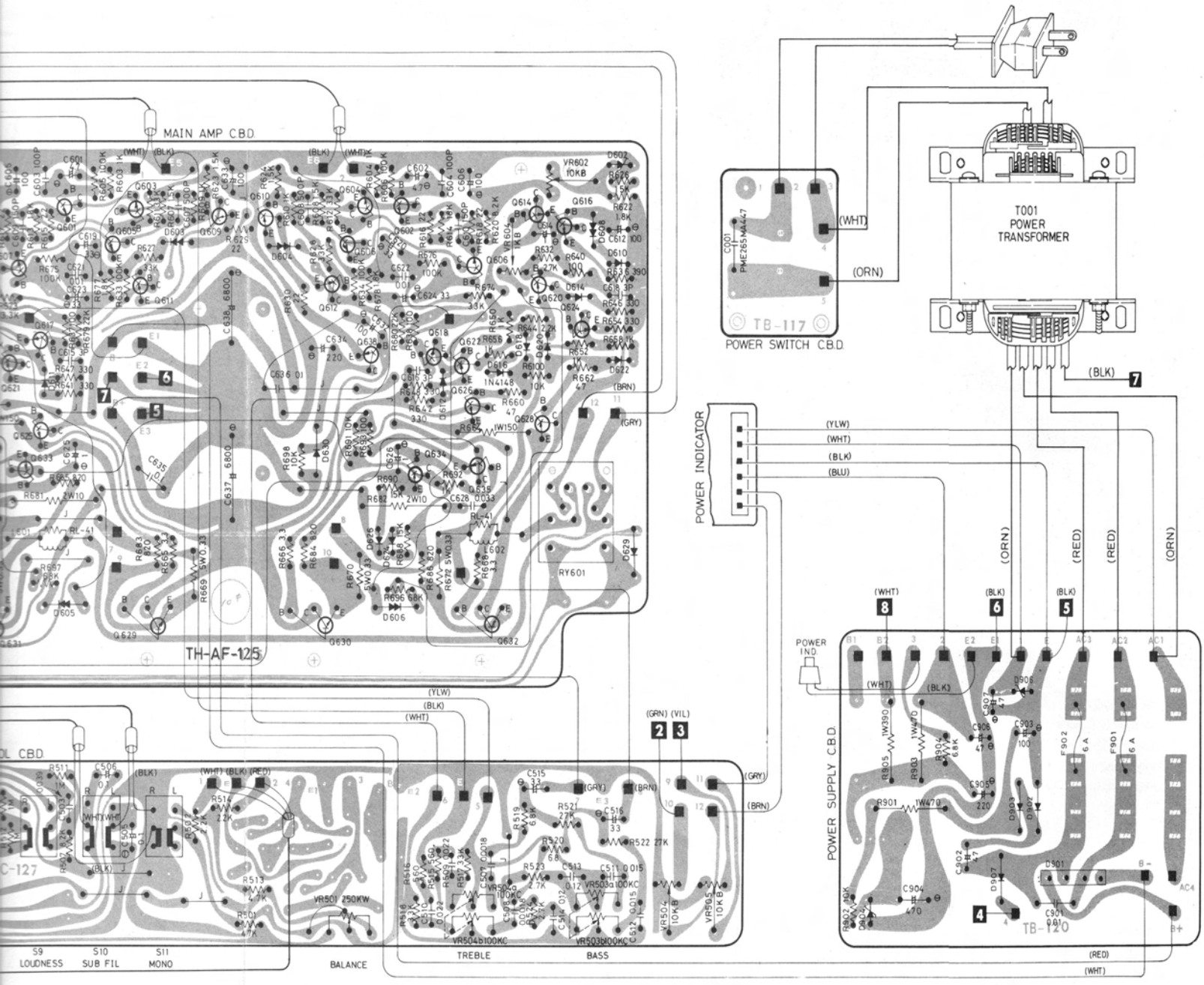
ERANCE UNLESS OTHERWISE SPECIFIED

Ω OHM

GA OHM

TAL OXIDE FILM RESISTOR

LOW NOISE TYPE CARBON RESISTOR 1/4 WATT


MAIN AMP C.B.D.
TH-AF-125
POWER SWITCH C.B.D.
TB-117
T001
POWER
TRANSFORMER
POWER INDICATOR
POWER SUPPLY C.B.D.
TB-120
POWER IND.
(WHT)
(ORN)
(BLK)
(YLW)
(BLU)
(RED)
(GRY)
(BRN)
(GRN)
(VIL)
TREBLE
BASS
BALANCE
S9
LOUDNESS
S10
SUB FIL
S11
MONO

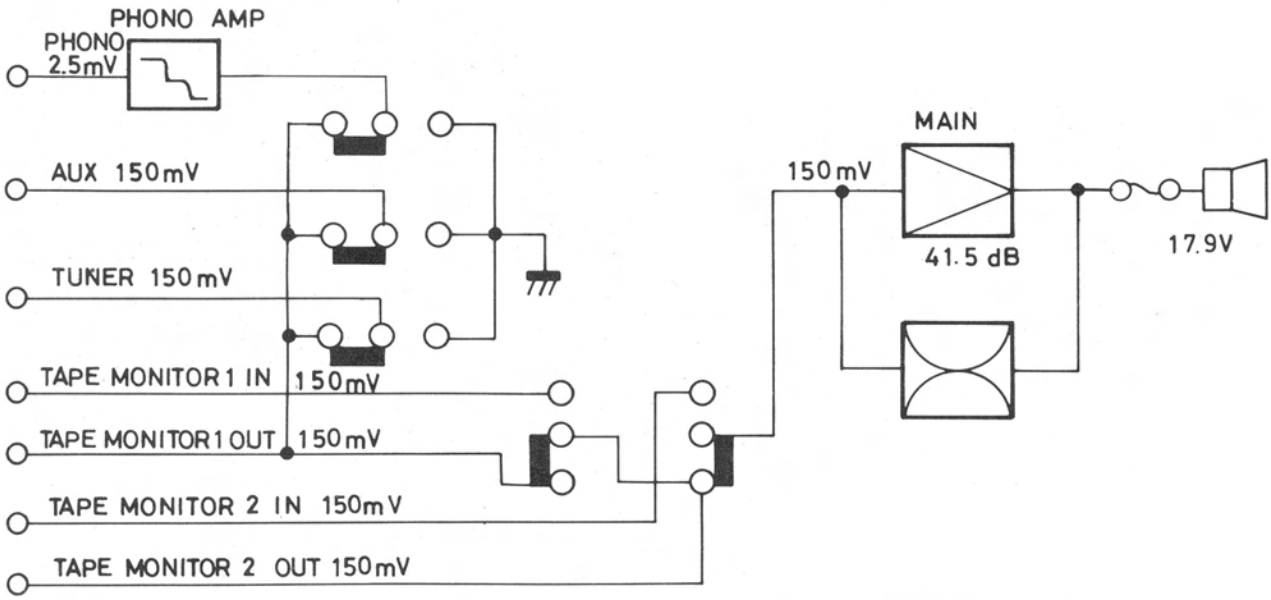
Power Amplifier Bias Adjustment

Note: Prior to BIAS ADJUSTMENT, run about 5 minutes with rated output (8ohm) and warm up Power Transistor and Heat Sink.
Prior to adjustment, move VR603 and 604 potentiometer one full turn clockwise.

Instruments: DC millivoltmeter

1. Set volume control to minimum (i.e. no signal in put).
2. Connect the plus lead of a DC millivoltmeter to Test Point No. 9 and minus lead to Test Point No.7.
3. Adjust potentiometer VR603 to obtain a 6.6mV reading on DC millivoltmeter.
4. Repeat the above step 1 and 2, for Right Channel (use Test Point No. 10.8, and potentionmeter VR604).

Gain Diagram



DC Balance Adjustment Procedure

Note: Prior to DC Balance Adjustment, run about 5 minutes with rated output (8ohm) and warm up Power Transistor and Heat Sink.
Prior to adjustment, move VR 601 and 602 potentiometer one full turn clockwise.

Instruments: DC milli-voltmeter

1. Set volume control to minimum (i.e. no signal input).
2. Connect 8-ohm (40W) resistor to Right and Left Speaker "A" Terminals.
3. Connect AC VTVM in parallel with this 8-ohm load of "L" or "R" channel.
4. Adjust potentiometer VR601 to obtain minimum reading on DC millivoltmeter.
5. Repeat the above step 1 and 2, for Right Channel (use potentiometer VR602).

Fluorescent Light Tube Calibration Adjustment Procedure

Instruments: Audio Generator and AC VTVM

- Set Function Selector to AUX Position.
- Set Bass and Treble to "O" (Center) position, and Loudness, SUB FIL Switch to "OFF" position. And set Mode Switch to "MONO" position.

1. Connect 8-ohm (40W) resistor to Right and Left Speaker "A" Terminals.
2. Connect AC VTVM in parallel with this 8-ohm load of "L" or "R" channel.
3. Connect Audio Generator to input terminal of "L" or "R" channel and apply 1KHz (sine wave) signal. And adjust input level so that reading on AC VTVM is 18V (40W/8 ohm)
4. Turn and adjust VR505 (VR504 for R-ch) so that FL Tube indicates 40 watts. (OdB)
5. Proceed the above steps from 2. to 5. for the other channel.

Repair Parts List

Schematic Location	Parts No.	Description
TRANSISTORS, DIODES AND IC'S		
Q601, 602	301901132	LC945 Differential Amp.
Q603-606	301201202	2SC1571 (G), Differential Amp.
Q607, 608	301901132	LC945 Differential Amp.
Q609-612	301001145	2SA921 (S), Pre-Driver
Q613, 614	301901132	LC945 Main Amp. Bias Compensator
Q615, 616	301201202	2SC1571 (G), Constent Current
Q617, 618	301201202	2SC1571 (G), Now Swithing Bais
Q619-622	301001145	2SA921 (S), Now Swithing Bias
Q623, 624	301201202	2SC1571 (G), Now Swithing Bias
Q625, 626	301201150	2SC1567 (R,S), Driver
Q627, 628	301001135	2SA794 (R,S), Driver
Q629, 630	301301154	2SD896 (D,E), Power Amp.
Q631, 632	301101138	2SB776 (D,E), Power Amp.
Q633, 634	301001145	2SA921 (S), Overload Protection
Q635	301201202	2SC1571 (G), Overload Threshold
Q636	301001145	2SA921 (S), Overload Protection
Q637	301001145	2SA921 (S), Protection Relay Driver
Q638	301201155	2SC1318 (S,R), Regulator
Q901	301201150	2SC1567 (R,S), Regulator
D601, 602	300313025	WZ-240 Zener Diode 24V ½W
D603, 604	300212002	KB-265 Temperture Compensator
D605, 606	300212012	SV-5002 Temperture Compensator
D607, 608	300212002	KB-265 Temperture Compensator
D609-626	300111022	1N4148 Bias
D628	300313033	WZ-068 Zener Regulator 6.8V ½W
D629	300919026	1N4003 Protection
D630	300919026	1N4003 Rectifier
D901	300919048	KBL-02 Rectifier
D902, 903	300919026	1N4003 Rectifier
D904	300313019	WZ-350 Zener Regulator 35V ½W
D905	300414051	T-13217 Power Ind. LED
D906	300313039	WZ-036 Zener Regulator 3.6V ½W
IC401, 402	303452164	UPC1024H, Phono Amp.
VARIABLE RESISTORS, SWITCHES AND OTHERS		
VR501	515121131	250KW, Balance Control
VR502	525121146	100KBx2, Volume Control
VR503	525101176	100KCx2, Bass Treble Control
VR504	510502194	10KBx2, Fluorescence Light Tube Adj.
VR601, 602	510502195	10KB, DC Balance Adj.
VR603, 604	510502198	1KB, Power Amp. Bias Adj.
S1-5	614061219	Switch, Push 6-Key, AUX/TUNER/ PHONO/TAPEI/TAPE2
S6-8	614040845	Switch, Push 4-Key, Speaker A/B Indicator
S9-11	614030850	Switch, Push 3-Key, LOUDNESS/SUB FIL/MONO
S12	614010139	Switch, Power Supply (for UL, CSA)
	614010165	Switch, Power Supply (for BEAB...) ⚠
T001	201001541	Transformer, Power Supply (120V only)
	207001541	Transformer, Power Supply (120, 220, 240V) ⚠
C002, 003	402680450	Smoothing Capacitor
F901, 902	341220060	Fuse, 6A, AC Circuit Protector (Long Size)
	345220063	Fuse, 6.3A, AC Circuit Protector (Mini Size)
	345250063	Fuse, 6.3A, AC Circuit Protector (Mini Size With "S" "D" Mark)