

Quality Uncompromised

ROTEL®

Technical Manual

RA-820B

STEREO INTEGRATED AMPLIFIER

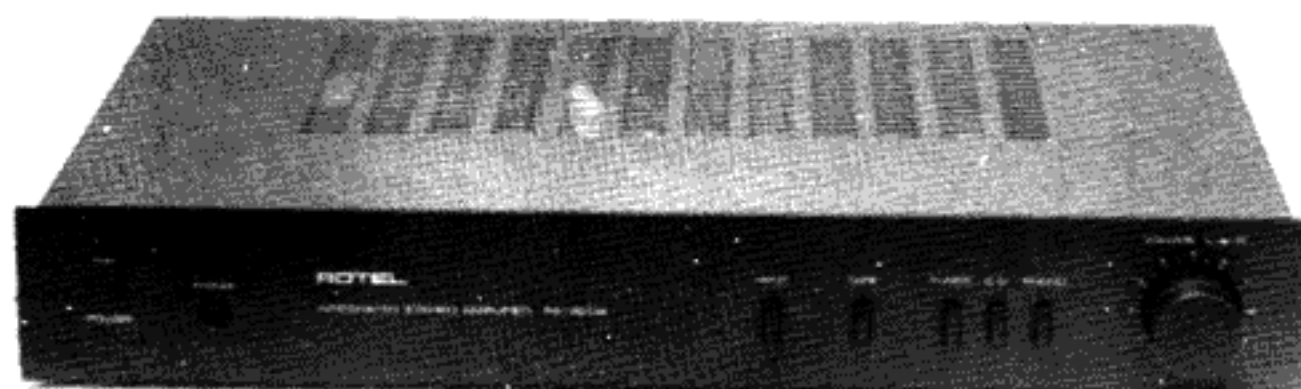


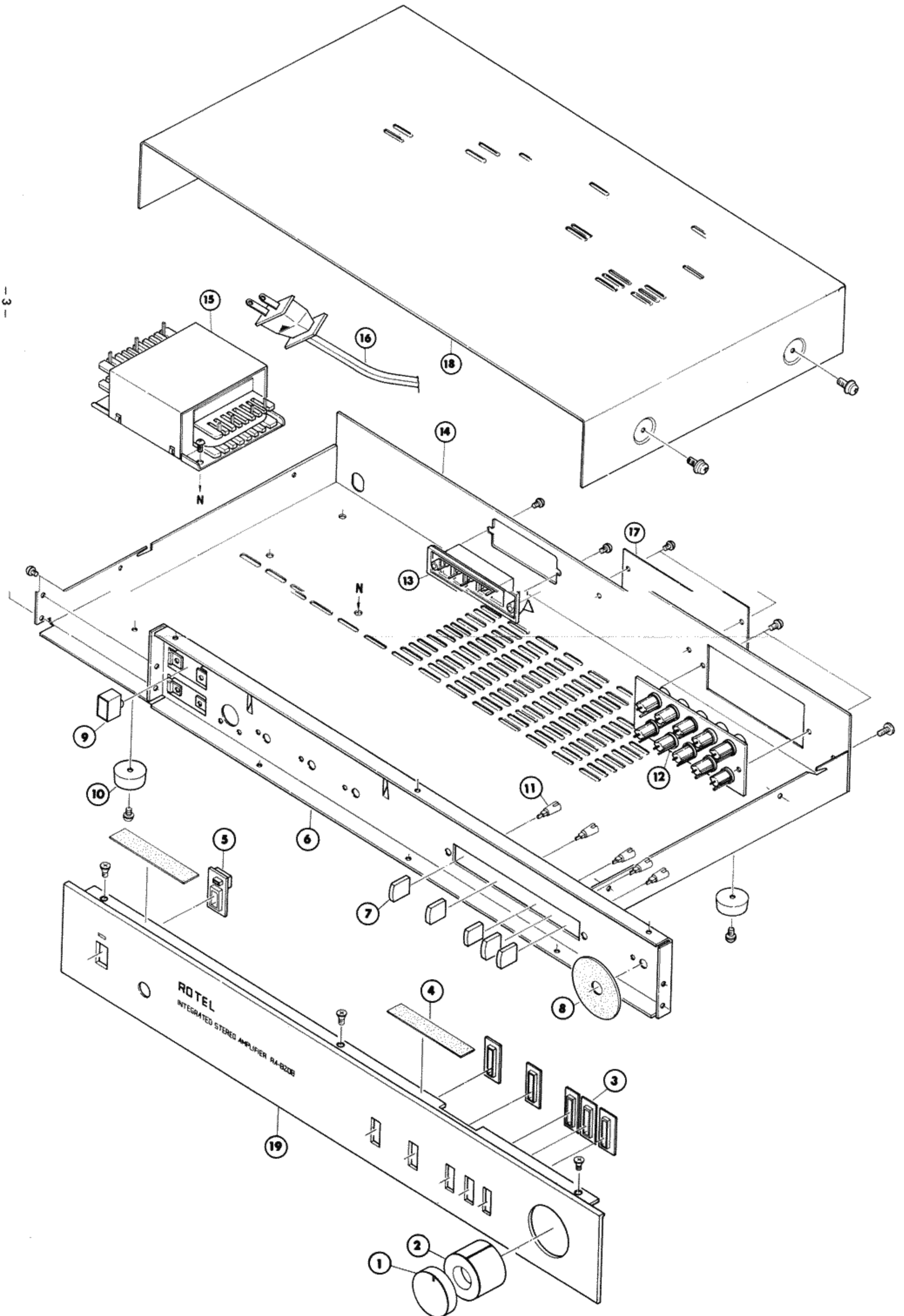
TABLE OF CONTENTS

Chassis Layout	2
Disassembly Diagram	3
Repair Parts List	5
Power Amplifier Bias Adjustment	5
Gain Diagram	6
Schematic Diagram	6
Wiring Diagram	8

THE ROTEL CO., LTD.
ROTEL ELECTRONICS CO., LTD.
ROTEL HI FI LIMITED.

1-36-8, OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN
ROTEL BUILDING, 2F, 35, FU HSING N. ROAD, TAIPEI,
TAIWAN, REPUBLIC OF CHINA
2-4 ERICA ROAD, STACEY BUSHES, MILTON KEYNES,
BUCKINGHAMSHIRE, ENGLAND

Disassembly Diagram



-- 3 --

-- 4 --

Key No.	Computer No.	Parts No.	Description
1	KB10000821	012C-3872A-T#2	Knob, 30 ϕ VOLUME (L)
2	KB10000833	012C-3873A-T#2	Knob, 30 ϕ VOLUME (R)
3	BU00000396	019C-3546-T#2	Push Ring (TUNER/C D/PHONO/ MONO/TAPE)
4	FE00000080	0194TR-1087	Felt
5	BU00000384	0194TR-1546#2	Push Ring (POWER)
6	AF20000106	0132TWB-2C	Front Chassis
7	KB20000519	012C-3372#3	Push Button (TUNER/CD/PHONO/ MONO/TAPE)
8	FE00000079	0194TR-1083B#3	Felt
9	KB20000507	012C-3982#2	Push Button (POWER)
10	FT00000035	0194TR-1257A	Plastic Foot
11	OM00000471	0194TR-1216	Push Button Connector
12	JP10000047	0624TR-1138B#2	Terminal, 10P, RCA Type
13	TP10000088	0623TR-1732#1	Terminal, Push 4P, SPEAKER
14	AM00000806	015TRP-323	Chassis Body (TRP-323)
	AM00000818	015TRP-324	Chassis Body (TRP-324)
	AM00000820	015TRP-325	Chassis Body (TRP-325)
15	PT00000060	022T-170AF	Transformer (CSA)
	PT00000011	022T-170G	Transformer
16	CD00000036	0724TR-670#1	Line Cord (UL)
	CD00000097	0724TR-670#2	Line Cord (CSA)
	CD00000048	0724TR-815	Line Cord (for Europe)
	CD00000085	072C-2504	Line Cord (for BEAB)
	CD00000115	072C-3763	Line Cord (for Austria)
17	NP00000441	015TNP-234	Name Plate (for BEAB)
18	AU00000270	0142TWE-5#13	Upper Cover
19	AA20000270	0102TVA-1#1	Front Panel

Repair Parts List

Schematic Location	Computer No.	Part No.	Description
TRANSISTORS, DIODES AND IC'S			
IC401-404	IC00000731	031NE5534N	Phono Amp.
Q601, 602	TR10000023	0332SA1016-E, F	Differential Amp.
Q603, 604	TR10000023	0332SA1016-E, F	Constant Current
Q605, 606	TR10000023	0332SA1016-E, F	Differential Amp.
Q607, 608	TR10000023	0332SA1016-E, F	Main Amp. Bias Compensator
Q609, 610	TR10000047	0332SB631-E, D	Main Amp. Bias Compensator
Q611, Q612	TR30000169	0332SC1941-L, K	Pre-Driver
Q613, 614	TR30000110	0332SD600K-E, D	Idling Driver
Q615, 616	TR30000110	0332SD600K-E, D	Driver
Q617, 618	TR10000047	0332SB631-E, D	Driver
Q619, 620, 623, 624	TR40000021	0332SD896-E, D	Power Amp.
Q621, 622, 625, 626	TR40000014	0332SB776-E, D	Power Amp.
Q901	TR30000108	0332SC1570-E, F	Stabilizer
Q902	TR10000023	0332SA1016-E, F	Stabilizer
D601-604	DD10000100	0341N4148	Bias Compensator
D901, 902	DD10000100	0341N4148	Regulator Diodes
D903, 904	DD10000100	0341N4148	Regulator Diodes
D905, 906	DD20000041	034WZ-18Z	Zener Regulator
D907	DD10000147	034KBPC-802	Rectifier
D001	DD40000095	034LN-224RP	Power LED (Red LED)
VARIABLE RESISTORS, SWITCHES AND OTHERS			
VR501	RV10000408	0514TR-1505	50KAx2 Volume Control
VR601, 602	RV20000338	0518-1401-2K	Bias Adj.
S1~S7	SH17000018	0614TR-1562	Switch Push 7 Key. TUNER/C D/ PHONO/TAPE/MONO
S8	SH40000120	061C-3600B	Power Switch
T001	PT00000060	022T-170AF	Power Transformer (120V Only)
	PT00000011	022T-170G	Power Transformer (Multi Type)
F601, 602, 901, 902	FU11000050	036L250V3A	Fuse 3A Speaker Protector (Long Size)
	FU12000082	036ASG3-250V3A	Fuse 3A Speaker Protector (Long Size UL)
	FU21000058	036M3. 15A	Fuse 3.15A Speaker Protector (Mini Size)
	FU23000062	036SF3.15A	Fuse 3.15A Speaker Protector (Mini Size "S" "D" Mark)

Power Amplifier Bias Adjustment

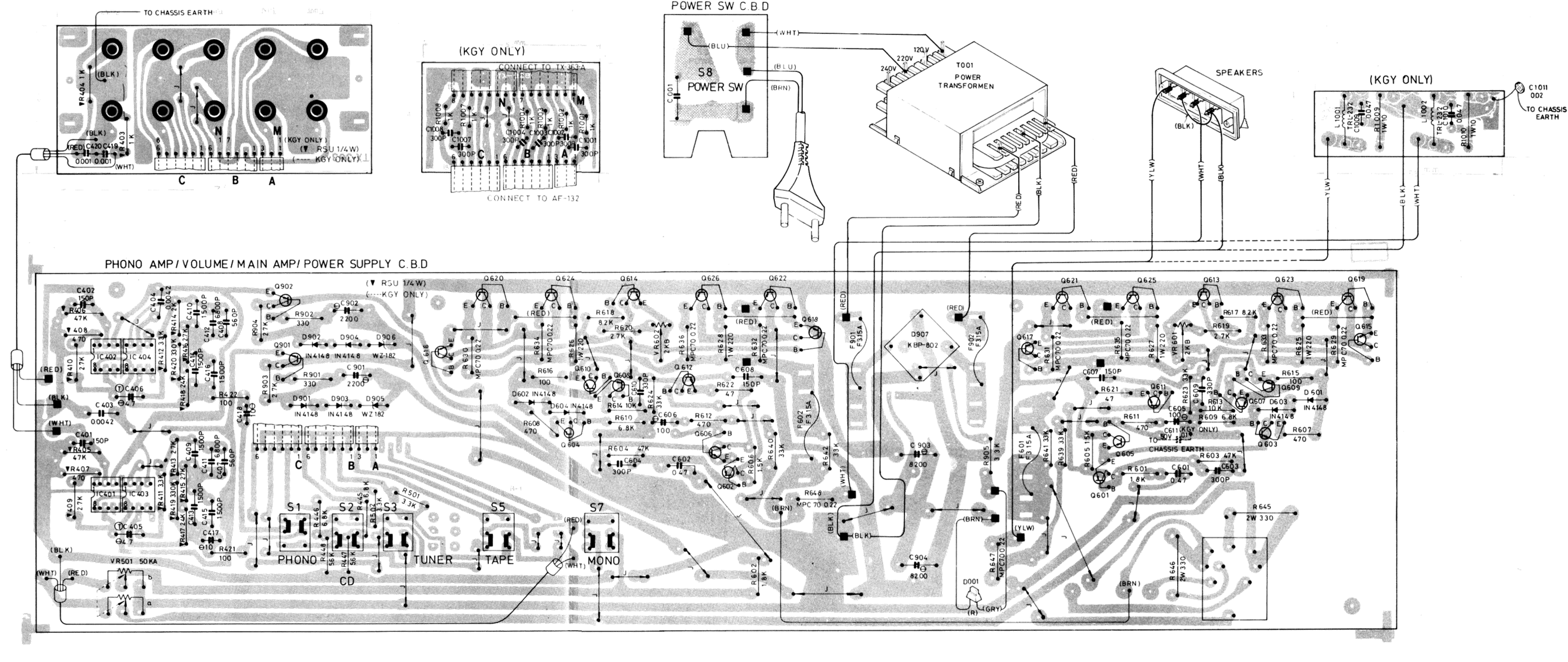
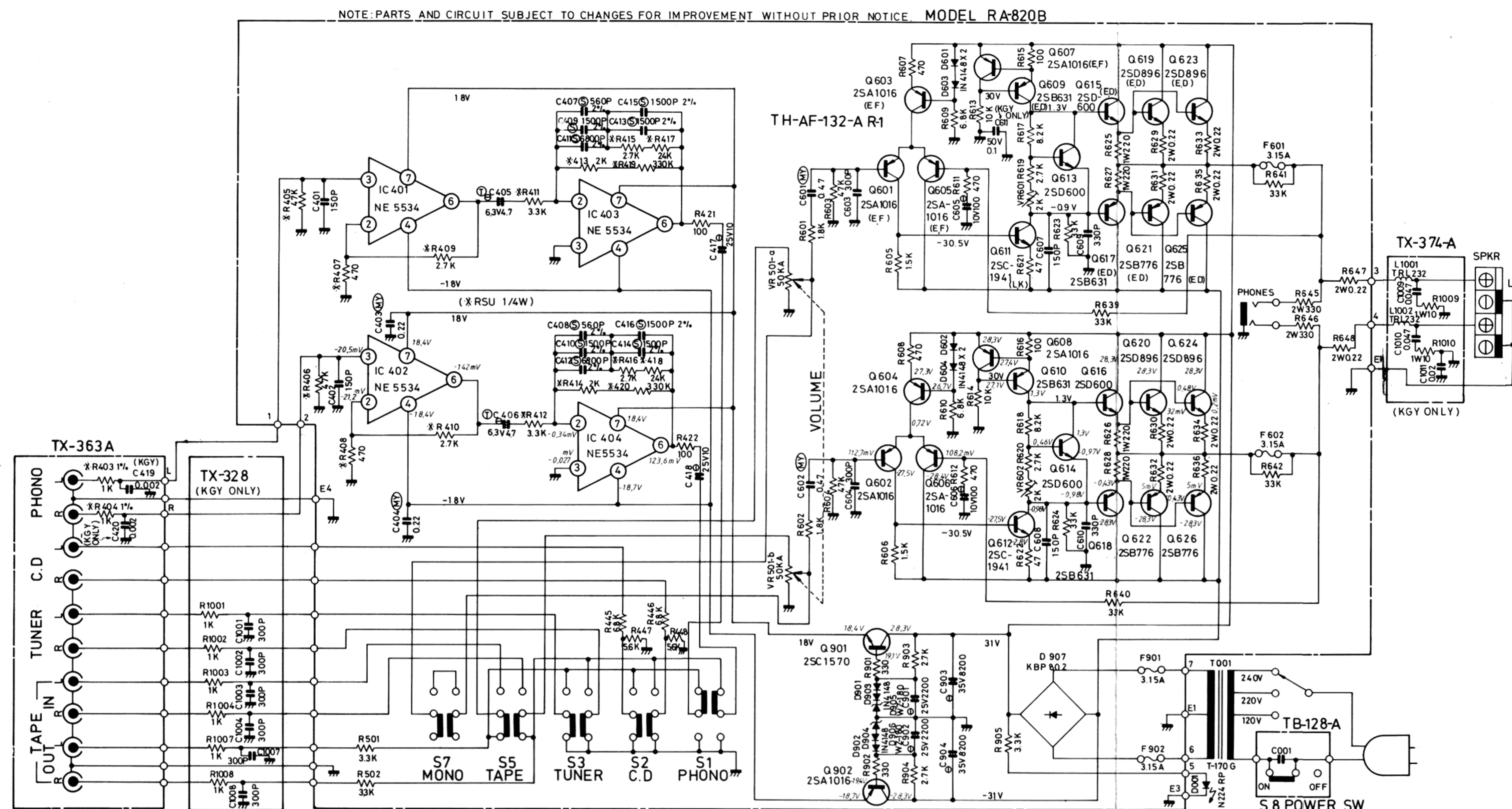
Instruments: DC milli-voltmeter

Notes: Prior to Bias Adjustment, run about 5 minutes with rated output (8 ohm) and warm up Power Transistor and Heat Sink.

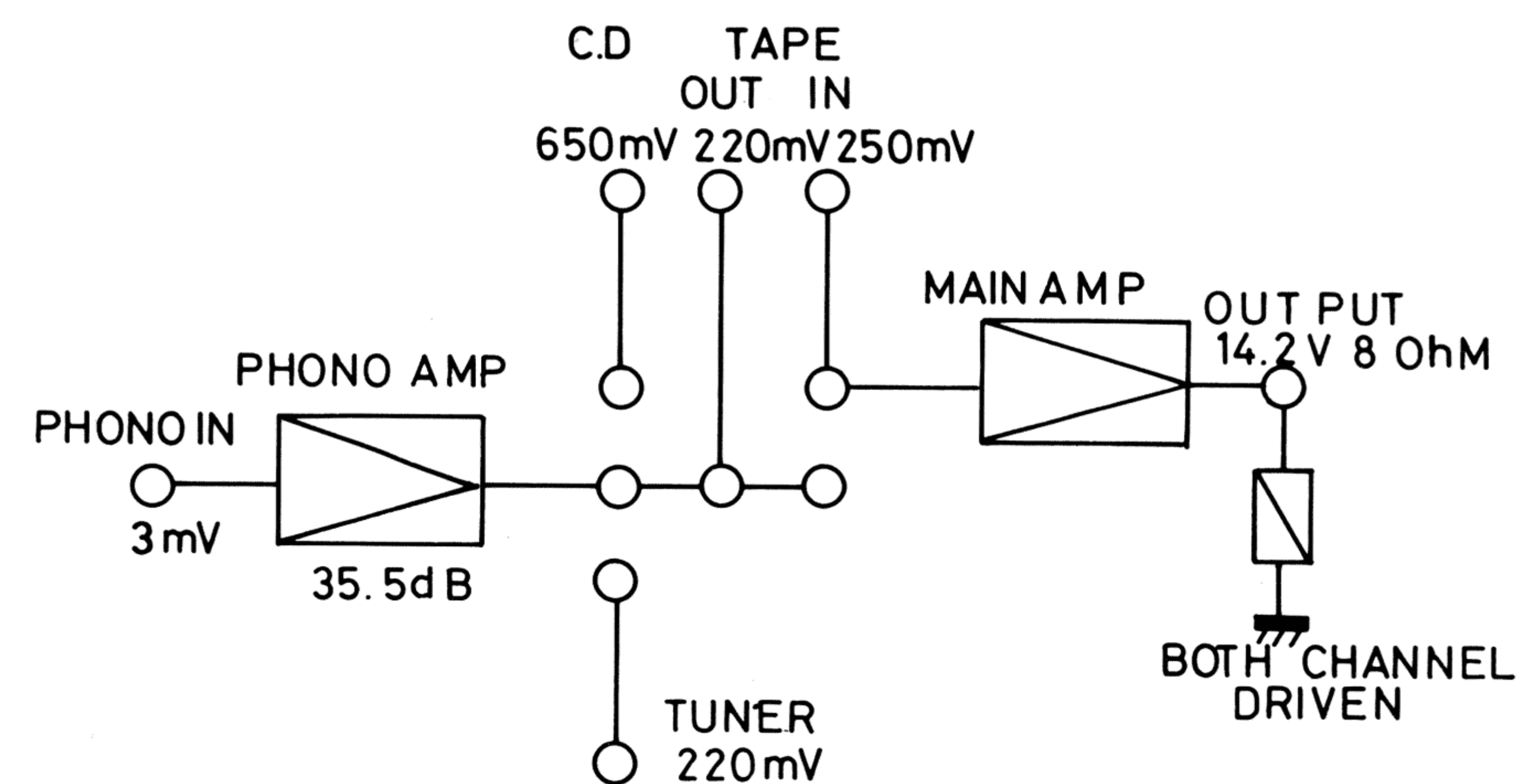
Set Volume Control to Minimum.

Step	Coupling		Adjust	Adjust for
	Plus Lead	Minus Lead		
1	TP3	TP1	VR601	DC milli-voltmeter reads 4.4mV
2	TP4	TP2	VR602	

Wiring Diagram



Gain Diagram



- RESISTOR**
5% TOLERANCE UNLESS OTHERWISE NOTED
K - KILO OHM
M - MEGA OHM
⚡ - COMPOSITION RESISTORS 1/2 WATT
RSU - METAL OXIDE FILM RESISTOR
NON MARK - LOW NOISE TYPE CARBON RESISTORS
- CAPACITORS**
Ⓛ - LOW NOISE ELECTROLYTIC CAPACITORS
Ⓜ - MYLAR FILM CAPACITORS
Ⓟ - POLYSTYRENE FILM CAPACITORS
Ⓢ - ELECTROLYTIC CAPACITORS
NON MARK - CERAMIC CAPACITORS
UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD

ITEM	SCHEMATIC LOCATION	LAST
PHONO AMP	R422	C418
VOLUME	R502	---
MAIN AMP	R648	C611
POWER SUPPLY	R905	C904

