Quality Uncompromised

ROTEL®

Technical Manual

RA-840B

STEREO INTEGRATED AMPLIFIER

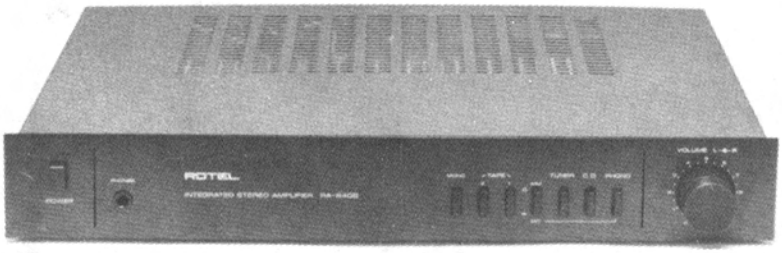


TABLE OF CONTENTS

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

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

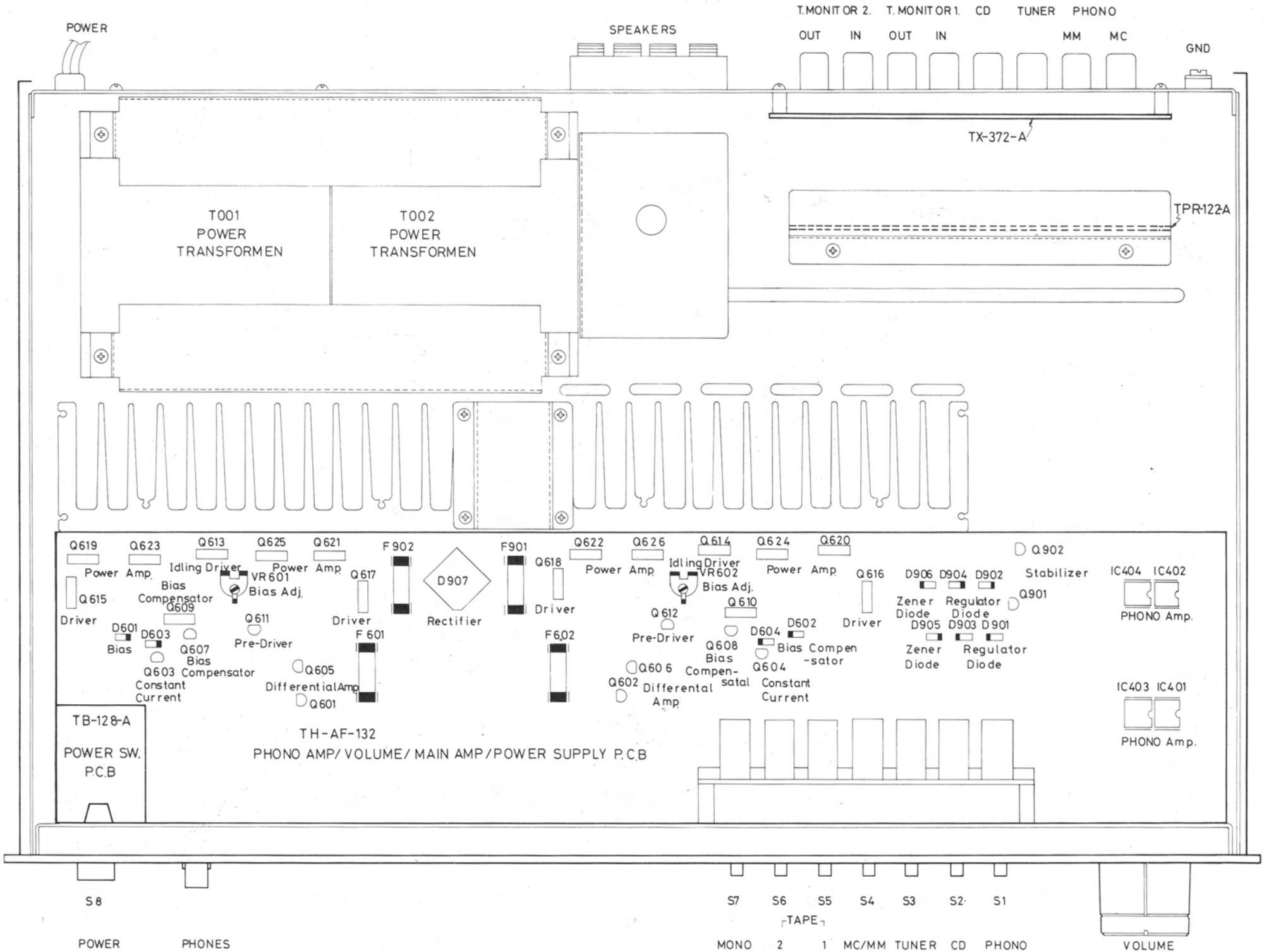
Printed in Taiwan '83 NOV. MN20000908

THE ROTEL CO., LTD.

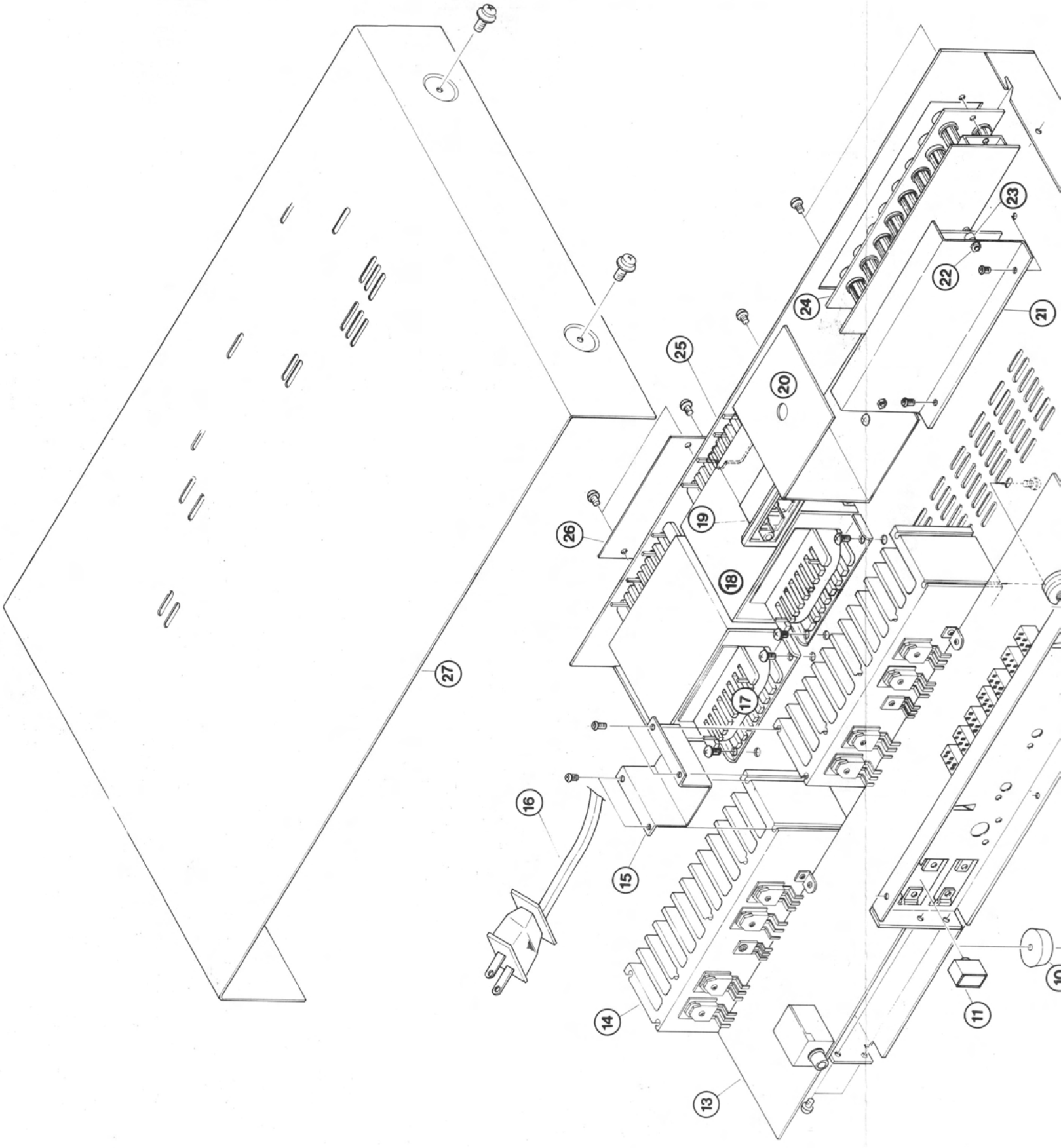
ROTEL ELECTRONICS CO., LTD.

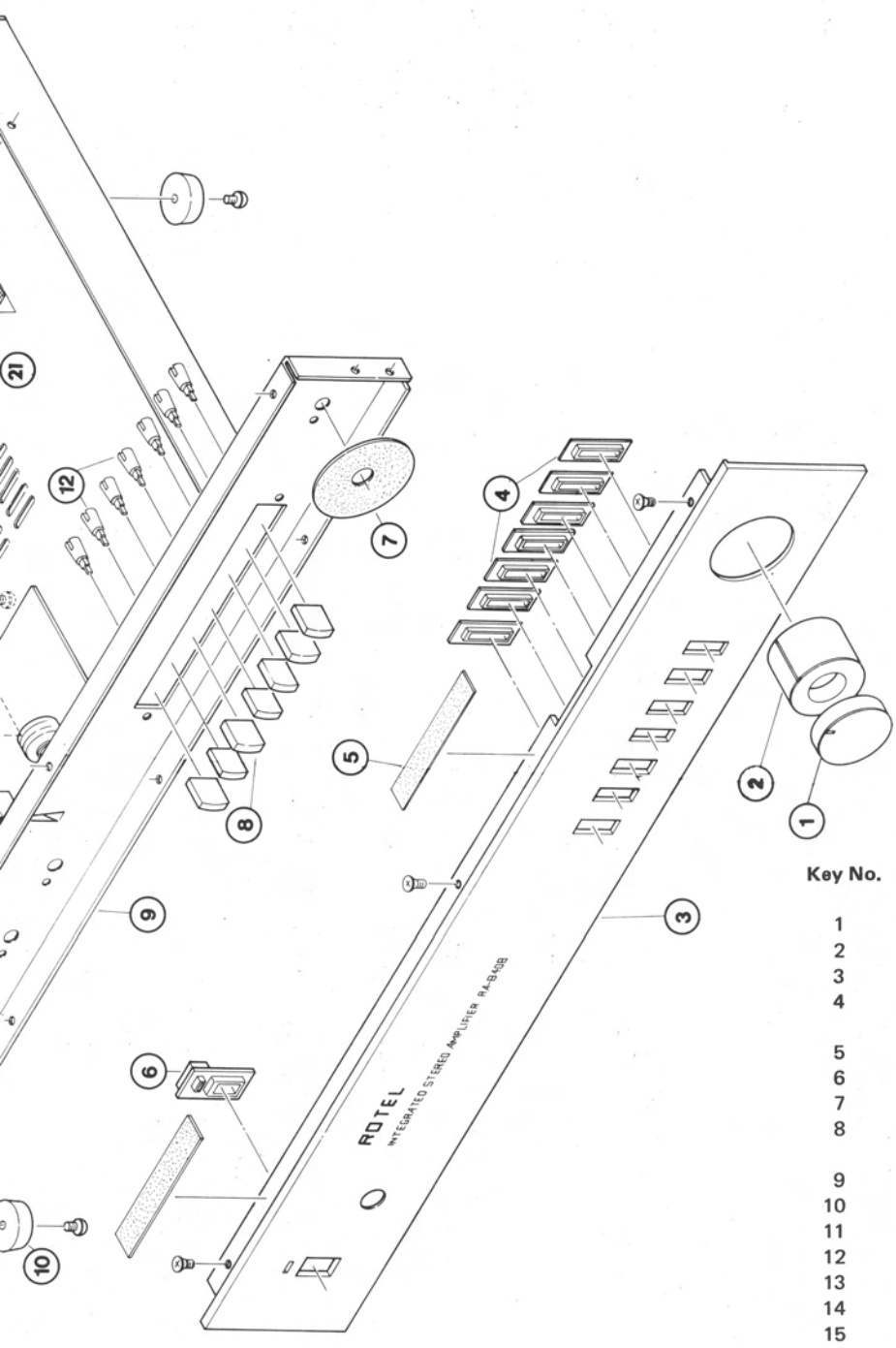
ROTEL HI FI LIMITED.

Chassis Layout



Disassembly Diagram





Key No.	Computer No.	Parts No.	Description
1	KB10000821	012C-3872A-T#2	Knob, 30ϕ VOLUME (L)
2	KB10000833	012C-3873A-T#2	Knob, 30ϕ VOLUME (R)
3	AA20000282	0102TVA-1#2	Front Panel
4	BU00000396	019C-3546-T#2	Push Ring (TUNER/CD/PHONO/MM /MONO/TAPE)
5	FE00000080	0194TR-1087	Felt
6	BU00000384	0194TR-1546#2	Push Ring (POWER)
7	FE00000079	0194TR-1083#3	Felt
8	KB20000519	012C-3372#3	Push Button (TUNER/CD/PHONO/ MM/MONO/TAPE)
9	AF20000106	0132TWB-2C	Front Chassis
10	FT00000035	0194TR-1257A	Plastic Foot
11	KB20000507	012C-3982#2	Push Button (POWER)
12	OM00000471	0194TR-1216	Push Button Connector
13	PC11132906	016TH-AF-132A	P.C.B. (TH-AF-132A)
14	AH20000229	0134TVB-2B	Heat Sinker
15	SP10003246	0134TVB-5A	Heat Sinker Support
16	CD00000036	0724TR-670#1	Power Cord (UL)
	CD00000097	0724TR-670#2	Power Cord (CSA)
	CD00000048	0724TR-815	Power Cord (for Europe)
	CD00000085	072C-2504	Power Cord (for BEAB)
	CD00000115	072C-3763	Power Cord (for Austria)
17.18	PT00000072	022T-179A-1	Power Transformer (CSA)
	PT00000059	022T-179G-1	Power Transformer
19	TP10000088	0623TR-1732#1	Terminal, Push 4P, SPEAKER
20	SP40000097	0134TVB-6	Shield Board
21	SP40000048	0134TVB-3A	Shield Board
22	NW10000037	0713ϕNut	3ϕ Nut
23	BC00000131	0714TR-287	Cylinder Inner Screw
24	JP16000011	0624TR-1821	16P Pin Jack Board
25	AM00000831	015TRP-326	Chassis Body (TRP-326) U
	AM00000843	015TRP-327	Chassis Body (TRP-327) C
	AM00000855	015TRP-328	Chassis Body (TRP-328) G
26	NP00000441	015TNP-234	Name Plate (for BEAB)
27	SR00000389	0144TR-1796A#3	Upper Cover

Power Amplifier Bias Adjustment

Instruments: DC milli-voltmeter

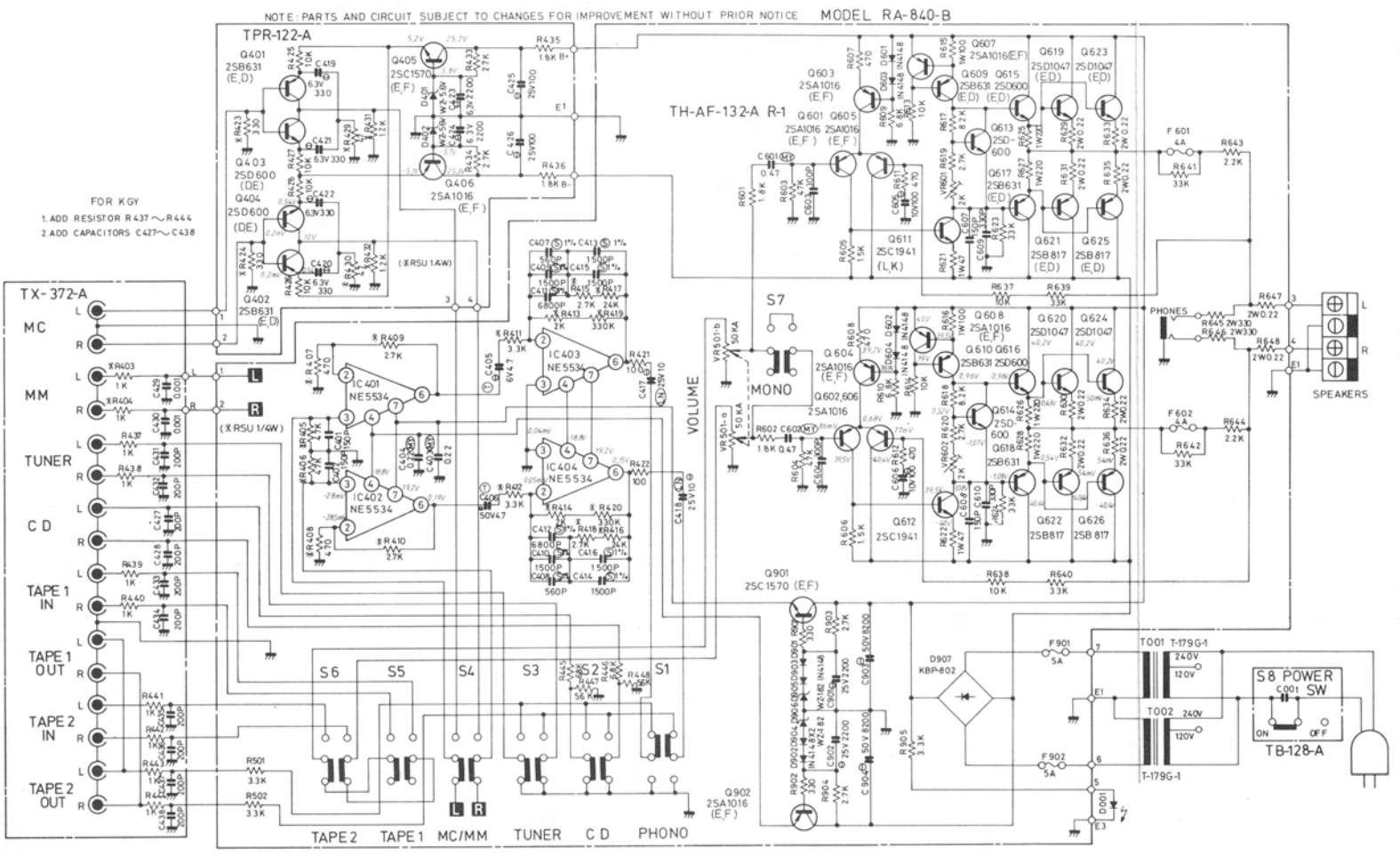
Notes: Prior to Bias Adjustment, run about 5 minutes with rated output (8 ohm) and warm up Power Transistor and Heat Sink.
Set Volume Control to Minimum.

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

Repair Parts List

Schematic Location	Computer No.	Part No.	Description
TRANSISTORS, DIODES AND IC'S			
Q401, 402	TR10000047	0332SB631-E, D	MC Amp.
Q403, 404	TR30000110	0332SD600K-D,E	MC Amp.
Q405	TR30000108	0332SC1570-E,F	Driver
Q406	TR10000023	0332SA1016-E,F	Driver
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, 612	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	034IN4148	Bias Compensator
D901, 902	DD10000100	034IN4148	Regulator Diodes
D903, 904	DD10000100	034IN4148	Regulator Diodes
D905, 906	DD20000041	034WZ-182	Zener Regulator
D907	DD10000147	034KBPC-802	Rectifier
D001	DD40000095	034LN-224RP	Power LED (Red LED)
IC401-404	IC00000731	031NE5534N	Phono Amp.
VARIABLE RESISTOR, SWITCHES AND OTHERS			
VR501	RV10000408	0514TR-1505	50KAx2 Volume Control
VR601, 602	RV20000338	0518-1401-2K	Bias Adj.
S1-S7	SH17000020	0614TR-1828	7 Key Push Switch. PHONO/CD /TUNER/MC/MM/TAPE 1/ TAPE 2/MONO
S8	SH40000120	061C-3600B	Power Switch
T001, T002	PT00000072	022T-179A-1	Power Transformer (CSA)
	PT00000059	022T-179G-1	Power Transformer
F601, 602	FU11000074	036L250V4A	Fuse 4A, Speaker Protector (Long Size)
	FU12000045	036ASG3-250V4A	Fuse 4A. Speaker Protector (Long Size UL)
	FU21000071	036M4A	Fuse 4A. Speaker Protector (Mini Size)
	FU23000062	036SF4A	Fuse 4A. Speaker Protector (Mini Size "S" "D" Mark)
F901, 902	FU11000104	036L250V5A	Fuse 5A. Speaker Protector (Long Size)
	FU12000100	036ASG3-250V5A	Fuse 5A. Speaker Protector (Long Size UL)
	FU21000060	036M5A	Fuse 5A. Speaker Protector (Mini Size)
	FU23000074	036SF5A	Fuse 5A. Speaker Protector (Mini Size "S" "D" Mark)

Schematic Diagram



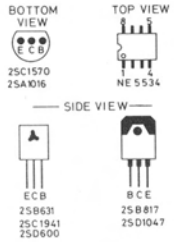
RESISTOR

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

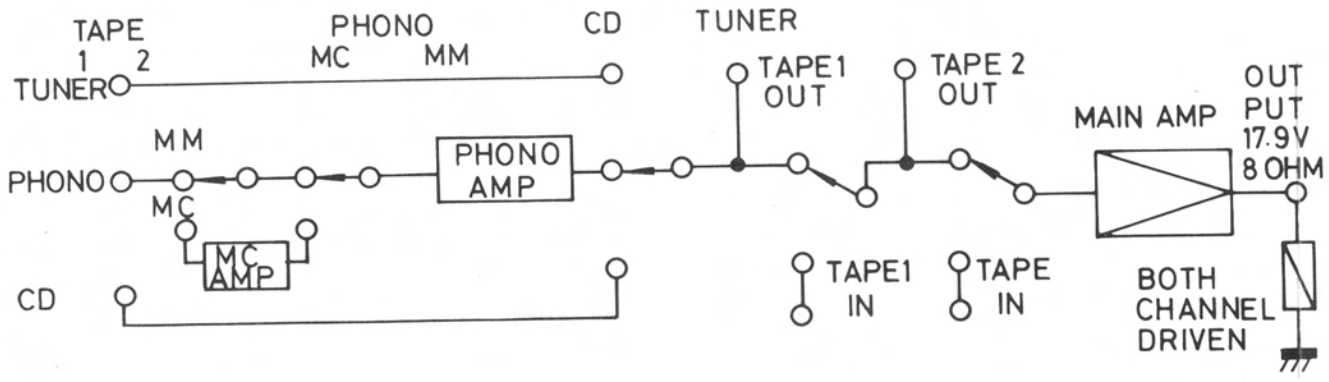
CAPACITORS

(LN) LOW NOISE ELECTROLYTIC CAPACITORS
(MP) MYLAR FILM CAPACITORS
(S) POLYSTYRENE FILM CAPACITORS
ELECTROLYTIC CAPACITORS
NON MARK CERAMIC CAPACITORS
UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD

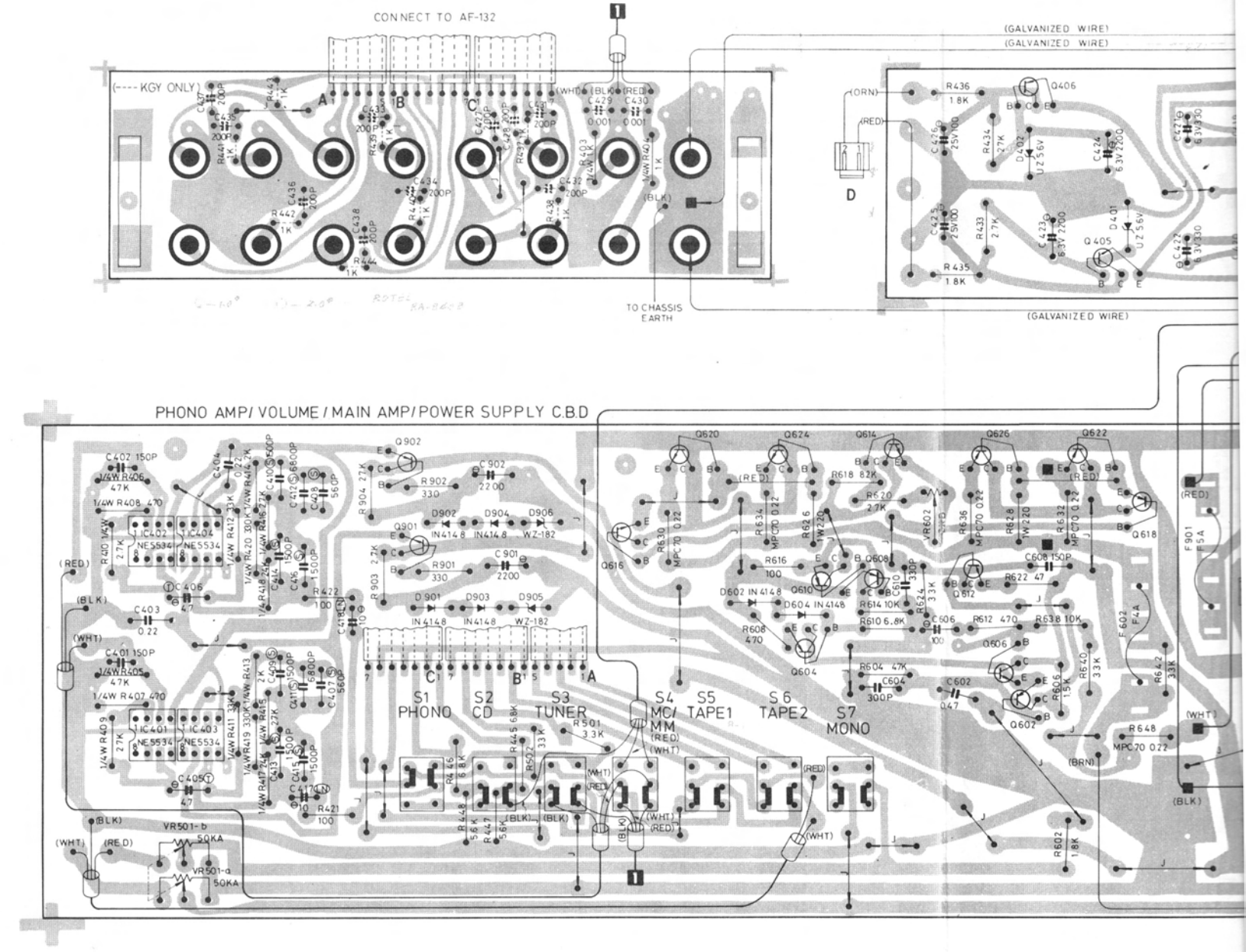
ITEM	SCHEMATIC LOCATION(LAST)	
PHONO AMP	R448	C438
VOLUME	R502	——
MAIN AMP	R648	C610
POWER SUPPLY	R905	C904

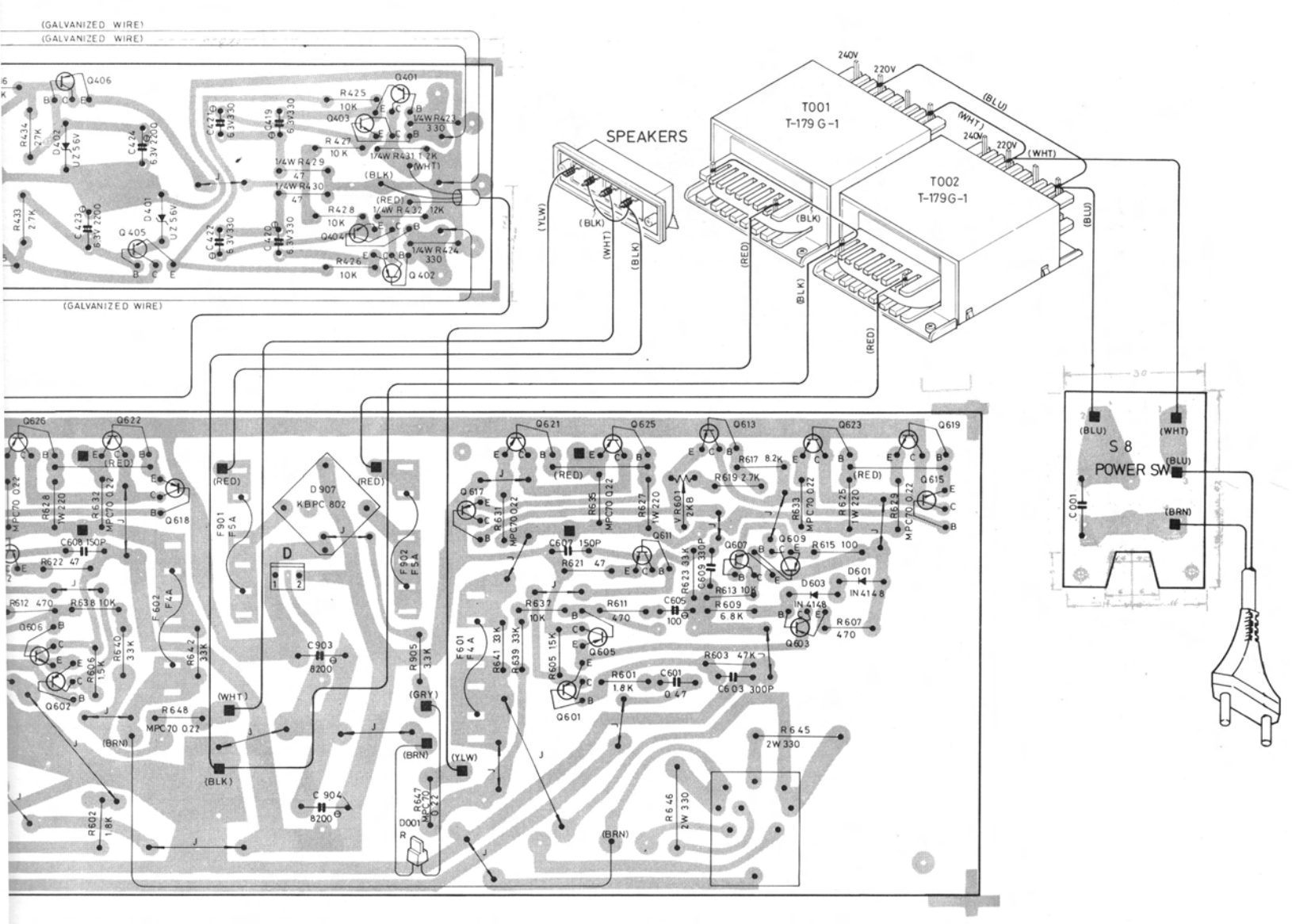


Block Diagram



Wiring Diagram




(GALVANIZED WIRE)
(GALVANIZED WIRE)
(GALVANIZED WIRE)
SPEAKERS
T001
T-179 G-1
T002
T-179G-1
240V
220V
(BLU)
(WHT)
(YLW)
(BLK)
(RED)
(GRY)
(BRN)
S 8
POWER SW
C001
D 907
KBPC 802
F901 F5A
F902 F5A
F602 F4A
F601 F4A
D001
Q626
Q622
Q618
Q621
Q625
Q617
Q613
Q623
Q619
Q615
Q607
Q609
Q611
Q606
Q602
Q605
Q601
Q603
R628 1W220
R632 MPC70 022
R622 47
C608 150P
R612 470
R638 10K
R640 15K
R606 15K
R642 33K
R648 MPC70 022
R602 1.8K
C903 8200
C904 8200
R905 3.3K
R647 MPC70 022
R617 8.2K
R619 2.7K
VR601 2KB
R635 MPC70 022
R627 1W220
R621 47
C607 150P
R623 33K
C609 330P
R613 10K
R609 6.8K
R633 MPC70 022
R625 1W220
R629 MPC70 022
R615 100
D603 IN4148
D601 IN4148
R607 470
R637 10K
R611 470
C605 100
R641 33K
R639 33K
R605 15K
R601 1.8K
C601 0.47
R603 47K
C603 300P
R645 2W330
R646 2W330
C419 6.3V330
C420 6.3V330
C421 6.3V330
C422 6.3V330
C423 6.3V2200
C424 6.3V2200
D402 UZ5.6V
D401 UZ5.6V
R434 27K
R433 27K
Q406
Q401
Q403
Q404
Q405
Q402
R425 10K
R427 10K
R428 10K
R426 10K
1/4W R423 330
1/4W R431 12K
1/4W R429 47
1/4W R430 47
1/4W R432 12K
1/4W R424 330