



Technical Manual

STEREO POWER AMPLIFIER RB-1070

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Specification

Continuous Power Output Stereo Mode (20 - 20 kHz, <0.03% THD)	130 watts/ch into 8 ohms
Bridged Mono Power Output (20 - 20 kHz, <0.1% THD)	300 watts/ch into 4 ohms
Total Harmonic Distortion (20 Hz : 20 kHz, 8 ohms)	<0.03 %
Intermodulation Distortion (60 Hz : 7 kHz, 4 : 1)	<0.03 %
Frequency Response (+0.5 db, -3 db)	4 Hz - 100 kHz
Damping Factor (20-20,000 Hz, 8 ohms)	500
Speaker Impedance (combined load)	4 ohms minimum
Signal to Noise Ratio (IHF A network)	120 dB
Input Impedance/Sensitivity	33 k ohms/1.0 volt
Power Requirements	USA: 115 volts, 60 Hz Europe: 230 volts, 50 Hz
Power Consumption	400 Watts
Dimensions (W x H x D)	430 x 121 x 350 mm 16 15/16 x 4 3/4 x 13 3/4 in
Weight (net)	11.9 kg/26.25 lb.

THE ROTEL CO., LTD

SHINSEN-BLD. 4F 10-10 SHINSEN-CHO, SHIBUYA-KU,
TOKYO 150-0045, JAPAN

Serial. NO. Beginning

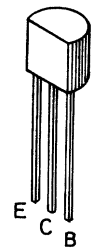
Parts List

SYMBOL	PARTS NO.	DESCRIPTION
X-1240-01 PCB ASSEMBLY		
C601,602	041 50BGF4R7M	CAP,ELEC.50V4.7UF
C603,604	044 TFKP2-2A681H	CAP,FILM100V680PF
C605,606	044 FSC160V221H	CAP,STYROL160V220PF
C607,608	041 25BGF100M	CAP,ELEC.25V100UF
C609,610	044 FSC160V331H	CAP,STYROL160V330PF
C611,612	041 50BGF10M	CAP,ELEC.50V10UF
C613-616	044 FSC160V561H	CAP,STYROL160V560PF
C617,618	044 FSC160V471H	CAP,STYROL160V470PF
C623,624	044 KT18-2A104K	CAP,FILM100V0.1UF
C802	041 UTSS1E101-FB	CAP,ELEC.25V100UF
C803	041 UTES1J221	CAP,ELEC.63V220UF
C804	041 UTES2A220-FB	CAP,ELEC.100V22UF
C901-908	043 TC500V103	CAP,CERA.500V0.01UF
C909-912	041 ALC20S1023XX	CAP,ELEC.63V10000UF
D601-608	034 T1N4148-86	DIODE
D609-612	034 T1N4003-TB	DIODE
D801	034 T1N4148-86	DIODE
D802	034 TRD6.2JST1	ZENER DIODE
D803-806	034 T1N4003-TB	DIODE
D807,808	034 T1N4148-86	DIODE
D901,902	034 BR84	BRIDGED DIODE
F601,602	036 5T5	MINI FUSE 250V T5A
PJ1	066 4TR-2487#8	1P PINJACK(WHT)
PJ2	066 4TR-2487#7	1P PINJACK(RED)
Q601-606	033 TC2362-FG	TRANSISTOR
Q607-612	033 TA1016-FG	TRANSISTOR
Q613,614	033 A1209-ST	TRANSISTOR
Q615,616	033 C2911-ST	TRANSISTOR
Q619,620	033 TC3478A-LKU	TRANSISTOR
Q621,622	033 TA1376A-LKU	TRANSISTOR
Q801-803	032 TC2362-FG	TRANSISTOR
R601,602	054 EE10-102	R,META L1K
R603,604	054 EE10-333	R,METAL 33K
R605,606	054 EE10-471	R,METAL 470R
R607-610	054 TMFR401K5	R,METAL 1% 1.5K
R611,612	054 TMFR4220R	R,METAL 1%220R
R613,614	054 TMF1/4-5600F	R,MRS25 560R
R615-618	054 TMFR401K5	R,METAL 1% 1.5K
R619,620	054 TMFR4220R	R,METAL 1% 220R
R621,622	054 TMFR4047K	R,METAL 1% 47K
R623,624	054 TMFR4100R	R,METAL 1% 100R
R625,626	054 TMF1/4-6801F	R,MRS25 6.8K
R627,628	054 TMF1/4-3901F	R,MRS25 3.9K
R629,630	054 TMFR4100R	R,METAL 1% 100R
R631,632	054 TMFR4001K	R,METAL 1% 1K
R633,634	054 TMFR4047R	R,METAL 1% 47R
R635-646	054 NIR2-0.22JF	R,METAL 2W 0.22R
R647,648	054 2WS10JF	R,METAL 2W 10R
R651,652	054 TMFR4018K	R,METAL 1% 18K
R653,654	054 TMF3300	R,METAL 330R
R655-658	054 TMFR4220R	R,METAL 1% 220R
R661	054 TMFR4018K	R,MERAL 1% 18K
R801	054 1WS4.7KJF	R,METAL 1W 4.7K
R803	053 CR14-104J-A	R,CARBON 100K
R804	053 CR14-154J-A	R,CARBON 150K

SYMBOL	PARTS NO.	DESCRIPTION
R805	053 CR14-104J-A	R,CARBON 100K
R806	053 CR14-333J-A	R,CARBON 33K
R807	053 CR14-104J-A	R,CARBON 100K
R808	053 CR14-272J-A	R,CARBON 2.7K
R809,810	054 1WS6.8KJF	R,METAL 1W 6.8K
R811,812	053 CR14-104J-A	R,CARBON 100K
R813,814	053 CR14-183J-A	R,CARBON18K
R815,816	053 CR14-222J-A	R,CARBON 2.2K
R817,818	053 CR14-273J-A	R,CARBON 27K
R819	054 1WS6.8KJF	R,METAL 1W 6.8K
RY801	063 V23106-24	RELAY
SP1	067 C-4493A00	SPEAKER TERMINAL
TH601,602	034 TTC-503	THERMISTOR
VR601,602	051 SFR001-222	SEMI-FIXED RESISTOR 2.2K
	017 C-4401A01	SUB HEAT SINKER BOARD
	019 TO-126	INSULATION SHEET
	068 DM-2GM-O	SHORT SOCKET
	069 C-3417A	FUSE CLIP
X-1283 PCB ASSEMBLY		
C001	044 DE1307E472M	SPARK KILLER
S901	061 C-4176A08	POWER SWITCH
HEAT SINKER ASSEMBLY		
Q617,618	032 D1953	TRANSISTOR
Q623,624	033 C4381-OY	DRIVER TRANSISTOR
Q625,626	033 A1667-OY	DRIVER TRANSISTOR
Q627-632	033 C3856-OPY	POWER TRANSISTOR
Q633-638	033 A1492-OPY	POWER TRANSISTOR
	017 RM4-08B00	HEAT SINKER BOARD
	019 TO-126	INSULATION SHEET(S)
	019 TO-3P	INSULATION SHEET(L)
OTHERS		
	011 FP-509	FRONT PANEL ASSY
	011 SN4-04A00	HEAT SINKER PANEL
	012 RV4-09A00	PUSH KNOB
	014 RM4-07B00	BOTTOM BOARD
	014 SN3-12A00	UPPER COVER
	015 RP-373	PRINTED REAR CHASSIS
	019 4TR-2823#2	PLASTIC FOOT 24F
	019 4TSH-19#2	PLASTIC FOOT 50F
	022 T-1052W04	POWER TRANSFORMER
	034 SEL1124R	LED
	069 C-4629A01	AC INLET
	072 C-4621A01	AC CORD SET forS TD
	072 C-4622A01	AC CORD SET for AUSTRALIA
	072 C-4623A01	AC CORD SET for UK
	072 C-4624A01	AC CORD SET for CEE
	081 SN4-24A00	INSIDE CARTON
	081 Z-202	STYROL MOULDING

Case Outline

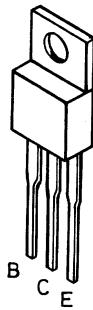
PCB Assembly



2SA1016K
2SC2362K
2SA1209
2SC2911
2SA1376A
2SC3478A



2SD1953



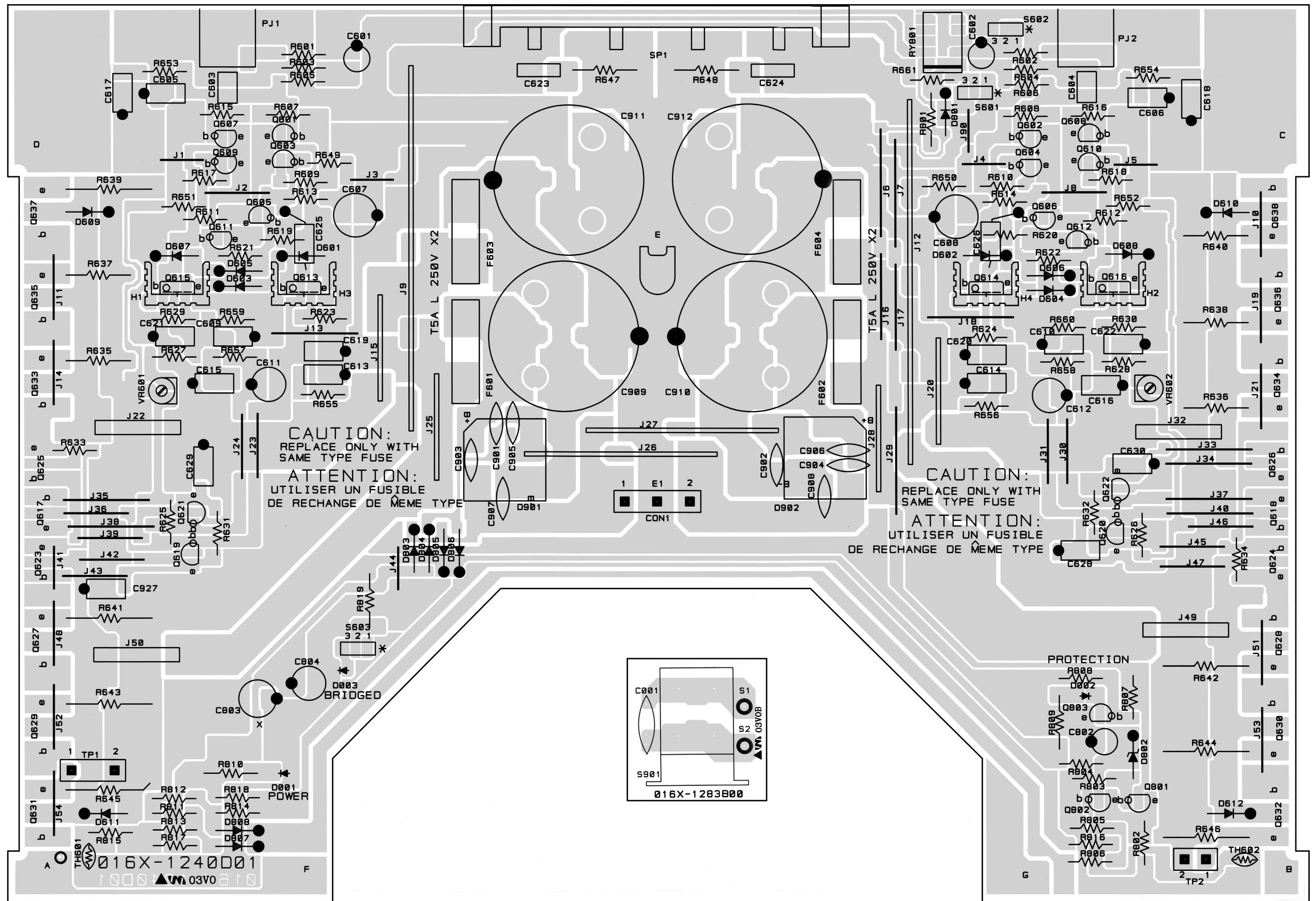
2SA1667
2SC4381



2SA1492
2SC3856

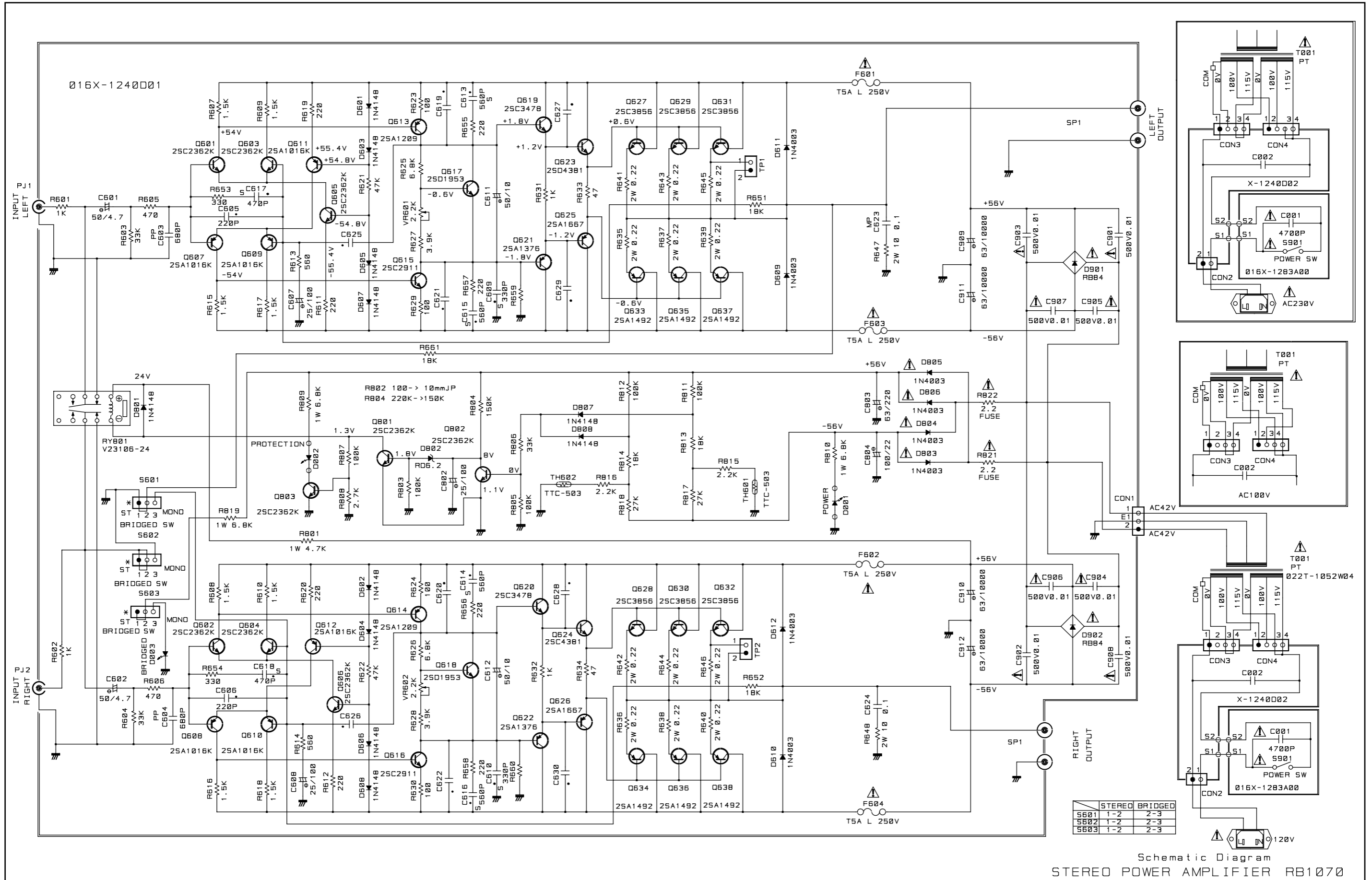
Adjustment

- Instruments : DC milli-voltmeter
Notes : Prior to Bias Adjustment, run about 5minutes with rated output(8ohms) and warm up Power Transistor and Heat Sink. Set input off.



Step	Coupling	Location	Adjust	Adjust for
1	TP1	X-1240 PCB	VR601	DC milli-voltmeter reads 4mV
2	TP2	X-1240 PCB	VR602	

Schematic Diagram

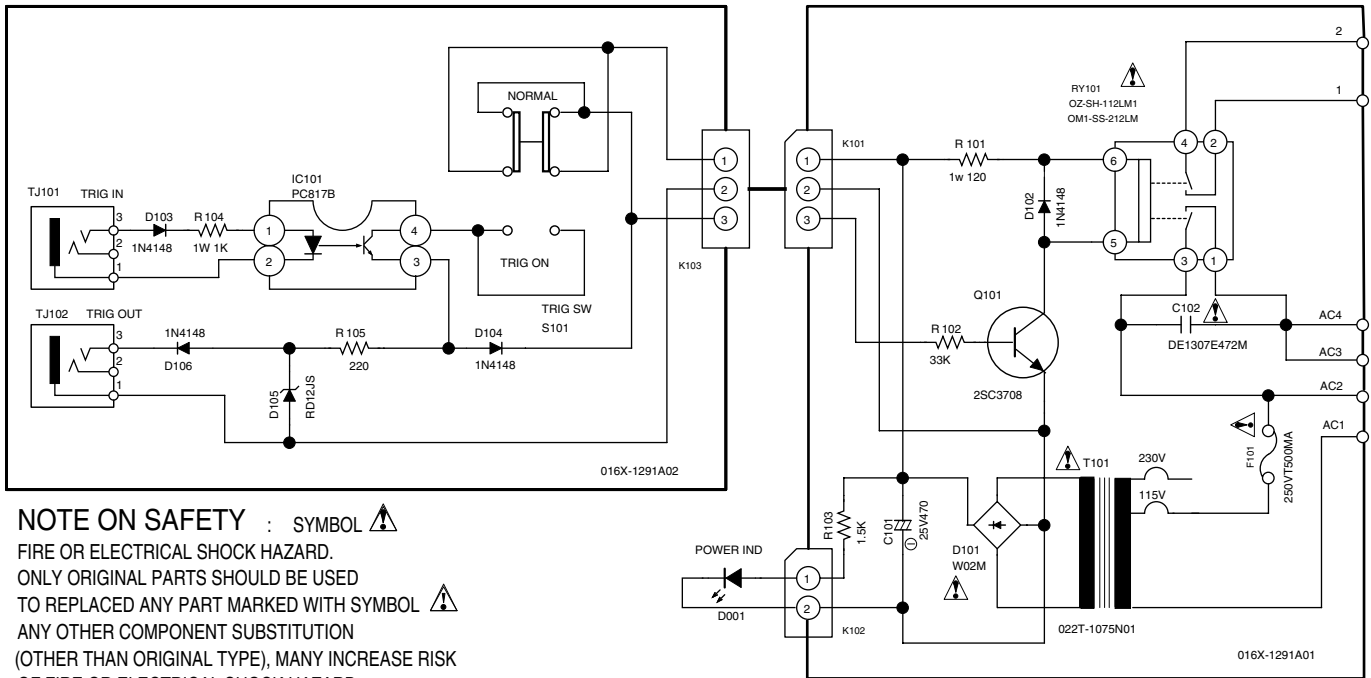


Schematic Diagram
STEREO POWER AMPLIFIER RB1070

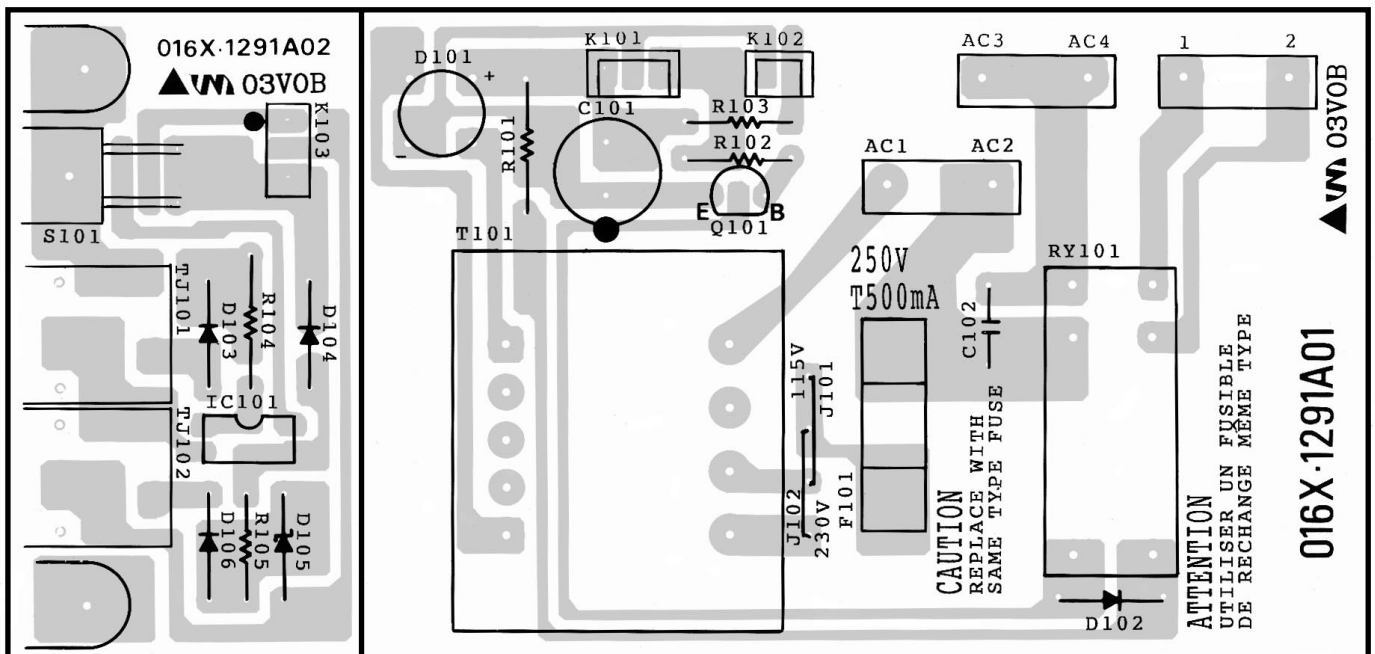
RB-1070-V01

RMB-1095-V01

Schematic Diagram



PCB Assembly

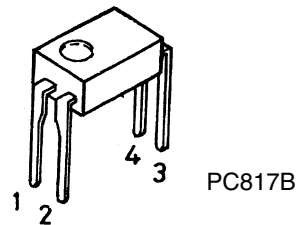
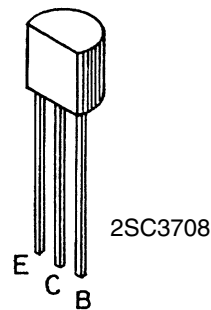


Parts List

SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION
X-1291-01 PCB ASSEMBLY			X-1291-02 PCB ASSEMBLY		
C101	041 UTES1E471	CAPACITOR ELEC.25V470UF	D103.104	034 T1N4148-86	DIODE
C102	044 DE1307E472M	SPARK KILLER	D105	034 TRD12ST1	ZENER DIODE
D101	034 W02M	BRIDGED DIODE	D106	034 T1N4148-86	DIODE
D102	034 T1N4148-86	DIODE	IC101	031 PC817B	PHOTO COUPLER
F101	036 5ST500	MINI FUSE 250VT500MA	K103	068 C-4588A09	CONNECTOR WITH WIRE
Q101	032 TC3708-ST	TRANSISTOR	R104	054 1WS1KJF	RESISTOR METAL 1W 1K
R101	054 1WS120JF	RESISTOR METAL 1W 120R	S101	064 C-4613A01	TOGGLE SWITCH
R102	053 CR14-333J-A	RESISTOR CARBON 33K	TJ101.102	065 YKB21-5103A	MINI JACK
R103	053 CR14-152J-A	RESISTOR CARBON 1.5K			
RY101	063 OZ-SH-112LM1	RELAY(POWER) for RB-1070-V01			
RY101	063 OMI-SS-212LM	RELAY(POWER) for RMB-1095-V01			
T101	022 T-1075N01	SUB TRANSFORMER			
	069 C-3417A	FUSE CLIP			


NOTE ON SAFTY : Symbol Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Case Outlines



Service Note

Cautions during Inspection and Repair

- 1. Keep in mind the safety warnings**
 The safety instructions are shown as the labels or printings on the exterior, the inside chassis or the parts, etc. Refer to the instructions when proceeding with inspection or repair.
- 2. Use only the specified parts for replacement**
 The selected parts are used at critical area to reduce fire hazard or electrical shock. So when replacing these parts where designaged with  **marks or marks on the schematic diagram or the parts list**, ensure to use only the same parts.
- 3. Ensure to dress back the AC (Mains) cord to the original position**
 If for some reason, the AC cord is moved or partially disassembled, ensure to re-route or assemble back to the original position. The AC cord area is protected and secured by tubing and insulation materials for the sake of safety, so that no loose wire will touch and cause fire hazard and electrical shock.
- 4. Check for safety aspects after inspection or repair**
 Ensure all parts, such as screws or wires, removed during inspection or repair are secured back to the original positions, and check visually for any anomaly. Also check for any electrical leakage or resistance to maintain the safety.