



# Technical Manual

# STEREO POWER AMPLIFIER RB-03

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### Specifications

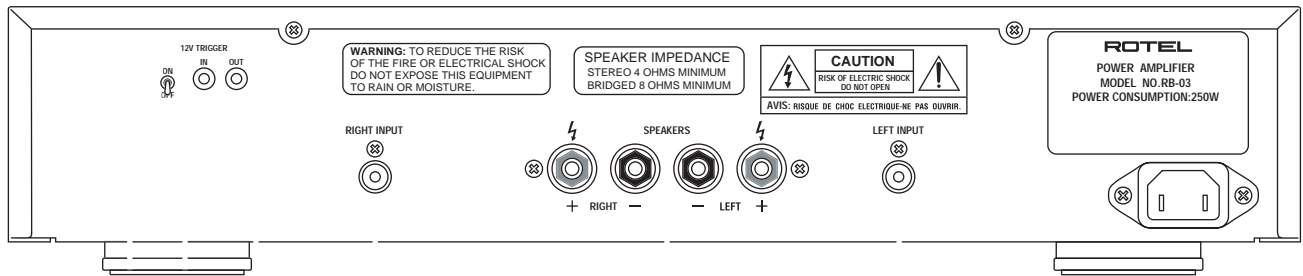
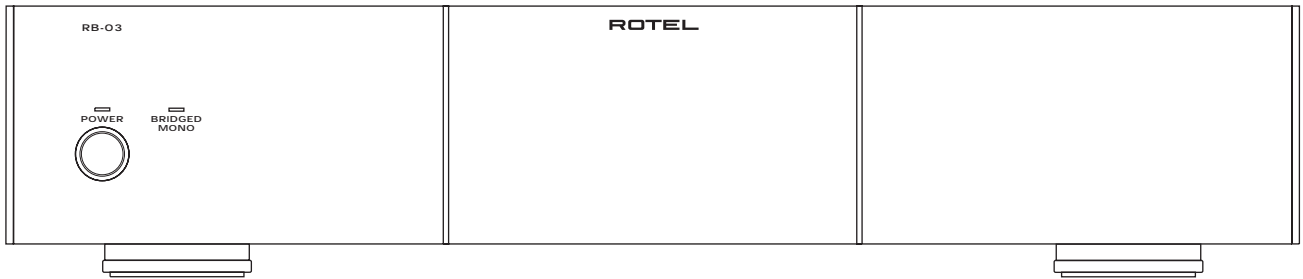
<b>Continuous Power Output</b> (20-20 kHz, < 0.03%, 8 ohms)	70 watts/ch
<b>Bridged Mono Power Output</b> (20-20 kHz, < 0.1%, 4 ohms)	180 watts (200 watts at 1kHz)
<b>Total Harmonic Distortion (20Hz-20kHz, 8 ohms)</b>	< 0.03%
<b>Intermodulation Distortion (60 Hz : 7 kHz, 4:1)</b>	< 0.03%
<b>Frequency Response ( ±1dB)</b>	10Hz-100kHz
<b>Damping Factor (20-20,000 Hz, 8 ohms)</b>	500
<b>Speaker Impedance (Normal mode)</b>	4 ohms minimum
<b>Signal to Noise Ratio (IHF A network)</b>	116 dB
<b>Input Impedance/Sensitivity</b>	33 k Ohms/1.0 volt
<b>Power Requirements</b>	
USA Version	115 Volts, 60 Hz
European Version	230 Volts, 50 Hz
<b>Power Consumption</b>	250 Watts
<b>Dimensions (W x H x D)</b> 17 <sup>1</sup> / <sub>8</sub> x 3 <sup>5</sup> / <sub>8</sub> x 13 <sup>3</sup> / <sub>16</sub> ins.	435 x 92 x 334 mm
<b>Panel Height</b>	80 mm / 2 <sup>5</sup> / <sub>32</sub> "
<b>Weight (net)</b>	7.5 kg, 16.54 lb.

**THE ROTEL CO., LTD**  
 SHINSEN-BLD. 4F 10-10 SHINSEN-CHO, SHIBUYA-KU,  
 TOKYO 150-0045, JAPAN

Serial. NO. Beginning
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# Appearance

RB-03



SYMBOL	PARTS NO.	DESCRIPTION
<b>016 X-1240E01 PCB ASSY</b>		
	501 X-1240-E	PCB ASSY
PJ2	066 4TR-2487#7	1P PIN JACK (RED)
PJ1	066 4TR-2487#8	1P PIN JACK (WHT)
C901,902,903,904,905,906	043 TC500V103	CERAMIC CAPACITOR 500V0.01uF
C907,908	043 TC500V103	CERAMIC CAPACITOR 500V0.01uF
D609,610,611,612,805,806	034 T1N4003-TB	DIODE 1N4003-E
D601,602,603,604,605,606	034 T1N4148-86	DIODE 1N4148TAP-50
D607,608	034 T1N4148-86	DIODE 1N4148TAP-50
C607,608	041 TEEUFC1E101SB	ELECTROLYTIC CAPACITOR 25V100uF
C611,612	041 35ZA10MTZ	ELECTROLYTIC CAPACITOR 35V10uF
C601,602	041 35ZA4R7MTZ	ELECTROLYTIC CAPACITOR 35V4.7uF
C803	041 UTES1H4R7-TF	ELECTROLYTIC CAPACITOR 50V4.7uF
C909,910,911,912	041 ALC20S1022DF	ELECTROLYTIC CAPACITOR 50V8200uF
F601,602,603,604	036 5ST3.15	FUSE 250VT3.15A
R821,822	054 ERQ14AJ2R2P	FUSIBLE RESISTOR 1/4W 2.2
C623,624	044 KT18-2A104K	M.P CAPACITOR MKT1818-410/015
R607-610,615-618	054 TMFR401K5	METAL FILM RESISTOR 1/4W 1.5K
R623,624,629,630	054 TMFR4100R	METAL FILM RESISTOR 1/4W 100
R651,652,661	054 TMFR4012K	METAL FILM RESISTOR 1/4W 12K
R631,632	054 TMFR4001K	METAL FILM RESISTOR 1/4W 1K
R611,612,619,620,655-658	054 TMFR4220R	METAL FILM RESISTOR 1/4W 220
R627,628	054 TMFR403K9	METAL FILM RESISTOR 1/4W 3.9K
R633,634	054 TMFR4047R	METAL FILM RESISTOR 1/4W 47
R621,622	054 TMFR4047K	METAL FILM RESISTOR 1/4W 47K
R613,614	054 TMFR4560R	METAL FILM RESISTOR 1/4W 560
R601,602	054 TRC55Z1001F	METAL FILM RESISTOR 1/4W 1K
R653,654	054 TMF3300	METAL FILM RESISTOR 1/4W 330
R603,604	054 TRC55Z3302F	METAL FILM RESISTOR 1/4W 33K
R605,606	054 TRC55Z4700F	METAL FILM RESISTOR 1/4W 470
R625,626	054 TRC55Z6801F	METAL FILM RESISTOR 1/4W 6.8K
R647,648	054 1WS10JF	MOF RESISTOR 1W 10
R819	054 1WS15KJF	MOF RESISTOR 2W 15K
C603,604	044 TFKP2-2A681H	P.P CAPACITOR 100V680pF
C605,606	044 FSC160V221H	PORYSTYRENE CAPACITOR 160V220pF
C609,610	044 FSC160V331H	PORYSTYRENE CAPACITOR 160V330pF
C617,618	044 FSC160V471H	PORYSTYRENE CAPACITOR 160V470pF
C613,614,615,616	044 FSC160V561H	PORYSTYRENE CAPACITOR 160V560pF
D901,902	034 BR84	POWER DIODE 8A 400V
S001	061 C-4176A08	POWER SWITCH PS3-22SPA-P7AZ TV-8
R635,636,639,640,641,642	054 NIR2-0.22JF	RESISTOR 2W 0.22
R645,646	054 NIR2-0.22JF	RESISTOR 2W 0.22
VR601,602	051 SFR002-222	SEMI-FIXED RESISTOR 2.2KB
C001	044 DE1310E472M-KH	SPARK KILLER 4700pF
SP1	067 C-4493A00	SPEAKER TERMINAL 4P (RBBR)
Q607,608,609,610,611,612	033 TA1016-FG	TRANSISTOR 2SA1016KAA-FG
Q621,622	033 TA1376-LKU	TRANSISTOR 2SA1376AT-LKU
Q625,626	032 A1837	TRANSISTOR 2SA1837
Q613,614	033 B631-EF	TRANSISTOR 2SB631K-EF
Q633,634,637,638	033 B817P-DE	TRANSISTOR 2SB817P-DE
Q601,602,603,604,605,606	033 TC2362-FG	TRANSISTOR 2SC2362KAA-FG
Q619,620	033 TC3478-LKU	TRANSISTOR 2SC3478AT-LKU
Q623,624	032 C4793	TRANSISTOR 2SC4793
Q627,628,631,632	033 D1047P-DE	TRANSISTOR 2SD1047P-DE
Q617,618	032 D1953	TRANSISTOR 2SD1953
Q615,616	033 D600-EF	TRANSISTOR 2SD600K-EF
<b>016 X-1291 E01-02 PCB ASSY</b>		
	501 X-1291-E	PCB ASSY
T101	022 T-1075N02	SUB TRANSFORMER
IC101	031 PC817B	IC (PHOTO COUPLER)

## Parts List 2/2

SYMBOL	PARTS NO.	DESCRIPTION
Q101	032 TC3708-ST	TRANSISTOR 2SC3708AA-ST
D102,103,104,106	034 T1N4148-86	DIODE 1N4148TAP-50
D105	034 TRD12JST1	ZENER DIODE 12V (AB2)
D101	034 W02M	POWER DIODE 1.5A
F101	036 5ST500	FUSE 250VT500MA
F903	036 R251-250	LEAD TYPE FUSE F250MA
C101	041 TUTES1E471-TS	ELECTROLYTIC CAPACITOR 25V470uF
C102	044 DE1310E472M-KH	SPARK KILLER 4700pF
R105	053 CR14-221J-A	CARBON RESISTOR 1/4W 220
R102	053 CR14-333J-A	CARBON RESISTOR 1/4W 33K
R103	053 CR14-472J-A	CARBON RESISTOR 1/4W 4.7K
R101	054 1WS120JF	MOF RESISTOR 1W 120
R104	054 1WS1KJF	MOF RESISTOR 1W 1K
RY101	063 OZT-SS-112LM1	RELAY DC12V OZT-SS-112LM1
TJ101,TJ102	065 YKB21-5103A	3.5Φ MINI JACK
S101	064 C-4613A01	TOGGLE SWITCH
<b>OTHERS</b>		
	505 FRB-03-B	FRONT PANEL ASSY (BLACK)
	505 FRB-03-S	FRONT PANEL ASSY (SILVER)
	069 C-4629A01	AC 2P INLET 6102.3100
	072 C-4622A01	AC CORD SET for AUSTRALIA
	072 C-4624A01	AC CORD SET for EUROPE
	072 C-4623A01	AC CORD SET for U.K
	072 C-4621A01	AC CORD SET SVT AWG16/2C for USA
	081 UK3-05A00	INSIDE CARTON
	034 SEL1E24W	LED 1x5 (BLU)
	019 4TSH-19#2	PLASTIC FOOT 50Φ
	022 T-1055U01	POWER TRANSFORMER
	012 RV4-09A00	PUSH BUTTON 14Φ (BLACK)
	012 RV4-09A01	PUSH BUTTON 14Φ (SILVER)
	015 RP-403	REAR CHASSIS
	081 UK3-06A00	SHIPPING CARTON
	014 C-4550A08	UPPER COVER (BLACK)
	014 C-4550A25	UPPER COVER (SILVER)
	082 OMRB-03-1	OWNER'S MANUAL(EFGIDSSw)

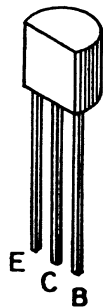
## Adjustment

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-1240-01 PCB	VR601	DC milli-voltmeter reads 4mV
2	TP2	X-1240-01 PCB	VR602	

## Case Outlines



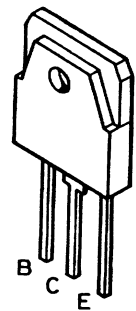
2SA608K  
2SA1016K  
2SA1376A  
2SC536K  
2SC2362K  
2SC3478A



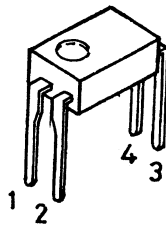
2SB631K  
2SD1953  
2SD600K



2SA1837  
2SC4793



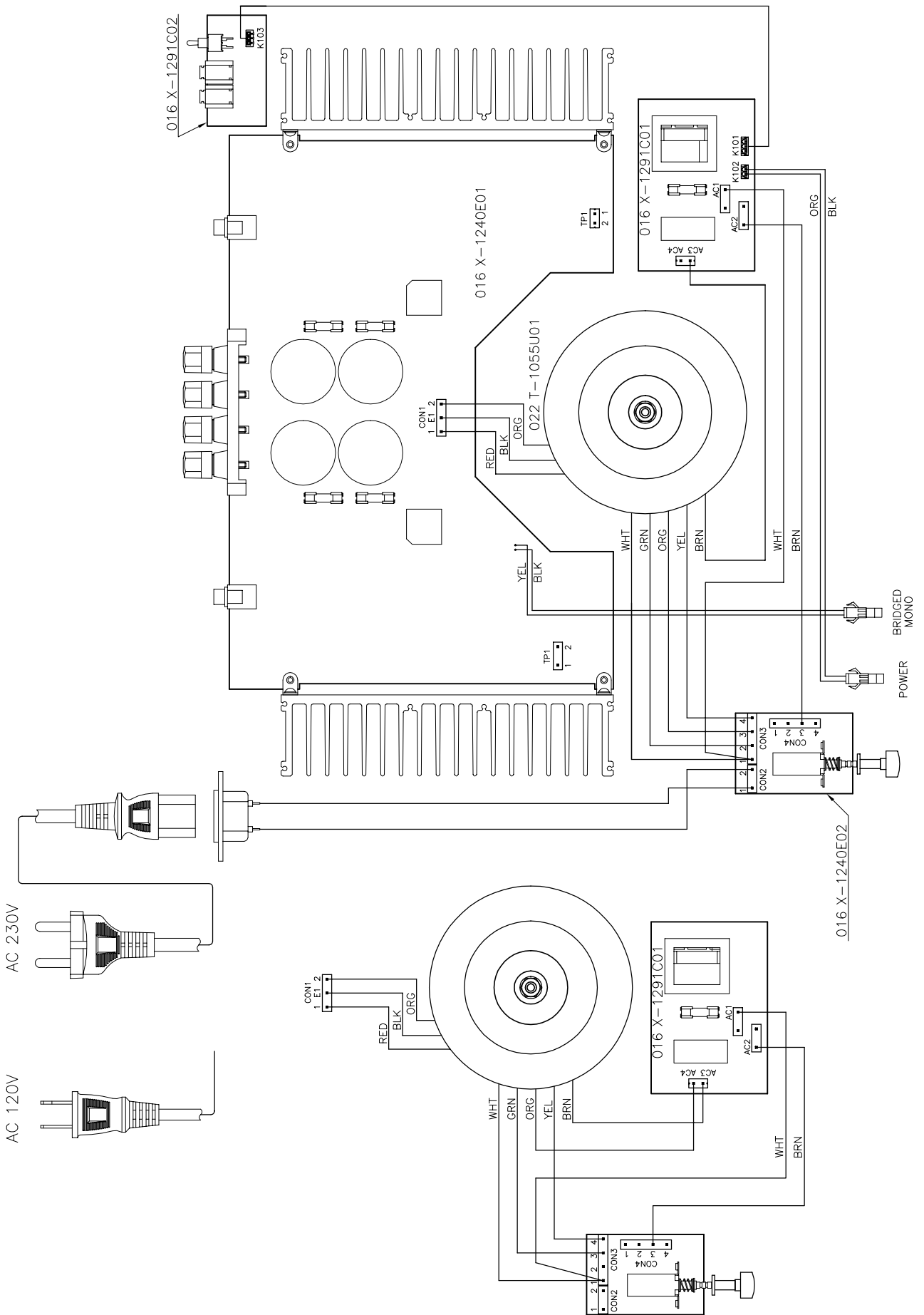
2SB817  
2SD1047



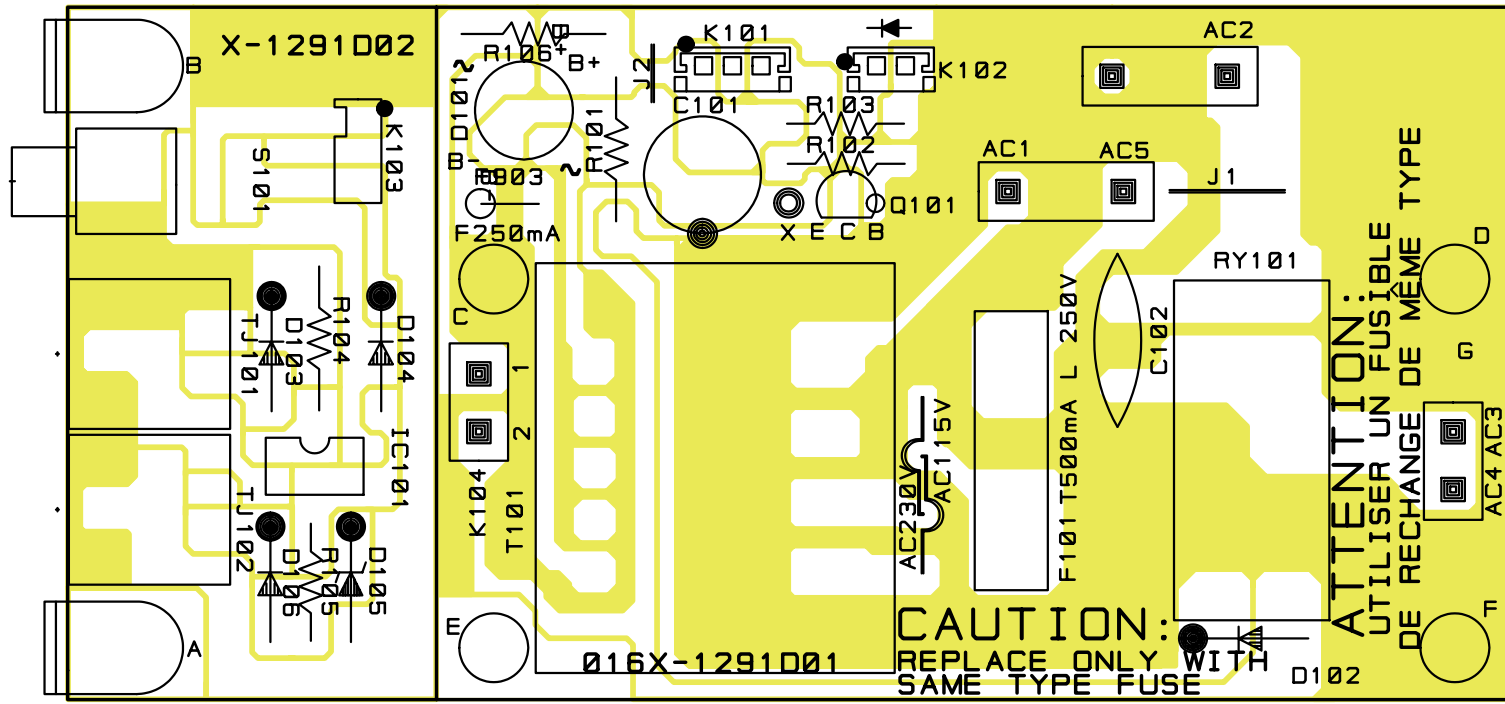
PC817B

# Wiring Diagram

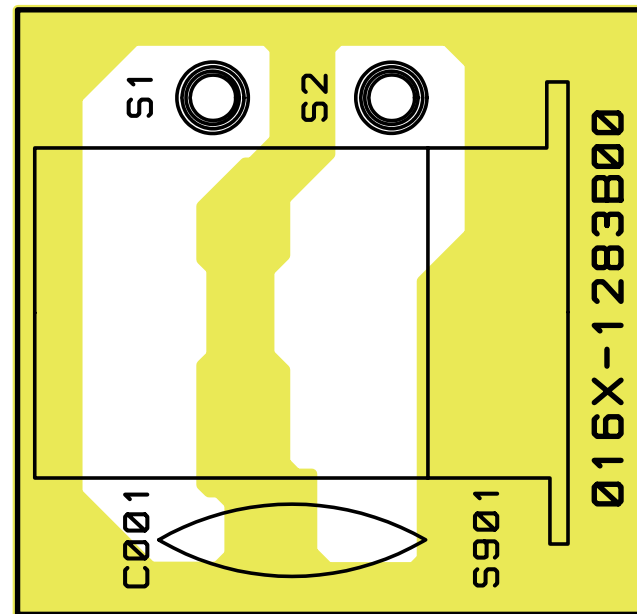
RB-03



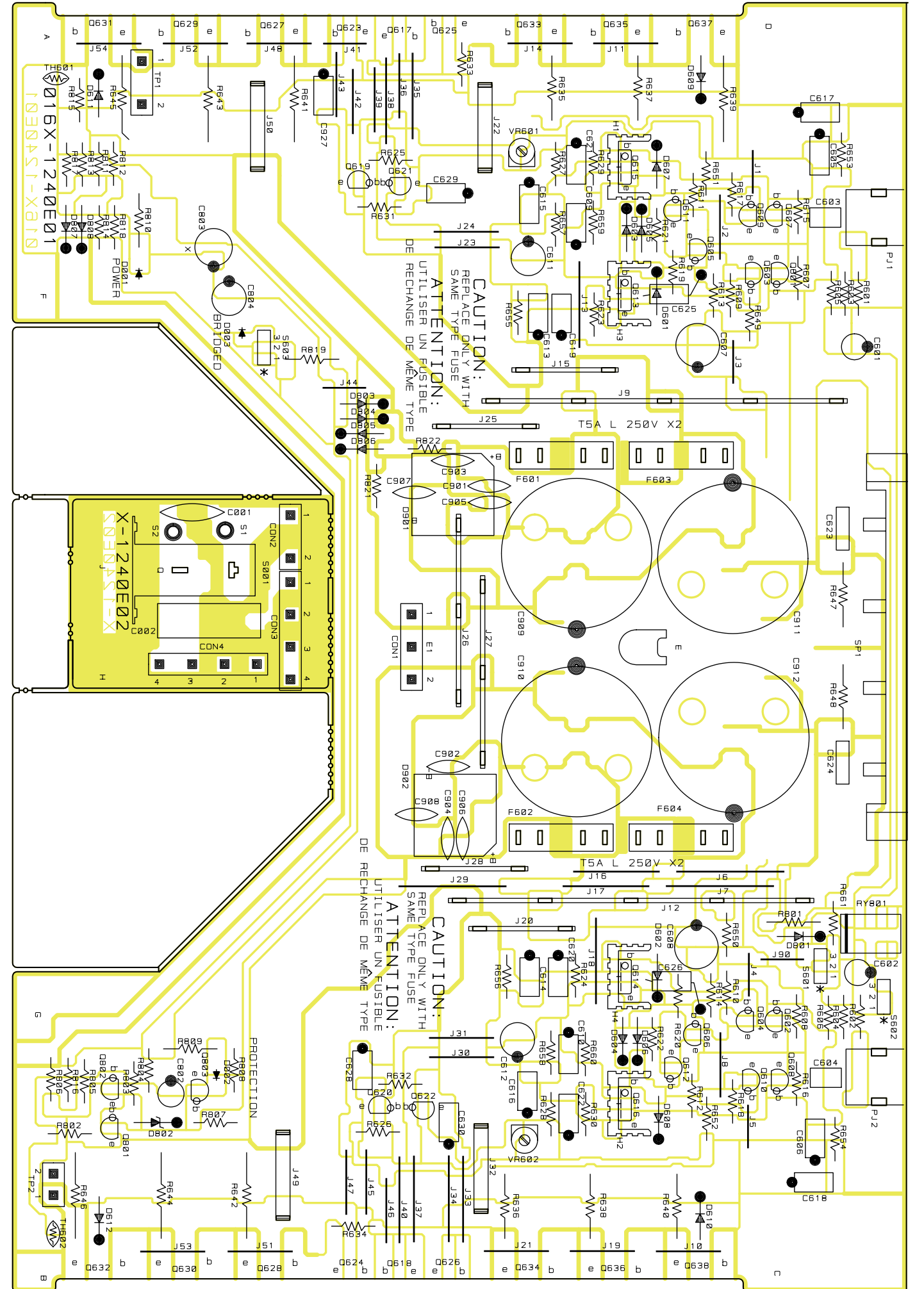
016 X-1291



016 X-1283

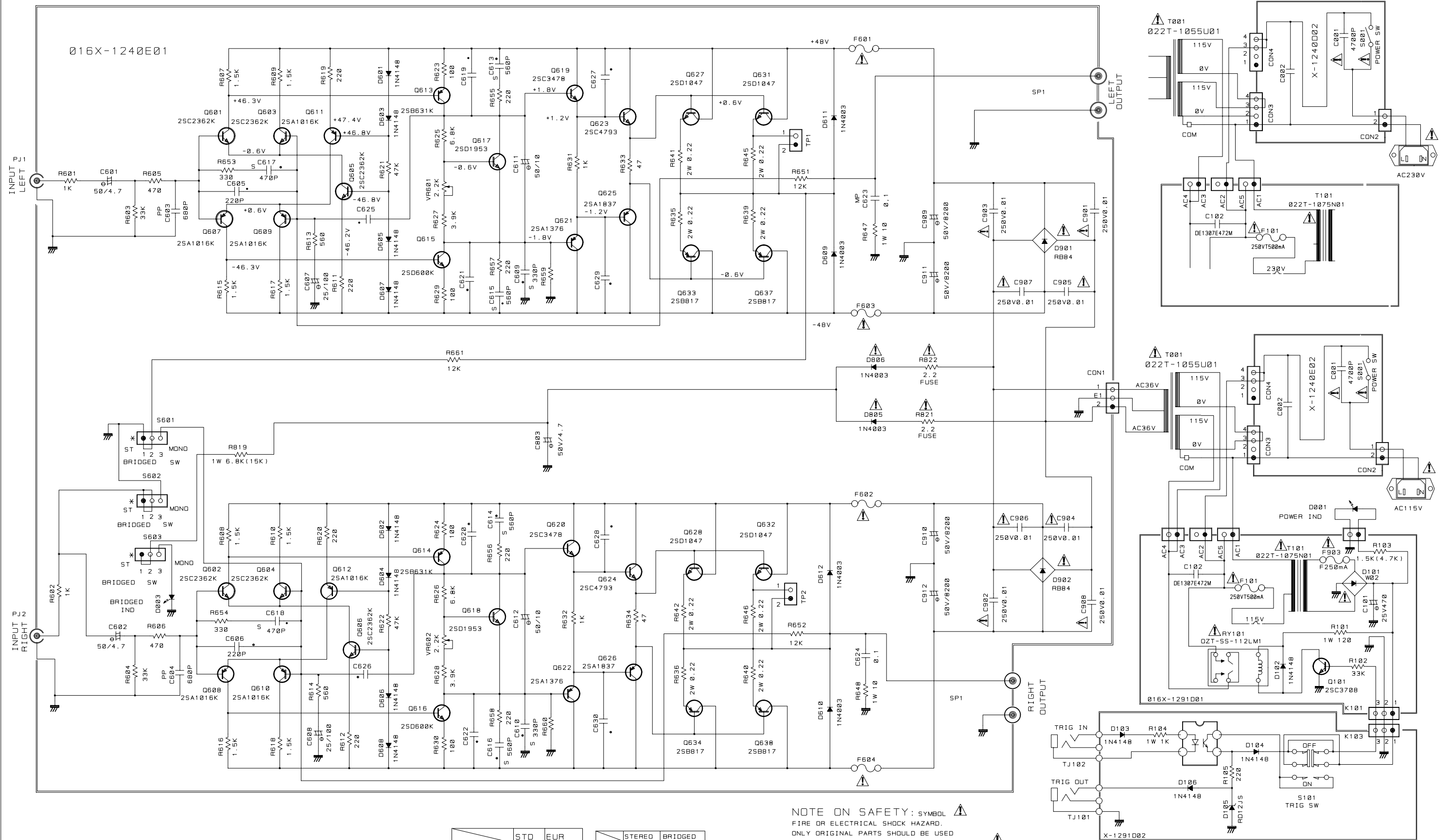


016 X-1240



# Schematic Diagram

RB-03



**NOTE ON SAFETY:** SYMBOL ⚠  
 FIRE OR ELECTRICAL SHOCK HAZARD.  
 ONLY ORIGINAL PARTS SHOULD BE USED  
 TO REPLACE ANY PART MARKED WITH SYMBOL ⚠  
 ANY OTHER COMPONENT SUBSTITUTION  
 (OTHER THAN ORIGINAL TYPE), MAY INCREASE RISK  
 OF FIRE OR ELECTRICAL SHOCK HAZARD.

	STD	EUR	STEREO	BRIDGED
F601-F604	250V 3A	250V T3.15A	S601 1-2	2-3
			S602 1-2	2-3
			S603 1-2	2-3

Schematic Diagram  
 STEREO POWER AMPLIFIER  
 RB-03