

Quality Uncompromised

ROTEL®

Technical Manual

STEREO POWER AMPLIFIER **RB-870BX**

Table of Contents

Specifications	1
Adjustment	2
Parts List	2
Wiring Diagram	3, 4
Schematic Diagram	5, 6

Specifications

Continuous Power Output	100 watts* per channel, min. RMS both channels driven into 8 ohms from 20 to 20,000 Hz with no more than 0.03% total harmonic distortion.
DIN Power Output	200 watts per channel (1 kHz, 4 ohms, 1% THD)
Peak Current	50 A (0.1 ohms, 10 μ sec, 1 pulse).
Bridged Power	300 watts (mono) min. RMS driven into 8 ohms from 20 to 20,000 Hz with no more than 0.05% total harmonic distortion.
Total Harmonic Distortion (20 to 20,000 Hz)	No more than 0.03% (continuous rated power output) No more than 0.03% (continuous 1/2 rated power output) No more than 0.03% (1 watts per channel power output, 8 ohms)
Intermodulation Distortion (60 Hz : 7 kHz = 4 : 1)	No more than 0.03% (continuous rated power output) No more than 0.03% (continuous 1/2 rated power output) No more than 0.03% (1 watt per channel power output, 8 ohms)

Output	Speaker 8 ohms nominal
Damping Factor	180 (20 to 20,000 Hz, 8 ohms)
Input Sensitivity/Impedance.	1.0V/2 kohms
Frequency Response	4 to 100,000 Hz, +0.5 dB, -3.0 dB
Signal-to-Noise Ratio (IHF A network)	110 dB
Power Requirement	120V/60 Hz, 220V/50 Hz, 240V/50 Hz or 120, 220, 240V/ 50-60 Hz (switchable) (depending on destinations)
Power Consumption	500 watts
Dimensions (overall)	430(W) x 109(H) x 315(D) mm 16-15/16" x 4-7/32" x 12-13/32"
Weight (net)	9.4 kg/20.68 lbs.

- Specifications and design subject to possible modification without notice.
- *Measured pursuant to the Federal Trade Commission's Trade Regulation Rule on Power Claims for Amplifiers (applicable to the U.S.A. only).

Serial No.
Beginning

THE ROTEL CO., LTD.
ROTEL ELECTRONICS CO., LTD.

1-36-8 OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN
3RD FLOOR, ROTEL BLDG., NO. 35 FUSHING, NORTH
ROAD, TAIPEI, TAIWAN, REPUBLIC OF CHINA

Parts List

Schematic Location	Computer No.	Description	Schematic Location	Computer No.	Description
Q601	0322SA1016-FG		D607	034DS135C	
Q602	0322SA1016-FG		D901	034IS1588	
Q603	0322SA1016-FG		TH601	034TD5C350D	Temperature Compensator
Q604	0322SC1941-KL		VR601	051SF687A-2K	Bias Adj.
Q605	0322SB605-KL		RY901	0630RZ-SS224L	Relay
Q606	0322SB631K-EF		S901	064C-4173A05	
Q607	0322SD600K-E	Idling Driver	C001	044DE7150F472M	Spark Killer
Q608	0332SD600K-EF	Driver	S001	061C-4176A02	Power Switch
Q609	0332SB631K-EF	Driver	T001	022T-1016G01	Power Transformer
Q610	0332SD1047-DE	Power Driver	D001	034SEL1124R	Power Indicator
Q611	0332SD1047-DE	Power Driver			
Q612	0332SD1047-DE	Power Driver	011PF4-13A00		Front Panel
Q613	0332SB817-DE	Power Driver	0124TR-2176		Knob (Power)
Q614	0332SB817-DE	Power Driver	0143TR-2349		Ornamental Side Plate
Q615	0332SB817-DE	Power Driver	0143TUV-6#4		Upper Cover
Q901	0322SC2362-FG		017C-4322A01		Head Sink
D601	0341S1588		017C-4323A00		Sub Heat Sink
D602	0341S1588		066C-4225A04		2P Pin Jack (Input)
D603	034DS135C		0673TR-2045#3		Output Terminal (Red)
D604	034DS135C		0673TR-2045#4		Output Terminal (Black)
D605	034KBPC804	Rectifier	069C-4304A01		Voltage Selector
D606	0341S1588				

Adjustment

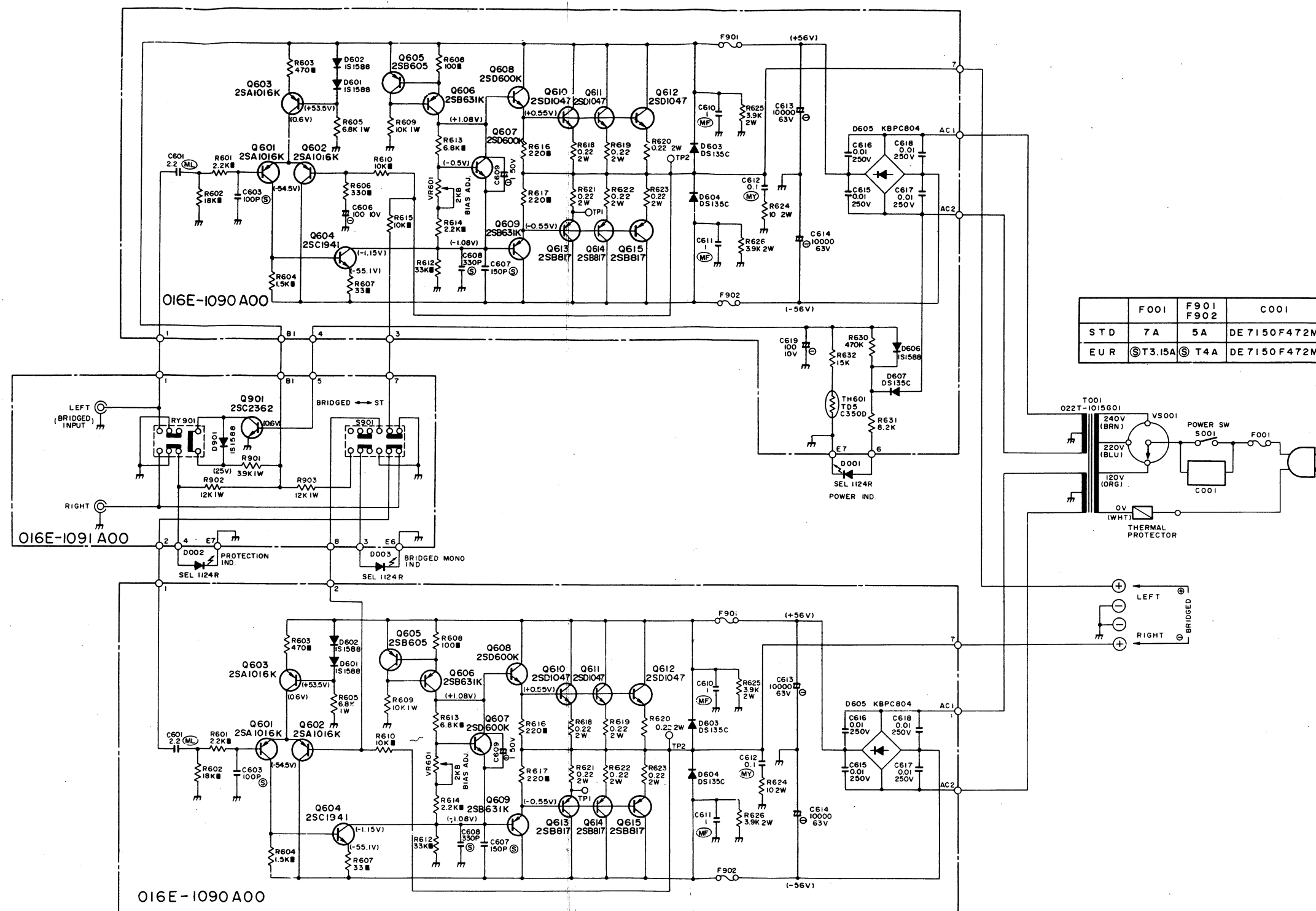
Power Amplifier Bias Adjustment

Instruments : DC milli-voltmeter

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

Step	Coupling		Location	Adjust	Adjust for
	Plus Lead	Minus Lead			
1	TP2	TP1	E-1090 PCB (Lch)	VR601	DC milli-voltmeter reads 5 mV
2	TP2	TP1	E-1090 PCB (Rch)	VR601	

Schematic Diagram



	F001	F901	C001
STD	7 A	5 A	DE 7150F472M
EUR	⑤T3.15A⑤	T4A	DE 7150F472M

RB-870BX

(RESISTORS)
 5% TOLERANCE UNLESS OTHERWISE NOTED.
 K KILO OHM
 ■ FIXED PRECISION METAL FILM RESISTORS. (F): 1%
 NON MARK LOW NOISE TYPE CARBON RESISTORS. 1/4 WATT

(CAPACITORS)
 Ⓢ POLYSTYRENE FILM CAPACITORS.
 Ⓜ MYLAR FILM CAPACITORS.
 Ⓜ METALIZED POLYESTER FILM CAPACITORS.
 Ⓜ ELECTROLYTIC CAPACITORS.
 NON MARK CERAMIC CAPACITORS.
 Ⓜ METAL LAYER CAPACITORS.

- UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE VALUES ARE EXPRESSED IN MFD.
- VOLTAGE READING WITH VTVM FROM THE POINT SHOWN TO THE CHASSIS GROUND. (LINE VOLTAGE 120 VOLTS)
- VOLTAGE READING MAY ±20%

