



Technical Manual

STEREO INTEGRATED AMPLIFIER RA-971MKII

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Specification

Rated power, rms.	(20-20,000 Hz, 0.03%, 8 Ohms)	60 watts
	(20-20,000Hz, 0.03%, 4 Ohms)	90 watts
Total Harmonic Distortion, (THD)		≤0.03%
Intermodulation Distortion, (IMD)		≤0.03%
Signal to Noise ratio, all inputs		> 95 dB IHF A
Frequency response		10-100,000 Hz, +1, -3 dB
Tone control response		
Bass		± 6 dB @100 Hz
Treble		± 6 dB @10 kHz
Input overload level, all inputs		≥5 volts
Power Requirement		115 volts 60 Hz
		230 volts 50 Hz
Power consumption		300 watts
Dimensions (W x H x D)		440 x 92 x 347 mm
		17-3/8 x 3-5/8 x 13-11/16"
Weight (net)		6.5 kg, 14.3 lb.

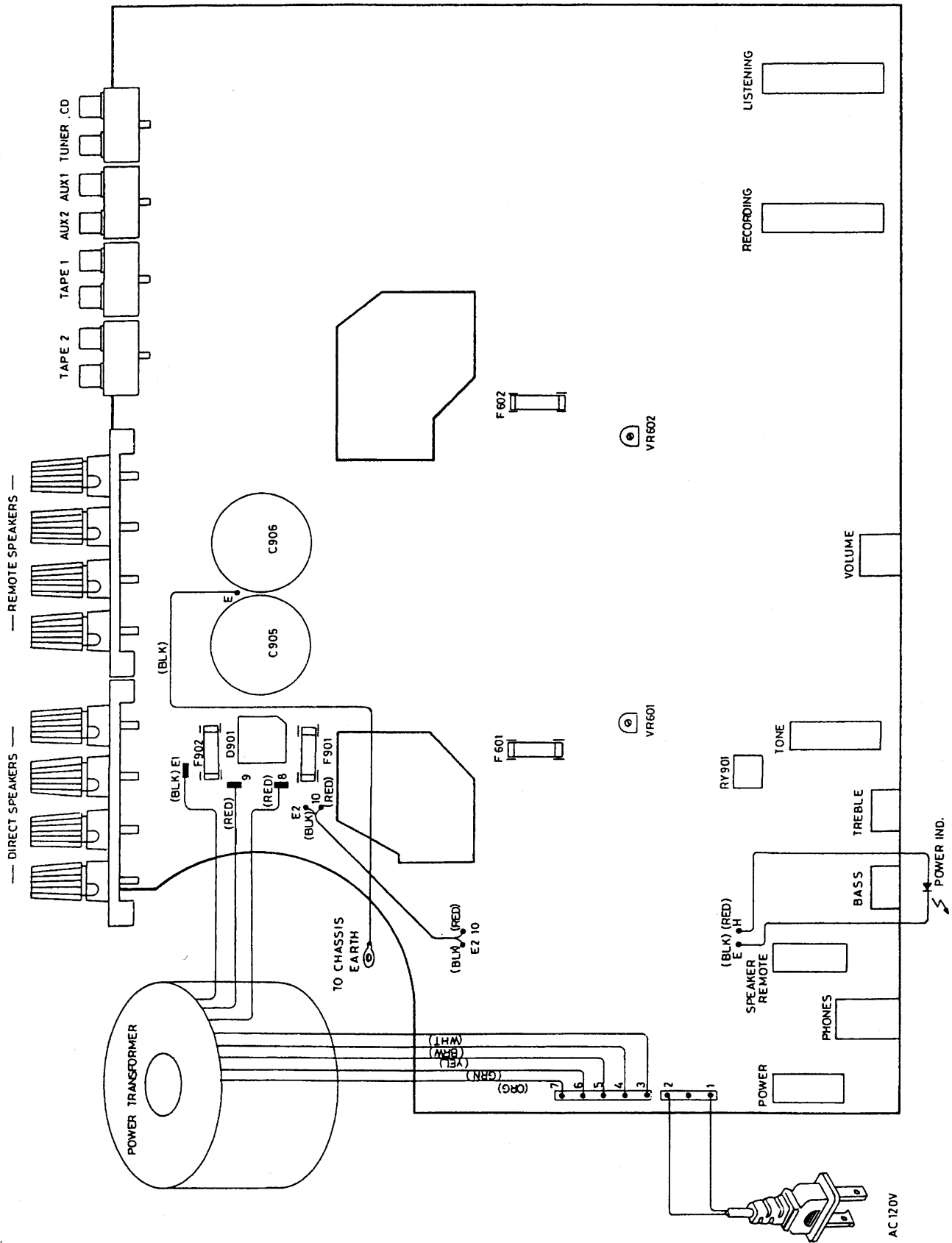
THE ROTEL CO., LTD

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

Serial. No.
Beginning

Y-309A-98061M/S-S

Wiring Diagram



Parts List RA-971MKII

SYMBOL	PARTS NO. (CHINA)	DESCRIPTION
E-1214 PCB ASSEMBLY		
C501, 502	041 50BGF10M	CAP, ELEC. 50V10 μ F
C503, 504	044 LFSC160V470H	CAP, STYROL 160V47PF
C505, 506	041 50BGF10M	CAP, ELEC. 50V10 μ F
C507-512	044 50MSANI04J	CAP, FILM 50V0.1 μ F
C513, 514	042 LTP50V472J	CAP, MYLAR 50V4700PF
C515, 516	042 LTP50V152J	CAP, MYLAR 50V1500PF
C517, 518	041 50BGF10M	CAP, ELEC. 50V10 μ F
C519, 520	044 LFSC160V101H	CAP, STYROL 160V100PF
C521, 522	041 50BGF10M	CAP, ELEC. 50V10 μ F
C523, 524	041 ECEA1EFS221	CAP, ELEC. 25V220 μ F
C527, 528	041 ECEA1EFS221	CAP, ELEC. 25V220 μ F
C601, 602	041 50BGF4R7M	CAP, ELEC. 50V4.7 μ F
C603, 604	044 LFSC160V331H	CAP, STYROL 160V330PF
C605, 606	044 LFSC160V221H	CAP, STYROL 160V220PF
C607, 608	041 25BGF100M	CAP, ELEC. 25V100 μ F
C609, 610	044 LFSC160V331H	CAP, STYROL 160V330PF
C611, 612	041 50BGF10M	CAP, ELEC. 50V10 μ F
C613-616	044 LFSC160V221H	CAP, STYROL 160V220PF
C617, 618	044 MKT18-100V104K	CAP, FILM 100V0.1 μ F
C901-904	043 LTC500V103	CAP, CERA. 500V0.01 μ F
C905, 906	041 ALC20S1044DG	CAP, ELEC. 50V10000 μ F
C907, 908	041 ECEA1EFS101	CAP, ELEC. 25V100 μ F
C909, 910	041 ECEA1EFS471	CAP, ELEC. 25V470 μ F
C911	041 UTSS1H100	CAP, ELEC. 50V10 μ F
C912	041 UTSS1E221-FB	CAP, ELEC. 25V220 μ F
C913	044 DE7150F472M	SPARK KILLER
D601-608	034 LT1N4148-86	DILDE
D609-612	034 LT1N4003-TB	DILDE
D901	034 LBR84	POWER DIODE
D902	034 LT1N4003-TB	DILDE
D903, 904	034 TRD16JST1 ZENER	DILDE
D905, 906	034 LT1N4148-86	DILDE
F601, 602	036 5ST6.3	MINI FUSE 250V6.3A
F901, 902	036 5ST6.3	MINI FUSE 250V6.3A
IC501	031 OPA260AP	IC
IC502	031 NJM2114D	IC
Q601-604	033 LT2SC2362KAA-FG	TRANSISTOR
Q605-610	033 LT2SA1016KAA-FG	TRANSISTOR
Q611, 612	033 LT2SC2362KAA-FG	TRANSISTOR
Q613, 614	033 LT2SA1208AE-RST	TRANSISTOR
Q615, 616	033 LT2SC2910AE-RST	TRANSISTOR
Q619, 620	033 T2SC3478T-LKU	TRANSISTOR
Q621, 622	033 T2SA1376T-LKU	TRANSISTOR
Q901	033 L2SD600K-EF	TRANSISTOR
Q902	033 L2SB631K-EF	TRANSISTOR
Q903	032 LT2SC536KAA-FG	TRANSISTOR
R301-304	054 LTMK2001KFECZ	R, METAL 1% 1K
R501, 502	054 LEE10-151	R, METAL 150R
R503, 504	054 LEE10-104	R, METAL 100K
R505, 506	054 LTMK2680RFECZ	R, METAL 1% 680R
R507, 508	054 LTMK203K9FECZ	R, METAL 1% 3.9K
R509, 510	054 LTMK2100KFECZ	R, METAL 1% 100K
R511, 512	054 LTMK202K2FECZ	R, METAL 1% 2.2K
R513, 514	054 LTMK2002KFECZ	R, METAL 1% 2K
R515, 516	054 LTMK2022KFECZ	R, METAL 1% 22K
R517-520	054 LTMK201K5FECZ	R, METAL 1% 1.5K
R521, 522	054 LTMK2015KFECZ	R, METAL 1% 15K
R523, 524	054 LTMK2100KFECZ	R, METAL 1% 100K
R525, 526	054 LTMK2150RFECZ	R, METAL 1% 150R
R527, 528	054 LTMK201K2FECZ	R, METAL 1% 1.2K
R529, 530	054 LTMK2002KFECZ	R, METAL 1% 2K
R531, 532	054 LTMK2100KFECZ	R, METAL 1% 100K
R533, 534	054 LTMK2470RFECZ	R, METAL 1% 470R
R601, 602	054 LTMK2560RFECZ	R, METAL 1% 560R
R603, 604	054 LTMK2047KFECZ	R, METAL 1% 47K

SYMBOL	PARTS NO. (CHINA)	DESCRIPTION
R605-612	054 LTMK201K5FECZ	R, METAL 1% 1.5K
R613-616	054 LTMK2220RFECZ	R, METAL 1% 220R
R617, 618	054 LTMF1/4-5600F	R, MRS25 560R
R619, 620	054 LTMK2047KFECZ	R, METAL 1% 47K
R621-624	054 LTMK2100RFECZ	R, METAL 1% 100R
R625, 626	054 LTMF1/4-6801F	R, MRS25 6.8K
R627, 628	054 LTMF1/4-1501F	R, MRS25 1.5K
R629, 630	054 LTMF1/4-3302F	R, MRS25 33K
R631, 632	054 LTMK2001KFECZ	R, METAL 1% 1K
R633, 634	054 LTMK2047RFECZ	R, METAL 1% 47R
R635, 636	054 LTMK2012KFECZ	R, METAL 1% 12K
R637-644	054 TNIR2-0.22J	R, METAL 2W 0.22R
R645, 646	054 2WS101F	R, METAL 2W 10R
R647-650	054 LTMK2680RFECZ	R, METAL 1% 680R
R651, 652	054 LTMF3301	R, MRS25 3.3K
R901, 902	054 LTMK203K3FECZ	R, METAL 1% 3.3K
R904	053 CR14-564J-A	R, CARBON 560K
R905	054 1WS5.6KJF	R, METAL 1W 5.6K
R906	053 CR14-681J-A	R, CARBON 680R
R907	053 CR14-472J-A	R, CARBON 4.7K
R908	054 1WS1KJF	R, METAL 1W 1K
RY901	063 EG2-24NU	RELAY
S301, 302	062 4TR-2781	ROTARY SWITCH (FUNCTION)
S501	062 4TR-2780	ROTARY SWITCH (TONE)
S601	062 4TR-3302	PUSH SWITCH (SPEAKER)
S901	061 LC-4176A01T	POWER SWITCH
TH901	034 TTC-503	THERMISTOR
VR501	051 C4170A17	VARIABLE RESISTOR (VOLUME)
VR502, 503	051 4TR-2774	VARIABLE RESISTOR (TONE)
VR601, 602	051 LVM6CKPV1S1K	SEMI-FIXED RESISTOR
	065 C-3399#1	PHONE JACK
	066 4TR-2408#1	4P PINJACK (AUX, TAPE)
	066 4TR-2408#3	4P PINJACK (CD, TUNER)
	067 4TR-3090	SPEAKER TERMINAL
	068 LC-3963#1	LED CONNECTOR
HEAT SINKER ASSEMBLY		
Q617, 618	032 L2SD600K-EF	TRANSISTOR
Q623, 624	033 2SC3902-RS	TRANSISTOR
Q625, 626	033 2SA1507-RS	TRANSISTOR
Q627-630	033 L2SD1047-DE	POWER TRANSISTOR
Q631-634	033 L2SB817-DE	POWER TRANSISTOR
	016 TX406111	SUB PCB
	017 3TQF-6#1	HEAT SINKER BOARD
	019 TO-220	INSULATION SHEET (S)
	019 TO-3P	INSULATION SHEET (L)
OTHERS		
	011 FP-516	FRONT PANEL ASSY
	012 L4TQF-15	POWER BUTTON 14X14
	012 L4TQF-18	KNOB 13F
	012 L4TQF-19	KNOB 24F
	012 L4TQF-20	KNOB 33F WR
	012 L4TQF-21	KNOB 33F WF
	012 4TQF-16	PUSH BUTTON 5X10
	014 C-4550A09	UPPER COVER
	014 L4TR-2797#2	ORNAMENT SIDE BOARD
	014 1TQF-5	BOTTOM BOARD
	015 RP-370	REAR CHASSIS
	019 4TR-2807	PLASTIC FOOT CAP
	022 TT-311-UR	POWER TRANSFORMER
	072 L4TR-670#4	AC CORD for STD
	072 LC-3763	AC CORD for AUSTRALIA
	072 C4572A01	AC CORD for UK
	072 L4TR-1037	AC CORD for CEE
	081 LTZ-183	STYROL SIDE MOULDING
	081 SB4-01A01	INSIDE CARTON

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.

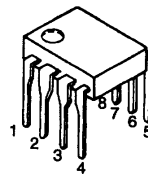
Step	Coupling		Location	Adjust	Adjust for
	Plus Lead	Minus Lead			
1	TP 1	TP 3	X-1214 PCB	VR601	DC milli-voltmeter reads 8mV
2	TP 2	TP 4	X-1214 PCB	VR602	



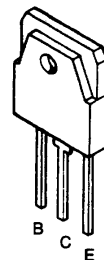
2SAS1016K
2SC2362K
2SA1208
2SC2910
2SA1376
2SC3478



2SB631K
2SD600K
2SA1507
2SC3902

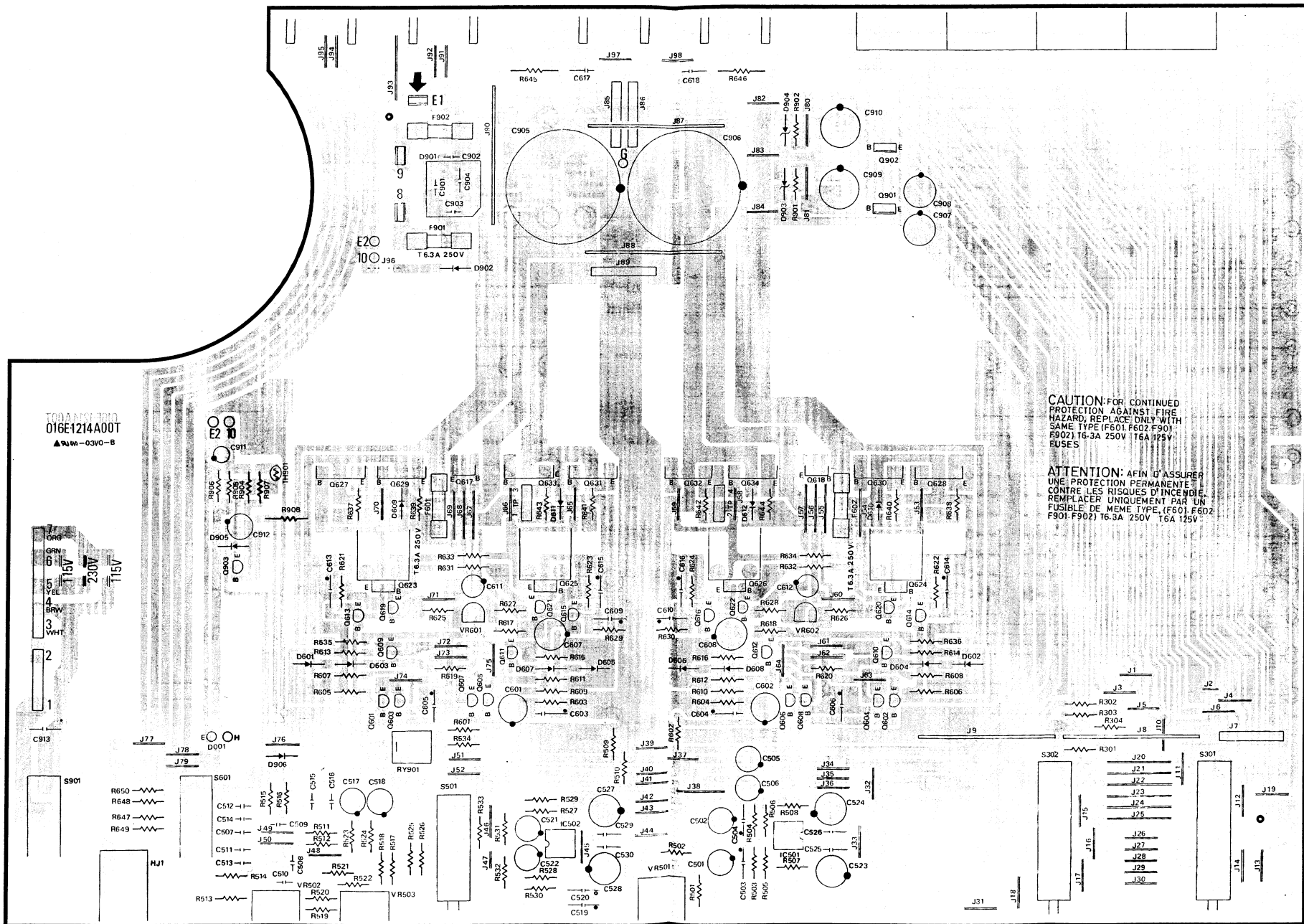


OPA2604AP
NJM2114D



2SB817
2SD1047

PCB Assembly



Schematic Diagram

