



Technical Manual

STEREO INTEGRATED AMPLIFIER RA-01

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Specifications

Continuous Power Output (20-20 kHz, < 0.03%, 8 ohms)	40 watts/ch
Total Harmonic Distortion (20Hz - 20kHz)	< 0.03% at rated power 1/2 power or 1 watt
Intermodulation Distortion (60 Hz : 7 kHz, 4:1)	< 0.03% at rated power 1/2 power or 1 watt
Frequency Response	
Phono Input	20Hz-15kHz, ±0.3dB
Line Level Inputs	10Hz-40kHz, ±1dB
Damping Factor (20-20,000 Hz, 8 ohms)	180
Input Sensitivity / Impedance	
Phono Input	2.5mV / 47 kOhms
Line Level Inputs	150 mV / 24 kOhms
Input Overload	
Phono Input	180mV
Line Level Inputs	5V
Premp Output / Impedance	1V / 470 Ohms
Tone Controls - Bass / Treble	±6 dB at 100Hz / 10kHz
Signal to Noise Ratio (IHF "A" weighted)	
Phono Input	80 dB
Line Level Inputs	100 dB
Power Requirements	
USA Version	115 Volts, 60 Hz
European Version	230 Volts, 50 Hz
Power Consumption	220 Watts
Dimensions (W x H x D)	435 x 72 x 342 mm 17 1/8 x 2 7/8 x 13 1/2"
Panel Height	60 mm / 2 3/8"
Weight (net)	5.9 kg, 13 lbs.

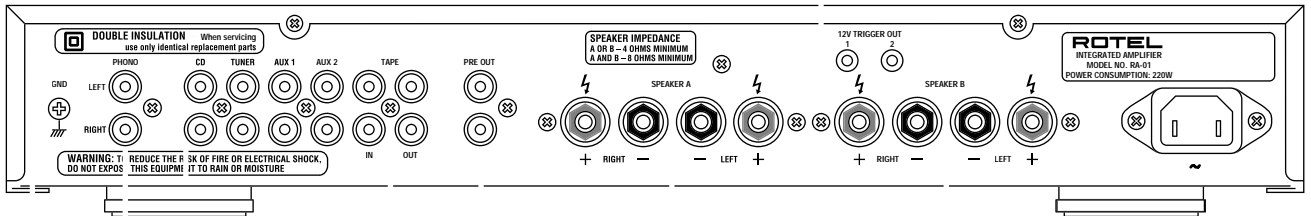
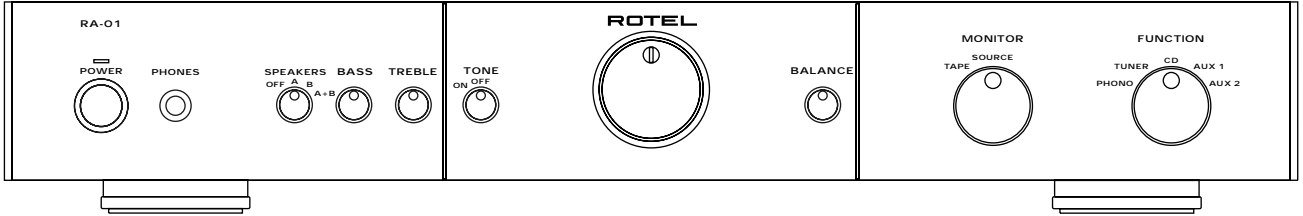
THE ROTEL CO., LTD

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

Serial. NO. Beginning

Appearance

RA-01



Parts List 1/3

SYMBOL	PARTS NO.	DESCRIPTION
016 X-1341A01-03 PCB		
	501 X-1341	PCB ASSY
PJ1,PJ5	066 4TR-2166#4	2P PIN JACK AU (WHT.RED)
HJ2,HJ3	065 YKB21-5103A	3.5Φ MINI JACK
PJ2-PJ4	066 4TR-2408#3	4P PIN JACK AU (WHT.RED)
R901	053 CR16-101J-A	CARBON RESISTOR 1/6W 100
R751,752	053 CR16-102J-A	CARBON RESISTOR 1/6W 1K
R756	053 CR16-223J-A	CARBON RESISTOR 1/6W 22K
R753	053 CR16-331J-A	CARBON RESISTOR 1/6W 330
R918	053 CR16-474J-A	CARBON RESISTOR 1/6W 470K
R755	053 CR16-473J-A	CARBON RESISTOR 1/6W 47K
R915	053 CR16-824J-A	CARBON RESISTOR 1/6W 820K
C902-905,908,909	043 TC500V103	CERAMIC CAPACITOR 500V0.01uF
C415	043 TC50V473	CERAMIC CAPACITOR 0.047uF
C609,610	043 TC50V151	CERAMIC CAPACITOR 150pF
C607,608	043 TC50V331	CERAMIC CAPACITOR 330pF
D903,904	034 T1N4003-TB	DIODE 1N4003-E
D601-606,608	034 T1N4148-86	DIODE 1N4148TAP-50
C906,907	041 50USP682	ELECTROLYTIC CAPACITOR 50V6800uF
C413,414,505,506,529,530,920,921	041 TEEUFC1E101SB	ELECTROLYTIC CAPACITOR 25V100uF
C605,606	041 TEEUFC1E101SB	ELECTROLYTIC CAPACITOR 25V100uF
C911	041 UTES1E101-FB	ELECTROLYTIC CAPACITOR 25V100uF
C403,404	041 U25V10LN	ELECTROLYTIC CAPACITOR 25V10uF
C918,919	041 EEUFC1V102	ELECTROLYTIC CAPACITOR 35V1000uF
C601,602	041 35ZA10MTZ	ELECTROLYTIC CAPACITOR 35V10uF
C411,412,501,502,515,516,523,524	041 TEEUFC1H100LB	ELECTROLYTIC CAPACITOR 50V10uF
C527,528	041 TEEUFC1H100LB	ELECTROLYTIC CAPACITOR 50V10uF
C910	041 TUTES1H100-TF	ELECTROLYTIC CAPACITOR 50V10uF
S503	062 C-4174A21	FUNCTION SWITCH SRRZS45N23
F601,602	036 5ST4	FUSE 250VT4A
F901,902	036 5ST5	FUSE 250VT5A
HJ1	065 YKB26-5265	HEAD PHONE JACK 3P 6.5mm
IC401	031 NE5532AN	IC (DUAL OPAMP)
IC504	031 NJM2114D	IC (DUAL OPAMP)
IC502	031 OPA2604AP	IC (DUAL OPAMP)
D001	034 SEL1E24W	LED (BLU) 1X5
R639,640	054 1WS10JF	METAL OXIDE FILM RESISTOR 10
R906	054 1WS10KJF	METAL OXIDE FILM RESISTOR 10K
R902	054 1WS3.9KJF	METAL OXIDE FILM RESISTOR 3.9K
R641,642	054 1WS330JF	METAL OXIDE FILM RESISTOR 330
R919,920	054 1WS680JF	METAL OXIDE FILM RESISTOR 680
R405,406	054 TMFR401K2	METAL RESISTOR 1/4W 1.2K
R417,418,503,504,525,526	054 TMFR4100K	METAL RESISTOR 1/4W 100K
R635,636	054 TMFR4012K	METAL RESISTOR 1/4W 12K
R401,402,415,416	054 TMFR4001K	METAL RESISTOR 1/4W 1K
R619,620	054 TMFR402K2	METAL RESISTOR 1/4W 2.2K
R623,624	054 TMFR4033K	METAL RESISTOR 1/4W 33K
R407,408	054 TMFR404K7	METAL RESISTOR 1/4W 4.7K
R501,502,541,542,611,612	054 TMFR4470R	METAL RESISTOR 1/4W 470
R403,404,603,604	054 TMFR4047K	METAL RESISTOR 1/4W 47K
R601,602	054 TMFR4560R	METAL RESISTOR 1/4W 560
R409,410	054 TMFR4056K	METAL RESISTOR 1/4W 56K

Parts List 2/3

SYMBOL	PARTS NO.	DESCRIPTION
R413,414	054 TMFR4680R	METAL RESISTOR 1/4W 680
R411,412	054 TMFR4910K	METAL RESISTOR 1/4W 910K
R605,606	054 TMF1501	METAL RESISTOR 1/4W 1.5K
R615,616	054 TMF1000	METAL RESISTOR 1/4W 100
R613,614	054 TMF1002	METAL RESISTOR 1/4W 10K
R527,528	054 TMF1001	METAL RESISTOR 1/4W 1K
R507,508,909,910	054 TMF2701	METAL RESISTOR 1/4W 2.7K
R625-628,907,908	054 TMF2200	METAL RESISTOR 1/4W 220
R911,912	054 TMF2700	METAL RESISTOR 1/4W 270
R637,638	054 TMF3300	METAL RESISTOR 1/4W 330
R633,634	054 TMF3302	METAL RESISTOR 1/4W 33K
R621,622	054 TMF47R0	METAL RESISTOR 1/4W 47
R505,506,607,608	054 TMF4700	METAL RESISTOR 1/4W 470
R609,610	054 TMF6801	METAL RESISTOR 1/4W 6.8K
R617,618	054 TRC55Z6801F	METAL RESISTOR 1/4W RC55Z 6.8K
R535,536	054 MF16-1201-A	METAL RESISTOR 1/6W 1.2K
R515,516,519,520	054 MF16-1501-A	METAL RESISTOR 1/6W 1.5K
R523,524,539,540	054 MF16-1003-A	METAL RESISTOR 1/6W 100K
R517,518	054 MF16-1502-A	METAL RESISTOR 1/6W 15K
R509,510	054 MF16-2201-A	METAL RESISTOR 1/6W 2.2K
R513,514	054 MF16-2202-A	METAL RESISTOR 1/6W 22K
R511,512,537,538	054 MF16-2001-A	METAL RESISTOR 1/6W 2K
R521,522	054 MF16-4700-A	METAL RESISTOR 1/6W 470
R629-632	054 NIR2-0.22JF	METAL RESISTOR 2W 0.22
S501,502	062 4TR-2780	MONITOR, TONE SWITCH SRRZS42N23
C613,614	044 KT18-2A104K	MP CAPACITOR MKT1818-410/015
C513,514	042 TP50V152J	MYLAR CAPACITOR 0.0015uF
C517,518	042 TP50V472J	MYLAR CAPACITOR 0.0047uF
C503,504	044 PP630V47PF	POLYPROPYLENE CAPACITOR 464-44709
C603,604	044 FSC160V101H	POLYSTYLENE CAPACITOR 160V100pF
C401,402	044 FSC160V151H	POLYSTYLENE CAPACITOR 160V150pF
C611,612	044 FSC160V221H	POLYSTYLENE CAPACITOR 160V220pF
D901	034 BR84	POWER DIODE 8A 400V
S901	061 C-4176A08	POWER SWITCH PS3-22SPA-P7AZ TV-8
Q821,822	033 B817P-DE	POWER TRANSISTOR 2SB817P-DE
Q819,820	033 D1047P-DE	POWER TRANSISTOR 2SD1047P-DE
VR601,602	051 SFR002-222	SEMI-FIXD RESISTOR VM6CKPV1S-2.2KV
C901	044 DE1307E472M	SPARK KILLER 4700pF
L601,602	021 TRL-332	SPEAKER COIL
RY601,602	063 DH2TU-24	SPEAKER RELAY DH24D2-OT(M)
S601	062 4TR-3089	SPEAKER SWITCH SRRZS44N01
SPA,SPB	067 C-4493A00	SPEAKER TERMINAL (RBBR)
C507-512	044 50MSAN104J	STACKED FILM CAPACITOR 50V0.1uF
C405,406	044 S50V1000PG	STYROL CAPACITOR 50V1000pF(G)
C407,408	044 S50V200PG	STYROL CAPACITOR 50V200pF(G)
C525,526	044 S50V220PJ	STYROL CAPACITOR 50V220pF(J)
C409,410	044 S50V4300PG	STYROL CAPACITOR 50V4300pF(G)
Q601-608	032 TA1016-FG	TRANSISTOR 2SA1016KAA-FG
Q905	033 TA1016-FG	TRANSISTOR 2SA1016KAA-FG
Q611,612	032 TC1941-KL	TRANSISTOR 2SA1941-T-KL
Q609,610	032 B631-EF	TRANSISTOR 2SB631K-EF
Q617,618	033 B631-EF	TRANSISTOR 2SB631K-EF
Q904	033 TC2362-FG	TRANSISTOR 2SC2362KAA-FG

Parts List 3/3

SYMBOL	PARTS NO.	DESCRIPTION
Q751,908,909	032 TC536-FG	TRANSISTOR 2SC536KAA-FG
Q615,616	033 D600-EF	TRANSISTOR 2SD600K-EF
VR501	051 4TR-2776	VARIABLE RESISTOR 100KMN (BALANCE)
VR503,504	051 4TR-2774	VARIABLE RESISTOR 20KBX2 (TONE)
VR502	051 C-4170A37	VARIABLE RESISTOR 50KAX2 (VOLUME)
D905,906	034 TRD18JST1	ZENER DIODE (18V AB2)
OTHERS		
	505 FRA-01	FRONT PANEL ASSY (BLACK)
	505 FRA-01	FRONT PANEL ASSY (SILVER)
	072 C-4624A01	AC CORD SET for EUROPE
	072 C-4622A01	AC CORD SET for AUSTRALIA
	072 C-4623A01	AC CORD SET for U.K
	072 C-4620A01	AC CORD SET SVT AWG18/2C for U.S.A.
	069 C-4629A01	AC INLET 2P 6102.3100 (WIRING)
	017 UB3-06A00	HEAT SINKER BOARD
	081 UH3-01A00	INSIDE CARTON
	012 C-4767A01	KNOB 10F (BLACK)
	012 C-4767A00	KNOB 10F (SILVER)
	012 C-4710A01	KNOB 25F (BLACK)
	012 C-4771A01	KNOB 25F (SILVER)
	012 C-4790A02	KNOB 33F (BLACK)
	012 C-4768A02	KNOB 33F (SILVER)
	019 4TSH-19#2	PLASTIC FOOT 50F
	022 T-1084U01	POWER TRANSFORMER
	012 RV4-09A00	PUSH BUTTON 14F (BLACK)
	012 RV4-09A01	PUSH BUTTON 14F (SILVER)
	081 UH3-02A00	SHIPPING CARTON
	081 TZ-167	STYROL SIDE MOULDING
	014 C-4550A26	UPPER COVER (BLACK)
	014 C-4550A23	UPPER COVER (SILVER)
	082 OMRA-01	OWNER'S MANUAL (EFGIDSSw)

Adjustment

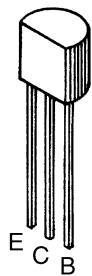
RA-01

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-1341-01 PCB	VR601	DC milli-voltmeter reads 4mV
2	TP2	X-1341-01 PCB	VR602	

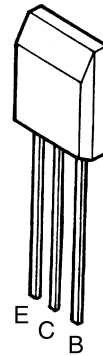
Case Outlines



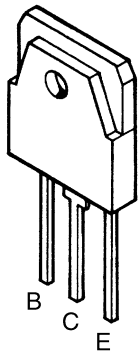
2SC536K
2SA608K
2SA1016K
2SC2362K



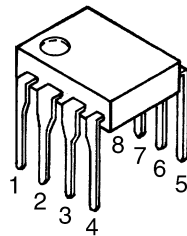
2SB631K
2SD600K



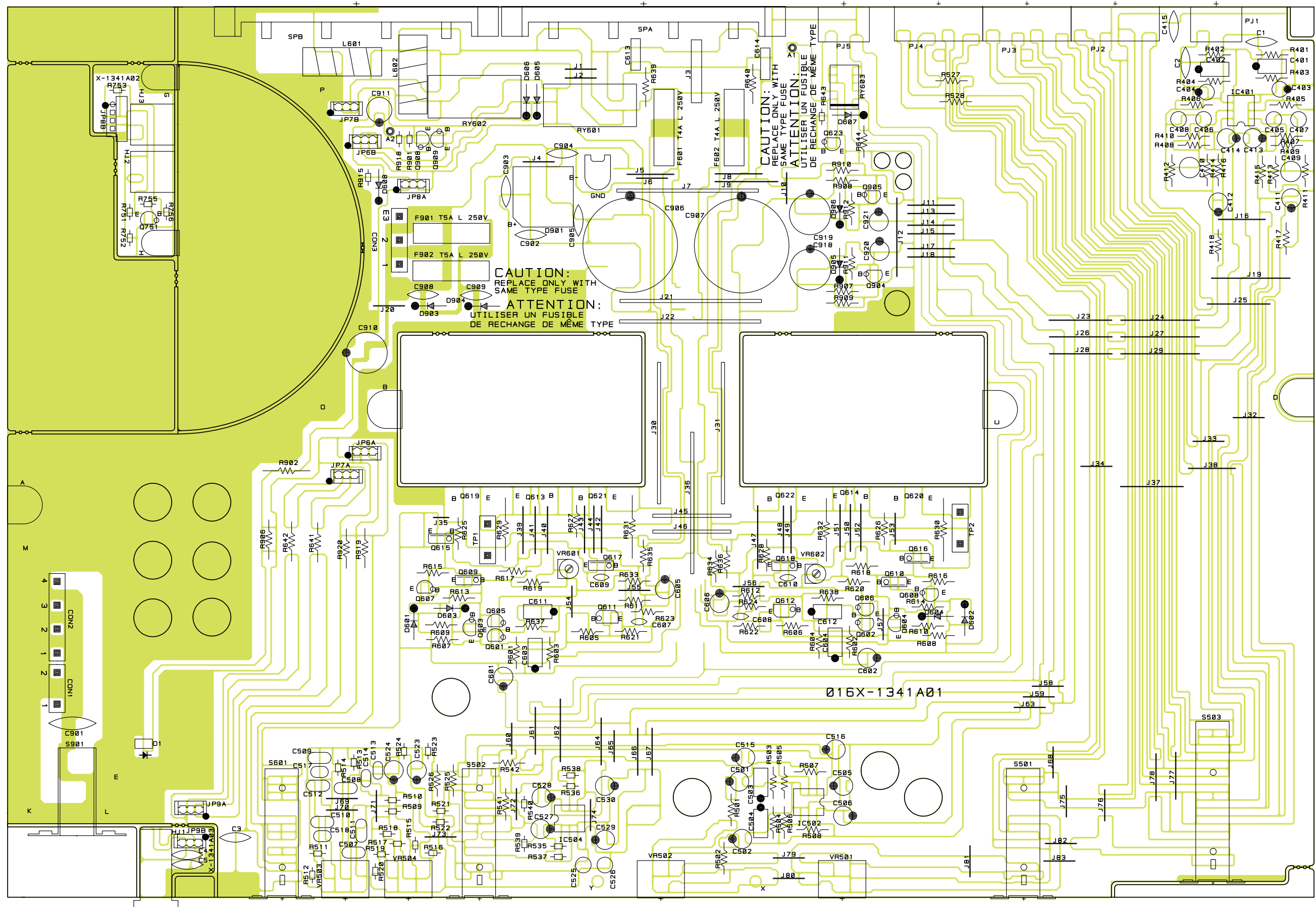
2SC1941



2SB817
2SD1047

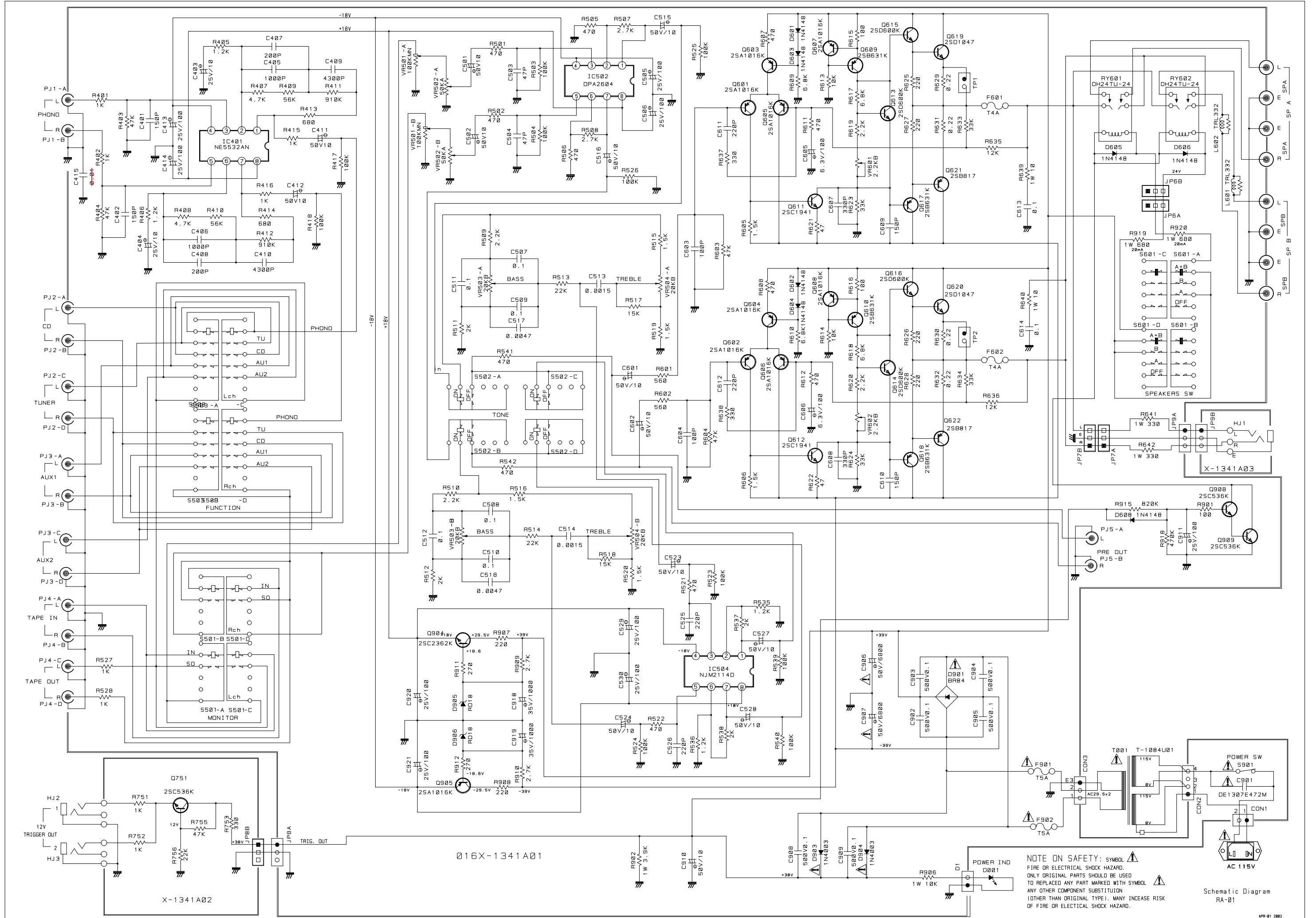


NE5532AN
OPA2604AP
NJM2114D



Schematic Diagram

RA-01



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). MANY INCREASE RISK
 OF FIRE OR ELECTRICAL SHOCK HAZARD.

Schematic Diagram
RA-01