



Technical Manual

STEREO INTEGRATED AMPLIFIER RA-971

Table of Contents

- Specification.....1
- Wiring Diagram.....2
- Parts List.....3,4
- Adjustment.....4
- PCB Assembly.....5,6
- Schematic Diagram.....7,8

Specification

| | | |
|-----------------------------------|-------------------------------|----------------------------|
| Rated power, rms. | (20-20,000 Hz, 0.03%, 8 Ohms) | 60Watts |
| | (20-20,000 Hz, 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. |

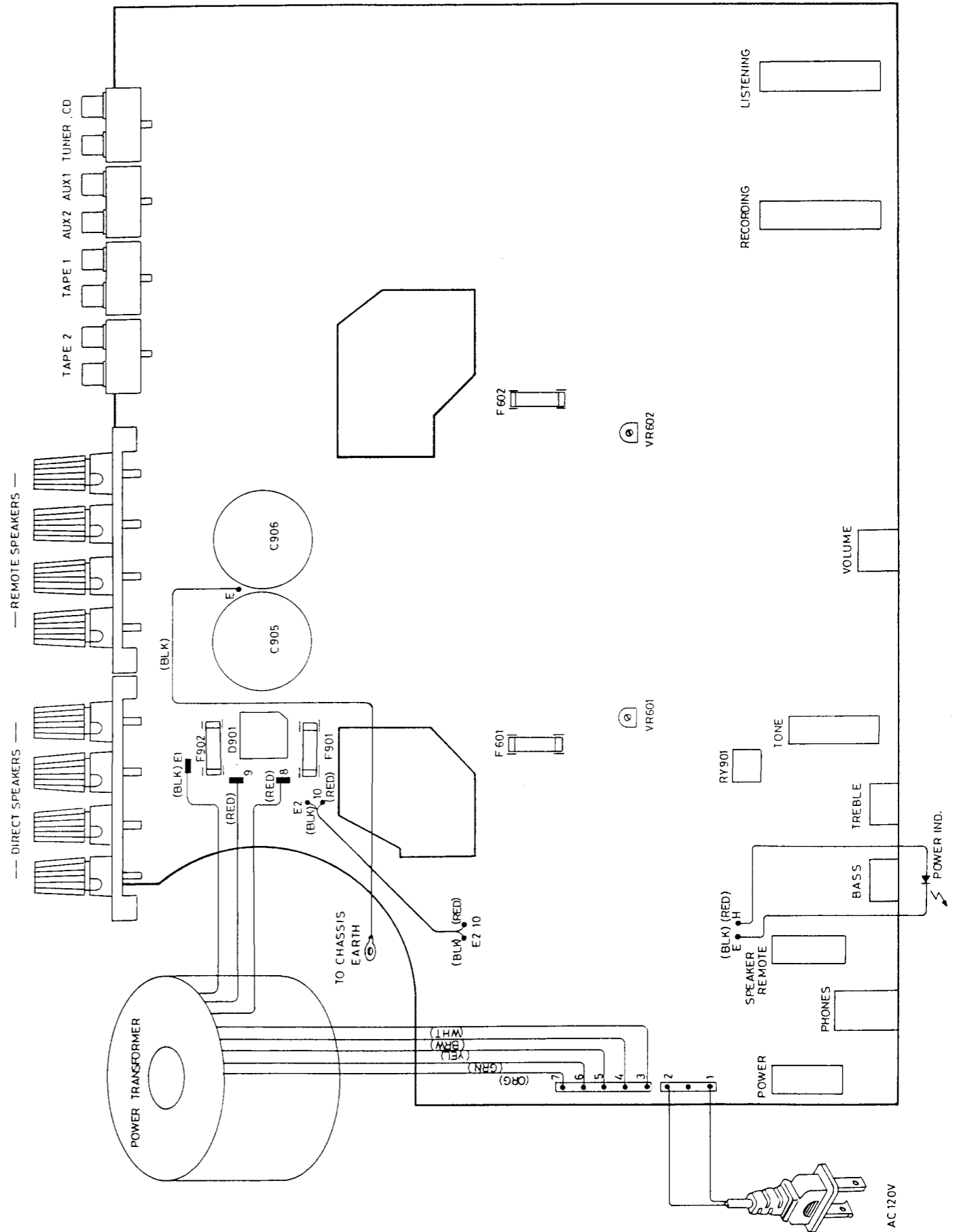
THE ROTEL CO., LTD

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

| SYMBOL | PARTS NO. | DESCRIPTION |
|----------------------------|---------------------|----------------------|
| E-1214 PCB ASSEMBLY | | |
| C501,502 | 041 50BGF10M | CAP,ELEC.50V10UF |
| C503,504 | 044 LFSC160V470H | CAP,STYROL 160V47PF |
| C505,506 | 041 50BGF10M | CAP,ELEC.50V10UF |
| C507-512 | 044 50MSAN104J | CAP,FILM 50V0.1UF |
| C513,514 | 042 LTP50V472J | CAP,MYLAR 50V4700PF |
| C515,516 | 042 LTP50V152J | CAP,MYLAR 50V1500PF |
| C517,518 | 041 50BGF10M | CAP,ELEC.50V10UF |
| C519,520 | 044 LFSC160V101H | CAP,STYROL 160V100PF |
| C521,522 | 041 50BGF10M | CAP,ELEC.50V10UF |
| C523,524 | 041 ECEA1EFS221 | CAP,ELEC.25V220UF |
| C527,528 | 041 ECEA1EFS221 | CAP,ELEC.25V220UF |
| C601,602 | 041 50BGF4R7M | CAP,ELEC.50V4.7UF |
| C603,604 | 044 LFSC160V331H | CAP,STYROL 160V330PF |
| C605,606 | 044 LFSC160V221H | CAP,STYROL 160V220PF |
| C607,608 | 041 25BGF100M | CAP,ELEC.25V100UF |
| C609,610 | 044 LFSC160V331H | CAP,STYROL 160V330PF |
| C611,612 | 041 50BGF10M | CAP,ELEC.50V10UF |
| C613-616 | 044 LFSC160V221H | CAP,STYROL 160V220PF |
| C617,618 | 044 MKT18-100V104K | CAP,FILM 100V0.1UF |
| C901-904 | 043 LTC500V103 | CAP,CERA.500V0.01UF |
| C905,906 | 041 ALC20S1044DG | CAP,ELEC.50V10000UF |
| C907,908 | 041 ECEA1EFS101 | CAP,ELEC.25V100UF |
| C909,910 | 041 ECEA1EFS471 | CAP,ELEC.25V470UF |
| C911 | 041 UTSS1H100 | CAP,ELEC.50V10UF |
| C912 | 041 UTSS1E221-FB | CAP,ELEC.25V220UF |
| C913 | 044 DE7150F472M | SPARK KILLER |
| D601-608 | 034 LT1N4148-86 | DIODE |
| D609-612 | 034 LT1N4003-TB | DIODE |
| D901 | 034 LBR84 | POWER DIODE |
| D902 | 034 LT1N4003-TB | DIODE |
| D903,904 | 034 TRD16JST1 ZENER | DIODE |
| D905,906 | 034 LT1N4148-86 | DIODE |
| F601,602 | 036 5ST6.3 | MINI FUSE 250V6.3A |
| F901,902 | 036 5ST6.3 | MINI FUSE 250V6.3A |
| IC501 | 031 OPA2604AP | 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 |

Parts List

| SYMBOL | PARTS NO. | DESCRIPTION |
|-----------------------------|-----------------|---------------------|
| 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-483 | 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 |

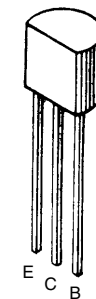
| SYMBOL | PARTS NO. | DESCRIPTION |
|--------|-----------------|-----------------------|
| | 012 L4TQF-21 | KNOB 33F WF |
| | 012 4TQF-16 | PUSH BUTTON 5X10 |
| | 014 C-4550A09 | UPPER COVER |
| | 014 L4TR-2797#2 | ORNAMENT SIDE BOARD |
| | 014 1TQF-5 | BOTTOM BOARD |
| | 015 RP-347 | REAR CHASSIS |
| | 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 C-4572A01 | AC CORD for UK |
| | 072 L4TR-1037 | AC CORD for CEE |
| | 081 LTZ-183 | STYROL SIDE MOULDING |
| | 081 SB4-01A00 | 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.

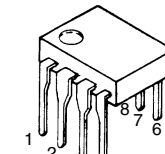
| Step | Coupling | | Location | Adjust | Adjust for |
|------|-----------|------------|------------|--------|------------------------------|
| | Plus Lead | Minus Lead | | | |
| 1 | TP 1 | TP 3 | X-1214 PCB | VR601 | DC milli-voltmeter reads 8mV |
| 2 | TP 2 | TP 4 | X-1214 PCB | VR602 | |



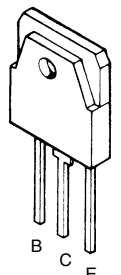
2SAS1016K
2SC2362K
2SA1208
2SC2910
2SA1376
2SC3478



2SB631K
2SD600K
2SA1507
2SC3902

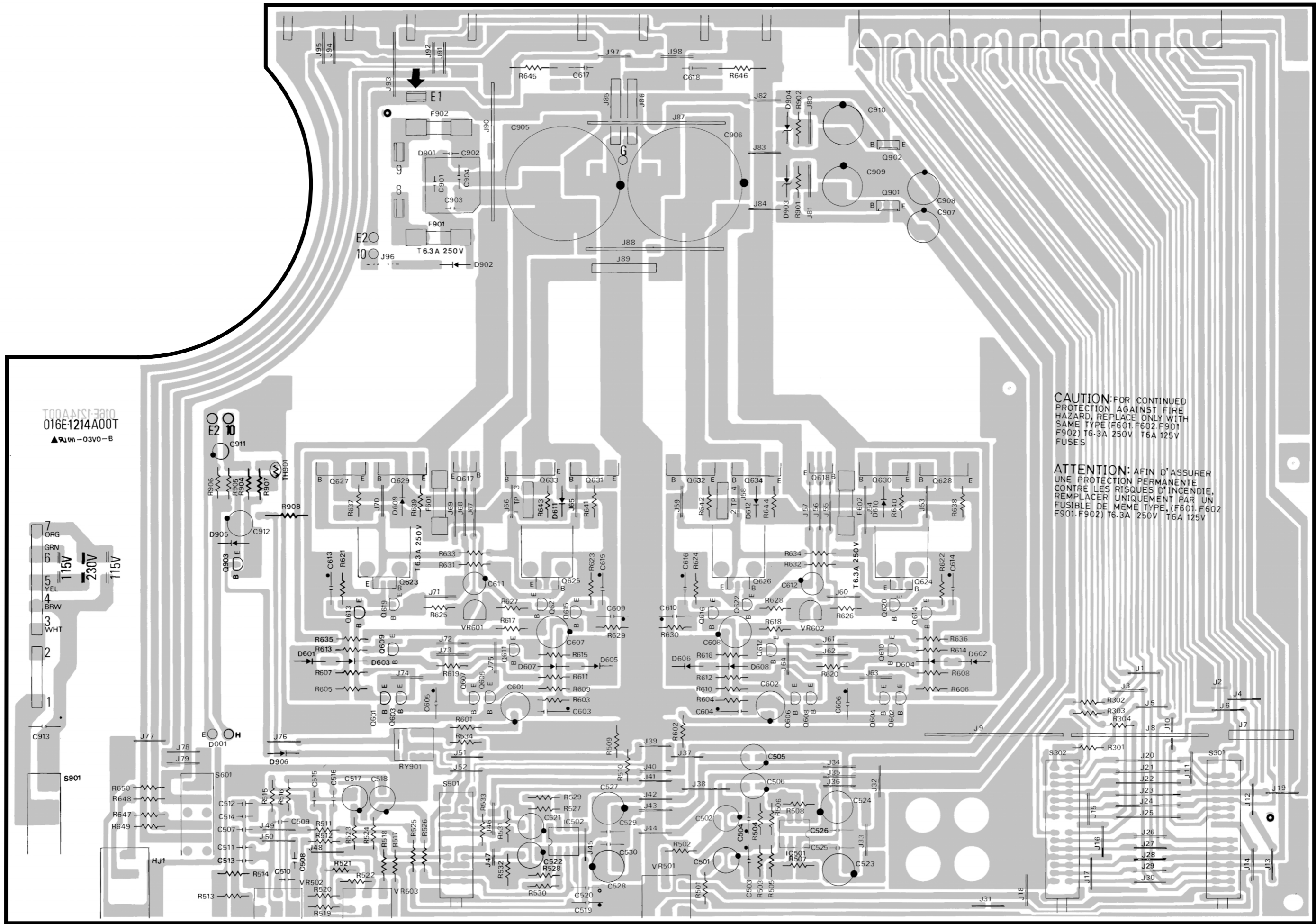


OPA2604AP
NJM2114D



2SB817
2SD1047

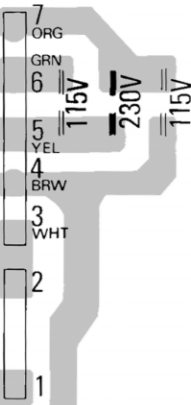
PCB Assembly



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE (F601, F602, F901, F902) T6-3A 250V T6A 125V FUSES

ATTENTION: AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE, (F601, F602, F901, F902) T6-3A 250V T6A 125V

016E1214A00T
▲ W-03V0-B



Schematic Diagram

