

Quality Uncompromised

ROTEL®

Technical Manual

STEREO INTEGRATED AMPLIFIER RA-931

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Specification

Rated Power(20-20 kHz < 0.03%, 8 ohms)	30 Watts
DIN Output (1 kHz, 1% THD, 4 ohms)	50 Watts
Total Harmonic Distortion (20-20 kHz, 8 ohms)	< 0.03%
Intermodulation Distortion (60 Hz: 7 kHz, 4:1)	< 0.03%
Signal to Noise ratio, all inputs, IHF A	> 95 dB
Frequency Response	10-100,000 Hz +1 dB, -3 dB
Tone Control	
Bass	± 6 dB @ 100 Hz
Treble	± 6 dB @ 10 kHz
Power requirement	115 volts 60 Hz or 230 volts 50 Hz
Power consumption	260 watts, Max.
Dimensions, W x H x D mm	440 x 92 x 347 17.38 x 3.63 x 13.69"
Weight (net)	6.4 kg, 14.08 Lb.

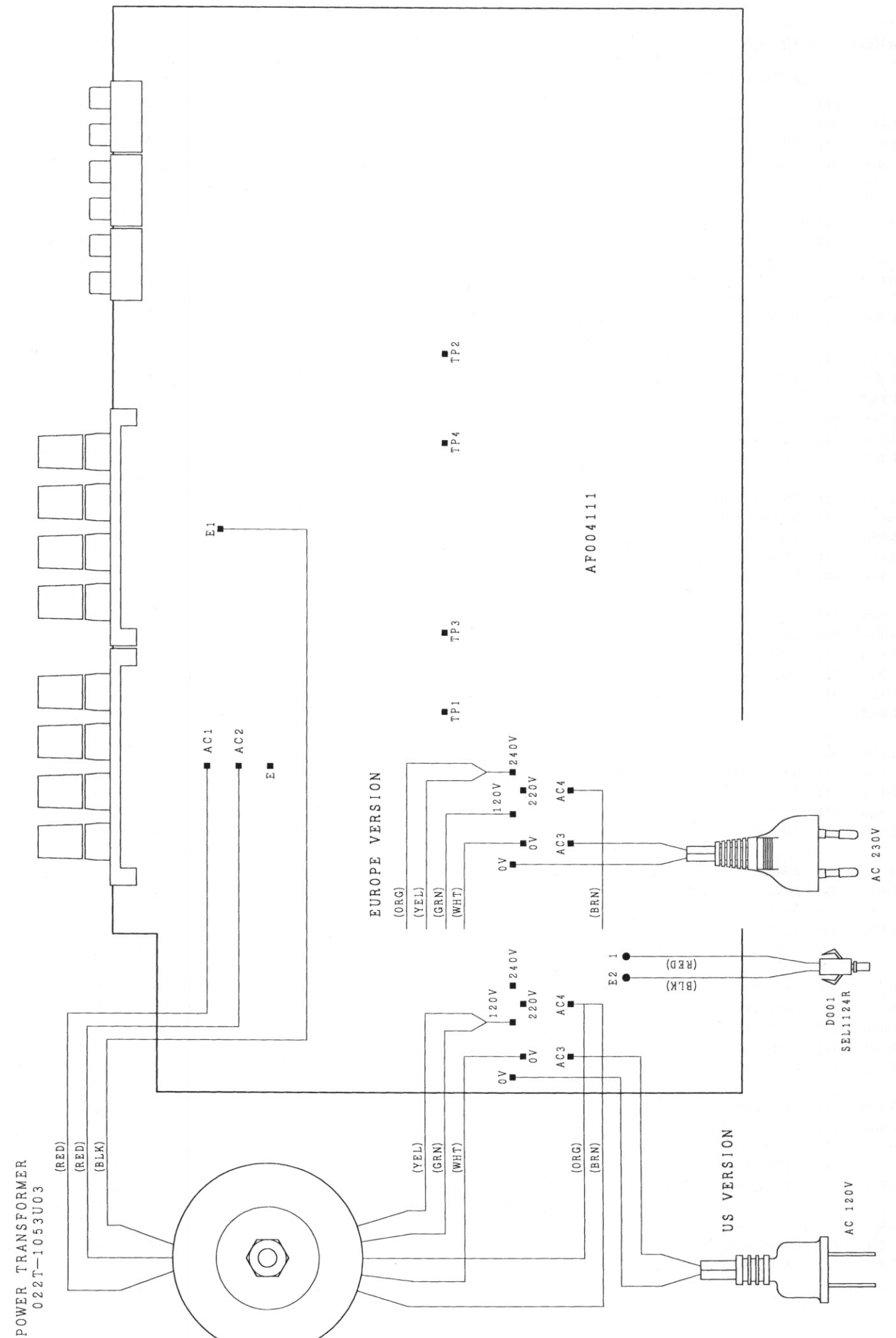
THE ROTEL CO., LTD

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

Serial. NO.
Beginning

Y-307A-98011M/S-S

Wiring Diagram



Parts List

SYMBOL	PARTS NO.	DESCRIPTION
AF004111 PCB ASSEMBLY		
C001	044 DE7150F472M	SPARK KILLER
C401,402	044 LFSC160V151H	CAP, STYROL 160V150PF
C403, 404	041 U25V10LN	CAP, ELEC. 25V10UF
C405, 406	044 LS50V1000PG	CAP, STYROL 50V1000PF
C407, 408	044 LS50V200PG	CAP, STYROL 50V200PF
C409, 410	044 LS50V4300PG	CAP, STYROL 50V4300PF
C411, 412	044 U50V10RC2	CAP, ELEC. 50V10UF
C415, 416	041 TUVX1E101MEA1TA	CAP, ELEC.
25V100UF		
C417	043 LTC50V473	CAP, CERA. 50V0. 047UF
C501, 502	041 U50V10RC2	CAP, ELEC. 50V10UF
C503, 504	044 LFSC160V470H	CAP, STYROL 160V47PF
C505, 506	041 TUVX1E101MEA1TA	CAP, ELEC.
25V100UF		
C507, 508	042 LTP50V104J	CAP, MYLAR 50V0. 1UF
C509, 510	044 50MSA124J	CAP, FILM 50V0. 12UF
C511, 512	042 LTP50V104J	CAP, MYLAR 50V0. 1UF
C513, 514	044 LS50V1500PJ	CAP, STYROL 50V1500PF
C515, 516	041 U50V10RC2	CAP, ELEC. 50V10UF
C601,602	041 U50V10RC2	CAP, ELEC. 50V10UF
C603, 604	044 LFSC160V101H	CAP, STYROL 160V100PF
C605, 606	041 U6. 3V100RC2	CAP, ELEC. 6.3V100UF
C607, 608	043 LTC50V331	CAP, CERA. 50V330PF
C609, 610	043 LTC50V151	CAP, CERA. 50V150PF
C615, 616	044 LFSC160V221H	CAP, STYROL 160V220PF
C817, 818	044 MKT18-100V104K	CAP, FILM 100V0.1UF
C901, 902	041 TUVX1E101MEA1TA	CAP, ELEC.
25V100UF		
C903, 904	041 UVXIV102MHA1AA	CAP, ELEC. 35V1000UF
C905, 906	041 50USP6800MB40	CAP, ELEC. 50V6800UF
C907-910	043 LTC500V103	CAP, CERA. 500V0.01UF
D601-604	034 LT1N4148-86	DIODE
D901, 902	034 TRD18JST1	ZENER DIODE
D903	034 RS403L	POWER DIODE
F601, 602	036 5TT4	MINI FUSE 125V4A for STD
	036 5ST4	MINI FUSE 250V4A for CEE
F901, 902	036 5TT5	MINI FUSE 125V5A for STD
	036 5ST5	MINI FUSE 250V5A for CEE
IC401	031 LNE5532AN	IC
IC501	031 OPA2604AP	IC
Q601-608	032 LT2SA1016KAA-FG	TRANSISTOR
Q609, 610	033 L2SB631K-EF	TRANSISTOR
Q611, 612	032 LT2SC1941-T-KL	TRANSISTOR
Q615, 616	033 L2SD600K-EF	TRANSISTOR
Q617, 618	033 L2SB631K-EF	TRANSISTOR
Q901	032 LT2SC2362KAA-FG	TRANSISTOR
Q902	032 LT2SA1016KAA-FG	TRANSISTOR
R401, 402	054 LTMK2001KFECZ	R, METAL 1% 1K
R403, 404	054 LTMK2047KFECZ	R, METAL 1% 47K
R405, 406	054 LTMK201K2FECZ	R, METAL 1% 1.2K
R407, 408	054 LTMK204K7FECZ	R, METAL 1% 4.7K

SYMBOL	PARTS NO.	DESCRIPTION
R413, 414	054 LTMK2680RFECZ	R, METAL 1%680R
R415, 416	054 LTMK2001KFECZ	R, METAL 1% 1K
R417, 418	054 LTMK2100KFECZ	R, METAL 1% 100K
R501, 502	054 LTMK2470RFECZ	R, METAL 1% 470R
R503, 504	054 LTMK2100KFECZ	R, METAL 1% 100K
R505, 506	054 LTMF1001	R, METAL 1K
R507, 508	054 LTMF1802	R, METAL 18K
R509, 510	054 LTMF2201	R, METAL 2.2K
R511, 512	054 LTMF1801	R, METAL 1.8K
R513, 514	054 LTMF2202	R, METAL 22K
R515, 516	054 LTMF1501	R, METAL 1.5K
R517, 518	054 LTMF8201	R, METAL 8.2K
R519, 520	054 LTMF1501	R, METAL 1.5K
R521, 522	054 LTMK2033KFECZ	R, METAL 1% 33K
R523, 524	054 LTMK2022KFECZ	R, METAL 1% 22K
R525, 526	054 LTMK2100KFECZ	R, METAL 1% 100K
R527, 528	054 LTMF1001	R, METAL 1K
R601, 602	054 LTMK201K8FECZ	R, METAL 1% 1.8K
R603, 604	054 LTMK2047KFECZ	R, METAL 1% 47K
R605, 606	054 LTMF1501	R, METAL 1.5K
R607, 608	054 LTMF4700	R, METAL 470R
R609, 610	045 LTMF6801	R, METAL 6.8K
R611, 612	054 LTMF1/4-4700F	R, MRS25 470R
R613, 614	054 LTMF1002	R, METAL 10K
R615, 616	054 LTMF1000	R, METAL 100R
R617, 618	054 LTMF1/4-6801F	R, MRS25 6.8K
R619, 620	054 LTMF1/4-2201F	R, MRS25 2.2K
R621, 622	054 LTMF47R0	R, METAL 47R
R623, 624	054 LTMF1/4-3302F	R, MRS25 33K
R625-628	054 LTMF2200	R, METAL 220R
R629-632	054 NIR2-0.22JF	R, METAL 2W 0.22R
R633, 634	054 LTMF3302	R, METAL 33K
R635, 636	054 LTMK208K2FECZ	R, METAL 1% 8.2K
R637, 638	054 1W330JF	R, METAL 1W 330R
R640, 641	054 LTMF3300	R, METAL 330R
R801, 802	054 1W10J	R, METAL 1W 10R
R901, 902	054 LTMF2700	R, METAL 270R
R903, 904	054 1W220JF	R, METAL 1W 220R
R905, 906	054 LTMF2701	R, METAL 2.7K
R907	054 LTMF3901	R, METAL 3.9K
S001	061 C-3600B-T	POWER SWITCH
S1	062 4TR-2777	ROTARY SWITCH(MONITOR)
S2	062 4TR-2778	ROTARY SWITCH(FUNCTION)
S3	062 4TR-2780	ROTARY SWITCH(TONE)
S4	061 4TR-3302	PUSH SWITCH(SPEAKER)
VR501	051 4TR-2776	VARIABLE RESISTOR(BALANCE)
VR502	051 4TR-2775	VARIABLE RESISTOR(VOLUME)
VR503, 504	051 4TR-2774	VARIABLE RESISTOR(TONE)
VR601, 602	051 LVM6CKPV1S 2.2K	SEM-FIXED RESISTOR
	065 C-3399#1	PHONE JACK

Parts List

SYMBOL	PARTS NO.	DESCRIPTION
	066 4TR-2408#1	4P PINJACK(AUX, TUNER, TAPE)
	066 4TR-2408#3	4P PINJACK(PHONO, CD)
	067 4TR-3090	SPEAKER TERMINAL
	069 C-3417A	FUSE CLIP
HEAT SINKER ASSEMBLY		
Q613, 614	032 L2SD600K-EF	TRANSISTOR
Q619, 620	033 L2SD1047-DE	POWER TRANSISTOR
Q621, 622	033 L2SB817-DE	POWER TRANSISTOR
	017 4TQG-5#1	HEAT SINKER BOARD
	019 TO-220	INSULATION SHEET(S)
	019 TO-3P	INSULATION SHEET(L)
OTHERS		
	011 TFP-803	FRONT PANEL ASSY
	012 LATQF-15	POWER BUTTON 14x14
	012 LATQF-18	KNOB 13F

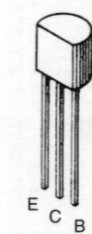
SYMBOL	PARTS NO.	DESCRIPTION
	012 LATQF-19	KNOB 24F
	012 4TQF-16	PUSH BUTTON 5X10
	012 4TQG-6	KNOB 33F
	014 C-4550A05	UPPER COVER
	014 LATR-2797#2	ORNAMENT SIDE BOARD
	014 2TQG-2	BOTTOM BOARD
	015 RP-336	REAR CHASSIS
	019 4TR-2807	PLASTIC FOOT CAP
	022 T-1053U03	POWER TRANSFORMER
	072 LATR-670#4	AC CORD for STD
	072 LC-3763	AC CORD for AUSTRALIA
	072 C-4572A01	AC CORD for UK
	072 LATR-1037	AC CORD for CEE
	081 RN4-17B00	INSIDE CARTON
	081 TZ-166-1	STYROL SIDE MOULDING

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.

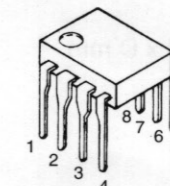
Step	Coupling		Location	Adjust	Adjust for
	Plus Lead	Minus Lead			
1	TP 1	TP 3	AF004111 PCB	VR601	DC milli-voltmeter reads 4mV
2	TP 2	TP 4	AF004111 PCB	VR602	



2SAS1016K
2SC2362K



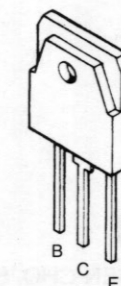
2SB631K
2SD600K



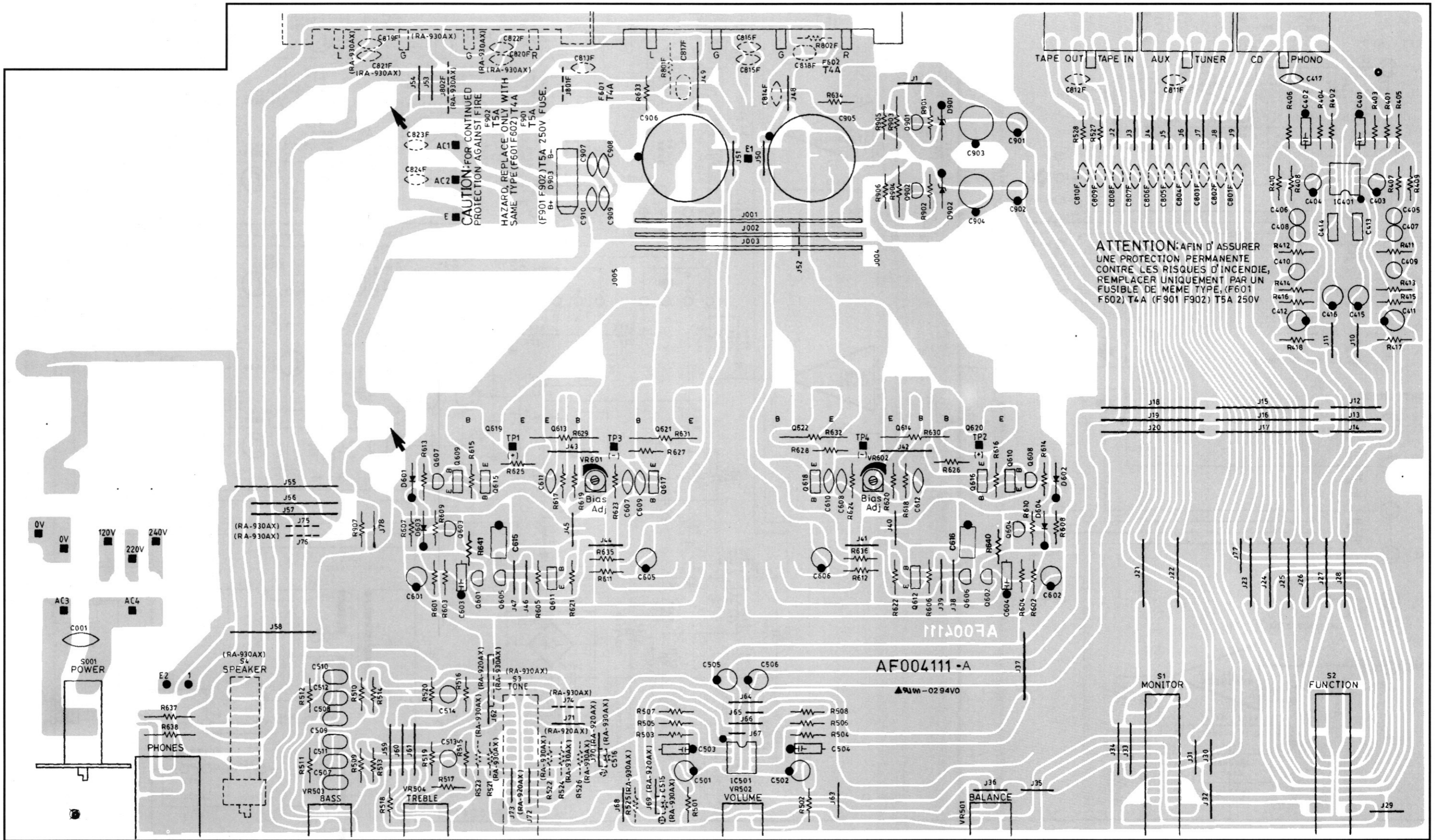
NE5532AN
OPA2604AP



2SC1941



2SB817
2SD1047



Schematic Diagram

SCHEMATIC DIAGRAM MODEL RA-931

