

ROTEL*hi-fi*

STEREO CONTROL AMPLIFIER

RC-960BX

TECHNICAL MANUAL

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THE ROTEL CO., LTD.

1-36-8, OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN

ROTEL ELECTRONICS CO., LTD.

3F-2, NO.35, FU HSING NORTH ROAD, TAIPEI, TAIWAN, REPUBLIC OF CHINA

MN20001913

Specifications

RC-960BX

Total Harmonic Distortion.....No more than 0.004%
(20 to 20,000Hz from CD/TUNER) (Rated output)
Intermodulation Distortion.....No more than 0.004%
(60 Hz: 7 kHz = 4:1) (Rated output)
Output: Headphone.....8 – 2,000 ohms
Input Sevsitivity/ Impedance:
PHONO: MC.....250 μ V / 100 ohms
MM.....2.5 mV / 47 kohms
CD, TUNER.....150 mV / 24 kohms
AUX, TAPE 1,2 150 mV / 24 kohms
Output Sensitivity/ Impedance.....1.0 V / 100 ohms
Overload Level (THD 0.5% 1 kHz):
PHONO: MC.....20 mV
MM.....180 mV
CD, TUNER.....5 V
AUX, TAPE 1,2 5 V
Frequency Response:
PHONO.....40 to 100 kHz, $\pm$ 0.2 dB
(RIAA STD)
CD, TUNER.....4 to 100 kHz, +0 dB, -3 dB
AUX, TAPE 1,2 4 to 100 kHz, +0 dB, -3 dB

TONE CONTROL:

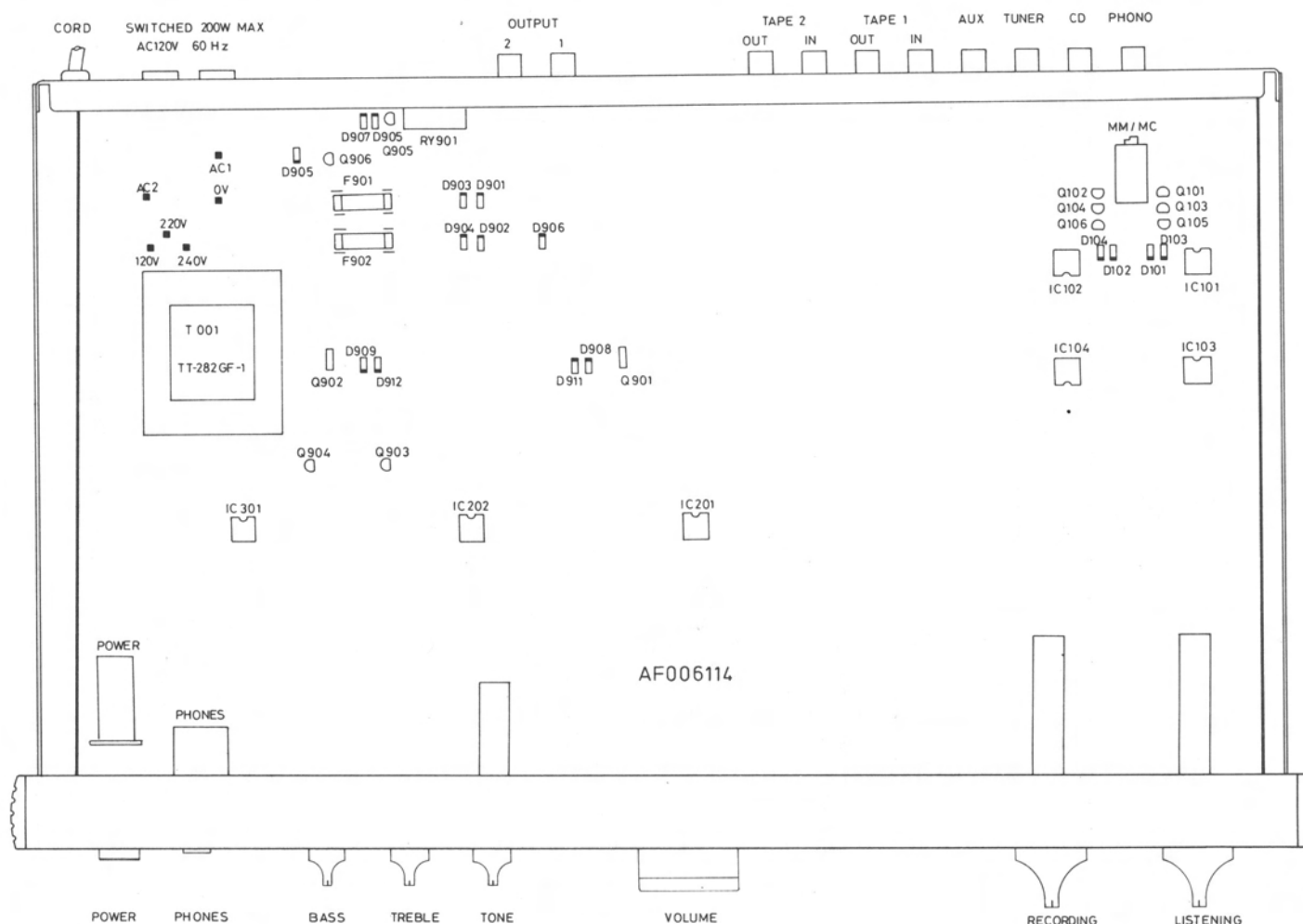
BASS..... $\pm$ 6 dB (100 Hz)
TREBLE..... $\pm$ 6 dB (10 kHz)
Signal to Noise Ratio (IHF, A network):
PHONO: MC.....64 dB
MM.....78 dB
CD, TUNER.....95 dB
AUX, TAPE 1,2 95 dB

MISCELLANEOUS

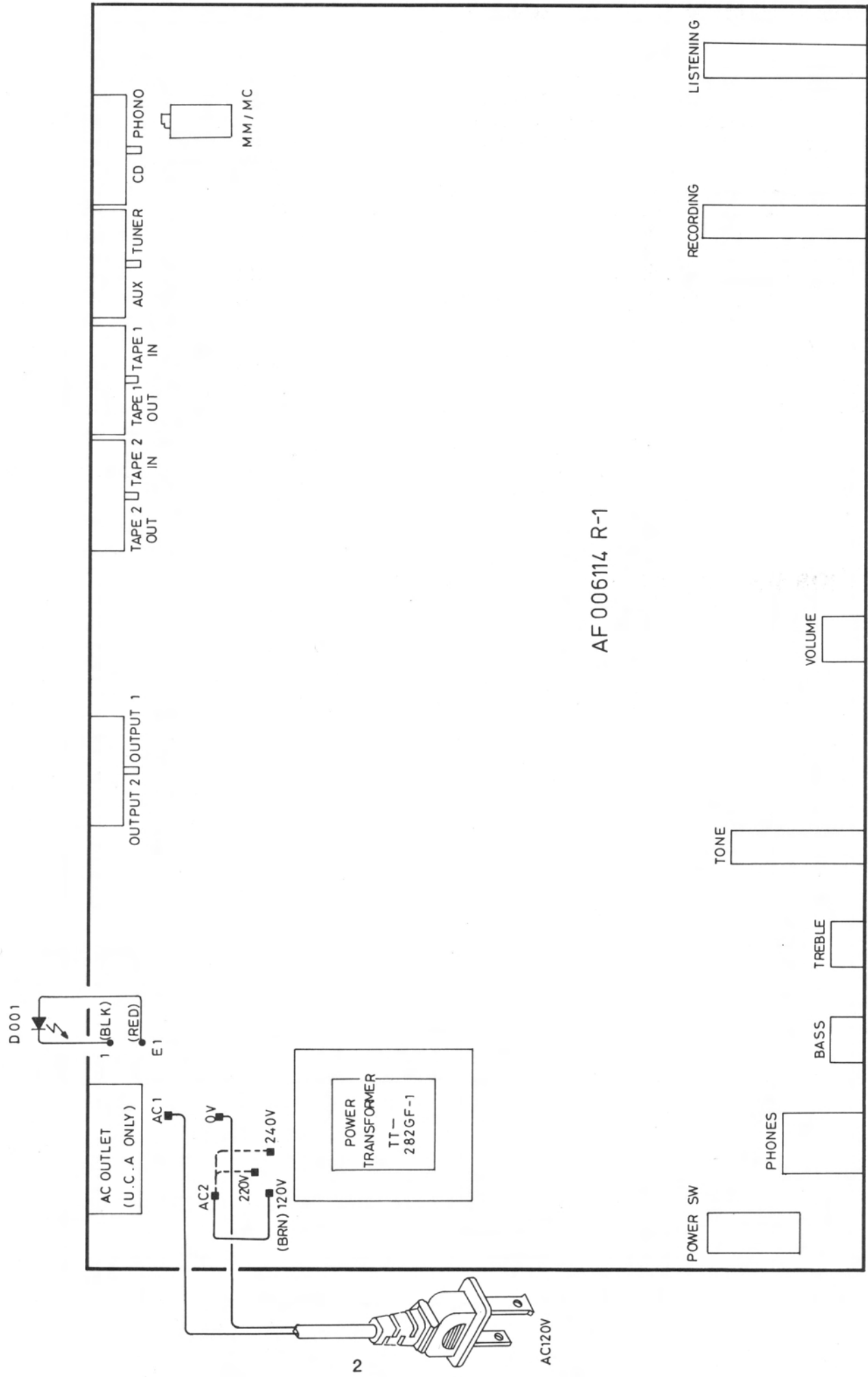
Power Requirement.....120 V/60 Hz, 220 V/ 50 Hz,
240 V/50 Hz (depending on destinations)
Power Consumption.....10 watts
Dimensions (overall).....440 (W) x 72 (H) x 286 (D) mm
17-3/8" x 2-7/8" x 11-1/4"
Weight (net).....3.0 kg / 6.6 lbs

- Specifications and design subject to possible modification without notice.

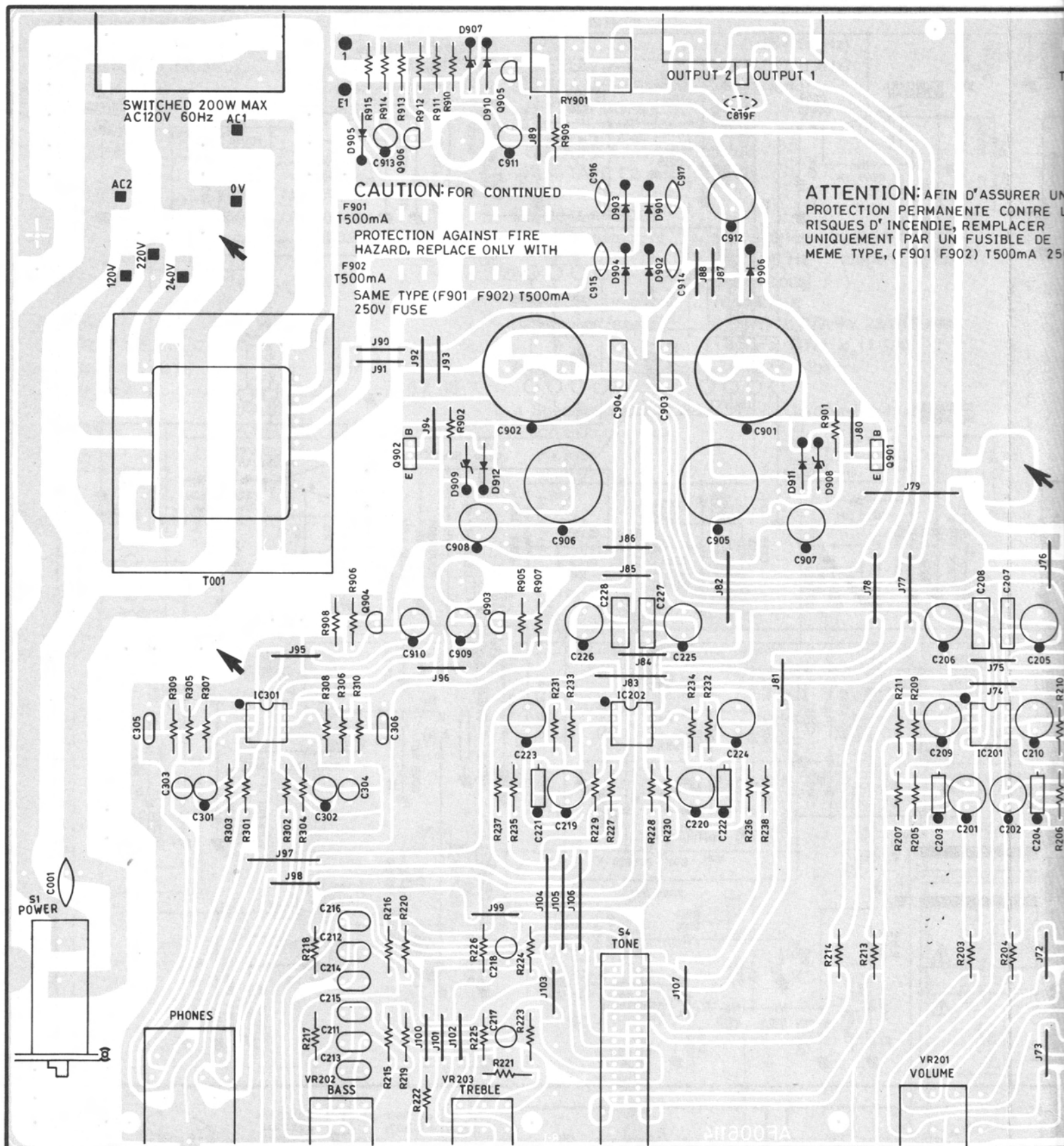
Chassis Layout



Wiring Diagram



Printed Circuit Boards

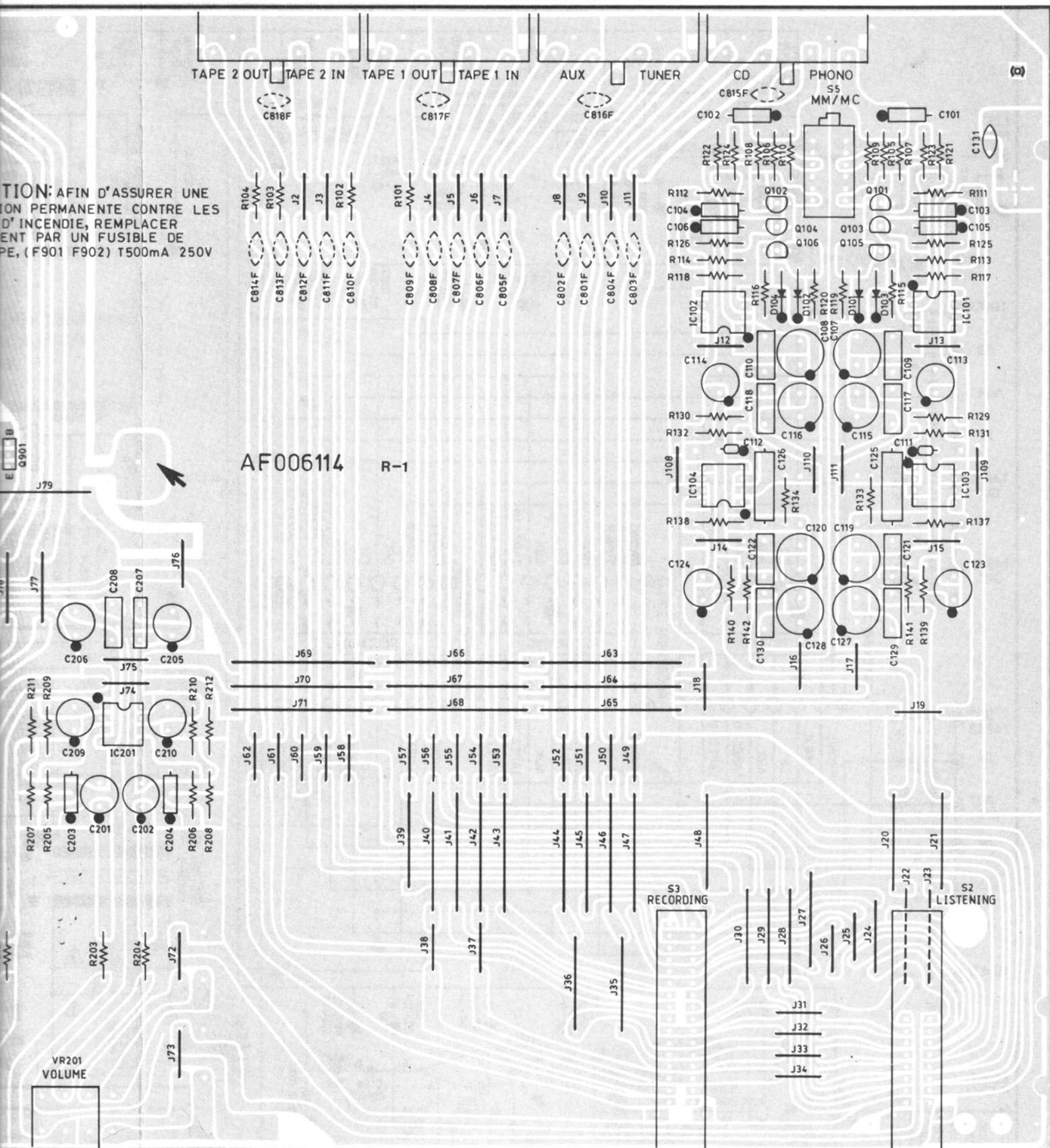


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 D'INCENDIE, REMPLACER
 ENT PAR UN FUSIBLE DE
 PE, (F901 F902) 1500mA 250V

E
 Q901

AF006114

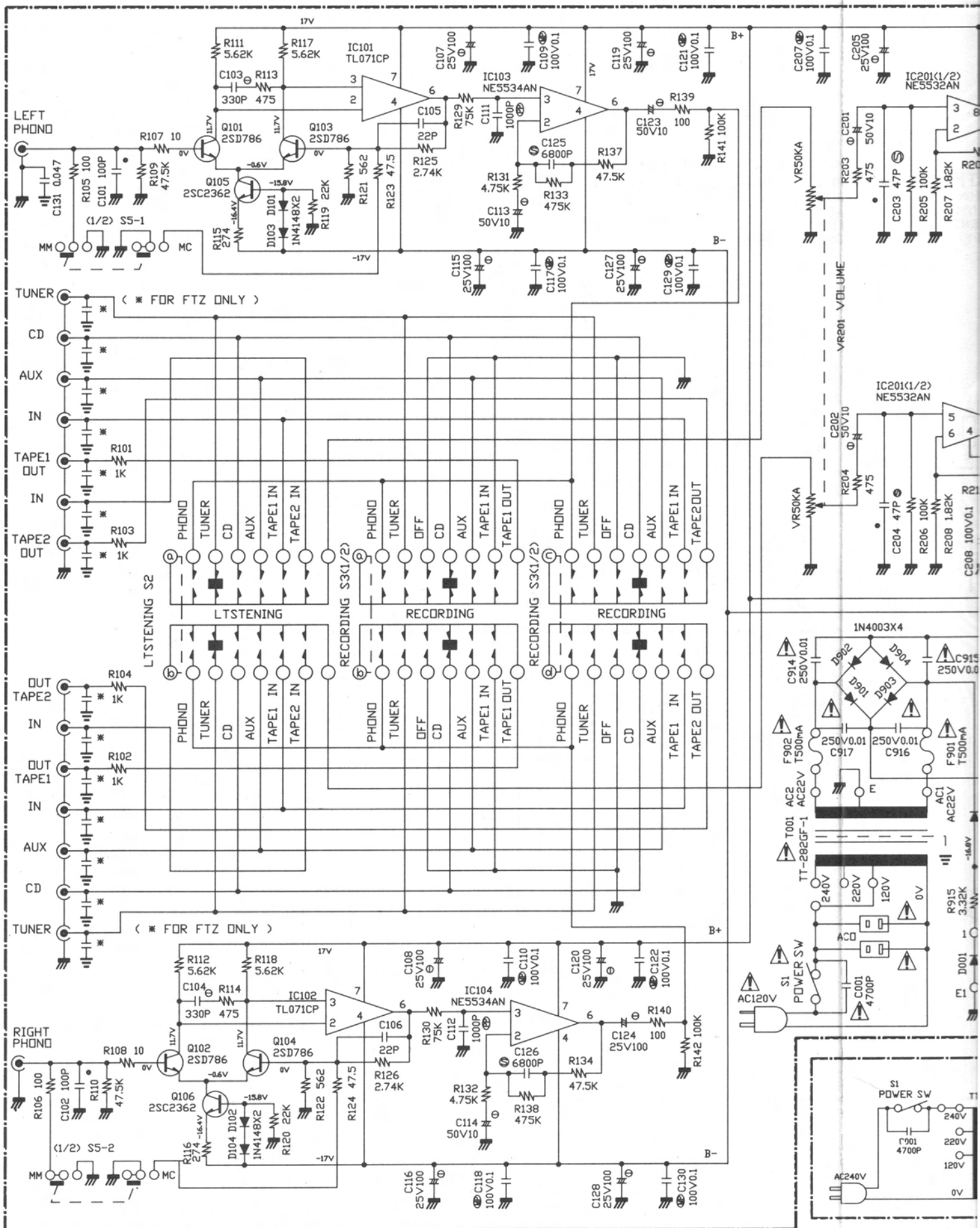
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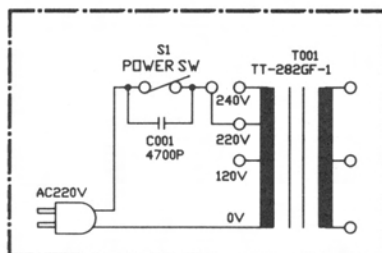
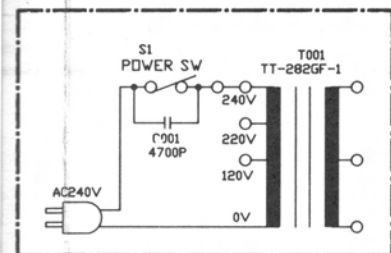
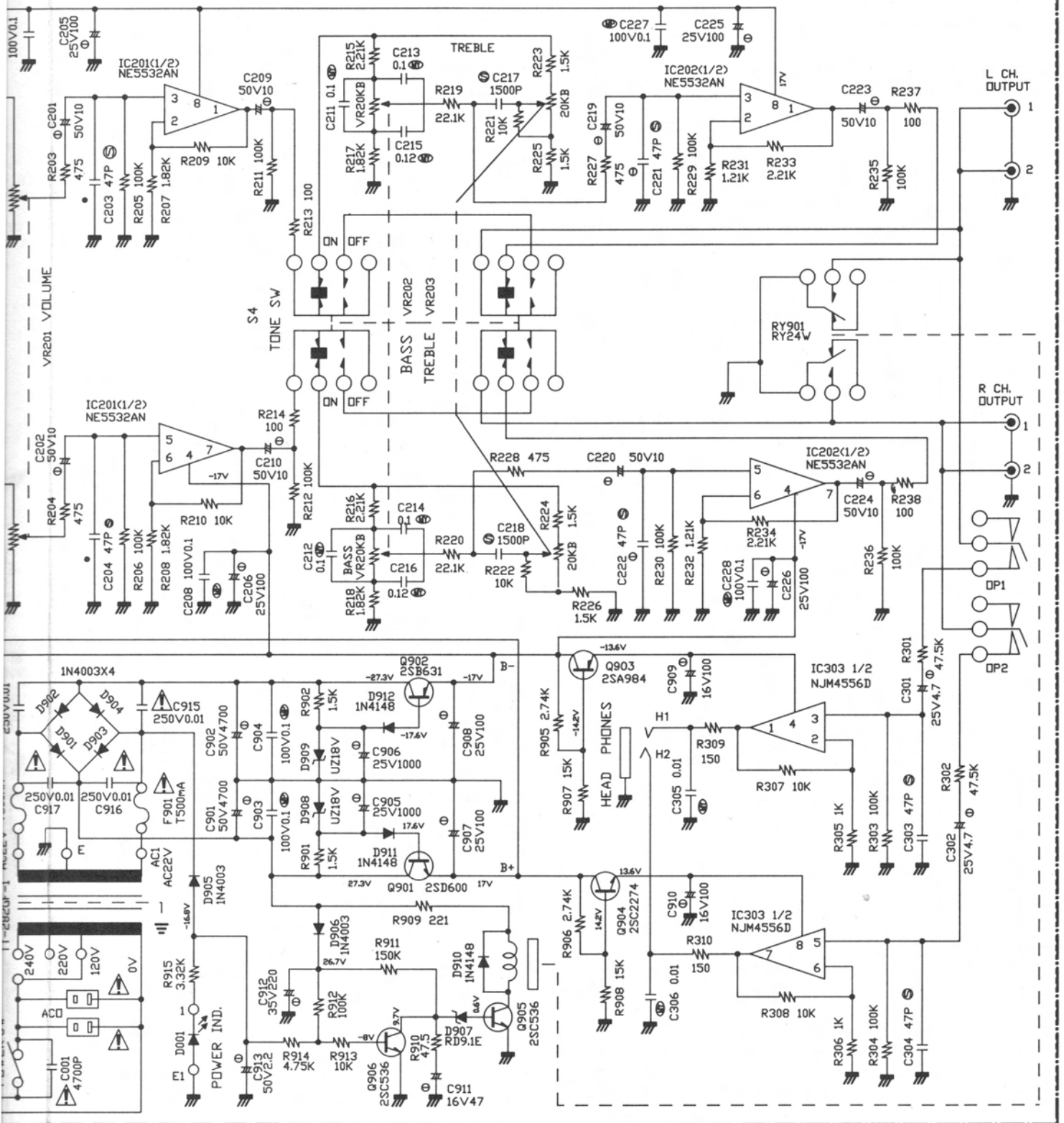
Schematic Diagram

SCHEMATIC DIAGRAM MODEL RC-960BX

(NOTE : PAR



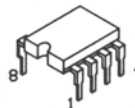
(NOTE : PARTS AND CIRCUIT SUBJECT TO CHANGES FOR IMPROVEMENTS WITHOUT PRIOR NOTICE.)



• 2SD600
• 2SB631



• 2SC2274
• 2SA984
• 2SC536
• 2SC2362
• 2SD786



• NE5534AN
• NE5532AN
• NJM4556D
• TL071CP

INSTRUCTION FOR SERVICING PERSONNEL:

1. USE ONLY REPLACEMENT PARTS THAT HAVE THE CRITICAL CHARACTERISTICS RECOMMENDED BY MANUFACTURER.
2. MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE AC SUPPLY CIRCUIT BEFORE RETURNING THE UNIT TO THE CUSTOMER.

Parts List

NOTE:THE COMPONENTS INDENTIFIED BY Δ MARK ARE FOR SAFFTY.REPLACE ONLY WITH ORIGINAL PARTS.DO NOT SUBSTITUTE.

SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION
AF006114 PCB ASSEMBLY					
R105,106	RM81000619	R,STANDARD METAL MK2100RFECZ.	C223,224	CE51006477	CAP,ELEC. 50BGF10M
R107,108	RM81009611	R,STANDARD METAL MK2010RFECZ.	C225,226	CE51005254	CAP,ELEC. UKSIE101M
R109,110	RM84752616	R,STANDARD METAL MK247K5FECZ.	C227,228	CP61008321	CAP,M.P 100V 104K
R111,112	RM85621610	R,STANDARD METAL MK25K62FECZ.	IC201,202	IC00001693	IC NE5532AN
R113,114	RM84750619	R,STANDARD METAL MK2475RFECZ.	VR201	RV10001577	R,VARIABLE C-4170A17 50KAx2
R115,116	RM82740611	R,STANDARD METAL MK2274RFECZ.	VR202,203	RV10001541	R,VARIABLE 4TR-2774 20KBx2
R117,118	RM85621610	R,STANDARD METAL MK25K62FECZ.	R301,302	RM54752810	R,METAL 47K5 F 1/4W
R119,120	RM82212618	R,STANDARD METAL MK222K1FECZ.	R303,304	RM51003813	R,METAL 100K F 1/4W
R121,122	RM85620616	R,STANDARD METAL MK2562RFECZ.	R305,306	RM51001816	R,METAL 1K F 1/4W
R123,124	RM84759611	R,STANDARD METAL MK247R5FECZ.	R307,308	RM51002810	R,METAL 10K F 1/4W
R125,126	RM82741615	R,STANDARD METAL MK22K74FECZ.	R309,310	RM51500810	R,METAL 150 F 1/4W
R129,130	RM84753610	R,STANDARD METAL MK2275KFECZ.	C301,302	CE04707252	CAP,ELEC. 25V4.7uF
R131,132	RM84751612	R,STANDARD METAL MK24K75FECZ.	C303,304	CS34712311	CAP,POLYSTYRENE 160V 47PF
R133,134	RM84753610	R,STANDARD METAL MK2475KFECZ.	C305,306	CM01009427	CAP,MYLAR 103 J 50V
R137,138	RM84752616	R,STANDARD METAL MK247K5FECZ.	IC301	IC00001474	IC NJM4556D
R139,140	RM81000619	R,STANDARD METAL MK2100RFECZ.	R901,902	RM81501610	R,STANDARD METAL MK201K5FECZ.
R141,142	RM81003610	R,STANDARD METAL MK2100KFECZ.	R905,906	RM52741819	R,METAL 2K74 F 1/4W
C101,102	CS31011310	CAP,POLYSTYRENE 160V 100PF	R907,908	RM51502817	R,METAL 15K F 1/4W
C103,104	CS33311310	CAP,POLYSTYRENE 160V 330PF	R909	RM52210814	R,METAL 221 F 1/4W
C105,106	CS32212300	CAP,POLYSTYRENE 160V 22PF	R910	RM54759815	R,METAL 47.5 F 1/4W
C107,108	CE51005679	CAP,ELEC. 25BGF100M	R911	RM51503810	R,METAL 150K F 1/4W
C109,110	CP61008321	CAP,M.P 100V 104K	R912	RM51003813	R,METAL 100K F 1/4W
C111,112	CP71010350	CAP,P.P 100V 102H	R913	RM51002810	R,METAL 10K F 1/4W
C113,114	CE51006477	CAP,ELEC. 50BGF10M	R914	RM54751816	R,METAL 4K75 F 1/4W
C115,116	CE51005679	CAP,ELEC. 25BGF100M	R915	RM53321814	R,METAL 3K32 F 1/4W
C117,118	CP61008321	CAP,M.P 100V 104K	C901,902	CE54704477	CAP,ELEC. 50VRSP4700A
C119,120	CE51005679	CAP,ELEC. 25BGF100M	C903,904	CP61008321	CAP,M.P 100V 104K
C121,122	CP61008321	CAP,M.P 100V 104K	C905,906	CE71004255	CAP,ELEC. 25V1000uF
C123,124	CE51006477	CAP,ELEC. 25BGF10M	C907,908	CE51005254	CAP,ELEC. UKSIE101M
C125,126	CS36810300	CAP,POLYSTYRENE 160V 6800PF	C909,910	CE01005167	CAP,ELEC. 16V100uF
C127,128	CE51005679	CAP,ELEC. 25BGF100M	C911	CE04706168	CAP,ELEC. 16V47uF
C129,130	CP61008321	CAP,M.P 100V 104K	C912	CE02205358	CAP,ELEC. 35V220uF
C131	CC05009457	CAP,CERAMIC 50V 0.047uF	C913	CE02207501	CAP,ELEC. 50V 2.2uF
D101-104	DD800000021	DIODE IN4148-86	C914-917	CC01009256	CAP,CERAMIC 250V 0.01uF
Q101-104	TR40000100	TRANSISTOR 2SD786 (R,S)	RY901	LY00000277	RELAY RZ24W-KJ
Q105,106	TR30000212	TRANSISTOR 2SC2362 (F,G)	D901-906	DD800000010	IN4003-TB
IC101,102	IC000002430	IC TL071CP	D907	DD20000132	DIODE RD-9.1E
IC103,104	IC000001735	IC NE5534AN	D908,909	DD200000041	DIODE RD18E
R203,204	RM84750619	R,STANDARD METAL MK2475RFECZ.	D910-912	DD800000021	DIODE IN4148-86
R205,206	RM81003610	R,STANDARD METAL MK2100KFECZ.	Q901	TR400000069	TRANSISTOR 2SD600D (K)
R207,208	RM81821615	R,STANDARD METAL MK21K82FECZ.	Q902	TR100000047	TRANSISTOR 2SB631K (E,F)
R209,210	RM81002616	R,STANDARD METAL MK2010KFECZ.	Q903	TR30000121	TRANSISTOR 2SC2274 (E,F)
R211,212	RM81003610	R,STANDARD METAL MK2100KFECZ.	Q904	TR10000140	TRANSISTOR 2SA984K(E,F)
R213,214	RM81000619	R,STANDARD METAL MK2100RFECZ.	Q905,906	TR300000327	TRANSISTOR 2SC536G
R215,216	RM82211614	R,STANDARD METAL MK22K21FECZ.	F901,902	FU25000016	FUSE 250V 500MA UL/CSA Δ
R217,218	RM81821615	R,STANDARD METAL MK21K82FECZ.		FU23000360	FUSE 250V T 500MA S Δ
R219,220	RM82212618	R,STANDARD METAL MK222K1FECZ.	S001	SH40000155	POWER SW C-4176A01 Δ
R221,222	RM81002616	R,STANDARD METAL MK2010KFECZ.	S2	SH30000493	FUNCTION SW 4TR-2779
R223,224	RM81501610	R,STANDARD METAL MK201K5FECZ.	S3	SH30000511	FUNCTION SW 4TR-2781
R225,226	RM81501610	R,STANDARD METAL MK201K5FECZ.	S4	SH30000500	FUNCTION SW 4TR-2780
R227,228	RM84750619	R,STANDARD METAL MK2475RFECZ.	S5	SH11000367	1 KEY PUSH SW 4TR-2783
R229,230	RM81003610	R,STANDARD METAL MK2100KFECZ.	T001	PT28207118	POWER TRANSFORMER
R231,232	RM81211618	R,STANDARD METAL MK21K21FECZ.		TT-282-GF-1 Δ	
R233,234	RM82211614	R,STANDARD METAL MK22K21FECZ.	C001	CK000000035	SPARK KILLER DE7150F472M Δ
R235,236	RM81003610	R,STANDARD METAL MK2100KFECZ.	OTHERS		
R237,238	RM81000619	R,STANDARD METAL MK2100RFECZ.	AF20000260	FRONT CHASSIS 2TQI-2	
C201,202	CE51006477	CAP,ELEC. 50BGF10M	AR20000589	PRINTED REAR CHASSIS TRP-583	
C203,204	CS34712311	CAP,POLYSTYRENE 160V 47PF	AS01000282	SIDE CHASSIS 3TQG-1	
C205,206	CE51005254	CAP,ELEC. UKSIE101M	KB20002747	PUSH BUTTON PR4-07A00T 5F	
C207,208	CP61008321	CAP,M.P 100V 104K	AB00000559	BOTTOM BOARD 2TQG-2	
C209,210	CP61008321	CAP,M.P 100V 104K	DD400000095	LED LN224R	
C211,212	CM01008423	CAP,MYLAR 104 J 50V	SB00000571	INSULATION PLATE 4TQI-4	
C213,214	CM01008423	CAP,MYLAR 104 J 50V	SB00000583	PVC SHIELD PLATE 4TQI-5	
C215,216	CM01208424	CAP,MYLAR 124 J 50V	FT00000217	PLASTIC FOOT CAP 4TR-2807	
C217,218	CS41510414	CAP,STYROL 1500PF 50V	SB00000625	ALUMINUM PAPER 4TR-2826	
C219,220	CE51006477	CAP,ELEC. 50BGF10M	SB00000637	ALUMINUM PAPER 4TR-2827	
C221,222	CS34712311	CAP,POLYSTYRENE 160V 47PF	NP00001949	NAME STICKER AC-120V 4TR-2828#1 TNP-382	

Parts List

SYMBOL	PARTS NO.	DESCRIPTION
	NP00001974	NAME STICKER AC-120V (C) 4TR-2828#4 TNP-385
	NP00001962	NAME STICKER AC-240V 4TR-2828#3 TNP-384
	NP00001950	NAME STICKER AC-220V 4TR-2828#2 TNP-383
	NP00001998	NAME STICKER AC-230V 4TR-2828#5 TNP-389
	NP00002012	NAME STICKER AC-100V 4TR-2828#6 TNP-391
	CD00000218	AC CORD SPT-2 AWG#18 4TR-670#4 (U,C,A,J) 
	CD00000292	AC POWER CORD UP-401F 4TR-2631#1 (D) 
	CD00000048	AC POWER CORD 4TR-1037 (H,E,K2) 
	CD00000085	AC POWER CORD C-2504A (K1) 
	CD00000115	AC POWER CORD C-3763-T (G) 
	AA20000622	FRONT PANEL 2TQI-1 TRP-622
	BU00001145	POWER RING 4TQF-13 14x14
	BU00001169	KNOB RING 4TQF-17 39F
	KB20002681	POWER BUTTON 4TQF-15 14x14
	OM10001260	ORNAMENTAL SIDE BOARD 4TR-2797#1 H=60MM
	OM70000065	PUSH BUTTON CONNECTOR 4TTL-15
	SN00000179	BUTTON SPRING 4TR-1988A#2 10F
	SR00000870	ORNAMENTAL PLATE SPACER 4TR-2411
	AU00001183	TOP COVET POLY 3TTE-6#3 H=60MM
	KB10001722	KNOB 4TQF-18 13F
	KB10001734	KNOB 4TQF-19 24F
	KB10001746	KNOB 4TQF-20 33F (WR)
	KB10001758	KNOB 4TQF-21 33F (WF)
	FE00000067	FELT 4TR-1083B#1 22F
	FE00000079	FELT 4TR-1083B#3 46F
	FE00000092	FELT 4TR-1083B#2 30F
	SR00000882	UPPER COVER SPACER 4TR-2418
	MN10002763	OWNER'S MANUAL RC-960BX
	TN10003770	INSIDE CARTON 4TR-2851#1
	PL00001087	STYROL SIDE MOULDING 2TTE-8B#2 TZ-164-1