

ROTEL *hifi*

STEREO INTEGRATED AMPLIFIER

RA-935BX

TECHNICAL MANUAL

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THE ROTEL CO., LTD.

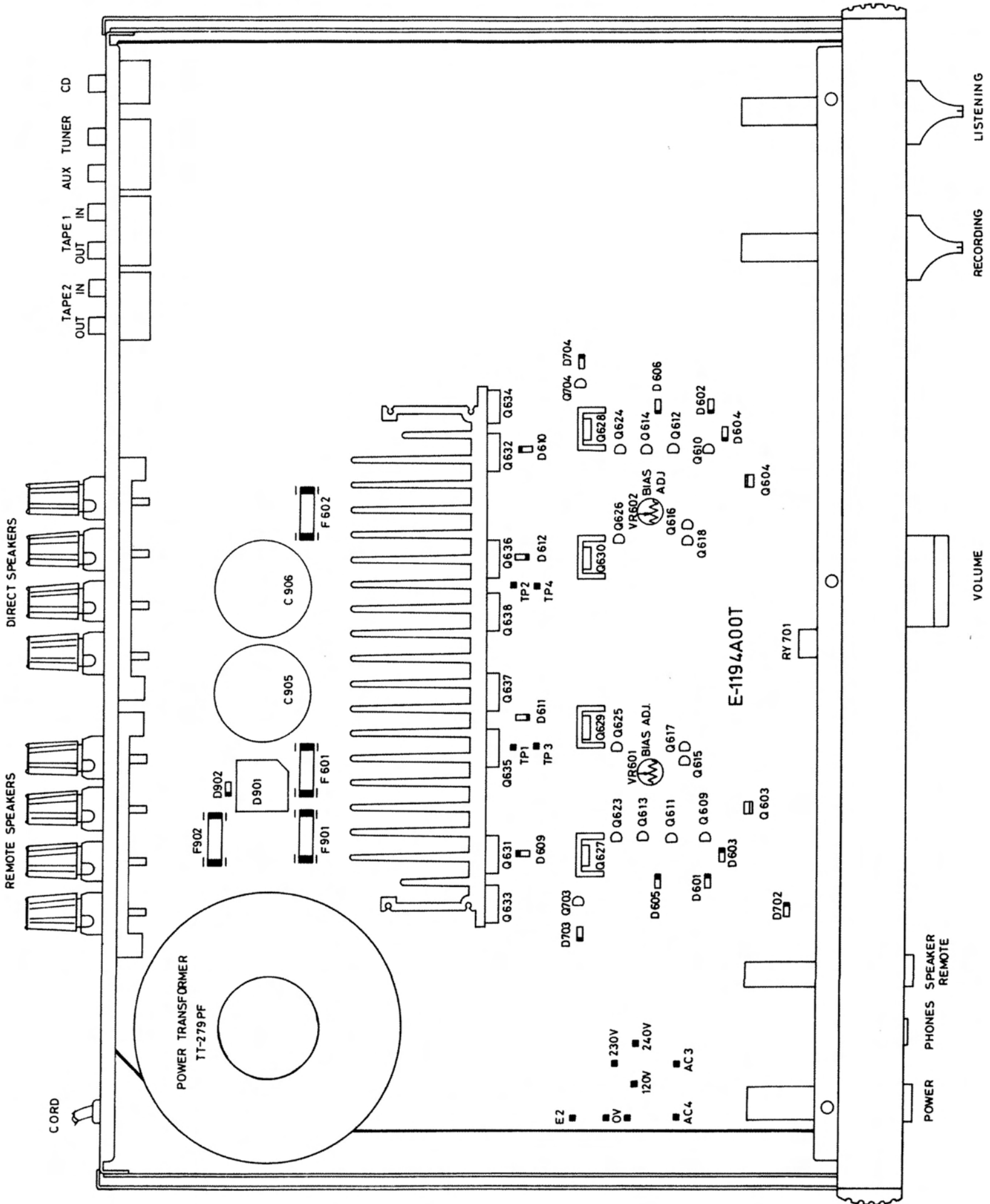
1-36-8, OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN

ROTEL ELECTRONICS CO., LTD.

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

MN20002061

Chassis Layout



Specifications

RA-935BX

Continuous Power

Output 40 watts* per channel, min.
RMS both channels driven into
8 ohms from 20 to 20,000 kHz
with no more than 0.05% total
harmonic distortion.

DIN Output 60 watts per channel (1 kHz,
4 ohms, 1% THD)

Music Power 110 watts

Total Harmonic
Distortion (20 to 20 kHz
from AUX) No more than 0.05% (continuous
rated power output) No more
than 0.03% (continuous 1/2 rated
power output) No more than
0.03% (1 watt per channel power
output, 8 ohms)

Intermodulation

Distortion
(60 Hz : 7 kHz = 4:1) No more than 0.03% (continuous
rated power output)
No more than 0.01% (continuous
1/2 rated power output)
No more than 0.02% (1 watt per
channel power output, 8 ohms)

Output: Speakers 4 ohms minimum
Headphone 8 - 2,000 ohms
Damping Factor 150 (20 to 20,000 Hz, 8 ohms)

Input Sensitivity/Impedance:

CD, TUNER 210 mV/ 15 kohms
AUX, TAPE 1, 2 210 mV/ 15 kohms

Overload Level (THD 0.5%, 1 kHz):
CD, TUNER 5 V
AUX, TAPE 1, 2 5 V

Frequency Response:

CD, TUNER 10 to 100 kHz, +1.0 dB, -3.0 dB
AUX, TAPE 1, 2 10 to 100 kHz, +1.0 dB, -3.0 dB

Signal to Noise Ratio (IHF, A network):

CD, TUNER 105 dB
AUX, TAPE 1, 2 105 dB

MISCELLANEOUS

Power Requirement 120 V/60 Hz, 230 V/50 Hz,
240 V/50 Hz (depending on
destinations)

Power Consumption 300 Watts

Dimension (overall) 440 (W) x 92 (H) x 347 (D) mm
17-3/8" x 3-5/8" x 13-11/16"

Weight (net) 6.1 kg/ 13.4 lbs

- Specifications and design subject to possible modification without notice.
- *Measured pursuant to the Federal Trade Commission's Trade Regulation Rule or, Power Claims for Amplifiers (applicable to the U.S.A. only).

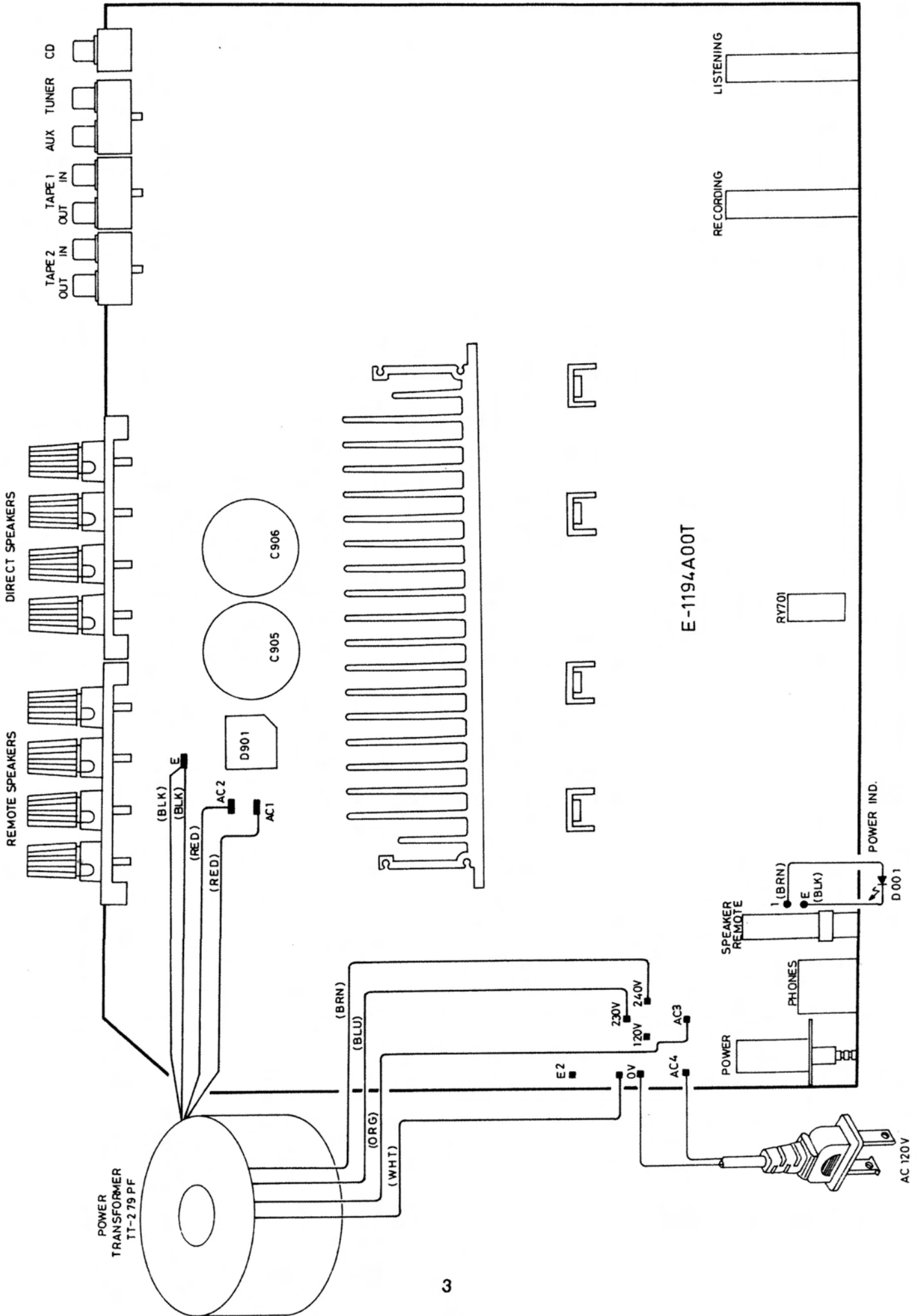
Power Amplifier Bias Adjustment

Instruments: DC milli-voltmeter

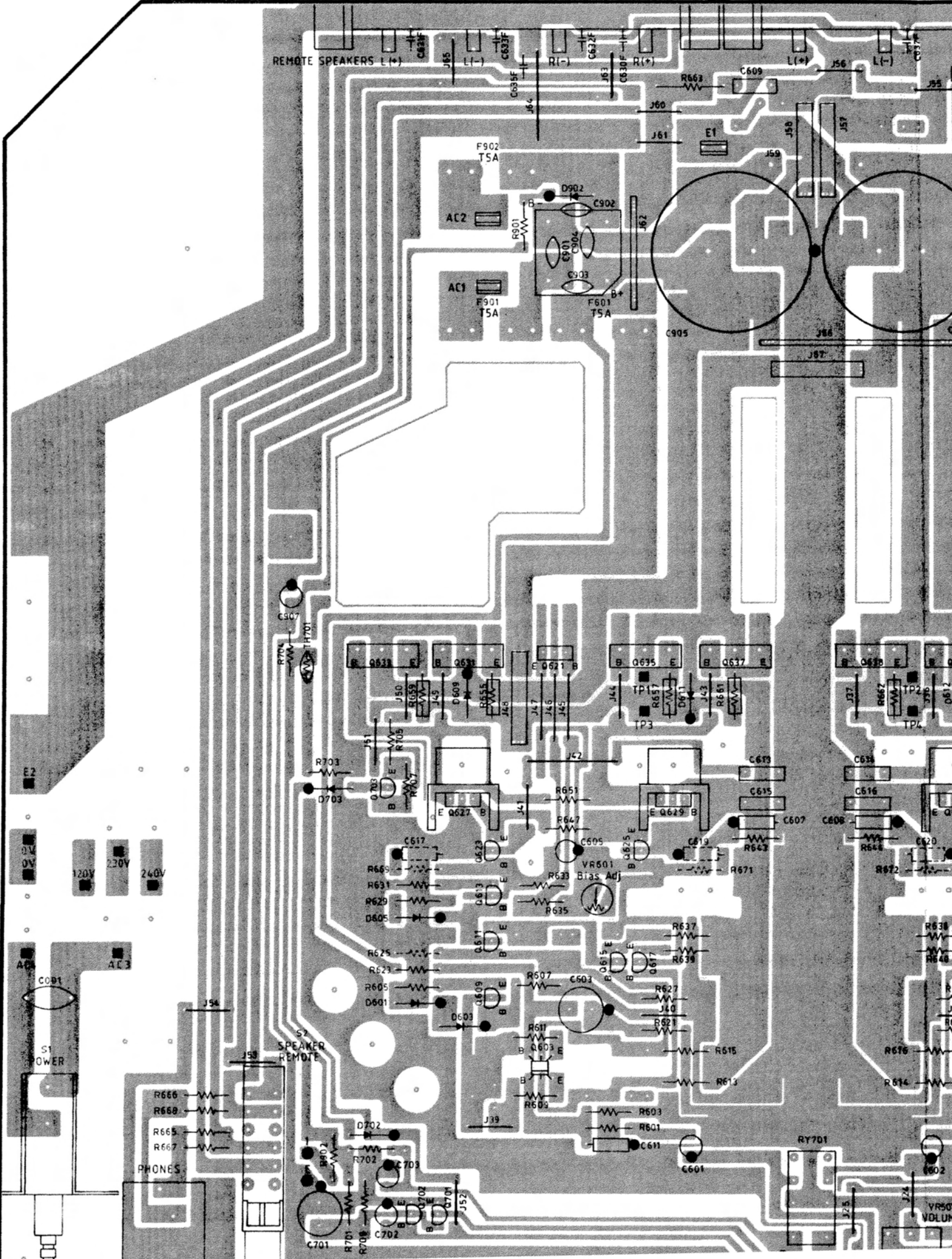
Notes: Prior to Bias Adjustment, run about 5 minutes with rated output (8 ohm) and warm up Power Transistor and Heat Sink.
Set Volume control to minimum.

Step	Coupling		Adjust	Adjust for
	Plus Lead	Minus Lead		
1	TP3	TP1	VR601	DC milli-voltmeter reads 6 mV
2	TP4	TP2	VR602	

Wiring Diagram

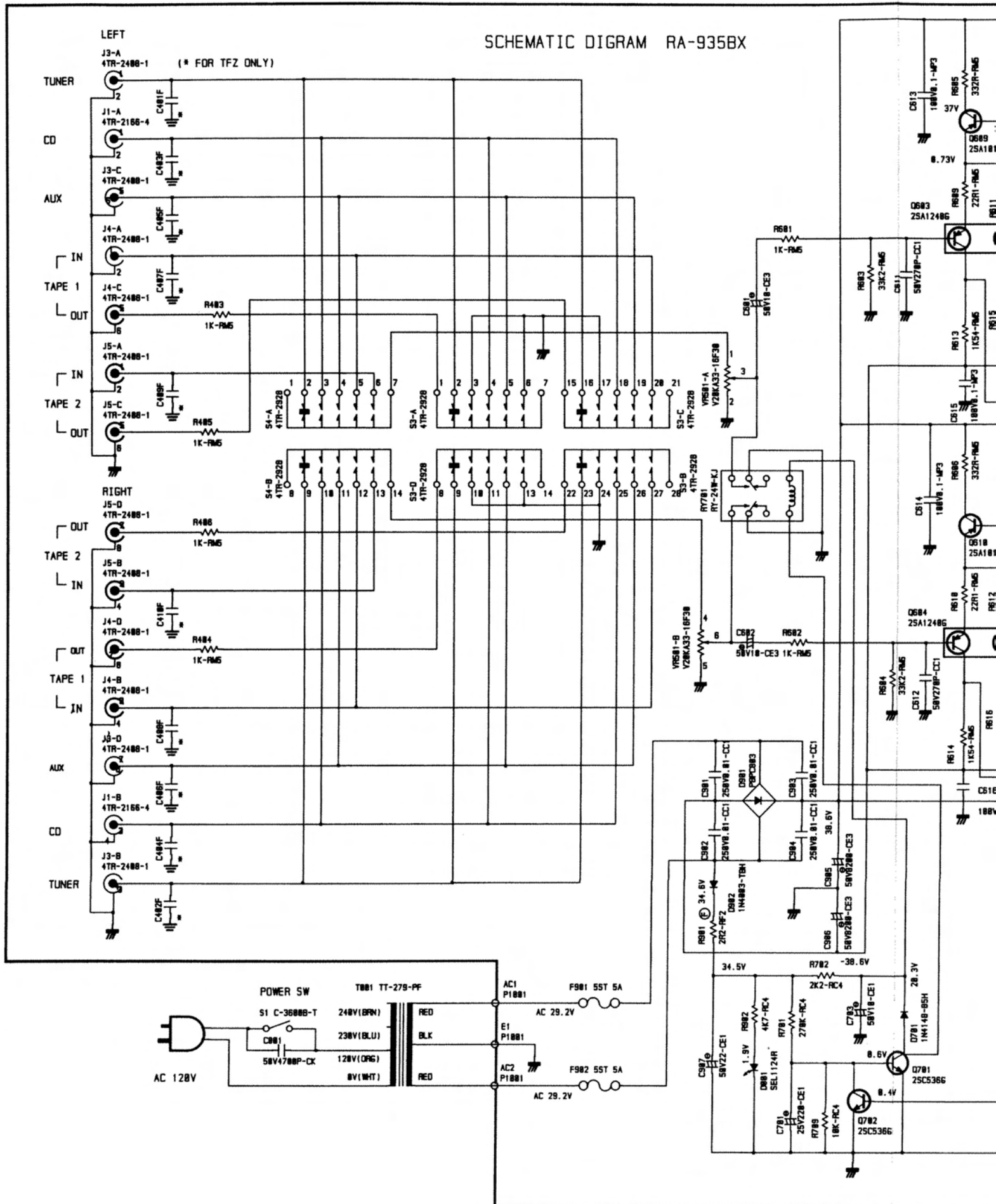


Printed Circuit Boards



Schematic Diagram

SCHEMATIC DIGRAM RA-935BX



Parts List

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

SYMBOL	PARTS NO.	DESCRIPTION
	E-1194A00T	PCB ASSEMBLY
R403-406 VR501	RM81001612 RV10001711	R, METAL MK2001KFECZ. R, VARIABLE 4TR-2930 20KAx2
R601, 602 R603, 604 R605, 606	RM81001612 RM83322614 RM83320617	R, METAL MK2001KFECZ. R, METAL MK2332KFECZ. R, METAL MK2332RFECZ.
R607, 608 R609, 610 R611, 612 R613, 614 R615, 616	RM86811612 RM82219613 RM82219613 RM81541618 RM81541618	R, METAL MK26K81FECZ. R, METAL MK222R1FECZ. R, METAL MK222R1FECZ. R, METAL MK21K54FECZ. R, METAL MK21K54FECZ.
R621, 622 R623, 624 R627, 628 R629, 630 R631, 632	RM85620616 RM84752616 RM85621610 RM81540614 RM81540614	R, METAL MK2562RFECZ. R, METAL MK247K4FECZ. R, METAL MK25K62FECZ. R, METAL MK2154RFECZ. R, METAL MK2154RFECZ.
R633, 634 R635, 636 R637-640 R643, 644 R647, 648	RM86811612 RM81211618 RM81000619 RM84752616 RM84750619	R, METAL MK26K81FECZ. R, METAL MK21K21FECZ. R, METAL MK2100RFECZ. R, METAL MK247K5FECZ. R, METAL MK2475RFECZ.
R651, 652 R655-662 R663, 664 R665-668 C601, 602	RM84759611 RS20228230 RM91009220 RM86810619 CE51006477	R, METAL MK247R5FECZ. R, SQUARE TYPE MPC70-0.22F R, METAL OXIDE FILM 2W 10 J R, METAL MK2681RFECZ. CAP, ELEC. 50BGF10M
C603, 604 C605, 606 C607, 608 C609, 610 C611, 612	CE51005679 CE54707478 CS35611319 CP61000832 CS32711315	CAP, ELEC. 25BGF100M CAP, ELEC. 50BGF4R7M CAP, POLYSTYRENE 160V 560P CAP, M.P. 100V 104K CAP, POLYSTYRENE 160V 270P
C613-616 D601-606 D609-612 Q603, 604 Q609, 610	CP61000832 DD80000021 DD80000010 TR10000321 TR10000023	CAP, M.P. 100V 104K DIODE IN4148-86 DIODE IN4003-TB TRANSISTOR 2SA1240G TRANSISTOR 2SA1016F
Q611, 612 Q613, 614 Q615-618 Q621, 622 Q623, 624	TR30000479 TR10000242 TR30000479 TR40000069 TR30000558	TRANSISTOR 2SC2910S TRANSISTOR 2SA1208-RST TRANSISTOR 2SA2910S TRANSISTOR 2SD600K TRANSISTOR 2SC3478
Q625, 626 Q627, 628 Q629, 630 Q631-634 Q635-638	TR10000308 TR30000613 TR10000345 TR40000045 TR20000040	TRANSISTOR 2SA1376 TRANSISTOR 2SC3902R TRANSISTOR 2SA1507R POWER TRANSISTOR 2SD1047D Δ POWER TRANSISTOR 2SB817 Δ
VR601, 602	RV10001711	R, SEMI-FIXED VM6CKPV-1S-B 1KB
F601, 602	FU25000030 FU23000141	FUSE 125V 5A UL/CSA Δ FUSE 250V T5A S Δ
R701 R702	RD22703823 RD52201820	R, CARBON 270K 1/4W R, CARBON 2.2K 1/4W
R703 R704 R705, 706 R707, 708 R709	RD52702821 RD55600828 RD51000820 RD51200820 RD51002827	R, CARBON 27K 1/4W J R, CARBON 560 1/4W J R, CARBON 100 1/4W J R, CARBON 120 1/4W J R, CARBON 10K 1/4W J
C701 C702 C703 Q701, 702 Q703, 704	CE02205255 CE02206259 CE01006500 TR30000327 TR10000126	CAP, ELEC. 25V 220uF CAP, ELEC. 25V22uF CAP, ELEC. 50V 10uF TRANSISTOR 2SC536G TRANSISTOR 2SA608K
D701 TH701 RY701 R901 C901-904	DD80000021 DD60000260 LY00000277 RF12208823 CC01009256	DIODE IN4148-86 THERMISTOR TDS-C350D Δ RELAY RY24W Δ R, FUSIBLE TYPE FRQ14AJ2R2P CAP, CERAMIC 250V 0.01uF Δ
C905, 906 C907	CE58204517 CE02206508	CAP, ELEC. 50V 8200uF Δ CAP, ELEC. 50V22uF

SYMBOL	PARTS NO.	DESCRIPTION
D901 D902 F901, 902	DD10000147 DD80000010 FU25000030 FU23000141	DIODE KBPC802 Δ DIODE IN4003-TB FUSE 125V 5A UL/CSA Δ FUSE 250V T5A S Δ
C001 S1 S2 S3, S4	CK00000035 SH40000120 SH11000434 SH30000572	SPARK KILLER DE7150F472M Δ POWER SW C-3600B-T Δ 1 KEY PUSH SW 4TR-2899 FUNCTION SW 4TR-2928
OTHERS		
	AB00000547 AF20000258 AR20000668	BOTTOM BOARD 1TQF-5 FRONT CHASSIS 2TQF-2 PRINTED REAR CHASSIS TRP-622
	AS01000270	SIDE CHASSIS 3TQF-4A
	DD40000095 PT27911100	LED SEL1124R POWER TRANSFORMER TT-279-PF Δ
	BU00001236 FT00000217	INSULATION BUSH 4TR-2841 PLASTIC FOOT CAP 4TR-2807
	SB00000601 SB00000613	P.V.C SHIELD PLATE (A) 4TR-2824 P.V.C SHIELD PLATE (B) 4TR-2825
	SB00000625 SP10006363	ALUMINUM PAPER 4TR-2826 P.T SUPPORT 3TQF-9A
	SR00001151 SP10005437 NP00001949	P.V.C SPACER 4TR-2842 P.C.B SUPPORT 4TTU-13 NAME STICKER 4TR-2828A#1 TNP-382 AC120V
	NP00001974	NAME STICKER 4TR-2828A#4 TNP-385 AC120V (C)
	NP00001962	NAME STICKER 4TR-2828A#3 TNP-384 AC240V
	NP00001998	NAME STICKER 4TR-2828A#5 TNP-389 AC230V
	NP00002012	NAME STICKER 4TR-2828A#6 TNP-391 AC100V
	NP00001950	NAME STICKER 4TR-2828A#2 TNP-383 AC220V
	CD00000218 CD00000292	AC CORD SPT-2 AWG#18 4TR-670#4(U,C,A,J) Δ AC POWER CORD 4TR-2631#1 (D) Δ
	CD00000048	AC POWER CORD 4TR-1037 (H,E,K2,Y) Δ
	CD00000085 CD00000115 SC00000131	AC POWER CORD C-2504A(K1) Δ AC POWER CORD C-3763-T (G) Δ AC CORD STOPPER SR-5N-4 (K1) Δ
	SC00000039	AC CORD STOPPER SR-6W-1 (D) Δ
	SC00000027 AH20000813 SP10006387	AC CORD STOPPER SR-4N-4 Δ HEAT SINKER BOARD 3TQF-6#2 H.S SUPPORT 4TQG-4A
	AA20000701 BU00001145	FRONT PANEL 2TQF-1#5 POWER RING W/LED 4TQF-13 14x14
	BU00001157	PUSH BUTTON RING 4TQF-14 5x10
	BU00001169 KB20002681 KB20002693 OM10001272	KNOB RING 4TQF-17 39F POWER BUTTON 4TQF-15 14x14 PUSH BUTTON 4TQF-16 5x10 ORNAMENTAL SIDE BOARD 4TR-2797 H=80MM
	OM70000065	PUSH BUTTON CONNECTOR 4TTL-15
	SN00000179	BUTTON SPRING 4TR-1988A#2 10F
	AU00001201	TOP COVER POLY 3TTF-5#7

Parts List

SYMBOL	PARTS NO.	DESCRIPTION
	KB10001734	KNOB 4TQF-19 24F
	KB10001746	KNOB 4TQF-20 33F (WR)
	KB10001758	KNOB 4TQF-21 33F (WF)
	FE00000079	FELT 4TR-1083B#3 46F
	FE00000092	FELT 4TR-1083B#2 30F
	SR00000882	UPPER COVER SPACER 4TR-2418
	MN10002975	OWNER'S MANUAL RA-935BX
	PL00001051	STYROL SIDE MOULDING 2TR-2800 TZ-183