



Technical Manual

THREE-CHANNEL POWER AMPLIFIER RB-993

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Specification

Continuous Power Output	(20-20 kHz, < 0.03%, 8 ohms)	200 watts/ch.
Total Harmonic Distortion	(20 Hz-20 kHz, 8 ohms)	< 0.03%
Intermodulation Distortion	(60 Hz: 7 kHz, 4:1)	< 0.03%
Frequency Response	(+0.5dB,-3dB)	15-100K Hz,
Damping Factor	(20-20,000 Hz, 8 ohms)	1000
Speaker Impedance	(Normal mode)	4 ohms minimum
Signal to Noise Ratio	(IHF A network)	116 dB
Input Impedance/Sensitivity		32 k Ohms/1.5 volt
Power Requirements		115 Volts, 60 Hz or 230 Volts, 50 Hz
Power Consumption		600 Watts
Dimensions (W, H, D)		440 x 121 x 385 mm 17 3/8 x 4 3/4 x 15 3/16 in
Weight (net)		18.3 kg, 40.3 lb

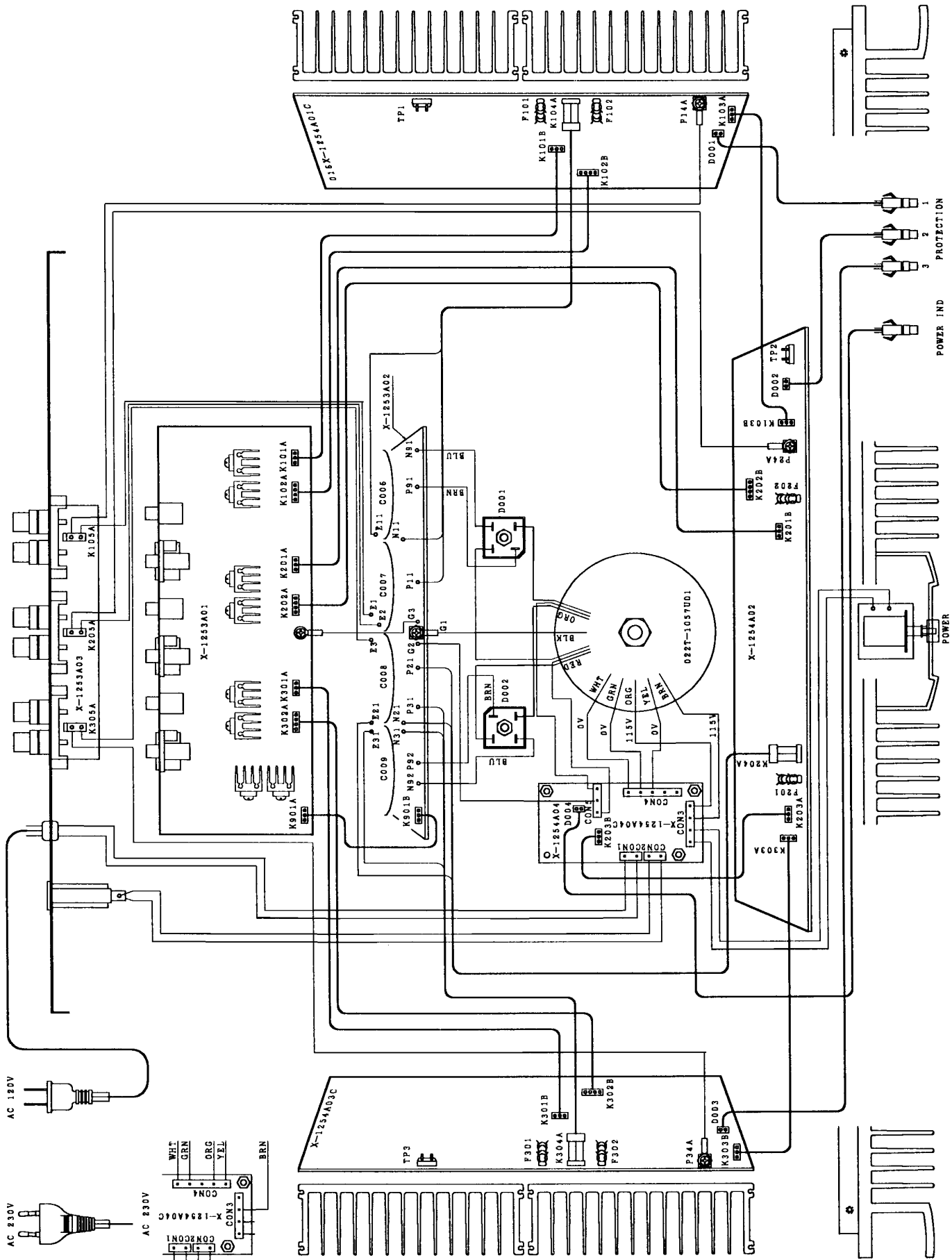
THE ROTEL CO., LTD

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

Serial. NO.
Beginning

Y-313A-98095C/S-S

Wiring Diagram



Parts List

SYMBOL	PARTS NO.	DESCRIPTION	
X-1253-01 PCB ASSEMBLY			
C101	041	50BGF4R7M	CAP,ELEC.50V4.7UF
C102	044	TFKP2-100V681H	CAP,FILM 100V680PF
C103	044	LFSC160V471H	CAP,STYROL 160V470PF
C104	044	LFSC160V221H	CAP,STYROL 160V220PF
C105	041	25BGF100M	CAP,ELEC.25V100UF
C107	041	50BGF10M	CAP,ELEC.50V10UF
C108	044	LFSC160V331H	CAP,STYROL 160V330PF
C109	044	LS50V100PJ	CAP,STYROL 50V100OF
C110,111	041	25BGF100M	CAP,ELEC.25V100UF
C901,902	041	25BGF470M	CAP,ELEC.25V470UF
D101-104	034	LT1N4148-86	DIODE
D901,902	034	TRD16JST1	ZENER DIODE
IC101	031	LNE5534AN	IC
Q101-103	033	LT2SC2362KAA-FG	TRANSISTOR
Q104-106	033	LT2SA1016KAA-FG	TRANSISTOR
Q107	033	2SA1142-EPQ	TRANSISTOR
Q108	033	2SC2682-EPQ	TRANSISTOR
Q901	033	L2SD600K-EF	TRANSISTOR
Q902	033	L2SB631K-EF	TRANSISTOR
R101	054	LTMK2001KFECZ	R,METAL 1% 1K
R102	054	LTMK2033KFECZ	R,METAL 1% 33K
R103	054	LTMK2470RFECZ	R,METAL 1% 470R
R104-107	054	LTMK201K5FECZ	R,METAL 1% 1.5K
R108	054	LTMK2560RFECZ	R,METAL 1% 560R
R109	054	LTMK2010RFECZ	R,METAL 1% 10R
R110,111	054	LTMK2220RFECZ	R,METAL 1% 220R
R112	054	LTMK2047KFECZ	R,METAL 1% 47K
R113,114	054	LTMK2100RFECZ	R,METAL 1% 100R
R115	054	LTMK206K8FECZ	R,METAL 1% 6.8K
R116	054	LTMK203K9FECZ	R,METAL 1% 3.9K
R118-121	054	LTMK2010KFECZ	R,METAL 1% 10K
R122	054	LTMK2033KFECZ	R,METAL 1% 33K
R133	054	LTMK2022KFECZ	R,METAL 1% 22K
R134	054	LTMF3300	R,METAL 330R
R901,902	054	1WS2.2KJF	R,METAL 1W 2.2K
R903,904	054	1WS5.6KJF	R,METAL 1W 5.6K
VR101	051	LVM6CKPV1S2.2K	SEMI-FIXED RESISTOR
	017	L4TR-2792#3	SUB HEAT SINKER
	019	TO-126	INSULATION SHEET
	066	L4TR-2487#4	1P PINJACK
	066	C-4575A01	3P CANNON CONNECTOR
X-1253-02 PCB ASSEMBLY			
C906-909	041	ALS20S1024XX	CAP,ELEC.80V15000UF
	069	C-4446A00	SCREW TERMINAL
X-1253-03 PCB ASSEMBLY			
C119	044	MKT18-100V104K	CAP,FILM 100V0.1UF
R166	054	2WS10JF	R,METAL 2W 10R
	067	4TR-3222	SPEAKER TERMINAL

SYMBOL	PARTS NO.	DESCRIPTION	
X-1254-01 PCB ASSEMBLY			
C113,114	044	LFSC160V561H	CAP,STYROL 160V560PF
C117,118	041	UVX2A102MRAY	CAP,ELEC.100V1000UF
C120	041	UTSS1E100-FB	CAP,ELEC.25V10UF
C121	041	UTSS1E221-FB	CAP,ELEC.25V220UF
C122	041	UTSS1H4R7-FB	CAP,ELEC.50V4.7UF
C123	041	UTSS1E470-FB	CAP,ELEC.25V47UF
D105,106	034	LT1N4003-TB	DIODE
D107,108	034	LT1N4148-86	DIODE
F101,102	036	5ST6.3	MINIFUSE 250V6.3A
IC102	031	MPC1237HA	IC
Q109	033	LT2SC2910AE-RST	TRANSISTOR
Q110	033	LT2SA1208AE-RST	TRANSISTOR
Q119	033	LT2SC2362KAA-FG	TRANSISTOR
Q120,121	033	LT2SA1016KAA-FG	TRANSISTOR
Q122	033	LT2SC2362KAA-FG	TRANSISTOR
R123,124	054	LTMK2220RFECZ	R,METAL 1% 220R
R125	054	LTMK2001KFECZ	R,METAL 1% 1K
R126	054	LTMK2047RFECZ	R,METAL 1% 47R
R127-132	054	NIR2-0.22JF	R,METAL 2W 0.22R
R147	053	CR14-391J-A	R,CARBON 390R
R148	053	CR14-223J-A	R,CARBON 22K
R149	053	CR14-122J-A	R,CARBON 1.2K
R150	053	CR14-153J-A	R,CARBON 15K
R151	053	CR14-561J-A	R,CARBON 560R
R152	053	CR14-333J-A	R,CARBON 33K
R153	053	CR14-472J-A	R,CARBON 4.7K
R154	053	CR14-473J-A	R,CARBON 47K
R155,156	053	CR14-104J-A	R,CARBON 100K
R157	053	CR14-124J-A	R,CARBON 120K
R158	053	CR14-683J-A	R,CARBON 68K
R159	053	CR14-153J-A	R,CARBON 15K
R160	053	CR14-473J-A	R,CARBON 47K
R161	054	1WS1.2KJF	R,METAL 1W 1.2K
R162	053	CR14-824J-A	R,CARBON 820K
R163	053	CR14-103J-A	R,CARBON 10K
R164,165	054	2WS6.8KJF	R,METAL 2W 6.8K
R167	053	CR14-182J-A	R,CARBON 1.8K
RY101	063	DH24D2-OT(M)	RELAY
TH101	034	TTC-503	THERMISTOR
	069	C-3417A	FUSECLIP
	069	C-4446A00	SCREW TERMINAL
X-1254-04 PCB ASSEMBLY			
C903	041	UTES2A220-FB	CAP,ELEC.100V22UF
C910	041	UTES2A221-FA	CAP,ELEC.100V220UF
D903,904	034	LT1N4003-TB	DIODE
Q903	033	L2SD600K-EF	TRANSISTOR
R905	054	2WS180JF	R,METAL 2W 180R
R906	053	CR14-562J-A	R,CARBON 5.6K
R907	053	CR14-822J-A	R,CARBON 8.2K

Parts List

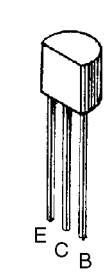
SYMBOL	PARTS NO.	DESCRIPTION	
R908	054	1WS15KJF	R,METAL1W15K
TH901,902	034	SCK2R512	SURGE CURRENT THERMISTOR
	017	C-4401A01	SUB HEAT SINKER
	019	TO-126	INSULATION SHEET
X-1254-05 PCB ASSEMBLY			
C904	044	DE7150F472M	SPARK KILLER
S001	061	C-4176A07	POWER SWITCH
HEAT SINKER ASSEMBLY			
Q111	033	L2SD1047-DE	DRIVER TRANSISTOR
Q112	033	L2SB817-DE	DRIVER TRANSISTOR
Q113-115	033	2SC5200-OR	POWER TRANSISTOR
Q116-118	033	2SA1943-OR	POWER TRANSISTOR
Q123	032	L2SD1953	TRANSISTOR
	019	TO-126	INSULATION SHEET
	019	TO-3P	INSULATION SHEET
	201~	SAME AS 101~,	
	301~	SAME AS 102~,	

SYMBOL	PARTS NO.	DESCRIPTION
OTHERS		
011	FP-473	FRONT PANEL
011	RV4-02A03	H/S FRONT PANEL(L)
011	RV4-02A04	H/S FRONT PANEL(R)
012	RV4-09A00	PUSH KNOB 14F
014	RV3-07A00	UPPER COVER
015	RP-343	REAR CHASSIS
019	L4TSH-19#2	PLASTIC FOOT
022	T-1057U02	POWER TRANSFORMER
034	LBR254	POWER DIODE
063	A-0710W-15A	BRAKER
072	L4TR-670#5	AC CORD for STD
072	LC-3763	AC CORD for AUSTRALIA
072	C-4572A01	AC CORD for UK
072	C-4573A01	AC CORD for CEE
081	RV4-17A00	INSIDE CARTON
081	Z-200	STYROL SIDE MOULDING

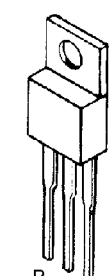
Adjustment

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.

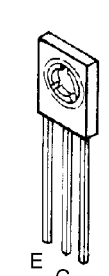
Step	Coupling Location	Adjust Location	Adjust for
1	X-1253-01 PCB TP1	X-1254-01 PCB VR101	DC milli-voltmeter reads 7mV
2	X-1253-02 PCB TP2	X-1254-01 PCB VR201	
3	X-1253-03 PCB TP3	X-1254-01 PCB VR301	



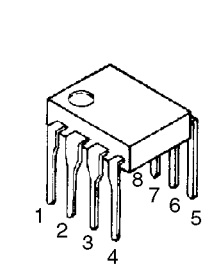
2SA1016K
2SC2362K
2SA1208
2SC2910



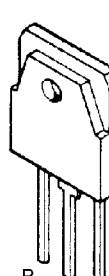
2SA1142
2SC2682



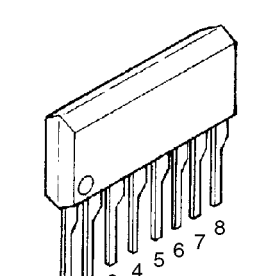
2SB631K
2SD600K
2SD1953



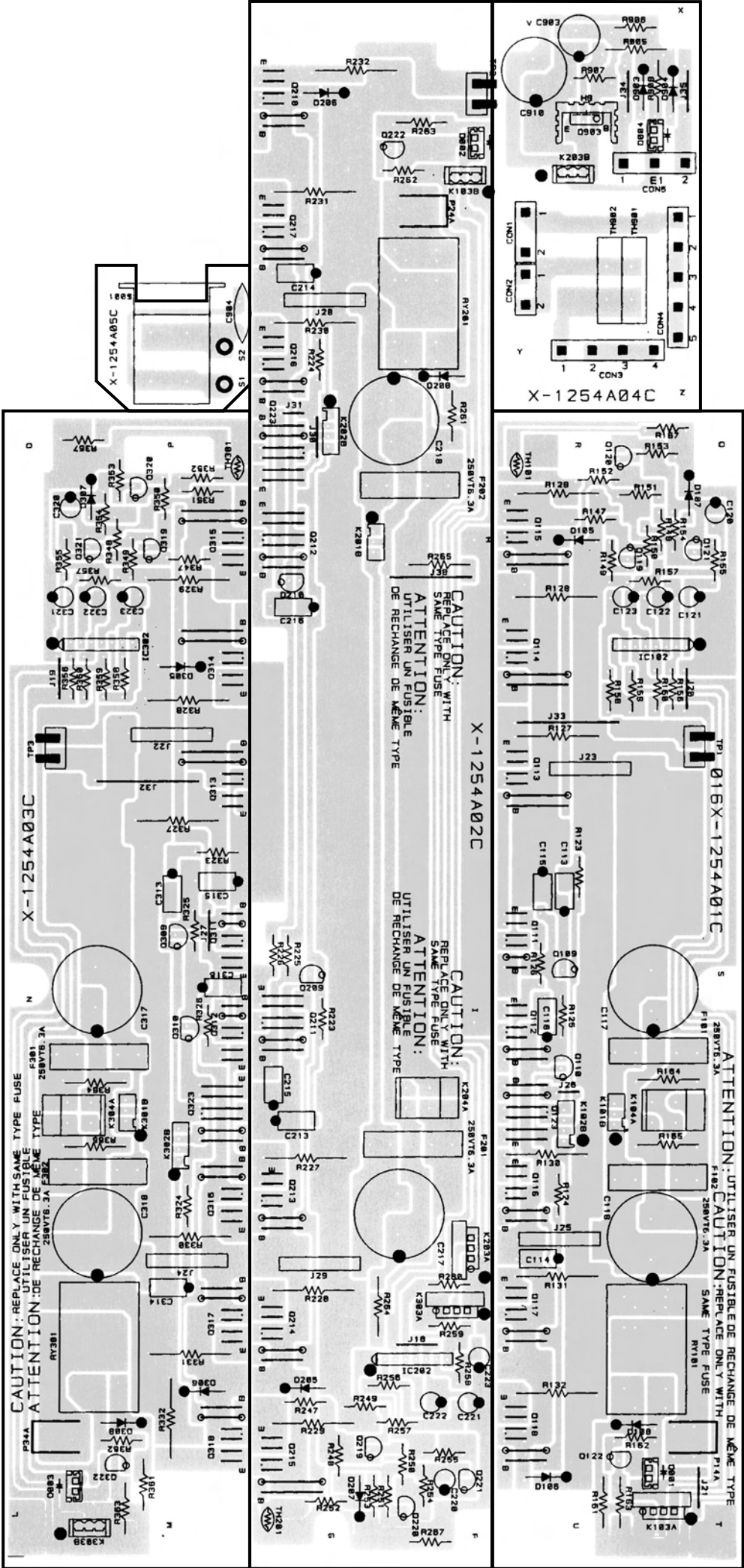
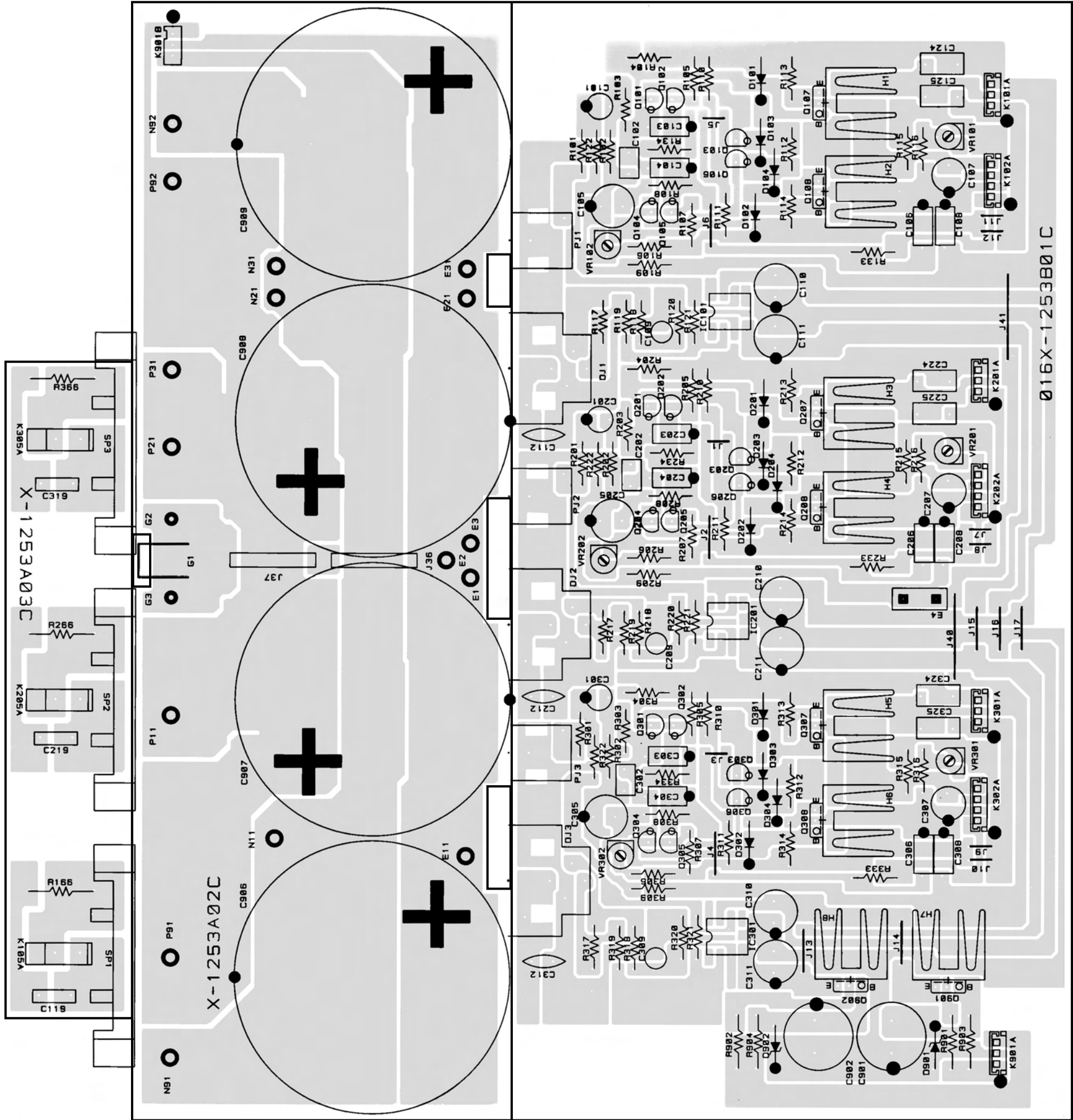
NE5534AN



2SB817
2SD1047
2SA1943
2SC5200



MPC1237HA



Schematic Diagram

