



# Technical Manual

## FIVE-CHANNEL POWER AMPLIFIER **RB-985MK II**

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### Specification

Continuous Power Output	(20-20 kHz < 0.03%, 8 ohms)	100 Watts/ch
Total Harmonic Distortion	(20-20 kHz, 8 ohms)	< 0.03%
Intermodulation Distortion	(60 Hz: 7 kHz, 4:1)	< 0.03%
Frequency Response	( $\pm$ 0.5dB)	10Hz-80kHz
Damping Factor	(20-20K Hz, 8 ohms)	180
Speaker Impedance		4 ohms minimum
Signal to Noise Ratio,	(IHF A network)	115 dB
Input Impedance/Sensitivity		27 k Ohms/1.0 volt
Power Requirement		115 volts 60 Hz or 230 volts 50 Hz
Power Consumption		800 watts
Dimensions (W x H x D)		440 x 139 x 396mm 17 <sup>3</sup> / <sub>8</sub> " x 5 <sup>1</sup> / <sub>2</sub> " x 15 <sup>5</sup> / <sub>8</sub> "
Weight (net)		15.5 kg, 34.1 Lb.

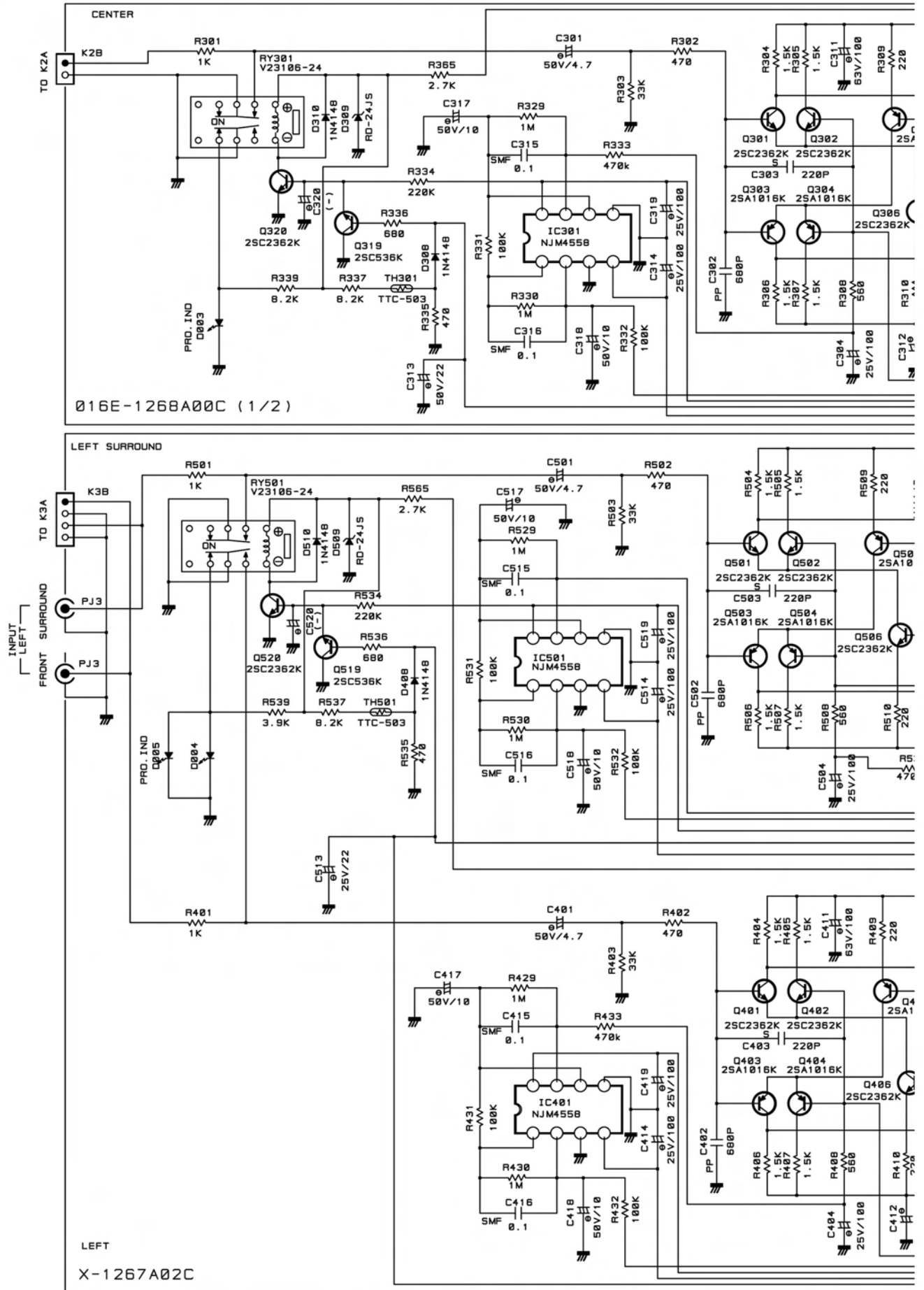
### THE ROTEL CO., LTD

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

Serial. NO.  
Beginning

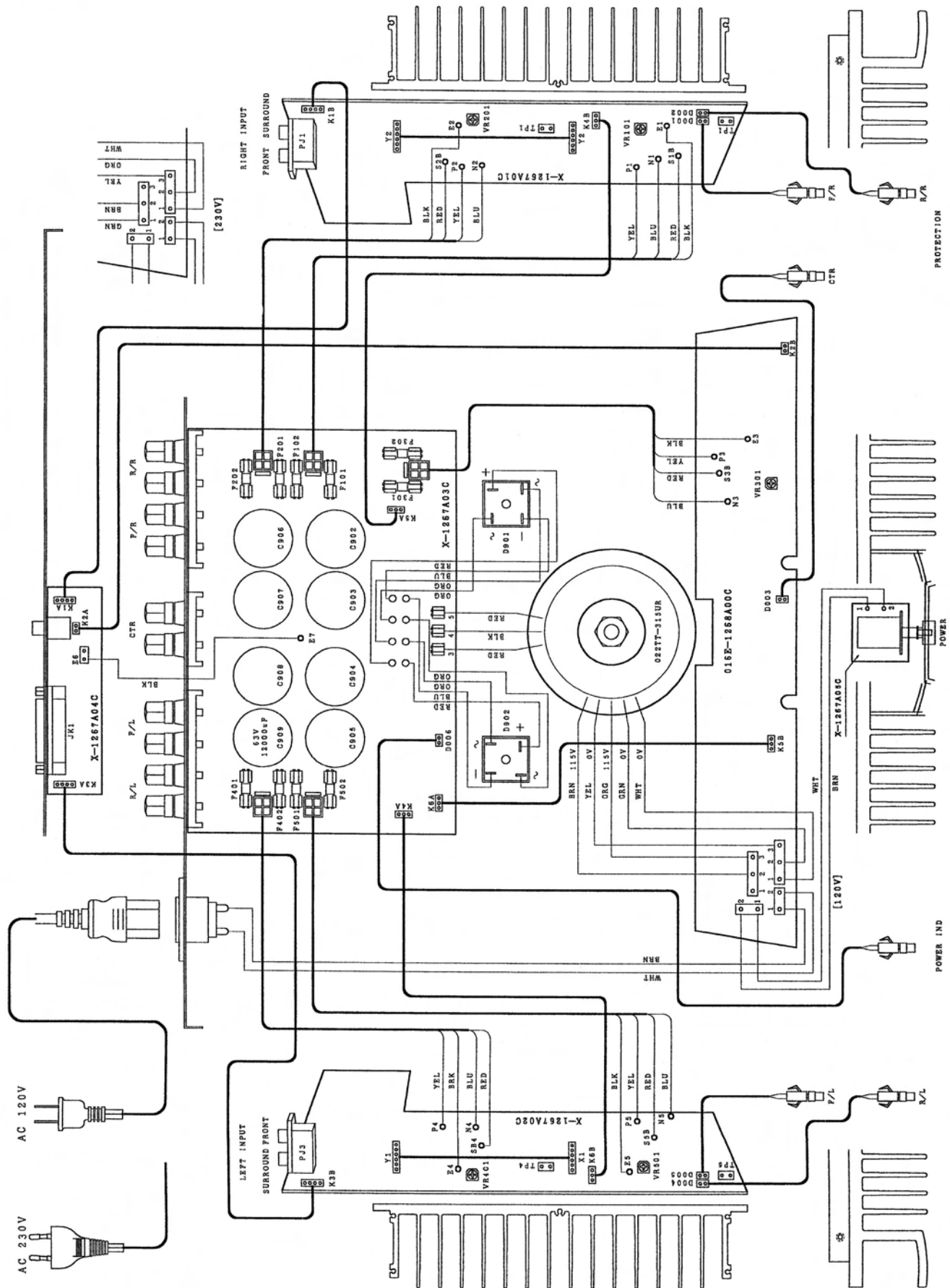
Y-314A-99035C/S-S

# Schematic Diagram

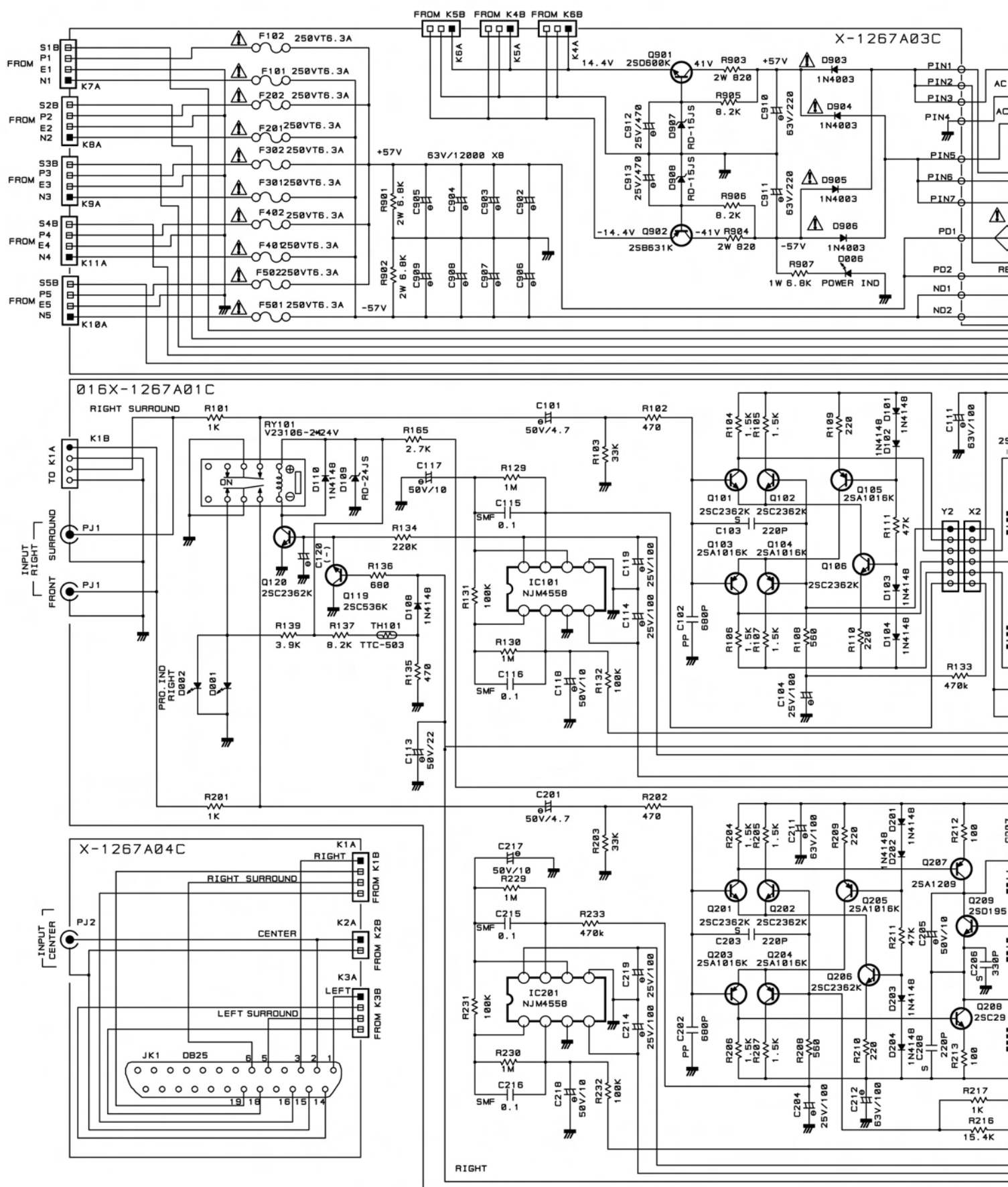




# Wiring Diagram

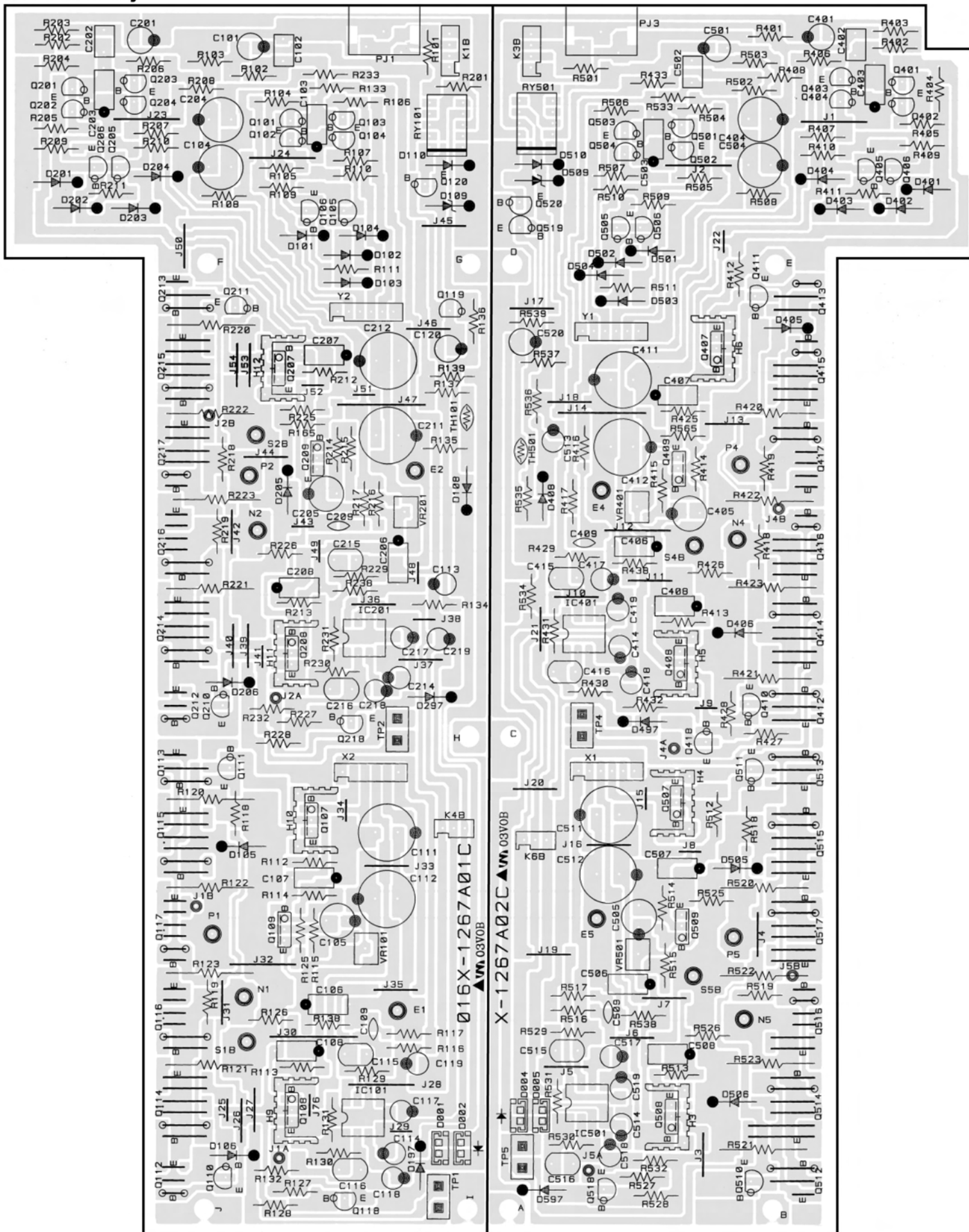


### Schematic Diagram





## PCB Assembly







# Parts List

SYMBOL	PARTS NO.	DESCRIPTION
<b>X-1267-01 PCB ASSEMBLY</b>		
C101	041 50BGF4R7M	CAP,ELEC.50V4.7UF
C102	044 TFKP2-100V681H	CAP,FILM 100V680PF
C103	044 LFSC160V221H	CAP,STYROL 160V220PF
C104	041 25BGF100M	CAP,ELEC.25V100UF
C105	041 50BGF10M	CAP,ELEC.50V10UF
C106	044 LFSC160V331H	CAP,STYROL 160V330PF
C107,108	044 LFSC160V221H	CAP,STYROL 160V220PF
C109	043 LTC50V050	CAP,CERA.50V5PF
C111,112	041 UTES1J101	CAP,ELEC.63V100UF
C113	041 UTSS1H220-FB	CAP,ELEC.50V22UF
C114	041 UTSS1E101-FB	CAP,ELEC.25V100UF
C115,116	044 50MSAN104J	CAP,FILM 50V0.1UF
C117,118	041 UTSS1H100-FB	CAP,ELEC.50V10UF
C119	041 UTSS1E101-FB	CAP,ELEC.25V100UF
C201~	SAME AS C101~	
D101-104	034 LT1N4148-86	DIODE
D105,106	034 LT1N4003-TB	DIODE
D108	034 LT1N4148-86	DIODE
D109	034 TRD24JST1	ZENER DIODE
D110	034 LT1N4148-86	DIODE
D197	034 LT1N4148-86	DIODE
D201~	SAME AS D101~	
H9-12	017 C-4401A02	SUB HEAT SINKER
IC101	031 NJM4558DD	IC
IC201	031 NJM4558DD	IC
PJ1	066 4TR-2166#5	2P PIN JACK
Q101,102	033 LT2SC2362KAA-FG	TRANSISTOR
Q103-105	033 LT2SA1016KAA-FG	TRANSISTOR
Q106	033 LT2SC2362KAA-FG	TRANSISTOR
Q107	033 L2SA1209-ST	TRANSISTOR
Q108	033 L2SC2911-ST	TRANSISTOR
Q110	033 T2SA1376T-LKU	TRANSISTOR
Q111	033 T2SC3478T-LKU	TRANSISTOR
Q118	033 LT2SA1016KAA-FG	TRANSISTOR
Q119	032 LT2SC536KAA-FG	TRANSISTOR
Q120	033 LT2SC2362KAA-FG	TRANSISTOR
Q201~	SAME AS Q101~	
R101	054 LTMK2001KFECZ	R,METAL 1% 1K
R102	054 LTMK2470RFECZ	R,METAL 1% 470R
R103	054 LTMK2033KFECZ	R,METAL 1% 33K
R104-107	054 LTMK201K5FECZ	R,METAL 1% 1.5K
R108	054 LTMK2560RFECZ	R,METAL 1% 560R
R109,110	054 LTMK2220RFECZ	R,METAL 1% 220R
R111	054 LTMK2047KFECZ	R,METAL 1% 47K
R112,113	054 LTMK2100RFECZ	R,METAL 1% 100R
R114	054 LTMK206K8FECZ	R,METAL 1% 6.8K
R115	054 LTMK203K9FECZ	R,METAL 1% 3.9K
R116	054 LTMK215K4FECZ	R,METAL 1% 15.4K
R117,118	054 LTMK2001KFECZ	R,METAL 1% 1K
R119	054 LTMK2047RFECZ	R,METAL 1% 47R

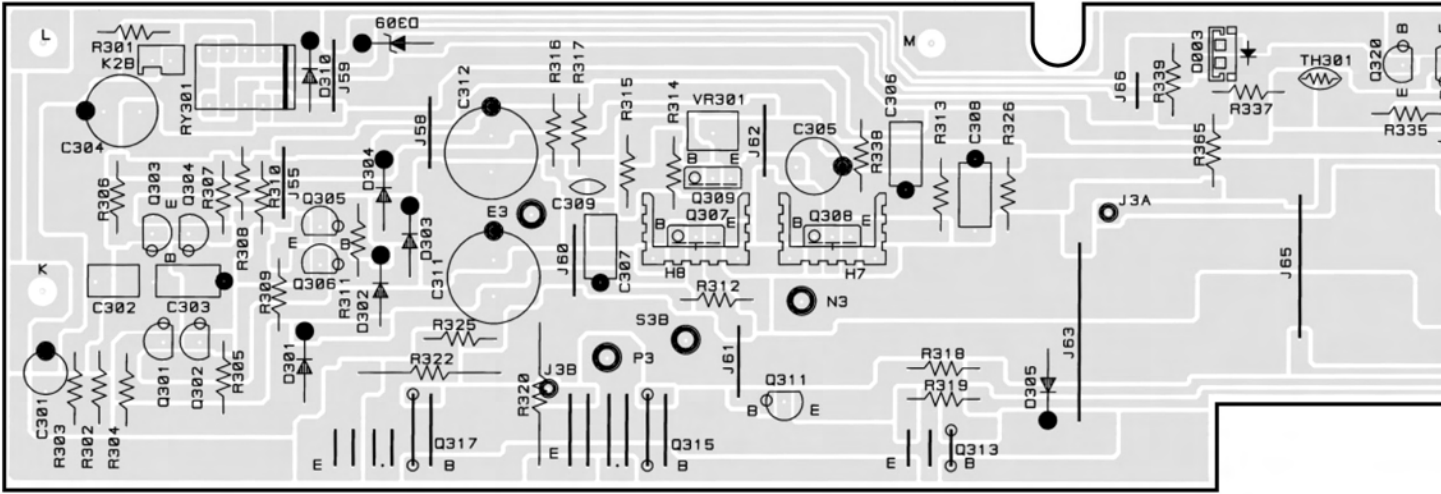
SYMBOL	PARTS NO.	DESCRIPTION
R120-123	054 NIR2-0.22JF	R,METAL 2W 0.22R
R125,126	054 LTMK2033RFECZ	R,METAL 1% 33R
R127	053 CR14-121J-A	R,CARBON 120R
R128	053 CR14-471J-A	R,CARBON 470R
R129,130	054 LTMK2001MFECZ	R,METAL 1% 1M
R131,132	054 LTMK2100KFECZ	R,METAL 1% 100K
R133	054 LTMK2470KFECZ	R,METAL 1% 470K
R134	053 CR14-224J-A	R,CARBON 220K
R135	053 CR14-471J-A	R,CARBON 470R
R136	053 CR14-681J-A	R,CARBON 680R
R137	053CR14-822J-A	R,CARBON 8.2K
R138	054LTMK2033KFECZ	R,METAL 1% 33K
R139	053CR14-392J-A	R,CARBON 3.9K
R165	053CR14-272J-A	R,CARBON 2.7K
R201~	SAME AS R101~	
RY101	063 EG2-24NU	RELAY
TH101	034 TTC-503	THERMISTER
VR101	051 LVM6CKPH1S2.2K	SEMI-FIXED RESISTOR
VR201	051 LVM6CKPH1S2.2K	SEMI-FIXED RESISTOR
<b>X-1267-02 PCB ASSEMBLY</b>		
401~	SAME AS 201~	
501~	SAME AS 101~	
H3-6	017 C-4401A02	SUB HEAT SINKER
PJ3	066 4TR-2166#5	2P PIN JACK
<b>X-1267-03 PCB ASSEMBLY</b>		
C110	044 MKT18-100V104K	CAP,FILM 100V 0.1UF
C210	044 MKT18-100V104K	CAP,FILM 100V 0.1UF
C310	044 MKT18-100V104K	CAP,FILM 100V 0.1UF
C410	044 MKT18-100V104K	CAP,FILM 100V 0.1UF
C510	044 MKT18-100V104K	CAP,FILM 100V 0.1UF
C902-909	041 63USP12000MD50	CAP,ELEC.63V12000UF
C910,911	041 UTES1J221	CAP,ELEC.63V220UF
C912,913	041 UTSS1E471	CAP,ELEC.25V470UF
D903-906	034 LT1N4003-TB	DIODE
D907,908	034 TRD15JST1	ZENER DIODE
F101,102	036 5ST6.3	MINI FUSE 250VT6.3A
F201,202	036 5ST6.3	MINI FUSE 250VT6.3A
F301,302	036 5ST6.3	MINI FUSE 250VT6.3A
F401,402	036 5ST6.3	MINI FUSE 250VT6.3A
F501,502	036 5ST6.3	MINI FUSE 250VT6.3A
H1,2	017 C-4401A01	SUB HEAT SINKER
L101	021 TRL-331	SPEAKER COIL
L201	021 TRL-331	SPEAKER COIL
L301	021 TRL-331	SPEAKER COIL
L401	021 TRL-331	SPEAKER COIL
L501	021 TRL-331	SPEAKER COIL
Q901	033 L2SD600K-EF	TRANSISTOR
Q902	033 L2SB631K-EF	TRANSISTOR
R124	054 2WS10JF	R,METAL 2W 10R

## Parts List

SYMBOL	PARTS NO.	DESCRIPTION
<b>E-1268 PCB ASSEMBLY</b>		
R224	054	2WS10JF R,METAL 2W 10R
R324	054	2WS10JF R,METAL 2W 10R
R424	054	2WS10JF R,METAL 2W 10R
R524	054	2WS10JF R,METAL 2W 10R
R901,902	054	2WS6.8KJF R,METAL 2W 6.8K
R903,904	054	2WS820JF R,METAL 2W 820R
R905,906	053	CR14-822J-A R,CARBON 8.2K
R907	054	1WS1.8KJF R,METAL 1W 1.8K
SP1	067	C-4493A00 4P SPEAKER TERMINAL
SP2	067	4TR-3222#1 2P SPEAKER TERMINAL
SP3	067	C-4493A01 4P SPEAKER TERMINAL
	069	C-3417A FUSE CLIP
<b>X-1267-04 PCB ASSEMBLY</b>		
JK1	068	DBL25SBTK2NS DB25 CONNECTOR
PJ1	066	L4TR-2487#4 1P PN JACK
<b>X-1267-05 PCB ASSEMBLY</b>		
C901	044	DE1307E472M SPARK KILLER
SW1	061	C-4176A07 POWER SWITCH
<b>E-1268 PCB ASSEMBLY</b>		
301~	SAME AS 101~ (EXCEPT R339)	
H7,8	017	C-4401A02 SUB HEAT SINKER
R339	053	CR14-822J-A R,CARBON 8.2K
TH901,902	034	LSCK2R512 SURGE CURRENT THERMISTOR
<b>HEAT SINKER ASSEMBLY</b>		
Q109	032	L2SD1953 TRANSISTOR
Q112	033	2SA1667-OY DRIVER TRANSISTOR
Q113	033	2SC4381-OY DRIVER TRANSISTOR
Q114	033	2SA1492-OPY POWER TRANSISTOR
Q115	033	2SC3856-OPY POWER TRANSISTOR

SYMBOL	PARTS NO.	DESCRIPTION
Q116	033	2SA1492-OPY POWER TRANSISTOR
Q117	033	2SC3856-OPY POWER TRANSISTOR
Q209~	SAME AS Q109~	
Q309~	SAME AS Q109~	
Q409~	SAME AS Q109~	
Q509~	SAME AS Q109~	
	017	SF4-02A00 HEAT SINKER BOARD
	019	TO-126 INSULATION SHEET(S)
	019	TO-3P INSULATION SHEET(L)
<b>OTHERS</b>		
011	FP-498A	FRONT PANEL
011	RV4-02A03	HEAT SINK PANEL(L CH)
011	RV4-02A04	HEAT SINK PANEL(R CH)
012	RV4-09A00	PUSH KNOB
013	RV4-05A00	PANEL HOLDER
014	RV3-07A01	UPPER COVER
019	L4TSH-19#2	PLASTIC FOOT
022	TT-315-UR02	POWER TRANSFORMER
069	C-4629A01	AC INLET
072	C-4621A01	AC CORD for STD
072	C-4622A01	AC CORD for AUSTRALIA
072	C-4623A01	AC CORD for UK
072	C-4624A01	AC CORD for CEE
081	SF4-05A00	INSIDE CARTON
081	Z-200	STYROL MOULDING

## PCB Assembly

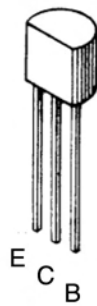
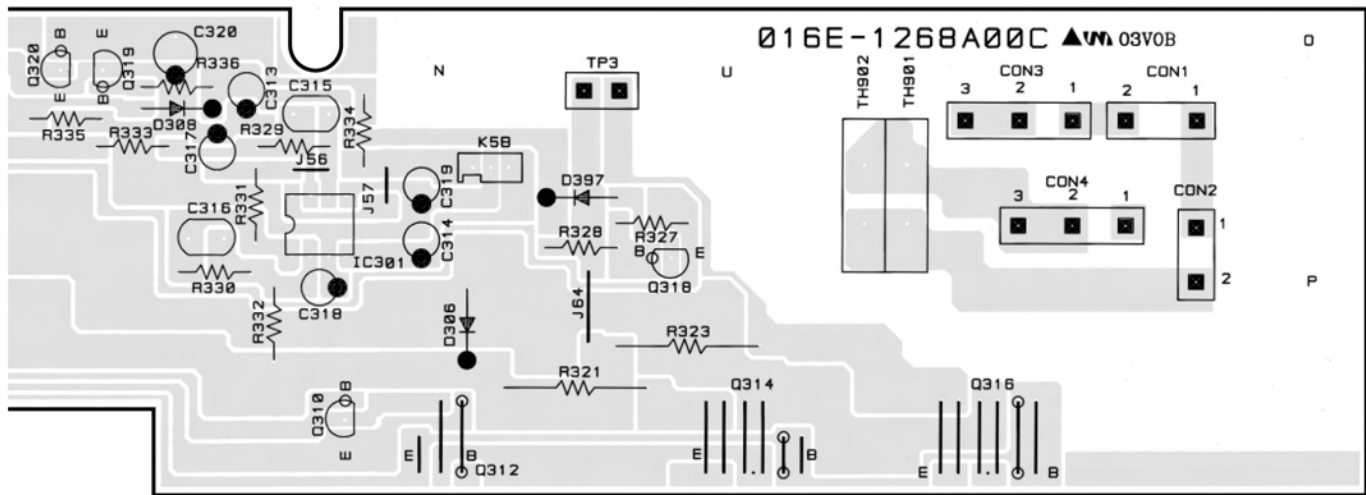


## Adjustment

Instruments : DC milli-voltmeter

Notes : Prior to Bias Adjustment, run about 6minutes with rated output(8ohms) and warm up Power Transistor and Heat Sink. Set input off.

Step	Coupling	Location	Adjust	Adjust for
<b>1</b>	TP 1	X-1267-01 PCB	VR101	DC milli-voltmeter reads 5mV
<b>2</b>	TP 2	X-1267-01 PCB	VR201	
<b>3</b>	TP 3	E-1268 PCB	VR301	
<b>4</b>	TP 4	X-1267-02 PCB	VR401	
<b>5</b>	TP 5	X-1267-02 PCB	VR501	



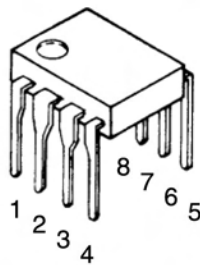
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2SA1016K  
2SC2362K  
2SA1376  
2SC3478



2SA1667  
2SC4381



2SD1953  
2SA1209  
2SC2911  
2SB631K  
2SD600K



NJM4558DD



2SA1492  
2SC3856