



Technical Manual

STEREO INTEGRATED AMPLIFIER RA-1062

Table of Contents

- Specification..... 1
- Parts List 2~7
- Adjustment..... 8
- Case Outlines 9 ~ 10
- PCB Assembly 11
- Schematic Diagram 12~13

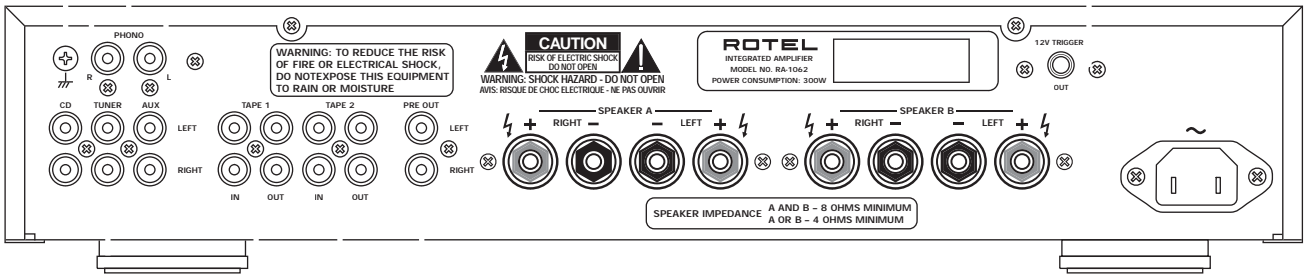
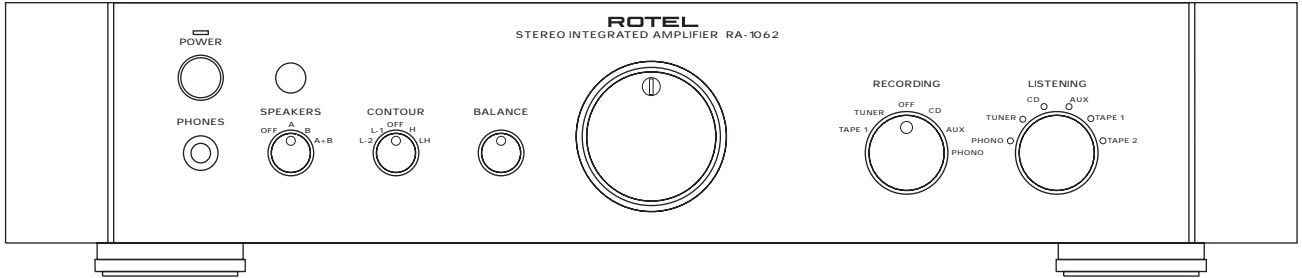
Specification

Continuous Power Output	60 watts/channel (20 - 20 kHz, < 0.03%, 8 ohms)
Total Harmonic Distortion (20 Hz - 20 kHz)	< 0.03% at rated power, 1/2 power, or 1 watt
Intermodulation Distortion(60 Hz : 7 kHz, 4:1)	< 0.03% at rated power, 1/2 power or 1 watt
Frequency Response	
Phono Input	20 Hz - 15 kHz, +/- 0.2 dB
Line Level Inputs	10 Hz - 100 kHz, +1, -3dB
Damping Factor (20 - 20,000 Hz. 8 ohms)	150
Line Input Sensitivity / impedance	160 mV / 24 kOhms
Phono (MM) Input Sensitivity / impedance	2.4 mV / 47 kOhms
Line Input Overload	5 v
Phono Input Overload	170 mV
Preamplifier Output / Impedance	1 V / 470 ohms
Signal to Noise Ratio (IHF " A" weighted)	>95 dB
Power Requirements	USA: 115 Volts, 60 Hz EC: 230 Volts, 50 Hz
Power Consumption	300 Watts
Dimensions (W x H x D)	430 x 92 x 355 mm 17x55/8 x 14 inches
Front Panel Height	80 mm / 3 3/16 inches
Weight (net)	7.8 kg, 17.2 lbs.

THE ROTEL CO., LTD

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

Serial. NO. Beginning



SYMBOL	PARTS NO.	DESCRIPTION
016 E-1355A00 PCB ASSY (HEAD PHONE)		
	501 E-1355-A	PCB ASSY
HJ1	065 H1038SN20S	HEAD PHONE JACK (YKB26-5261)
JP0	068 B3B-EH	CONNECTOR WAFER 3P
RA-1062 016E-1379A00 PCB ASSY (PHONO)		
	501 E-1379	PCB ASSY
IC451	031 NE5532AN	IC (OPE DUAL)
C463,464	041 TVX1E101	ELECTROLYTIC CAPACITOR 25V100uF
C453,454	041 U25V10LN	ELECTROLYTIC CAPACITOR LOW NOISE 25V10uF
C461,462	041 U50V10RC2	ELECTROLYTIC CAPACITOR 50V10uF
C465	043 TC50V473	CERAMIC CAPACITOR 50V0.047uF
C451,452	044 FSC160V151H	STYROL CAPACITOR 160V150pF
C455,456	044 S50V1000PG	STYROL CAPACITOR 50V1000pF
C457,458	044 S50V200PG	STYROL CAPACITOR 50V200pF
C459,460	044 S50V4300PG	STYROL CAPACITOR 50V4300pF
R451,452,465,466	054 TMFR4001K	RESISTOR 1/4W 1K
R455,456	054 TMFR401K2	RESISTOR 1/4W 1.2K
R453,454	054 TMFR4047K	RESISTOR 1/4W 47K
R457,458	054 TMFR404K7	RESISTOR 1/4W 4.7K
R459,460	054 TMFR4056K	RESISTOR 1/4W 56K
R467,468	054 TMFR4100K	RESISTOR 1/4W 100K
R463,464	054 TMFR4680R	RESISTOR 1/4W 680
R461,462	054 TMFR4910K	RESISTOR 1/4W 910K
PJ7	066 4TR-2487#7	1P PIN JACK AU (RED)
PJ6	066 4TR-2487#8	1P PIN JACK AU (WHT)
K5B,K6B	068 B3B-EH	CONNECTOR POST
016 X-1294D01-14 PCB ASSY (MAIN)		
	501 X-1294-A	PCB ASSY
X701	023 CSA4.19MHZ	CERAMIC RESONATOR CSA4.19MG
IC703	031 LB1641	IC (MOTOR DRIVE)
IC901	031 NJM7805FA	IC (REGULATOR +5VDC)
IC502,503	031 OPA2134PA	IC (OPE DUAL)
IC501	031 OPA2604AP	IC (OPE DUAL)
IC704	031 SBX3010-52B	IC (REMOTE EYE)
IC702	031 TC74HC595AP	IC (8BIT SHIFT REGISTER/LATCH)
IC701	031 TMP47C400BN-1	IC (CPU) TMP47C400BN-1A57
Q401-406	032 TA1345	TRANSISTOR 2SA1345AC
Q407-412	032 TC3399	TRANSISTOR 2SC3399AC
Q907,908	032 TC3708-ST	TRANSISTOR 2SC3708AA-ST
Q639,905,909	032 TC536-FG	TRANSISTOR 2SC536KAA-FG
Q904	032 TD863-EF	TRANSISTOR 2SD863AE-EF
Q625,626	033 A1507-RS	TRANSISTOR 2SA1507-RS
Q902	033 B631-EF	TRANSISTOR 2SB631K-EF
Q623,624	033 C3902-RS	TRANSISTOR 2SC3902-RS
Q901,903	033 D600-EF	TRANSISTOR 2SD600K-EF
Q605-610,906	033 TA1016-FG	TRANSISTOR 2SA1016KAA-FG
Q613,614	033 TA1208-RST	TRANSISTOR 2SA1208AE-RST
Q621,622	033 TA1376A-LKU	TRANSISTOR 2SA1376AT-LKU
Q601-604,611,612	033 TC2362-FG	TRANSISTOR 2SC2362KAA-FG
Q615,616	033 TC2910-RST	TRANSISTOR 2SC2910AE-RST
Q619,620	033 TC3478A-LKU	TRANSISTOR 2SC3478AT-LKU
D901	034 BR84	POWER DIODE 8A 400V
(D701-706)	034 SEL2410E	LED 3F (GRN)
(D701-706)	034 SEL2E10C	LED 3F (BLU)
D609-612,902,903	034 T1N4003-TB	DIODE 1N4003-E
D401-406,601-608,615-617	034 T1N4148-86	DIODE 1N4148TAP-50
D707-712,714-719,722,724	034 T1N4148-86	DIODE 1N4148TAP-50

SYMBOL	PARTS NO.	DESCRIPTION
D726-730,905,906	034 T1N4148-86	DIODE 1N4148TAP-50
D909	034 TRD12JST1	ZENER DIODE 12V (AB2)
D907,908	034 TRD16JST1	ZENER DIODE 16V (AB2)
D723	034 TRD5.6JST1	ZENER DIODE 5.6V (AB2)
TH901	034 TTC-503	THERMISTOR 50K
F601-604	036 5ST6.3	FUSE 250VT6.3A
C611,612	041 35ZA10MTZ	ELECTROLYTIC CAPACITOR 35V10uF
C601,602	041 35ZA4R7MTZ	ELECTROLYTIC CAPACITOR 35V4.7uF
C607,608	041 50ZL100M	ELECTROLYTIC CAPACITOR 50V100uF
C905,906	041 ALN20S1073DD	ELECTROLYTIC CAPACITOR 50V10000uF
C505,506,907,908	041 TEEUFC1E101SB	ELECTROLYTIC CAPACITOR 25V100uF
C507-510,523,524	041 TEEUFC1E221B	ELECTROLYTIC CAPACITOR 25V220uF
C909,910	041 TEEUFC1E471B	ELECTROLYTIC CAPACITOR 25V470uF
C501,502,536,537	041 TEEUFC1H100LB	ELECTROLYTIC CAPACITOR 50V10uF
C705	041 TUTES0J222-TS	ELECTROLYTIC CAPACITOR 6.3V2200pF
C920	041 TUTES1A101-TF	ELECTROLYTIC CAPACITOR 10V100uF
C921,922	041 TUTES1E101-TF	ELECTROLYTIC CAPACITOR 25V100uF
C706,710	041 TUTES1E470-TF	ELECTROLYTIC CAPACITOR 25V47uF
C912	041 TUTES1H100-TF	ELECTROLYTIC CAPACITOR 50V10uF
C711	041 TUTES1H2R2-TF	ELECTROLYTIC CAPACITOR 50V2.2uF
C703	041 TUTES1H4R7-TF	ELECTROLYTIC CAPACITOR 50V4.7uF
C401	041 TUTES1J220-TF	ELECTROLYTIC CAPACITOR 63V22uF
C916,917	041 TUTES1J471-TS	ELECTROLYTIC CAPACITOR 63V470uF
C918,919	041 TUTES1V101-TF	ELECTROLYTIC CAPACITOR 35V100uF
C901-904,914,915	043 TC500V103	CERAMIC CAPACITOR 500V0.01uF
C707-709	043 TC50V103	CERAMIC CAPACITOR 0.01uF
C701,702	043 TC50VCH330	CERAMIC CAPACITOR 39pF
C521,522,525-529	044 50MSAN104J	STACKED FILM CAPACITOR 0.1uF
C513,514	044 50MSAN154J	STACKED FILM CAPACITOR 0.15uF
C511,512,517,518	044 50MSAN824J	STACKED FILM CAPACITOR 0.82uF
C911	044 DE1307E472M	SPARK KILLER 4700pF
C617,618,704	044 KT18-2A104K	M.P CAP MKT1818-410/015
C603,604,609,610	044 PP630V330PF	POLYSTYLENE CAPACITOR 630V 330pF
C605,606,613-616	044 PP630V470PF	POLYSTYLENE CAPACITOR 630V 470pF
C503,504	044 PP630V47PF	POLYSTYLENE CAPACITOR 630V 47pF
C519,520	044 S50V1000PG	STYROL CAPACITOR 1000pF
C530-533	044 S50V22PJ	STYROL CAPACITOR 22pF
C534,535	044 S50V47PJ	STYROL CAPACITOR 47pF
C515,516	044 S50V560PJ	STYROL CAPACITOR 560pF
VR502	051 4TR-2776	BALANCE VOLUME 100KMN
VR501	051 C-4170A32	MASTER VOLUME 50KAX2 WITH MOTOR
VR601-602	051 SFR001-222	S.F.RES VM6CKPH1S-2.2K
R707	053 CR14-102J-A	CARBON RESISTOR 1/4W 1K
R906,918	053 CR14-103J-A	CARBON RESISTOR 1/4W 10K
R680,703,704,713,714,911,921	053 CR14-104J-A	CARBON RESISTOR 1/4W 100K
R705	053 CR14-124J-A	CARBON RESISTOR 1/4W 120K
R920	053 CR14-154J-A	CARBON RESISTOR 1/4W 150K
R910,915,916	053 CR14-223J-A	CARBON RESISTOR 1/4W 22K
R405,678,917	053 CR14-332J-A	CARBON RESISTOR 1/4W 3.3K
R909	053 CR14-333J-A	CARBON RESISTOR 1/4W 33K
R701,702,715,905	053 CR14-472J-A	CARBON RESISTOR 1/4W 4.7K
R706,913	053 CR14-473J-A	CARBON RESISTOR 1/4W 47K
R919	053 CR14-562J-A	CARBON RESISTOR 1/4W 5.6K
R914	053 CR14-683J-A	CARBON RESISTOR 1/4W 68K
R709	053 CR16-100J-A	CARBON RESISTOR 1/6W 10R
R708	053 CR16-101J-A	CARBON RESISTOR 1/6W 100R
R710	053 CR16-102J-A	CARBON RESISTOR 1/6W 1K
R711,712,716	053 CR16-104J-A	CARBON RESISTOR 1/6W 100K

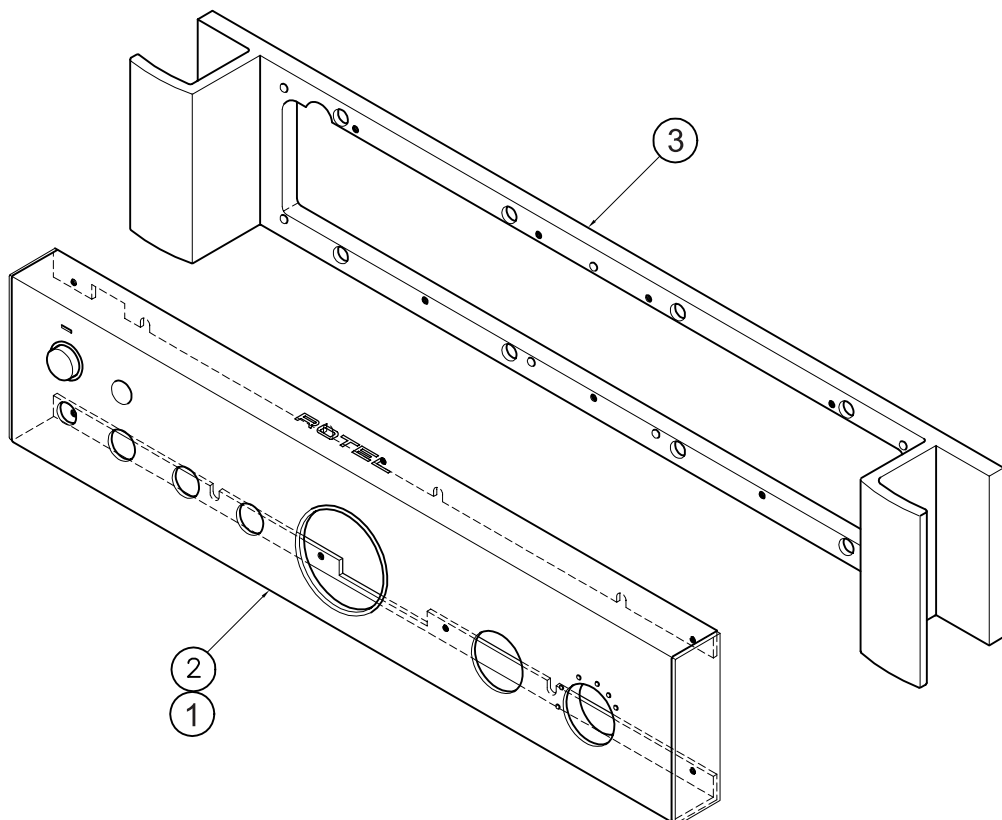
SYMBOL	PARTS NO.	DESCRIPTION
R667,668,904	054 1WS1.5KJF	MOF RESISTOR 1WS 1.5K
(R912)	054 1WS10KJF	MOF RESISTOR 1WS 10K
(R912)	054 1WS15KJF	MOF RESISTOR 1WS 15K
R908	054 1WS68JF	MOF RESISTOR 1WS 68R
R907	054 1WS820JF	MOF RESISTOR 1WS 820R
R645,646	054 2WS10JF	MOF RESISTOR 2WS 10R
R522	054 MF16-1001-A	METAL FILM RESISTOR 1/6W 1K
R525,526,529-538	054 MF16-1002-A	METAL FILM RESISTOR 1/6W 10K
R548,549	054 MF16-1003-A	METAL FILM RESISTOR 1/6W 100K
R517-520,523,524,527,528	054 MF16-2202-A	METAL FILM RESISTOR 1/6W 22K
R539,540	054 MF16-4702-A	METAL FILM RESISTOR 1/6W 47K
R541,542	054 MF16-5602-A	METAL FILM RESISTOR 1/6W 56K
R637-644	054 NIR2-0.22JF	RESISTOR 2W 0.22R
R521	054 TMF1001	METAL FILM RESISTOR 1/4W 1K
R401-404,631,632,627,628	054 TMFR4001K	STANDARD METAL RESISTOR 1/4W 1K
R547	054 TMFR4010R	STANDARD METAL RESISTOR 1/4W 10
R635,636	054 TMFR4012K	STANDARD METAL RESISTOR 1/4W 12K
R605-612	054 TMFR401K5	STANDARD METAL RESISTOR 1/4W 1.5K
R515,516	054 TMFR4027K	STANDARD METAL RESISTOR 1/4W 27K
R629,630	054 TMFR4033K	STANDARD METAL RESISTOR 1/4W 33K
R901,902	054 TMFR403K3	STANDARD METAL RESISTOR 1/4W 3.3K
R507,508	054 TMFR403K9	STANDARD METAL RESISTOR 1/4W 3.9K
R603,604,619,620	054 TMFR4047K	STANDARD METAL RESISTOR 1/4W 47K
R633,634	054 TMFR4047R	STANDARD METAL RESISTOR 1/4W 47
R513,514,543,544	054 TMFR405K6	STANDARD METAL RESISTOR 1/4W 5.6K
R511,512	054 TMFR409K1	STANDARD METAL RESISTOR 1/4W 9.1K
R509,510	054 TMFR4100K	STANDARD METAL RESISTOR 1/4W 100K
R621-624	054 TMFR4100R	STANDARD METAL RESISTOR 1/4W 100
R613-616,653-656	054 TMFR4220R	STANDARD METAL RESISTOR 1/4W 220
R651,652	054 TMFR4330R	STANDARD METAL RESISTOR 1/4W 330
R617,618	054 TMFR4560R	STANDARD METAL RESISTOR 1/4W 560
R505,506,647-650	054 TMFR4680R	STANDARD METAL RESISTOR 1/4W 680
R545,546	054 TRC55Z1000F	METAL RESISTOR 100R
R503,504	054 TRC55Z1003F	METAL RESISTOR 100K
R501,502	054 TRC55Z1500F	METAL RESISTOR 150R
R601,602	054 TRC55Z5600F	METAL RESISTOR 560R
R625,626	054 TRC55Z6801F	METAL RESISTOR 6.8K
S901	061 C-4176A08	POWER SWITCH PS3-22SPA-P7AZ TV-8
S601	062 4TR-3089	ROTARY SWITCH SRRZS44N01 (SPEAKERS)
S701	062 C-4174A13	ROTARY SWITCH SRRM1C7900 (LISTEWING)
S401	062 C-4174A17	ROTARY SWITCH SRRZS46N21 (RECORDING)
S501	062 C-4174A20	ROTARY SWITCH SRRZS45N22 (CONTOUR)
RY401-406,RY603	063 A24W-K	RELAY A24W-K (FUNCTION)
RY601,602	063 DH2TU-24	RELAY DH24D2-OT(M) (SPEAKER)
RY902	063 DH2U-24	RELAY DH24D2-O(M) (POWER)
HJ2	065 YKB21-5103A	3.5Φ MINI JACK
PJ5	066 4TR-2166#4	2P PIN JACK AU (W/R)
PJ3,PJ4	066 4TR-2408#3	4P PIN JACK AU (W/R)
PJ1/2	066 4TR-3184	6P PIN JACK AU (W/R)
SP1,SP2	067 C-4761A01	4P SPERKER TERMINAL
CON1	068 C-4422A01	WRAPPING PIN TERMINAL 2P P=10
HEAT SINKER ASSEMBLY		
	017 SZ4-07A00	HEAT SINKER BOARD
	019 TO-3P	MICA SHEET TBM-51W-15 #9043
Q617,618	032 D600-EF	TRANSISTOR 2SD600K-EF
Q627-630	033 D1047-DE	TRANSISTOR 2SD1047P-DE
Q631-634	033 B817-DE	TRANSISTOR 2SB817P-DE

SYMBOL	PARTS NO.	DESCRIPTION
	OTHER	
	011 FP-564-B	BLACK PANEL ASSY
	011 FP-564-S	SILVER PANEL ASSY
	012 C-4710A01	KNOB 25Φ (BLK)
	012 C-4710A02	KNOB 25Φ NO MARK (BLK)
	012 C-4711A01	KNOB 43Φ W/LED (BLK)
	012 C-4711A01S	KNOB 43Φ W/LED (SLV)
	012 C-4712A01	KNOB 13Φ (BLK)
	012 C-4712A01S	KNOB 13Φ (SLV)
	012 C-4771A01	KNOB 25Φ (SLV)
	012 C-4771A02	KNOB 25Φ NO MARK (SLV)
	012 RV4-09A00	PUSH BUTTON 14Φ (BLK)
	012 RV4-09A01	PUSH BUTTON 14Φ (SLV)
	014 C-4713A01	UPPER COVER
	014 C-4715A00	SIDE CAP H=80MM (BLK)
	015 RP-419	REAR CHASSIS
	019 4TSH-19#2	PLASTIC FOOT 50F (BLK)
	019 PR4-12B00	KNOB RING (RED) 46Φ
	019 PR4-12B01	KNOB RING (BLU) 46Φ
	022 TT-311-UR	POWER TRANSFORMER
	069 C-4629A01	AC 2P INLET 6102.3100 (WIRING)
	072 C-4621A01	AC CORD SET AWG16/2C for U.S.A
	072 C-4622A01	AC CORD SET for AUSTRALIA
	072 C-4623A01	AC CORD SET for U.K
	072 C-4624A01	AC CORD SET for EUROPE
	081 TF4-06C01	INSIDE CARTON
	081 TF4-07C01	SHIPPING CARTON
	081 Z-204	STYROL MOULDING
	082 OMRA-1062	OWNER'S MANUAL
	092 RR-AT92S	REMOTE UNIT

Addendum List for Black and Silver

RA1062

SYMBOL	PARTS	DESCRIPTION
①	506RA-1062-BK	BLACK PANEL ASSY
②	506RA-1062-SV	SILVER PANEL ASSY
③	011 TF3-01A00	H/S PANEL H80
	012C-4710A01	KNOB 25F(BLK)
	012C-4710A02	KNOB 25F NO MARK (BLK)
	012C-4711A01	KNOB 43F W/LED (BLK)
	012C-4711A01S	KNOB 43F W/LED (SLV)
	012C-4712A01	KNOB 13F(BLK)
	012C-4712A01S	KNOB 13F(SLV)
	012C-4771A01	KNOB 25F(SLV)
	012C-4771A02	KNOB 25F NO MARK (SLV)
	012RV4-09A00	PUSH BUTTON 14F (BLK)
	012RV4-09A01	PUSH BUTTON 14F (SLV)
	019C-4714A00	POWER KNOB RING 14F (BLK)
	019C-4714A01	POWER KNOB RING 14F (SLV)
	019PR4-12B00	KNOB RING(RED) 46F
	019PR4-12B01	KNOB RING(BLU) 46F
	034SEL1124R	LED (RED) 1X5
	034SEL1E24W	LED (BLU) 1X5
	034SEL2410E	LED (GRN) 3F
	034SEL2E10C	LED (BLU) 3F



Adjustment


Instruments : DC milli-meter

Notes : Prior to Bias Adjustment, run about 5minutes with rated output (8 ohms)
And warm up Power Transistor and Heat Sink.Set input off.

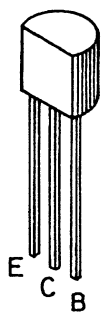
Step	Coupling	Adjust	Adjust for
1	X-1294-01 PCB R639	X-1294-03 PCB VR601	DC milli-voltmeter Reads 5mV
2	X-1294-01 PCB R640	X-1294-02 PCB VR602	

Service Note

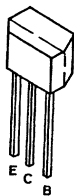
Cautions during Inspection and Repair

1. Keep in mind the safety warnings
The safety instructions are shown as the labels or printings on the exterior, the inside chassis or the parts, etc. Refer to the instructions when proceeding with inspection or repair.
2. Use only the specified parts for replacement
The selected parts are used at critical area to reduce fire hazard or electrical shock. So when replacing these parts where designaged with  **marks or ✖ marks on the schematic diagram or the parts list**, ensure to use only the same parts.
3. Ensure to dress back the AC (Mains) cord to the original position
If for some reason, the AC cord is moved or partially disassembled, ensure to re-route or assemble back to the original position. The AC cord area is protected and secured by tubing and insulation materials for the sake of safety, so that no loose wire will touch and cause fire hazard and electrical shock.
4. Check for safety aspects after inspection or repair
Ensure all parts, such as screws or wires, removed during inspection or repair are secured back to the original positions, and check visually for any anomaly. Also check for any electrical leakage or resistance to maintain the safety.

Case Outline



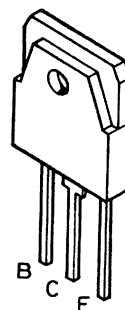
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2SA1376K
2SA1208
2SC536K
2SC2362K
2SC3478A
2SC3708
2SC2910
2SD863



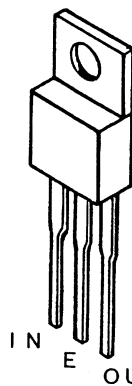
2SA1345
2SC3399



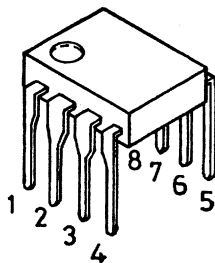
2SB631K
2SA1507
2SD600K
2SC3902



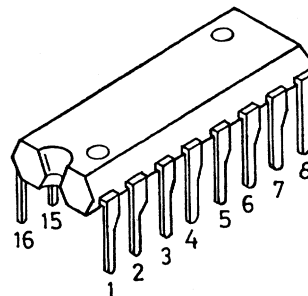
2SB817
2SD1047



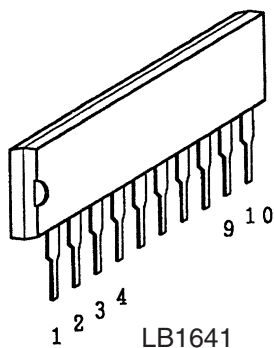
NJM78XXFA



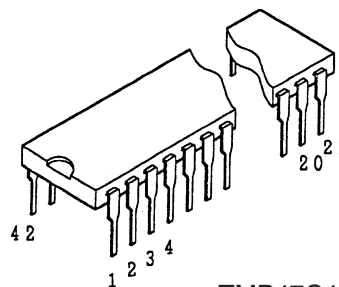
NJM2114D
OPA2604AP



TC74HC595AP



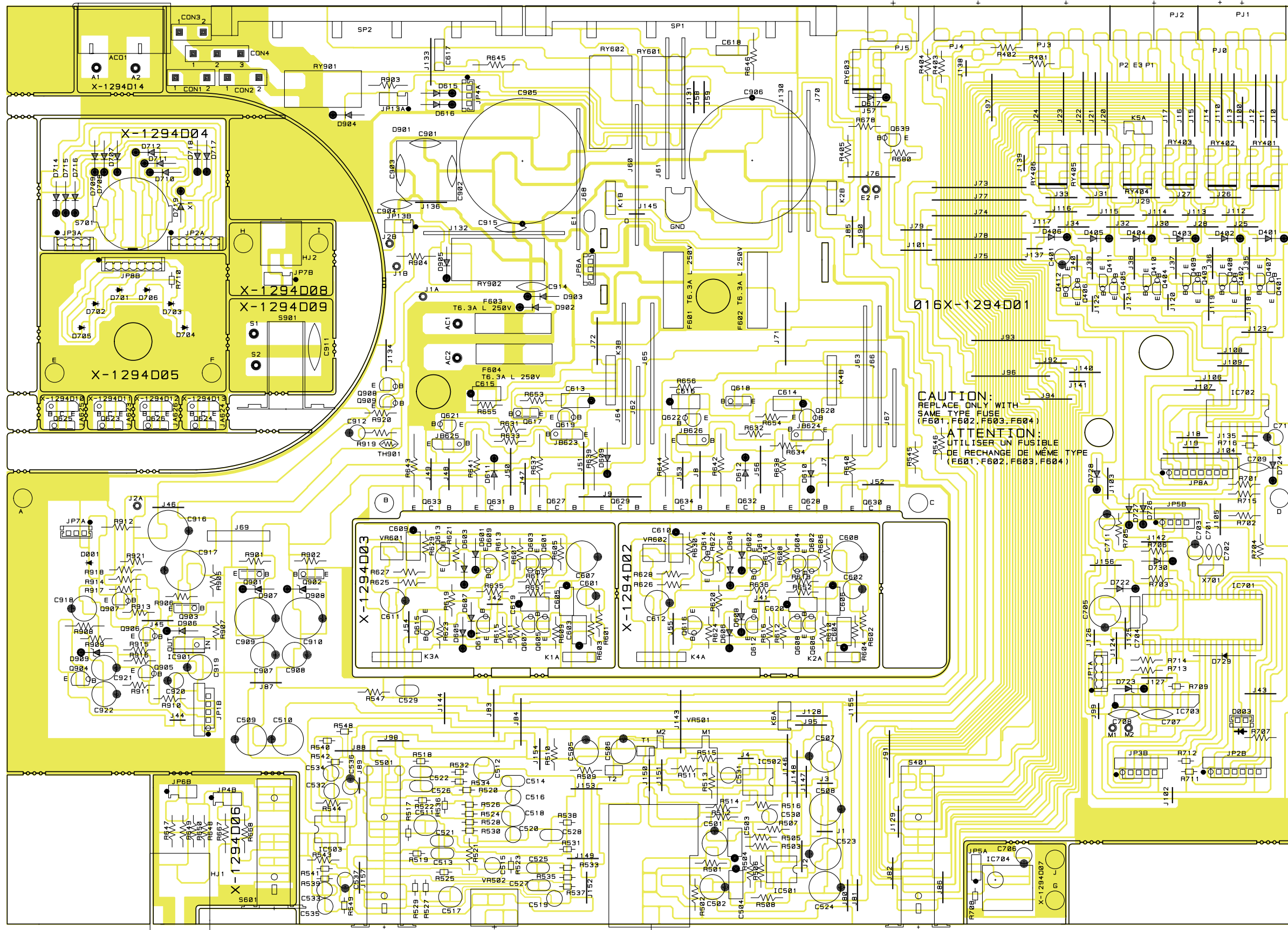
LB1641



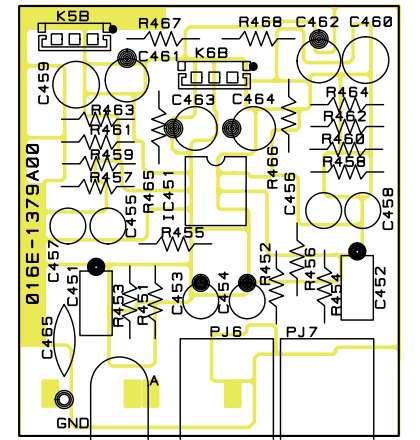
TMP47C400BN-1

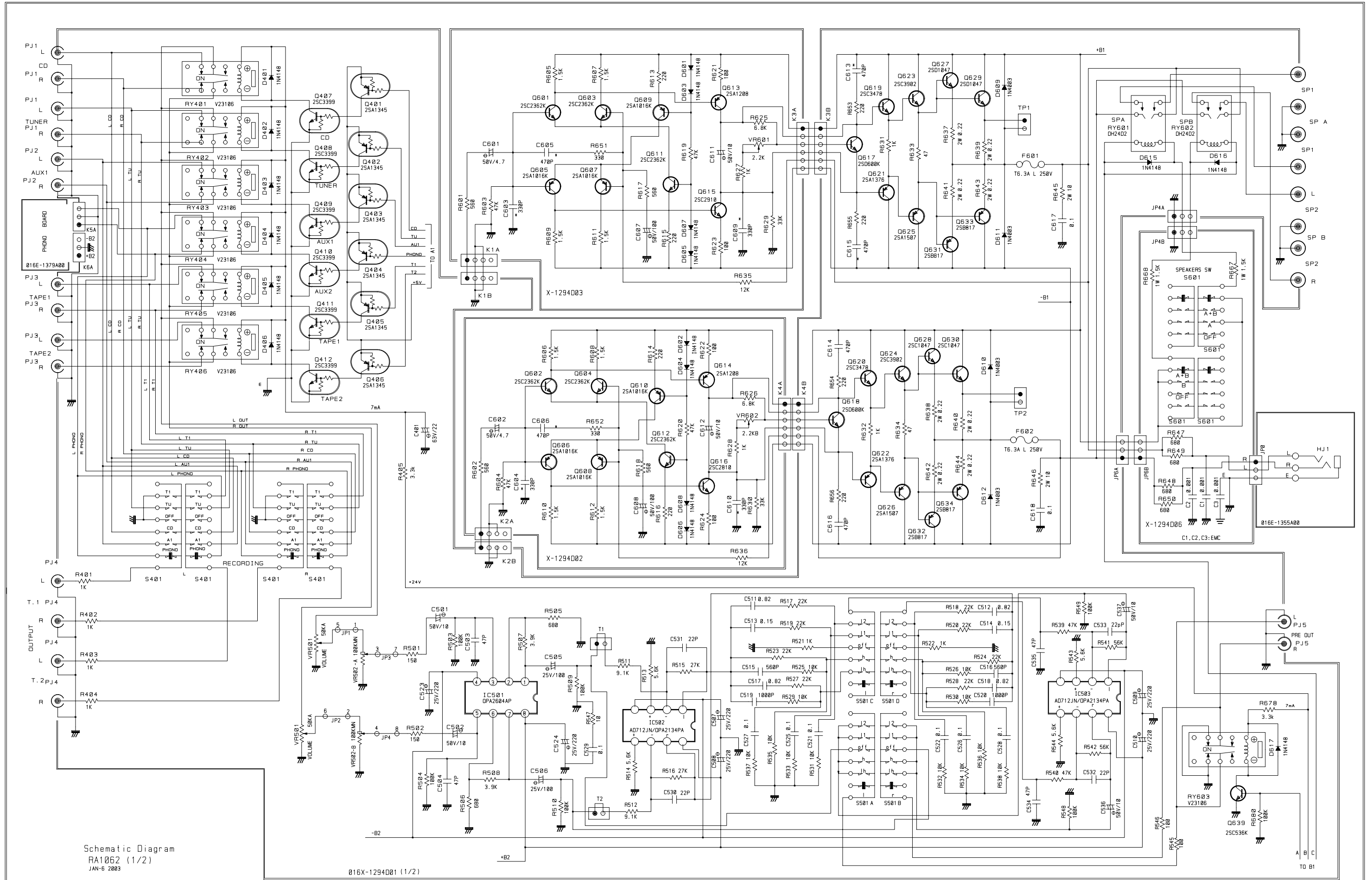
Memo

Main PCB 016 X-1294D01~09



Phono PCB 016 E-1379

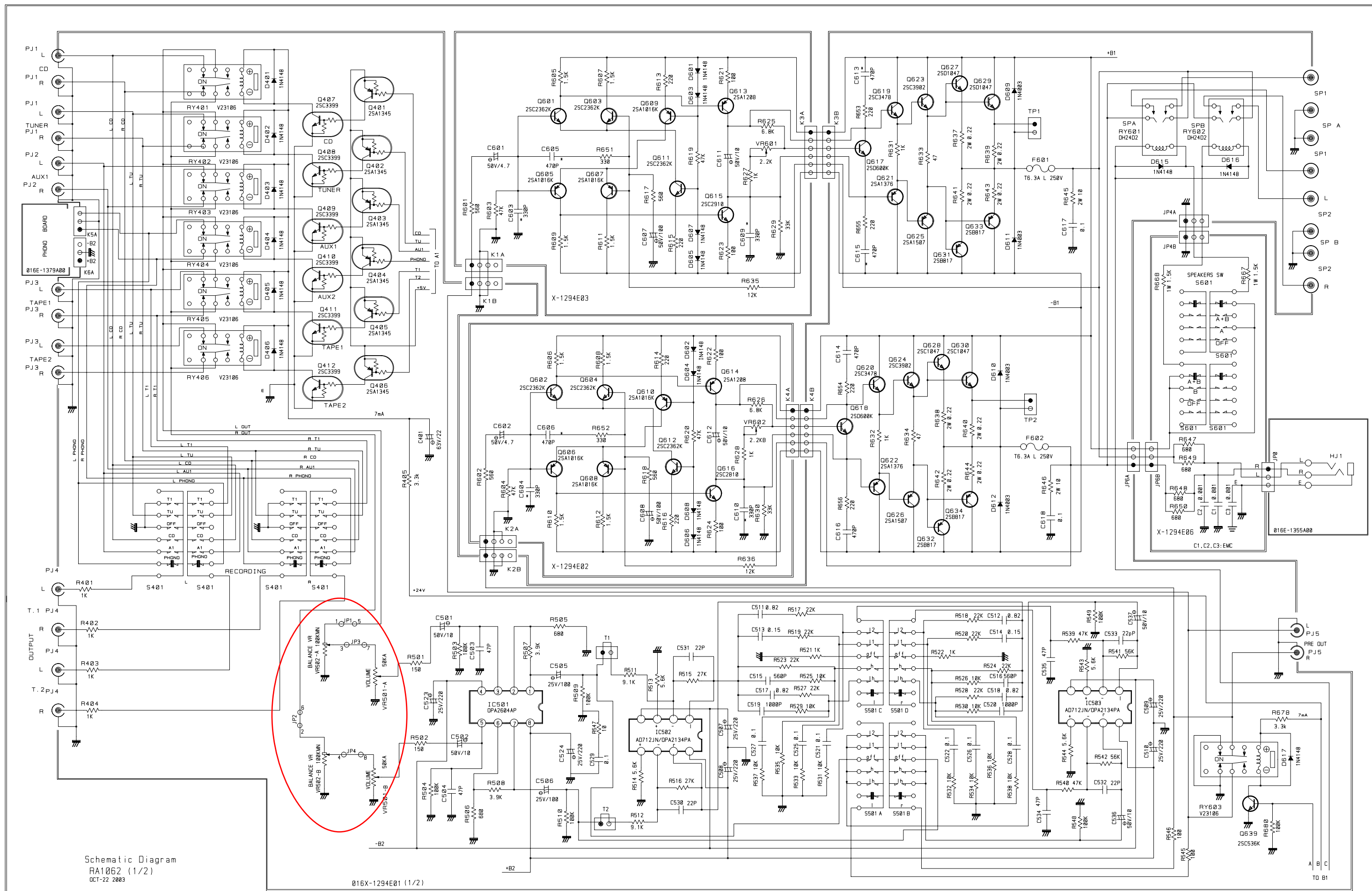




Schematic Diagram
RA1062 (1/2)
JAN-6 2003

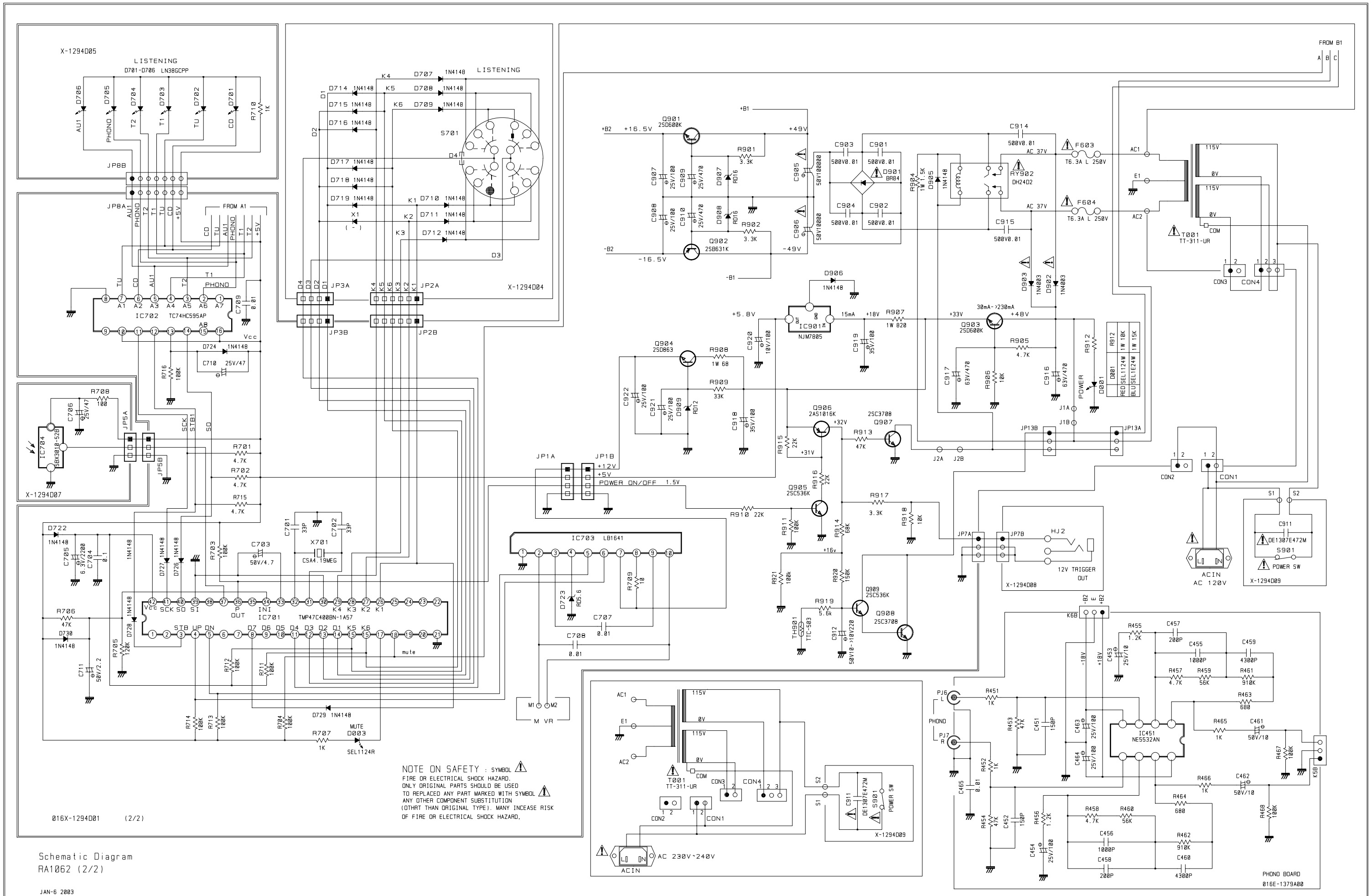
016X-1294D01 (1/2)

The difference between 016x-1294D01 and 016x-1294E01 is we have modified Balance volume position and Master volume position in the circuit. Please refer the attached schematic.



Schematic Diagram
RA1062 (1/2)
OCT-22 2003

016x-1294E01 (1/2)



Schematic Diagram RA1062 (2/2)