

Quality Uncompromised

ROTEL[®]

Technical Manual

STEREO CONTROL AMPLIFIER **RC-1070**

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Specification

Total Harmonic Distortion (20 Hz-20 kHz)	< 0.006%
Intermodulation Distortion	< 0.006% at 1 V output (60 kHz:7 kHz, 4: 1)
Input Sensitivity / Impedance	Line Level: 150 mV / 24 kOhms Phono (MM): 1.2 mV / 68 kOhms
Output Level/Impedance	1 V / 100 Ohms
Usable Headphone Impedance	8 - 2,000 Ohms
Frequency Response	Line Level : 4 Hz - 100 kHz, +0, -3dB Phono: 20 Hz - 20 kHz, ±0.5 dB
Signal to Noise Ratio (IHF "A" weighted)	Line Level: 95 dB Phono: 70 dB
Phono Overload:	70 mV
Power Requirements	USA: 115 Volts, 60 Hz CE: 230 Volt, 50 Hz
Power Consumption	10 Watts
Dimensions (W x H x D)	430 x 92 x 344 mm 17" x35/8" X 135/8"
Weight (net)	5.4 kg, 11.9 lbs.

THE ROTEL CO., LTD

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

Serial. NO.
Beginning

Y-332A-00115C/S-S

Parts List-1

SYMBOL	PARTS NO.	DESCRIPTION	SYMBOL	PARTS NO.	DESCRIPTION
	X-1295-01 PCB ASSEMBLY				
C401	041 UTES1H220-FB	CAPACITOR ELEC.50V22UF	IC601	031 NJM4556AD	IC (OPE DUAL)
C451.452	041 BPUE1E4R7-FB	CAPELEC.25V4.7UF BI-POLAR	IC701	031 TMP47C400BN-1	IC (TMP47C400BN-1A57)
C453.454	041 25BGF100M	CAPACITOR ELEC.25V100UF	IC702	031 TC74HC595AP	IC (8BIT SHIFT REGISTER)
C501.502	041 50BGF10M	CAPACITOR ELEC.50V10UF	IC703	031 LB1641	IC (MOTOR DRIVE)
C503.504	044 FSC160V470H	CAPACITOR STYROL 160V47PF	IC901	031 NJM7805FA	IC (REGULATOR +5VDC)
C505.506	041 50BGF10M	CAPACITOR ELEC.50V10UF	IC902	031 NJM7915FA	IC (REGULATOR -15VDC)
C507-510	041 ECEA1EFS221	CAPACITOR ELEC.25V220UF	IC903	031 NJM7815FA	IC (REGULATOR +15VDC)
C511.512	044 50MSAN824J	CAPACITOR FILM 50V0.82UF	J112.113	054 TMFR4100R	RESISTOR METAL 1% 100R
C513.514	044 50MSAN154J	CAPACITOR FILM 50V0.15UF	PJ1-PJ5	066 4TR-2408#3	4P PINJACK
C515.516	044 S50V560PJ	CAPACITOR STYROL 50V560PF	Q401-406	032 TA1345	TRANSISTOR (2SA1345)
C517.518	044 50MSAN824J	CAPACITOR FILM 50V0.82UF	Q407-412	032 TC3399	TRANSISTOR (2SC3399)
C519.520	044 S50V1000PG	CAPACITOR STYROL 50V1000PF	Q639	032 TC536-FG	TRANSISTOR (2SC536K-FG)
C521.522	044 50MSAN104J	CAPACITOR FILM 50V0.1UF	Q901	033 D600-EF	TRANSISTOR (2SD600K-EF)
C523.524	041 ECEA1EFS221	CAPACITOR ELEC.25V220UF	Q902	033 B631-EF	TRANSISTOR (2SB631K-EF)
C525-529	044 50MSAN104J	CAPACITOR FILM 50V0.1UF	Q904	032 TD863-EF	TRANSISTOR (2SD863-EF)
C530-533	044 S50V22PJ	CAPACITOR STYROL 50V22PF	Q905	032 TC536-FG	TRANSISTOR (2SC536K-FG)
C534.535	044 S50V47PJ	CAPACITOR STYROL 50V47PF	Q906	032 TA1016-FG	TRANSISTOR (2SA1016K-FG)
C619.620	041 UTES1E101-FB	CAPACITOR ELEC.25V100UF	Q907	032 TC3708-ST	TRANSISTOR (2SC3708-ST)
C623.624	044 S50V47PJ	CAPACITOR STYROL 50V47PF	R401-404	054 TMFR4001K	RESISTOR METAL 1% 1K
C625.626	041 UTES1H4R7-FB	CAPACITOR ELEC.50V4.7UF	R405	053 CR14-331J-A	RESISTOR CARBON 330R
C627.628	042 TP50V103J	CAPACITOR MYLAR 50V0.01UF	R451.452	054 TMFR4027K	RESISTOR METAL 1% 27K
C701.702	043 TC50VCH330	CAPACITOR CERA.50V33PF	R453.454	054 TMF2700	RESISTOR METAL 270R
C703	041 UTES1H4R7-FB	CAPACITOR ELEC.50V4.7UF	R501.502	054 EE10-151	RESISTOR METAL 150R
C704	044 KT18-2A104K	CAPACITOR FILM 100V0.1UF	R503.504	054 EE10-104	RESISTOR METAL 100K
C705	041 UTES0J222	CAPACITOR ELEC.6.3V2200UF	R505.506	054 TMFR4680R	RESISTOR METAL 1% 680R
C707-709	043 TC50V103	CAPACITOR CERA.50V0.01UF	R507.508	054 TMFR403K9	RESISTOR METAL 1% 3.9K
C710	041 UTES1E470-FB	CAPACITOR ELEC.25V47UF	R509.510	054 TMFR4100K	RESISTOR METAL 1% 100K
C711	041 UTES1H2R2-FB	CAPACITOR ELEC.50V2.2UF	R511.512	054 TMFR409K1	RESISTOR METAL 1% 9.1K
C901-904	043 TC500V103	CAPACITOR CERA.500V0.01UF	R513.514	054 TMFR405K6	RESISTOR METAL 1% 5.6K
C905.906	041 50USP472 ※	CAPACITOR ELEC.50V4700UF	R515.516	054 TMFR4027K	RESISTOR METAL 1% 27K
C907.908	041 ECEA1EFS101	CAPACITOR ELEC.25V100UF	R517-520	054 MF16-2202-A	RESISTOR METAL 22K
C909.910	041 ECEA1EFS471	CAPACITOR ELEC.25V470UF	R521	054 TMF1001	RESISTOR METAL 1K
C911-917	043 TC500V103	CAPACITOR CERA.500V0.01UF	R522	054 MF16-1001-A	RESISTOR METAL 1K
C918.919	041 UTES1E101-FB	CAPACITOR ELEC.25V100UF	R523.524	054 MF16-2202-A	RESISTOR METAL 22K
C920	041 UTES1A101-FB	CAPACITOR ELEC.10V100UF	R525.526	054 MF16-1002-A	RESISTOR METAL 10K
C921.922	041 UTES1E101-FB	CAPACITOR ELEC.25V100UF	R527.528	054 MF16-2202-A	RESISTOR METAL 22K
C923	043 TC500V103	CAPACITOR CERA.500V0.01UF	R529-538	054 MF16-1002-A	RESISTOR METAL 10K
C924	041 UTES1V471	CAPACITOR ELEC.35V470UF	R539.540	054 TMFR4047K	RESISTOR METAL 1% 47K
C925	041 UTES1H010-FB	CAPACITOR ELEC.50V1UF	R541.542	054 TMFR4056K	RESISTOR METAL 1% 56K
C926.927	041 UTES1V101-FB	CAPACITOR ELEC.35V100UF	R543.544	054 TMFR405K6	RESISTOR METAL 1% 5.6K
D401-406	034 T1N4148-86	DIODE	R545.546	-----	JUMPER WIRE
D617	034 T1N4148-86	DIODE	R547	054 TMFR4010R	RESISTOR METAL 1% 10R
D722	034 T1N4148-86	DIODE	R627.628	054 TMF1003	RESISTOR METAL 100K
D723	034 TRD5.6JST1	ZENER DIODE	R629.630	054 TMF1001	RESISTOR METAL 1K
D724	034 T1N4148-86	DIODE	R631.632	054 TMF1002	RESISTOR METAL 10K
D726-730	034 T1N4148-86	DIODE	R633.634	054 TMF1500	RESISTOR METAL 150R
D901-903	034 T1N4003-TB ※	DIODE	R635.636	054 TMF4702	RESISTOR METAL 47K
D904-906	034 T1N4148-86	DIODE	R678	053 CR14-331J-A	RESISTOR CARBON 330R
D907.908	034 TRD18JST1	ZENER DIODE	R680	053 CR14-104J-A	RESISTOR CARBON 100K
D909	034 TRD12JST1	ZENER DIODE	R701.702	053 CR14-472J-A	RESISTOR CARBON 4.7K
D910-917	034 T1N4003-TB ※	DIODE	R703.704	053 CR14-104J-A	RESISTOR CARBON 100K
D918.919	034 T1N4148-86	DIODE	R705	053 CR14-124J-A	RESISTOR CARBON 120K
F603-605	036 5ST500 ※	MINI FUSE 250VT500mA	R706	053 CR14-473J-A	RESISTOR CARBON 47K
IC501	031 OPA2604AP	IC (OPE DUAL)	R707	053 CR14-102J-A	RESISTOR CARBON 1K
IC502.503	031 NJM2114D	IC (OPE DUAL)	R709	053 CR16-100J-A	RESISTOR CARBON 10R

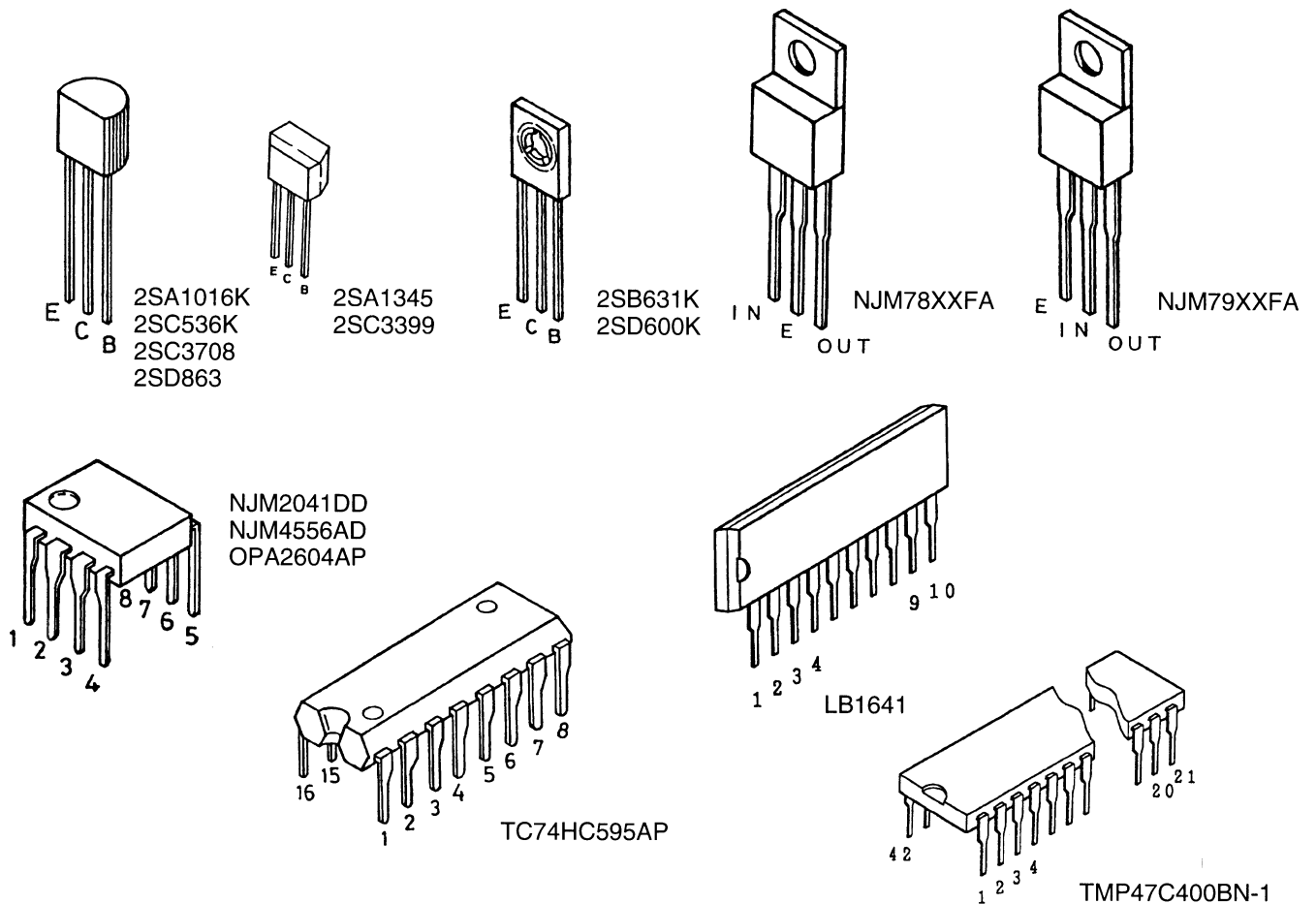
Parts List-2

SYMBOL	PARTS NO.	DESCRIPTION
R711.712	053 CR16-104J-A	RESISTOR CARBON 100K
R713.714	053 CR14-104J-A	RESISTOR CARBON 100K
R715	053 CR14-472J-A	RESISTOR CARBON 4.7K
R716	053 CR16-104J-A	RESISTOR CARBON 100K
R901.902	054 TMFR403K3	RESISTOR METAL 1% 3.3K
R903	054 1WS100JF	RESISTOR METAL 1W 100R
R904	054 1WS150JF	RESISTOR METAL 1W 150R
R905.906	054 1WS100JF	RESISTOR METAL 1W 100R
R908	054 1WS10JF	RESISTOR METAL 1W 10R
R909	053 CR14-332J-A	RESISTOR CARBON 3.3K
R910	053 CR14-223J-A	RESISTOR CARBON 22K
R911	053 CR14-104J-A	RESISTOR CARBON 100K
R912	054 1WS10KJF	RESISTOR METAL 1W 10K
R913	053 CR14-473J-A	RESISTOR CARBON 47K
R915.916	053 CR14-223J-A	RESISTOR CARBON 22K
R917	053 CR14-272J-A	RESISTOR CARBON 2.7K
R918	053 CR14-103J-A	RESISTOR CARBON 10K
RY401-406	063 V23106-24	RELAY (FUNCTION)
RY603	063 V23106-24	RELAY (MUTE)
RY901	063 DG1U-24 ※	RELAY (AC OUTLET)
RY902	063 DH2U-24 ※	RELAY (POWER)
S401	062 C-4174A17	ROTARY SWITCH (RECORDING)
S501	062 C-4174A21	ROTARY SWITCH (CONTOUR)
S901	061 4TR-2947	PUSH SWITCH (POWER)
SKT1	068 PS-1101-32	CONNECTOR BASE 16P
VR501	051 C-4170A32	VARIABLE RESISTOR (VOLUME)
X701	023 CSA4.19MHZ	CERAMIC RESONATOR
	068 DM-2GM-O	MINI JUMPER
	069 C-3417A	FUSE CLIP
	069 C-4372A01 ※	AC OUTLET for STD
	X-1295-02 PCB ASSEMBLY	
HJ1	065 C-3399#3	PHONE JACK
	X-1295-03 PCB ASSEMBLY	
C706	041 UTES1E470-FB	CAPACITOR ELEC.25V47UF
IC704	031 SBX1810-52	IC (REMOTE EYE)
R708	053 CR14-101J-A	RESISTOR CARBON 100R

SYMBOL	PARTS NO.	DESCRIPTION
	X-1295-04 PCB ASSEMBLY	
D707-712	034 T1N4148-86	DIODE
D714-718	034 T1N4148-86	DIODE
S701	062 C-4174A13	ROTARY SWITCH (LISTENING)
	X-1295-05 PCB ASSEMBLY	
D701-706	034 LN38GCPP	LED
R710	053 CR16-102J-A	RESISTOR CARBON 1K
	X-1295-06 PCB ASSEMBLY	
HJ2	065 YKB21-5103A	MINI JACK 3.5DIA
	OTHERS	
	011 FP-532	SUB PANEL ASSY
	011 TF3-01A00	H/S PANEL
	012 C-4710A01	KNOB 25F (RECORDING.CONTOUR)
	012 C-4710A02	KNOB 25F (FUNCTION)
	012 C-4711A01	KNOB ASSY (VOLUME)
	012 RV4-09A00	PUSH BUTTON
	014 C-4713A02	UPPER COVER
	014 TG3-04A00	BOTTOM BOARD
	015 RP-383	REAR CHASSIS
	019 4TSH-19#2	PLASTIC FOOT 50F
	022 T-1056N01 ※	POWER TRANSFORMER
	034 SEL1124R	LED (RED)1X5
	069 C-4629A01 ※	AC INLET
	072 C-4620A01 ※	AC CORD SET for STD
	072 C-4622A01 ※	AC CORD SET for AUSTRALIA
	072 C-4623A01 ※	AC CORD SET for UK
	072 C-4624A01 ※	AC CORD SET for CEE
	081 TG3-05A00	INSIDE CARTON
	081 Z-204	STYROL MOULDING
	092 RR-AT92	REMOTE UNIT

NOTE ON SAFTY : Symbol ※ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ※ . Any other component substitution (other than original type), may incese risk of fire or electrical shock hazard.

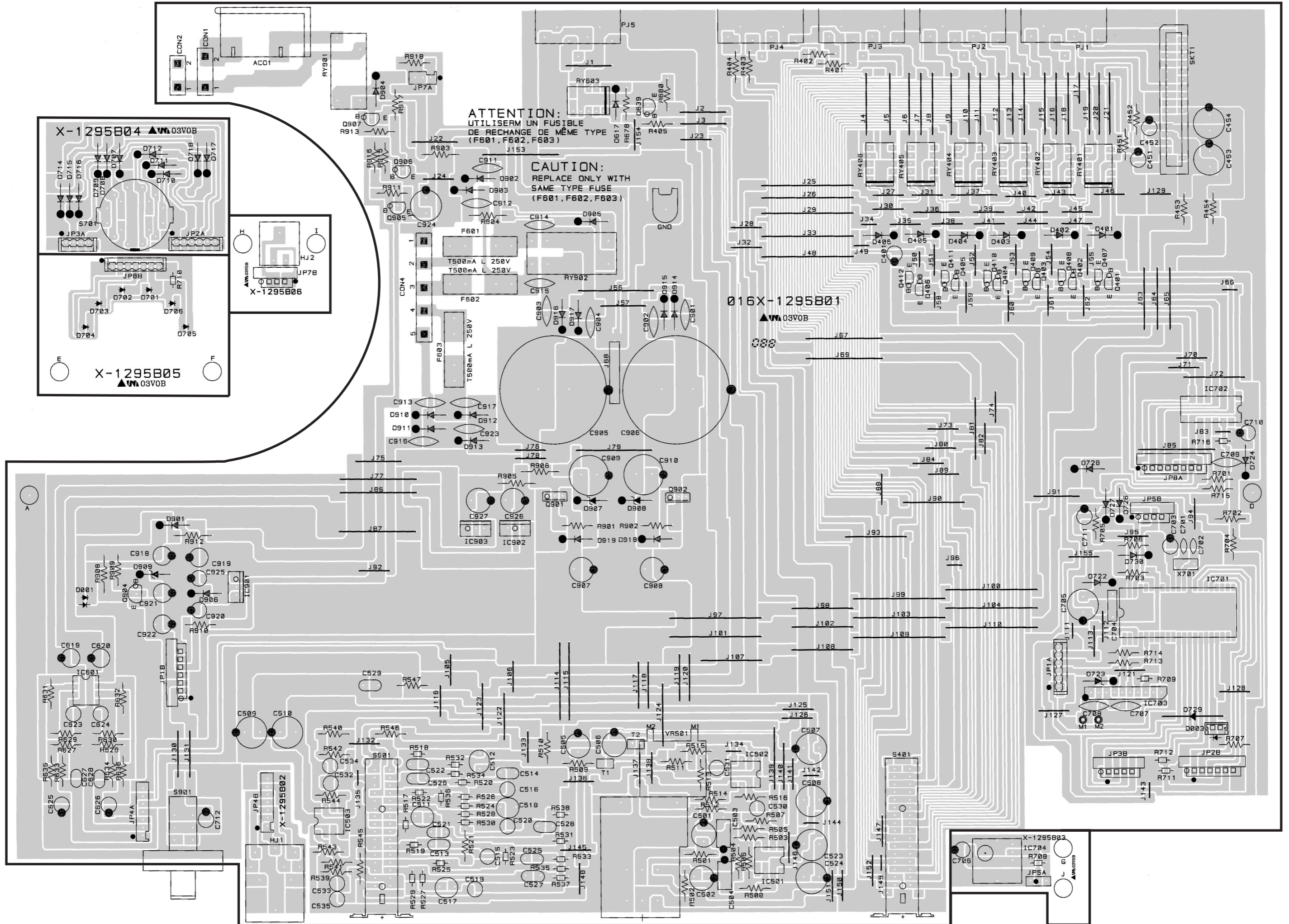
Case Outline



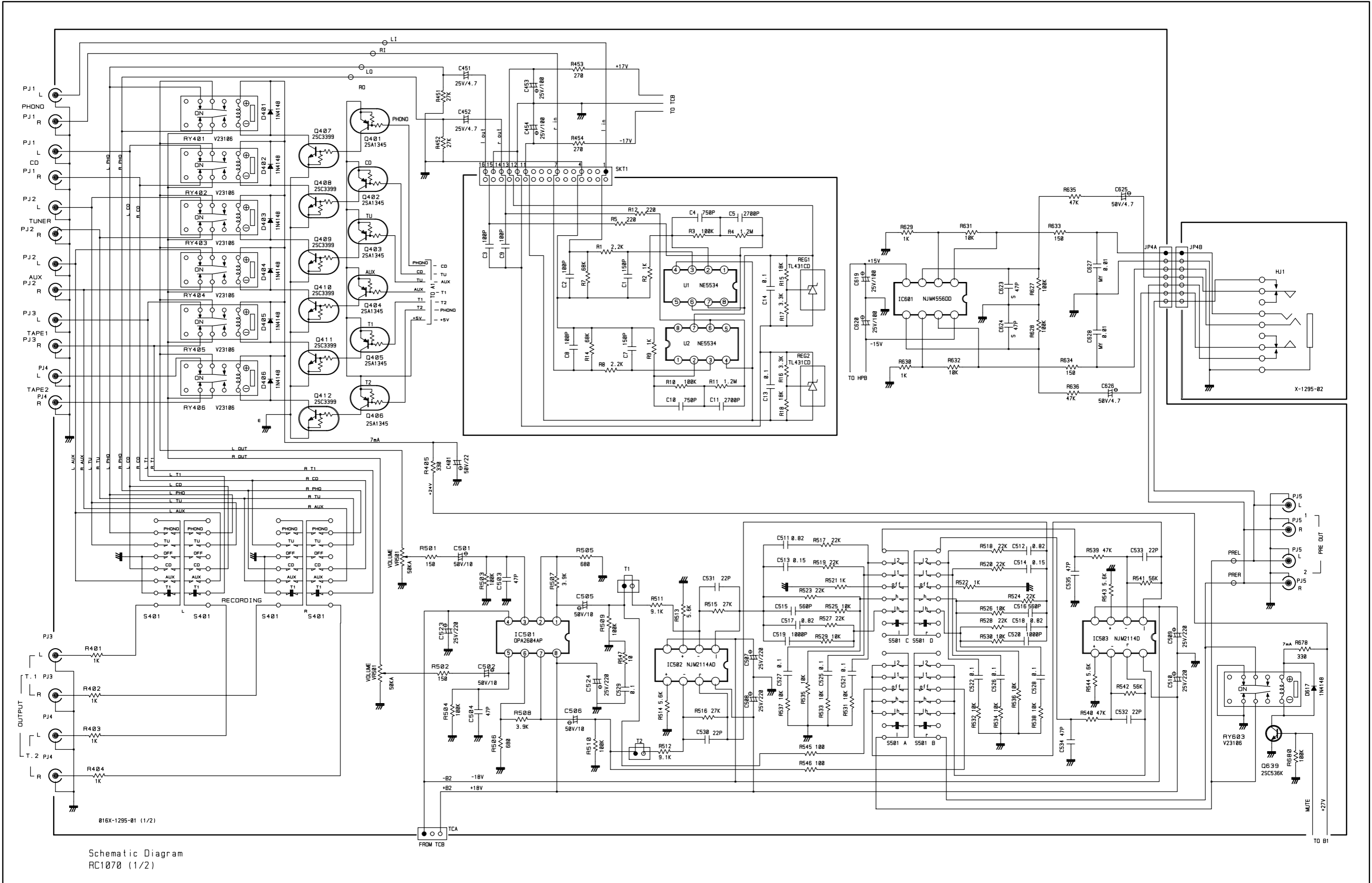
Service Note

Cautions during Inspection and Repair

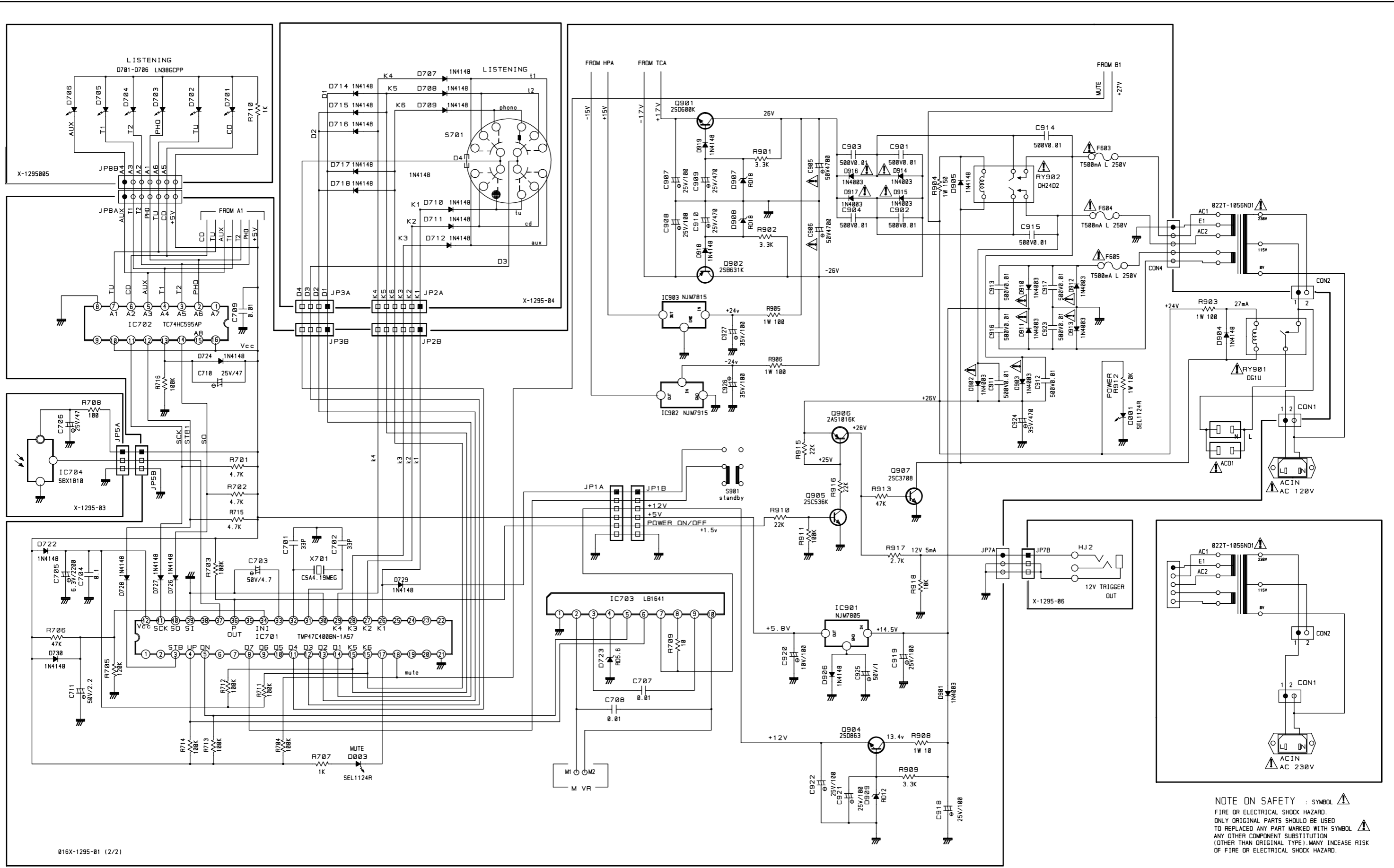
1. Keep in mind the safety warnings
The safety instructions are shown as the labels or printings on the exterior, the inside chassis or the parts, etc. Refer to the instructions when proceeding with inspection or repair.
2. Use only the specified parts for replacement
The selected parts are used at critical 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.





Schematic Diagram



Schematic Diagram



NOTE ON SAFETY : SYMBOL  FIRE OR ELECTRICAL SHOCK HAZARD. ONLY ORIGINAL PARTS SHOULD BE USED TO REPLACE ANY PART MARKED WITH SYMBOL  ANY OTHER COMPONENT SUBSTITUTION (OTHER THAN ORIGINAL TYPE) MANY INCREASE RISK OF FIRE OR ELECTRICAL SHOCK HAZARD.

Schematic Diagram
RC1070 (2/2)