

Quality Uncompromised

**ROTEL**®

# Technical Manual

## STEREO CONTROL AMPLIFIER RC-980BX

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### Specifications

Total Harmonic Distortion ...	No more than 0.004%
	(CD/TUNER, 20 to 20,000 Hz)
Intermodulation Distortion...	No more than 0.004%
(60 Hz : 7 kHz = 4:1)	(CD/TUNER)
Output.....	Headphone 8-2 kohms
Input Sensitivity/Impedance	
PHONO (MM).....	2.5 mV/47 kohms
PHONO (MC).....	250 $\mu$ V/100 ohms
CD, TUNER, TAPE 1/2....	150 mV/34 kohms
AUX.....	150 mV/34 kohms
Output sensitivity/ Impedance .....	1.0 V/100 ohms
Overload Level (THD 0.5%, 1 kHz)	
PHONO (MM).....	160 mV
PHONO (MC).....	16 mV
CD, TUNER, TAPE 1/2....	5V
AUX.....	5V
Frequency Response	
PHONO .....	20 to 20,000 Hz, $\pm$ 0.2 dB (RIAA STD)
CD, TUNER, TAPE 1/2....	4 to 100,000 Hz, +0.5 dB, -3 dB
AUX.....	4 to 100,000 Hz, +0.5 dB, -3 dB

Signal-to-Noise Ratio (IHF A network)	
PHONO (MM).....	75 dB
PHONO (MC).....	70 dB
CD, TUNER, TAPE 1/2....	100 dB
AUX.....	100 dB
Power Requirement .....	120 V/60 Hz, 220 V/50 Hz, 240 V/50 Hz, 100 V/50 Hz-60 Hz (depending on destinations)
Power Consumption .....	10 watts
Dimensions (overall) .....	440 (W) x 70 (H) x 325 (D) mm 17-5/16" x 2-3/4" x 17-13/16"
Weight (net).....	4.1 kg/9.02 lbs.

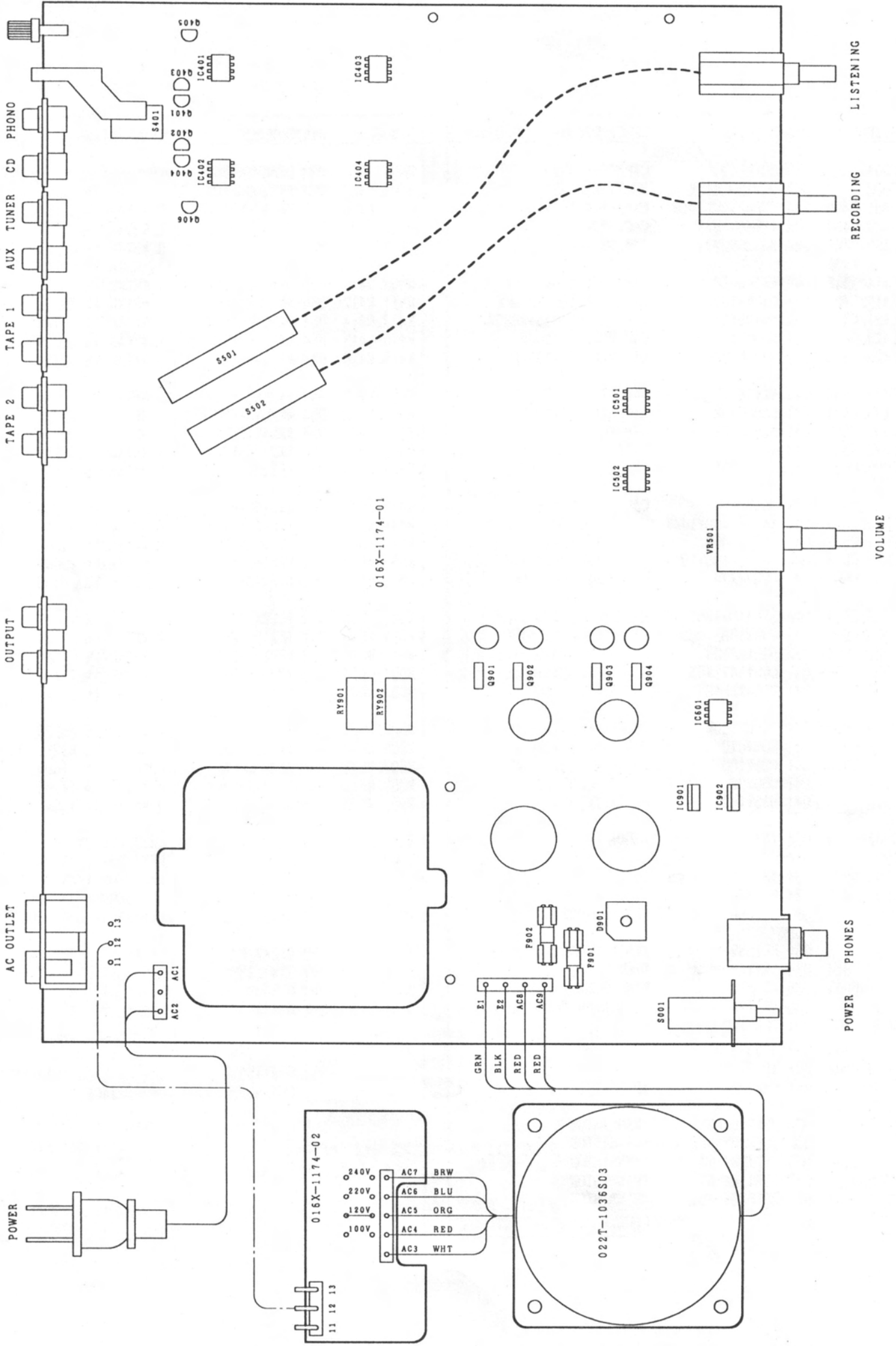
- Specifications and design subject to possible modification without notice.

Serial No.  
Beginning

**THE ROTEL CO., LTD.**  
**ROTEL ELECTRONICS CO., LTD.**

1-36-8 OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN  
3RD FLOOR, ROTEL BLDG., NO. 35 FUSHING, NORTH  
ROAD, TAIPEI, TAIWAN, REPUBLIC OF CHINA

# Wiring Diagram



# Parts List

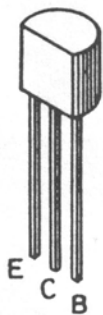
SYMBOL	PARTS NO.	DESCRIPTION
X-1174 PCB ASSEMBLY		
C001	043 50VZF473	CAP, CERA. 50V0. 047UF
C002	044 DE7150F472M	SPARK KILLER
C401, C402	044 FKP2-100V101H	CAP, FILM 100V100PF
C403, C404	044 #S160V331J	CAP, STYROL 105-063
C405, C406	044 #S160V220J	CAP, STYROL 105-056
C411~414	044 MKT18-100V104K	CAP, FILM 100V0. 1UF
C419, C420	044 FKP2-100V102F	CAP, FILM 100V1000PF
C421, C422	044 #S100V682F	CAP, STYROL 425-46802
C423, C424	041 50BGF10M	CAP, ELEC. 50V10UF
C425~428	041 25BGF100M	CAP, ELEC. 25V100UF
C429~432	044 MKT18-100V104K	CAP, FILM 100V0. 1UF
C433, C434	041 50BGF10M	CAP, ELEC. 50V10UF
C501, C502	041 50BGF10M	CAP, ELEC. 50V10UF
C503, C504	044 #S160V470J	CAP, STYROL 105-058
C505, C506	041 50BGF10M	CAP, ELEC. 50V10UF
C507, C508	041 25BGF100M	CAP, ELEC. 25V100UF
C509, C510	044 MKT18-100V104K	CAP, FILM 100V0. 1UF
C511, C512	041 25BGF100M	CAP, ELEC. 25V100UF
C513, C514	044 MKT18-100V104K	CAP, FILM 100V0. 1UF
C601, C602	041 U25V4R7	CAP, ELEC. 25V4. 7UF
C603, C604	044 SRA470J125	CAP, STYROL 125V47PF
C605, C606	042 P50V103J	CAP, FILM 50V0. 01UF
C901~904	043 500VZF103	CAP, CERA. 500V0. 01UF
C905, C906	041 LGS1H472MHS	CAP, ELEC. 50V4700UF
C907, C908	041 ECEA1EF102	CAP, ELEC. 25V1000UF
C909~912	041 25BGF100M	CAP, ELEC. 25V100UF
C913, C914	041 U50V010	CAP, ELEC. 50V1UF
C915, C916	041 U25V100	CAP, ELEC. 25V100UF
C917	041 U50V22	CAP, ELEC. 50V22UF
C918	041 U35V100	CAP, ELEC. 35V100UF
D401~404	034 1N4148	DIODE
D901	034 BR64	BRIDGE DIODE
D902, D903	034 1N4003	DIODE
D904, D905	034 RD18EB	ZENER DIODE
D906	034 RD10EB	ZENER DIODE
D907	034 RD15EB	ZENER DIODE
D908~914	034 1N4148	DIODE
F901, F902	036 (U)F1A	MINI FUSE for STD
	036 (S)T1A	MINI FUSE for CEE
IC401, 402	031 TL071CP	IC
IC403, 404	031 NE5534AN	IC
IC501, 502	031 AD711JN	IC
IC601	031 NJM4556D	IC
IC901	031 NJM78M15A	IC
IC902	031 NJM79M15A	IC
Q401~404	032 2SD786-RS	TRANSISTOR
Q405, Q406	032 2SC2362K-FG	TRANSISTOR
Q901, Q902	033 2SD1684-ST	TRANSISTOR
Q903, Q904	033 2SB1144-ST	TRANSISTOR
Q905	032 2SC536K-FG	TRANSISTOR

SYMBOL	PARTSNO.	DESCRIPTION
Q907	032 2SA608K-FG	TRANSISTOR
R401, R402	054 MK2100RFECZ	R. METAL 1% 100Ω
R403, R404	054 MK247K5FECZ	R. METAL 1% 47.5K
R405, R406	054 MK2010RFECZ	R. METAL 1% 10Ω
R407, R408	054 MK247R5FECZ	R. METAL 1% 47.5Ω
R409, R410	054 MK2562RFECZ	R. METAL 1% 562Ω
R411, R412	054 MK222K1FECZ	R. METAL 1% 22.1K
R413, R414	054 MK2274RFECZ	R. METAL 1% 274Ω
R415~418	054 MK25K62FECZ	R. METAL 1% 5.62K
R419, R420	054 MK2475RFECZ	R. METAL 1% 475Ω
R421, R422	054 MK22K74FECZ	R. METAL 1% 2.74K
R431, R432	054 MK2075KFECZ	R. METAL 1% 75K
R433, R434	054 MK24K75FECZ	R. METAL 1% 4.75K
R435, R436	054 MK247K5FECZ	R. METAL 1% 47.5K
R437, R438	054 MK2475KFECZ	R. METAL 1% 475K
R439, R440	054 MK2100RFECZ	R. METAL 1% 100Ω
R441, R442	054 MK2100KFECZ	R. METAL 1% 100K
R501, R502	054 MK2150RFECZ	R. METAL 1% 150Ω
R503, R504	054 MK2100KFECZ	R. METAL 1% 100K
R505, R506	054 MK2475RFECZ	R. METAL 1% 475Ω
R507, R508	054 MK22K74FECZ	R. METAL 1% 2.74K
R509, R510	054 MK2100KFECZ	R. METAL 1% 100K
R511, R512	054 MK2100RFECZ	R. METAL 1% 100Ω
R551~554	054 MK2001KFECZ	R. METAL 1% 1K
R601, R602	054 MK2100KFECZ	R. METAL 1% 100K
R603, R604	054 MK233K2FECZ	R. METAL 1% 33.2K
R605, R606	054 MK2332KFECZ	R. METAL 1% 332K
R607, R608	054 MK2150RFECZ	R. METAL 1% 150Ω
R609, R610	054 MK247K5FECZ	R. METAL 1% 47.5K
R901, R902	054 MK201K5FECZ	R. METAL 1% 1.5K
R907, R908	054 RSS2X-100F	RESISTOR 2W 100Ω
R909	053 333J	RESISTOR 1/4W 33K
R912	053 332J	RESISTOR 1/4W 3.3K
R913	053 333J	RESISTOR 1/4W 33K
R914	053 684J	RESISTOR 1/4W 680K
RY901, 902	063 RY24W-KJ	RELAY
S401	061 4TR-2783	PUSH SWITCH
S501, S502	064 C-3440	SLIDE SWITCH
S001	061 C-4176A01	POWER SWITCH
VR501	051 C-4170A18	VOLUME
	019 PR4-07A00T	JOINT BUTTON 5φ
	062 C-4175A13	ROTALY FLEX (LISTENING)
	062 C-4175A14	ROTALY FLEX (RECORDING)
	065 C-3399#3	PHONE JACK
	066 4TR-2672#3	4P PINJACK
	068 C-3963#21	CONNECTOR 2P
	069 C-4372A00	AC OUTLET for STD

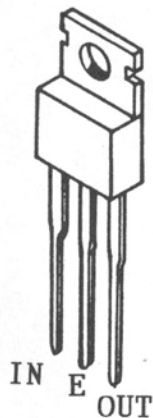
# Parts List

SYMBOL	PARTS NO.	DESCRIPTION
	OTHERS	
T001	022 T-1036S03	POWER TRANSFORMER
	011 PQ2-01A00T	FRONT PANEL
	012 4TQF-15	PUSH KNOB
	012 4TQF-19	KNOB 24 $\phi$
	012 4TQF-20	KNOB 33 $\phi$ (WR)
	012 4TQF-21	KNOB 33 $\phi$ (WF)
	014 PQ3-13A00T	BOTTOM BOARD
	014 3TTE-6#4	UPPER COVER

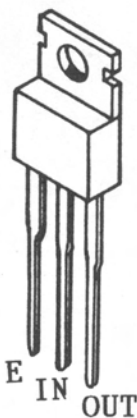
SYMBOL	PARTS NO.	DESCRIPTION
	015 TRP-588	PRINTED REAR CHASSIS
	019 4TSH-19#2	PLASTIC FOOT
	072 4TR-2875	RCA PIN PLUG CORD
	072 4TR-670#5	AC CORD for STD
	072 C-2504#3	AC CORD for UK
	072 C-3039	AC CORD for EUROPA
	072 C-3763B01	AC CORD for AUSTRALIA
	081 PQ4-11A00	INSIDE CARTON



2SC536  
2SA608  
2SC2362  
2SD786



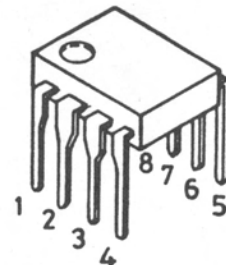
NJM78M15A



NJM79M15A



2SD1684  
2SB1144



TL071CP  
NE5534AN  
AD711JN  
NJM4556D

## (RESISTORS)

5% TOLERANCE UNLESS OTHERWISE NOTED.

K --- KILO OHM

(M) --- FIXED PRECISION METAL FILM RESISTORS. (F): 1%  
NON MARK --- LOW NOISE TYPE CARBON RESISTORS. 1/4W

## (CAPACITORS)

(S) --- POLYSTYRENE FILM CAPACITORS.

(MP) --- METALIZED FILM CAPACITORS.

H --- ELECTROLYTIC CAPACITORS.

NON MARK --- CERAMIC CAPACITORS.

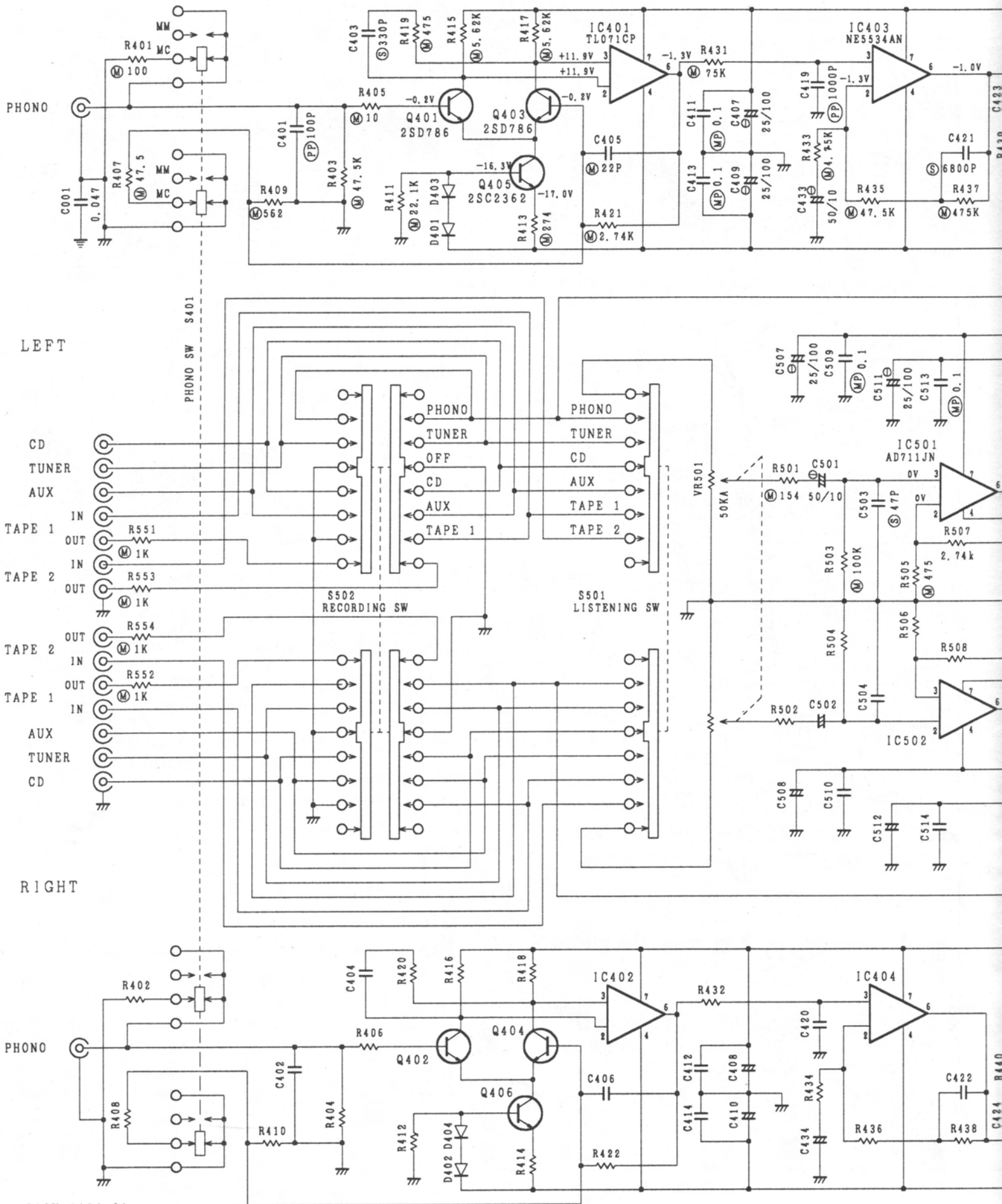
: UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITANCE  
VALUES ARE EXPRESSED IN MFD.

: VOLTAGE READING WITH VTVM FROM THE POINT SHOWN  
TO THE CHASSIS GROUND. (LINE VOLTAGE 120 VOLTS)

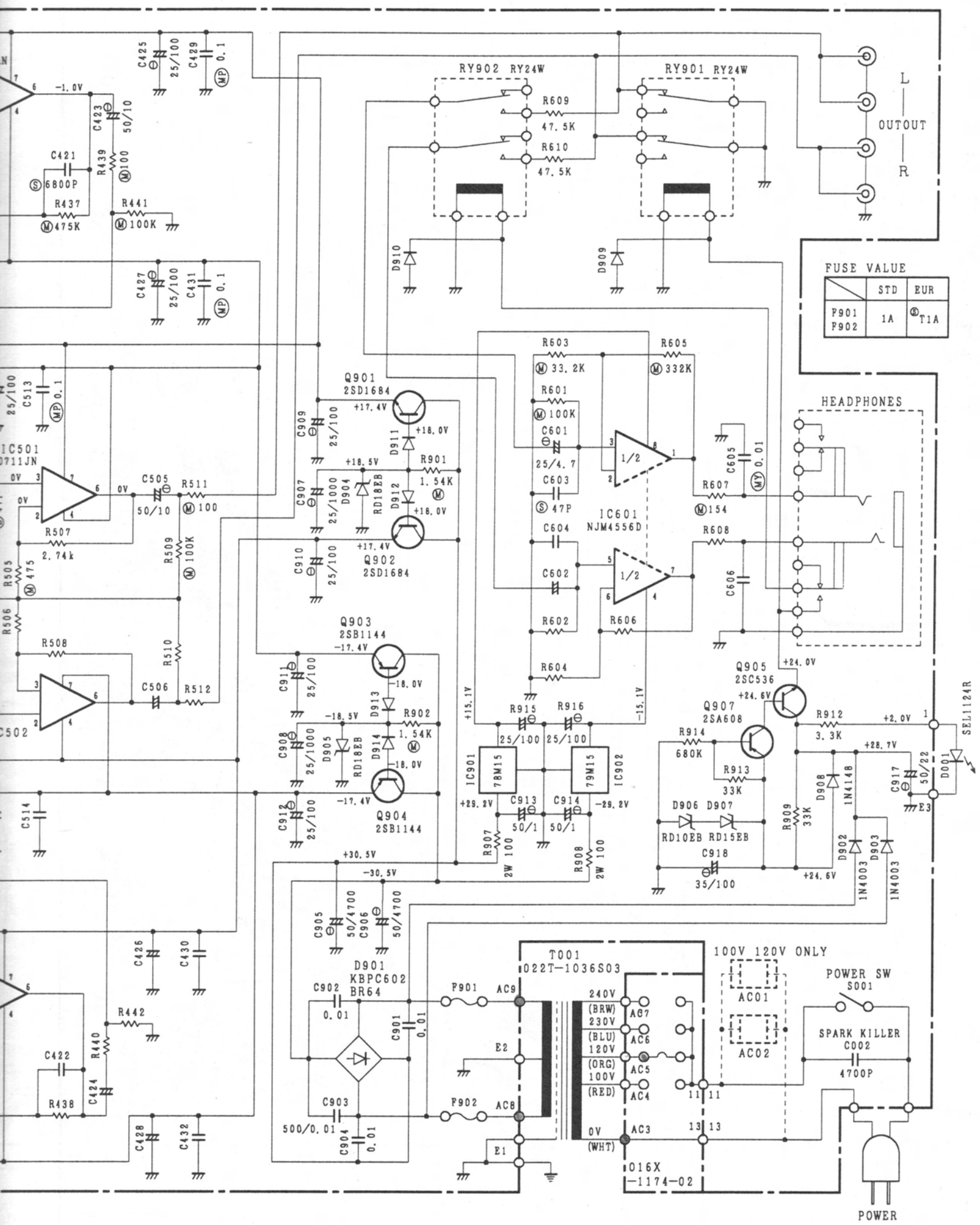
: VOLTAGE READING MAY 20%

# Schematic Diagram

## STEREO CONTROL AMPLIFIER RC-980BX







FUSE VALUE

	STD	EUR
F901	1A	Ⓢ T1A
F902		

HEADPHONES

POWER SW  
S001

SPARK KILLER  
C002

4700P

POWER

SEL1124R

100V 120V ONLY

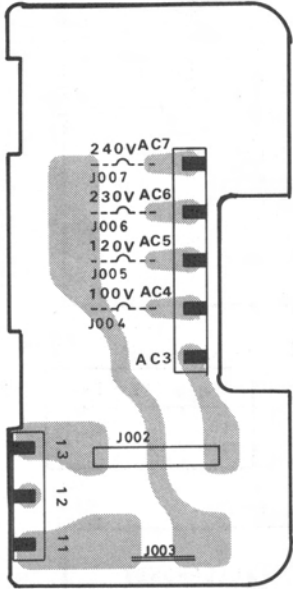
T001  
022T-1036S03

240V  
(BRW) AC7  
230V  
(BLU) AC6  
120V  
(ORG) AC5  
100V  
(RED) AC4  
0V  
(WHT) AC3

016X  
-1174-02

# PCB Assembly

## X-1174-02 PCB



## X-1174-01 PCB

