

# DENON

Hi-Fi Integrated Amplifier

## SERVICE MANUAL MODEL PMA-900V

SOLID STATE  
INTEGRATED AMPLIFIER



Outside U.S.A. Version



U.S.A. Version

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**NIPPON COLUMBIA CO., LTD.**

**SPECIFICATIONS**

**POWER AMPLIFIER SECTION**

**Rated Output Power:** Both channel drives (TUNER → SP OUT)  
 120 Watts minimum rms per channel (8 ohm Load) with less than 0.02% total harmonic distortion from 20 Hz to 20 kHz.  
 1 kHz (4 ohm Load) 200 W + 200 W (DIN, T.H.D 1%)  
 1 kHz (6 ohm Load) 90 W + 90 W (IEC, Subject to change by temperature test)

**Total Harmonic Distortion:** 0.003% (20 Hz – 20 kHz at –3 dB rated output 8 ohm Load)  
 0.002% (1 kHz at rated output 8 ohm Load)

**Input Sensitivity:** 150 mV

**Input Impedance:** 30 k ohm

MC 77 dB (input terminals short-circuited for 500 μV input)

TUNER/AUX, CD, TAPE, VIDEO-1, VIDEO-2

107 dB (input terminals short-circuited)

**Tone Control Adjustable**

**Range:**

BASS 100 Hz ±10 dB  
 TREBLE 10 kHz ±10 dB

**Filtering Characteristics:**

**Loudness Characteristics:**

SUBSONIC 16 Hz, 12 dB/oct  
 Low frequency 100 Hz + 7 dB  
 High frequency 10 kHz + 6 dB

**AC OUTLET:**

(For U.S.A., Canada and Asia)

SWITCHED x 2, 100 W (Total)  
 UNSWITCHED x 1, 250 W

**POWER SOURCE:**

Germany and France AC 220 V, 50 Hz; U.K. and Australia AC 240 V, 50 Hz; U.S.A. and Canada AC 120 V, 60 Hz; Asia 110/120/220/240 V, 50/60 Hz (Multiple)

**POWER CONSUMPTION:**

4.5 A (U.S.A. & Canada); 250 W (IEC), 210 W (Multiple)

**DIMENSIONS:**

465 mm (18-5/16")W x 157 mm (6-3/16")H x 397 mm (15-5/8")D (For U.S.A. model only)

434 mm (17-5/64")W x 157 mm (6-3/16")H x 397 mm (15-5/8")D (For Europe, Multiple and Australia Version) (including rubber feet, control knobs, and terminals.)

**WEIGHT:**

11.6 kg (25 lbs 10 oz) (For U.S.A. model only)  
 10.6 kg (23 lbs 6 oz) (For Europe, Multiple and Australia Version)

**EQUALIZER AMPLIFIER SECTION**

**Equalizer Amplifier Output:**

(REC OUT Terminal)

Rated Output: 150 mV

**Input Sensitivity/Input**

**Impedance:**

PHONO MM 2.5 mV 47 k ohm  
 MC 200 μV 100 ohm  
 CD, VIDEO-1, VIDEO-2, TUNER/AUX, TAPE

**RIAA Deviation:**

PHONO MM within ±0.2 dB (20 Hz – 20 kHz)  
 MC within ±0.3 dB (20 Hz – 100 kHz)

**Maximum Input Voltage:**

PHONO MM 160 mV/1 kHz  
 MC 12 mV/1 kHz

**OVERALL CHARACTERISTICS**

**SN Ratio (IHFA Network):** PHONO MM 95 dB (input terminals short-circuited for 5 mV input)

Design and specifications are subject to change without prior notice.

**NOTE:** The following codes correspond to the appropriate models.  
 E3 for U.S.A., EA for Australia, EC for Canada  
 This Service Manual is prepared based on E2 for Black Version.

**For United Kingdom model only.**

**WARNING:**

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.  
 The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

**IMPORTANT**

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral  
 Brown: Live

**For Australia model only.**

**FOR YOUR SAFETY**

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

**For U.S.A. and Canada models.**

**CAUTION**

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

## NAMES AND FUNCTIONS OF PARTS

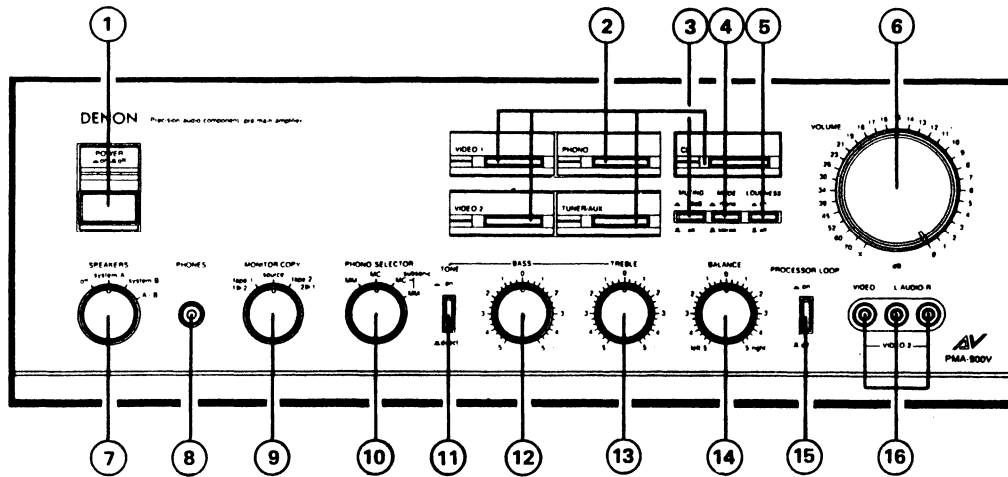


Fig. 1

- |  |  |
|--|--|
| ① POWER and LED indicator<br>(Power supply button and LED indicator)                                   | ⑧ PHONES (Headphone Jack)  |
| ② INPUT SELECTOR (Input signal selection button)<br>● CD, ● PHONO, ● TUNER/AUX., ● VIDEO-1,<br>VIDEO-2 | ⑨ MONITOR COPY (Tape monitor/Copy switch)                        |
| ③ MUTING (Muting button)   | ⑩ PHONO SELECTOR (Cartridge selection/Subsonic<br>filter switch) |
| ④ MODE (Mode button)<br>● Stereo, ● Mono   | ⑪ TONE (Tone switch)   |
| ⑤ LOUDNESS (Loudness button)   | ⑫ BASS (Regulation of low notes)                                 |
| ⑥ VOLUME (Adjustment of the volume)  | ⑬ TREBLE (Regulation of high notes)                              |
| ⑦ SPEAKERS (Speaker selection switch)<br>● system-A, ● system-B, ● A+B, ● off                          | ⑭ BALANCE (Balance adjustment)                                   |
|  | ⑮ PROCESSOR LOOP (Processor loop switch)                         |
|  | ⑯ FRONT VIDEO-2 (Extra front panel input terminal)               |

**Video Input Function**

The PMA-900V provides a video input function. The image selection circuitry gives preference to VIDEO-1 for all settings of the INPUT SELECTOR button, unless VIDEO-2 has been specified. This function might be used, for example, to watch a TV monitor while playing a compact disc. In this case it would connect the image input circuitry of the VIDEO-1 terminal to the image output of a video recorder, tape recorder, or video disc recorder. The resultant monitor out signal would be sent to the TV monitor, for "background video" audio-visual entertainment combining sound and images.

**Note:**

Please note the following differences in the markings on the front and back panels on the European models:

VIDEO-1 → AUX/VIDEO 1  
VIDEO-2 → AUX/VIDEO 2  
TUNER/AUX → TUNER

In addition, there is no AV mark on the front panel.

• Connecting a video device

Connect the output terminals of the video device (OUTPUT) to the VIDEO terminals of the amp, using a pin plug cord.

• CONNECTING A VIDEO DEVICE

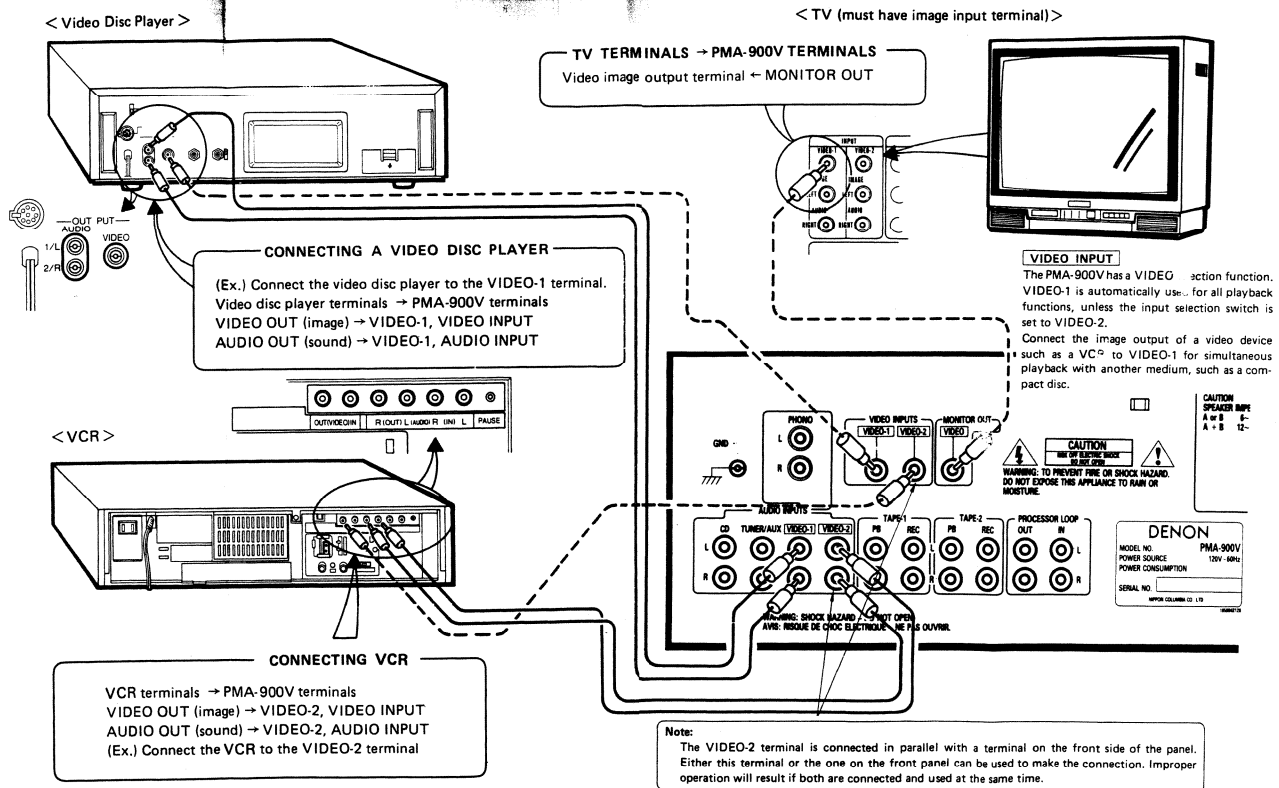


Fig. 6

CONNECTIONS

CONNECTIONS

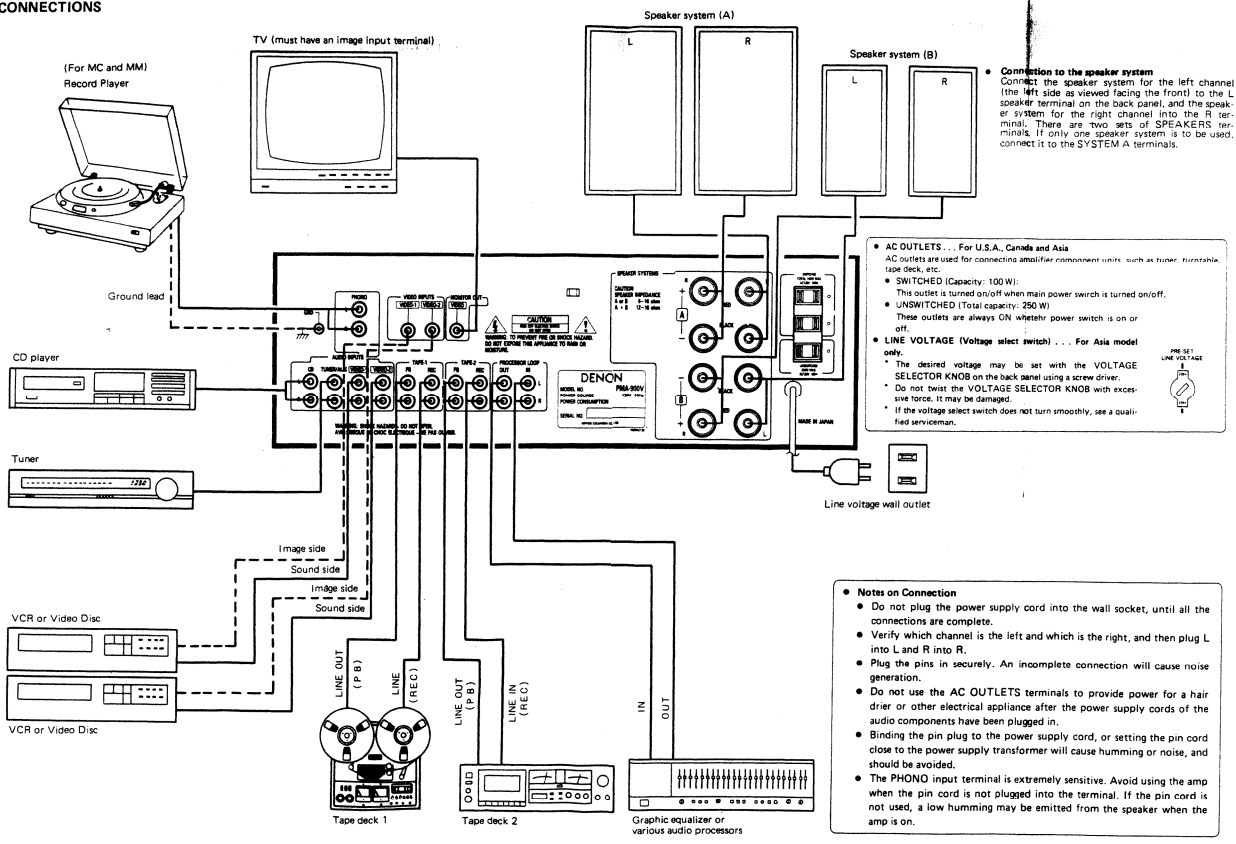


Fig. 5

• Connecting a video device

Connect the output terminals of the video device (OUTPUT) to the VIDEO terminals of the amp, using a pin plug cord.

• CONNECTING A VIDEO DEVICE

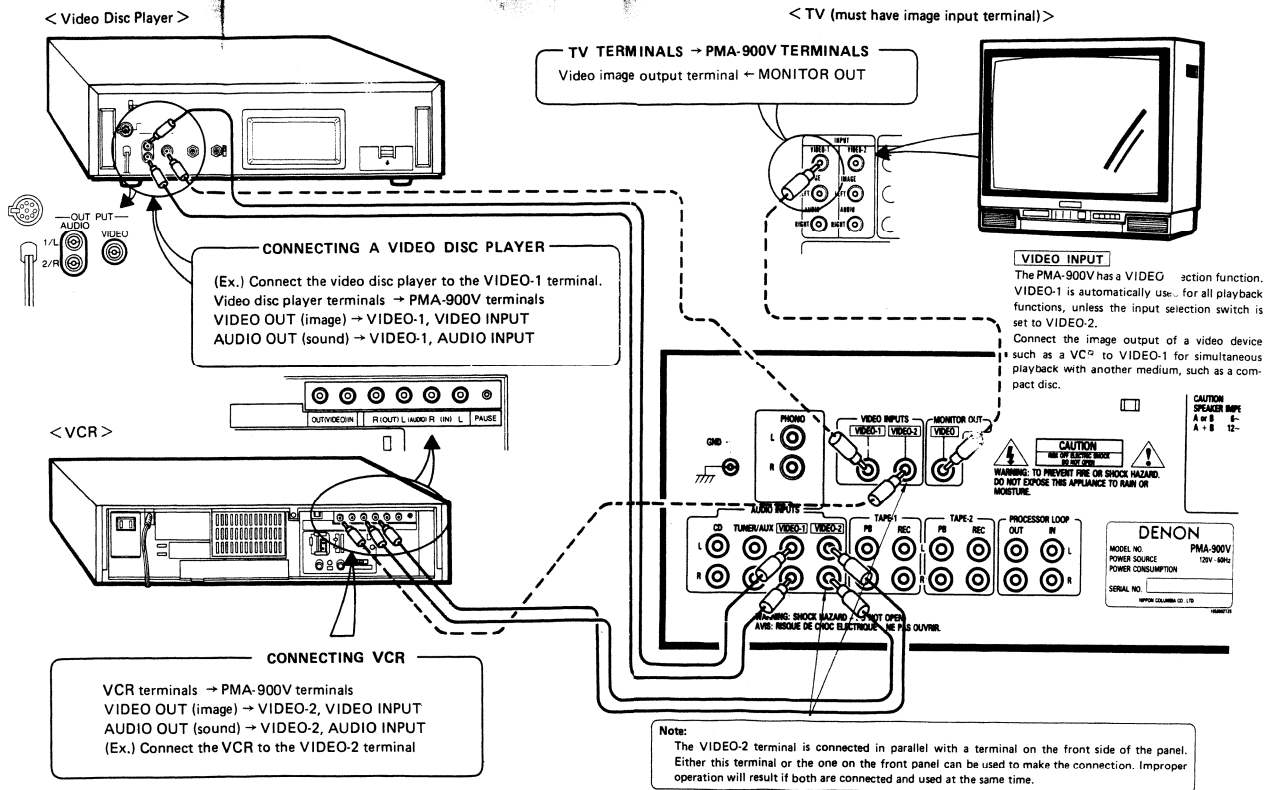


Fig. 6

BLOCK DIAGRAM

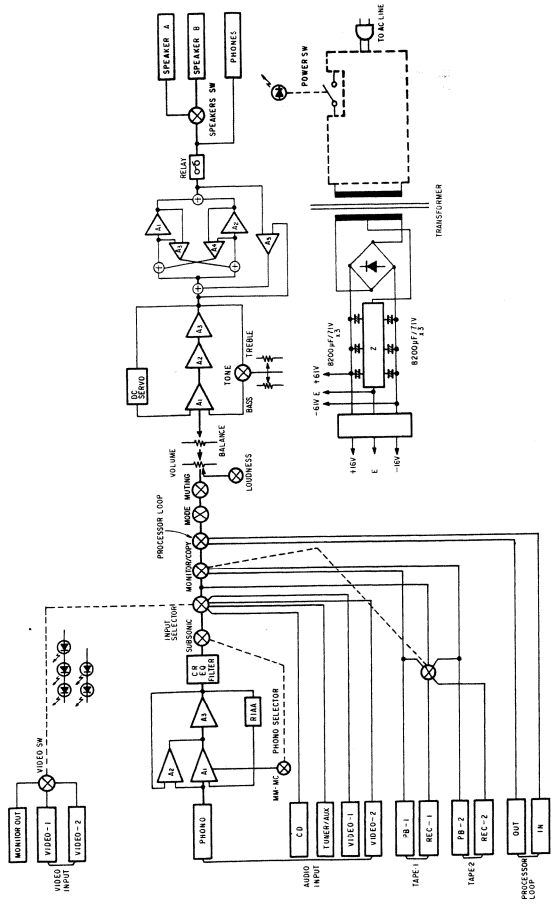


Fig. 7

METHOD OF ADJUSTMENTS

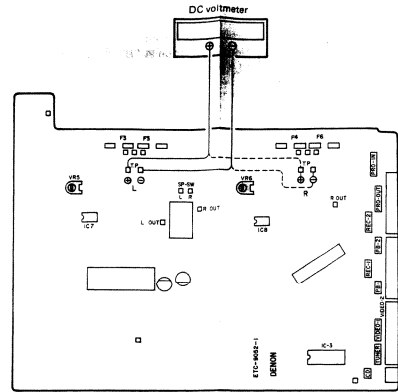


Fig. 8

IDLING CURRENT

• Setup

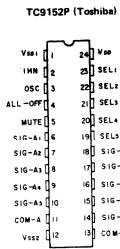
1. Lay the unit at an ordinary position away from a direct current from a cooler or fan. Do the adjustment at a temperature between 15°C and 30°C.
2. Set controls as follows.  
 POWER SWITCH → off (⏻)  
 VOLUME CONTROL → fully counterclockwise (⌚ min)  
 SPEAKER Terminals → open: do not connect the speakers, dummy load etc.

• Adjustment

1. Remove Top cover. And then connect DC Voltmeter to Test points of ETC-9052-1 (INPUT & POWER Unit).
2. Connect Power cord to AC outlet, and turn Power Switch "on" (⏻). Within 10 seconds turn VR5 (Lch) and VR6 (Rch) clockwise so that the DC voltmeter reads.  
 $0.4 \pm 0.1$  mVDC
3. Then after 5 minutes warmup adjust VR5 and VR6 so that the DC Voltmeter reads.  
 $5 \pm 0.5$  mV
4. And after 15 minutes warmup adjust VR5 and VR6 so that the DC Voltmeter reads.  
 $8 \pm 3$  mV

SEMICONDUCTORS

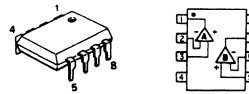
● IC's



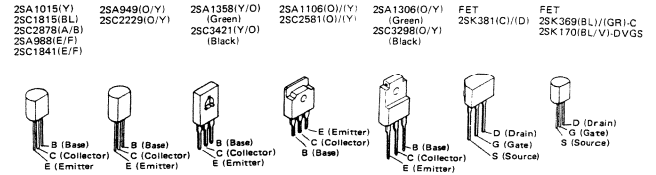
FUNCTION OF EACH TERMINAL

TERMINAL NO.	SYMBOL	FUNCTION	REMARKS
2	INH	Inhibit input terminal. Normal operation at "H" level, inhibit operation at "L" level.	
3	OSC	C.R connecting terminal for oscillator. With this oscillation frequency, muting time and switching time of analog will be set.	
4	ALL-OFF	Specified OFF input terminal of all analog switches. Applying "H" level to turn off all analog switches.	
5	MUTE	Output terminal of muting signal. By receiving of "H" level at select input terminals (SEL-1 ~ SEL-5), this terminal becomes "H" level for settled time and within this time analog switch will shift.	
23 22 21 20 19	SEL-1 SEL-2 SEL-3 SEL-4 SEL-5	Select input terminals for respective analog switches. Turn SEL-1 ~ SEL-5 terminals to "H" level to turn on respective analog switches. SEL-1 ~ SEL-5 are all reciprocal reset. These terminals are in conjunction with driver output I/O terminals.	
6/18	SIG-A <sub>1</sub> SIG-B <sub>1</sub>	Signal input terminal 1. Select SEL-1 to turn on analog switch 1 and this terminal will conduct to COM terminal.	
7/17	SIG-A <sub>2</sub> SIG-B <sub>2</sub>	Signal input terminal 2. Select SEL-2 to turn on analog switch 2 and this terminal will conduct to COM terminal.	
8/16	SIG-A <sub>3</sub> SIG-B <sub>3</sub>	Signal input terminal 3. Select SEL-3 to turn on analog switch 3 and this terminal will conduct to COM terminal.	
9/15	SIG-A <sub>4</sub> SIG-B <sub>4</sub>	Signal input terminal 4. Select SEL-4 to turn on analog switch 4 and this terminal will conduct to COM terminal.	
10/14	SIG-A <sub>5</sub> SIG-B <sub>5</sub>	Signal input terminal 5. Select SEL-5 to turn on analog switch 5 and this terminal will conduct to COM terminal.	
11/13	COM-A COM-B	Common terminal for analog switches.	
24 1 12	VDD V <sub>SS1</sub> V <sub>SS2</sub>	Power supply voltage applying terminal. For control system VDD-V <sub>SS1</sub> . For analog switch system VDD-V <sub>SS2</sub> .	

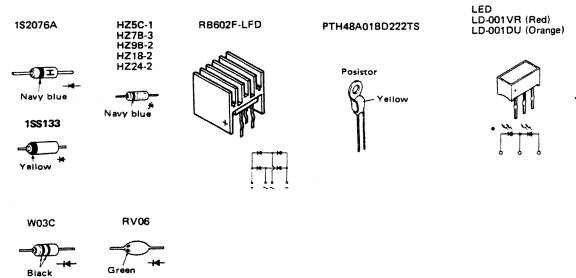
M5218P (Mitsubishi)  
LA6458DF (San'yo)



● TRANSISTORS (including FET)



● DIODES (including LED)







E1 for Asia ETC9053M  
(Same as ETC9053K (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
<b>RESISTORS</b>		
R001, 002	2412100004	2.2k ohm ±5% 1/4W CARBON DELETE
<b>CAPACITORS</b>		
C001, 002	2533627000	100pF ±5% 50V CERAMIC CHANGE
AC111	2538003014	0.0047µF ±20% 400V(AC) CERAMIC DELETE
C591, 592	2531008003	4700pF ±10% 50V CERAMIC DELETE
<b>SWITCH &amp; COILS</b>		
ASW014, L001, 002	2129534002 2359003002	POWER SWITCH FTZ CHOKE COIL (2) DELETE DELETE
<b>OTHER PARTS</b>		
AF001	2020022008 2061015087 2090008120	FUSE HOLDER (2) FUSE (4A) JUMPER WIRE P=10mm (2) DELETE DELETE ADD

EU for U.S.A. ETC9053N  
(Same as ETC9053K (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
<b>RESISTORS</b>		
R001, 002	2421000004	2.2k ohm ±5% 1/4W CARBON DELETE
<b>CAPACITORS</b>		
C001, 002	2533627000	100pF ±5% 50V CERAMIC CHANGE
AC111	2538003014	0.0047µF ±20% 400V(AC) CERAMIC DELETE
C591, 592	2531008003	4700pF ±10% 50V CERAMIC DELETE
<b>SWITCH &amp; COILS</b>		
ASW014, L001, 002	2129534002 2359003002	POWER SWITCH FTZ CHOKE COIL (2) DELETE DELETE
<b>OTHER PARTS</b>		
AF001	2020022008 2061015087 2090008120	FUSE HOLDER (2) FUSE (4A) JUMPER WIRE P=10mm (2) DELETE DELETE ADD

EK for U.S. and EA for Australia ETC9053P and ETC9053Q  
(Same as ETC9053K (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
<b>RESISTORS</b>		
R001, 002	2412100004	2.2k ohm DELETE
<b>SWITCH &amp; COILS</b>		
L001, 002	2359003002	FTZ CHOKE COIL (2) DELETE
<b>OTHER PARTS</b>		
	2090008120	JUMPER WIRE P=10mm (2) ADD

ETC9052K INPUT & POWER UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
<b>SEMICONDUCTORS</b>		
IC003	2620581004	TC9152P IC (TOSHIBA)
IC006	2630257001	M-5218P IC (MITSUBISHI)
TR151	2730198015	2SC1815(BL) TRANSISTOR
TR152	2710102005	2SA1015(Y) TRANSISTOR
TR153	2730198015	2SC1815(BL) TRANSISTOR
TR155	2730253015	2SC2878(A/B) TRANSISTOR
TR201	2730198015	2SC1815(BL) TRANSISTOR
TR203	2730235020	2SC1841(E/F) TRANSISTOR
TR204	2710102005	2SA1015(Y) TRANSISTOR
TR205	2730253015	2SC2878(A/B) TRANSISTOR
TR206	2730198015	2SC1815(BL) TRANSISTOR
TR208	2710102005	2SA1015(Y) TRANSISTOR
TR209	2730233000	2SC3421(O/Y) TRANSISTOR
TR210	2710195009	2SA1358(O/Y) TRANSISTOR
TR211	2750043001	2SK381(B)(IC) FET
TR401	2750048008	2SK170(BL)(V) DVGS FET
TR405	2730235020	2SC1841(E/F) TRANSISTOR
TR409	2710185005	2SA949(O)(Y) TRANSISTOR
TR415	2730307000	2SC2229(O)(Y) TRANSISTOR
TR417	2710185005	2SA949(O)(Y) TRANSISTOR
TR419	2730307000	2SC2229(O)(Y) TRANSISTOR
TR501	2730198015	2SC1815(BL) TRANSISTOR
TR503	2730307000	2SC2229(O)(Y) TRANSISTOR
TR505	2710185005	2SA949(O)(Y) TRANSISTOR
TR507	2730234009	2SC2298(O)(Y) TRANSISTOR
TR508	2710196008	2SA1306(O)(Y) TRANSISTOR
D152	2760401002	1S1133 DIODE
D171	2760401002	1S1133 DIODE
D201	2760049011	1S2076A DIODE
D202	2760249002	HZ18-2 ZENER
D208	2760049011	1S2076A DIODE
D401	2760401002	1S1133 DIODE
D501	2760218033	HZ9B-2 ZENER
D505	2760236031	HZ5C-1 ZENER
D507	2760254000	HZ7B-3 ZENER
D511	2760401002	1S1133 DIODE
D522	2760049011	1S2076A DIODE
D527	2760401002	1S1133 DIODE
D531	2760049011	1S2076A DIODE
<b>RESISTORS (not included Carbon Film ±5%, 1/4W Type)</b>		
R201	2440039025	500 ohm ±5% 1W METAL OXIDE FILM (NBF)
R207	2440039024	500 ohm ±5% 1W METAL OXIDE FILM (NBF)
R413	2412368034	240 ohm ±5% 1/4W CARBON (NBF)
R416	2412379987	1k ohm ±5% 1/4W CARBON (NBF)
<b>CAPACITORS</b>		
C055	2544132005	10µF 16V ELECTROLYTIC
C059	2544146004	1µF 50V ELECTROLYTIC
C151	2540190005	1000pF ±10% 50V CERAMIC
C155	2540190005	220pF 16V ELECTROLYTIC
C157	2531024003	0.01µF ±80-20% 50V CERAMIC
C171	2544146004	1µF 50V ELECTROLYTIC
C201	2544146004	1µF 50V ELECTROLYTIC
C203	2554137003	470pF ±5% 50V PLASTIC FILM
C204	2544141009	10µF 35V ELECTROLYTIC
C205	2544127007	220pF 6.3V ELECTROLYTIC
C206	2544096005	470µF 6.3V ELECTROLYTIC
C207	2544132005	10µF 16V ELECTROLYTIC
C301	2531004007	1000pF ±10% 50V CERAMIC
C302	2554137003	470pF ±5% 50V PLASTIC FILM
C303	2551140051	0.082µF ±5% 50V PLASTIC FILM
C401	2554121006	100pF ±5% 50V PLASTIC FILM
C402	2554137003	470pF ±5% 50V PLASTIC FILM
C403	2531008003	4700pF ±10% 50V CERAMIC
C405	2534269001	10pF ±0.5pF 500V CERAMIC
C406	2531024003	0.01µF ±80-20% 50V CERAMIC
C411	2534355009	5pF ±0.25pF 500V CERAMIC
C412	2533627000	100pF ±5% 50V CERAMIC
C413	2533643000	470pF ±5% 50V CERAMIC
C414	2544150003	10µF 50V ELECTROLYTIC
C415	2544150003	10µF 50V ELECTROLYTIC
C417	2544150003	10µF 50V ELECTROLYTIC
C418	2544150003	10µF 50V ELECTROLYTIC

Ref. No.	Part No.	Part Name & Descriptions	Ref. No.	Part No.	Part Name & Descriptions	Q'ty
C419, 420	2534273000	15pF ±5% 500V CERAMIC	L501, 502	2359001004	INDUCTOR (2μH)	2
C421, 422	2534271002	12pF ±0.5pF 500V CERAMIC		4140240001	EARTH PLATE (GND)	1
C425, 426	2544146004	1μF 50V ELECTROLYTIC	F003 ~006	2048191005	HEADPHONE JACK	1
C427	2544060038	0.47μF 100V ELECTROLYTIC		2020022008	FUSE HOLDER (+ - B)	8
C428	2544181001	1μF ±20% 100V ELECTROLYTIC		2050274004	2P CONNECTOR BASE	1
C429, 430	2544127007	220μF 6.3V ELECTROLYTIC	CN001	2050152003	6P CONNECTOR BASE	3
C431	2044090036	0.47μF 100V ELECTROLYTIC		2050190078	7P NH CONNECTOR BASE (TACT SW & LED)	1
C451, 452	2551121041	0.015μF ±5% 50V PLASTIC FILM	CN002	2050105070	7P WIRE HOLDER	1
C453, 454	2551140064	0.12μF ±5% 50V PLASTIC FILM	CN002	2042052014	7P CONNECTOR CORD (EQ & VIDEO SW)	1
C457	2551121007	6800pF ±5% 50V PLASTIC FILM	CN003	2050190052	5P NH CONNECTOR BASE	1
C458	2551120013	1200pF ±5% 50V PLASTIC FILM	CN006	2050190036	3P NH CONNECTOR BASE (FRONT VIDEO-2)	1
C459	2551120013	1200pF ±5% 50V PLASTIC FILM		2050190036	3P NH CONNECTOR BASE (POWER INPUT)	1
C461, 462	2551135095	0.056μF ±5% 50V PLASTIC FILM	W-003	2050185038	3P WIRE HOLDER	14
C465, 466	2533633007	180pF ±5% 50V CERAMIC	F003 ~006	2034200010	3P CONNECTOR CORD	1
C501	2544139008	100μF 25V ELECTROLYTIC		4450333005	WIRE CLAMP BAND	4
C505	2533603008	10pF ±0.5pF 50V CERAMIC	REP1261	2061040023	FUSE (6.3A, F)	1
C506	2533639001	330pF ±5% 50V CERAMIC			JUMPER WIRE	1
C510	2544132005	10μF ±16V ELECTROLYTIC				
C511, 512	2544146004	1μF 50V ELECTROLYTIC				
C513, 514	2531024003	0.01μF ±80,-20% 50V CERAMIC				
C519	2531024003	0.01μF ±80,-20% 50V CERAMIC				
C523 ~526	2533627000	100pF ±5% 50V CERAMIC				
C527	2533627000	100pF ±5% 50V CERAMIC				
C530	2534281005	33pF ±5% 500V CERAMIC				
C531 ~534	2531005006	1800pF ±10% 50V CERAMIC				
C535 ~538	2551121025	0.01μF ±5% 50V PLASTIC FILM				
C539, 540	2551121067	0.022μF ±5% 50V PLASTIC FILM				
C541, 542	2544181001	1μF ±20% 100V ELECTROLYTIC				
C543 ~546	2551135095	0.056μF ±5% 50V PLASTIC FILM				
C551 ~554	2531024003	0.01μF ±80,-20% 50V CERAMIC				
C555, 556	2533635005	220pF ±5% 50V CERAMIC				
C631, 632						
SWITCHES & RELAY		Q'ty				
SW007	2129524002	SLIDE SW (REMOTE) T. MONI	1			
SW008	2129520003	1P PUSH SW (PROCESSOR LOOP)	1			
SW009	2129524009	3P PUSH SW (MODE,LOUD & MUTE)	1			
-011	2129520003	1P PUSH SW TONE	1			
SW112	2140037009	RELAY SP 48V	1			
OTHER PARTS		Q'ty				
J701	2229053302	P.W. BOARD	1			
-703	2090008146	JUMPER WIRE P=5mm	15			
705	2090008120	JUMPER WIRE P=10mm	223			
J018	2090008104	JUMPER WIRE P=15mm	4			
	2090008159	JUMPER WIRE P=17.5mm	1			
	EP.5667H1	TERMINAL PIN L=21mm	12			
	4170043100	RADIATOR (FOR TR209, 210)	2			
	4730354019	TAPPING SCREW (2) 3x8	2			

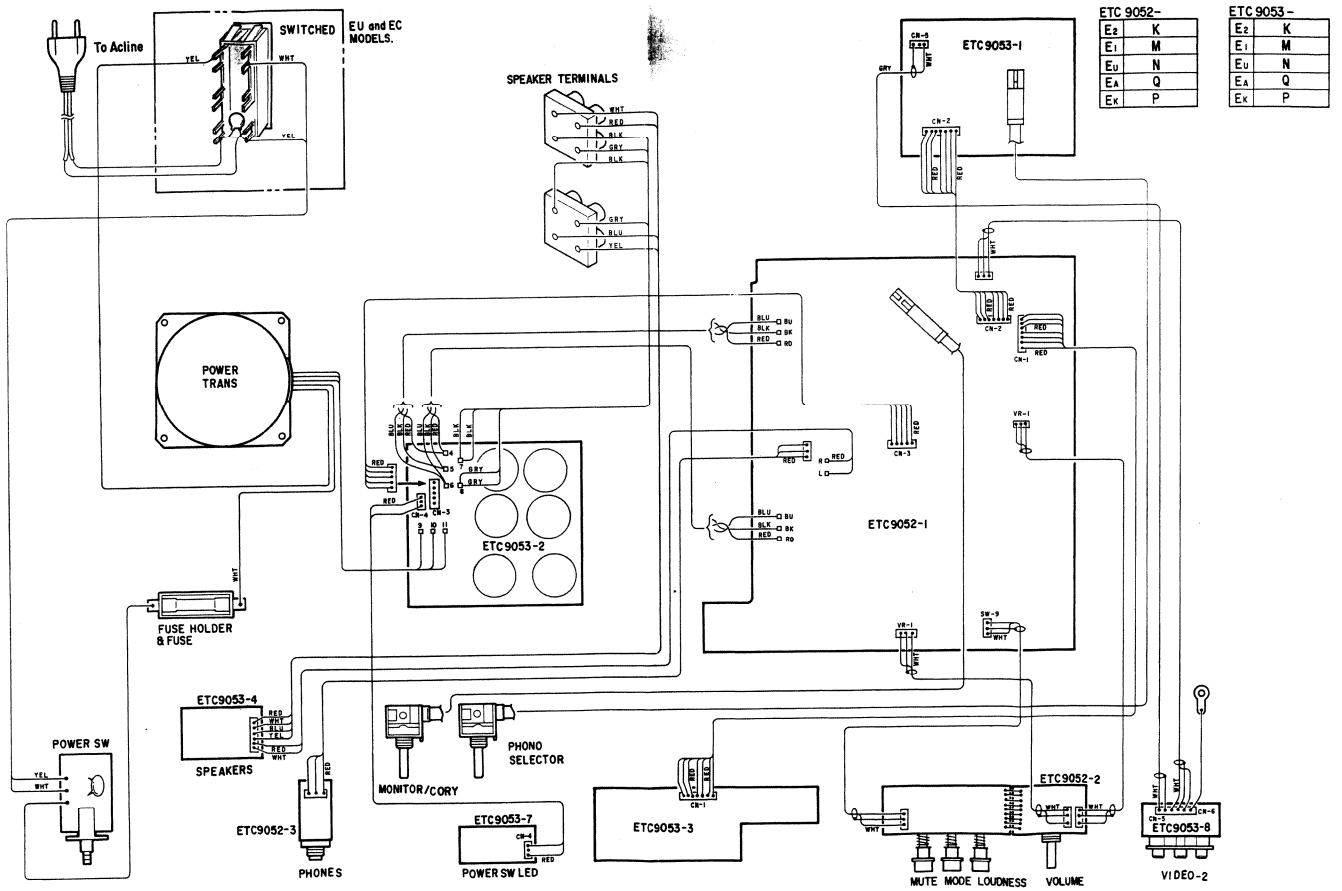
E1 for Asia ETC9052M  
(Same as ETC9052K (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions	Change
OTHER PARTS			
F003 ~006	2061041035	FUSE (F) 6.3A (4)	CHANGE
	5139134004	FUSE LABEL	ADD.

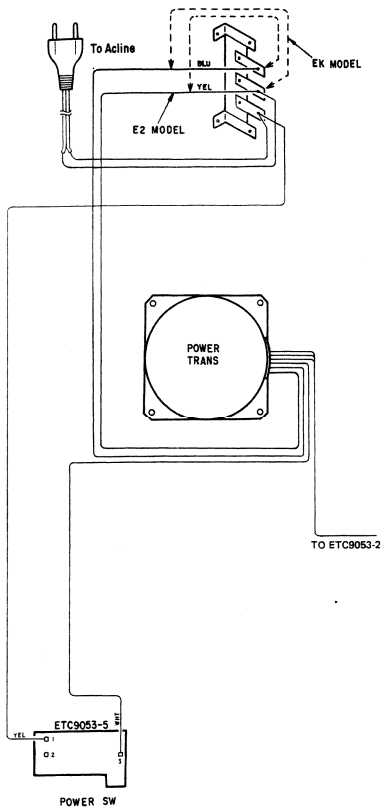
EU for U.S.A. ETC9052N  
(Same as ETC9052K (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions	Change
RESISTORS			
R409, 410	2412088007	100 ohm ±5% 1/4W CARBON	CHANGE
R417, 420	2412080001	330 ohm ±5% 1/4W CARBON	CHANGE
RS87, ~888	2440021029	22 ohm ±5% 1W METAL OXIDE (NB)	CHANGE
CAPACITORS			
C631, 632	2533635005	220pF ±5% 50V CERAMIC	DELETE
OTHER PARTS			
F003 ~006	5139134004	FUSE LABEL	ADD
	2061040023	FUSE 6.3A F (4)	CHANGE

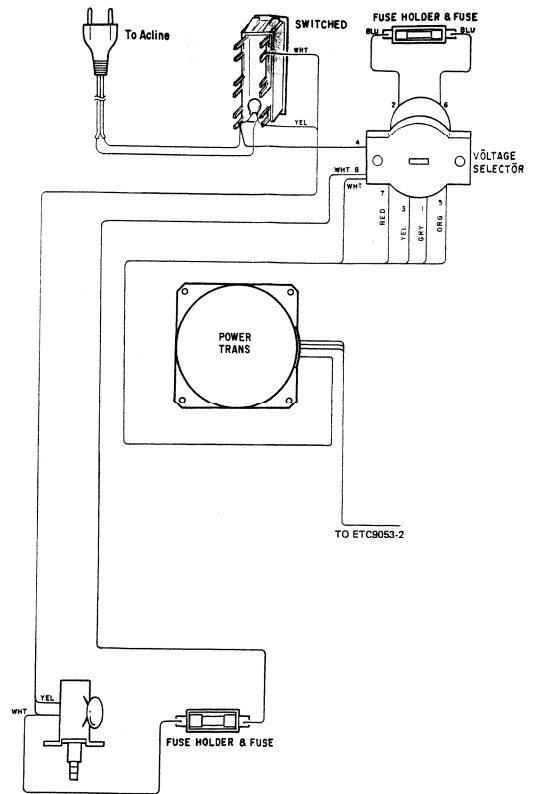
EK for U.K. and EA for Australia ETC9052P, and ETC9052Q  
(Same as ETC9052K (for E2))



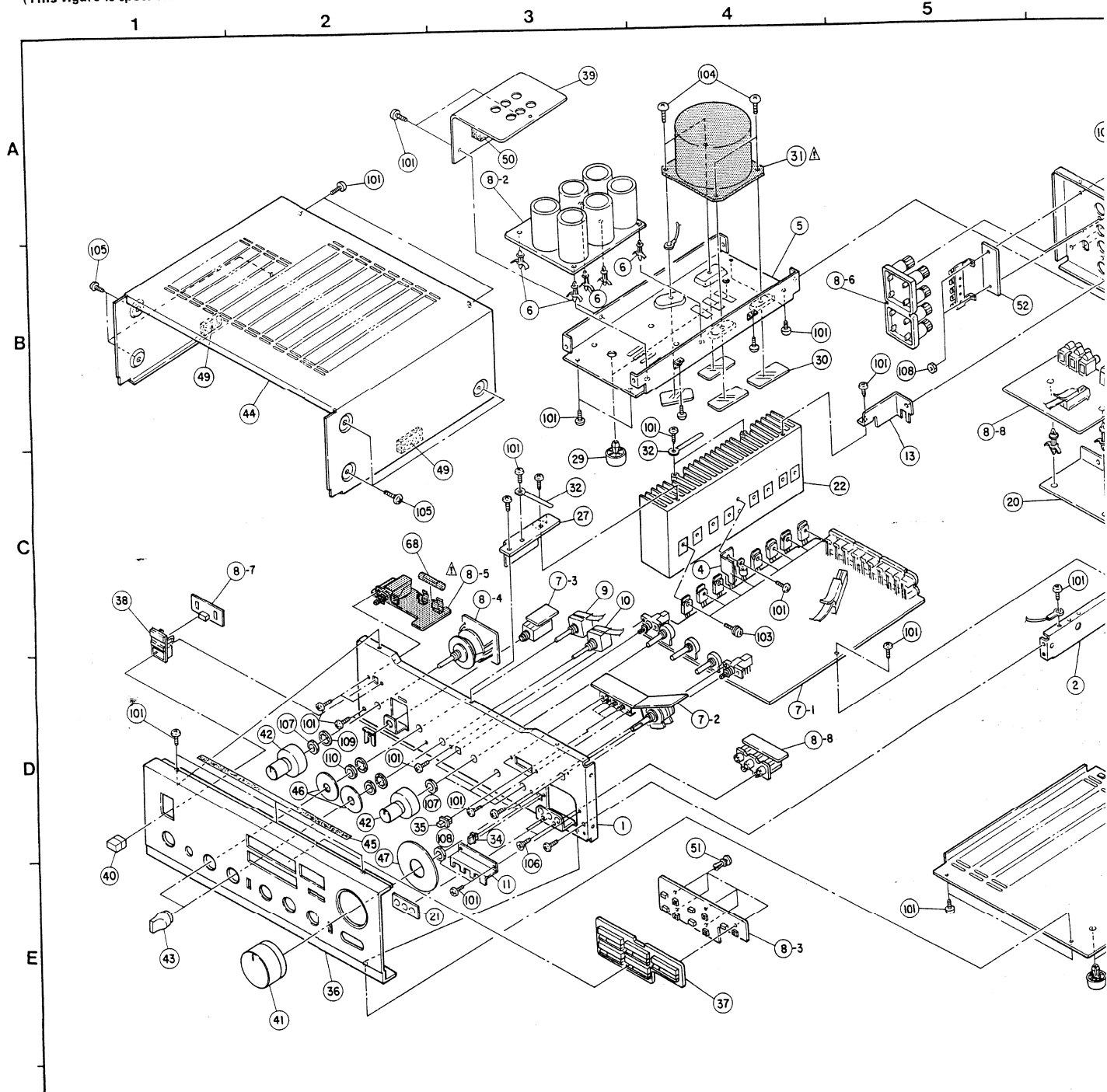
WIRING DIAGRAM  
E2 & EK Models (Same as E2 version except the following)



WIRING DIAGRAM  
E1 Model (Same as E2 version except the following)



EXPLODED VIEW OF CHASSIS AND CABINET  
(This figure is specifications of E2.)



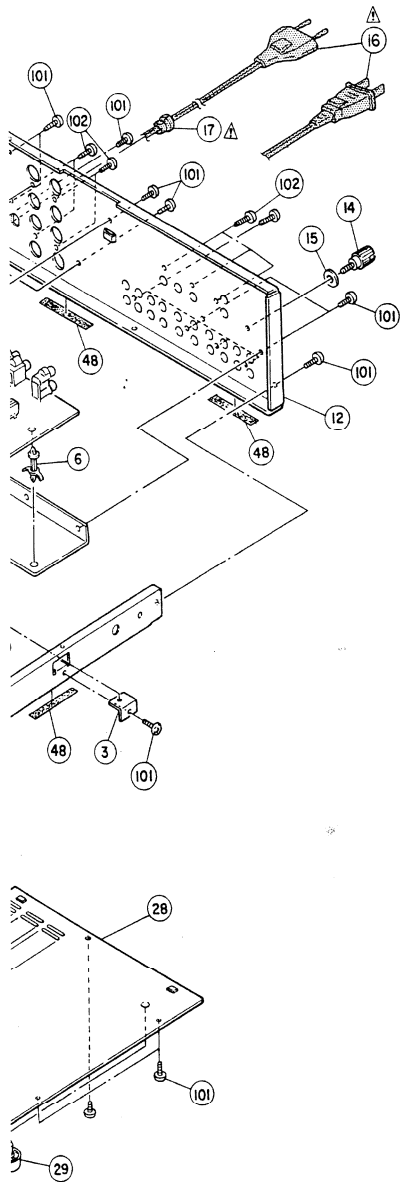
Note 1. See addendum list below for the parts with asterisk (\*) on the Ref. No. and the other parts not included in the list.  
 2. \* marked not included EXPLODED VIEW OF CHASSIS AND CABINET.  
 3. This list is prepared based on E2 BLACK VERSION.

EXPLODED VIEW OF PARTS LIST for E2 BLACK VERSION

Ref. No.	Part No.	Part Name & Descriptions	Q'ty	Ref. No.	Part No.	Part Name & Descriptions	Q'ty	Ref. No.	Part No.	Part Name & Descriptions	Q'ty
1	4119019409	FRONT CHASSIS	1	27	4129039107	RADIATOR BRACKET	1	SCREWS, NUTS			
2	4119020207	SIDE CHASSIS	1	28	1059044207	BOTTOM COVER	1				
3	4129038001	P.W.B BRACKET	1	29	1049003009	FOOT	4	*101	4737002034	TAPPING SCREW (S) BLACK 3x6	5
4	4129044008	BRACKET	1	30	4149017002	SAFETY PLATE	4	102	4737500044	TAPPING SCREW (P) BLACK 3x8	1
5	4119021206	TRANS CHASSIS	7	Δ*31	2339548105	POWER TRANS	1	103	4700012022	CROSS PAN SCREW WITH SW, W 3x12	1
6	4150228000	P.C.B HOLDER	1	*32	4450048016	CORD HOLDER (L50)	3	104	4737004016	TAPPING SCREW (S) 4x6	1
*7	ETC9052K	INPUT & POWER UNIT	1	*33	4450033005	WIER CLAMP BAND	10	**105	4737007000	TAPPING SCREW (S) BLACK 4x8	1
Δ*8	ETC9053K	EQ. & PS UNIT	1	**34	1139071006	PUSH KNOB (T)	2	106	-	-	-
9	2123614009	ROTARY REMOTE SW (T. MONI)	1	*35	1139072005	PUSH KNOB (L)	3	107	-	-	-
10	2123614012	ROTARY REMOTE SW (PHONO)	1	**36	1449030119	FRONT PANEL ASS'Y	1	108	4756006008	NUT M3	-
11	-	-	-	*37	1139073224	PUSH KNOB (F) ASS'Y	1	PACKING & ACCESSORIES (not included EXPLODED VIEW)			
*12	1059052118	BACK PANEL	1	**38	1469044101	KNOB GUIDE (P) ASS'Y	1				
13	4129040002	BRACKET	1	*39	4129066002	CON. HOLD BRACKET	1	201	5049102003	STYLEN PAPER	1
14	2050071016	TERMINAL ASS'Y	1	**40	1139070104	PUSH KNOB (P)	1	202	5050075051	CABINET COVER	1
15	4770018001	WASHER (P-87)	1	*41	1129012004	VR KNOB ASS'Y	1	203	5039123102	CUSHION	1
Δ*16	2062002031	AC CORD	1	**42	1129013207	KNOB ASS'Y	4	**204	5019101050	CARTON CASE	1
Δ*17	4450020005	CORD BUSH (4K-4)	1	*43	1129014109	KNOB ASS'Y	2	205	5119171003	INST. MANUAL	1
18	-	-	-	**44	1029013213	TOP COVER	1	*206	-	-	-
Δ*19	2538010007	CERAMIC CAPACITOR (0.01μF 400V AC)	1	45	1220095014	SPACER	2	**207	5138295009	CONTROL CARD	1
20	2129041001	P.W.B SUPPORT	1	46	1229007029	BLIND RING	1				
21	1469045100	BLIND SHEET	1	47	1229007032	BLIND RING	1				
22	4179012116	POWER RADIATOR	1	48	1229006033	SPACER	3				
23	4150234007	INSULATING SHEET	8	*49	4619001001	RUBBER SHEET	2				
24	2730273011	TRANSISTOR 2SC2581(O)/(Y) (TR#51-214)	4	*50	4619001030	RUBBER SHEET	1				
25	2710160018	TRANSISTOR 2SA1106(O)/(Y) (TR#15-518)	4	51	4770210016	PUSH RIVET	5				
26	2760289004	POSITIVE THERMISTOR PTH487A01BD22ZTS	1	*52	4150088004	INSULATING SHEET	1				
				53	2050089008	7P W. TERMINAL	1				
				54	1220114005	SPACER	2				
				*55	4129050005	BRACKET (3P)	1				

⚠ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.

6 7



### WARNING:

#### 1. Component parts

Parts marked with ⚠ and/or shading in this service manual have special characteristics important to safety. Be sure to use the specified parts for replacement.

#### 2. Leakage current

Before returning the appliance to customer, test the leakage current when the power plug is connected. Use a calibrated (with an error of not more than 5%) leakage current tester and measure the leakage current from any exposed metal to the earth ground. Reverse the power plug polarity and test the above again.

Any current measured MUST NOT EXCEED 0.5 milliamps. Corrective measure must be taken if it exceeds the limit.



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

### ADDENDUM LIST

Ref. No.	Part Name & Descriptions	Part No.				
		E1 for Asia	EU for U.S.A.	EA for Australia	EK for U.K.	EC for Canada
7	INPUT & POWER UNIT	ETC9052M	ETC9052N	ETC9052Q	ETC9052P	ETC9052R
8	EQ & P.S. UNIT	ETC9053M	ETC9053N	ETC9053Q	ETC9053P	ETC9053R
12	BACK PANEL	1059055115	1059042128	1059052118	1059052118	1059042128
16	AC CORD	2006031026	2062039004	2062012018	2062024006	2062039004
17	CORD BUSH	4450028007	4450020005	MD-2982H	4450020005	4450020005
19	CAPACITOR	—	—	2538010007	2538010007	—
31	POWER TRANS	2339549007	2330543100	2339548105	2339548105	2339543100
36	FRONT PANEL ASS'Y	1449030106	1449030106	1449030119	1449030119	1449030106
37	PUSH KNOB (F) ASS'Y	1139073208	1139073208	1139073224	1139073224	1139073208
44	TOP COVER	1029013310	1029013249	1029013310	1029013310	1029013349
52	INSULATING SHEET	—	—	4150088004	4150088004	—
53	7P W. TERMINAL	—	—	2050089008	2050089008	—
61	VOLTAGE LABEL	—	—	5130362008	5130362008	—
62	BLIND SHEET	—	—	5139132006	5139132006	—
63	EARTH LABEL	—	—	5130140000	—	—
64	NOTICE SHEET	—	—	5130209006	—	—
65	NOTICE SHEET	—	—	5130210008	—	—
66	AC OUTLET (POLARIZED)	2033926007	2033926007	—	—	2033926007
67	FUSE HOLDER	2020013101	2020013101	—	—	2020013101
68	FUSE (8A)	2061046014	2061046014	—	—	2061046014
69	VOLTAGE SEL. SW.	2120186006	—	—	—	—
70	CAUTION SHEET	—	—	—	5130364006	—
71	IMPORTANT LABEL	—	—	—	—	—
72	FUSE LABEL	5130654002	—	—	—	—
73	LA APPROVAL MARK	—	5138300004	—	—	—
74	DANGEROUS MARK	—	5138266009	—	—	—
75	CSA LABEL	—	—	—	—	5138311006
76	POWER SWITCH	2129334002	2129534002	—	—	2129534002
77	CAPACITORS (1µF/400V(AC))	253003014	2538010007	—	—	2538010007
78	WOOD BOARD (R)	—	1019026003	—	—	1019026003
79	WOOD BOARD (L)	—	1019027002	—	—	1019027002
80	INDICATION SHEET	—	5130784000	—	—	5130784000
81	PROTECTOR SHEET	—	5040077069	—	—	5040077069
82	FUSE LABEL	5130607019	5130607019	—	—	—
83	FUSE (4A)	2061015087	—	—	—	—
101	TAPPING SCREW (S) 3x6 (BLACK)	4737002034	4737002034	4737002034	4737002034	4737002034
108	M3 NUT	—	—	4756006008	4756006008	—
111	φ3 TOOTHED WASHER	—	—	4753001051	—	—
112	5T LUG	—	—	—	—	—
113	φ4 TOOTH WASHER	—	—	4753100004	—	—
114	TAPPING SCREW 4x6 (BLACK)	4734453039	4734453039	—	—	4734453039
115	TAPPING SCREW 4x20 (BLACK)	—	4737007039	—	—	4737007039
116	φ5 WASHER (BLACK)	—	4751006016	—	—	4751006016
204	CARTON CASE	5019101050	5019104099	5019101050	5019101050	5019104099
207	CONTROL CARD	—	—	5138295009	5138295009	—
211	CAUTION PAPER	—	—	5130211007	—	—
212	WARRANTY IN ENVELOPE	—	5150349108	—	—	—
213	SAFETY INSTRUCTION	—	5111041102	—	—	—

### GOLD VERSION PARTS LIST

(Same as BLACK VERSION except the followings.)

Qty	Ref. No.	Part No.	Part Name & Descriptions	Qty
	34	1139071019	PUSH KNOB (T)	2
	35	1139072021	PUSH KNOB (L)	3
0	36	1449030122	FRONT PANEL ASS'Y	1
1	37	1139073211	PUSH KNOB (F) ASS'Y	1
8	38	1469044114	KNOB GUIDE (P) ASS'Y	1
4	40	1139070117	PUSH KNOB (P)	1
6	41	1139012017	VR KNOB ASS'Y	1
2	42	1129013210	KNOB ASS'Y	4
1	43	1129014112	KNOB ASS'Y	2
1	44	1029013336	TOP COVER	1
1	105	4737014006	TAPPING SCREW(S) 4x8	6
1	204	5019101076	CARTON CASE	1
1	206	5139111001	COLOR LABEL (GOLD)	2

NIPPON COLUMBIA CO., LTD.

No. 14-14, 4-CHOME AKASAKA,  
MINATO-KU, TOKYO 107 JAPAN

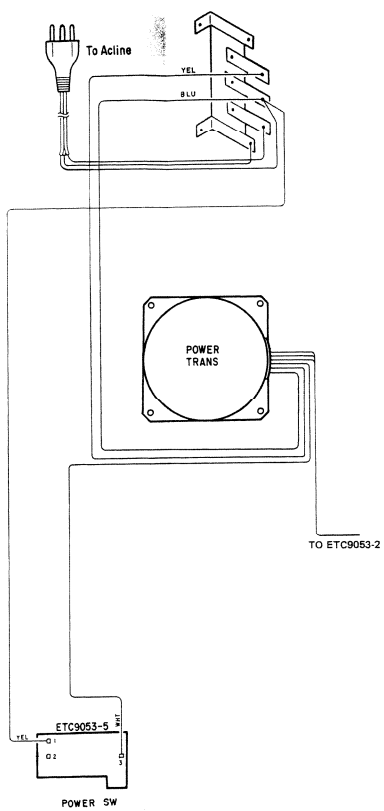
TEL: 03-584-8111

TLX: JAPANOLA J22591

CABLE: NIPPONCOLUMBIA TOKYO

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WIRING DIAGRAM  
EA Model (Same as E2 version except the following)





SCHEMATIC DIAGRAM

1 2 3 4 5 6

