

# DENON

Hi-Fi Integrated Amplifier

## SERVICE MANUAL MODEL PMA-700V

SOLID STATE  
INTEGRATED AMPLIFIER



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**NIPPON COLUMBIA CO., LTD.**

**SPECIFICATIONS**

**POWER AMPLIFIER SECTION**

**Rated Output Power:** Both channel drives (TUNER → SP OUT)  
100 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) 150 W + 150 W (DIN, T.H.D 1%)  
1 kHz (6 ohm Load) 120 W + 120 W (IEC, Subject to change by temperature test)

**Total Harmonic Distortion:** 0.004% (20 Hz – 20 kHz at –3 dB rated output 8 ohm Load)  
0.0025% (1 kHz at rated output 8 ohm Load)

**Input Sensitivity:** 150 mV

**Input Impedance:** 30 k ohm

**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	150 mV	30 k ohm	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 94 dB (input terminals short-circuited for 5 mV input)  
MC 75 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:** SUBSONIC 16 Hz, 12 dB/oct

**Loudness Characteristics:** 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  
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 SOURCE:** 3.8 A (U.S.A. & Canada); 220 W (IEC), 190W (Multiple)

**DIMENSIONS:** 434 mm (17-5/64")W x 157 mm (6-3/16")H x 397 mm (15-5/8")D (including rubber feet, control knobs, and terminals.)

**WEIGHT:** 10.5 kg (23 lbs 2 oz)

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

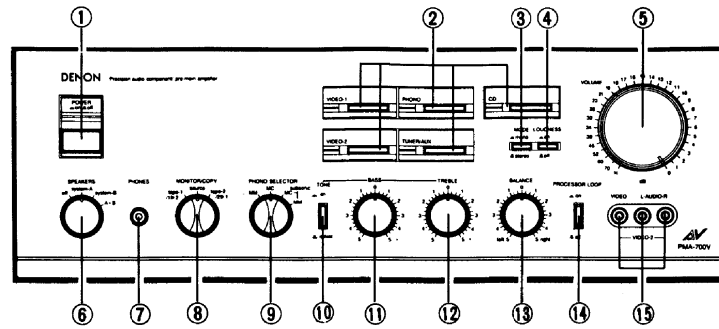


Fig. 1

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

**Video Input Function**

The PMA-700V 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.

**REMOVAL OF EACH SECTION**  
(When assembling, do reversely as to disassembling.)

**1. Removal of Top Cover**

- Remove 8 screws and detach the top cover as per arrow in Fig. 2.

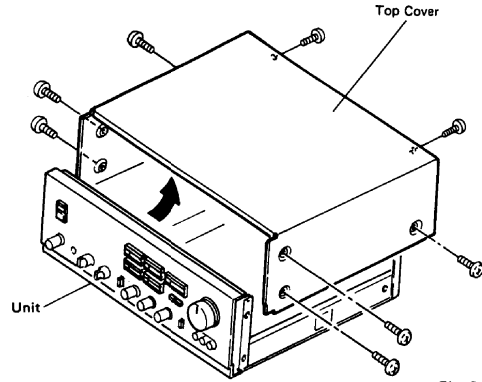


Fig. 2

**2. Removal of Back Panel**

- Remove 3 screws (A) and 7 screws (B) as per Fig. 3. Also remove screw (C) and detach back panel from the unit.

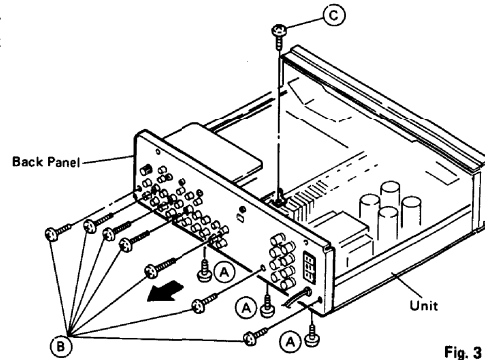


Fig. 3

**3. Removal of Front Panel Ass'y**

- Remove 4 screws (D) and remove 2 screws (E). And draw out front panel ass'y.

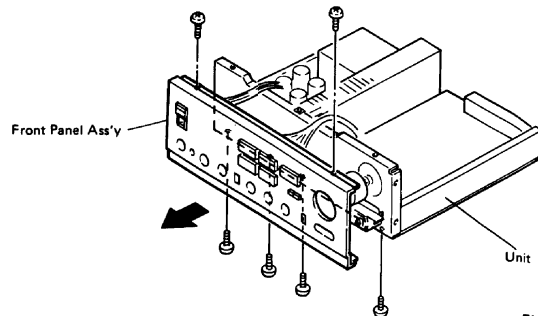


Fig. 4





BLOCK DIAGRAM

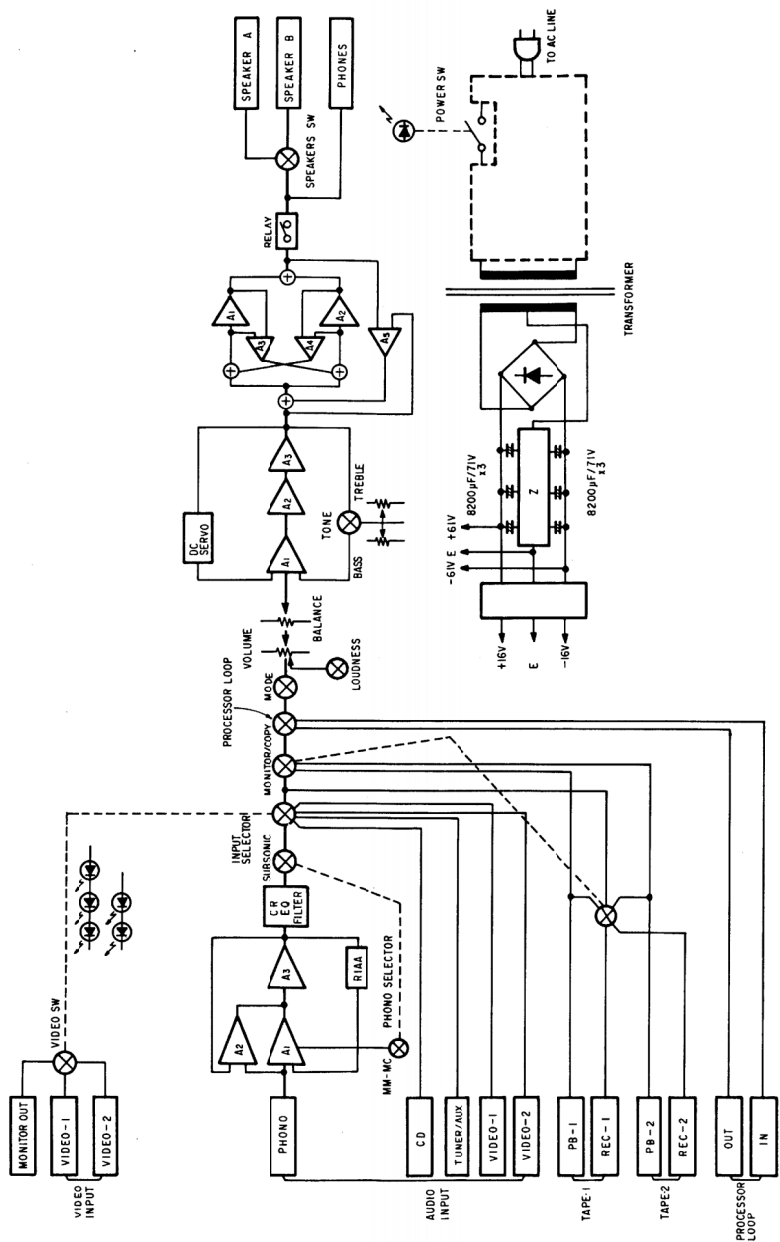


Fig. 7

METHOD OF ADJUSTMENTS

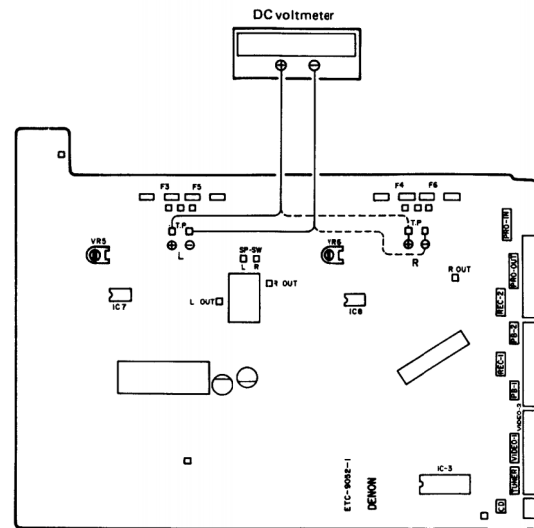


Fig. 8

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.

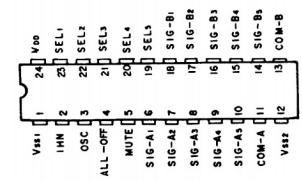
• Adjustment

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

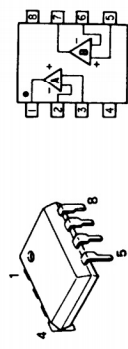
TC9152P (Toshiba)



FUNCTION OF EACH TERMINAL

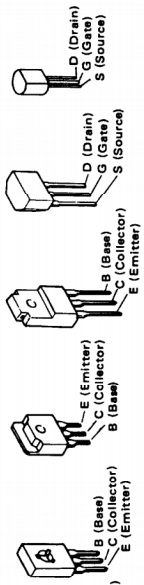
TERMINAL NO.	SYMBOL	FUNCTION	REMARKS
2	INH	Inhibit input terminal. Normal operation at "H" level, inhibit operation at "L" level.	
3	OSC	C.R connecting terminal for oscillator. With this oscillation frequency, muting time and switching time of analog will be set.	
4	ALL-OFF	Specified OFF input terminal 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	SEL-1	Select input terminals for respective analog switches.	
22	SEL-2	Turn SEL-1 ~ SEL-5 terminals to "H" level to turn on respective analog switches.	
21	SEL-3	SEL-1 ~ SEL-5 are all reciprocal reset.	
20	SEL-4	These terminals are in conjunction with driver output I/O terminals.	
19	SEL-5		
6/18	SIG-A1 SIG-B1	Signal input terminal 1. Select SEL-1 to turn on analog switch 1 and this terminal will conduct to COM terminal.	
7/17	SIG-A2 SIG-B2	Signal input terminal 2. Select SEL-2 to turn on analog switch 2 and this terminal will conduct to COM terminal.	
8/16	SIG-A3 SIG-B3	Signal input terminal 3. Select SEL-3 to turn on analog switch 3 and this terminal will conduct to COM terminal.	
9/15	SIG-A4 SIG-B4	Signal input terminal 4. Select SEL-4 to turn on analog switch 4 and this terminal will conduct to COM terminal.	
10/14	SIG-A5 SIG-B5	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	VDD	Power supply voltage applying terminal.	
1	Vss1	For control system VDD-Vss1.	
12	Vss2	For analog switch system VDD-Vss2.	

ME216B (Mitsubishi)  
LA646BDF (Sanyo)



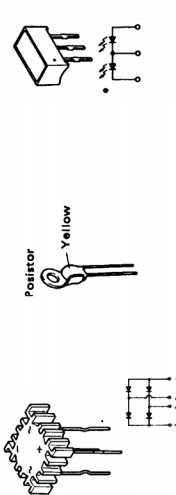
• TRANSISTORS (including FET)

- 2SA1015(Y) 2SA949(O/Y) 2SA1358(Y/O) 2SA1104(OI/Y) 2SA1306(O/Y) 25K381(C)/(D) FET
- 2SC1815(BL) 2SC2229(O/Y) 2SC1815(BL) (Green) 2SC2579(OI/Y) 25K389(BL)/(G)P1.C
- 2SA988(E/F) 2SC2229(O/Y) 2SC3421(Y/O) 25C2388(O/Y) 25K170(BL)/V/CVGS
- 2SC1841(E/F)

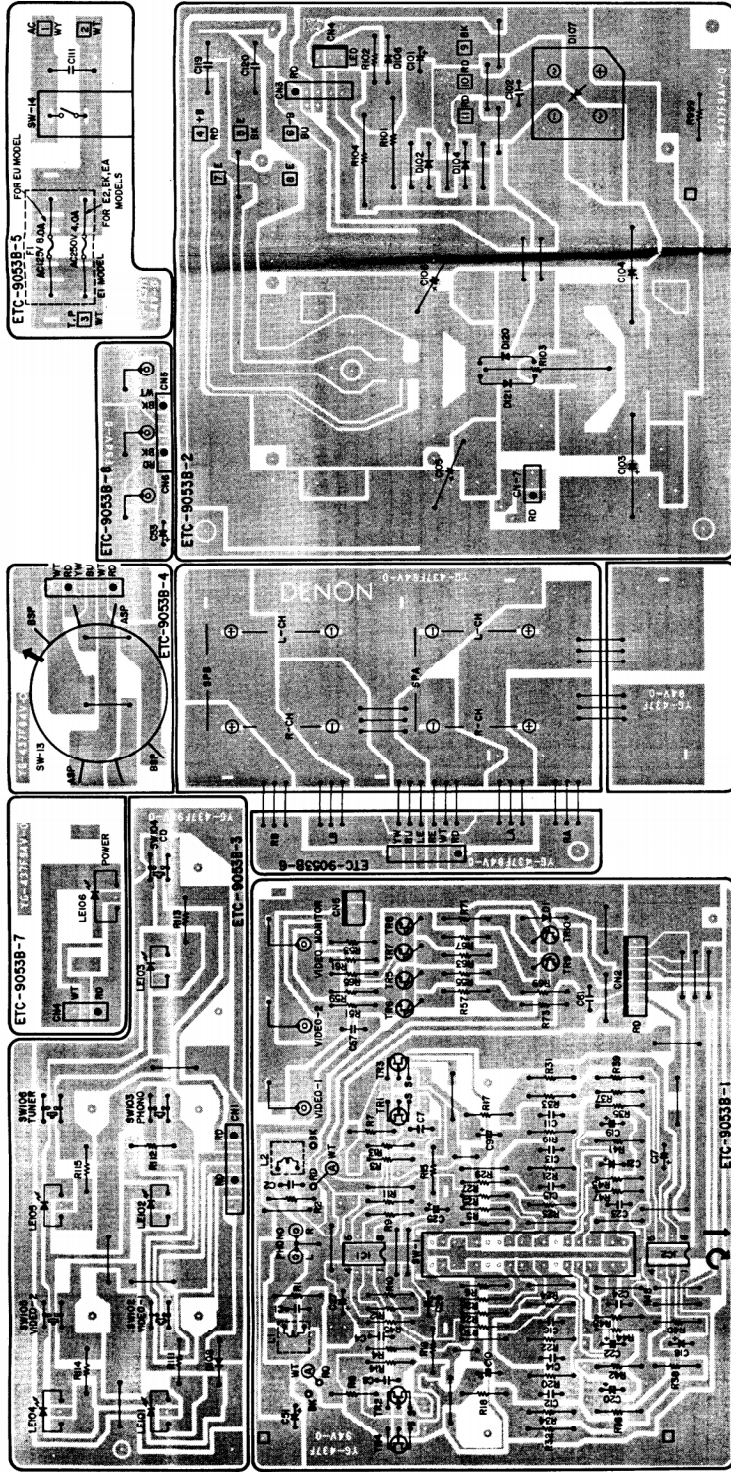


• DIODES (including LED)

- 1S2076A H25C-1 H27B-3 H29B-2 H21B-2 H224-2
- 1S5133 RV06
- W03C
- PT448A01BD222TS
- D5FB20
- LED LC-001VR (Red) LC-001DU (Orange)



PRINTED WIRING BOARD PATTERNS AND PARTS LIST  
ETC9053B EQ. & PS UNIT



ETC9053B EQ. & PS UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
		<b>SEMICONDUCTORS</b>
IC001	2630257001	M-5218P (MITSUBISHI)
IC002	2630228013	LA-6948DF (C (SANYO))
TR001	2750038045	2SC389(BL)(GR/C) FET
TR006	2710112005	2SA1015(V) TRANSISTOR
TR007	2710118015	2SC1815(BL) TRANSISTOR
TR008	2730118015	2SC1815(BL) TRANSISTOR
D001	2760220021	HZ24-2 ZENER DIODE
D102	2760151008	W03C DIODE
D106	2760249002	HZ18-2 ZENER DIODE
D107	2760356005	D5F B20(4001) DIODE
D108	2760249002	HZ18-2 ZENER DIODE
D120	2760227001	RV06 DIODE
D121	3939310004	LD-001VR LED (INPUT)
LE101	3939310017	LD-001DU LED (POWER)
LE106	3939310017	RESISTORS (not included Carbon Film ±5%, 1/4W typ)
AR101	2440163028	2.7k ohm ±5% 2W METAL OXIDE FILM (NGF)
AR103	2430032002	0.47 ohm ±5% 3W METAL OXIDE FILM (NGF)
AR104	2440163028	2.7k ohm ±5% 2W METAL OXIDE FILM (NGF)

Ref. No.	Part No.	Part Name & Descriptions
		<b>CAPACITORS</b>
C001	2533631009	150pF ±5% 50V CERAMIC
C002	2551134025	0.01µF ±5% 50V PLASTIC FILM
C007	2544161021	100µF ±20% 6.3V ELECTROLYTIC
C009	2551140048	0.068µF ±5% 50V PLASTIC FILM
C010	2551140035	0.018µF ±5% 50V PLASTIC FILM
C011	2554149004	1500pF ±5% 50V PLASTIC FILM
C012	2544161021	100µF ±20% 6.3V ELECTROLYTIC
C013	2544170003	2.2µF 50V ELECTROLYTIC
C015	2544146004	1µF 50V ELECTROLYTIC
C016	2544157009	3300pF ±5% 50V PLASTIC FILM
C017	2544146004	1µF 50V ELECTROLYTIC
C018	2544146004	1µF 50V ELECTROLYTIC
C019	2544130007	100µF ±20% 35V ELECTROLYTIC
C020	2544114007	10µF ±20% 35V ELECTROLYTIC
C021	2544146004	1µF 50V ELECTROLYTIC
C022	2544146004	1µF 50V ELECTROLYTIC
C023	2544146004	1µF 50V ELECTROLYTIC
C024	2544146004	1µF 50V ELECTROLYTIC
C025	2544146004	1µF 50V ELECTROLYTIC
C026	2544146004	1µF 50V ELECTROLYTIC
C029	2544130007	100µF ±20% 35V ELECTROLYTIC
C031	2544114007	10µF ±20% 35V ELECTROLYTIC
C032	2544146004	1µF 50V ELECTROLYTIC
C051	2544146004	1µF 50V ELECTROLYTIC
C053	2544146004	1µF 50V ELECTROLYTIC

Ref. No.	Part No.	Part Name & Descriptions	QTY
C057	2E31024003	0.01µF ±80-20% 50V CERAMIC	1
C061	2E31024003	0.01µF ±80-20% 50V CERAMIC	1
C101	2E44060009	10µF ±20% 100V ELECTROLYTIC	60
C102	2E38011006	0.01µF ±80-20% 250V (AC) CERAMIC	10
C103	2E46084009	8200pF ±20% 63V ELECTROLYTIC	2
C106	2E38003014	0.0047µF ±100-0% 400V (AC) CERAMIC	1
C591	2E31008003	4700pF ±10% 50V CERAMIC	1
C594	2E31008003	4700pF ±10% 50V CERAMIC	1
		<b>SWITCHES &amp; COILS</b>	
SW001	2129521002	SLIDE SW REMOTE (PHONO)	
SW013	2129522001	ROTARY SWITCH (SPEAKER)	
ASW014	2129625008	POWER SWITCH	
SW102	2124407008	TACT SWITCH (INPUT)	
L001	2359003002	FTZ CHOKE COIL	
		<b>OTHER PARTS</b>	
AF001	2229054107	P.W. BOARD	1
	EP-5667H1	JUMPER WIRE P-10mm	60
	2420020008	TERMINAL PIN L-21mm	10
	2461015087	FUSE HOLDER	2
	2461015087	FUSE (4A) (MINI SIZE WITHSTAND RUSH)	1

Ref. No.	Part No.	Part Name & Descriptions
	2050274004	2P CONNECTOR BASE
	2050240009	3P CONNECTOR BASE
	2048182014	3P CONNECTOR BASE
	2050273005	4P TERMINAL
	4450057010	CORD CLIP
CN001	2042052088	7P NH CONNECTOR CORD (TACT SW & LED)
CN002	2050190078	7P NH CONNECTOR BASE (EQ & VIDEO SW)
CN003	2038123067	5P NH CONNECTOR CORD (+ - B & MUTING)
CN004	2050190036	3P NH CONNECTOR BASE
CN005	2034185012	IF-VIDEO CONNECTOR CORD
CN006	2050185038	3P WIRE HOLDER (POWER LED)
CN007	2050190036	3P NH CONNECTOR BASE (EQ-LED)
CN008	2034282009	3P CONNECTOR CORD (FRONT VIDEO-2)
CN009	2034200023	3P CONNECTOR CORD (F. VIDEO-2 BK)
	2050185067	6P WIRE HOLDER (VIDEO-2)
	2050243077	7P WIRE HOLDER (TACT SW & LED)
	2030241028	1P CONTACT ASSY (FRONT VIDEO-2)

E1, EP1 for Asia ETC9053D  
(Same as ETC9053B (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
R047, 048	2412128002	33k ohm ±5% 1/4W CARBON ADD.
<b>CAPACITORS</b>		
C031, 032	2544141009	10µF 35V ELECTROLYTIC ADD.
AC111	2538010007	0.01µF +100,-0% 400V (AC) CERAMIC DELETE
C591 ~594	2531008003	4700pF ±10% 50V CERAMIC DELETE
<b>SWITCH &amp; COILS</b>		
ASW014	2129525008	POWER SWITCH DELETE
L001, 002	2359003002	FTZ CHOKE COIL (2) DELETE
<b>OTHER PARTS</b>		
AF001	2020022008	FUSE HOLDER (2) DELETE
	2061015087	FUSE 4A DELETE

EU for U.S.A. ETC9053E  
(Same as ETC9053B (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	2554121006	100pF ±5% 50V PLASTIC FILM ADD.
C002, 002	2533631009	150pF ±5% 50V CERAMIC DELETE
AC111	2538010007	0.01µF +100,-0% 400V (AC) CERAMIC DELETE
C111	2538011006	0.01µF +80,-20% 250V (AC) CERAMIC ADD.
C591 ~594	2531008003	4700pF ±10% 50V CERAMIC DELETE
<b>SWITCH &amp; COILS</b>		
ASW014	2129525008	POWER SWITCH DELETE
L001, 002	2359003002	FTZ CHOKE COIL (2) DELETE
<b>OTHER PARTS</b>		
AF001	2001015087	FUSE 4A DELETE
	2020022008	FUSE HOLDER (2) DELETE

EK for U.K. and EA for Australia ETC9053F  
(Same as ETC9053B (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
<b>RESISTORS</b>		
F001, 002	2412100004	2.2k ohm ±5% 1/4W CARBON DELETE
<b>SWITCH &amp; COILS</b>		
L001, 002	2359003002	FTZ CHOKE COIL (2) DELETE
<b>EC for Canada ETC9053L (Same as ETC9053B (for E2) except the followings.)</b>		
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	2554121006	100pF ±5% 50V PLASTIC FILM ADD.
C001, 002	2533631009	150pF ±5% 50V CERAMIC DELETE
AC111	2538010007	0.01µF +100,-0% 400V (AC) CERAMIC DELETE
C111	2538011006	0.01µF +80,-20% 250V (AC) CERAMIC ADD.
C591 ~594	2531008003	4700pF ±10% 50V CERAMIC DELETE
<b>SWITCH &amp; COILS</b>		
ASW014	2129525008	POWER SWITCH DELETE
L001, 002	2359003002	FTZ CHOKE COIL (2) DELETE
<b>OTHER PARTS</b>		
AF001	2001015087	FUSE 4A DELETE
	2020022008	FUSE HOLDER (2) DELETE

ETC9052B INPUT & POWER UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
<b>SEMICONDUCTORS</b>		
IC003	TC9152P	(TOSHIBA) IC
IC005	M-5218F	(MITSUBISHI) IC
~008	25C1815(BL)	TRANSISTOR
TR101	25A1015(Y)	TRANSISTOR
TR102	25C1815(BL)	TRANSISTOR
TR103	25C2878(A/B)	TRANSISTOR
TR105	25C7815(BL)	TRANSISTOR
TR201	25C1841(E/F)	TRANSISTOR
TR202	25A1015(Y)	TRANSISTOR
TR204	25C2878(A/B)	TRANSISTOR
TR205	25C1815(BL)	TRANSISTOR
TR206	25C1815(BL)	TRANSISTOR
TR209	25A1015(Y)	TRANSISTOR
TR209	25C2431(O/Y)	TRANSISTOR
TR210	25A1358(O/Y)	TRANSISTOR
TR211	25C3818(B/C)	FET
TR212	25K1708L(V)D/VGS	FET
TR401 ~404	2750046008	FET
TR405	2730235020	TRANSISTOR
~408	25A949(O)/(Y)	TRANSISTOR
TR409	2710185006	TRANSISTOR
~414	2730307000	TRANSISTOR
TR415	2710185006	TRANSISTOR
TR417	2730307000	TRANSISTOR
TR419	2730307000	TRANSISTOR
TR501	25C1815(BL)	TRANSISTOR
TR502	25C2229(O)/(Y)	TRANSISTOR
TR503	25A949(O)/(Y)	TRANSISTOR
TR504	25C2298(O/Y)	TRANSISTOR
TR505	25A1306(O/Y)	TRANSISTOR
TR507	1SS133	DIODE
TR509	1SS133	DIODE
D171	2760401002	DIODE
~173	2760049011	DIODE
D201	2760249002	ZENER
D202	1S2076A	DIODE
D208	2760049011	DIODE
D401	1SS133	DIODE
~406	HZ9B-2	ZENER
D501	2760218033	ZENER
~504	HZ5C-1	ZENER
D505	2760236031	ZENER
~506	HZ7B-3	ZENER
~510	1SS133	DIODE
D511	2760401002	DIODE
~522	1S2076A	DIODE
~523	1SS133	DIODE
D527	2760401002	DIODE
~530	2760049011	DIODE
D531	2760049011	DIODE
~532	1S2076A	DIODE
<b>RESISTORS (not included Carbon Film ±5%, 1/4W Type)</b>		
R201	2440038025	560 ohm ±5% 1W METAL OXIDE FILM (NBF)
R207	2440037026	470 ohm ±5% 1W METAL OXIDE FILM (NBF)
R413	2412369054	240 ohm ±5% 1/4W CARBON (NBF)
~416	2412379987	1k ohm ±5% 1/4W CARBON (NBF)
R421, 422		
Ref. No.	Part No.	Part Name & Descriptions
<b>CAPACITORS</b>		
C055	2544132005	10µF 16V ELECTROLYTIC
C059	2544146004	50V ELECTROLYTIC
C151	2551001006	0.001µF ±5% 50V PLASTIC FILM
C155	2544164031	220µF 25V ELECTROLYTIC
C157	2531024003	0.01µF +80,-20% 50V CERAMIC
C201	2544146004	1µF 50V ELECTROLYTIC
C202	2544146004	1µF 50V ELECTROLYTIC
C203	2554137003	470pF ±5% 50V PLASTIC FILM
C204	2944141009	10µF 35V ELECTROLYTIC
C205	2944127007	220µF 6.3V ELECTROLYTIC
C206	2944060008	170µF 6.3V ELECTROLYTIC
C207	2944132005	10µF 50V ELECTROLYTIC
C301	2531004007	1000pF ±10% 50V CERAMIC
C302	2551140051	0.082µF ±5% 50V PLASTIC FILM
C304	2554121006	100pF ±5% 50V PLASTIC FILM
C401	2554137003	470pF ±5% 50V PLASTIC FILM
C402	2531008003	4700pF ±10% 50V CERAMIC
C403	2534269001	10pF +0.5pF 500V CERAMIC
C405	2531024003	0.01µF +80,-20% 50V CERAMIC
C407	2534355009	5pF +0.25pF 500V CERAMIC
C409	2533627000	100pF ±5% 50V CERAMIC
C411	2533643000	470pF ±5% 50V CERAMIC
C412	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	F003 ~006	2020022008	FUSE HOLDER (+ - B)	8
C421, 422	2534271002	12pF ±0.5pF 500V CERAMIC		2050274004	2P CONNECTOR BASE	1
C425, 426	2544146004	1μF 50V ELECTROLYTIC	CN001	2050152003	6P CONNECTOR BASE	3
C427	2544060038	0.47μF ±5% 100V ELECTROLYTIC		2050190078	7P NH CONNECTOR BASE (TACT SW & LED)	1
C428	2544181001	1μF ±20% 100V ELECTROLYTIC	CN002	2050185070	7P WIRE HOLDER	1
C429, 430	2544161021	100μF ±20% 6.3V ELECTROLYTIC	CN002	2042052014	7P CONNECTOR CORD (EQ & VIDEO SW)	1
C451, 452	2551121041	0.015μF ±5% 50V PLASTIC FILM	CN003	2050190052	5P NH CONNECTOR BASE	1
C453, 454	2551140064	0.12μF ±5% 50V PLASTIC FILM	CN006	2050190036	3P NH CONNECTOR BASE (FRONT VIDEO-2)	1
C457, 458	2551121007	6800pF ±5% 50V PLASTIC FILM		2050190036	3P NH CONNECTOR BASE (POWER INPUT)	1
C459, 460	2551120013	1200pF ±5% 50V PLASTIC FILM	W-003	2050185038	3P WIRE HOLDER	13
C461, 462	2551135095	0.056μF ±5% 50V PLASTIC FILM		2034200010	3P CONNECTOR CORD	1
C465, 466	2533633007	180pF ±5% 50V CERAMIC	F003 ~006	4450033005	WIRE CLAMP BAND	1
C501 ~504	2544139008	100μF 25V ELECTROLYTIC		2061040023	FUSE (6.3A, F)	4
C505, 506	2533603008	10pF ±0.5pF 50V CERAMIC				
C507 ~510	2533639001	330pF ±5% 50V CERAMIC				
C511, 512	2544132005	10μF 16V ELECTROLYTIC				
C513, 514	2544146004	1μF 50V ELECTROLYTIC				
C519 ~522	2531024003	0.01μF +80,-20% 50V CERAMIC				
C523 ~526	2531024003	0.01μF +80,-20% 50V CERAMIC				
C527 ~530	2533627000	100pF ±5% 50V CERAMIC				
C531 ~534	2534281005	33pF ±5% 500V CERAMIC				
C535 ~538	2531005006	1500pF ±10% 50V CERAMIC				
C539, 540	2551121025	0.01μF ±5% 50V PLASTIC FILM				
C541, 542	2551121067	0.022μF ±5% 50V PLASTIC FILM				
C543 ~546	2544181001	1μF ±20% 100V ELECTROLYTIC				
C555, 558	2531024003	0.01μF +80,-20% 50V CERAMIC				
C555, 556	2531024003	0.01μF +80,-20% 50V CERAMIC				
<b>SWITCHES &amp; RELAY</b>						
SW007	2124254002	SLIDE SW (REMOTE) T. MONI				
SW008	2129520003	1P PUSH SW PROCESSOR LOOP				
SW010, 011	2129523000	2P PUSH SW MODE & LOUD				
SW012	2129520003	1P PUSH SW TONE				
RL001	2140037009	RELAY SP 48V				
<b>OTHER PARTS</b>						Q'ty
	2229053302	P.W. BOARD				1
	2090008146	JUMPER WIRE P=5mm				15
	2090008120	JUMPER WIRE P=10mm				219
	2090008104	JUMPER WIRE P=15mm				4
J701 ~703	2090008159	JUMPER WIRE P= mm				1
705	EP-5667H1	TERMINAL PIN L=21mm				12
J018	4170043100	RADIATOR (FOR TR209, 210)				2
	4730354019	TAPPING SCREW (2) 3x8				2
L501, 502	2359001004	INDUCTOR (1μH)				2
	4140240001	EARTH PLATE (GND)				1

**E1, EP1 for Asia ETC9052D**  
 (Same as ETC9052B (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
<b>RESISTORS</b>		
R207	2440037026	470 ohm ±5% 1W METAL OXIDE (NB) CHANGE
R525, 526	2412123007	20k ohm ±5% 1/4W CARBON CHANGE
<b>CAPACITORS</b>		
C507 ~510	2533639001	330pF ±5% 50V CERAMIC CHANGE
<b>OTHER PARTS</b>		
F003 ~006	2090008120 2061041035	JUMPER WIRE P=10mm (4) ADD. FUSE (F) 6.3A (4) CHANGE

**EU for U.S.A. ETC9052E**  
 (Same as ETC9052B (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
<b>OTHER PARTS</b>		
F003 ~006	5139134004 2061046001	FUSE LABEL ADD. FUSE 6.3AUL ℓ=20mm CHANGE

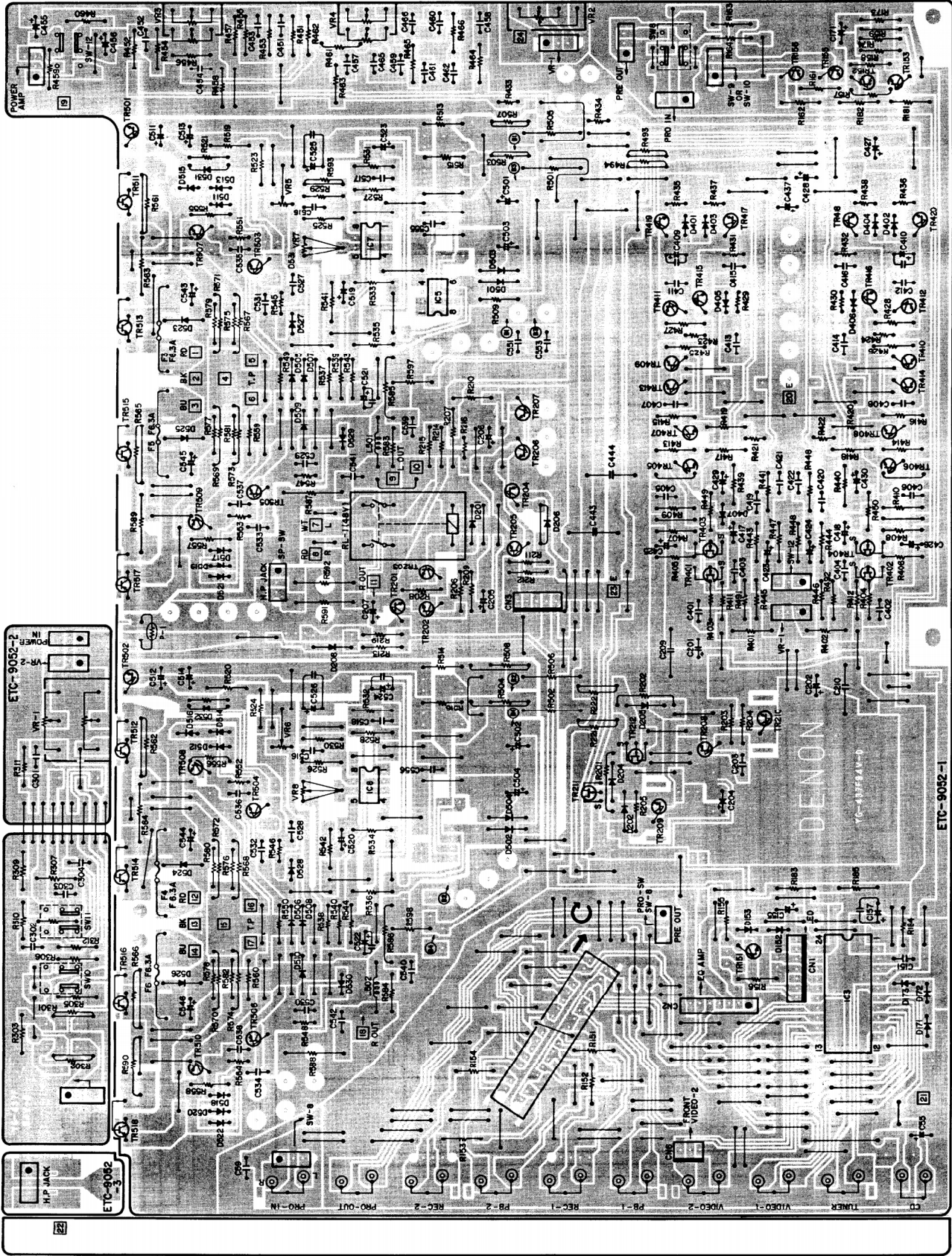
**EK for U.K. and EA for Australia ETC9052F**  
 (Same as ETC9052B (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
<b>CAPACITORS</b>		
C424	2544060038	0.47μF 100V ELECTROLYTIC ADD.
C427	2544060038	0.47μF 100V ELECTROLYTIC DELETE

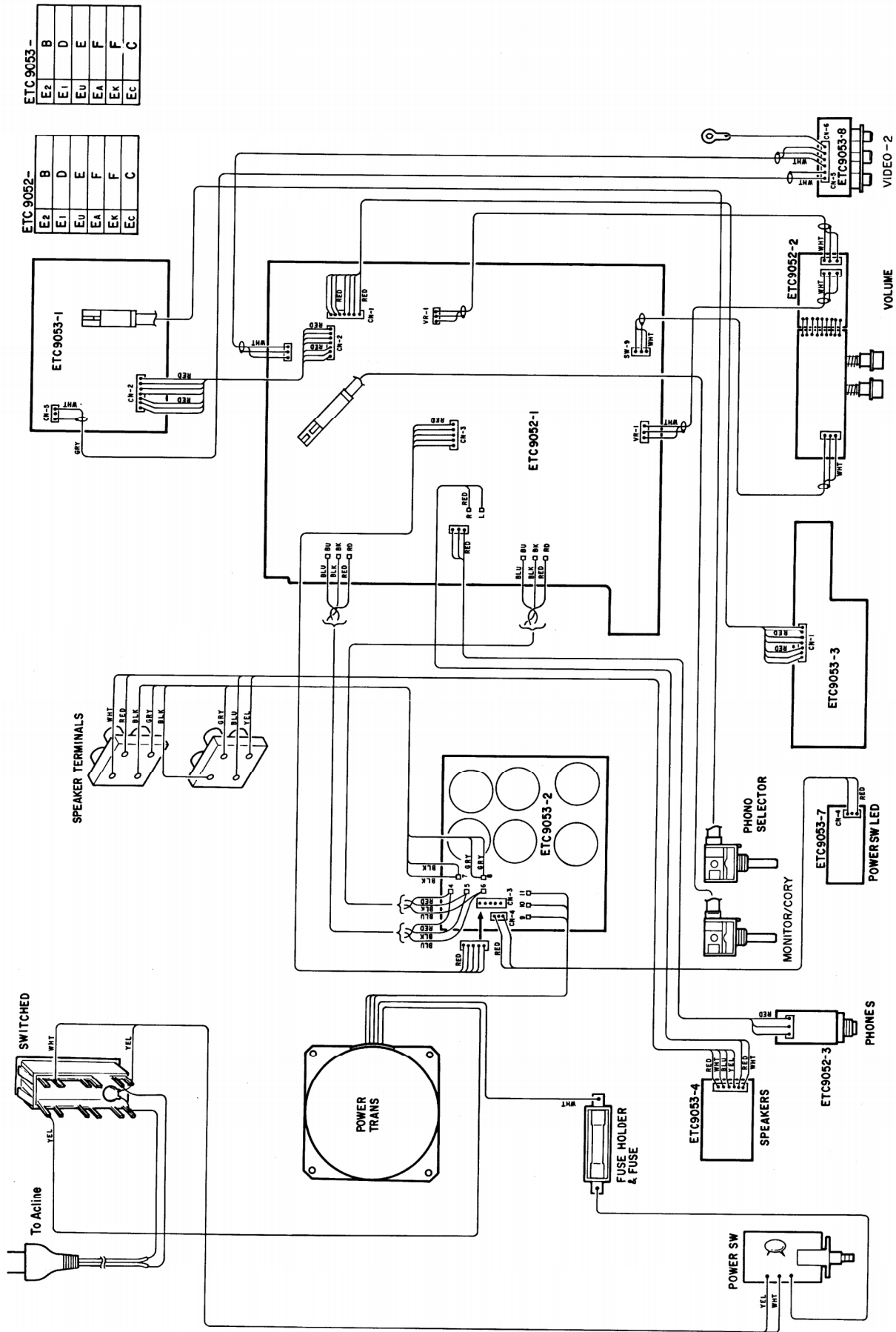
**EC for Canada ETC9052L**  
 (Same as ETC9052B (for E2) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
F003 ~006	5139134004 2061046001	FUSE LABEL ADD. FUSE 6.3AUL ℓ=20mm CHANGE

ETC9052B INPUT & POWER UNIT



**WIRING DIAGRAM**  
(This figure is specifications of EU & EC Models)



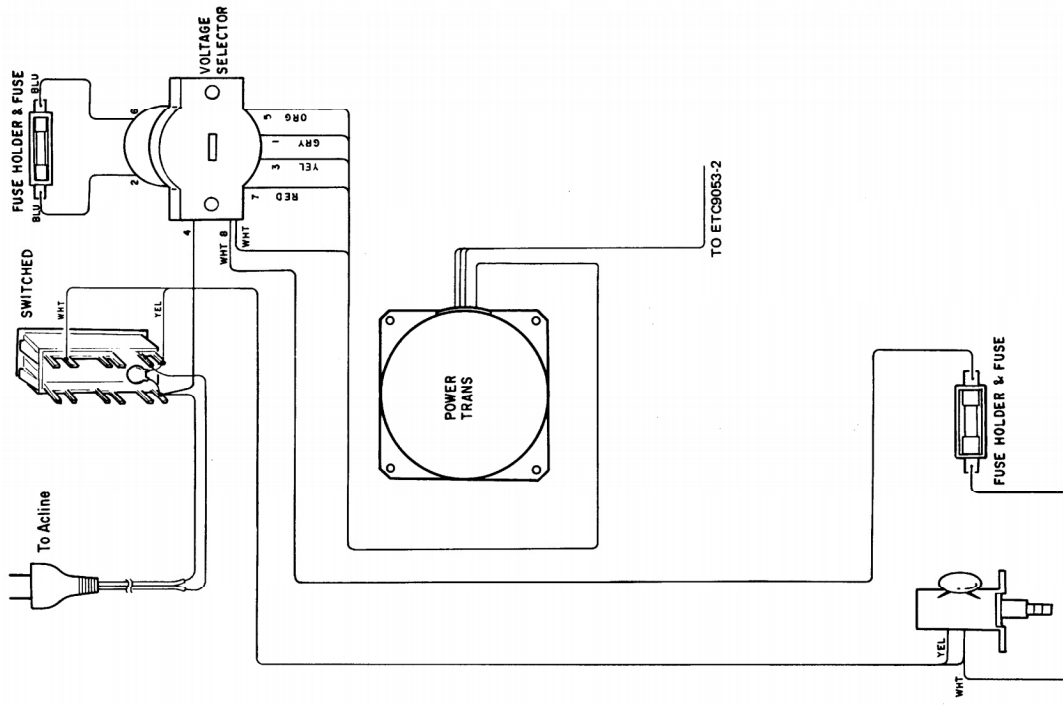
ETC 9053 -

E2	B
E1	D
EU	E
EA	F
EK	F
EC	C

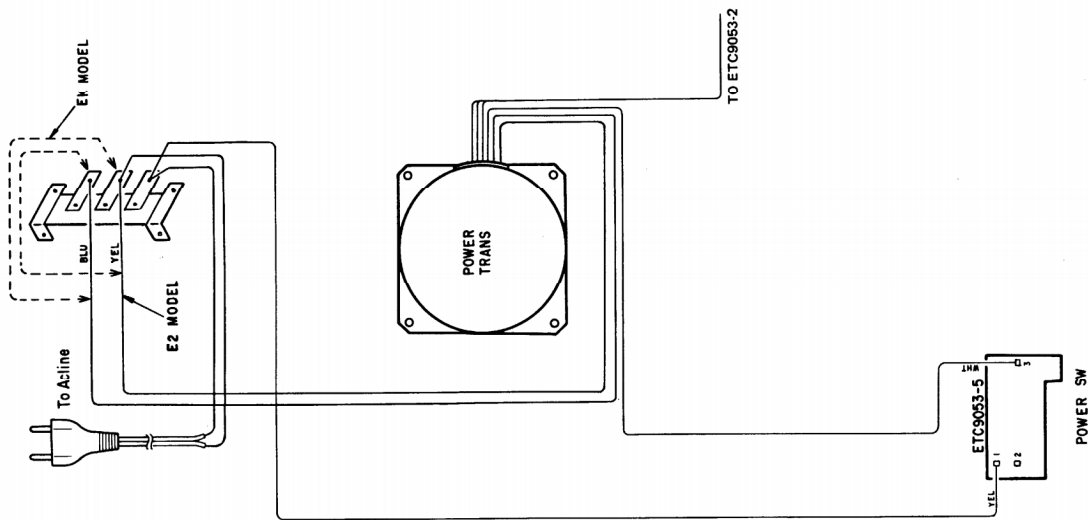
ETC 9052 -

E2	B
E1	D
EU	E
EA	F
EK	F
EC	C

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



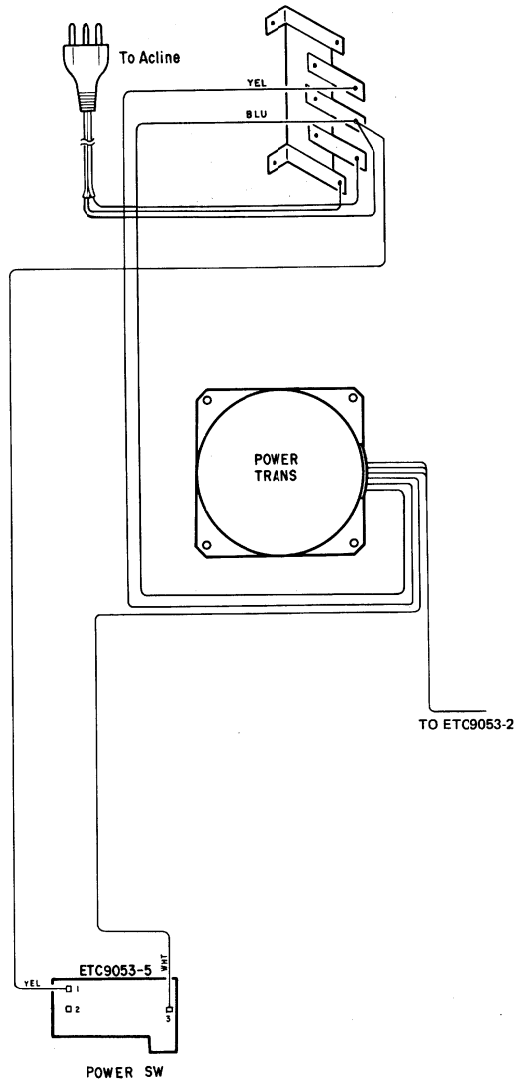
WIRING DIAGRAM  
E2 & EK Models (Same as EU version except the following)



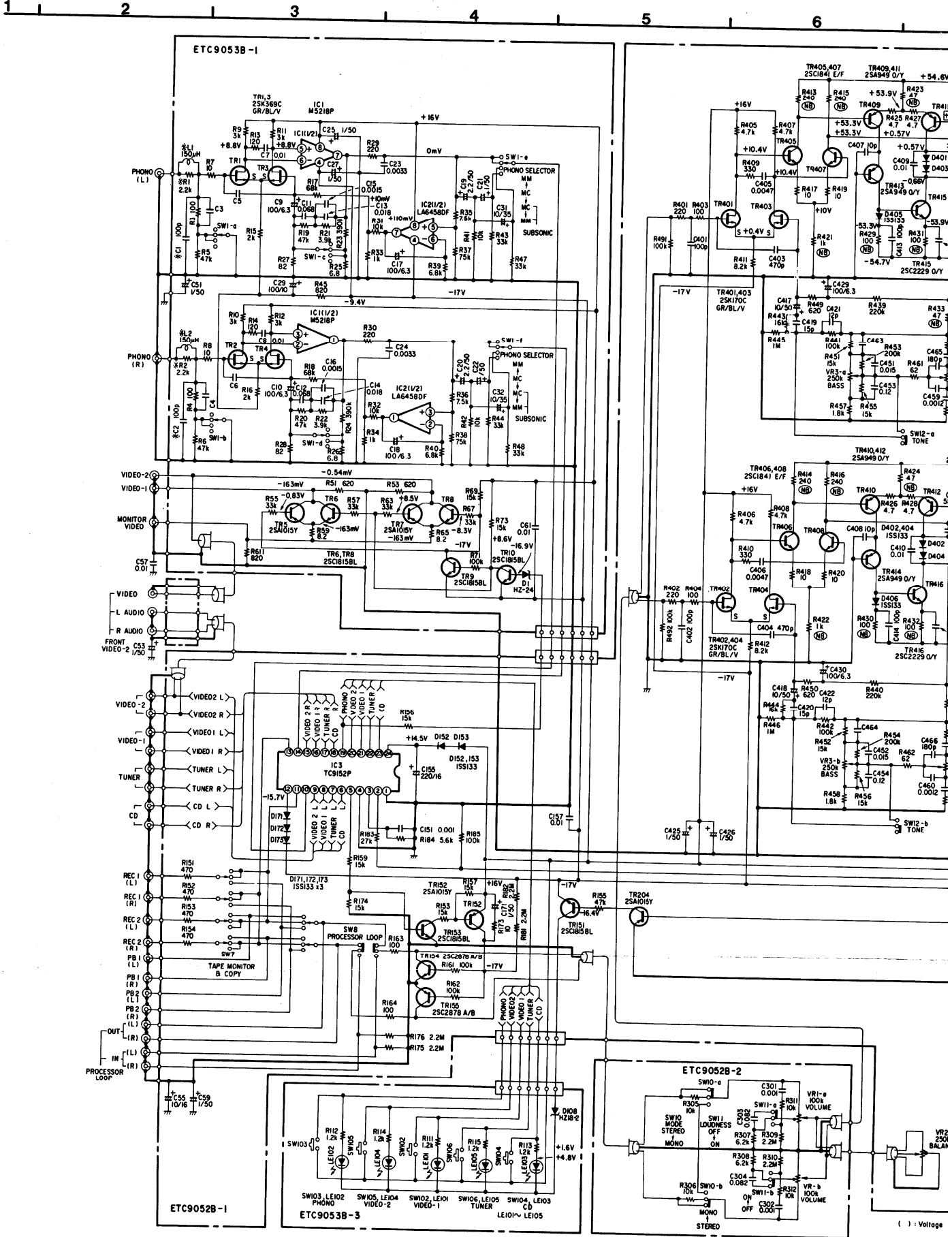
A-700V

WIRING DIAGRAM

A Model (Same as EU version except the following)

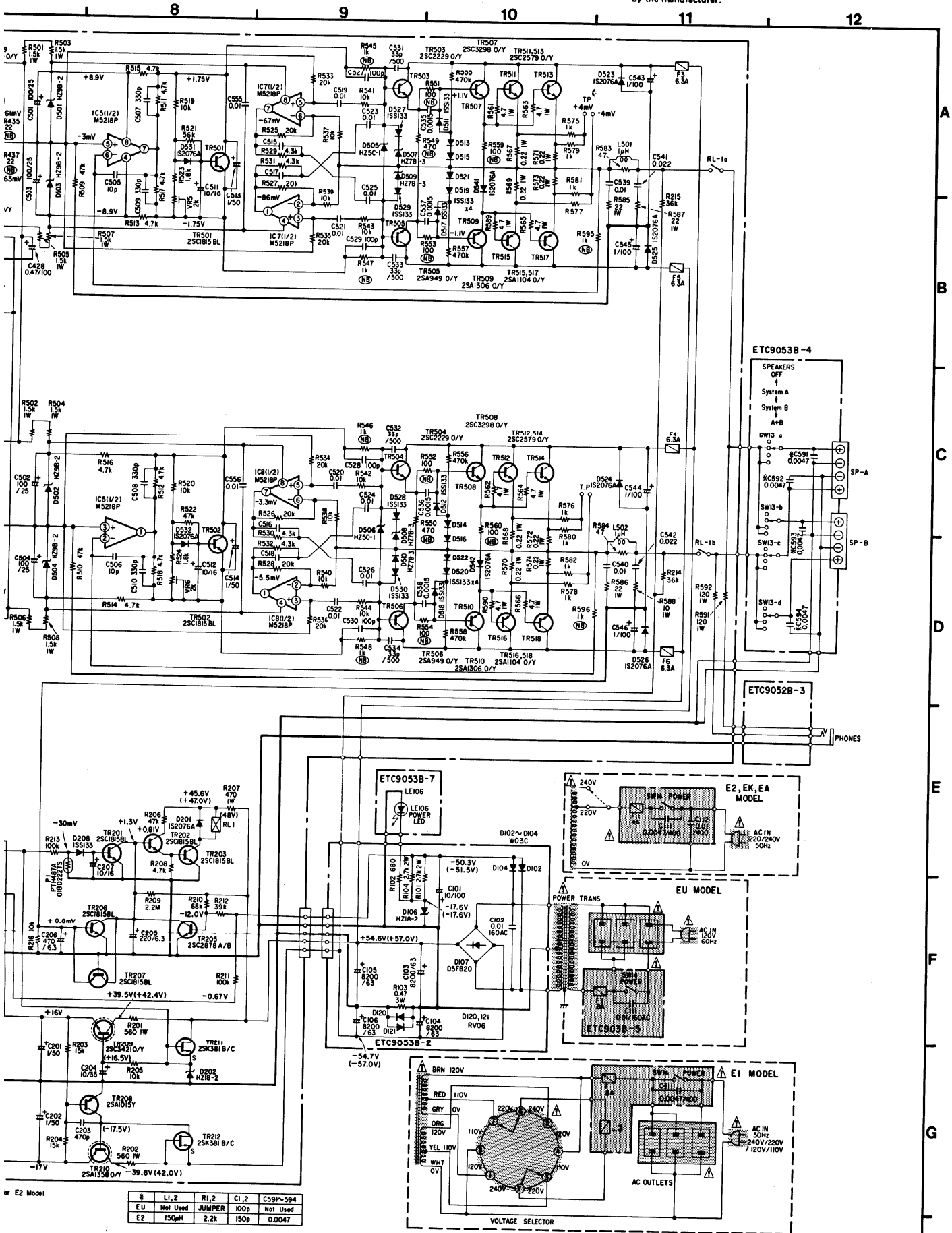


SCHEMATIC DIAGRAM





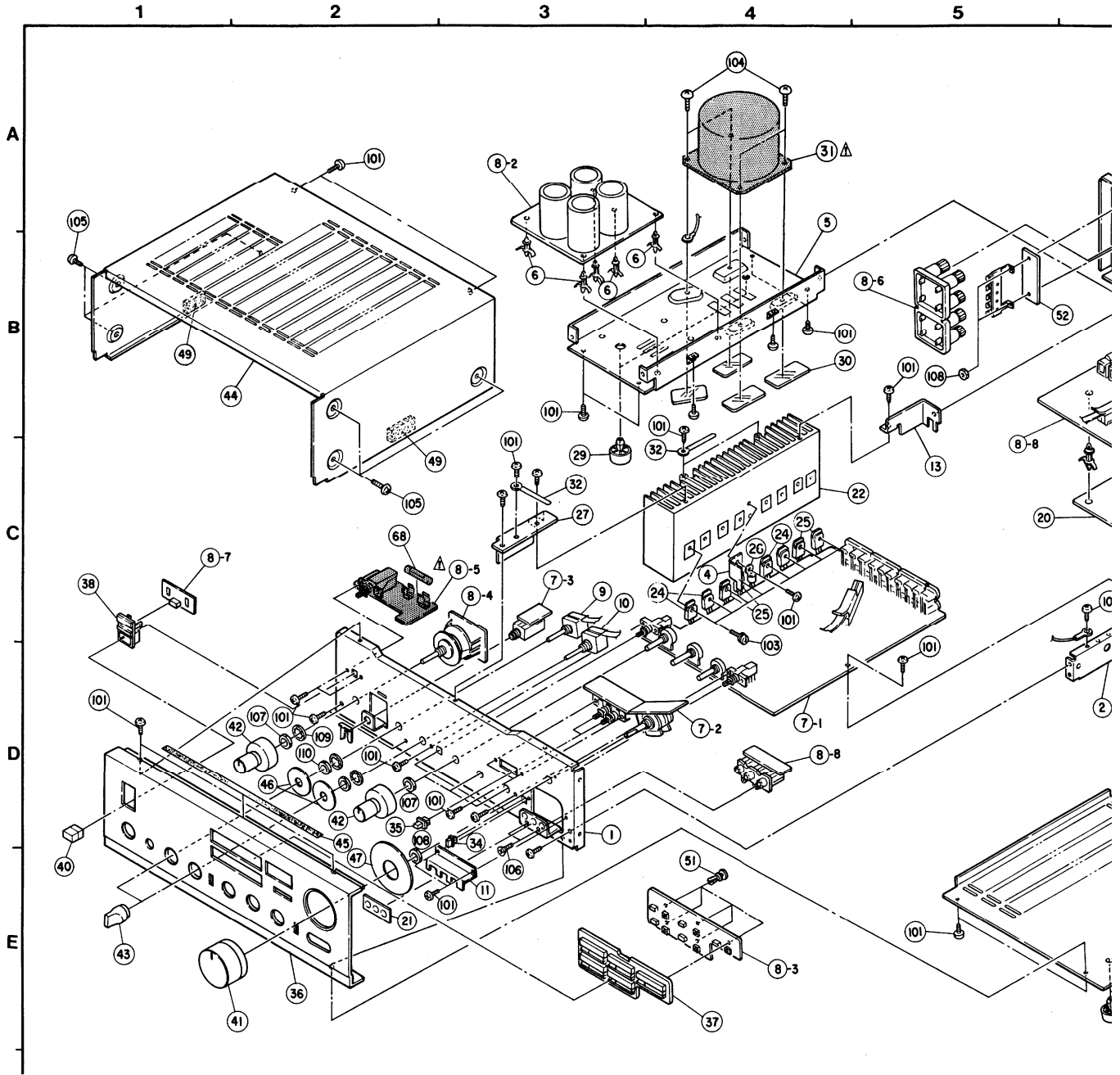
⚠ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.



Model	L1,2	R1,2	C1,2	C591-594
EU	Not Used	JUMPER	100p	Not Used
E2	150µH	2.2k	150p	0.0047

NOTES:  
 ALL RESISTANCE VALUES IN OHM, K = 1,000 OHM, M = 1,000,000 OHM.  
 ALL CAPACITANCE VALUES IN MICROFARAD, P = MICRO-MICRO FARAD.  
 EVERY VOLTAGES AND CURRENTS IS MEASURED AT NO SIGNAL INPUT CONDITION.  
 CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

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

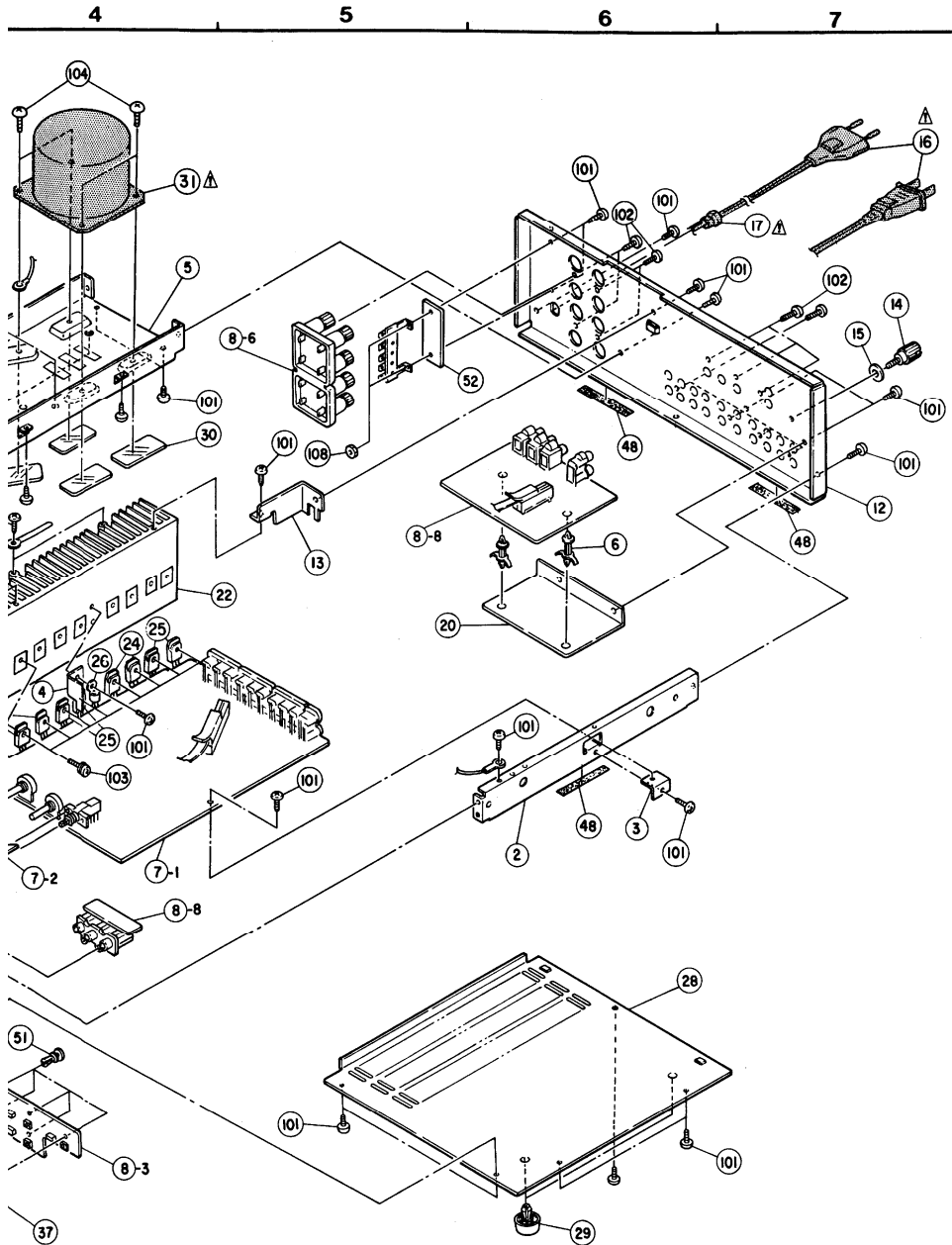


Note 1. See addendum list right for the parts with asterisk (\*) on the Ref. No. and the other parts not included in the list.  
2. \* marked not included EXPLODED VIEW OF CHASSIS AND CABINET.  
3. This list is prepared based on E2 BLACK VERSION.

**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	4119019302	FRONT CHASSIS	1	27	4129039107	RADIATOR BRACKET	1	<b>SCREWS, NUTS</b>			
2	4119020207	SIDE CHASSIS	1	28	1059044100	BOTTOM COVER	1	101	4737002034	TAPPING SCREW (S) BLACK 3x6	4
3	4129038001	P.W.B BRACKET	1	29	1049003009	FOOT	4	102	4737500044	TAPPING SCREW (P) BLACK 3x8	1
4	4129044008	BRACKET	1	30	4149017002	SAFETY PLATE	4	103	4700012022	CROSS PAN SCREW WITH SW, W 3x12	1
5	4119021109	TRANS CHASSIS	1	*31	2339541005	POWER TRANS	1	104	4737004016	TAPPING SCREW (S) 4x6	1
6	4150228000	P.C.B HOLDER	7	*32	4450048016	CORD HOLDER (L50)	3	**105	4737007000	TAPPING SCREW (S) BLACK 4x8	1
*7	ETC9052B	INPUT & POWER UNIT	1s	*33	4450033005	WIER CLAMP BAND	10	106	4737512003	TAPPING SCREW (P) BLACK 3x8	1
8	ETC9053B	EQ & PS UNIT	1	*34	1139071006	PUSH KNOB (T)	2	107	4737006014	TAPPING SCREW (S) WITH WASHER 3x8	1
9	2123614009	ROTARY REMOTE SW (T. MONI)	1	*35	1139072005	PUSH KNOB (L)	2	108	4756006008	NUT M3	1
10	2123614012	ROTARY REMOTE SW (PHONO)	1	*36	1449026220	FRONT PANEL ASS'Y	1	<b>PACKING &amp; ACCESSORIES (not included EXPLODED VIEW)</b>			
11	-	-	-	*37	1139073224	PUSH KNOB (F) ASS'Y	1	201	5049102003	STYLEN PAPER	1
*12	1059052105	BACK PANEL	1	*38	1469044101	KNOB GUIDE (P) ASS'Y	1	202	5059102006	POLY COVER	1
13	4129040002	BRACKET	1	39	-	-	1	203	5039123102	CUSHION	1
14	2050071016	TERMINAL ASS'Y	1	**40	1139070104	PUSH KNOB (P)	1	**204	5019122039	CARTON CASE	1
15	4770018001	WASHER (P.87)	1	*41	1129012004	VR KNOB ASS'Y	1	205	5119170004	INST. MANUAL	1
*16	2062002031	AC CORD	1	*42	1129013207	KNOB ASS'Y	2	**206	5139111014	COLOR LABEL (BLACK)	1
*17	4450020005	CORD BUSH (4K-4)	1	*43	1129014109	KNOB ASS'Y	2	207	5138295009	CONTROL CARD	1
18	-	-	-	*44	1029013310	TOP COVER	1				
19	2538010007	CERAMIC CAPACITOR 10.01µF 400V AC	1	45	1229006017	SPACER	2				
20	2129041001	P.W.B SUPPORT	1	46	1229007029	BLIND RING	2				
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	-	-	1				
24	2730232023	TRANSISTOR 2SC2579(O)/(Y) <sup>(TR511-514)</sup>	4	50	-	-	1				
25	2710130022	TRANSISTOR 2SA1104(O)/(Y) <sup>(TR515-518)</sup>	4	51	4770210016	PUSH RIVET	5				
26	2760289004	POSITIVE THERMISTOR PTH487A01BD222TS	1	52	4150088004	INSULATING SHEET 7P W. TERMINAL	1				
				*53	2050089008	SPACER	2				
				54	1220114005	SPACER	2				

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



### WARNING:

- Component parts**  
Parts marked with ⚠ and/or shading in this : the specified parts for replacement.
- Leakage current**  
Before returning the appliance to customer, test an error of not more than 5%) leakage current ground. Reverse the power plug polarity and test. Any current measured MUST NOT EXCEED 0.



**CAUTION: SHOCK, DANGER TO USER SERVING TO QUALITY**



The lightning flash is intended to alert the user of the presence of a "dangerous voltage" within the product to constitute a risk of electric shock.



The exclamation mark is intended to alert the user of the presence of important instructions in the operating instructions.

**WARNING: TO PREVENT ELECTRIC SHOCK, DO NOT EXPOSE TO WATER.**

### ADDENDUM LIST

Ref. No.	Part Name & Descriptions
7	INPUT & POWER UNIT
⚠ 8	EQ. & P.S UNIT
12	BACK PANEL
⚠ 16	CORD
⚠ 17	CORD BUSH
⚠ 31	POWER TRANS
36	FRONT PANEL ASS'Y
37	PUSH KNOB (F) ASS'Y
52	INSULATING SHEET
53	7P W. TERMINAL
61	VOLTAGE LABEL
62	BLIND SHEET
63	EARTH LABEL
64	NOTICE SHEET
65	NOTICE SHEET
⚠ 66	AC OUTLET (POLARIZED)
⚠ 67	FUSE HOLDER
⚠ 68	FUSE (8A)
⚠ 69	VOLTAGE SEL SW
70	CAUTION SHEET
71	IMPORTANT LABEL
72	FUSE LABEL
73	LA APPROVAL MARK
74	DANGEROUS MARK
75	CSA LABEL
⚠ 76	POWER SWITCH
⚠ 77	CAPACITOR (n = 1000 μF/400V (AC))
101	TAPPING SCREW (S) 3x6 (BLACK)
107	TAPPING SCREW (S) WITH WASHER 3x8
108	NUT M3
111	φ3 TOOTH WASHER
112	3T LUG
113	φ4 TOOTH WASHER
114	TAPPING SCREW 4x16 (BLACK)
204	CARTON CASE
207	CONTROL CARD
211	CAUTION PAPER
212	WARRANTY IN ENVELOPE
213	SAFETY INSTRUCTION
214	COLOR LABEL (BLACK)

Parts with asterisk (\*) on the Ref. No. and the other parts not included in the list. EXPLODED VIEW OF CHASSIS AND CABINET. BLACK VERSION.

### GOLD VERSION PARTS LIST

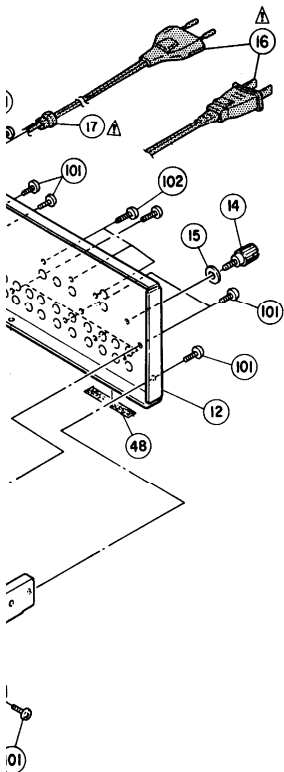
(Same as BLACK VERSION except the followings.)

Q'ty	Ref. No.	Part No.	Part Name & Descriptions	Q'ty
<b>SCREWS, NUTS</b>				
1	101	4737002034	TAPPING SCREW (S) BLACK 3x6	44
1	102	4737500044	TAPPING SCREW (P) BLACK 3x8	1
4	103	4700012022	CROSS PAN SCREW WITH SW, W 3x12	8
3	104	4737004016	TAPPING SCREW (S) 4x6	4
10	**105	4737007000	TAPPING SCREW (S) BLACK 4x8	6
2	106	4737512003	TAPPING SCREW (P) BLACK 3x8	2
1	107	4737006014	TAPPING SCREW (S) WITH WASHER 3x8	2
1	108	4756006008	NUT M3	2
<b>PACKING &amp; ACCESSORIES (not included EXPLODED VIEW)</b>				
1	201	5049102003	STYLEN PAPER	1
1	202	5059102006	POLY COVER	1
4	203	5039123102	CUSHION	2
1	**204	5019122039	CARTON CASE	1
1	205	5119170004	INST. MANUAL	1
2	**206	5139111014	COLOR LABEL (BLACK)	2
1	207	5138295009	CONTROL CARD	1
5	34	1139071019	PUSH KNOB (T)	2
1	35	1139072021	PUSH KNOB (L)	2
1	36	1449033006	FRONT PANEL ASS'Y	1
1	37	1139073211	PUSH KNOB (F) ASS'Y	1
1	38	1469044114	KNOB GUIDE (P) ASS'Y	1
1	40	1139070117	PUSH KNOB (P)	1
1	41	1139012017	VR KNOB ASS'Y	1
1	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	5019122084	CARTON CASE	1
1	206	5139111001	COLOR LABEL (GOLD)	2

Important safety item, which must be replaced,  
part specified or meeting the specification

# DENON

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**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.**



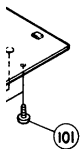
The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



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.**

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**ADDENDUM LIST**

Ref. No.	Part Name & Descriptions	Part No.				
		E1/EP1 for Asia	EU for U.S.A.	EA for Australia	EK for U.K.	EC for Canada
7	INPUT & POWER UNIT	ETC9052D	ETC9052E	ETC9052F	ETC9052F	ETC9052L
▲ 8	EQ. & P.S. UNIT	ETC9063D	ETC9063E	ETC9063F	ETC9063F	ETC9063L
12	BACK PANEL	1059055005	1059042115	1059052105	1059052105	1059042115
▲ 18	AC CORD	2006031026	2062039004	2062012018	2062024006	2062039004
▲ 17	CORD BUSH	4450028007	4450020005	MD-2982H	4450020005	4450020005
▲ 31	POWER TRANS.	2339648000	2339639004	2339641005	2339641006	-
36	FRONT PANEL ASS'Y	1449026110	1449026110	1449026123	1449026123	1449026110
37	PUSH KNOB (F) ASS'Y	1139073101	1139073101	1139073224	1139073224	1139073101
52	INSULATING SHEET	-	-	4150088004	4150088004	-
53	7P W. TERMINAL	-	-	2050089008	2050089008	-
61	VOLTAGE LABEL	-	-	5130362008	5130362008	-
62	BLIND SHEET	-	-	5130348006	-	-
63	EARTH LABEL	-	-	5130140000	-	-
64	NOTICE SHEET	-	-	5130209006	-	-
65	NOTICE SHEET	-	-	5130210008	-	-
▲ 66	AC OUTLET (POLARIZED)	2033926007	2033926007	-	-	2033926007
▲ 67	FUSE HOLDER	2020013101(2)	2020013101(2)	-	-	2020013101
▲ 68	FUSE (8A)	2061046014	2061046014	-	-	2061046014
▲ 69	VOLTAGE SEL SW	2120186006	-	-	-	-
70	CAUTION SHEET	-	-	-	5130364006	-
71	IMPORTANT LABEL	-	-	-	5139133005	-
72	FUSE LABEL	-	5130607019	-	-	-
73	LA APPROVAL MARK	-	5138300004	-	-	-
74	DANGEROUS MARK	-	5138266009	-	-	-
75	CSA LABEL	-	(2)	-	-	-
▲ 76	POWER SWITCH	2129534002	2129534002	-	-	5138311006
▲ 77	CAPACITOR 0.1μF/400V (AC)	2538003014 (0.047)	2538010007 (0.01)	-	-	2129534002
101	TAPPING SCREW (S) 3x6 (BLACK)	4737002034 (38)	4737002034 (36)	4737002034 (37)	4737002034 (36)	4737002034 (36)
107	TAPPING SCREW (S) WITH WASHER 3x8	-	-	4737006014 (2)	4737006014 (2)	-
108	NUT M3	-	-	4756006008 (2)	4756006008 (2)	-
111	φ3 TOOTH WASHER	-	-	4753001051 (1)	-	-
112	3T LUG	-	-	2050003107 (1)	-	-
113	φ4 TOOTH WASHER	-	-	4753100004 (6)	-	-
114	TAPPING SCREW 4x16 (BLACK)	4734453039	-	-	-	-
204	CARTON CASE	5019122039	5019116032	5019122039	5019122039	5019116032
207	CONTROL CARD	-	-	-	-	-
211	CAUTION PAPER	-	-	5130211007	-	-
212	WARRANTY IN ENVELOPE	-	5150349108	-	-	-
213	SAFETY INSTRUCTION	5158052206	-	-	-	-
214	COLOR LABEL (BLACK)	5139111014 (2)	5139111014 (2)	5139111014 (2)	5139111014 (2)	5139111014 (2)

**OPTIONAL PARTS LIST**

(CHECK VERSION except the followings.)

Part No.	Part Name & Descriptions	Q'ty
J71019	PUSH KNOB (T)	2
J72021	PUSH KNOB (L)	2
J33006	FRONT PANEL ASS'Y	1
J73211	PUSH KNOB (F) ASS'Y	1
J44114	KNOB GUIDE (P) ASS'Y	1
J70117	PUSH KNOB (P)	1
J12017	VR KNOB ASS'Y	1
J13210	KNOB ASS'Y	4
J14112	KNOB ASS'Y	2
J13336	TOP COVER	1
J14006	TAPPING SCREW(S) 4x8	6
J22084	CARTON CASE	1
J11001	COLOR LABEL (GOLD)	2

NIPPON COLUMBIA CO., LTD.

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