

TA-AV590

SERVICE MANUAL

AEP Model
UK Model
E Model
Chinese Model

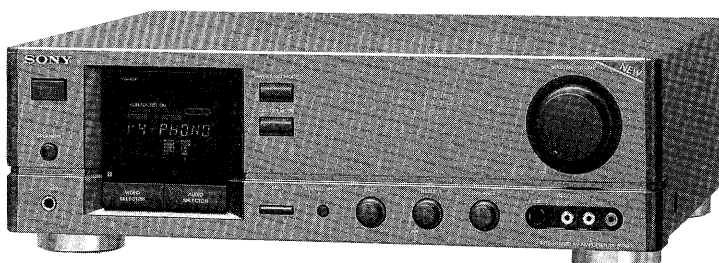


Photo : GRAY

SPECIFICATIONS

Amplifier section

Items	Condition	Data
Continuous RMS power output	4 ohms, DIN 1 kHz	Front: 70 W + 70 W Center: 70 W Rear: 30 W + 30 W
	4 ohms, 20 Hz-20 kHz	Front: 55 W + 55 W
Total harmonic distortion	8 ohms, at 10 W output	Front: 0.03 %

Input

	Input jack	Sensitivity	Impedance
Audio	PHONO	2 mV	50 kilohms
	TUNER, AUX, TAPE VIDEO 1, 2, 3, 4, LD	150 mV	
	CD	200 mV	15 kilohms
Video	VIDEO 1, 2, 3, 4, LD (phono jack)	1 Vp-p	75 ohms
	S VIDEO VIDEO 1, 4, LD	Luminance (Y) 1 Vp-p Chrominance (C) 0.286 Vp-p	75 ohms

Output

	Output jack	Sensitivity	Impedance
Audio	TAPE, VIDEO 1, 2	150 mV	470 ohms
	PHONES	3 mW (8 ohms)	Applied to low and high impedance headphones
	FRONT/CENTER/ MONO OUT	1.5 V	2 kilohms
Video	VIDEO 1, 2, MONITOR (phono jack)	1 Vp-p	75 ohms
	S VIDEO VIDEO 1, MONITOR	Luminance (Y) 1 Vp-p Chrominance (C) 0.286 Vp-p	75 ohms

Tone control

BASS: 100 Hz, ± 10 dB

TREBLE: 10 kHz, ± 10 dB

Surround

Center/rear output level:

+10 dB - -15 dB

Delay time: 20 ms fixed

Input balance: Auto

— Continued on page 2 —

INTEGRATED AV AMPLIFIER
SONY®

General

Power requirements	AEP, German, Chinese, Singapore model : 220–230V AC, 50/60Hz UK model : 230V AC, 50/60Hz E model : 120, 220 or 240 V AC adjustable, 50/60Hz
Power consumption	280 W
AC outlet (except for UK model)	One Switched, less than 100 W
Dimensions	Approx. 430 x 135 x 360 mm (w/h/d) (17 x 5 3/8 x 14 1/4 inches)
Mass	Approx. 10 kg (22 lb 1 oz)
Supplied accessories	Remote commander RM-P590 (1) Sony batteries SUM-3 (NS) (2)

Design and specifications are subject to change without notice.

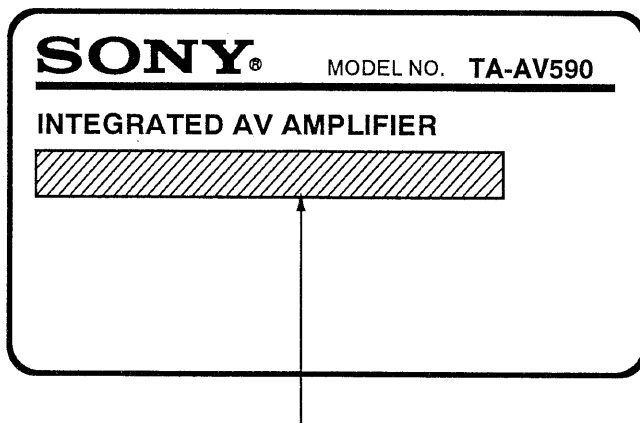
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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MODEL IDENTIFICATION (Specification Label)

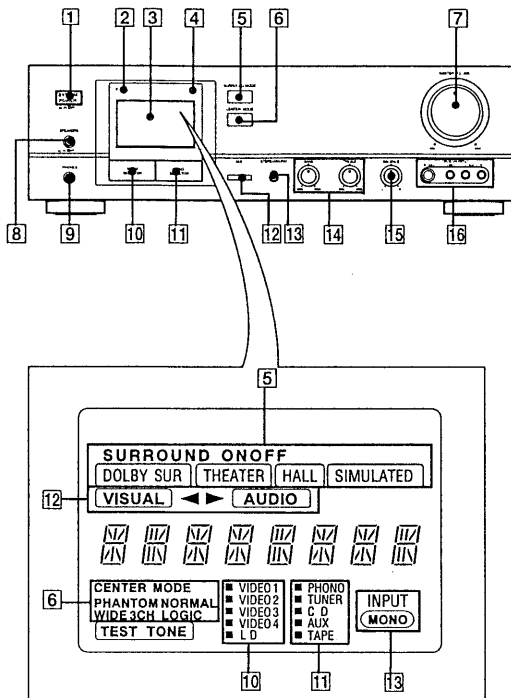


UK model : AC 230V~50/60Hz
AEP, German, Chinese,
Singapore model : AC 220–230V~50/60Hz
E model : AC 120, 220, 240V~50/60Hz

SECTION 1 GENERAL

This section is extracted from instruction manual.

A

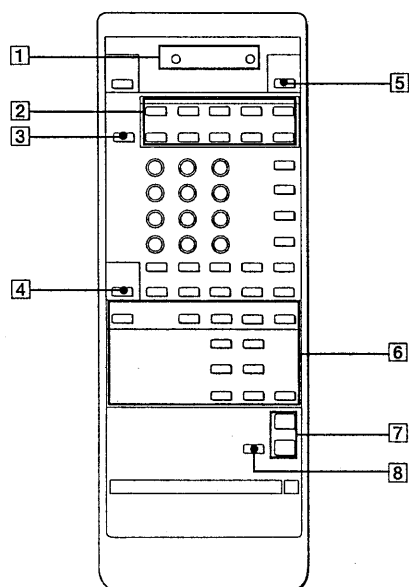


Identifying the Parts and Controls

Front Panel and Display **A**

- 1 SYSTEM POWER switch**
Press to turn on/off the unit.
- 2 STANDBY indicator**
When this indicator lights up, you can turn on this unit with the remote commander.
- 3 Display**
- 4 Remote sensor**
- 5 SURROUND MODE button (Page 48)**
Press to change the surround mode. Each time this button is pressed, the surround mode changes as follows:
SURROUND OFF → DOLBY SUR
↓
SIMULATED → HALL → THEATER
- 6 CENTER MODE button (Page 48)**
In the DOLBY SUR or THEATER mode, select the CENTER MODE according to the speaker placement. Each time this button is pressed, the CENTER MODE changes as follows:
PHANTOM → NORMAL
↓
3 CH LOGIC → WIDE
- 7 MASTER VOLUME control (Page 34)**
Adjusts the sound volume. To increase the volume, turn the control clockwise. To decrease the volume, turn the control counterclockwise.
Adjusts the level of the sound output from the FRONT SPEAKERS, REAR SPEAKERS and CENTER SPEAKER terminals and the FRONT/CENTER/MONO OUT and PHONES jacks at the same time.
- 8 SPEAKERS switch (Page 36)**
Turn ON and OFF the sounds output from the FRONT SPEAKERS, REAR SPEAKERS and CENTER SPEAKER terminals and the FRONT/CENTER/MONO OUT jacks.
- 9 PHONES jack**
Accepts the stereo phone plug of headphones. The jack outputs the sound of front speakers only. To listen to the program source only with the headphones, set the SPEAKERS switch to OFF.
- 10 VIDEO SELECTOR button**
Selects the video program source.
- 11 AUDIO SELECTOR button**
Selects the audio program source.
- 12 MIX button (Page 38)**
Press to combine a visual source and an audio source. Each time this button is pressed, the display changes as follows:
VISUAL → AUDIO → off
- 13 STEREO/MONO switch (Page 16)**
When using the monaural equipment, connect to either L or R jack of the amplifier and set STEREO/MONO switch to MONO. Same monaural signals are input on both L and R jacks and the monaural signal is also output from the FRONT OUT jacks.
- 14 BASS/TREBLE controls (Page 34)**
Adjust the BASS and TREBLE sound. Normally, set to the center position.
- 15 BALANCE control (Page 34)**
Adjusts balance of the front speaker sound. Normally set to the center position.
- 16 VIDEO 4 INPUT jacks (Page 16)**
Use when connecting the video camera, etc.

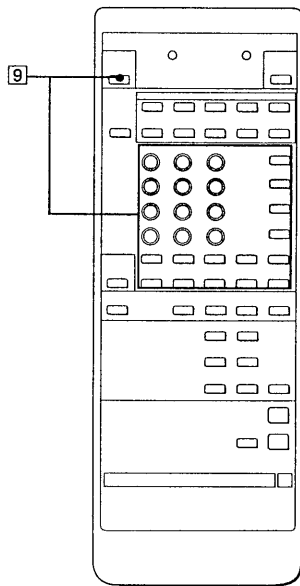
B



Identifying the Parts and Controls

Remote Commander B

- 1 LEARN button and indicator**
Stores functions of other remote commanders emitting infrared rays.
- 2 SYSTEM CONTROL/FUNCTION buttons** (Page 52, 58)
TAPE/AUX/CD/TUNER/PHONO/VIDEO 1/VIDEO 2/VIDEO 3/VIDEO 4/LD: Selects the each program source.
- 3 MIX button** (page 38)
Combines a visual source and audio source.
- 4 BACKGROUND button** (Page 56)
Operate other components temporarily while listening to or watching a programme.
- 5 SYSTEM OFF button** (page 54)
Turns off this unit and the components connected to the SWITCHED AC OUTLET.
When the unit is turned off by pressing this button, the STANDBY indicator lights up to show that the unit is in the STANDBY mode.
- 6 Surround buttons**
SURROUND ON/OFF: Turns on/off the surround mode.
DOLBY SURROUND, THEATER, HALL, SIMULATED: Select the each surround mode.
EFFECT: Adjust the overall presence of the sound field.
TEST TONE: Generates a test tone signal that is sent in succession to each speaker.
CENTER LEVEL +/-: Adjust the volume of center speaker.
REAR LEVEL +/-: Adjust the volume of rear speakers.
- 7 MASTER VOL +/- buttons**
Adjust the level of the sound output from the FRONT SPEAKERS, REAR SPEAKERS and CENTER SPEAKER terminals and the FRONT/CENTER/MONO OUT and PHONES jacks at the same time.
- 8 MUTING button**
Mutes the sound.



Identifying the Parts and Controls

9 Operation buttons

The each function of the operation button changes according as what component is being selected with the SYSTEM CONTROL/FUNCTION buttons.

Button	Operates	Function
0-9	Tuner	Selects preset numbers.
	CD player/ MD deck/ LD player	Selects track numbers. 0 selects track 10.
	TV/VCR	Selects channel numbers.
>10	CD player/ Tape deck/ LD player/ MD deck	Selects track numbers over 10.
CH/ PRESET +/-	Tuner	Scans and selects preset stations.
	TV/VCR	Selects preset channels.
D. SKIP	CD player	Skips discs (CD player with multi-disc changer only.)
◀▶	CD player	Searches tracks (forward or backward).
	Tape deck/ MD deck/ VCR/LD player	Fastforwards or rewinds or searches.
⏮▶	CD player/ MD deck/ LD player	Skips tracks.
	VCR	Searches index.
⏸	CD player/ Tape deck/ MD deck/ LD player/ VCR	Pauses play or record. (Also starts recording with components in record standby.)
▶	CD player/ Tape deck/ MD deck/ LD player/ VCR	Starts play.
■	CD player/ Tape deck/ MD deck/ LD player/ VCR	Stops play.
◀	Tape deck	Starts play on the reverse side.
●	Tape deck/ MD deck	Sets tape decks to the record standby mode.
● + ▶	Tape deck/ VCR	Starts recording when pressed with (▶ or ◀ on tape deck).

Button	Operates	Function
RMS DIRECTION	Tape deck	Selects tape direction (for tape decks with the RMS* function.)
RMS CLEAR	Tape deck	Clears RMS* program (for tape decks with the RMS function.)
RMS/ START	Tape deck	Programs tracks (tape deck with the RMS* function only).
ENTER	TV/VCR	Changes channels when used with 0-9.
TV/ VIDEO	TV/VCR	Selects input signal: TV input or video input.
VISUAL POWER	TV/VCR/ LD player	Turns on or off the power.
TV CONTROL ON	TV	Turns on the TV, switches the input to "TV," and sets the remote to operate the TV.
-/-	TV	Selects the channel entry mode, either one or two digit.
SUB CH +/-	TV	Selects preset channels for the small picture.**
POSI	TV	Changes the position of the small picture.**
SWAP	TV	Swaps the small and the large picture.**
P IN P	TV	Activates the picture-in-picture function.**
JUMP	TV	Jumps back and forth between the previous and current channels.
ANT TV/ VTR	VCR	Selects output signal from the antenna terminal: TV signal or VCR program.

* RMS: Random Music Sensor

** Only for Sony TVs with the picture-in-picture function

SECTION 2

EXPLANATION OF IC TERMINALS

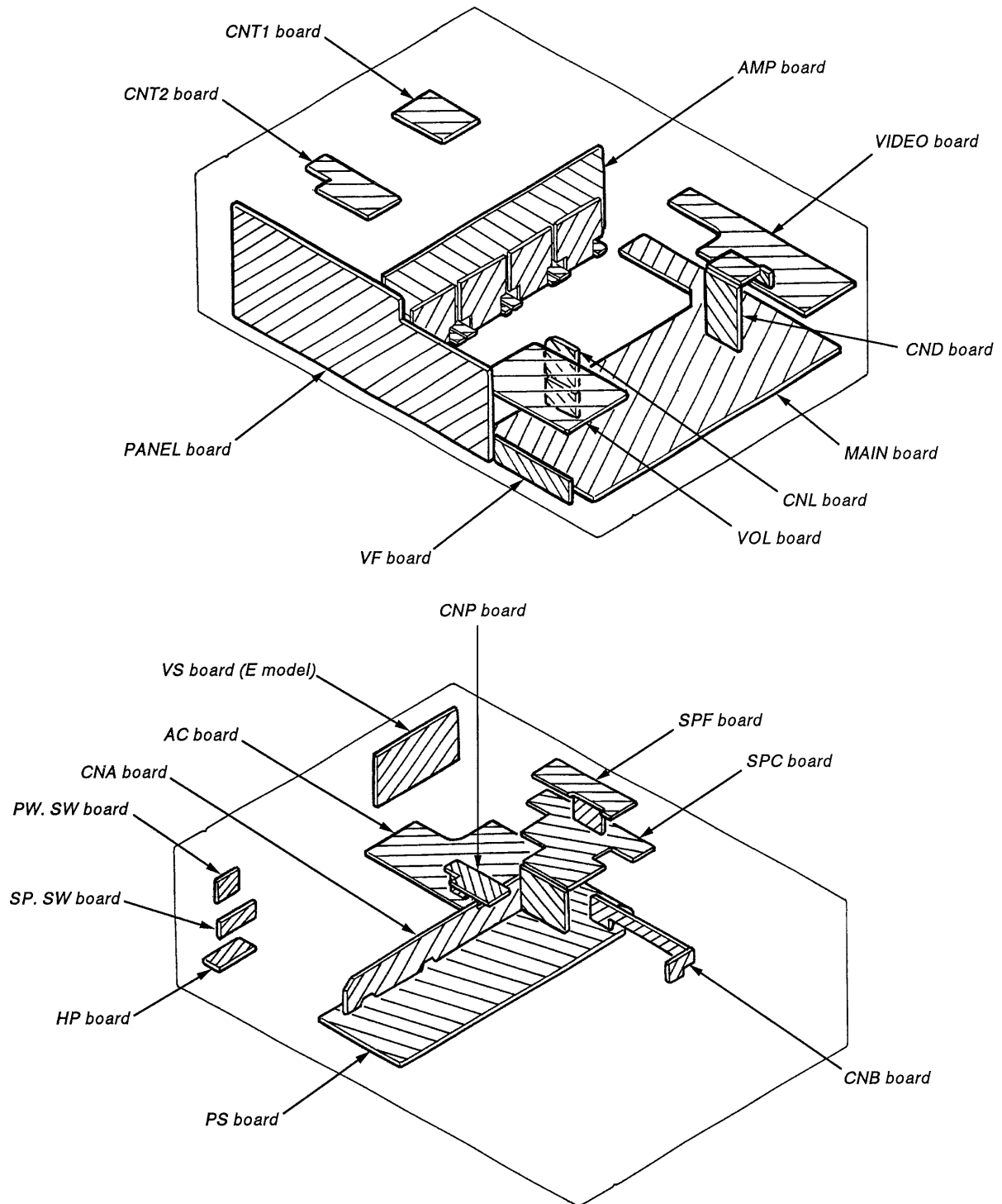
IC801 (μ PD75212AGF-589-3BE)

Pin No.	Pin name	I/O	Description
1	RESET	I	System set input terminal.
2	11G	O	Fluorescent indicator tube drive.
3	10G	O	Fluorescent indicator tube drive.
4	9G	O	Fluorescent indicator tube drive.
5	8G	O	Fluorescent indicator tube drive.
6	7G	O	Fluorescent indicator tube drive.
7	6G	O	Fluorescent indicator tube drive.
8	5G	O	Fluorescent indicator tube drive.
9	4G	O	Fluorescent indicator tube drive.
10	3G	O	Fluorescent indicator tube drive.
11	2G	O	Fluorescent indicator tube drive.
12	1G	O	Fluorescent indicator tube drive.
13	NC	—	Not used. (OPEN)
14	NC	—	Not used. (OPEN)
15	NC	—	Not used. (OPEN)
16	P12	O	Fluorescent indicator tube drive.
17	P11	O	Fluorescent indicator tube drive.
18	— 30	—	Fluorescent indicator tube drive — 30V power supply.
19	— 4	—	Fluorescent indicator tube drive — 4V power supply.
20	P10	O	Fluorescent indicator tube drive.
21	P9	O	Fluorescent indicator tube drive.
22	P8	O	Fluorescent indicator tube drive.
23	P7	O	Fluorescent indicator tube drive.
24	P6	O	Fluorescent indicator tube drive.
25	P5	O	Fluorescent indicator tube drive.
26	V _{DD}	—	Power supply. (+5V)
27	P4	O	Fluorescent indicator tube drive.
28	P3	O	Fluorescent indicator tube drive.
29	P2	O	Fluorescent indicator tube drive.
30	P1	O	Fluorescent indicator tube drive.
31	STOP	I	Power break detection input terminal.
32	FCK	O	Data transfer clock output to audio-video function switch.
33	FDT	O	Serial data output to audio-video function switch.
34	P-SW	I	Power SW ON/OFF detection.
35	SIRCS	I	Remote control receive detection.
36	KEY	I	Key matrix input terminal.
37	PROTECT	I	Speaker output protection detection input.
38	SWP	I	Power SW input detection.
39	VA	O	Video function switch control terminal.
40	VB	O	Video function switch control terminal.

Pin No.	Pin name	I/O	Description
41	VE	O	Video function switch control terminal.
42	INH	O	Video 1 picture output loop cut control terminal.
43	NC	–	Not used. (OPEN)
44	RYS	O	Surround speaker output ON/OFF control.
45	RYC	O	Center speaker output ON/OFF control.
46	RYF	O	Front speaker output ON/OFF control.
47	SCE	O	Data latch output to surround processor.
48	SCK	O	Digital transfer clock output to surround processor.
49	SDT	O	Serial data output to surround processor.
50	MON	O	STEREO/MONO control terminal.
51	NC	–	Not used. (OPEN)
52	NC	–	Not used. (OPEN)
53	FCE	O	Data latch output to audio-video function switch
54	NC	–	Not used. (OPEN)
55	NC	–	Not used. (OPEN)
56	X1	I	Main system clock terminal. (4.19MHz)
57	X2	I	Main system clock terminal. (4.19MHz)
58	Vss	–	Power supply terminal. (GND)
59	XT1	I	Subsystem clock terminal. (Not used)
60	XT2	I	Subsystem clock terminal. (Not used)
61	RY-P	O	Power ON/OFF relay drive terminal.
62	MUT	O	Mute control terminal.
63	VL –	O	Volume motor control terminal. (DOWN)
64	VL+	O	Volume motor control terminal. (UP)

SECTION 3 DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION



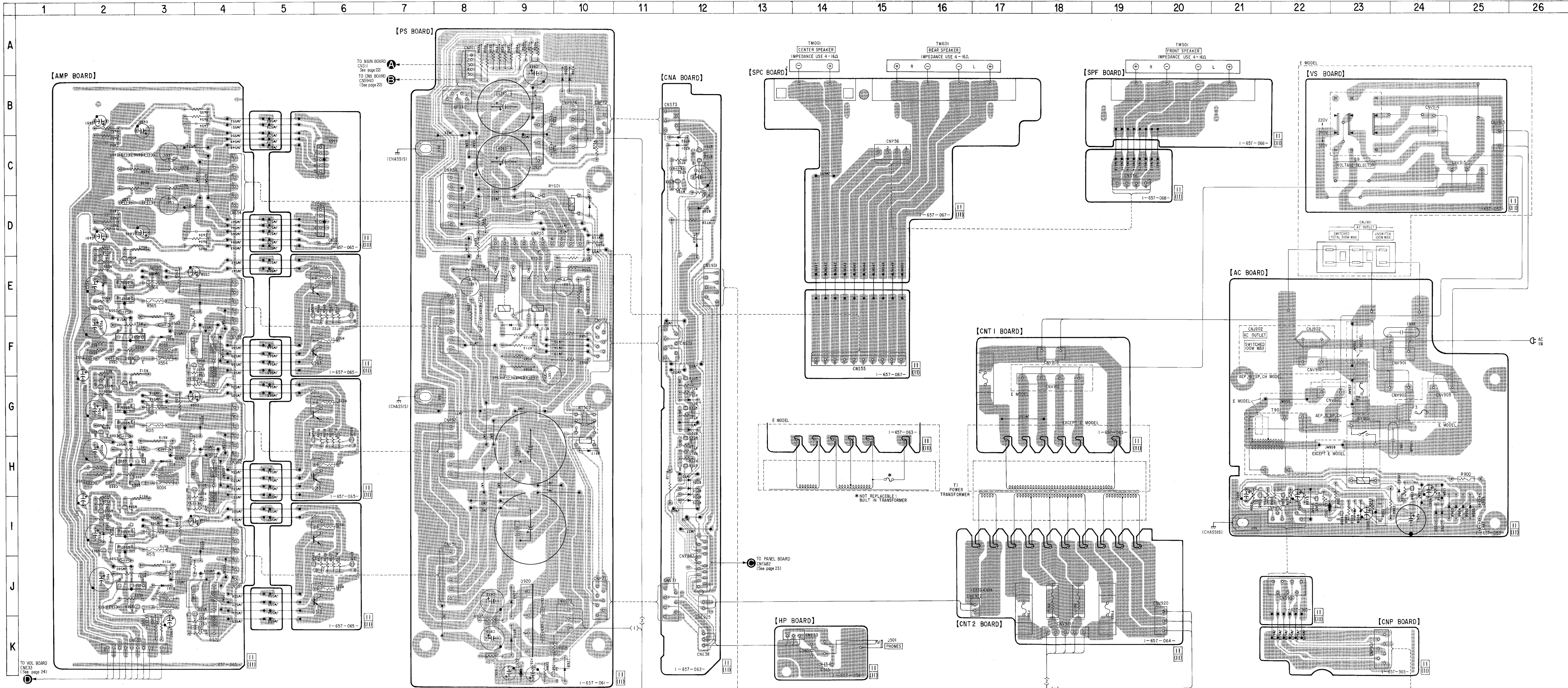
3-2. PRINTED WIRING BOARDS-1

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D001	H-3	Q006	G-2
D002	G-2	Q007	G-2
D008	G-4	Q008	H-5
D501	J-3	Q009	H-6
D502	I-2	Q011	G-5
D508	J-4	Q013	H-5
D551	F-3	Q015	H-3
D552	E-2	Q501	J-2
D558	E-4	Q502	I-2
D701	C-12	Q503	J-2
D702	C-12	Q504	I-2
D703	D-12	Q505	I-2
D704	D-12	Q506	I-2
D710	H-12	Q507	I-2
D711	G-12	Q508	J-5
D712	F-9	Q509	J-6
D717	H-10	Q511	I-5
D720	I-12	Q513	J-5
D721	G-12	Q515	J-3
D722	F-9	Q551	F-2
D725	I-12	Q552	E-2
D726	H-12	Q553	F-2
D727	D-10	Q554	E-2
D901	H-24	Q555	E-2
D902	I-24	Q556	E-2
D903	I-24	Q557	E-2
D904	I-25	Q558	E-5
D905	I-25	Q559	E-6
D906	I-25	Q561	E-6
D907	I-24	Q536	F-5
D908	I-23	Q565	F-4
D909	I-23	Q701	C-12
D910	I-22	Q702	C-12
D920	J-9	Q703	C-12
D921	K-10	Q710	G-12
D922	K-9	Q715	H-12
D923	B-10	Q720	G-12
D924	B-10	Q725	H-12
D925	C-9	Q901	H-24
D927	J-9	Q902	J-23
D929	K-9	Q903	I-22
IC601	D-6	Q904	I-23
IC651	C-6	Q905	I-22
		Q906	I-21
		Q921	K-9
Q001	H-2		
Q002	G-2		
Q003	H-2		
Q004	G-2		
Q005	G-2		

Note:

- : parts extracted from the component side.
- ⊞ : Pattern on the side which is seen.
- Abbreviation
G : German
SP : Singapore
CH : Chinese



Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.
- $\square$: nonflammable resistor.
- $\sim$: fusible resistor.

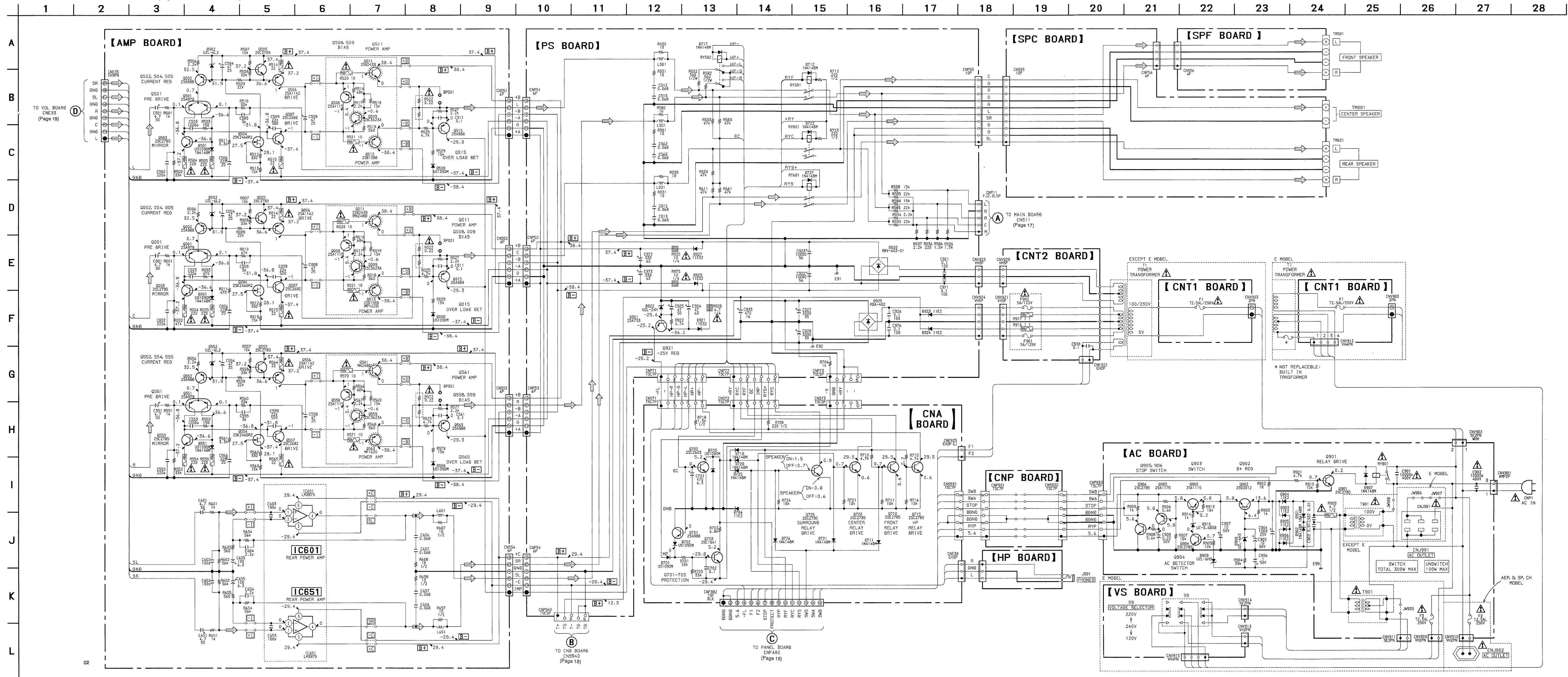
Note : The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- $\overline{B+}$: B+ Line
- $\overline{B-}$: B - Line

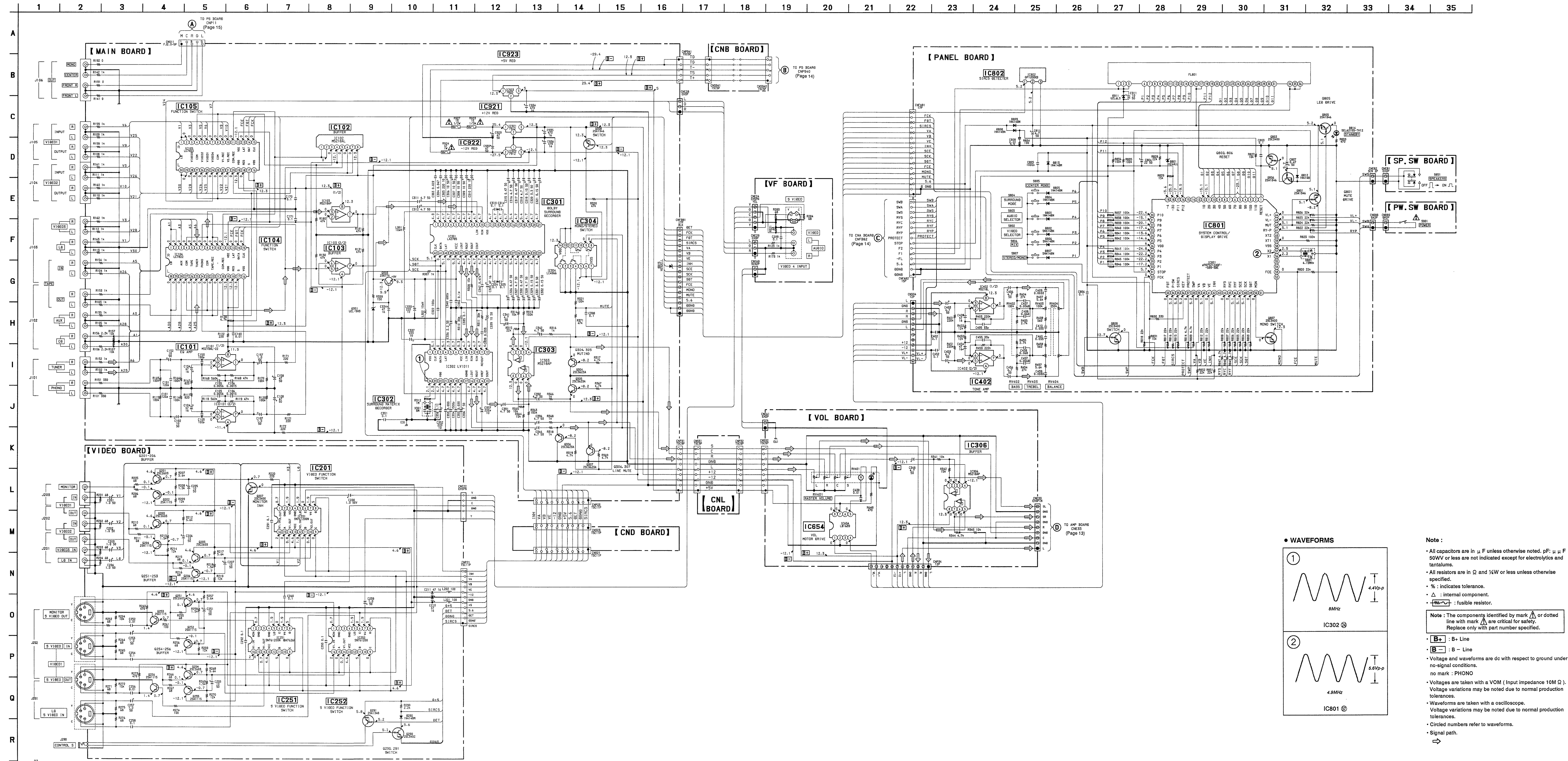
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : PHONO
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- Abbreviation
G : German
SP : Singapore
CH : Chinese

3-3. SCHEMATIC DIAGRAM-1

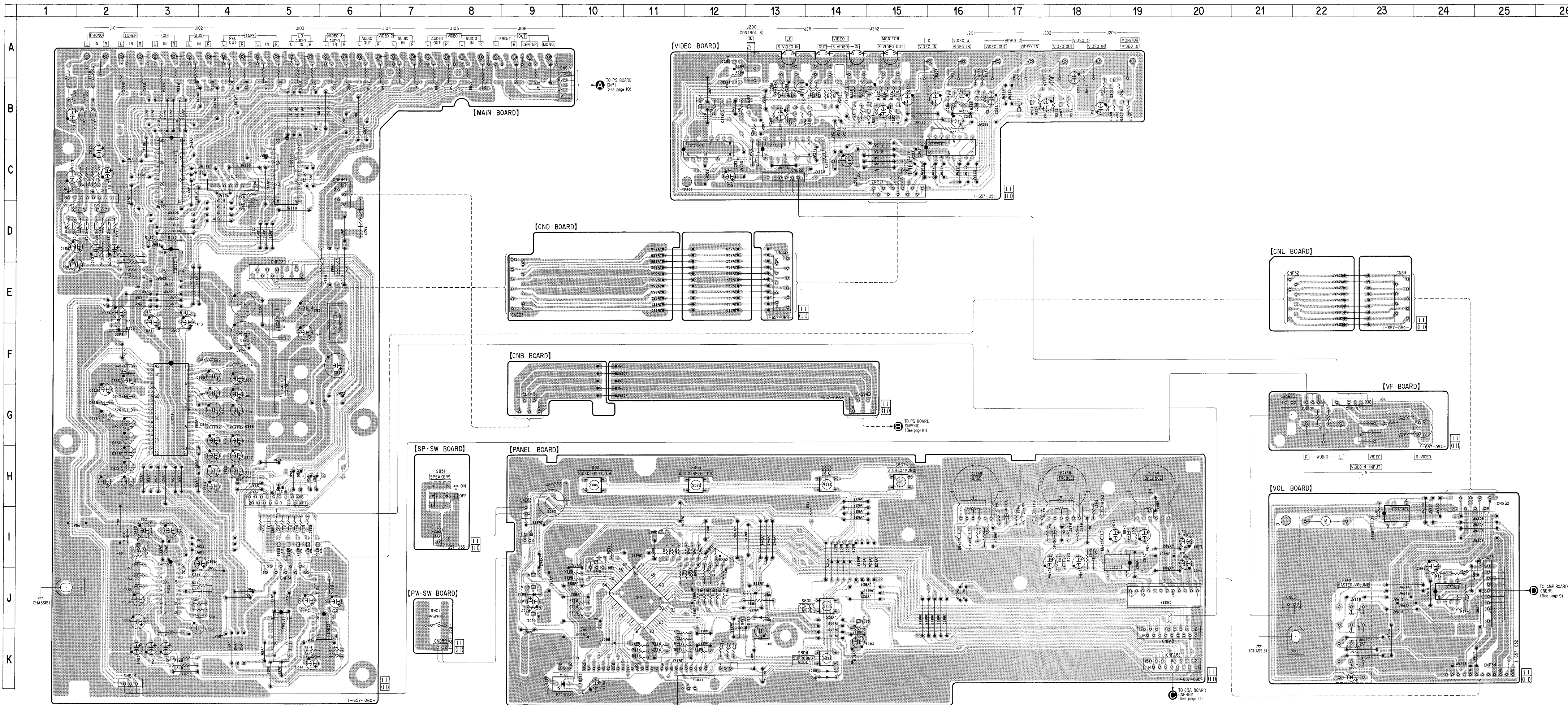
• Refer to page 25 for IC Block Diagrams.



3-4. SCHEMATIC DIAGRAM-2 ● Refer to page 25 for IC Block Diagrams.



3-5. PRINTED WIRING BOARDS-2



● SEMICONDUCTOR LOCATION

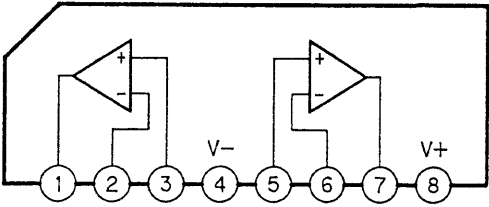
Ref. No.	Location	Ref. No.	Location
D290	A - 12	IC801	J - 11
D301	E - 2	IC802	K - 12
D801	K - 10	IC921	F - 5
D802	I - 14	IC922	E - 5
D803	I - 14	IC923	F - 6
D804	K - 14		
D805	K - 14	Q201	B - 19
D806	I - 14	Q202	B - 19
D807	I - 14	Q203	B - 18
D808	J - 13	Q204	B - 17
		Q205	B - 16
D809	J - 13		
D812	J - 9	Q206	B - 16
D813	J - 13	Q207	B - 17
D814	K - 10	Q251	B - 15
D815	H - 5	Q252	B - 15
		Q253	B - 13
D911	K - 13		
		Q254	B - 14
		Q255	B - 13
IC101	C - 2	Q256	B - 12
IC102	C - 4	Q290	A - 12
IC103	E - 3	Q291	B - 12
IC104	C - 3		
IC105	C - 5	Q303	F - 2
		Q304	I - 5
IC201	C - 16	Q305	I - 5
IC251	C - 13	Q306	I - 5
IC252	C - 12	Q307	I - 5
IC301	G - 3		
IC302	J - 3	Q308	I - 5
IC303	J - 6		
IC304	J - 5		
IC306	J - 24		
IC402	I - 10		
IC654	I - 23		

Note:

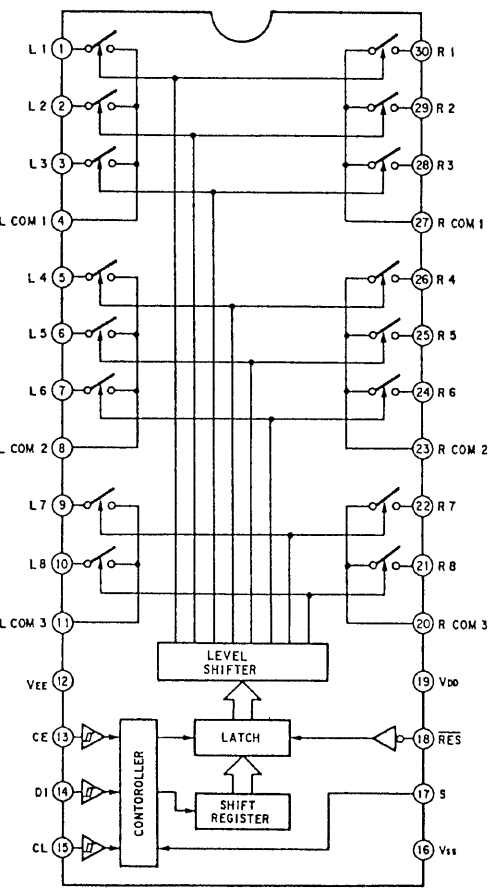
- : parts extracted from the component side.
- : parts mounted on the conductor side.
- : Pattern on the side which is seen.

• IC BLOCK DIAGRAMS

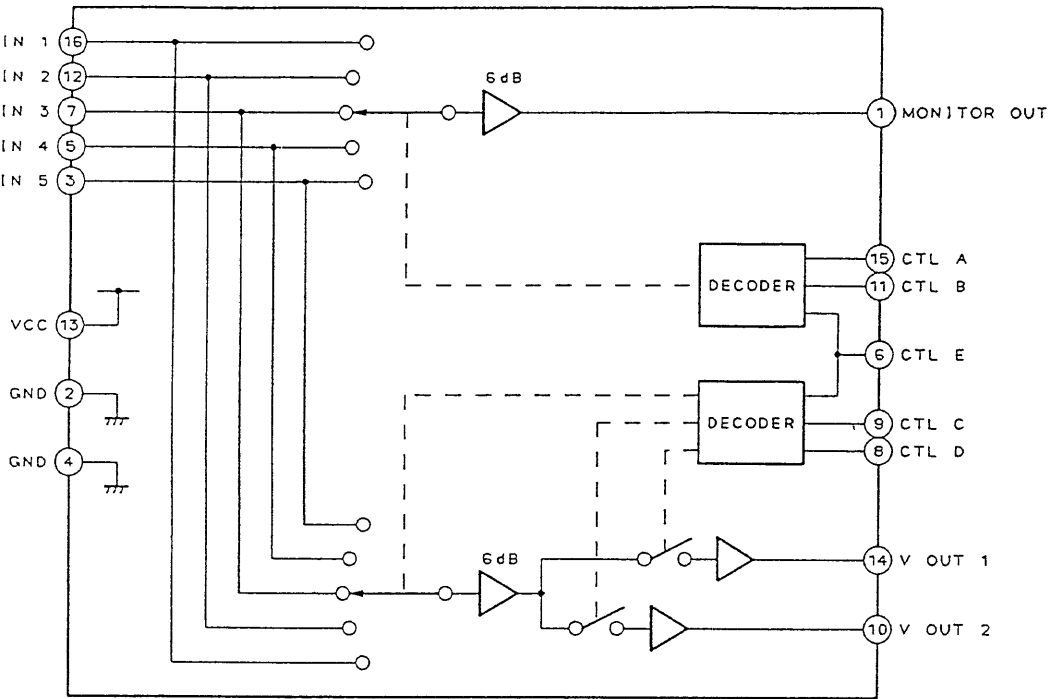
IC102 M5218AL



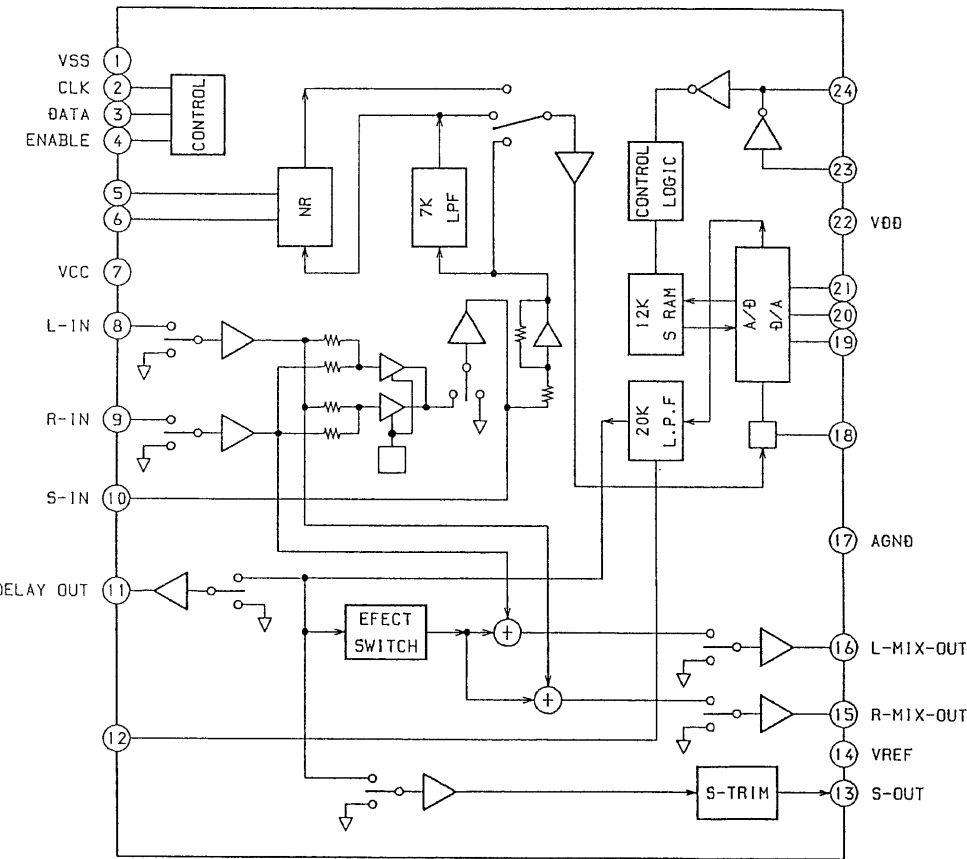
IC104, 105 LC7822



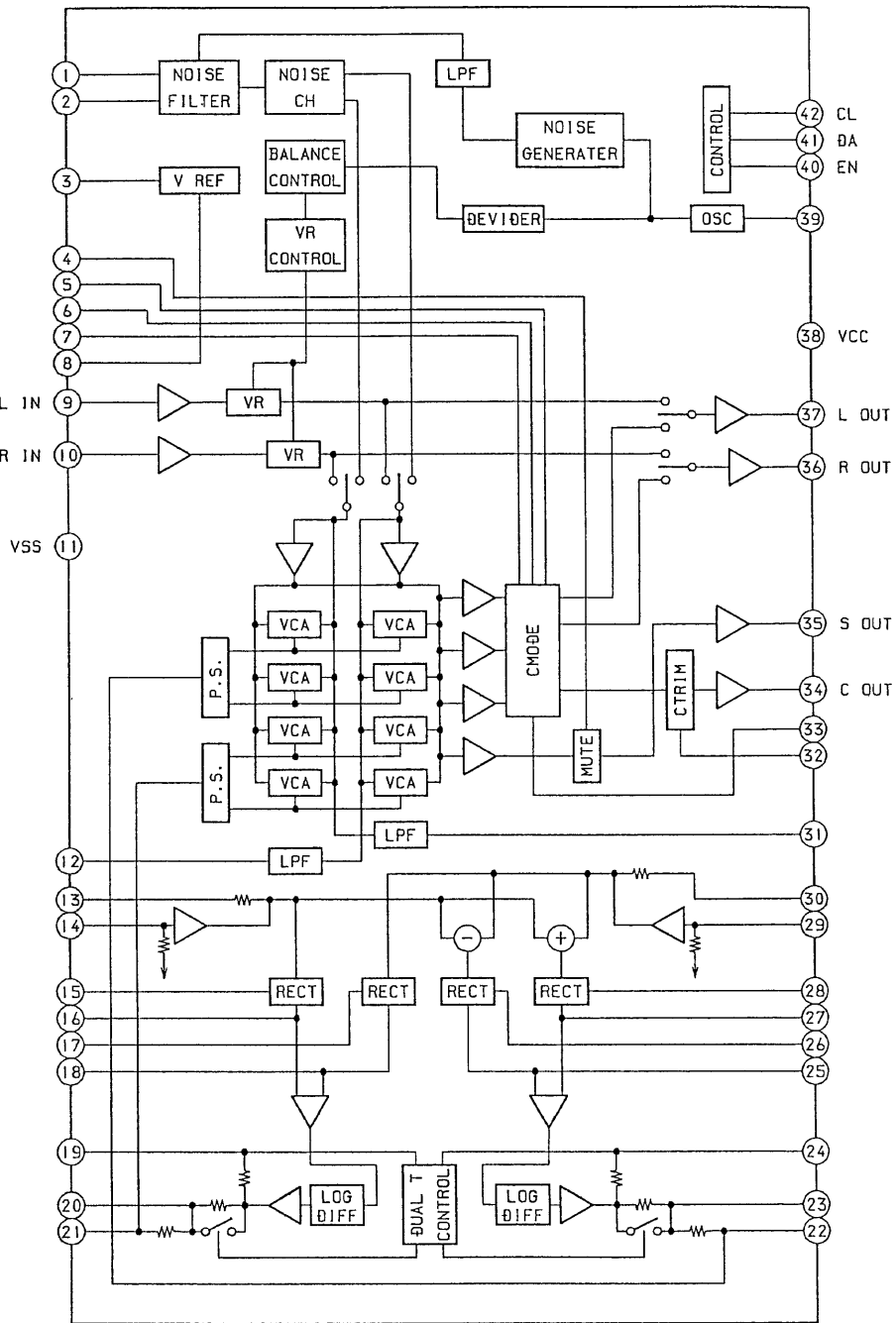
IC201, 251, 252 SN761200



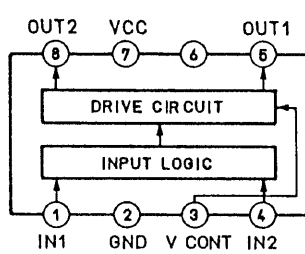
IC302 LV1011



IC301 LA2785



IC654 LB1639



SECTION 4
EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE)...(RED)

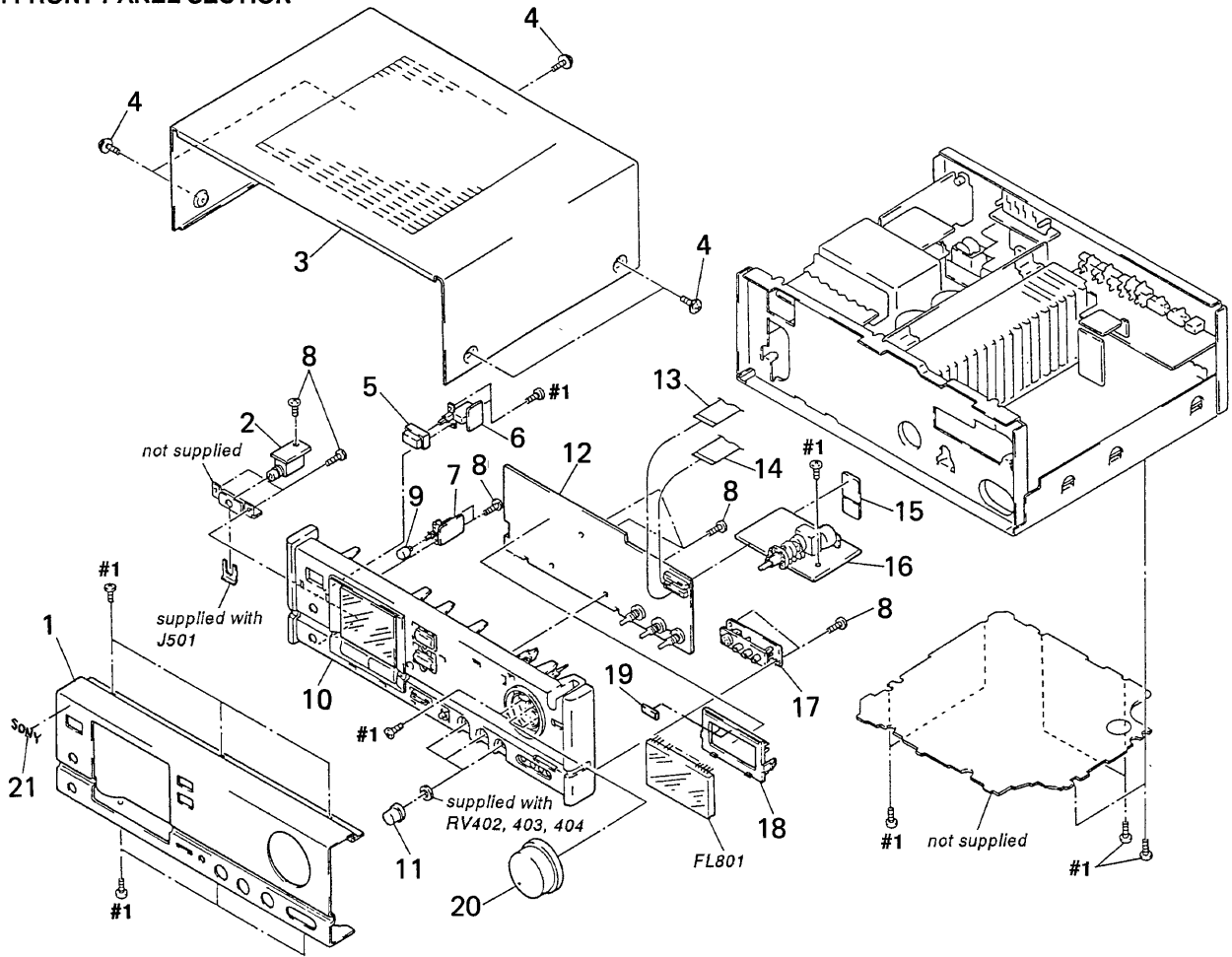
Parts color Cabinet's color

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

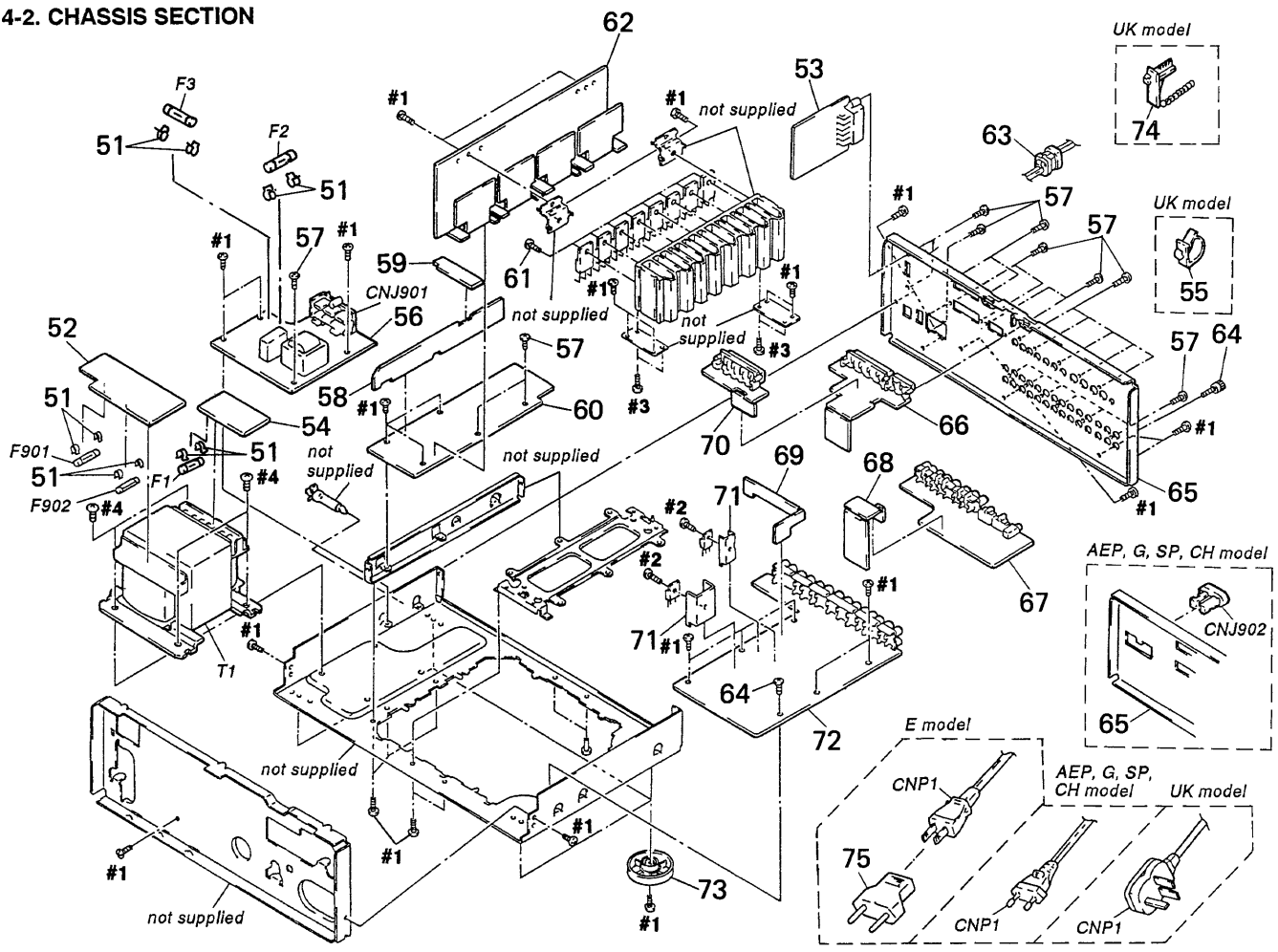
- Abbreviation
G : German
SP : Singapore
CH : Chinese

4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-954-972-21	PANEL, FRONT (BLACK) (AEP, UK, G)		11	4-954-979-01	KNOB (18) (BLACK) (AEP, UK, G)	
1	4-954-972-31	PANEL, FRONT (GRY) (E, SP, CH)		11	4-954-979-11	KNOB (18) (GRY) (E, SP, CH)	
* 2	1-657-056-11	HP BOARD		* 12	A-4378-427-A	PANEL BOARD, COMPLETE	
3	4-924-920-13	CASE (GRY) (E, SP, CH)		13	1-773-644-11	WIRE (FLAT TYPE) (17 CORE)	
3	4-924-920-71	CASE (BLACK) (AEP, UK, G)		14	1-773-623-11	WIRE (FLAT TYPE) (15 CORE)	
4	3-704-366-01	SCREW (CASE) (M3×8)		* 15	1-657-059-11	CNL BOARD	
5	4-917-460-81	KNOB, POWER (BLACK) (AEP, UK, G)		* 16	1-657-052-11	VOL BOARD	
5	4-917-460-91	KNOB, POWER (GRY) (E, SP, CH)		* 17	1-657-054-11	VF BOARD	
* 6	1-657-058-11	PW. SW BOARD		* 18	4-954-977-01	HOLDER, FL	
* 7	1-657-055-11	SP. SW BOARD		* 19	4-955-901-01	CUSHION (FL)	
8	4-951-620-01	SCREW (2.6X8), +BVTP		20	X-4942-974-1	KNOB (50) ASSY (AEP, UK, G)	
9	4-954-978-01	BUTTON (10) (BLACK) (AEP, UK, G)		20	X-4942-976-1	KNOB (50) ASSY (E, SP, CH)	
9	4-954-978-11	BUTTON (10) (GRY) (E, SP, CH)		21	4-942-568-01	EMBLEM (NO.5), SONY	
10	X-4946-097-2	BASE ASSY, PANEL (AEP, UK, G)		FL801	1-517-440-11	INDICATOR TUBE, FLUORESCENT	
10	X-4946-100-2	BASE ASSY, PANEL (E, SP, CH)					

4-2. CHASSIS SECTION



The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 51	1-533-213-31	HOLDER, FUSE	
* 52	1-657-064-11	CNT2 BOARD	
* 53	1-657-057-11	VS BOARD (E)	
* 54	1-657-063-11	CNT1 BOARD	
* 55	4-949-235-01	HOOK (UK)	
* 56	A-4378-436-A	AC BOARD, COMPLETE (AEP, G, SP, CH)	
* 56	A-4378-437-A	AC BOARD, COMPLETE (UK)	
* 56	A-4378-438-A	AC BOARD, COMPLETE (E)	
57	3-704-515-11	SCREW (BV/RING)	
* 58	1-657-062-11	CNA BOARD	
* 59	1-657-365-11	CNP BOARD	
* 60	A-4378-449-A	PS BOARD, COMPLETE	
61	3-905-609-01	SCREW (TRANSISTOR)	
* 62	A-4378-440-A	AMP BOARD, COMPLETE	
* 63	3-703-244-00	BUSHING (2104), CORD (AEP, UK, G, SP, CH)	
* 63	3-703-571-11	BUSHING (S) (4516), CORD (E)	
64	4-947-010-01	SCREW, FEEDER FIXED	
* 65	4-954-970-71	PANEL, BACK (AEP, G, SP, CH)	
* 65	4-954-970-81	PANEL, BACK (UK)	
* 65	4-954-970-91	PANEL, BACK (E)	
* 66	1-657-067-11	SPC BOARD	
* 67	A-4378-428-A	VIDEO BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
* 68	1-657-069-11	CND BOARD	
* 69	1-657-066-11	CNB BOARD	
* 70	1-657-068-11	SPF BOARD	
* 71	3-309-144-21	HEAT SINK	
* 72	A-4378-447-A	MAIN BOARD, COMPLETE	
73	4-956-885-11	FOOT (F58175S2W) (BLACK) (AEP, UK, G)	
73	4-956-885-21	FOOT (F58175S2W) (GRY) (E, SP, CH)	
74	4-956-370-02	BAND, PLUG FIXED (UK)	
 75	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
 CNJ901	1-540-043-21	OUTLET, AC (AC OUTLET) (NONPOLAR) (3P) (E)	
 CNJ902	1-526-794-11	OUTLET, AC (AEP, G, SP, CH)	
 CNP1	1-558-943-41	CORD, POWER (E)	
 CNP1	1-575-651-21	CORD, POWER (AEP, G, SP, CH)	
 CNP1	1-696-586-11	CORD, POWER (UK)	
 F1	1-532-286-00	FUSE (T2. 5AL/250V)	
 F2	1-532-286-00	FUSE (T2. 5AL/250V) (AEP, G, SP, CH)	
 F3	1-532-286-00	FUSE (T2. 5AL/250V) (E)	
 F901	1-532-299-00	FUSE (T5AL/250V)	
 F902	1-532-299-00	FUSE (T5AL/250V)	
 T1	1-427-982-11	TRANSFORMER, POWER (AEP, UK, G, SP, CH)	
 T1	1-427-983-11	TRANSFORMER, POWER (E)	

SECTION 5 ELECTRICAL PARTS LIST

AC

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal oxide-film resistor
F : nonflammable

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example :
uA.... : μ A...., uPA.... : μ PA....
uPB.... : μ PB...., uPC.... : μ PC....
uPD.... : μ PD....
- CAPACITORS
uF : μ F
- COILS
uH : μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
G : German
SP : Singapore
CH : Chinese

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-4378-436-A	AC BOARD, COMPLETE (AEP, G, SP, CH)		D902	8-719-987-63	DIODE 1N4148M	
*	A-4378-437-A	AC BOARD, COMPLETE (UK)		D903-906			
*	A-4378-438-A	AC BOARD, COMPLETE (E)			8-719-200-02	DIODE 10E2	
		*****		D907	8-719-987-63	DIODE 1N4148M	
		< BASE POST >		D908	8-719-933-41	DIODE HZS6C3L	
				D909	8-719-933-41	DIODE HZS6C3L	
* BP901	1-535-139-00	BASE POST 19MM (10MM PITCH) 2P		D910	8-719-010-23	DIODE UZ-3.6BSB	
		< CAPACITOR >				< TERMINAL BOARD >	
Δ C901	1-161-744-51	CERAMIC 0.01uF 400V		E99	1-537-770-21	TERMINAL BOARD, GROUND	
Δ C902	1-161-744-51	CERAMIC 0.01uF 400V				< FUSE >	
C903	1-164-096-11	CERAMIC 0.01uF 50V		Δ F2	1-532-286-00	FUSE (T2. 5AL/250V) (AEP, G, SP, CH)	
C904	1-124-557-11	ELECT 1000uF 20% 25V		Δ F3	1-532-286-00	FUSE (T2. 5AL/250V) (E)	
C905	1-124-907-11	ELECT 10uF 20% 50V				< TRANSISTOR >	
C906	1-124-903-11	ELECT 1uF 20% 50V		Q901	8-729-620-05	TRANSISTOR 2SC2603-EF	
C907	1-124-907-11	ELECT 10uF 20% 50V		Q902	8-729-209-15	TRANSISTOR 2SD2012	
C908	1-124-464-11	ELECT 0.22uF 20% 50V		Q903	8-729-119-76	TRANSISTOR 2SA1175-HFE	
C937	1-164-096-11	CERAMIC 0.01uF 50V		Q904	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< JACK >		Q905	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Δ CNJ901	1-540-043-21	OUTLET, AC (AC OUTLET) (NONPOLAR) (3P) (E)		Q906	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< CONNECTOR >				< RESISTOR >	
CNP930	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P		Δ R900	1-212-950-00	FUSIBLE 4.7 5% 1/2W F	
CNV901	1-774-108-11	PIN, CONNECTOR (PC BOARD)		R901	1-249-425-11	CARBON 4.7K 5% 1/4W	
CNV902	1-564-321-00	PIN, CONNECTOR 2P		R902	1-249-396-11	CARBON 18 5% 1/4W	
* CNV909	1-564-321-21	PIN, CONNECTOR 2P (E)		R903	1-249-417-11	CARBON 1K 5% 1/4W	
* CNV910	1-564-321-21	PIN, CONNECTOR 2P (AEP, G, SP, CH)		R904	1-249-436-11	CARBON 39K 5% 1/4W	
CNV911	1-564-321-00	PIN, CONNECTOR 2P (E)		R905	1-249-429-11	CARBON 10K 5% 1/4W	
		< DIODE >		R906	1-249-426-11	CARBON 5.6K 5% 1/4W	
D901	8-719-987-63	DIODE 1N4148M		R907	1-249-429-11	CARBON 10K 5% 1/4W	
				R908	1-249-426-11	CARBON 5.6K 5% 1/4W	

AC AMP

Ref. No.	Part No.	Description	Remark		
R909	1-249-417-11	CARBON	1K	5%	1/4W
R910	1-249-429-11	CARBON	10K	5%	1/4W
R913	1-249-429-11	CARBON	10K	5%	1/4W
R914	1-249-417-11	CARBON	1K	5%	1/4W
< RELAY >					
△RY901	1-515-701-11	RELAY			
< TRANSFORMER >					
△T901	1-449-071-21	TRANSFORMER, POWER (AEP, UK, G, SP, CH)			
△T901	1-448-523-11	TRANSFORMER, POWER (E)			

*	A-4378-440-A	AMP BOARD, COMPLETE			

< BASE POST >					
* BP001	1-535-115-00	TERMINAL			
* BP501	1-535-115-00	TERMINAL			
* BP551	1-535-115-00	TERMINAL			
< CAPACITOR >					
C001	1-126-963-11	ELECT	4. 7uF	20%	50V
C002	1-164-077-11	CERAMIC	220PF	10%	50V
C003	1-110-339-11	MYLAR	220PF	5%	50V
C004	1-124-477-11	ELECT	47uF	20%	25V
C005	1-164-039-11	CERAMIC	3PF	0. 25PF	50V
C006	1-124-120-11	ELECT	220uF	20%	25V
C008	1-124-477-11	ELECT	47uF	20%	25V
C009	1-107-597-11	CERAMIC	22PF	10%	500V
C011	1-136-165-00	FILM	0. 1uF	5%	50V
C501	1-126-963-11	ELECT	4. 7uF	20%	50V
C502	1-164-077-11	CERAMIC	220PF	10%	50V
C503	1-130-471-00	MYLAR	0. 001uF	5%	50V
C504	1-124-477-11	ELECT	47uF	20%	25V
C505	1-164-039-11	CERAMIC	3PF	0. 25PF	50V
C506	1-124-120-11	ELECT	220uF	20%	25V
C508	1-124-477-11	ELECT	47uF	20%	25V
C509	1-107-597-11	CERAMIC	22PF	10%	500V
C511	1-136-165-00	FILM	0. 1uF	5%	50V
C551	1-126-963-11	ELECT	4. 7uF	20%	50V
C552	1-164-077-11	CERAMIC	220PF	10%	50V
C553	1-130-471-00	MYLAR	0. 001uF	5%	50V
C554	1-124-477-11	ELECT	47uF	20%	25V
C555	1-164-039-11	CERAMIC	3PF	0. 25PF	50V
C556	1-124-120-11	ELECT	220uF	20%	25V
C558	1-124-477-11	ELECT	47uF	20%	25V
C559	1-107-597-11	CERAMIC	22PF	10%	500V
C561	1-136-165-00	FILM	0. 1uF	5%	50V

Ref. No.	Part No.	Description	Remark		
C601	1-126-963-11	ELECT	4. 7uF	20%	50V
C602	1-162-282-31	CERAMIC	100PF	10%	50V
C603	1-162-282-31	CERAMIC	100PF	10%	50V
C604	1-162-191-31	CERAMIC	2. 2PF	10%	50V
C605	1-124-443-00	ELECT	100uF	20%	10V
C606	1-136-163-00	FILM	0. 068uF	5%	50V
C607	1-136-163-00	FILM	0. 068uF	5%	50V
C651	1-126-963-11	ELECT	4. 7uF	20%	50V
C652	1-162-282-31	CERAMIC	100PF	10%	50V
C653	1-162-282-31	CERAMIC	100PF	10%	50V
C654	1-162-191-31	CERAMIC	2. 2PF	10%	50V
C655	1-124-443-00	ELECT	100uF	20%	10V
C656	1-136-163-00	FILM	0. 068uF	5%	50V
C657	1-136-163-00	FILM	0. 068uF	5%	50V
< CONNECTOR >					
CNE35	1-691-771-11	PLUG (MICRO CONNECTOR) 9P			
* CNS51-54	1-750-533-11	SOCKET 6P			
< DIODE >					
D001	8-719-002-83	DIODE	US1090M-TP		
D002	8-719-933-35	DIODE	HZS6A3L		
D008	8-719-002-83	DIODE	US1090M-TP		
D501	8-719-002-83	DIODE	US1090M-TP		
D502	8-719-933-35	DIODE	HZS6A3L		
D508	8-719-002-83	DIODE	US1090M-TP		
D551	8-719-002-83	DIODE	US1090M-TP		
D552	8-719-933-35	DIODE	HZS6A3L		
D558	8-719-002-83	DIODE	US1090M-TP		
< IC >					
IC601	8-759-085-89	IC	LM3875-S		
IC651	8-759-085-89	IC	LM3875-S		
< COIL >					
* L601	1-420-872-00	COIL, AIR-CORE			
* L651	1-420-872-00	COIL, AIR-CORE			
< TRANSISTOR >					
Q001	8-729-620-18	TRANSISTOR	2SA979-FG		
Q002	8-729-140-82	TRANSISTOR	2SA988-PAFAEA		
Q003	8-729-119-79	TRANSISTOR	2SC2785-FEK		
Q004	8-729-201-56	TRANSISTOR	2SK246-GR2		
Q005	8-729-119-79	TRANSISTOR	2SC2785-FEK		
Q006	8-729-802-71	TRANSISTOR	2SA1407-D		
Q007	8-729-805-05	TRANSISTOR	2SC3601-E		
Q008	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q009	8-729-141-30	TRANSISTOR	2SC3623A-LK		

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
Q011	8-729-020-52	TRANSISTOR 2SD2439-OPY	
Q013	8-729-020-48	TRANSISTOR 2SB1588-OPY	
Q015	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q501	8-729-620-18	TRANSISTOR 2SA979-FG	
Q502	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q503	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q504	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q505	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q506	8-729-802-71	TRANSISTOR 2SA1407-D	
Q507	8-729-805-05	TRANSISTOR 2SC3601-E	
Q508	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q509	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q511	8-729-020-52	TRANSISTOR 2SD2439-OPY	
Q513	8-729-020-48	TRANSISTOR 2SB1588-OPY	
Q515	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q551	8-729-620-18	TRANSISTOR 2SA979-FG	
Q552	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q553	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q554	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q555	8-729-119-79	TRANSISTOR 2SC2785-FEK	
Q556	8-729-802-71	TRANSISTOR 2SA1407-D	
Q557	8-729-805-05	TRANSISTOR 2SC3601-E	
Q558	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q559	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q561	8-729-020-52	TRANSISTOR 2SD2439-OPY	
Q563	8-729-020-48	TRANSISTOR 2SB1588-OPY	
Q565	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
< RESISTOR >			
R001	1-249-417-11	CARBON 1K 5%	1/4W
R002	1-249-437-11	CARBON 47K 5%	1/4W
R003	1-249-413-11	CARBON 470 5%	1/4W
△R004	1-212-889-00	FUSIBLE 220 5%	1/4W F
△R005	1-212-889-00	FUSIBLE 220 5%	1/4W F
R006	1-249-421-11	CARBON 2.2K 5%	1/4W
R007	1-249-429-11	CARBON 10K 5%	1/4W
R008	1-249-435-11	CARBON 33K 5%	1/4W
R009	1-249-433-11	CARBON 22K 5%	1/4W
R010	1-249-492-11	CARBON 47K 5%	1/2W
R011	1-247-747-11	CARBON 470 5%	1/2W
R012	1-249-411-11	CARBON 330 5%	1/4W
R013	1-249-431-11	CARBON 15K 5%	1/4W
△R014	1-212-865-00	FUSIBLE 22 5%	1/4W F
△R015	1-212-865-00	FUSIBLE 22 5%	1/4W F
R016	1-249-439-11	CARBON 68K 5%	1/4W
R017	1-249-421-11	CARBON 2.2K 5%	1/4W
R018	1-249-414-11	CARBON 560 5%	1/4W
R019	1-249-431-11	CARBON 15K 5%	1/4W
△R020	1-212-857-00	FUSIBLE 10 5%	1/4W F

Ref. No.	Part No.	Description	Remark
△R021	1-212-857-00	FUSIBLE 10 5%	1/4W F
△R022	1-239-912-21	ENCAPSULATED COMPONENT 0.22	
R025	1-249-425-11	CARBON 4.7K 5%	1/4W
R027	1-249-421-11	CARBON 2.2K 5%	1/4W
R029	1-249-431-11	CARBON 15K 5%	1/4W
R501	1-249-417-11	CARBON 1K 5%	1/4W
R502	1-249-435-11	CARBON 33K 5%	1/4W
R503	1-249-407-11	CARBON 150 5%	1/4W
△R504	1-212-889-00	FUSIBLE 220 5%	1/4W F
△R505	1-212-889-00	FUSIBLE 220 5%	1/4W F
R506	1-249-421-11	CARBON 2.2K 5%	1/4W
R507	1-249-429-11	CARBON 10K 5%	1/4W
R508	1-249-435-11	CARBON 33K 5%	1/4W
R509	1-249-433-11	CARBON 22K 5%	1/4W
R510	1-247-765-11	CARBON 33K 5%	1/2W
R511	1-247-758-11	CARBON 3.3K 5%	1/2W
R512	1-249-411-11	CARBON 330 5%	1/4W
R513	1-249-431-11	CARBON 15K 5%	1/4W
△R514	1-212-865-00	FUSIBLE 22 5%	1/4W F
△R515	1-212-865-00	FUSIBLE 22 5%	1/4W F
R516	1-249-439-11	CARBON 68K 5%	1/4W
R517	1-249-421-11	CARBON 2.2K 5%	1/4W
R518	1-249-414-11	CARBON 560 5%	1/4W
R519	1-249-431-11	CARBON 15K 5%	1/4W
△R520	1-212-857-00	FUSIBLE 10 5%	1/4W F
△R521	1-212-857-00	FUSIBLE 10 5%	1/4W F
△R522	1-239-912-21	ENCAPSULATED COMPONENT 0.22	
R525	1-249-425-11	CARBON 4.7K 5%	1/4W
R527	1-249-421-11	CARBON 2.2K 5%	1/4W
R529	1-249-431-11	CARBON 15K 5%	1/4W
R551	1-249-417-11	CARBON 1K 5%	1/4W
R552	1-249-435-11	CARBON 33K 5%	1/4W
R553	1-249-407-11	CARBON 150 5%	1/4W
△R554	1-212-889-00	FUSIBLE 220 5%	1/4W F
△R555	1-212-889-00	FUSIBLE 220 5%	1/4W F
R556	1-249-421-11	CARBON 2.2K 5%	1/4W
R557	1-249-429-11	CARBON 10K 5%	1/4W
R558	1-249-435-11	CARBON 33K 5%	1/4W
R559	1-249-433-11	CARBON 22K 5%	1/4W
R560	1-247-765-11	CARBON 33K 5%	1/2W
R561	1-247-758-11	CARBON 3.3K 5%	1/2W
R562	1-249-411-11	CARBON 330 5%	1/4W
R563	1-249-431-11	CARBON 15K 5%	1/4W
△R564	1-212-865-00	FUSIBLE 22 5%	1/4W
△R565	1-212-865-00	FUSIBLE 22 5%	1/4W
R566	1-249-439-11	CARBON 68K 5%	1/4W
R567	1-249-421-11	CARBON 2.2K 5%	1/4W
R568	1-249-414-11	CARBON 560 5%	1/4W
R569	1-249-431-11	CARBON 15K 5%	1/4W

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

AMP	CNA	CNB	CND	CNL
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Ref. No.	Part No.	Description	Remark		
△R570	1-212-857-00	FUSIBLE	10	5%	1/4W F
△R571	1-212-857-00	FUSIBLE	10	5%	1/4W F
△R572	1-239-912-21	ENCAPSULATED COMPONENT	0.22		
R575	1-249-425-11	CARBON	4.7K	5%	1/4W
R577	1-249-421-11	CARBON	2.2K	5%	1/4W
R579	1-249-431-11	CARBON	15K	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-249-438-11	CARBON	56K	5%	1/4W
R604	1-249-438-11	CARBON	56K	5%	1/4W
R605	1-249-414-11	CARBON	560	5%	1/4W
R607	1-247-727-11	CARBON	10	5%	1/2W
R608	1-247-727-11	CARBON	10	5%	1/2W
R651	1-249-417-11	CARBON	1K	5%	1/4W
R652	1-249-438-11	CARBON	56K	5%	1/4W
R654	1-249-438-11	CARBON	56K	5%	1/4W
R655	1-249-414-11	CARBON	560	5%	1/4W
R657	1-247-727-11	CARBON	10	5%	1/2W
R658	1-247-727-11	CARBON	10	5%	1/2W

*	1-657-062-11	CNA BOARD			

		< CAPACITOR >			
C701	1-126-941-11	ELECT	470uF	20%	6.3V
C702	1-136-165-00	FILM	0.1uF	5%	50V
		< CONNECTOR >			
* CNE38	1-564-518-11	PLUG, CONNECTOR 3P			
CNE925	1-564-517-11	PLUG, CONNECTOR 2P			
CNFB82	1-766-100-11	CONNECTOR, FFC(LIF(NON-ZIF)) 15P			
CNS71	1-695-092-11	SOCKET, CONNECTOR 7P			
CNS72	1-695-092-11	SOCKET, CONNECTOR 7P			
CNS73	1-750-179-11	SOCKET, CONNECTOR 5P			
CNS931	1-695-092-11	SOCKET, CONNECTOR 7P			
		< DIODE >			
D701-703					
	8-719-002-83	DIODE US1090M-TP			
D704	8-719-200-02	DIODE 10E2			
D710	8-719-987-63	DIODE 1N4148M			
D711	8-719-987-63	DIODE 1N4148M			
D720	8-719-987-63	DIODE 1N4148M			
D721	8-719-987-63	DIODE 1N4148M			
D725	8-719-987-63	DIODE 1N4148M			
D726	8-719-987-63	DIODE 1N4148M			
		< TRANSISTOR >			
Q701	8-729-140-82	TRANSISTOR 2SA988-PAFAEA			

Ref. No.	Part No.	Description	Remark		
Q702	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q703	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA		
Q710	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q715	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q720	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q725	8-729-620-05	TRANSISTOR	2SC2603-EF		
		< RESISTOR >			
R701	1-249-429-11	CARBON	10K	5%	1/4W
R702	1-249-427-11	CARBON	6.8K	5%	1/4W
R703	1-249-435-11	CARBON	33K	5%	1/4W
R710	1-249-425-11	CARBON	4.7K	5%	1/4W
R711	1-249-429-11	CARBON	10K	5%	1/4W
R715	1-249-425-11	CARBON	4.7K	5%	1/4W
R716	1-249-429-11	CARBON	10K	5%	1/4W
R718	1-247-754-11	CARBON	1.5K	5%	1/2W
R721	1-249-429-11	CARBON	10K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R728	1-247-743-11	CARBON	220	5%	1/2W

*	1-657-066-11	CNB BOARD			

		< CONNECTOR >			
CNS940	1-750-179-11	SOCKET, CONNECTOR 5P			
CNS941	1-750-179-11	SOCKET, CONNECTOR 5P			

*	1-657-069-11	CND BOARD			

		< CONNECTOR >			
CNS21	1-695-094-11	SOCKET, CONNECTOR 11P			
CNS23	1-695-094-11	SOCKET, CONNECTOR 11P			

*	1-657-059-11	CNL BOARD			

		< CONNECTOR >			
CNP32	1-695-088-11	PIN, CONNECTOR (PC BOARD) 9P			
CNS31	1-695-093-11	SOCKET, CONNECTOR 9P			

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

CNP**CNT 1****CNT 2****HP****MAIN**

Ref.No.	Part No.	Description	Remark
*	1-657-365-11	CNP BOARD ***** < CONNECTOR >	
	CNP931 1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
	CNS930 1-695-092-11	SOCKET, CONNECTOR 7P	

*	1-657-063-11	CNT1 BOARD ***** < CONNECTOR >	
	CNV903 1-690-123-21	REED (WITH CONNECTOR) (2 CORE)	
	CNV912 1-568-106-11	PIN, CONNECTOR 4P (E)	
		< FUSE >	
△F1	1-532-286-00	FUSE (T2. 5AL/250V)	

*	1-657-064-11	CNT2 BOARD ***** < CONNECTOR >	
	CNE922 1-564-505-11	PLUG, CONNECTOR 2P	
*	CNV920 1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P	
*	CNV921 1-564-242-00	PIN, CONNECTOR 5P	
		< FUSE >	
△F901	1-532-299-00	FUSE (T5AL/250V)	
△F902	1-532-299-00	FUSE (T5AL/250V)	
		< RESISTOR >	
△R916	1-217-469-00	FUSIBLE 1 5% 1W F	
△R917	1-217-469-00	FUSIBLE 1 5% 1W F	

*	1-657-056-11	HP BOARD ***** < CONNECTOR >	
*	CNE39 1-564-506-11	PLUG, CONNECTOR 3P	
		< JACK >	
J501	1-507-796-71	JACK (PHONES)	

*	A-4378-447-A	MAIN BOARD, COMPLETE *****	
*	1-535-730-21	LEAD, JUMPER (OFC)	

Ref.No.	Part No.	Description	Remark
< CAPACITOR >			
C101	1-164-072-11	CERAMIC 120PF 5% 50V	
C102	1-124-907-11	ELECT 10uF 20% 50V	
C103	1-164-070-11	CERAMIC 100PF 5% 50V	
C104	1-104-664-11	ELECT 47uF 20% 16V	
C105	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C106	1-130-473-00	MYLAR 0.0015uF 5% 50V	
C107	1-124-903-11	ELECT 1uF 20% 50V	
C108	1-124-910-11	ELECT 47uF 20% 50V	
C140	1-136-153-00	FILM 0.01uF 5% 50V	
C151	1-164-072-11	CERAMIC 120PF 5% 50V	
C152	1-124-907-11	ELECT 10uF 20% 50V	
C153	1-164-070-11	CERAMIC 100PF 5% 50V	
C154	1-104-664-11	ELECT 47uF 20% 16V	
C155	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C156	1-130-473-00	MYLAR 0.0015uF 5% 50V	
C157	1-124-903-11	ELECT 1uF 20% 50V	
C158	1-124-910-11	ELECT 47uF 20% 50V	
C170	1-164-159-11	CERAMIC 0.1uF 50V	
C171	1-164-159-11	CERAMIC 0.1uF 50V	
C303	1-136-157-00	FILM 0.022uF 5% 50V	
C304	1-136-161-00	FILM 0.047uF 5% 50V	
C305	1-104-666-11	ELECT 220uF 20% 10V	
C306-309			
	1-124-907-11	ELECT 10uF 20% 50V	
C310	1-104-666-11	ELECT 220uF 20% 10V	
C311	1-126-963-11	ELECT 4.7uF 20% 50V	
C312	1-126-963-11	ELECT 4.7uF 20% 50V	
C313	1-136-165-00	FILM 0.1uF 5% 50V	
C314	1-136-165-00	FILM 0.1uF 5% 50V	
C315	1-124-902-00	ELECT 0.47uF 20% 50V	
C316	1-126-963-11	ELECT 4.7uF 20% 50V	
C317	1-124-902-00	ELECT 0.47uF 20% 50V	
C318	1-126-963-11	ELECT 4.7uF 20% 50V	
C319	1-124-250-11	ELECT 0.15uF 20% 50V	
C320	1-126-962-11	ELECT 3.3uF 20% 50V	
C321	1-124-250-11	ELECT 0.15uF 20% 50V	
C322	1-162-282-31	CERAMIC 100PF 10% 50V	
C323	1-104-664-11	ELECT 47uF 20% 16V	
C324	1-136-165-00	FILM 0.1uF 5% 50V	
C325	1-136-165-00	FILM 0.1uF 5% 50V	
C326	1-124-902-00	ELECT 0.47uF 20% 50V	
C327	1-126-963-11	ELECT 4.7uF 20% 50V	
C328	1-126-963-11	ELECT 4.7uF 20% 50V	
C329	1-124-250-11	ELECT 0.15uF 20% 50V	
C330	1-124-902-00	ELECT 0.47uF 20% 50V	
C331	1-126-962-11	ELECT 3.3uF 20% 50V	
C332	1-124-250-11	ELECT 0.15uF 20% 50V	

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description	Remark
C333	1-104-666-11	ELECT 220uF	20% 10V
C334	1-104-664-11	ELECT 47uF	20% 16V
C335	1-164-159-11	CERAMIC 0. 1uF	50V
C336	1-124-925-11	ELECT 2. 2uF	20% 100V
C337	1-104-666-11	ELECT 220uF	20% 10V
C338	1-136-159-00	FILM 0. 033uF	5% 50V
C339	1-124-907-11	ELECT 10uF	20% 50V
C340	1-130-469-00	MYLAR 680PF	5% 50V
C341	1-126-963-11	ELECT 4. 7uF	20% 50V
C342	1-126-963-11	ELECT 4. 7uF	20% 50V
C344	1-126-963-11	ELECT 4. 7uF	20% 50V
C346	1-164-159-11	CERAMIC 0. 1uF	50V
C347	1-136-173-00	FILM 0. 47uF	5% 50V
C351	1-164-159-11	CERAMIC 0. 1uF	50V
C352	1-104-666-11	ELECT 220uF	20% 10V
C353	1-136-159-00	FILM 0. 033uF	5% 50V
C354	1-130-473-00	MYLAR 0. 0015uF	5% 50V
C355	1-136-159-00	FILM 0. 033uF	5% 50V
C356	1-124-903-11	ELECT 1uF	20% 50V
C357	1-104-666-11	ELECT 220uF	20% 10V
C358	1-164-159-11	CERAMIC 0. 1uF	50V
C391	1-126-963-11	ELECT 4. 7uF	20% 50V
C392	1-126-963-11	ELECT 4. 7uF	20% 50V
C394	1-126-963-11	ELECT 4. 7uF	20% 50V
C398	1-136-165-00	FILM 0. 1uF	5% 50V
C929	1-124-910-11	ELECT 47uF	20% 50V
C930	1-124-910-11	ELECT 47uF	20% 50V
C934-936	1-126-941-11	ELECT 470uF	20% 16V
C938	1-136-165-00	FILM 0. 1uF	5% 50V
< CONNECTOR >			
* CNE28	1-564-506-11	PLUG, CONNECTOR 3P	
CNFB81	1-764-958-11	CONNECTOR, FFC (LIF (NON-ZIF)) 17P	
CNP23	1-695-089-11	PIN, CONNECTOR (PC BOARD) 11P	
CNP31	1-695-088-11	PIN, CONNECTOR (PC BOARD) 9P	
CNP941	1-750-180-11	PIN, CONNECTOR (PC BOARD) 5P	
* CNS11	1-691-746-11	CONNECTOR, BOARD TO BOARD 5P	
< DIODE >			
D301	8-719-001-30	DIODE UZL-9H3	
D815	8-719-985-41	DIODE HZS2CLL	
< TERMINAL BOARD >			
E31	1-537-770-21	TERMINAL BOARD, GROUND	
< IC >			
IC101	8-759-184-02	IC NJM2068L-D	

Ref. No.	Part No.	Description	Remark
IC102	8-759-634-50	IC M5218AL	
IC103	8-759-634-51	IC M5218AP	
IC104	8-759-805-14	IC LC7822	
IC105	8-759-805-14	IC LC7822	
IC301	8-759-248-74	IC LA2785	
IC302	8-759-341-23	IC LV1011	
IC303	8-759-634-51	IC M5218AP	
IC304	8-759-801-01	IC LC4966	
IC921	8-759-231-58	IC TA7812S	
IC922	8-759-245-86	IC TA7912S	
IC923	8-759-231-53	IC TA7805S	
< JACK >			
J101	1-565-258-11	JACK, PIN 4P (PHONO/TUNER)	
J102	1-565-320-61	JACK, PIN 6P (CD/AUX/TAPE OUT)	
J103	1-565-320-61	JACK, PIN 6P (VIDEO 3/LD/TAPE IN)	
J104	1-565-258-11	JACK, PIN 4P (VIDEO 2)	
J105	1-565-258-11	JACK, PIN 4P (VIDEO 1)	
J106	1-750-595-11	JACK, PIN 4P (OUT)	
< COIL >			
L301	1-410-509-11	INDUCTOR 10uH	
L302	1-410-509-11	INDUCTOR 10uH	
< TRANSISTOR >			
Q303	8-729-140-96	TRANSISTOR 2SD774-34	
Q304-307	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q308	8-729-900-63	TRANSISTOR DTA124ES	
< RESISTOR >			
R101	1-249-411-11	CARBON 330 5% 1/4W	
R102-105	1-249-417-11	CARBON 1K 5% 1/4W	
R106	1-249-421-11	CARBON 2. 2K 5% 1/4W	
R107	1-249-429-11	CARBON 10K 5% 1/4W	
R108-113	1-249-417-11	CARBON 1K 5% 1/4W	
R115	1-249-441-11	CARBON 100K 5% 1/4W	
R116	1-249-441-11	CARBON 100K 5% 1/4W	
R117	1-249-416-11	CARBON 820 5% 1/4W	
R118	1-247-897-11	CARBON 560K 5% 1/4W	
R119	1-249-437-11	CARBON 47K 5% 1/4W	
R120	1-249-441-11	CARBON 100K 5% 1/4W	
R121	1-249-409-11	CARBON 220 5% 1/4W	
R122	1-249-409-11	CARBON 220 5% 1/4W	
R128	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R130	1-249-437-11	CARBON 47K 5% 1/4W	

MAIN

PANEL

Ref. No.	Part No.	Description	Remark		
R131	1-249-437-11	CARBON	47K	5%	1/4W
R142	1-249-417-11	CARBON	1K	5%	1/4W
R151	1-249-411-11	CARBON	330	5%	1/4W
R152-155					
	1-249-417-11	CARBON	1K	5%	1/4W
R156	1-249-421-11	CARBON	2.2K	5%	1/4W
R157	1-249-429-11	CARBON	10K	5%	1/4W
R158-163					
	1-249-417-11	CARBON	1K	5%	1/4W
R165	1-249-441-11	CARBON	100K	5%	1/4W
R166	1-249-441-11	CARBON	100K	5%	1/4W
R167	1-249-416-11	CARBON	820	5%	1/4W
R168	1-247-897-11	CARBON	560K	5%	1/4W
R169	1-249-437-11	CARBON	47K	5%	1/4W
R170	1-249-441-11	CARBON	100K	5%	1/4W
R171	1-249-409-11	CARBON	220	5%	1/4W
R172	1-249-409-11	CARBON	220	5%	1/4W
R180	1-249-437-11	CARBON	47K	5%	1/4W
R181	1-249-437-11	CARBON	47K	5%	1/4W
R307	1-249-417-11	CARBON	1K	5%	1/4W
R308	1-249-431-11	CARBON	15K	5%	1/4W
R309	1-249-407-11	CARBON	150	5%	1/4W
R310	1-249-436-11	CARBON	39K	5%	1/4W
R311	1-249-436-11	CARBON	39K	5%	1/4W
R312	1-247-903-00	CARBON	1M	5%	1/4W
R313	1-249-441-11	CARBON	100K	5%	1/4W
R314	1-249-429-11	CARBON	10K	5%	1/4W
R315	1-249-433-11	CARBON	22K	5%	1/4W
R316	1-249-417-11	CARBON	1K	5%	1/4W
R317	1-249-425-11	CARBON	4.7K	5%	1/4W
R318	1-249-417-11	CARBON	1K	5%	1/4W
R319	1-249-425-11	CARBON	4.7K	5%	1/4W
R320	1-249-437-11	CARBON	47K	5%	1/4W
R321	1-249-441-11	CARBON	100K	5%	1/4W
R363	1-249-441-11	CARBON	100K	5%	1/4W
R364	1-249-429-11	CARBON	10K	5%	1/4W
R365	1-249-429-11	CARBON	10K	5%	1/4W
R366	1-249-417-11	CARBON	1K	5%	1/4W
R367	1-249-425-11	CARBON	4.7K	5%	1/4W
R368	1-249-417-11	CARBON	1K	5%	1/4W
R369	1-249-425-11	CARBON	4.7K	5%	1/4W
R371	1-249-437-11	CARBON	47K	5%	1/4W
△R923	1-212-962-00	FUSIBLE	15	5%	1/2W F
△R924	1-217-489-00	FUSIBLE	47	5%	1W F
△R927	1-212-962-00	FUSIBLE	15	5%	1/2W F

< VIBRATOR >

X301 1-579-952-21 VIBRATOR, CERAMIC (8MHz)

Ref. No.	Part No.	Description	Remark		
*	A-4378-427-A	PANEL BOARD, COMPLETE	*****		
		< CAPACITOR >			
C402	1-164-159-11	CERAMIC	0.1uF		50V
C403	1-126-963-11	ELECT	4.7uF	20%	50V
C404	1-104-664-11	ELECT	47uF	20%	16V
C405	1-102-963-00	CERAMIC	33PF	5%	50V
C406	1-126-963-11	ELECT	4.7uF	20%	50V
C407	1-130-481-00	MYLAR	0.0068uF	5%	50V
C408	1-136-163-00	FILM	0.068uF	5%	50V
C409	1-130-477-00	MYLAR	0.0033uF	5%	50V
C410	1-136-159-00	FILM	0.033uF	5%	50V
C452	1-164-159-11	CERAMIC	0.1uF		50V
C453	1-126-963-11	ELECT	4.7uF	20%	50V
C454	1-104-664-11	ELECT	47uF	20%	16V
C455	1-102-963-00	CERAMIC	33PF	5%	50V
C456	1-126-963-11	ELECT	4.7uF	20%	50V
C457	1-130-481-00	MYLAR	0.0068uF	5%	50V
C458	1-136-163-00	FILM	0.068uF	5%	50V
C459	1-130-477-00	MYLAR	0.0033uF	5%	50V
C460	1-136-159-00	FILM	0.033uF	5%	50V
C803	1-164-159-11	CERAMIC	0.1uF		50V
C804	1-124-916-11	ELECT	22uF	20%	63V
C805	1-162-294-31	CERAMIC	0.001uF	10%	50V
C806	1-164-159-11	CERAMIC	0.1uF		50V
C807	1-124-465-00	ELECT	0.47uF	20%	50V
C808	1-104-905-11	CAP, DOUBLE LAYERS		0.22F	
C811	1-126-963-11	ELECT	4.7uF	20%	50V
C911	1-124-907-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
CNFA81	1-764-922-11	CONNECTOR, FFC (LIF(NON-ZIF))	17P		
CNFA82	1-764-920-11	CONNECTOR, FFC (LIF(NON-ZIF))	15P		
* CNS34	1-561-652-00	SOCKET, CONNECTOR	12P		
		< DIODE >			
D801	8-719-914-11	DIODE	HZ4ALL		
D802-809					
	8-719-987-63	DIODE	1N4148M		
D812	8-719-987-63	DIODE	1N4148M		
D813	8-719-987-63	DIODE	1N4148M		
D814	8-719-313-48	LED	SEL6210S-TH12 (STSNDBY)		
D911	8-719-000-54	DIODE	UZL-6L3		
		< INDICATOR TUBE >			
FL801	1-517-440-11	INDICATOR TUBE, FLUORESCENT			

PANEL**PS**

Ref.No.	Part No.	Description	Remark
< IC >			
IC402	8-759-634-51	IC M5218AP	
IC801	8-759-343-05	IC uPD75212-SOX2168	
IC802	8-749-923-11	IC GP1U58XB	
< TRANSISTOR >			
Q801	8-729-900-63	TRANSISTOR DTA124ES	
Q802	8-729-900-36	TRANSISTOR DTC124ES	
Q805	8-729-900-63	TRANSISTOR DTA124ES	
Q806	8-729-900-63	TRANSISTOR DTA124ES	
Q807	8-729-900-36	TRANSISTOR DTC124ES	
Q808	8-729-900-36	TRANSISTOR DTC124ES	
< RESISTOR >			
R401	1-247-887-00	CARBON 220K 5% 1/4W	
R402	1-249-430-11	CARBON 12K 5% 1/4W	
R403	1-247-887-00	CARBON 220K 5% 1/4W	
R404	1-249-434-11	CARBON 27K 5% 1/4W	
R405	1-249-422-11	CARBON 2.7K 5% 1/4W	
R407	1-249-426-11	CARBON 5.6K 5% 1/4W	
R408	1-249-414-11	CARBON 560 5% 1/4W	
R451	1-247-887-00	CARBON 220K 5% 1/4W	
R452	1-249-430-11	CARBON 12K 5% 1/4W	
R453	1-247-887-00	CARBON 220K 5% 1/4W	
R454	1-249-434-11	CARBON 27K 5% 1/4W	
R455	1-249-422-11	CARBON 2.7K 5% 1/4W	
R457	1-249-426-11	CARBON 5.6K 5% 1/4W	
R458	1-249-414-11	CARBON 560 5% 1/4W	
R803-808	1-249-433-11	CARBON 22K 5% 1/4W	
R809	1-249-425-11	CARBON 4.7K 5% 1/4W	
R811	1-249-433-11	CARBON 22K 5% 1/4W	
R812	1-249-433-11	CARBON 22K 5% 1/4W	
R814	1-249-425-11	CARBON 4.7K 5% 1/4W	
R815-818	1-249-433-11	CARBON 22K 5% 1/4W	
R820	1-249-433-11	CARBON 22K 5% 1/4W	
R822	1-249-433-11	CARBON 22K 5% 1/4W	
R823	1-249-441-11	CARBON 100K 5% 1/4W	
R824-826	1-249-433-11	CARBON 22K 5% 1/4W	
R827	1-249-429-11	CARBON 10K 5% 1/4W	
R828	1-249-433-11	CARBON 22K 5% 1/4W	
R829	1-249-431-11	CARBON 15K 5% 1/4W	
R830	1-249-411-11	CARBON 330 5% 1/4W	
R831	1-249-429-11	CARBON 10K 5% 1/4W	
R833	1-249-413-11	CARBON 470 5% 1/4W	
R834	1-247-807-31	CARBON 100 5% 1/4W	

Ref.No.	Part No.	Description	Remark
R835-846	1-249-441-11	CARBON 100K 5% 1/4W	
R847-849	1-249-425-11	CARBON 4.7K 5% 1/4W	
R851	1-249-433-11	CARBON 22K 5% 1/4W	
R852	1-249-433-11	CARBON 22K 5% 1/4W	
< VARIABLE RESISTOR >			
RV402	1-238-157-11	RES, VAR, CARBON 100K/100K (BASS)	
RV403	1-238-157-11	RES, VAR, CARBON 100K/100K (TREBLE)	
RV404	1-238-156-11	RES, VAR, CARBON 250K/250K (BALANCE)	
< SWITCH >			
S802	1-554-303-21	SWITCH, TACTILE (VIDEO SELECTOR)	
S803	1-554-303-21	SWITCH, TACTILE (AUDIO SELECTOR)	
S804	1-554-303-21	SWITCH, TACTILE (SURROUND MODE)	
S805	1-554-303-21	SWITCH, TACTILE (CENTER MODE)	
S806	1-554-303-21	SWITCH, TACTILE (MIX)	
S807	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)	
< VIBRATOR >			
X801	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)	

*	A-4378-449-A	PS BOARD, COMPLETE	

< CAPACITOR >			
C012	1-136-163-00	FILM 0.068uF 5% 50V	
C013	1-136-163-00	FILM 0.068uF 5% 50V	
C512	1-136-163-00	FILM 0.068uF 5% 50V	
C513	1-136-163-00	FILM 0.068uF 5% 50V	
C562	1-136-163-00	FILM 0.068uF 5% 50V	
C563	1-136-163-00	FILM 0.068uF 5% 50V	
C921	1-106-220-00	MYLAR 0.1uF 5% 100V	
C922	1-111-263-11	ELECT 10000uF 20% 56V	
C923	1-111-263-11	ELECT 10000uF 20% 56V	
C924	1-124-910-11	ELECT 47uF 20% 50V	
C925	1-124-910-11	ELECT 47uF 20% 50V	
C926	1-106-220-00	MYLAR 0.1uF 5% 100V	
C927	1-126-413-11	ELECT 3300uF 20% 35V	
C928	1-126-413-11	ELECT 3300uF 20% 35V	
C933	1-126-941-11	ELECT 470uF 20% 16V	
C971	1-106-220-00	MYLAR 0.1uF 5% 100V	
C972	1-124-920-11	ELECT 330uF 20% 63V	
C973	1-124-920-11	ELECT 330uF 20% 63V	
C976	1-106-220-00	MYLAR 0.1uF 5% 100V	

PS

PW. SW

SP. SW

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
* CNP11	1-691-670-11	CONNECTOR, BOARD TO BOARD 5P	
* CNP51-54	1-564-976-11	PIN, CONNECTOR 6P	
CNP55	1-770-880-11	PIN, CONNECTOR 10P	
CNP71	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CNP72	1-695-087-11	PIN, CONNECTOR (PC BOARD) 7P	
CNP73	1-750-180-11	PIN, CONNECTOR (PC BOARD) 5P	
CNP940	1-750-180-11	PIN, CONNECTOR (PC BOARD) 5P	
* CNV923	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P	
* CNV924	1-564-242-00	PIN, CONNECTOR 5P	
< DIODE >			
D712	8-719-987-63	DIODE 1N4148M	
D717	8-719-987-63	DIODE 1N4148M	
D722	8-719-987-63	DIODE 1N4148M	
D727	8-719-987-63	DIODE 1N4148M	
D920	8-719-302-38	DIODE RBV-602-01	
D921	8-719-200-82	DIODE 11ES2	
D922	8-719-934-15	DIODE HZS24-3L	
D923	8-719-200-02	DIODE 10E2	
D924	8-719-200-02	DIODE 10E2	
D925	8-719-025-03	DIODE RBA-402-SL	
D927	8-719-200-82	DIODE 11ES2	
D929	8-719-200-82	DIODE 11ES2	
< TERMINAL BOARD >			
E91	1-537-770-21	TERMINAL BOARD, GROUND	
E92	1-537-770-21	TERMINAL BOARD, GROUND	
< COIL >			
* L001	1-420-872-00	COIL, AIR-CORE	
* L501	1-420-872-00	COIL, AIR-CORE	
* L551	1-420-872-00	COIL, AIR-CORE	
< TRANSISTOR >			
Q921	8-729-141-03	TRANSISTOR 2SA733-QP	
< RESISTOR >			
R030	1-247-727-11	CARBON 10 5% 1/2W	
R031	1-247-727-11	CARBON 10 5% 1/2W	
R033	1-249-437-11	CARBON 47K 5% 1/4W	
R034	1-249-421-11	CARBON 2.2K 5% 1/4W	
R035	1-249-433-11	CARBON 22K 5% 1/4W	
R036	1-249-409-11	CARBON 220 5% 1/4W	
R037	1-249-421-11	CARBON 2.2K 5% 1/4W	
R530	1-247-727-11	CARBON 10 5% 1/2W	
R531	1-247-727-11	CARBON 10 5% 1/2W	

Ref. No.	Part No.	Description	Remark
R532	1-247-749-11	CARBON 560 5% 1/2W	
R533	1-249-437-11	CARBON 47K 5% 1/4W	
R535	1-249-433-11	CARBON 22K 5% 1/4W	
R536	1-249-419-11	CARBON 1.5K 5% 1/4W	
R538	1-249-431-11	CARBON 15K 5% 1/4W	
R580	1-247-727-11	CARBON 10 5% 1/2W	
R581	1-247-727-11	CARBON 10 5% 1/2W	
R582	1-247-749-11	CARBON 560 5% 1/2W	
R583	1-249-437-11	CARBON 47K 5% 1/4W	
R584	1-249-431-11	CARBON 15K 5% 1/4W	
R585	1-249-433-11	CARBON 22K 5% 1/4W	
R586	1-249-419-11	CARBON 1.5K 5% 1/4W	
R611	1-249-437-11	CARBON 47K 5% 1/4W	
R661	1-249-437-11	CARBON 47K 5% 1/4W	
R704	1-249-417-11	CARBON 1K 5% 1/4W	
R713	1-247-743-11	CARBON 220 5% 1/2W	
R723	1-247-743-11	CARBON 220 5% 1/2W	
R922	1-249-425-11	CARBON 4.7K 5% 1/4W	
△R925	1-247-688-11	CARBON 10 5% 1/4W F	
△R928	1-249-455-11	CARBON 4.7 5% 1/4W F	
△R975	1-247-688-11	CARBON 10 5% 1/4W F	
< RELAY >			
RY001	1-515-920-11	RELAY (24V)	
RY501	1-515-920-11	RELAY (24V)	
RY502	1-515-614-11	RELAY	
RY601	1-515-920-11	RELAY (24V)	

*	1-657-058-11	PW.SW BOARD	

< CONNECTOR >			
* CND89	1-564-336-00	PIN, CONNECTOR 2P	
< SWITCH >			
△S901	1-572-267-51	SWITCH, PUSH (AC POWER)(1 KEY) (POWER)	

*	1-657-055-11	SP.SW BOARD	

< CONNECTOR >			
CNE81	1-564-505-11	PLUG, CONNECTOR 2P	
< SWITCH >			
S851	1-572-709-11	SWITCH, PUSH (1 KEY) (SPEAKER)	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

SPC

SPF

VF

VIDEO

Ref.No.	Part No.	Description	Remark
*	1-657-067-11	SPC BOARD ***** < CONNECTOR >	
CNP56	1-770-481-11	PIN, CONNECTOR 4P	
* CNS55	1-561-205-11	SOCKET 10P < TERMINAL >	
TM001	1-536-707-21	TERMINAL BOARD, PUSH 2P (CENTER SPEAKER)	
TM601	1-537-238-11	TERMINAL BOARD (REAR SPEAKER)	

*	1-657-068-11	SPF BOARD ***** < CONNECTOR >	
CNS56	1-770-569-11	SOCKET 4P < TERMINAL >	
TM501	1-537-238-11	TERMINAL BOARD (FRONT SPEAKER)	

*	1-657-054-11	VF BOARD ***** < CAPACITOR >	
C209	1-164-159-11	CERAMIC 0.1uF	50V
< CONNECTOR >			
CNE24	1-691-767-41	PLUG (MICRO CONNECTOR) 5P	
* CNE29	1-564-506-11	PLUG, CONNECTOR 3P < JACK >	
J151	1-537-115-31	TERMINAL BOARD (VIDEO 4 INPUT) < RESISTOR >	
R123	1-249-417-11	CARBON 1K 5% 1/4W	
R173	1-249-417-11	CARBON 1K 5% 1/4W	
R221	1-249-403-11	CARBON 68 5% 1/4W	
R283	1-249-403-11	CARBON 68 5% 1/4W	
R284	1-249-403-11	CARBON 68 5% 1/4W	

*	A-4378-428-A	VIDEO BOARD, COMPLETE ***** < CAPACITOR >	
C201-204	1-124-903-11	ELECT 1uF	20% 50V

Ref.No.	Part No.	Description	Remark
C205-207	1-124-907-11	ELECT 10uF	20% 50V
C208	1-124-903-11	ELECT 1uF	20% 50V
C210	1-104-664-11	ELECT 47uF	20% 16V
C211	1-104-664-11	ELECT 47uF	20% 16V
C251	1-124-907-11	ELECT 10uF	20% 50V
C252	1-136-153-00	FILM 0.01uF	5% 50V
C253	1-124-903-11	ELECT 1uF	20% 50V
C254	1-136-165-00	FILM 0.1uF	5% 50V
C255	1-124-907-11	ELECT 10uF	20% 50V
C256	1-136-153-00	FILM 0.01uF	5% 50V
C257	1-124-903-11	ELECT 1uF	20% 50V
C258	1-136-165-00	FILM 0.1uF	5% 50V
C259	1-124-903-11	ELECT 1uF	20% 50V
C260	1-136-165-00	FILM 0.1uF	5% 50V
C291-293	1-164-159-11	CERAMIC 0.1uF	50V
< CONNECTOR >			
CNE22	1-691-767-41	PLUG (MICRO CONNECTOR) 5P	
CNP21	1-695-089-11	PIN, CONNECTOR (PC BOARD) 11P < DIODE >	
D290	8-719-987-63	DIODE 1N4148M < IC >	
IC201	8-759-061-95	IC SN761200	
IC251	8-759-061-95	IC SN761200	
IC252	8-759-061-95	IC SN761200 < JACK >	
J201	1-565-351-61	JACK, PIN 3P (LD/VIDEO 3/VIDEO 2 OUT)	
J202	1-565-319-11	JACK, PIN 2P (VIDEO 2 IN/VIDEO 1 OUT)	
J203	1-565-319-11	JACK, PIN 2P (VIDEO 1 IN/MONITOR)	
J251	1-764-676-11	CONNECTOR (ROUND TYPE) (LD S VIDEO IN/VIDEO 1 S VIDEO OUT)	
J252	1-764-676-11	CONNECTOR (ROUND TYPE) (VIDEO 1 S VIDEO IN/MONITOR S VIDEO OUT)	
J290	1-566-740-11	JACK (CONTROL S) < COIL >	
L201	1-410-521-11	INDUCTOR 100uH	
L202	1-410-521-11	INDUCTOR 100uH < TRANSISTOR >	
Q201	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q202	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q203	8-729-620-05	TRANSISTOR 2SC2603-EF	

Ref. No.	Part No.	Description	Remark
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q205	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q206	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q207	8-729-900-89	TRANSISTOR DTC144ES	
Q251	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q252	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q253	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q254	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q255	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q256	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q290	8-729-900-80	TRANSISTOR DTC114ES	
Q291	8-729-900-61	TRANSISTOR DTA114ES	
< RESISTOR >			
R201-206	1-249-403-11	CARBON 68 5% 1/4W	
R207	1-249-426-11	CARBON 5.6K 5% 1/4W	
R208	1-249-419-11	CARBON 1.5K 5% 1/4W	
R209	1-249-430-11	CARBON 12K 5% 1/4W	
R210	1-249-403-11	CARBON 68 5% 1/4W	
R211	1-249-403-11	CARBON 68 5% 1/4W	
R212	1-249-426-11	CARBON 5.6K 5% 1/4W	
R213	1-249-419-11	CARBON 1.5K 5% 1/4W	
R214	1-249-430-11	CARBON 12K 5% 1/4W	
R215	1-249-403-11	CARBON 68 5% 1/4W	
R216	1-249-403-11	CARBON 68 5% 1/4W	
R217	1-249-426-11	CARBON 5.6K 5% 1/4W	
R218	1-249-419-11	CARBON 1.5K 5% 1/4W	
R219	1-249-430-11	CARBON 12K 5% 1/4W	
R220	1-249-409-11	CARBON 220 5% 1/4W	
R252	1-249-403-11	CARBON 68 5% 1/4W	
R254	1-249-429-11	CARBON 10K 5% 1/4W	
R255	1-249-403-11	CARBON 68 5% 1/4W	
R256	1-249-403-11	CARBON 68 5% 1/4W	
R257	1-249-426-11	CARBON 5.6K 5% 1/4W	
R258	1-249-419-11	CARBON 1.5K 5% 1/4W	
R259	1-249-430-11	CARBON 12K 5% 1/4W	
R260	1-249-413-11	CARBON 470 5% 1/4W	
R261	1-247-807-31	CARBON 100 5% 1/4W	
R264-267	1-249-403-11	CARBON 68 5% 1/4W	
R268	1-249-426-11	CARBON 5.6K 5% 1/4W	
R269	1-249-419-11	CARBON 1.5K 5% 1/4W	
R270	1-249-430-11	CARBON 12K 5% 1/4W	
R271	1-249-403-11	CARBON 68 5% 1/4W	
R272	1-249-429-11	CARBON 10K 5% 1/4W	
R273	1-249-413-11	CARBON 470 5% 1/4W	
R274	1-247-807-31	CARBON 100 5% 1/4W	
R275	1-249-403-11	CARBON 68 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R276	1-249-403-11	CARBON 68 5% 1/4W	
R290	1-249-421-11	CARBON 2.2K 5% 1/4W	

*	1-657-052-11	VOL BOARD	

< CAPACITOR >			
C348	1-126-963-11	ELECT 4.7uF 20% 50V	
C638	1-136-153-00	FILM 0.01uF 5% 50V	
< CONNECTOR >			
CNE33	1-691-771-11	PLUG (MICRO CONNECTOR) 9P	
CNE61	1-564-505-11	PLUG, CONNECTOR 2P	
* CNP34	1-560-443-11	PIN, CONNECTOR 12P	
CNS32	1-695-093-11	SOCKET, CONNECTOR 9P	
< TERMINAL BOARD >			
E61	1-537-770-21	TERMINAL BOARD, GROUND	
< IC >			
IC306	8-759-634-51	IC M5218AP	
IC654	8-759-820-62	IC LB1639	
< RESISTOR >			
R341	1-249-429-11	CARBON 10K 5% 1/4W	
R342	1-249-431-11	CARBON 15K 5% 1/4W	
R344	1-249-425-11	CARBON 4.7K 5% 1/4W	
R345	1-249-429-11	CARBON 10K 5% 1/4W	
R649	1-249-413-11	CARBON 470 5% 1/4W	
< VARIABLE RESISTOR >			
RV401	1-241-563-11	RES, VAR, CARBON 100KX4 (MASTER VOLUME)	

*	1-657-057-11	VS BOARD (E)	

< CONNECTOR >			
* CNV913	1-564-321-21	PIN, CONNECTOR 2P (E)	
CNV914	1-564-321-00	PIN, CONNECTOR 2P (E)	
CNV915	1-568-106-11	PIN, CONNECTOR 4P (E)	
< SWITCH >			
△S9	1-571-437-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (E)	

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
MISCELLANEOUS			

13	1-773-644-11	WIRE (FLAT TYPE) (17 CORE)	
14	1-773-623-11	WIRE (FLAT TYPE) (15 CORE)	
* 51	1-533-213-31	HOLDER, FUSE	
△CNJ902	1-526-794-11	OUTLET, AC (AEP, G, SP, CH)	
△CNP1	1-558-943-41	CORD, POWER (E)	
△CNP1	1-575-651-21	CORD, POWER (AEP, G, SP, CH)	
△CNP1	1-696-586-11	CORD, POWER (UK)	
△F1	1-532-286-00	FUSE (T2. 5AL/250V)	
△F2	1-532-286-00	FUSE (T2. 5AL/250V) (AEP, G, SP, CH)	
△F3	1-532-286-00	FUSE (T2. 5AL/250V) (E)	
△F901	1-532-299-00	FUSE (T5AL/250V)	
△F902	1-532-299-00	FUSE (T5AL/250V)	
△T1	1-427-982-11	TRANSFORMER, POWER (AEP, UK, G, SP, CH)	
△T1	1-427-983-11	TRANSFORMER, POWER (E)	

ACCESSORIES & PACKING MATERIALS			

	1-473-199-11	COMMANDER, STANDARD (RM-P590)	
	3-681-190-01	SHEET (LARGE), PROTECTION	
	3-798-902-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/ SPANISH/PORTUGUESE) (AEP, UK)	
	3-798-902-21	MANUAL, INSTRUCTION (GERMAN/DUTCH/ DUTCH/SWEDISH/ITALIAN) (AEP, G)	
	3-798-902-31	MANUAL, INSTRUCTION (ENGLISH/FRENCH/ SPANISH/CHINESE) (E, SP, CH)	
	3-798-902-41	MANUAL, INSTRUCTION (DANISH/FINNISH) (AEP)	
	4-925-079-11	COVER (6), BATTERY (FOR RM-P590)	
	4-933-001-01	CUSHION	
	4-976-234-01	INDIVIDUAL CARTON	

HARDWARE LIST			

#1	7-685-646-79	SCREW +BVTP 3×8 TYPE2 IT-3	
#2	7-685-646-81	SCREW +BVTP 3×8 TYPE2	
#3	7-685-647-79	SCREW +BVTP 3×10 TYPE2 IT-3	
#4	7-682-560-04	SCREW +BVTT 4×6 (S)	

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 are critical for safety.
Replace only with part number
specified.