

TA-A790N

SERVICE MANUAL

*AEP Model
E Model
Australian Model
Tourist Model*



This set is the Power Amplifier section in LBT-A790/A795.

SPECIFICATIONS

Peak music power output (6 ohms, 4 speakers driven)	
900W (MX)	
1,200W (E, EA, SP, MY, JE, AUS)	
Continuous RMS power output	
FRONT (AEP, IT, G, CIS)	100 W + 100 W (6 ohms, DIN, 1 kHz)
	120 W + 120 W
	(6 ohms, at 1 kHz, 5% THD)
FRONT (E, EA, SP, MY, MX, JE, AUS)	125W + 125W
	(6 ohms, at 1kHz, 5% THD)
REAR	20 W + 20 W (4 ohms, DIN, 1 kHz)
	25 W + 25 W
	(4 ohms, at 1 kHz, 5% THD)
Music power output (AEP, IT, G, CIS)	
FRONT	180 W + 180 W
	(6 ohms, at 1 kHz, 10% THD)
REAR	33 W + 33 W
	(4 ohms, at 1 kHz, 10% THD)
Frequency response	
FRONT	15 Hz to 50 kHz $^{-3}$ dB
REAR	15 Hz to 50 kHz $^{-3}$ dB
Power requirements	220—230V AC, 50/60Hz
	(AEP, IT, CIS, G)
	240V AC, 50/60Hz (AUS)
	120V/220V/230—240V AC, 50/60Hz
	(EA, E, JE, MY, SP)
	120V AC, 60Hz (MX)
Power consumption	240W (AEP, IT, CIS, G)
	285W (AUS, EA, E, JE, MY, SP)
	270W (MX)

Mass

Approx. 7.5 kg (16 lbs 8 oz)
(AEP, IT, G, CIS, MX)
Approx. 7.6 kg (16 lbs 12 oz)
(E, EA, SP, MY, AUS, JE)

Dimensions

Approx. 355 x 135 x 325 mm
(14 x 5 $\frac{5}{16}$ x 12 $\frac{13}{16}$ inches)
(w/h/d, including projections)

Design and specifications are subject to change without notice.

• Abbreviations

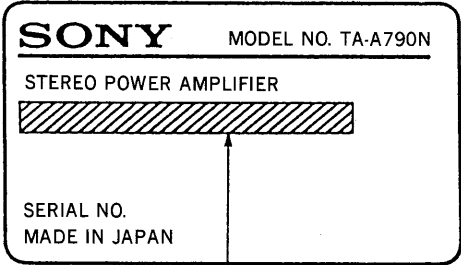
IT : Italian model
G : German model
AUS: Australian model
EA : Saudi Arabia model
JE : Tourist model
MY : Malaysia model
SP : Singapore model
MX : Mexican model

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.

STEREO POWER AMPLIFIER
SONY®

MODEL IDENTIFICATION
—Specification Label—



AEP, IT, CIS model	: AC: 220V—230V~50/60Hz	240W
G model	: SYSTEM LBT-A790	
	AC: 220V—230V~50/60Hz	240W
AUS model	: AC: 240V~50/60Hz	285W
EA, E, JE, MY, SP model	: AC: 120V/220V/230V—240V~50/60Hz	285W
MX model	: AC: 120V~60Hz	270W

• Abbreviations

- IT : Italian model
- G : German model
- AUS: Australian model
- EA : Saudi Arabia model
- JE : Tourist model
- MY : Malaysia model
- SP : Singapore model
- MX : Mexican model

NOTE FOR SERVICE

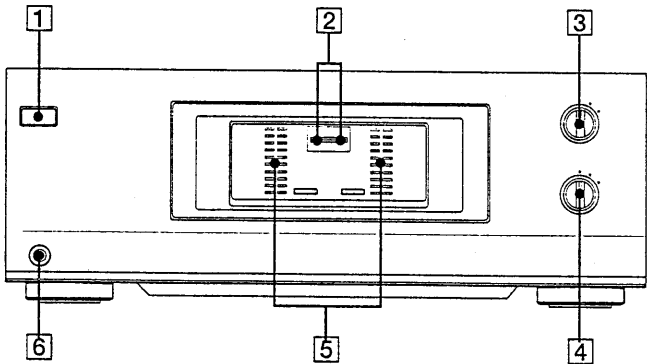
To input from the pin jack by using SEN/LBT service jig, connect the SYSTEM CONTROL 3 (white) of TA-A790N and the SYSTEM CONTROL 1 (blue) of the service jig with a 10pin or 11pin system cord. This allows pin input.

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SECTION 1
GENERAL

1-1. PARTS IDENTIFICATION



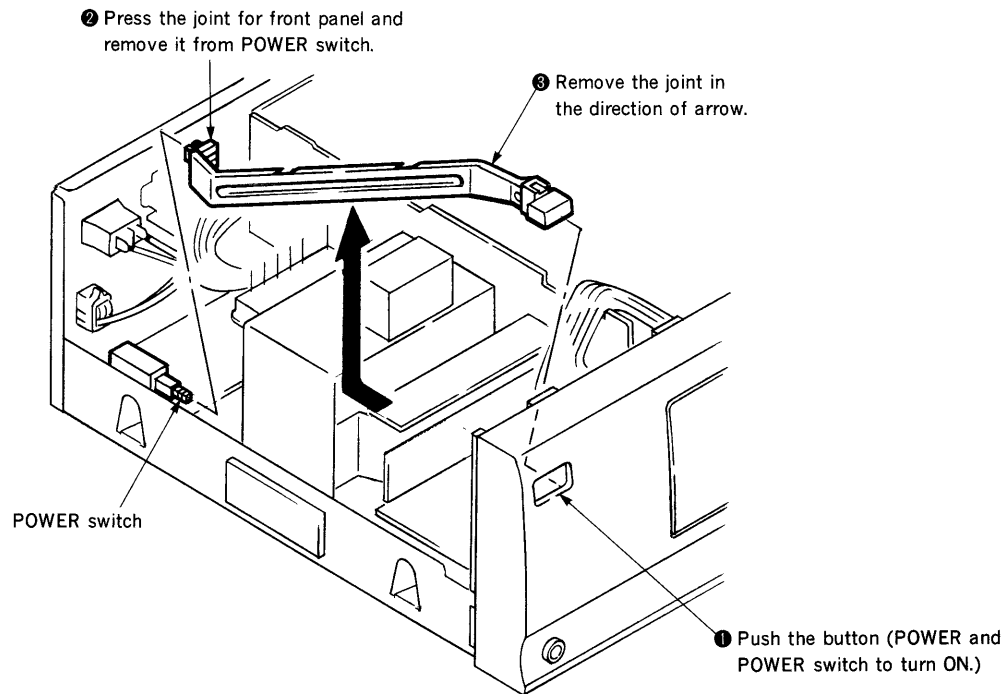
- 1 POWER switch (20)
- 2 OPERATION indicators (20)
- 3 SPEAKERS switch (22)
- 4 RANGE switch (22)
- 5 Peak level meters (22)
- 6 HEADPHONES jack (22)

This section is extracted from instruction manual.

SECTION 2 SERVICE NOTE

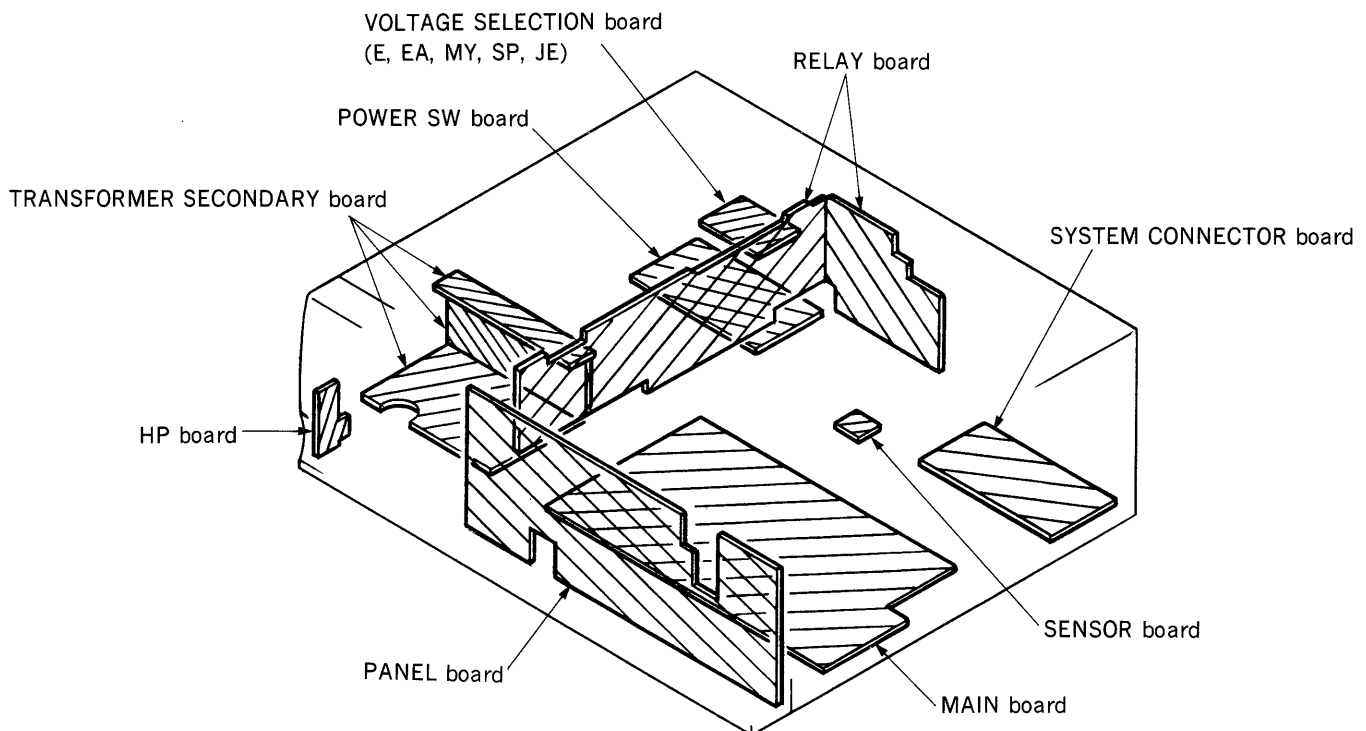
Note : Follow the disassembly procedure in the numerical order given.

2-1. REMOVAL OF JOINT



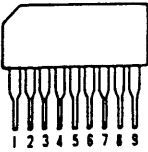
SECTION 3 DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

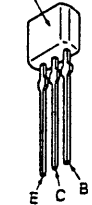


3-2. SEMICONDUCTOR LEAD LAYOUTS

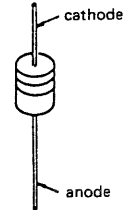
IR2E31A



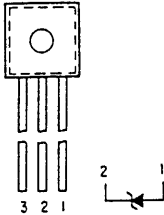
DTA124ES
2SC3623A-LK
letter side



HZS30-2L



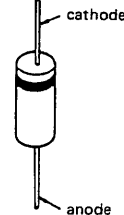
LM35DZ



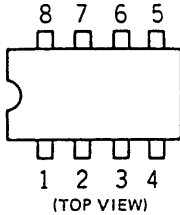
DTC124ES
DTC144ES
2SC2603-EF



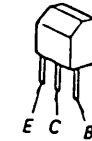
UZP-6.8BC



NJM2903D



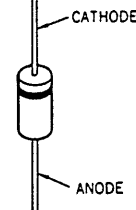
2SB733-34



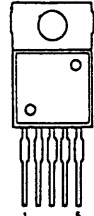
1N4148M

1S1585

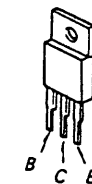
10E2N



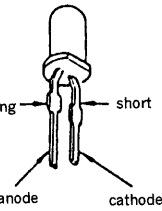
SI18752N



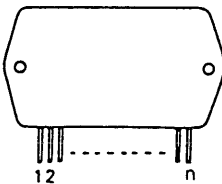
2SB1094-LK



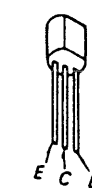
SEL3210S-CD
SEL4227C-D-TP1



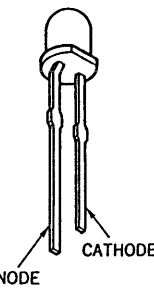
STK-4231MK2



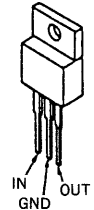
2SC1841-PAFAEA



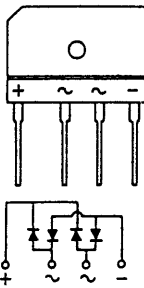
SEL3410E-TH12



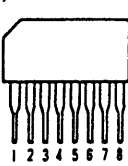
TA7812S



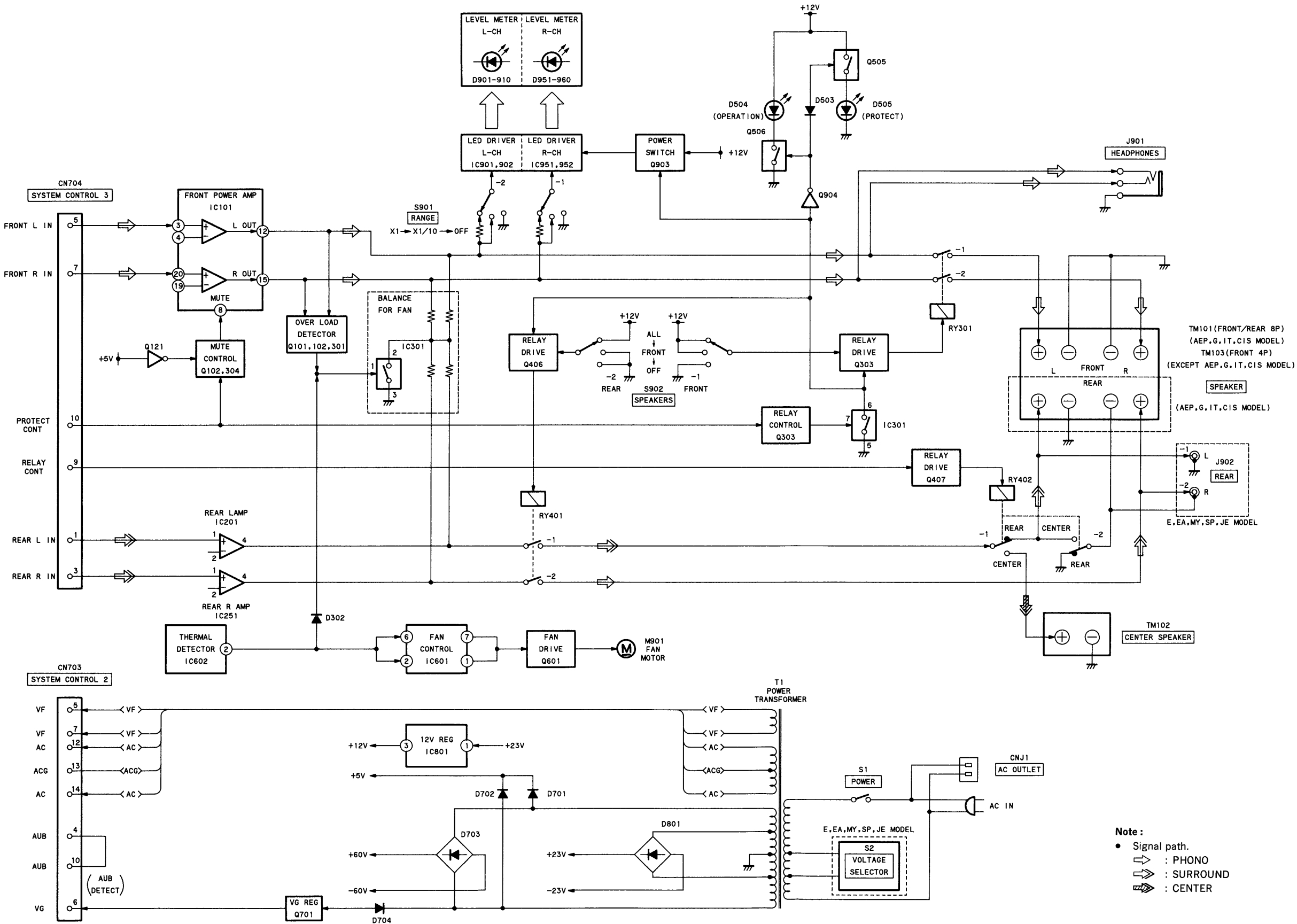
D4SB60L
RBV-602-01



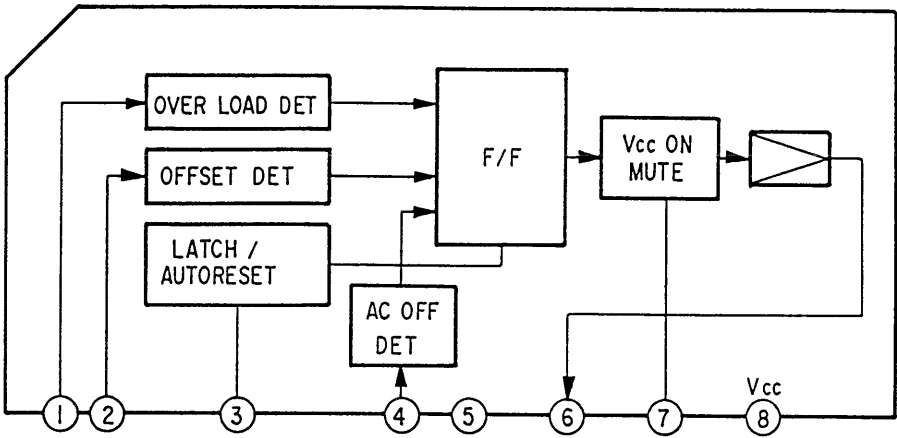
μPC1237HA



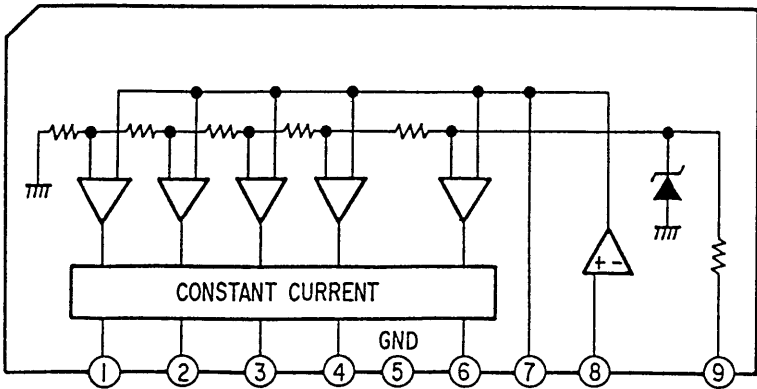
3-3. BLOCK DIAGRAM



• IC Block Diagrams
IC301 μ PC1237HA



IC901, 902, 951, 952 IR2E31A

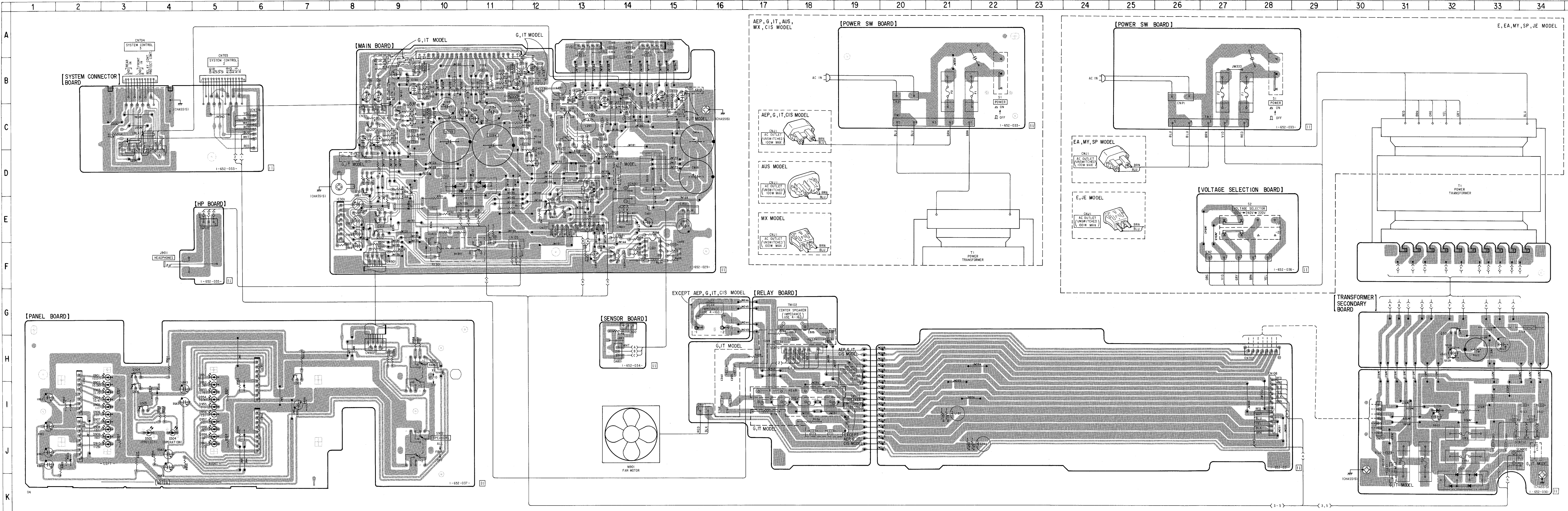


3-4. PRINTED WIRING BOARDS • Refer to page 4 for Semiconductor Lead Layouts.

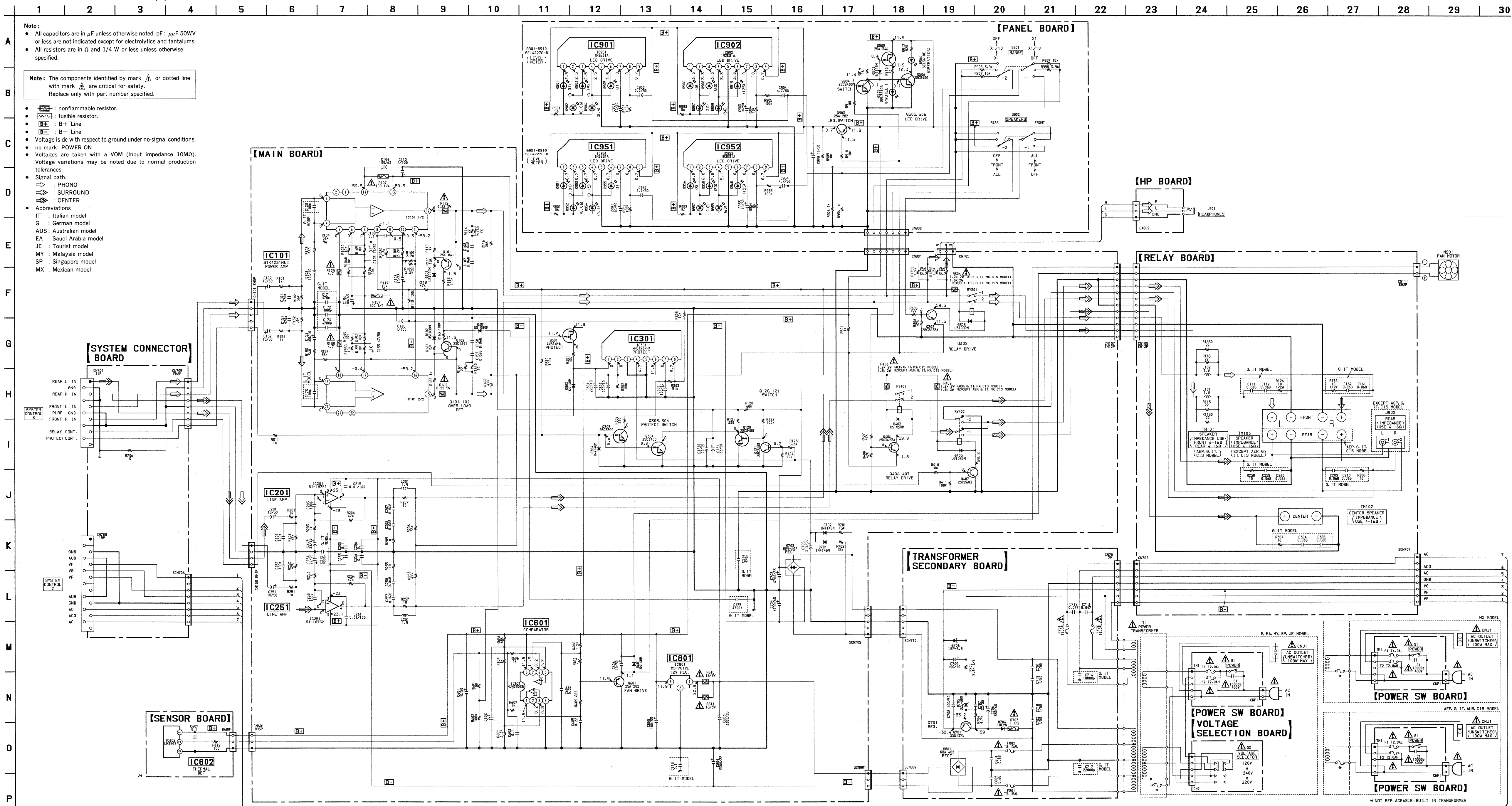
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	D-12	D956	I-5
D102	C-9	D957	I-5
D301	D-8	D958	J-5
D302	E-9	D959	J-5
D303	F-10	D960	J-5
D304	E-9		
D403	D-13	IC101	A-10
D405	E-12	IC201	A-13
D503	I-4	IC251	A-15
D504	J-4	IC301	E-8
D505	J-4	IC601	F-14
D601	F-13	IC602	G-14
D701	E-9	IC801	E-15
D702	E-9	IC901	I-2
D703	D-10	IC902	J-2
D704	G-33	IC951	H-6
D705	H-32	IC952	I-6
D706	I-32		
D801	K-32	Q101	D-12
D901	H-3	Q102	C-9
D902	I-3	Q120	C-8
D903	I-3	Q121	D-8
D904	I-3	Q301	D-8
D905	I-3	Q302	E-9
D906	I-3	Q303	E-9
D907	I-3	Q304	E-9
D908	J-3	Q406	E-12
D909	J-3	Q407	E-12
D910	J-3	Q505	I-3
D951	H-5	Q506	I-3
D952	I-5	Q601	F-14
D953	I-5	Q701	G-32
D954	I-5	Q903	H-7
D955	I-5	Q904	H-3

- Note:
- : parts extracted from the component side.
 - : Pattern on the side which is seen.
 - Abbreviations
 - IT : Italian model
 - G : German model
 - AUS : Australian model
 - EA : Saudi Arabia model
 - JE : Tourist model
 - MY : Malaysia model
 - SP : Singapore model
 - MX : Mexican model



3-5. SCHEMATIC DIAGRAM • Refer to page 7 for IC Block Diagrams.



SECTION 4 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

● Color Indication of Appearance Parts

Example :

KNOB, BALANCE (WHITE)... (RED)



Parts Color Cabinet's Color

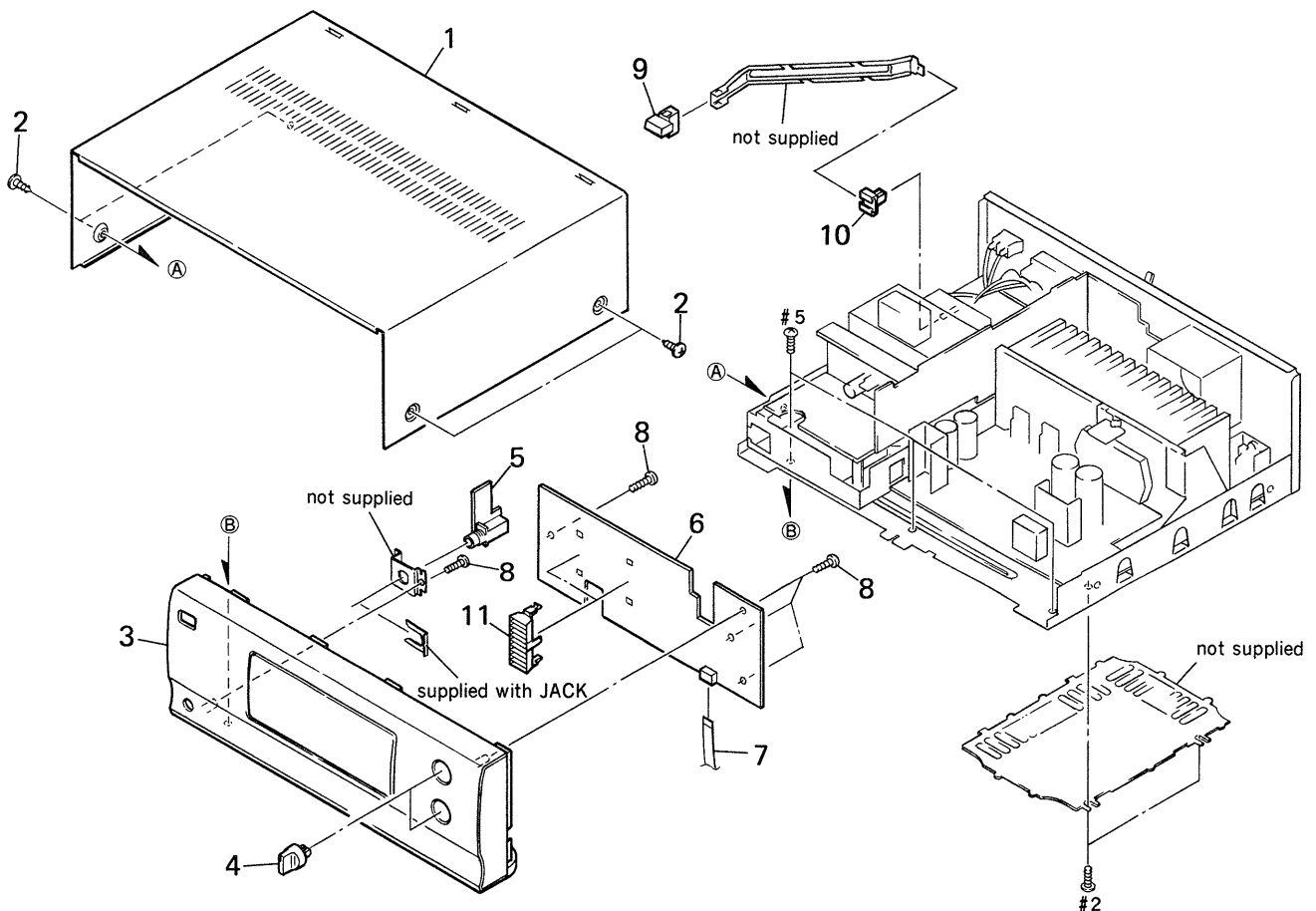
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

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

● Abbreviations

G : German model
IT : Italian model
EA : Saudi Arabia model
MY : Malaysia model
SP : Singapore model
JE : Tourist model
AUS : Australian model
MX : Mexican model

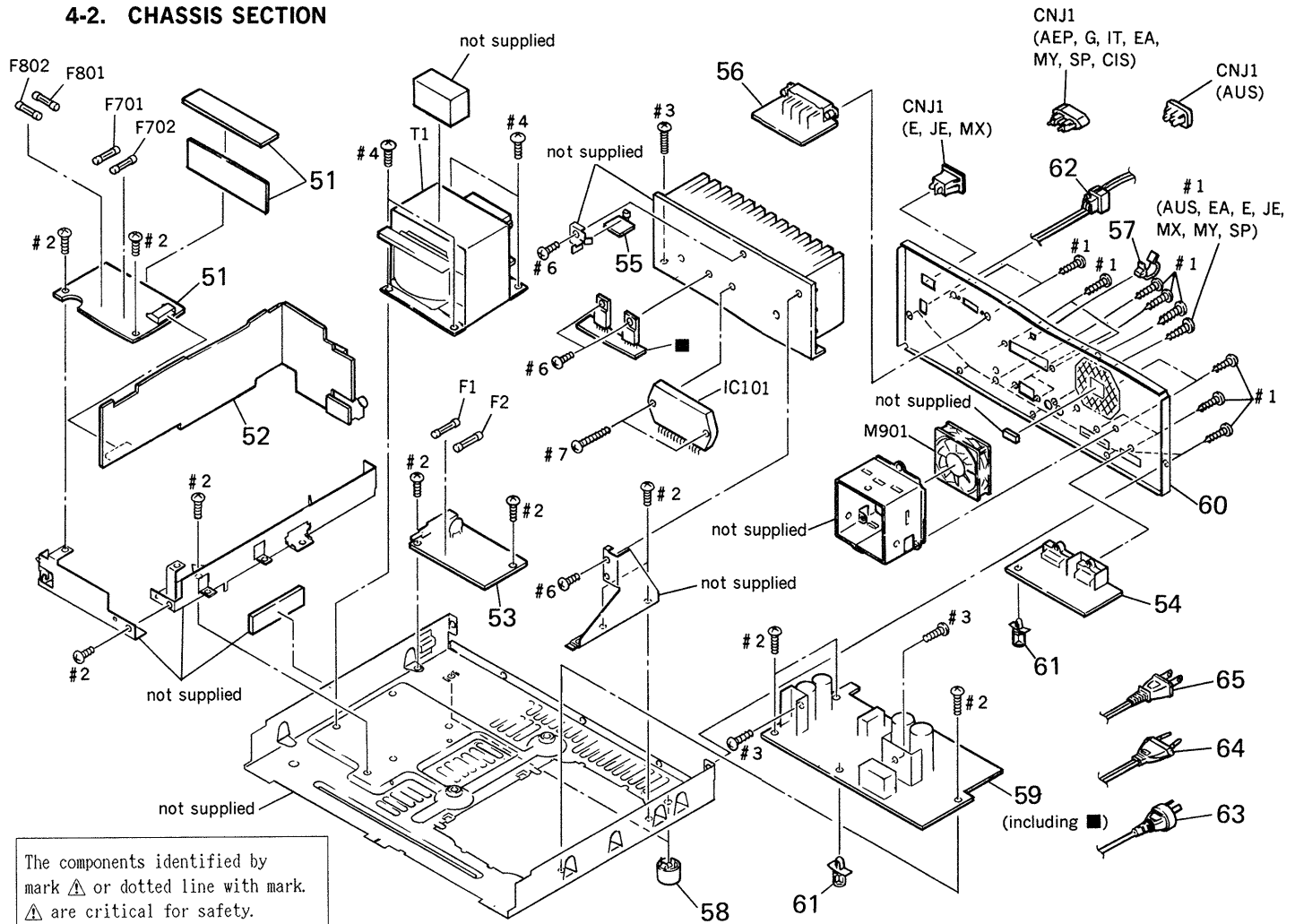
4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	4-949-912-91	CASE	
2	3-363-099-01	SCREW (CASE 3 TP2)	
3	X-4944-737-1	PANEL ASSY, FRONT (AEP, E3, G, IT, EA, MY, SP, CIS, JE)	
3	X-4944-738-1	PANEL ASSY, FRONT (E2, AUS, MX, /2:E3)	
4	X-4945-052-1	KNOB ASSY	
* 5	1-652-035-11	HP BOARD	

Ref. No.	Part No.	Description	Remark
* 6	A-4369-753-A	PANEL BOARD, COMPLETE	
7	1-590-239-31	WIRE, FLAT TYPE (7 CORE)	
8	4-951-620-01	SCREW (2.6X8), +BVTP	
9	4-964-965-01	BUTTON (POWER)	
10	4-866-342-00	JOINT (B), KNOB	
11	4-965-291-01	HOLDER, LED	

4-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 51	1-652-030-11	TRANSFORMER SECONDARY BOARD	
* 52	1-652-031-11	RELAY BOARD	
* 53	1-652-032-11	POWER SW BOARD	
* 54	1-652-033-11	SYSTEM CONNECTOR BOARD	
* 55	1-652-034-11	SENSOR BOARD	
* 56	1-652-036-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	
* 57	4-949-235-01	HOOK	
58	4-931-169-01	FOOT	
* 59	A-4369-729-A	MAIN BOARD, COMPLETE (AEP, MX, CIS)	
* 59	A-4369-730-A	MAIN BOARD, COMPLETE (G, IT)	
* 59	A-4369-732-A	MAIN BOARD, COMPLETE (E, AUS, EA, MY, SP, JE)	
* 60	4-965-289-01	PANEL, BACK (AEP1, IT, CIS)	
* 60	4-965-289-11	PANEL, BACK (AEP2)	
* 60	4-965-289-21	PANEL, BACK (G)	
* 60	4-965-289-41	PANEL, BACK (AUS)	
* 60	4-965-289-52	PANEL, BACK (EA)	
* 60	4-965-289-62	PANEL, BACK (E, JE)	
* 60	4-965-289-71	PANEL, BACK (MY, SP)	
* 60	4-965-289-81	PANEL, BACK (MX)	
* 61	3-350-847-21	HOLDER, PCB	

Ref. No.	Part No.	Description	Remark
* 62	3-703-244-00	BUSHING (2104), CORD (AEP, G, IT, AUS, EA, MY, SP, CIS)	
* 62	3-703-571-11	BUSHING (S) (4516), CORD (E, MX, JE)	
$\triangle$ 63	1-751-355-11	CORD, POWER (AUS)	
$\triangle$ 64	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
$\triangle$ 65	1-575-656-11	CORD, POWER (E, MX, JE)	
$\triangle$ CNJ1	1-251-078-11	OUTLET, AC (AC OUTLET) (AUS)	
$\triangle$ CNJ1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA, MY, SP, CIS)	
$\triangle$ CNJ1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, MX, JE)	
$\triangle$ F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
$\triangle$ F1	1-532-350-00	FUSE (T4.0AL) (MX)	
$\triangle$ F2	1-576-228-31	FUSE (H. B. C.) (T2.0AH)	
$\triangle$ F701	1-532-203-00	FUSE (T2.0AL)	
$\triangle$ F702	1-532-203-00	FUSE (T2.0AL)	
$\triangle$ F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
$\triangle$ F802	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
IC101	8-749-921-68	IC STK-4231MK2	
M901	1-698-380-11	MOTOR, FAN (DC)	
$\triangle$ T1	1-426-722-11	TRANSFORMER, POWER (AEP, G, IT, CIS)	
$\triangle$ T1	1-426-723-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
$\triangle$ T1	1-426-857-11	TRANSFORMER, POWER (MX)	

SECTION 5 ELECTRICAL PARTS LIST

HP

MAIN

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 and -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

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

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

- Abbreviations
MX : Mexican model
G : German model
IT : Italian model
AUS : Australian model
EA : Saudi Arabia model
MY : Malaysia model
SP : Singapore model
JE : Tourist model

Ref.No.	Part No.	Description	Remark
*	1-652-035-11	HP BOARD ***** < JACK >	
J901	1-507-796-71	JACK (HEADPHONES) *****	
*	A-4369-729-A	MAIN BOARD, COMPLETE (AEP, MX, CIS)	
*	A-4369-730-A	MAIN BOARD, COMPLETE (G, IT)	
*	A-4369-732-A	MAIN BOARD, COMPELTE (E, AUS, EA, MY, SP, JE) *****	
*	4-880-403-11	HEAT SINK	
*	4-942-204-01	PLATE, GROUND	
	7-682-548-04	SCREW +BVTT 3X8 (S) < CAPACITOR >	
C101	1-162-290-31	CERAMIC 470PF 10% 50V	
C102	1-126-059-11	ELECT 10uF 20% 50V	
C103	1-124-994-11	ELECT 100uF 20% 10V	
C104	1-124-572-11	ELECT 100uF 20% 63V	
C105	1-124-910-11	ELECT 47uF 20% 50V	
C106	1-126-059-11	ELECT 10uF 20% 63V	
C107	1-136-163-00	FILM 0.068uF 5% 50V	
C108	1-136-163-00	FILM 0.068uF 5% 50V	
C109	1-137-399-11	FILM 0.1uF 5% 100V	
C110	1-124-791-11	ELECT 1uH 20% 100V	
C121	1-126-867-11	ELECT 33uF 20% 50V	
C123	1-162-282-31	CERAMIC (G, IT) 100PF 10% 50V	
C151	1-162-290-31	CERAMIC 470PF 10% 50V	
C152	1-126-059-11	ELECT 10uF 20% 50V	
C153	1-124-994-11	ELECT 100uF 20% 10V	
C154	1-124-572-11	ELECT 100uF 20% 63V	
C155	1-124-910-11	ELECT 47uF 20% 50V	
C157	1-136-163-00	FILM 0.068uF 5% 50V	
C158	1-136-163-00	FILM 0.068uF 5% 50V	
C160	1-124-791-11	ELECT 1.0uF 20% 100V	

Ref.No.	Part No.	Description	Remark
C171	1-162-290-31	CERAMIC (G, IT) 470PF 10% 50V	
C172	1-162-294-31	CERAMIC (G, IT) 0.001uF 10% 50V	
C173	1-162-282-31	CERAMIC (G, IT) 100PF 10% 50V	
C174	1-161-377-00	CERAMIC (G, IT) 0.0047uF 20% 16V	
C175	1-161-377-00	CERAMIC (G, IT) 0.0047uF 20% 16V	
C201	1-126-059-11	ELECT 10uF 20% 50V	
C202	1-162-282-31	CERAMIC 100PF 10% 50V	
C203	1-162-282-31	CERAMIC 100PF 10% 50V	
C204	1-126-049-11	ELECT 22uF 20% 25V	
C205	1-136-165-00	FILM 0.1uF 5% 50V	
C206	1-136-165-00	FILM 0.1uF 5% 50V	
C207	1-136-163-00	FILM 0.068uF 5% 50V	
C208	1-136-163-00	FILM 0.068uF 5% 50V	
C212	1-162-294-31	CERAMIC (G, IT) 0.001uF 10% 50V	
C213	1-164-159-11	CERAMIC (G, IT) 0.1uF 50V	
C214	1-162-290-31	CERAMIC (G, IT) 470PF 10% 50V	
C215	1-106-367-00	MYLAR 0.01uF 5% 200V	
C251	1-126-059-11	ELECT 10uF 20% 50V	
C252	1-162-282-31	CERAMIC 100PF 10% 50V	
C253	1-162-282-31	CERAMIC 100PF 10% 50V	
C254	1-126-049-11	ELECT 22uF 20% 25V	
C255	1-136-165-00	FILM 0.1uF 5% 50V	
C256	1-136-165-00	FILM 0.1uF 5% 50V	
C257	1-136-163-00	FILM 0.068uF 5% 50V	
C258	1-136-163-00	FILM 0.068uF 5% 50V	
C261	1-106-367-00	MYLAR 0.01uF 5% 200V	
C301	1-126-101-11	ELECT 100uF 20% 16V	
C302	1-126-101-11	ELECT 100uF 20% 16V	
C303	1-124-994-11	ELECT 100uF 20% 10V	
C601	1-126-059-11	ELECT 10uF 20% 50V	

Ref. No.	Part No.	Description	Remark
C602	1-164-159-11	CERAMIC 0. 1uF	50V
C603	1-164-159-11	CERAMIC 0. 1uF	50V
C604	1-136-169-00	FILM 0. 22uF	5% 50V
C605	1-136-169-00	FILM 0. 22uF	5% 50V
C606	1-126-059-11	ELECT 10uF	20% 50V
C703	1-107-497-51	ELECT 4700uF	20% 63V
C704	1-107-497-51	ELECT 4700uF	20% 63V
C705	1-126-161-11	ELECT 2. 2uF	20% 50V
C803	1-126-860-11	ELECT 3300uF	20% 35V
C804	1-126-860-11	ELECT 3300uF	20% 35V
C805	1-124-122-11	ELECT 100uF	20% 50V
C1210	1-126-867-11	ELECT 33uF	20% 50V

< CONNECTOR >

* CN101	1-564-508-11	PLUG, CONNECTOR 5P
* CN103	1-564-507-11	PLUG, CONNECTOR 4P
* CN105	1-564-337-61	PIN, CONNECTOR 3P
* CN107	1-564-515-11	PLUG, CONNECTOR 12P
* CN601	1-564-337-00	PIN, CONNECTOR 3P
* CN901	1-568-826-11	SOCKET, CONNECTOR 7P

< DIODE >

D101	8-719-815-85	DIODE 1S1585
D102	8-719-815-85	DIODE 1S1585
D301	8-719-815-85	DIODE 1S1585
D302	8-719-987-63	DIODE 1N4148M
D303	8-719-815-85	DIODE 1S1585
D304	8-719-987-63	DIODE 1N4148M
D403	8-719-815-85	DIODE 1S1585
D405	8-719-815-85	DIODE 1S1585
D601	8-719-987-63	DIODE 1N4148M
D701	8-719-987-63	DIODE 1N4148M
D702	8-719-987-63	DIODE 1N4148M
D703	8-719-302-38	DIODE RBV-602-01

< IC >

IC101	8-749-921-68	IC STK-4231MK2
IC201	8-759-502-32	IC SI18752N
IC251	8-759-502-32	IC SI18752N
IC301	8-759-111-68	IC uPC1237HA
IC601	8-759-729-03	IC NJM2903D
IC801	8-759-231-58	IC TA7812S

< COIL >

L201	1-420-872-00	COIL, AIR CORE
L251	1-420-872-00	COIL, AIR CORE

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q101	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q102	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q120	8-729-900-36	TRANSISTOR DTC124ES	
Q121	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q301	8-729-900-63	TRANSISTOR DTA124ES	
Q302	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q303	8-729-900-89	TRANSISTOR DTC144ES	
Q304	8-729-900-36	TRANSISTOR DTC124ES	
Q406	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q407	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q601	8-729-140-93	TRANSISTOR 2SB733-34	

< RESISTOR >

R101	1-249-417-11	CARBON 1K	5%	1/4W
R102	1-249-438-11	CARBON 56K	5%	1/4W
R103	1-249-414-11	CARBON 560	5%	1/4W
R104	1-249-438-11	CARBON 56K	5%	1/4W
R105	1-249-429-11	CARBON 10K	5%	1/4W
R106	1-249-429-11	CARBON 10K	5%	1/4W
△R107	1-212-881-11	FUSIBLE 100	5%	1/4W F
R108	1-249-421-11	CARBON 2. 2K	5%	1/4W
R109	1-249-421-11	CARBON 2. 2K	5%	1/4W
R110	1-249-417-11	CARBON 1K	5%	1/4W
R111	1-249-431-11	CARBON 15K	5%	1/4W
△R112	1-217-156-00	METAL PLATE 0. 22	5W	F
R113	1-249-441-11	CARBON 100K	5%	1/4W
R114	1-249-397-11	CARBON 22	5%	1/4W
R116	1-249-438-11	CARBON 56K	5%	1/4W
R117	1-249-429-11	CARBON 10K	5%	1/4W
R118	1-247-881-00	CARBON 120K	5%	1/4W
R119	1-249-437-11	CARBON 47K	5%	1/4W
R120	1-249-439-11	CARBON 68K	5%	1/4W
R121	1-249-411-11	CARBON 330	5%	1/4W
R122	1-249-441-11	CARBON 100K	5%	1/4W
R123	1-249-426-11	CARBON 5. 6K	5%	1/4W
R124	1-249-433-11	CARBON 22K	5%	1/4W
R125	1-249-418-11	CARBON 1. 2K	5%	1/4W
△R129	1-249-389-11	CARBON 4. 7	5%	1/4W F
R151	1-249-417-11	CARBON 1K	5%	1/4W
R152	1-249-438-11	CARBON 56K	5%	1/4W
R153	1-249-414-11	CARBON 560	5%	1/4W
R154	1-249-438-11	CARBON 56K	5%	1/4W
R155	1-249-429-11	CARBON 10K	5%	1/4W
R156	1-249-429-11	CARBON 10K	5%	1/4W
△R157	1-212-881-11	FUSIBLE 100	5%	1/4W F
△R159	1-249-389-11	CARBON 4. 7	5%	1/4W F
R160	1-249-417-11	CARBON 1K	5%	1/4W

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			
R161	1-249-431-11	CARBON	15K	5%	1/4W	
△R162	1-217-156-00	METAL PLATE	0.22		5W	F
R163	1-249-441-11	CARBON	100K	5%	1/4W	
R164	1-249-397-11	CARBON	22	5%	1/4W	
R166	1-249-437-11	CARBON	47K	5%	1/4W	
R175	1-249-418-11	CARBON	1.2K	5%	1/4W	
R201	1-249-417-11	CARBON	1K	5%	1/4W	
R202	1-249-437-11	CARBON	47K	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-437-11	CARBON	47K	5%	1/4W	
R205	1-249-393-11	CARBON	10	5%	1/4W	
R206	1-249-438-11	CARBON	56K	5%	1/4W	
R207	1-249-393-11	CARBON	10	5%	1/4W	
R251	1-249-417-11	CARBON	1K	5%	1/4W	
R252	1-249-437-11	CARBON	47K	5%	1/4W	
R253	1-249-417-11	CARBON	1K	5%	1/4W	
R254	1-249-437-11	CARBON	47K	5%	1/4W	
R255	1-249-393-11	CARBON	10	5%	1/4W	
R256	1-249-437-11	CARBON	47K	5%	1/4W	
R257	1-249-393-11	CARBON	10	5%	1/4W	
R301	1-249-429-11	CARBON	10K	5%	1/4W	
R302	1-249-441-11	CARBON	100K	5%	1/4W	
R303	1-247-872-11	CARBON	51K	5%	1/4W	
△R304	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
△R304	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT, MX, CIS)	1.8K	5%	2W	F
R305	1-249-437-11	CARBON	47K	5%	1/4W	
R306	1-249-437-11	CARBON	47K	5%	1/4W	
R308	1-249-430-11	CARBON	12K	5%	1/4W	
R309	1-249-411-11	CARBON	330	5%	1/4W	
R310	1-249-441-11	CARBON	100K	5%	1/4W	
R311	1-249-417-11	CARBON	1K	5%	1/4W	
△R406	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
△R406	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT, MX, CIS)	1.8K	5%	2W	F
R407	1-249-437-11	CARBON	47K	5%	1/4W	
R408	1-249-437-11	CARBON	47K	5%	1/4W	
△R409	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
△R409	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT, MX, CIS)	1.8K	5%	2W	F
R410	1-249-429-11	CARBON	10K	5%	1/4W	
R411	1-249-441-11	CARBON	100K	5%	1/4W	
R504	1-249-417-11	CARBON	1K	5%	1/4W	
R601	1-247-807-31	CARBON	100	5%	1/4W	
R602	1-249-441-11	CARBON	100K	5%	1/4W	
R603	1-249-439-11	CARBON	68K	5%	1/4W	
R604	1-249-417-11	CARBON	1K	5%	1/4W	

Ref. No.	Part No.	Description	Remark			
R605	1-249-423-11	CARBON	3.3K	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	
R607	1-249-417-11	CARBON	1K	5%	1/4W	
R608	1-249-418-11	CARBON	1.2K	5%	1/4W	
R609	1-249-415-11	CARBON	680	5%	1/4W	
R611	1-249-389-11	CARBON	4.7	5%	1/4W	
R701	1-249-431-11	CARBON	15K	5%	1/4W	
R702	1-249-431-11	CARBON	15K	5%	1/4W	
△R810	1-216-470-00	METAL OXIDE	18	5%	3W	F
△R811	1-216-470-00	METAL OXIDE	18	5%	3W	F
R1050	1-249-429-11	CARBON	10K	5%	1/4W	
R1060	1-249-429-11	CARBON	10K	5%	1/4W	
R1080	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1090	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1140	1-249-397-11	CARBON	22	5%	1/4W	
R1250	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1550	1-249-429-11	CARBON	10K	5%	1/4W	
R1560	1-249-429-11	CARBON	10K	5%	1/4W	
R1640	1-249-397-11	CARBON	22	5%	1/4W	
R1750	1-249-418-11	CARBON	1.2K	5%	1/4W	
< RELAY >						
RY301	1-515-765-11	RELAY				
RY401	1-515-920-11	RELAY (24V)				
RY402	1-515-360-21	RELAY				

* A-4369-753-A PANEL BOARD, COMPLETE						

4-965-291-01 HOLDER, LED						
< CAPACITOR >						
C901	1-126-059-11	ELECT	10uF	20%	50V	
C902	1-126-161-11	ELECT	2.2uF	20%	50V	
C903	1-126-059-11	ELECT	10uF	20%	50V	
C904	1-126-163-11	ELECT	4.7uF	20%	50V	
C909	1-126-059-11	ELECT	10uF	20%	50V	
C951	1-126-059-11	ELECT	10uF	20%	50V	
C952	1-126-161-11	ELECT	2.2uF	20%	50V	
C953	1-126-059-11	ELECT	10uF	20%	50V	
C954	1-126-163-11	ELECT	4.7uF	20%	50V	
< CONNECTOR >						
* CN902	1-568-850-11	SOCKET, CONNECTOR 7P				
< DIODE >						
D503	8-719-987-63	DIODE	1N4148M			
D504	8-719-313-66	LED	SEL3410E-TH12 (OPERATION)			
D505	8-719-313-69	LED	SEL3210S-CD (PROTECT)			

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Replace only with part number
specified.

PANEL

POWER SW

RELAY

Ref. No.	Part No.	Description	Remark
D901	8-719-047-87 LED	SEL4227C-D-TP1 (0. 01)	
D902	8-719-047-87 LED	SEL4227C-D-TP1 (0. 06)	
D903	8-719-047-87 LED	SEL4227C-D-TP1 (0. 15)	
D904	8-719-047-87 LED	SEL4227C-D-TP1 (0. 4)	
D905	8-719-047-87 LED	SEL4227C-D-TP1 (1)	
D906	8-719-047-87 LED	SEL4227C-D-TP1 (3)	
D907	8-719-047-87 LED	SEL4227C-D-TP1 (10)	
D908	8-719-047-87 LED	SEL4227C-D-TP1 (30)	
D909	8-719-047-87 LED	SEL4227C-D-TP1 (60)	
D910	8-719-047-87 LED	SEL4227C-D-TP1 (125)	
D951	8-719-047-87 LED	SEL4227C-D-TP1 (0. 01)	
D952	8-719-047-87 LED	SEL4227C-D-TP1 (0. 06)	
D953	8-719-047-87 LED	SEL4227C-D-TP1 (0. 15)	
D954	8-719-047-87 LED	SEL4227C-D-TP1 (0. 4)	
D955	8-719-047-87 LED	SEL4227C-D-TP1 (1)	
D956	8-719-047-87 LED	SEL4227C-D-TP1 (3)	
D957	8-719-047-87 LED	SEL4227C-D-TP1 (10)	
D958	8-719-047-87 LED	SEL4227C-D-TP1 (30)	
D959	8-719-047-87 LED	SEL4227C-D-TP1 (60)	
D960	8-719-047-87 LED	SEL4227C-D-TP1 (125)	
< IC >			
IC901	8-759-917-42 IC	IR2E31A	
IC902	8-759-917-42 IC	IR2E31A	
IC951	8-759-917-42 IC	IR2E31A	
IC952	8-759-917-42 IC	IR2E31A	
< TRANSISTOR >			
Q505	8-729-900-63 TRANSISTOR	DTA124ES	
Q506	8-729-900-36 TRANSISTOR	DTC124ES	
Q903	8-729-140-93 TRANSISTOR	2SB733-34	
Q904	8-729-900-36 TRANSISTOR	DTC124ES	
< RESISTOR >			
R901	1-249-402-11 CARBON	56 5% 1/4W	
R902	1-249-441-11 CARBON	100K 5% 1/4W	
R903	1-249-402-11 CARBON	56 5% 1/4W	
R904	1-249-429-11 CARBON	10K 5% 1/4W	
R905	1-249-441-11 CARBON	100K 5% 1/4W	
R906	1-249-417-11 CARBON	1K 5% 1/4W	
R907	1-249-431-11 CARBON	15K 5% 1/4W	
R908	1-249-424-11 CARBON	3. 9K 5% 1/4W	
R909	1-249-429-11 CARBON	10K 5% 1/4W	
R910	1-249-429-11 CARBON	10K 5% 1/4W	
R911	1-247-807-31 CARBON	100 5% 1/4W	
R912	1-249-416-11 CARBON	820 5% 1/4W	
R913	1-249-417-11 CARBON	1K 5% 1/4W	
R914	1-249-417-11 CARBON	1K 5% 1/4W	
R951	1-249-402-11 CARBON	56 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R952	1-249-441-11 CARBON	100K 5% 1/4W	
R953	1-249-402-11 CARBON	56 5% 1/4W	
R954	1-249-429-11 CARBON	10K 5% 1/4W	
R955	1-249-441-11 CARBON	100K 5% 1/4W	
R956	1-249-417-11 CARBON	1K 5% 1/4W	
R957	1-249-431-11 CARBON	15K 5% 1/4W	
R958	1-249-424-11 CARBON	3. 9K 5% 1/4W	
< SWITCH >			
S901	1-692-479-11 SWITCH, ROTARY (RANGE)		
S902	1-692-479-11 SWITCH, ROTARY (SPEAKERS)		

*	1-652-032-11 POWER SW BOARD		

*	1-533-213-31 HOLDER, FUSE		
< CAPACITOR >			
△C1	1-161-744-51 CERAMIC	0. 01uF	400V
< CONNECTOR >			
CNP1	1-564-321-00 PIN, CONNECTOR 2P		
< FUSE >			
△F1	1-532-203-00 FUSE (T2. 0AL) (EXCEPT MX)		
△F1	1-532-350-00 FUSE (T4. 0AL) (MX)		
△F2	1-567-228-31 FUSE (H. B. C) (T2. 0AH)		
< SWITCH >			
△S1	1-554-920-51 SWITCH, PUSH (AC POWER) (1 KEY) (POWER)		
< BASE POST >			
* TM1	1-535-142-00 BASE POST 19MM (10MM PITCH) 5P		

*	1-652-031-11 RELAY BOARD		

< CAPACITOR >			
C111	1-136-163-00 FILM (G, IT)	0. 068uF 5% 50V	
C112	1-136-163-00 FILM (G, IT)	0. 068uF 5% 50V	
C161	1-136-163-00 FILM (G, IT)	0. 068uF 5% 50V	
C162	1-136-163-00 FILM (G, IT)	0. 068uF 5% 50V	
C209	1-136-163-00 FILM (G, IT)	0. 068uF 5% 50V	

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RELAY
SENSOR
SYSTEM CONNECTOR
TRANSFORMER SECONDARY

Ref. No.	Part No.	Description	Remark		
C210	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V
C259	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V
C260	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V
C304	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V
C305	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V
< CONNECTOR >					
* CN108	1-564-515-11	PLUG, CONNECTOR 12P			
CN111	1-564-517-11	PLUG, CONNECTOR 2P			
* CN702	1-569-493-11	SOCKET, CONNECTOR 7P			
< JACK >					
J902	1-766-332-11	JACK, PIN 2P (REAR) (EXCEPT AEP, G, IT, CIS)			
< COIL >					
L101	1-420-872-00	COIL, AIR CORE			
L102	1-420-872-00	COIL, AIR CORE			
< RESISTOR >					
R115	1-249-397-11	CARBON	22	5%	1/4W
R126	1-247-727-11	CARBON (G, IT)	10	5%	1/2W
R165	1-249-397-11	CARBON	22	5%	1/4W
R176	1-247-727-11	CARBON (G, IT)	10	5%	1/2W
R208	1-249-393-11	CARBON	10	5%	1/4W (G, IT)
R258	1-249-393-11	CARBON	10	5%	1/4W (G, IT)
R307	1-249-393-11	CARBON	10	5%	1/4W (G, IT)
R1150	1-249-397-11	CARBON	22	5%	1/4W
R1650	1-249-397-11	CARBON	22	5%	1/4W
< TERMINAL >					
TM101	1-537-552-11	TERMINAL, PUSH (8P) (SPEAKER) (AEP, G, IT, CIS)			
TM102	1-537-551-11	TERMINAL, PUSH (2P) (CENTER SPEAKER)			
TM103	1-537-743-11	TERMINAL BOARD (4P) (SPEAKER) (EXCEPT AEP, G, IT, CIS)			

*	1-652-034-11	SENSOR BOARD *****			
< CAPACITOR >					
C607	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description	Remark		
< IC >					
IC602	8-759-947-34	IC LM35DZ			
< RESISTOR >					
R612	1-247-807-31	CARBON	100	5%	1/4W

*	1-652-033-11	SYSTEM CONNECTOR BOARD			

< CONNECTOR >					
* CN703	1-566-859-11	SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)			
* CN704	1-566-858-31	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 3)			
CN705	1-564-511-11	PLUG, CONNECTOR 8P			
< RESISTOR >					
R706	1-249-393-11	CARBON	10	5%	1/4W

*	1-652-030-11	TRANSFORMER SECONDARY BOARD			

*	1-533-213-31	HOLDER, FUSE			
< CAPACITOR >					
C701	1-136-177-00	FILM	1uF	5%	50V
C702	1-136-177-00	FILM	1uF	5%	50V
C706	1-124-920-11	ELECT	330uF	20%	63V
C707	1-126-233-11	ELECT	22uF	20%	50V
C708	1-124-122-11	ELECT	100uF	20%	50V
C709	1-124-994-11	ELECT	100uF	20%	10V
C712	1-136-161-00	FILM	0.047uF	5%	50V
C713	1-136-161-00	FILM	0.047uF	5%	50V
C714	1-162-306-11	CERAMIC (G, IT)	0.01uF	20%	16V
C717	1-161-494-00	CERAMIC (G, IT)	0.022uF		25V
C718	1-136-177-00	FILM	1uF	5%	50V
C719	1-136-177-00	FILM	1uF	5%	50V
C801	1-136-175-00	FILM	0.68uF	5%	50V
C802	1-136-175-00	FILM	0.68uF	5%	50V
< CONNECTOR >					
* CN701	1-569-502-11	PIN, CONNECTOR 7P			
< DIODE >					
D704	8-719-200-77	DIODE	10E2N		
D705	8-719-934-22	DIODE	HZS30-2L		
D706	8-719-014-88	DIODE	UZP-6.8BC		

TRANSFORMER SECONDARY

VOLTAGE SELECTION

Ref.No.	Part No.	Description	Remark
D801	8-719-510-53	DIODE D4SB60L	
< FUSE >			
$\triangle$ F701	1-532-203-00	FUSE (T2.0AL)	
$\triangle$ F702	1-532-203-00	FUSE (T2.0AL)	
$\triangle$ F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
$\triangle$ F802	1-532-203-00	FUSE, TIME-LAG (T3.15AL)	
< TRANSISTOR >			
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
< RESISTOR >			
$\triangle$ R703	1-212-934-00	FUSIBLE 1 5% 1/2W F	
R704	1-249-425-11	CARBON 4.7K 5% 1/4W	
R705	1-247-761-11	CARBON 5.6K 5% 1/2W	

*	1-652-036-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	

< CONNECTOR >			
* CN2	1-573-565-11	PIN, CONNECTOR 5P (E, EA, MY, SP, JE)	
< SWITCH >			
$\triangle$ S2	1-572-009-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR) (E, EA, MY, SP, JE)	

Ref.No.	Part No.	Description	Remark
MISCELLANEOUS *****			
7	1-590-239-31	WIRE, FLAT TYPE (7 CORE)	
$\triangle$ 63	1-751-355-11	CORD, POWER (AUS)	
$\triangle$ 64	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
$\triangle$ 65	1-575-656-11	CORD, POWER (E, MX, JE)	
$\triangle$ CNJ1	1-251-078-11	OUTLET, AC (AC OUTLET) (AUS)	
$\triangle$ CNJ1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA, MY, SP, CIS)	
$\triangle$ CNJ1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, MX, JE)	
$\triangle$ F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
$\triangle$ F1	1-532-350-00	FUSE (T4.0AL) (MX)	
$\triangle$ F2	1-576-228-31	FUSE (H. B. C.) (T2.0AH)	
$\triangle$ F701	1-532-203-00	FUSE (T2.0AL)	
$\triangle$ F702	1-532-203-00	FUSE (T2.0AL)	
$\triangle$ F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
$\triangle$ F802	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
M901	1-698-380-11	MOTOR, FAN (DC)	
$\triangle$ T1	1-426-722-11	TRANSFORMER, POWER (AEP, G, IT, CIS)	
$\triangle$ T1	1-426-723-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
$\triangle$ T1	1-426-857-11	TRANSFORMER, POWER (MX)	

HARDWARE LIST

#1	7-621-849-00	SCREW (BV/RING)
#2	7-682-547-09	SCREW +BVTT 3X6 (S)
#3	7-682-548-04	SCREW +BVTT 3X8 (S)
#4	7-682-560-04	SCREW +BVTT 4X6 (S)
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#6	7-685-646-81	SCREW +BVTP 3X8 TYPE2
#7	7-685-650-79	SCREW +BVTP 3X16 TYPE2

ACCESSORIES & PACKING MATERIALS

* 4-965-421-02 CUSHION

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