

# HCD-GR8000

## SERVICE MANUAL

*E Model*



HCD-GR8000 is the compact disc deck receiver.

The mechanical and electrical specifications of HCD-GR8000 is almost same as HCD-GR7 E model.

So, this manual contains only the points which differ from HCD-GR7 E model.

For the informations not contained in this manual, please refer to the HCD-D60/GR7/GR7J/RX70 service manual (9-960-853-□□) previously issued.

- HCD-GR8000 is the tuner, deck, CD and amplifier section in MHC-GR8000.

### SPECIFICATIONS

#### Amplifier section

Rates RMS power output

Thai and Argentine models:  
120 + 120 watts  
(6 ohms at 1 kHz,  
1% THD, AC 240V)  
115 + 115 watts  
(6 ohms at 1kHz,  
1% THD,  
AC 120V/AC 230V)  
105 + 105 watts  
(6 ohms at 1kHz,  
1% THD, AC 110V)  
Other models:  
120 + 120 watts  
(6 ohms at 1 kHz,  
1% THD, AC 240V)  
115 + 115 watts  
(6 ohms at 1kHz,  
1% THD, AC 120V)  
105 + 105 watts  
(6 ohms at 1kHz,  
1% THD,  
AC 220V/AC 110V)

Reference RMS power output

Singaporean and Malaysian models:  
145 + 145 watts  
(6 ohms at 1kHz,  
10% THD,  
AC 230V/AC 120V)  
Other models:  
145 + 145 watts  
(6 ohms at 1 kHz,  
10% THD,  
AC 220V/AC 110V)

Peak music power output: 2800 watts

#### General

Power requirements

Thai and Argentine models:  
110 - 120V or 220 - 230V or  
240V AC, 50/60 Hz  
Adjustable with voltage  
selector

Other models:  
110 - 120V or 220 - 240V  
AC, 50/60 Hz Adjustable  
with voltage selector

Power consumption:

330 watts

Dimensions (w/h/d)

Approx. 280 × 330 × 366  
mm

Mass

Approx. 12kg

## COMPACT DISC DECK RECEIVER



# SONY®

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#### CAUTION

Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CLASS 1 LASER PRODUCT  
LUOKAN 1 LASERLAITE  
KLASS 1 LASERAPPARAT

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.

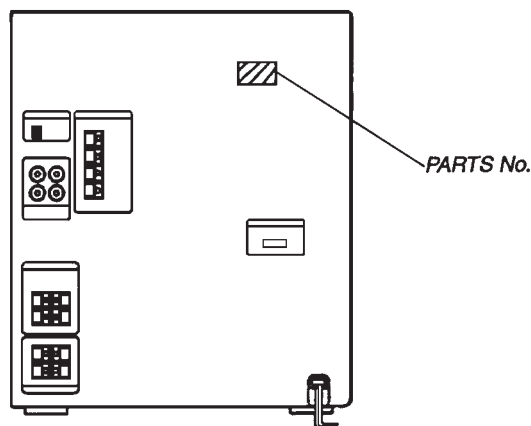
CAUTION	; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSÅFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA DIET ALTUUNA LASERSÄTELYLLE.
VARNING	; LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URÖPPPLAD.
ADVARSEL	; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  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.

### MODEL IDENTIFICATION

— BACK PANEL —



MODEL	PART NO.
E	4-993-650-01
SP, MY, TH, AR	4-993-650-21
EA	4-993-650-31

- Abbreviation
  - EA : Saudi Arabia
  - MY : Malaysia
  - SP : Singapore
  - TH : Thailand
  - AR : Argentine

### SERVICING NOTES

#### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

#### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

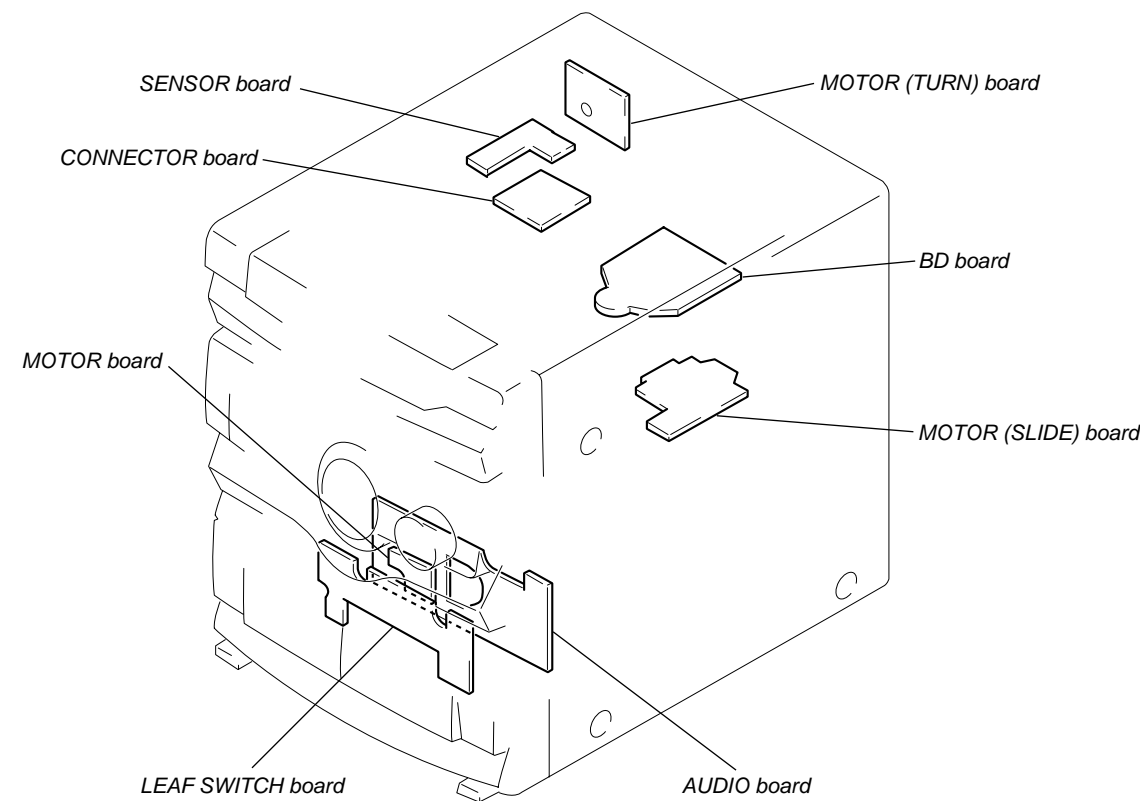
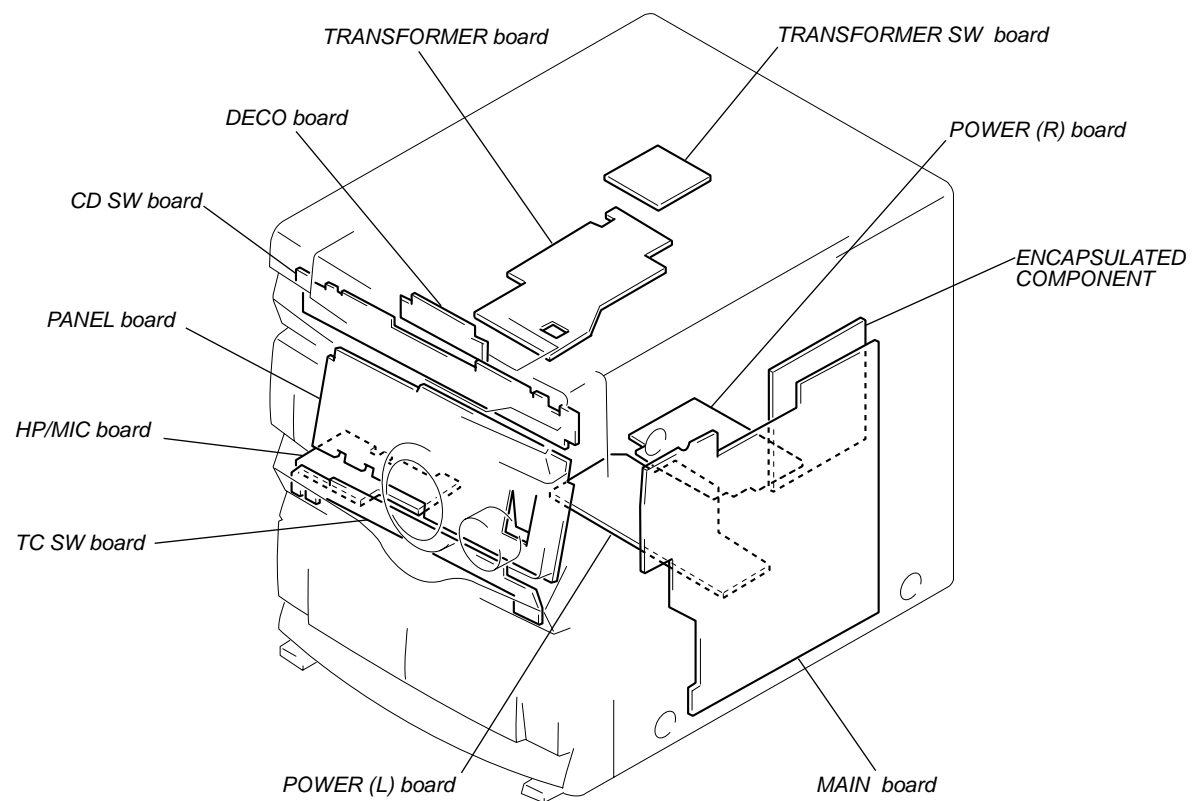
#### Note on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

#### Flexible Circuit Board Repairing

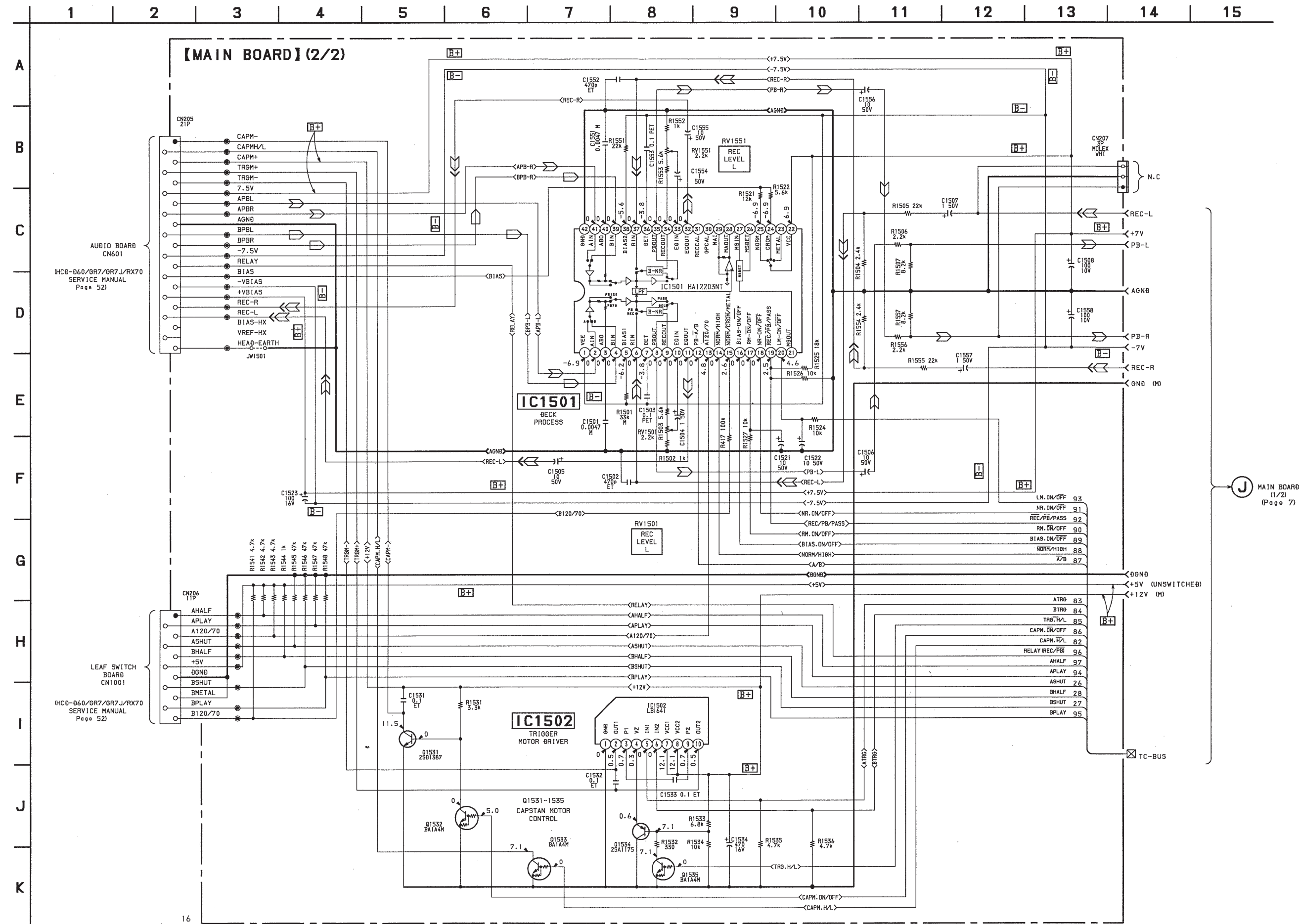
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.







- **Circuit Boarts Location**

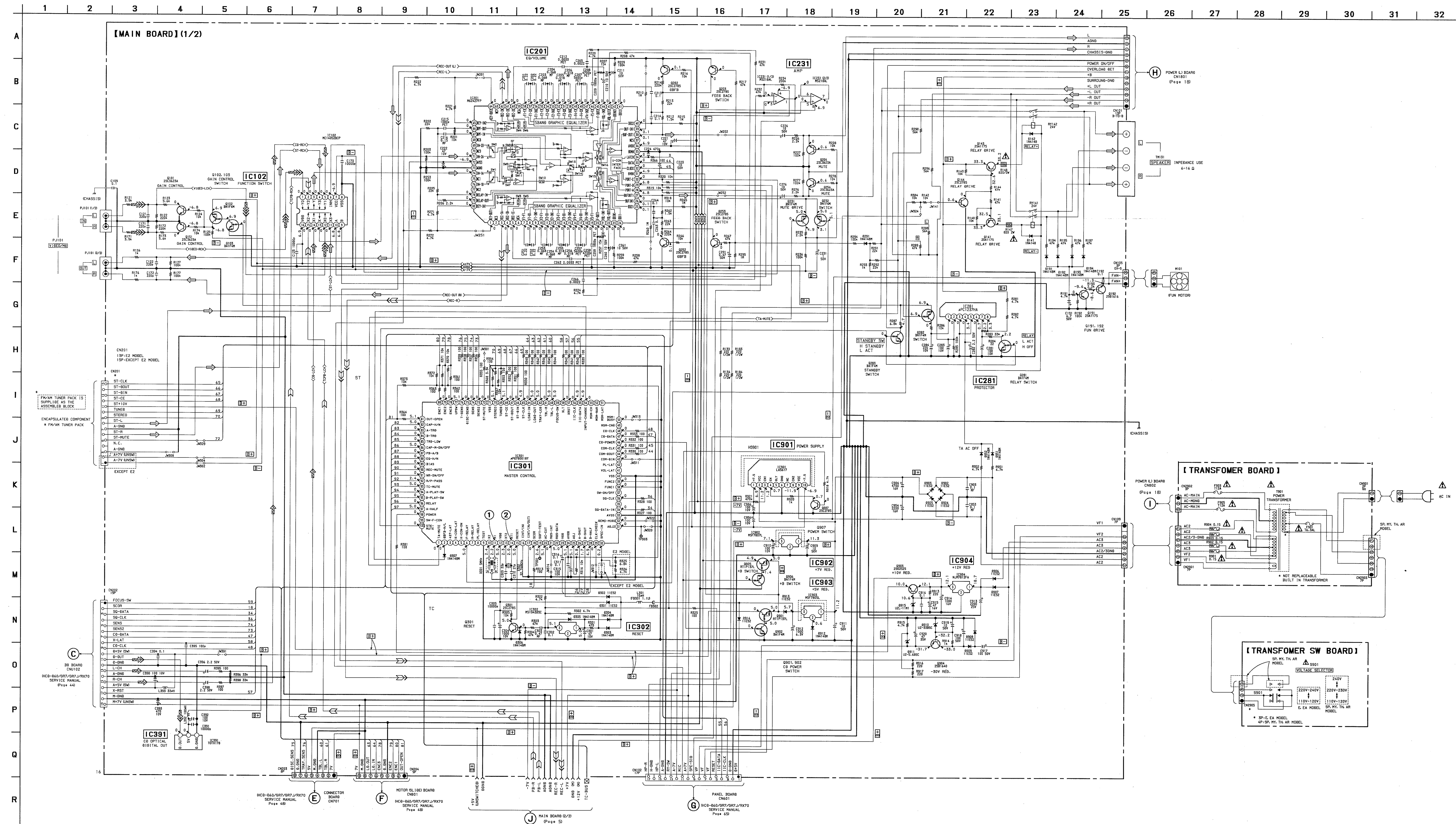


**6-8. SCHEMATIC DIAGRAM — MAIN (2/2) SECTION —** • Refer to page 11 for Printed Wiring Board (MAIN BOARD)  
(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 51.)

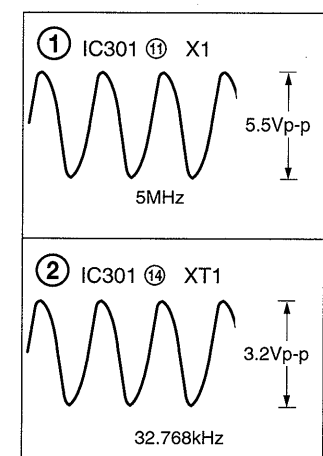
- Refer to page 11 for Printed Wiring Board (MAIN BOARD)



- **Note:**
  - All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$ : 50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and 1/4W or less unless otherwise specified.
  -  : B+ Line.
  -  : B- Line.
  -  : adjustment for repair.
  - Voltages are dc with respect to ground under no-signal conditions.  
no mark : FM TUNER
  - Voltages are taken with a VOM (Input impedance 10M $\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.
  - Signal path
    -  : PB (DECK A)
    -  : PB (DECK B)
    -  : PB (DECK B)



## • Waveform



## Note:

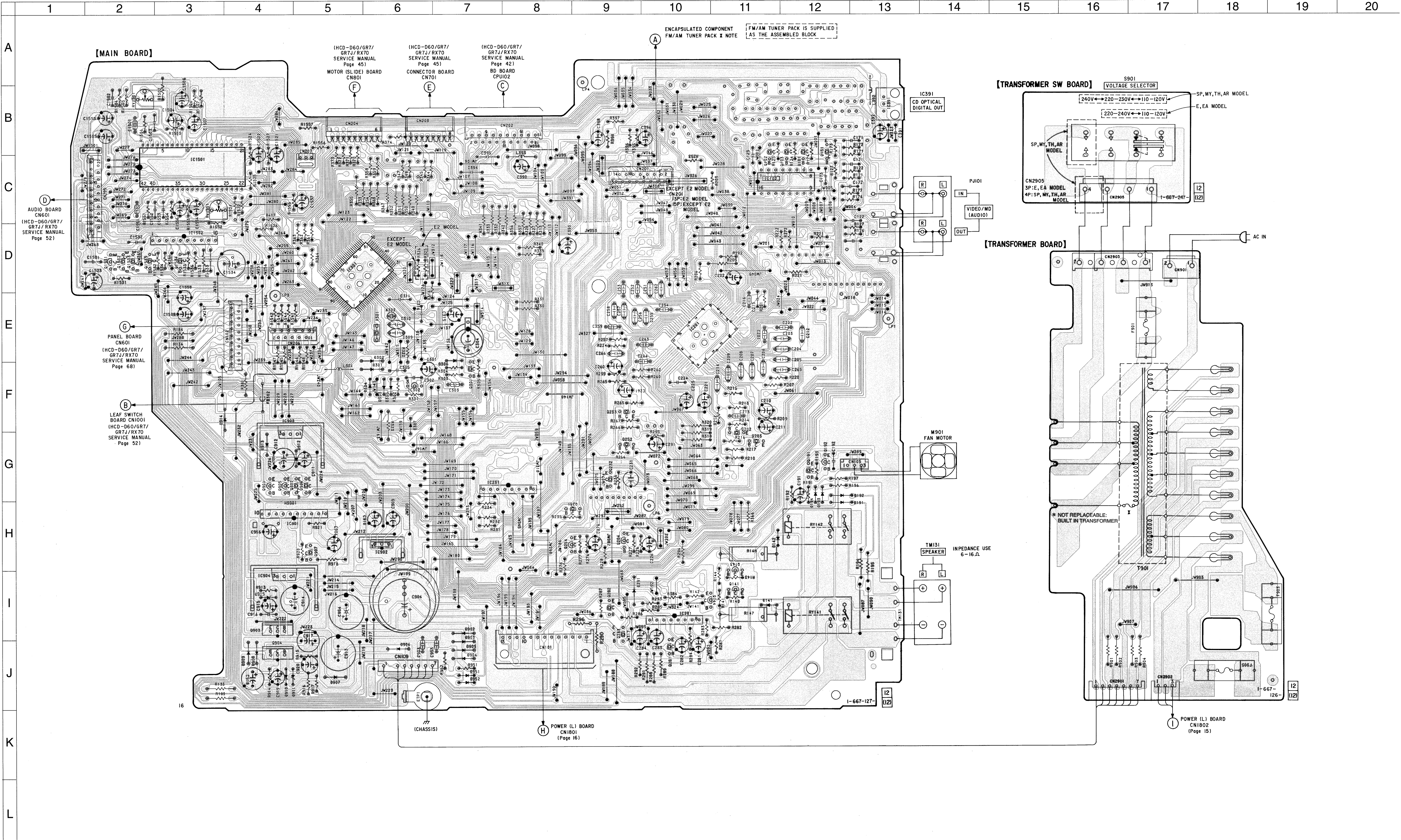
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and 1/4W or less unless otherwise specified.
- $\Delta$ : Internal component.
- $\square$ : nonflammable resistor.
- $\sim$ : fusible resistor.

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

- $\Delta$ : B+ Line.
- $\square$ : B- Line.
- Voltages are waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM TUNER
- $\sim$ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10M $\Omega$ ). 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
- $\rightarrow$ : FM
- $\rightarrow$ : PB (DECK A)
- $\rightarrow$ : PB (DECK B)
- $\rightarrow$ : CD
- $\rightarrow$ : CD (digital)
- $\rightarrow$ : VIDEO
- Abbreviation
- E2: 120V AC Area in E model
- E3: 220V AC Area in E model
- EA: Saudi Arabia
- MY: Malaysia
- SP: Singapore
- TH: Thai
- AR: Argentine

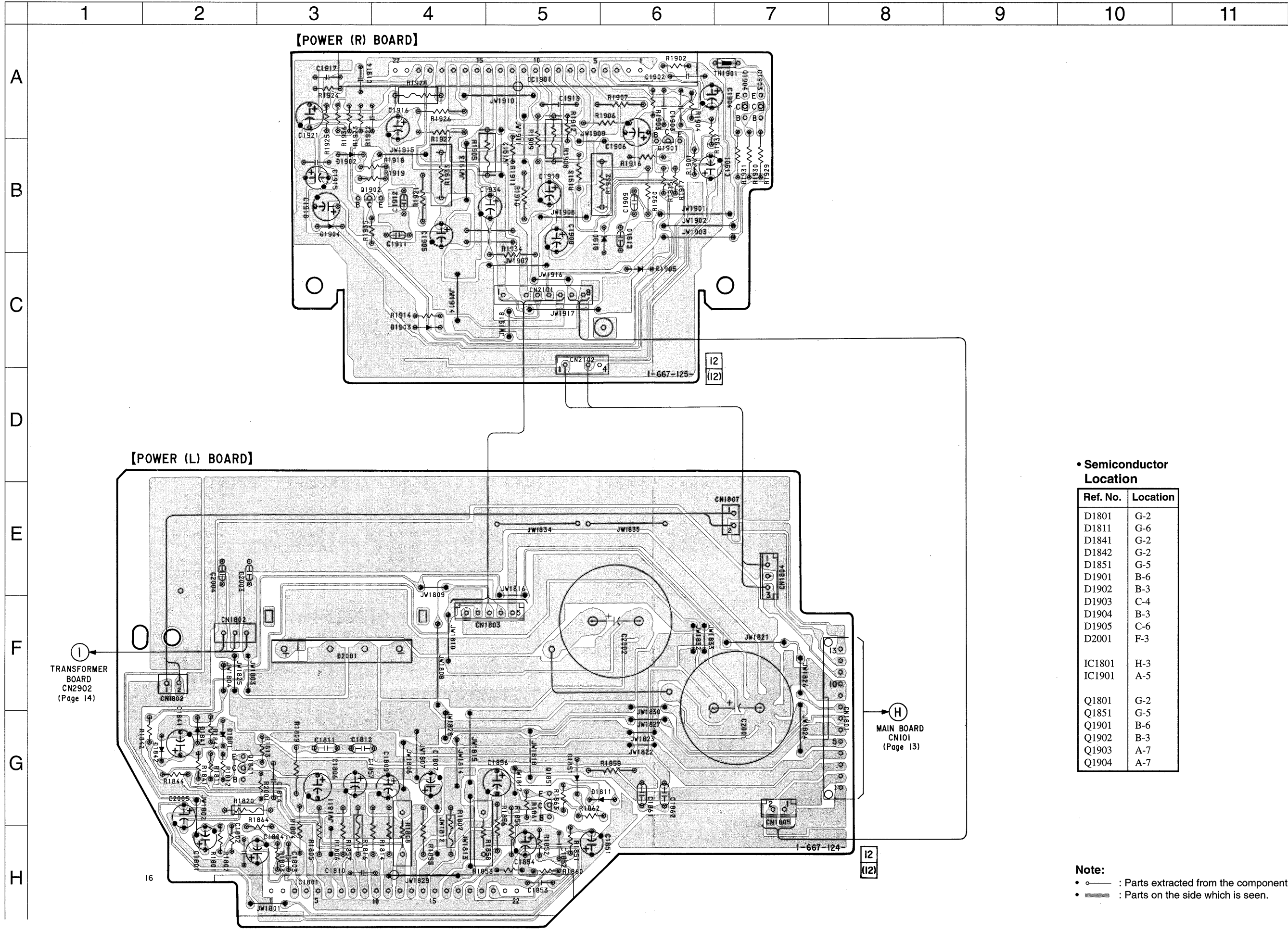


6-10. PRINTED WIRING BOARDS — MAIN / POWER SECTION —  
(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 59.)





6-13. PRINTED WIRING BOARD — POWER AMP SECTION —  
(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 71.)



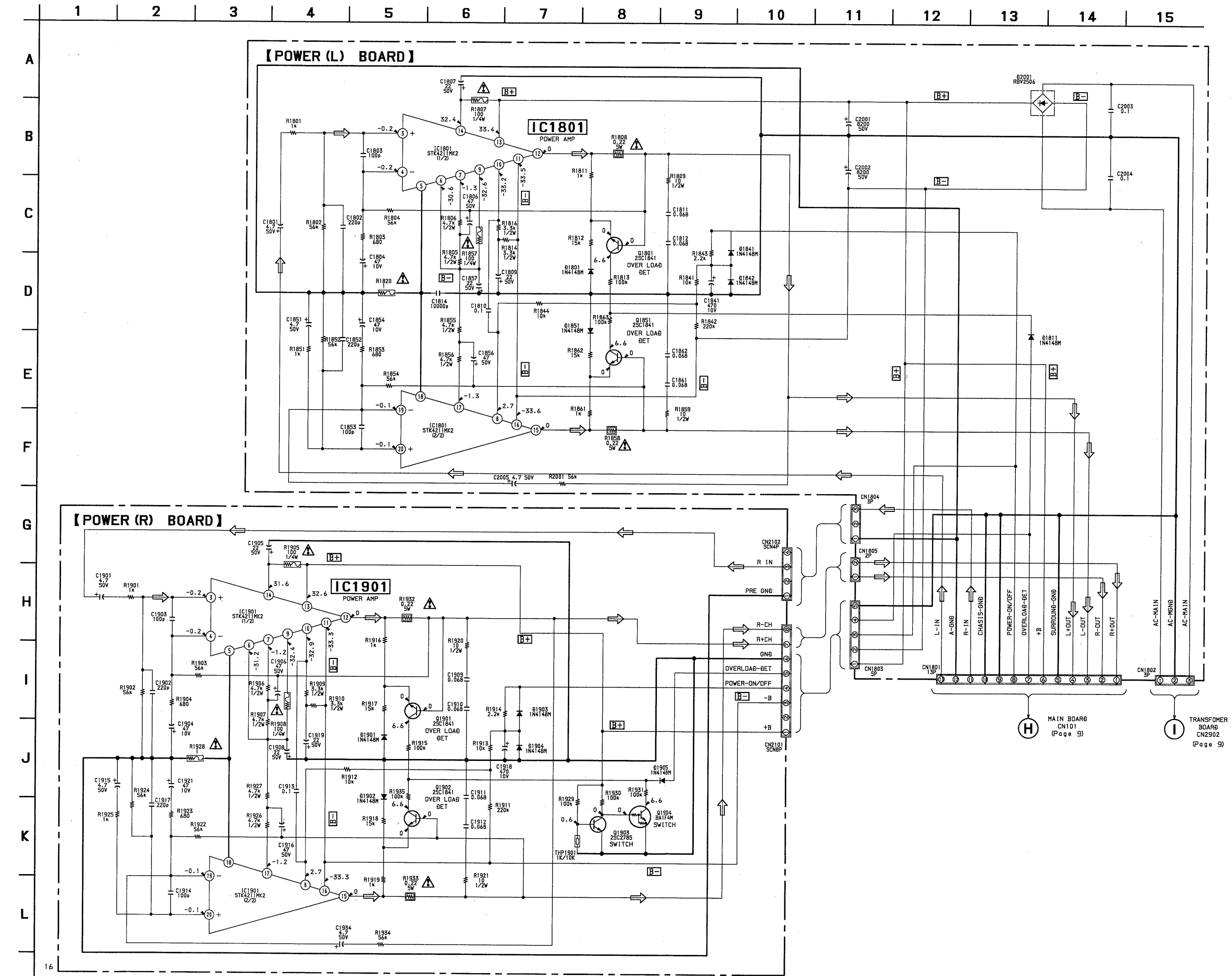
• Semiconductor Location

Ref. No.	Location
D1801	G-2
D1811	G-6
D1841	G-2
D1842	G-2
D1851	G-5
D1901	B-6
D1902	B-3
D1903	C-4
D1904	B-3
D1905	C-6
D2001	F-3
IC1801	H-3
IC1901	A-5
Q1801	G-2
Q1851	G-5
Q1901	B-6
Q1902	B-3
Q1903	A-7
Q1904	A-7

Note:

- : Parts extracted from the component side.
- : Parts on the side which is seen.

6-14. SCHEMATIC DIAGRAM — POWER AMP SECTION —  
(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 72.)



Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted, pF:  $\mu\text{F}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and 1/4W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

Note :

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

- $\square$  : B+ Line.
- $\square$  : B- Line.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.  
no mark: FM TUNER
- Voltages are taken with a VOM (Input impedance 10M $\Omega$ ).  
Voltage variations may be noted due to normal production tolerances
- Signal path  
⇒ : FM

## SECTION 7 EXPLODED VIEWS

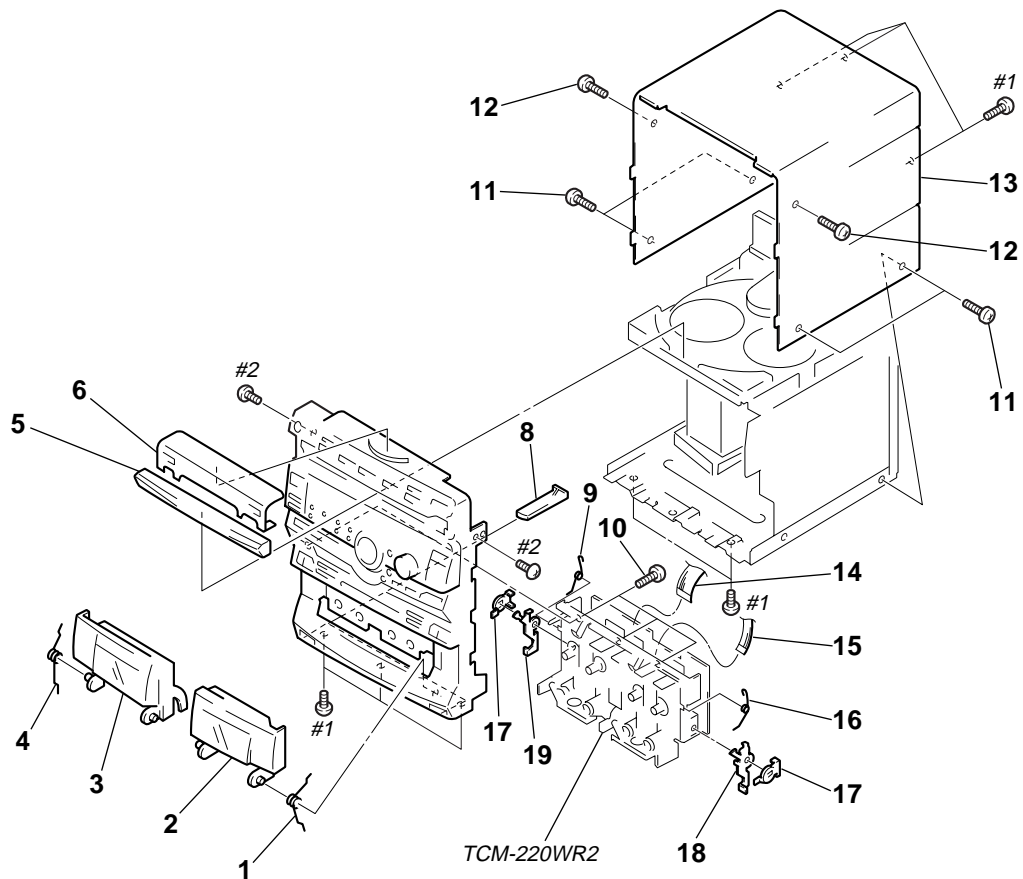
### Note:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation  
 E2 : 120V AC Area in E model  
 E3 : 220V AC Area in E model  
 EA : Saudi Arabia                      TH : Thai  
 MY : Malaysia                          AR : Argentine  
 SP : Singapore

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

### (1) CASE, MD ASSY SECTION

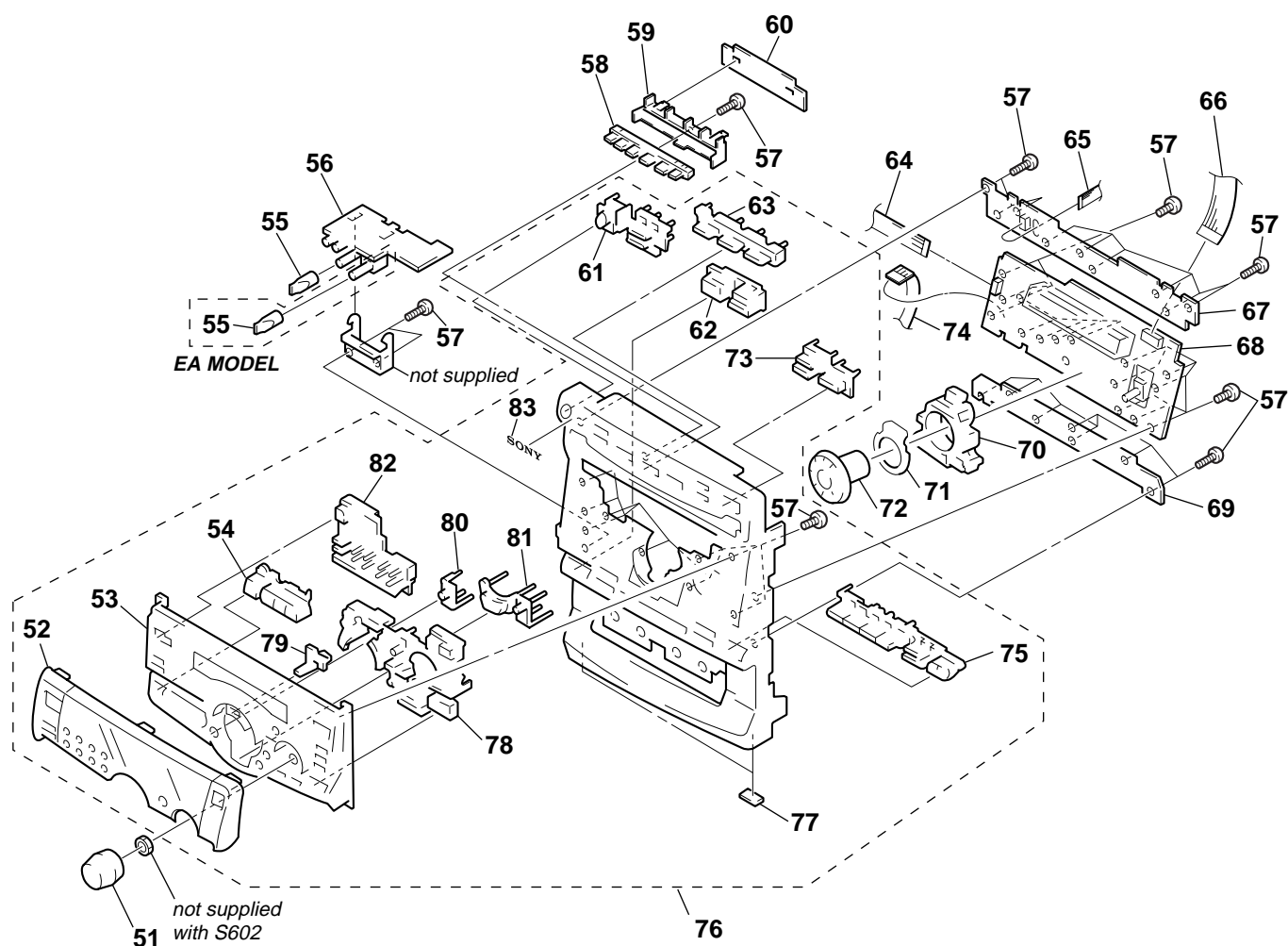
(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 83)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	4-989-904-01	SPRING (B DECK)		11	3-363-099-01	SCREW (CASE 3 TP2)	
2	X-4948-117-1	LID (B) ASSY, CASSETTE		12	3-363-099-41	SCREW (CASE 3 TP2)	
3	X-4948-116-1	LID (A) ASSY, CASSETTE		* 13	4-988-767-11	CASE	
4	4-989-903-01	SPRING (A DECK)		14	1-773-160-11	WIRE (FLAT TYPE) (21 CORE)	
5	4-991-701-51	PANEL, LOADING					
6	4-986-859-31	WINDOW (CD)		15	1-769-947-11	WIRE (FLAT TYPE) (11 CORE)	
8	4-986-843-21	BUTTON (EJECT)		16	4-990-130-01	SPRING (OPEN B)	
9	4-990-129-01	SPRING (OPEN A)		17	3-354-957-01	JOINT (LOCK LEVER)	
10	4-951-620-01	SCREW (2.6X8), +BVTP		* 18	3-354-954-01	LEVER (LOCK LEVER R)	
				* 19	3-354-953-01	LEVER (LOCK LEVER L)	

## (2) FRONT PANEL SECTION

(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 84,85)

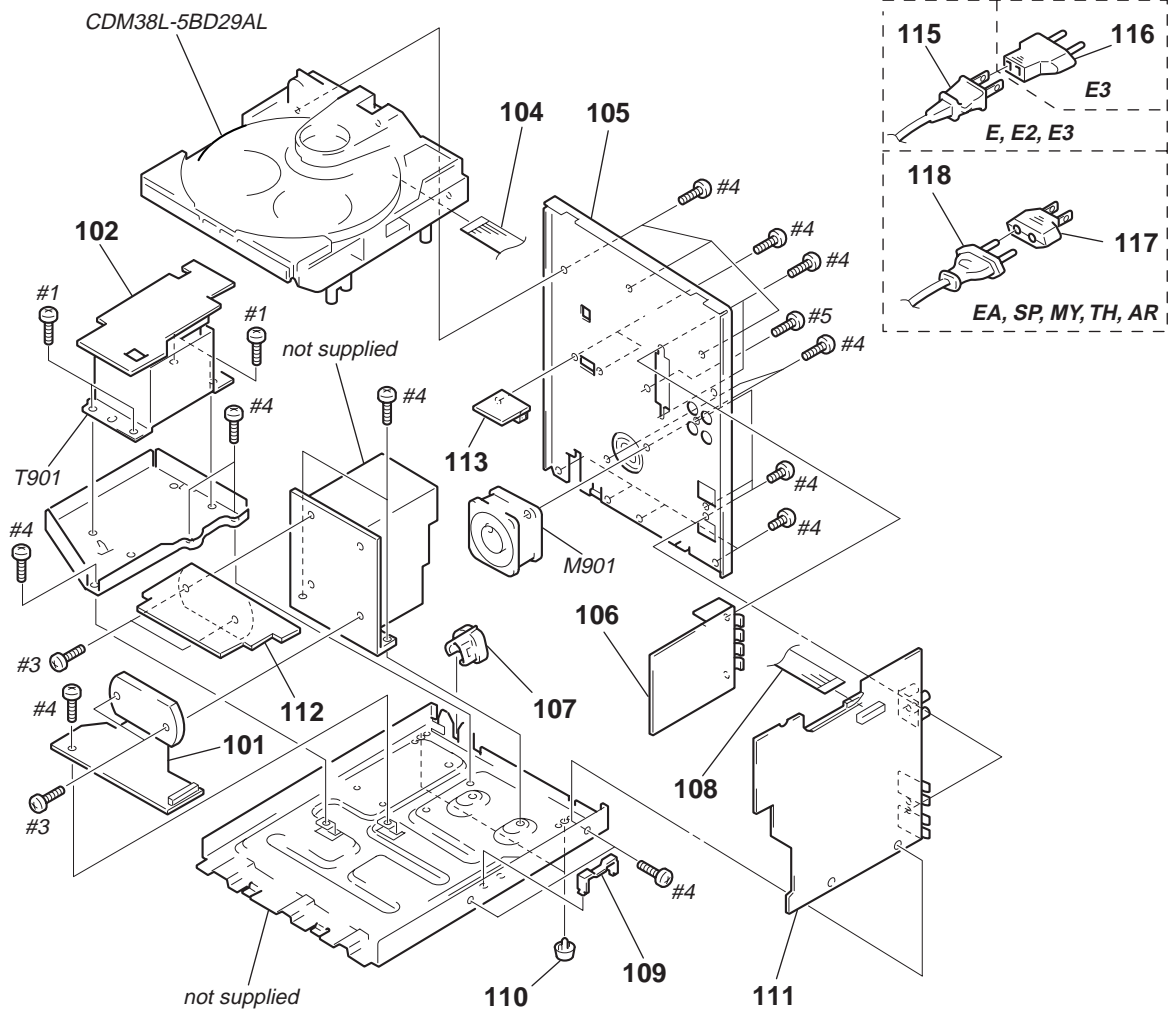


Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	4-986-877-21	KNOB (VOL)		* 67	A-4392-348-A	CD SW BOARD, COMPLETE	
52	4-986-869-61	WINDOW (STR)		* 68	A-4392-341-A	PANEL BOARD, COMPLETE	
53	4-986-866-21	PANEL, SUB		* 69	A-4392-350-A	TC SW BOARD, COMPLETE	
54	X-4948-111-1	BUTTON (DJ) ASSY		70	4-986-880-01	HOLDER (JOG)	
55	4-986-893-21	KNOB (MICROPHONE)		71	4-986-881-01	JOG (PLATE)	
* 56	A-4392-351-A	HP/MIC BOARD, COMPLETE (EXCEPT EA)		72	X-4948-114-1	KNOB (JOG-T5) ASSY	
* 56	A-4392-857-A	HP/MIC BOARD, COMPLETE (EA)		73	4-986-861-21	BUTTON (PLAY)	
57	4-951-620-01	SCREW (2.6X8), +BVTP		74	1-769-909-11	WIRE (FLAT TYPE) (9 CORE)	
58	4-986-863-01	INDICATOR (CD)		75	4-986-902-21	BUTTON (B DECK)	
* 59	4-986-865-01	HOLDER (LED)		76	X-4948-104-1	PANEL ASSY, FRONT (E2,E3,SP,MY,TH,AR)	
* 60	1-664-007-11	DECO BOARD		77	4-930-336-61	FOOT (FELT)	
61	4-986-860-21	BUTTON (POWER)		78	X-4948-107-1	BUTTON (T/B) ASSY	
62	4-986-901-21	BUTTON (A DECK)		79	4-986-883-01	INDICATOR (JOG)	
63	4-986-862-01	BUTTON (CD)		80	4-986-894-01	BUTTON (GROOVE)	
64	1-777-869-11	WIRE (FLAT TYPE) (10 CORE)		81	X-4948-110-1	BUTTON (E/S) ASSY	
65	1-777-936-11	WIRE (FLAT TYPE) (5 CORE)		82	4-986-872-31	BUTTON (TIMER)	
66	1-773-051-11	WIRE (FLAT TYPE) (17 CORE)		83	4-962-708-11	EMBLEM (4-A), SONY	



### (3) CHASSIS SECTION

(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 86,87)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
* 101	A-4403-329-A	POWER (L) BOARD, COMPLETE		110	4-965-822-01	FOOT	
* 102	1-667-126-12	TRANSFORMER BOARD		* 111	A-4403-335-A	MAIN BOARD, COMPLETE (EXCEPT E2)	
104	1-777-870-11	WIRE (FLAT TYPE) (19 CORE)		* 111	A-4403-344-A	MAIN BOARD, COMPLETE (E2)	
* 105	4-993-650-01	PANEL (T5 HI-POWER), BACK (E)		* 112	A-4403-334-A	POWER (R) BOARD, COMPLETE	
* 105	4-993-650-21	PANEL (T5 HI-POWER), BACK (SP,MY,TH,AR)		* 113	1-667-247-12	TRANSFORMER SW BOARD	
* 105	4-993-650-31	PANEL (T5 HI-POWER), BACK (EA)		△ 115	1-575-653-11	CORD, POWER (E)	
106	1-233-545-11	ENCAPSULATED COMPONENT (E2)		△ 116	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
106	1-233-546-11	ENCAPSULATED COMPONENT (EXCEPT E2)		△ 117	1-569-008-11	ADAPTOR, CONVERSION 2P (EA,SP,MY,TH,AR)	
* 107	3-703-244-00	BUSHING (2104), CORD (EA,SP,MY,TH,AR)		△ 118	1-575-651-11	CORD, POWER (EA,SP,MY,TH,AR)	
107	3-703-571-11	BUSHING (S) (4516), CORD (E)		M901	1-698-792-11	FAN, DC	
108	1-751-086-11	WIRE (FLAT TYPE) (13 CORE) (E2)		△ T901	1-431-504-11	TRANSFORMER, POWER (E,EA)	
108	1-773-012-11	WIRE (FLAT TYPE) (15 CORE) (EXCEPT E2)		△ T901	1-431-619-11	TRANSFORMER, POWER (SP,MY,TH,AR)	
* 109	4-988-533-01	HOLDER, PCB					

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

## SECTION 8

### ELECTRICAL PARTS LIST

(Refer to the HCD-D60/GR7/GR7J/RX70 service manual page 93)

#### Note:

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

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

#### • Abbreviation

E2 : 120V AC Area in E model  
E3 : 220V AC Area in E model  
EA : Saudi Arabia  
MY : Malaysia  
SP : Singapore  
TH : Thai  
AR : Argentine

- 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.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:  
uF:  $\mu$ F

#### • RESISTORS

All resistors are in ohms.

METAL: metal-film resistor

METAL OXIDE: Metal Oxide-film resistor

F: nonflammable

#### • COILS

uH:  $\mu$ H

#### • SEMICONDUCTORS

In each case, u:  $\mu$ , for example:

uA...:  $\mu$ A..., uPA...,  $\mu$ PA...,

uPB...,  $\mu$ PB..., uPC...,  $\mu$ PC...,

uPD...,  $\mu$ PD...

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
*	A-4403-344-A	MAIN BOARD, COMPLETE (E2) *****		C260	1-126-964-11	ELECT 10uF 20%	50V
*	A-4403-335-A	MAIN BOARD, COMPLETE (EXCEPT E2) *****		C261	1-126-964-11	ELECT 10uF 20%	50V
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S  < CAPACITOR >		C262	1-130-477-00	MYLAR 0.0033uF 5%	50V
C109	1-164-159-11	CERAMIC 0.1uF	50V	C263	1-136-165-00	FILM 0.1uF 5%	50V
C121	1-162-286-31	CERAMIC 220PF 10%	50V	C264	1-136-165-00	FILM 0.1uF 5%	50V
C122	1-162-286-31	CERAMIC 220PF 10%	50V	C265	1-130-475-00	MYLAR 0.0022uF 5%	50V
C123	1-162-306-11	CERAMIC 0.01uF 20%	16V	C266	1-130-475-00	MYLAR 0.0022uF 5%	50V
C171	1-162-286-31	CERAMIC 220PF 10%	50V	C276	1-126-964-11	ELECT 10uF 20%	50V
C172	1-162-286-31	CERAMIC 220PF 10%	50V	C281	1-126-933-11	ELECT 100uF 20%	10V
C173	1-162-306-11	CERAMIC 0.01uF 20%	16V	C282	1-126-961-11	ELECT 2.2uF 20%	50V
C191	1-126-963-11	ELECT 4.7uF 20%	50V	C283	1-126-933-11	ELECT 100uF 20%	10V
C192	1-164-159-11	CERAMIC 0.1uF	50V	C284	1-126-923-11	ELECT 220uF 20%	10V
C201	1-136-169-00	FILM 0.22uF 5%	50V	C291	1-126-959-11	ELECT 0.47uF 20%	50V
C202	1-136-169-00	FILM 0.22uF 5%	50V	C301	1-126-967-11	ELECT 47uF 20%	10V
C203	1-130-493-00	MYLAR 0.068uF 5%	50V	C302	1-164-159-11	CERAMIC 0.1uF	50V
C204	1-130-493-00	MYLAR 0.068uF 5%	50V	C303	1-136-173-00	FILM 0.47uF 5%	50V
C205	1-130-486-00	MYLAR 0.018uF 10%	50V	C304	1-126-926-11	ELECT 1000uF 20%	10V
C206	1-130-486-00	MYLAR 0.018uF 10%	50V	C305	1-162-306-11	CERAMIC 0.01uF 20%	16V
C207	1-130-480-00	MYLAR 0.0056uF 5%	50V	C309	1-102-518-11	CERAMIC 33PF 5%	50V
C208	1-130-479-00	MYLAR 0.0047uF 5%	50V	C310	1-102-516-11	CERAMIC 27PF 5%	50V
C209	1-130-474-00	MYLAR 0.0018uF 5%	50V	C311	1-164-159-11	CERAMIC 0.1uF	50V
C210	1-126-964-11	ELECT 10uF 20%	50V	C315	1-126-933-11	ELECT 100uF 20%	10V
C211	1-126-964-11	ELECT 10uF 20%	50V	C316	1-136-165-00	FILM 0.1uF 5%	50V
C212	1-130-477-00	MYLAR 0.0033uF 5%	50V	C390	1-126-933-11	ELECT 100uF 20%	10V
C213	1-136-165-00	FILM 0.1uF 5%	50V	C391	1-162-306-11	CERAMIC 0.01uF 20%	16V
C214	1-136-165-00	FILM 0.1uF 5%	50V	C392	1-126-933-11	ELECT 100uF 20%	10V
C215	1-162-294-31	CERAMIC 0.001uF 10%	50V	C393	1-126-925-11	ELECT 470uF 20%	10V
C216	1-136-167-00	FILM 0.15uF 5%	50V	C394	1-164-159-11	CERAMIC 0.1uF	50V
C221	1-126-967-11	ELECT 47uF 20%	10V	C395	1-162-282-31	CERAMIC 100PF 10%	50V
C222	1-126-967-11	ELECT 47uF 20%	10V	C396	1-126-961-11	ELECT 2.2uF 20%	50V
C223	1-126-964-11	ELECT 10uF 20%	50V	C398	1-126-961-11	ELECT 2.2uF 20%	50V
C224	1-162-290-31	CERAMIC 470PF 10%	50V	C903	1-136-165-00	FILM 0.1uF 5%	50V
C226	1-126-964-11	ELECT 10uF 20%	50V	C904	1-126-937-11	ELECT 4700uF 20%	16V
C231	1-109-889-11	ELECT 1uF 20%	50V	C906	1-126-933-11	ELECT 100uF 20%	10V
C251	1-136-169-00	FILM 0.22uF 5%	50V	C909	1-126-964-11	ELECT 10uF 20%	50V
C252	1-136-169-00	FILM 0.22uF 5%	50V	C910	1-126-933-11	ELECT 100uF 20%	10V
C253	1-130-493-00	MYLAR 0.068uF 5%	50V	C911	1-126-964-11	ELECT 10uF 20%	50V
C254	1-130-493-00	MYLAR 0.068uF 5%	50V	C912	1-126-916-11	ELECT 1000uF 20%	6.3V
C255	1-130-486-00	MYLAR 0.018uF 10%	50V	C913	1-126-943-11	ELECT 2200uF 20%	25V
C256	1-130-486-00	MYLAR 0.018uF 10%	50V	C914	1-126-767-11	ELECT 1000uF 20%	16V
C257	1-130-480-00	MYLAR 0.0056uF 5%	50V	C915	1-126-967-11	ELECT 47uF 20%	16V
C258	1-130-479-00	MYLAR 0.0047uF 5%	50V	C916	1-164-159-11	CERAMIC 0.1uF	50V
C259	1-130-474-00	MYLAR 0.0018uF 5%	50V	C917	1-126-968-11	ELECT 100uF 20%	50V
				C918	1-126-968-11	ELECT 100uF 20%	50V
				C919	1-126-964-11	ELECT 10uF 20%	50V



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C920	1-126-947-11	ELECT	47uF 20% 35V	D908	8-719-024-99	DIODE 11ES2-NTA2B	
C953	1-136-165-00	FILM	0.1uF 5% 50V	D909	8-719-024-99	DIODE 11ES2-NTA2B	
C954	1-126-768-11	ELECT	2200uF 20% 16V	D910	8-719-011-18	DIODE UZ-33BSC-TP	
C956	1-126-933-11	ELECT	100uF 20% 10V	D911	8-719-010-43	DIODE UZ-5.6BSC	
C1501	1-130-479-00	MYLAR	0.0047uF 5% 50V	D912	8-719-987-63	DIODE 1N4148M	
C1502	1-162-290-31	CERAMIC	470PF 10% 50V	D913	8-719-024-99	DIODE 11ES2-NTA2B	
C1503	1-164-159-11	CERAMIC	0.1uF 50V	D914	8-719-024-99	DIODE 11ES2-NTA2B	
C1504	1-126-160-11	ELECT	1uF 20% 50V	D915	8-719-001-42	DIODE UZL-11M1	
C1505	1-126-964-11	ELECT	10uF 20% 50V	D951	8-719-987-63	DIODE 1N4148M	
C1506	1-126-157-11	ELECT	10uF 20% 16V	D952	8-719-987-63	DIODE 1N4148M	
C1507	1-126-160-11	ELECT	1uF 20% 50V			< PLATE >	
C1508	1-126-933-11	ELECT	100uF 20% 10V	* EPT101	4-870-539-11	PLATE, GROUND	
C1523	1-126-933-11	ELECT	100uF 20% 16V			< FERRITE BEAD >	
C1531	1-164-159-11	CERAMIC	0.1uF 50V				
C1532	1-164-159-11	CERAMIC	0.1uF 50V	FB302	1-412-473-21	INDUCTOR 0UH	
C1533	1-164-159-11	CERAMIC	0.1uF 50V			< IC >	
C1534	1-126-935-11	ELECT	470uF 20% 16V	IC102	8-759-000-48	IC MC14052BCP	
C1551	1-130-479-00	MYLAR	0.0047uF 5% 50V	IC201	8-759-460-02	IC M62427FP-A	
C1552	1-162-290-31	CERAMIC	470PF 10% 50V	IC231	8-759-634-50	IC M5218AL	
C1553	1-164-159-11	CERAMIC	0.1uF 50V	IC281	8-759-111-68	IC uPC1237HA	
C1554	1-126-960-11	ELECT	1uF 20% 50V	IC301	8-759-481-99	IC uPD780018YGF-021-3BA	
C1555	1-126-964-11	ELECT	10uF 20% 50V	IC302	8-759-635-63	IC M51943BSL	
C1556	1-126-964-11	ELECT	10uF 20% 50V	IC391	8-749-923-04	IC TOTX178 (CD OPTICAL DIGITAL OUT)	
C1557	1-126-960-11	ELECT	1uF 20% 50V	IC901	8-759-288-53	IC LA5617	
C1558	1-126-933-11	ELECT	100uF 20% 10V	IC902	8-759-604-86	IC M5F7807L	
		< CONNECTOR >		IC903	8-759-231-53	IC TA7805S	
CN101	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P		IC904	8-759-231-58	IC TA7812S	
* CN102	1-568-836-11	SOCKET, CONNECTOR 17P		IC1501	8-759-363-21	IC HA12203NT	
CN105	1-564-506-11	PLUG, CONNECTOR 3P		IC1502	8-759-822-09	IC LB1641	
* CN201	1-568-832-11	SOCKET, CONNECTOR 13P (E2)				< COIL >	
* CN201	1-568-834-11	SOCKET, CONNECTOR 15P (EXCEPT E2)		L301	1-410-509-11	INDUCTOR 10uH	
* CN202	1-568-862-11	SOCKET, CONNECTOR 19P		L392	1-410-521-11	INDUCTOR 100uH	
* CN203	1-568-946-11	PIN, CONNECTOR 8P		L393	1-410-515-11	INDUCTOR 33uH	
* CN204	1-568-947-11	PIN, CONNECTOR 9P				< JACK >	
CN205	1-568-838-11	SOCKET, CONNECTOR 21P		PJ101	1-695-188-31	JACK, PIN 4P (VIDEO/MD)	
* CN206	1-568-830-11	SOCKET, CONNECTOR 11P				< TRANSISTOR >	
* CN207	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P		Q101	8-729-141-30	TRANSISTOR 2SC3623A-LK	
		< DIODE >		Q102	8-729-900-63	TRANSISTOR DTA124ES	
D141	8-719-987-63	DIODE 1N4148M		Q103	8-729-900-36	TRANSISTOR DTC124ES	
D142	8-719-987-63	DIODE 1N4148M		Q141	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D191	8-719-987-63	DIODE 1N4148M		Q143	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D192	8-719-987-63	DIODE 1N4148M		Q144	8-729-119-78	TRANSISTOR 2SC403SP-51	
D193	8-719-987-63	DIODE 1N4148M		Q151	8-729-141-30	TRANSISTOR 2SC3623A-LK	
D194	8-719-987-63	DIODE 1N4148M		Q191	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D291	8-719-987-63	DIODE 1N4148M		Q192	8-729-111-29	TRANSISTOR 2SD1616A-K	
D301	8-719-024-99	DIODE 11ES2-NTA2B		Q202	8-729-119-78	TRANSISTOR 2SC403SP-51	
D302	8-719-024-99	DIODE 11ES2-NTA2B		Q203	8-729-119-78	TRANSISTOR 2SC403SP-51	
D303	8-719-987-63	DIODE 1N4148M		Q204	8-729-141-30	TRANSISTOR 2SC3623A-LK	
D304	8-719-987-63	DIODE 1N4148M		Q231	8-729-900-63	TRANSISTOR DTA124ES	
D305	8-719-987-63	DIODE 1N4148M		Q232	8-729-900-63	TRANSISTOR DTA124ES	
D306	8-719-987-63	DIODE 1N4148M		Q252	8-729-119-78	TRANSISTOR 2SC403SP-51	
D307	8-719-987-63	DIODE 1N4148M					
D902	8-719-024-99	DIODE 11ES2-NTA2B					
D903	8-719-024-99	DIODE 11ES2-NTA2B					
D904	8-719-024-99	DIODE 11ES2-NTA2B					
D905	8-719-024-99	DIODE 11ES2-NTA2B					
D906	8-719-024-99	DIODE 11ES2-NTA2B					
D907	8-719-024-99	DIODE 11ES2-NTA2B					

Ref. No.	Part No.	Description	Remarks				Ref. No.	Part No.	Description	Remarks			
Q253	8-729-119-78	TRANSISTOR	2SC403SP-51				R212	1-249-419-11	CARBON	1.5K	5%	1/4W	F
Q254	8-729-141-30	TRANSISTOR	2SC3623A-LK				R213	1-249-433-11	CARBON	22K	5%	1/4W	
Q281	8-729-900-36	TRANSISTOR	DTC124ES				R214	1-247-887-00	CARBON	220K	5%	1/4W	
Q282	8-729-900-63	TRANSISTOR	DTA124ES				R215	1-247-903-00	CARBON	1M	5%	1/4W	
Q283	8-729-900-36	TRANSISTOR	DTC124ES				R216	1-249-429-11	CARBON	10K	5%	1/4W	
Q301	8-729-119-78	TRANSISTOR	2SC403SP-51				R217	1-249-437-11	CARBON	47K	5%	1/4W	
Q901	8-729-040-20	TRANSISTOR	RT1P137L-TP				R220	1-249-425-11	CARBON	4.7K	5%	1/4W	F
Q902	8-729-900-36	TRANSISTOR	DTC124ES				R221	1-249-425-11	CARBON	4.7K	5%	1/4W	F
Q903	8-729-030-18	TRANSISTOR	2SD2525				R222	1-249-425-11	CARBON	4.7K	5%	1/4W	F
Q904	8-729-030-19	TRANSISTOR	2SB1640				R224	1-249-425-11	CARBON	4.7K	5%	1/4W	F
Q905	8-729-040-20	TRANSISTOR	RT1P137L-TP				R226	1-249-421-11	CARBON	2.2K	5%	1/4W	F
Q906	8-729-900-63	TRANSISTOR	DTA124ES				R227	1-249-441-11	CARBON	100K	5%	1/4W	
Q907	8-729-119-78	TRANSISTOR	2SC403SP-51				R228	1-249-429-11	CARBON	10K	5%	1/4W	
Q1531	8-729-801-93	TRANSISTOR	2SD1387				R231	1-249-437-11	CARBON	47K	5%	1/4W	
Q1532	8-729-900-80	TRANSISTOR	DTC114ES				R232	1-249-437-11	CARBON	47K	5%	1/4W	
Q1533	8-729-900-80	TRANSISTOR	DTC114ES				R234	1-247-886-11	CARBON	200K	5%	1/4W	
Q1534	8-729-119-77	TRANSISTOR	2SA1175-FEK				R235	1-249-421-11	CARBON	2.2K	5%	1/4W	F
Q1535	8-729-900-80	TRANSISTOR	DTC114ES				R236	1-249-441-11	CARBON	100K	5%	1/4W	
< RESISTOR >							R253	1-249-441-11	CARBON	100K	5%	1/4W	
R121	1-249-424-11	CARBON	3.9K	5%	1/4W	F	R257	1-249-431-11	CARBON	15K	5%	1/4W	
R122	1-247-887-00	CARBON	220K	5%	1/4W		R258	1-249-437-11	CARBON	47K	5%	1/4W	
R123	1-249-426-11	CARBON	5.6K	5%	1/4W		R259	1-249-441-11	CARBON	100K	5%	1/4W	
R124	1-249-429-11	CARBON	10K	5%	1/4W		R260	1-247-903-00	CARBON	1M	5%	1/4W	
R125	1-249-441-11	CARBON	100K	5%	1/4W		R262	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R126	1-249-417-11	CARBON	1K	5%	1/4W	F	R263	1-249-433-11	CARBON	22K	5%	1/4W	
R127	1-249-441-11	CARBON	100K	5%	1/4W		R264	1-247-887-00	CARBON	220K	5%	1/4W	
R133	1-260-091-11	CARBON	220	5%	1/2W		R265	1-247-903-00	CARBON	1M	5%	1/4W	
R134	1-260-091-11	CARBON	220	5%	1/2W		R266	1-249-429-11	CARBON	10K	5%	1/4W	
R140	1-249-429-11	CARBON	10K	5%	1/4W		R267	1-249-437-11	CARBON	47K	5%	1/4W	
R141	1-249-437-11	CARBON	47K	5%	1/4W		R271	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R142	1-249-429-11	CARBON	10K	5%	1/4W		R272	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R143	1-249-429-11	CARBON	10K	5%	1/4W		R276	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R144	1-249-437-11	CARBON	47K	5%	1/4W		R277	1-249-441-11	CARBON	100K	5%	1/4W	
△ R147	1-216-456-00	METAL OXIDE	820	5%	2W	F	R278	1-249-429-11	CARBON	10K	5%	1/4W	
△ R148	1-216-456-00	METAL OXIDE	820	5%	2W	F	R281	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R171	1-249-424-11	CARBON	3.9K	5%	1/4W	F	R282	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R172	1-247-887-00	CARBON	220K	5%	1/4W		R283	1-249-435-11	CARBON	33K	5%	1/4W	
R173	1-249-426-11	CARBON	5.6K	5%	1/4W		R284	1-249-397-11	CARBON	22	5%	1/4W	F
R174	1-249-429-11	CARBON	10K	5%	1/4W		R285	1-249-441-11	CARBON	100K	5%	1/4W	
R176	1-249-417-11	CARBON	1K	5%	1/4W	F	R286	1-249-429-11	CARBON	10K	5%	1/4W	
R177	1-249-441-11	CARBON	100K	5%	1/4W		R287	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R183	1-260-091-11	CARBON	220	5%	1/2W		R288	1-249-438-11	CARBON	56K	5%	1/4W	
R184	1-260-091-11	CARBON	220	5%	1/2W		R289	1-249-437-11	CARBON	47K	5%	1/4W	
R191	1-249-425-11	CARBON	4.7K	5%	1/4W	F	R290	1-249-438-11	CARBON	56K	5%	1/4W	
R192	1-249-441-11	CARBON	100K	5%	1/4W		R291	1-249-433-11	CARBON	22K	5%	1/4W	
R193	1-249-421-11	CARBON	2.2K	5%	1/4W	F	R292	1-249-433-11	CARBON	22K	5%	1/4W	
R194	1-249-437-11	CARBON	47K	5%	1/4W		R293	1-249-417-11	CARBON	1K	5%	1/4W	F
R195	1-249-437-11	CARBON	47K	5%	1/4W		R294	1-249-441-11	CARBON	100K	5%	1/4W	
R196	1-249-437-11	CARBON	47K	5%	1/4W		R295	1-247-903-00	CARBON	1M	5%	1/4W	
R197	1-249-437-11	CARBON	47K	5%	1/4W		R296	1-249-438-11	CARBON	56K	5%	1/4W	
R201	1-249-429-11	CARBON	10K	5%	1/4W		R301	1-249-413-11	CARBON	470	5%	1/4W	F
R202	1-249-433-11	CARBON	22K	5%	1/4W		R302	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R203	1-249-441-11	CARBON	100K	5%	1/4W		R303	1-249-437-11	CARBON	47K	5%	1/4W	
R205	1-249-433-11	CARBON	22K	5%	1/4W		R304	1-249-437-11	CARBON	47K	5%	1/4W	
R206	1-249-421-11	CARBON	2.2K	5%	1/4W	F	R305	1-249-429-11	CARBON	10K	5%	1/4W	
R207	1-249-431-11	CARBON	15K	5%	1/4W								
R208	1-249-437-11	CARBON	47K	5%	1/4W								
R209	1-249-441-11	CARBON	100K	5%	1/4W								
R210	1-247-903-00	CARBON	1M	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				Remarks	Ref. No.	Part No.	Description				Remarks
R313	1-247-807-31	CARBON	100	5%	1/4W		R915	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R316	1-249-429-11	CARBON	10K	5%	1/4W		R916	1-249-409-11	CARBON	220	5%	1/4W	F
R318	1-249-429-11	CARBON	10K	5%	1/4W		R917	1-249-409-11	CARBON	220	5%	1/4W	F
R319	1-249-429-11	CARBON	10K	5%	1/4W		R918	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R320	1-249-429-11	CARBON	10K	5%	1/4W		R920	1-249-417-11	CARBON	1K	5%	1/4W	F
R322	1-249-425-11	CARBON	4.7K	5%	1/4W	F	R921	1-247-895-00	CARBON	470K	5%	1/4W	
R323	1-247-807-31	CARBON	100	5%	1/4W		R951	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R325	1-249-427-11	CARBON	6.8K	5%	1/4W	F	R952	1-249-425-11	CARBON	4.7K	5%	1/4W	F
						(E2)	R1501	1-249-435-11	CARBON	33K	5%	1/4W	
R326	1-249-425-11	CARBON	4.7K	5%	1/4W	F	R1502	1-249-417-11	CARBON	1K	5%	1/4W	F
						(E2)							
R327	1-247-807-31	CARBON	100	5%	1/4W		R1503	1-249-426-11	CARBON	5.6K	5%	1/4W	
							R1504	1-247-840-00	CARBON	2.4K	5%	1/4W	
R328	1-247-807-31	CARBON	100	5%	1/4W		R1505	1-249-433-11	CARBON	22K	5%	1/4W	
R330	1-247-807-31	CARBON	100	5%	1/4W		R1506	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R331	1-247-807-31	CARBON	100	5%	1/4W		R1507	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R332	1-247-807-31	CARBON	100	5%	1/4W								
R333	1-247-807-31	CARBON	100	5%	1/4W		R1521	1-249-430-11	CARBON	12K	5%	1/4W	
							R1522	1-249-426-11	CARBON	5.6K	5%	1/4W	
R339	1-247-807-31	CARBON	100	5%	1/4W		R1524	1-249-429-11	CARBON	10K	5%	1/4W	
R340	1-247-807-31	CARBON	100	5%	1/4W		R1525	1-249-432-11	CARBON	18K	5%	1/4W	
R341	1-247-807-31	CARBON	100	5%	1/4W		R1526	1-249-429-11	CARBON	10K	5%	1/4W	
R342	1-247-807-31	CARBON	100	5%	1/4W								
R344	1-247-807-31	CARBON	100	5%	1/4W		R1527	1-249-429-11	CARBON	10K	5%	1/4W	
							R1531	1-247-843-11	CARBON	3.3K	5%	1/4W	
R345	1-247-807-31	CARBON	100	5%	1/4W		R1532	1-249-411-11	CARBON	330	5%	1/4W	
R347	1-247-807-31	CARBON	100	5%	1/4W		R1533	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R348	1-247-807-31	CARBON	100	5%	1/4W		R1534	1-249-429-11	CARBON	10K	5%	1/4W	
R349	1-247-807-31	CARBON	100	5%	1/4W								
R350	1-247-807-31	CARBON	100	5%	1/4W		R1535	1-249-425-11	CARBON	4.7K	5%	1/4W	F
							R1536	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R351	1-247-807-31	CARBON	100	5%	1/4W		R1541	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R352	1-247-807-31	CARBON	100	5%	1/4W		R1542	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R353	1-247-807-31	CARBON	100	5%	1/4W		R1543	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R354	1-247-807-31	CARBON	100	5%	1/4W								
R355	1-247-807-31	CARBON	100	5%	1/4W		R1544	1-249-417-11	CARBON	1K	5%	1/4W	F
							R1545	1-249-437-11	CARBON	47K	5%	1/4W	
R356	1-247-807-31	CARBON	100	5%	1/4W		R1546	1-249-437-11	CARBON	47K	5%	1/4W	
R357	1-247-807-31	CARBON	100	5%	1/4W		R1547	1-249-437-11	CARBON	47K	5%	1/4W	
R358	1-247-807-31	CARBON	100	5%	1/4W		R1548	1-249-437-11	CARBON	47K	5%	1/4W	
R359	1-247-807-31	CARBON	100	5%	1/4W								
R361	1-247-807-31	CARBON	100	5%	1/4W		R1551	1-249-433-11	CARBON	22K	5%	1/4W	
							R1552	1-249-417-11	CARBON	1K	5%	1/4W	F
R362	1-247-807-31	CARBON	100	5%	1/4W		R1553	1-249-426-11	CARBON	5.6K	5%	1/4W	
R363	1-247-807-31	CARBON	100	5%	1/4W		R1554	1-247-840-00	CARBON	2.4K	5%	1/4W	
R364	1-247-807-31	CARBON	100	5%	1/4W		R1555	1-249-433-11	CARBON	22K	5%	1/4W	
R366	1-247-807-31	CARBON	100	5%	1/4W								
R367	1-249-429-11	CARBON	10K	5%	1/4W		R1556	1-249-421-11	CARBON	2.2K	5%	1/4W	F
							R1557	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R368	1-247-843-11	CARBON	3.3K	5%	1/4W		< VARIABLE RESISTOR >						
R370	1-249-429-11	CARBON	10K	5%	1/4W								
R371	1-249-429-11	CARBON	10K	5%	1/4W								
R372	1-249-429-11	CARBON	10K	5%	1/4W		RV1501	1-238-598-11	RES, ADJ, CARBON 2.2K				
R373	1-249-429-11	CARBON	10K	5%	1/4W		RV1551	1-238-598-11	RES, ADJ, CARBON 2.2K				
R374	1-249-393-11	CARBON	10	5%	1/4W	F	< RELAY >						
R381	1-247-807-31	CARBON	100	5%	1/4W								
R384	1-249-429-11	CARBON	10K	5%	1/4W		RY141	1-515-920-11	RELAY (24V)				
R395	1-247-807-31	CARBON	100	5%	1/4W		RY142	1-515-920-11	RELAY (24V)				
R396	1-249-435-11	CARBON	33K	5%	1/4W		< TERMINAL >						
R397	1-247-807-31	CARBON	100	5%	1/4W								
R398	1-249-435-11	CARBON	33K	5%	1/4W		TM131	1-537-240-31	TERMINAL BOARD (CHECKER PIN) (SPEAKER)				
R417	1-249-441-11	CARBON	100K	5%	1/4W		< VIBRATOR >						
R913	1-249-409-11	CARBON	220	5%	1/4W	F							
R914	1-249-417-11	CARBON	1K	5%	1/4W	F	X301	1-760-489-11	VIBRATOR, CERAMIC (5MHz)				
							X302	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)				
*****													

## POWER (L)

## POWER (R)

Ref. No.	Part No.	Description	Remarks			
*	A-4403-329-A	POWER (L) BOARD, COMPLETE *****				
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S				
		< CAPACITOR >				
C1801	1-126-963-11	ELECT	4.7uF	20%	50V	
C1802	1-162-286-31	CERAMIC	220PF	10%	50V	
C1803	1-162-282-31	CERAMIC	100PF	10%	50V	
C1804	1-126-967-11	ELECT	47uF	20%	10V	
C1806	1-126-967-11	ELECT	47uF	20%	50V	
C1807	1-126-965-11	ELECT	22uF	20%	50V	
C1809	1-126-965-11	ELECT	22uF	20%	50V	
C1810	1-164-159-11	CERAMIC	0.1uF		50V	
C1811	1-130-493-00	MYLAR	0.068uF	5%	50V	
C1812	1-130-493-00	MYLAR	0.068uF	5%	50V	
C1814	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C1841	1-126-925-11	ELECT	470uF	20%	10V	
C1851	1-126-963-11	ELECT	4.7uF	20%	50V	
C1852	1-162-286-31	CERAMIC	220PF	10%	50V	
C1853	1-162-282-31	CERAMIC	100PF	10%	50V	
C1854	1-126-967-11	ELECT	47uF	20%	10V	
C1856	1-126-967-11	ELECT	47uF	20%	50V	
C1857	1-126-965-11	ELECT	22uF	20%	50V	
C1861	1-130-493-00	MYLAR	0.068uF	5%	50V	
C1862	1-130-493-00	MYLAR	0.068uF	5%	50V	
C2001	1-117-691-11	ELECT	8200uF	20%	50V	
C2002	1-117-691-11	ELECT	8200uF	20%	50V	
C2003	1-136-165-00	FILM	0.1uF	5%	50V	
C2004	1-136-165-00	FILM	0.1uF	5%	50V	
C2005	1-126-963-11	ELECT	4.7uF	20%	50V	
		< CONNECTOR >				
CN1801	1-778-981-11	CONNECTOR, BOARD TO BOARD 13P				
* CN1803	1-564-508-11	PLUG, CONNECTOR 5P				
CN1804	1-564-506-11	PLUG, CONNECTOR 3P				
CN1805	1-564-505-11	PLUG, CONNECTOR 2P				
		< DIODE >				
D1801	8-719-987-63	DIODE 1N4148M				
D1811	8-719-987-63	DIODE 1N4148M				
D1841	8-719-987-63	DIODE 1N4148M				
D1842	8-719-987-63	DIODE 1N4148M				
D1851	8-719-987-63	DIODE 1N4148M				
D2001	8-719-060-53	DIODE RBV-2506				
		< IC >				
IC1801	8-749-921-04	IC STK-4211MK-2				
		< TRANSISTOR >				
Q1801	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
Q1851	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
		< RESISTOR >				
R1801	1-249-417-11	CARBON	1K	5%	1/4W	F
R1802	1-249-438-11	CARBON	56K	5%	1/4W	
R1803	1-249-415-11	CARBON	680	5%	1/4W	F
R1804	1-249-438-11	CARBON	56K	5%	1/4W	
R1805	1-260-107-11	CARBON	4.7K	5%	1/2W	

Ref. No.	Part No.	Description	Remarks			
R1806	1-260-107-11	CARBON	4.7K	5%	1/2W	
△ R1807	1-212-881-11	FUSIBLE	100	5%	1/4W	F
△ R1808	1-217-156-00	WIREWOUND	0.22	10%	5W	F
R1809	1-260-076-11	CARBON	10	5%	1/2W	
R1811	1-249-417-11	CARBON	1K	5%	1/4W	F
R1812	1-249-431-11	CARBON	15K	5%	1/4W	
R1813	1-249-441-11	CARBON	100K	5%	1/4W	
R1814	1-260-105-11	CARBON	3.3K	5%	1/2W	
R1816	1-260-105-11	CARBON	3.3K	5%	1/2W	
△ R1820	1-202-972-61	FUSIBLE	1	5%	1/4W	F
R1841	1-249-429-11	CARBON	10K	5%	1/4W	
R1842	1-247-887-00	CARBON	220K	5%	1/4W	
R1843	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1844	1-249-429-11	CARBON	10K	5%	1/4W	
R1851	1-249-417-11	CARBON	1K	5%	1/4W	F
R1852	1-249-438-11	CARBON	56K	5%	1/4W	
R1853	1-249-415-11	CARBON	680	5%	1/4W	F
R1854	1-249-438-11	CARBON	56K	5%	1/4W	
R1855	1-260-107-11	CARBON	4.7K	5%	1/2W	
R1856	1-260-107-11	CARBON	4.7K	5%	1/2W	
△ R1857	1-212-881-11	FUSIBLE	100	5%	1/4W	F
△ R1858	1-217-156-00	WIREWOUND	0.22	10%	5W	F
R1859	1-260-076-11	CARBON	10	5%	1/2W	
R1861	1-249-417-11	CARBON	1K	5%	1/4W	F
R1862	1-249-431-11	CARBON	15K	5%	1/4W	
R1863	1-249-441-11	CARBON	100K	5%	1/4W	
R2001	1-249-438-11	CARBON	56K	5%	1/4W	
*****						
*	A-4403-334-A	POWER (R) BOARD, COMPLETE *****				
		< CAPACITOR >				
C1901	1-126-963-11	ELECT	4.7uF	20%	50V	
C1902	1-162-286-31	CERAMIC	220PF	10%	50V	
C1903	1-162-282-31	CERAMIC	100PF	10%	50V	
C1904	1-126-967-11	ELECT	47uF	20%	10V	
C1905	1-126-965-11	ELECT	22uF	20%	50V	
C1906	1-126-967-11	ELECT	47uF	20%	50V	
C1908	1-126-965-11	ELECT	22uF	20%	50V	
C1909	1-130-493-00	MYLAR	0.068uF	5%	50V	
C1910	1-130-493-00	MYLAR	0.068uF	5%	50V	
C1911	1-130-493-00	MYLAR	0.068uF	5%	50V	
C1912	1-130-493-00	MYLAR	0.068uF	5%	50V	
C1913	1-164-159-11	CERAMIC	0.1uF		50V	
C1914	1-162-282-31	CERAMIC	100PF	10%	50V	
C1915	1-126-963-11	ELECT	4.7uF	20%	50V	
C1916	1-126-967-11	ELECT	47uF	20%	50V	
C1917	1-162-286-31	CERAMIC	220PF	10%	50V	
C1918	1-126-925-11	ELECT	470uF	20%	10V	
C1919	1-126-965-11	ELECT	22uF	20%	50V	
C1921	1-126-967-11	ELECT	47uF	20%	10V	
C1934	1-126-963-11	ELECT	4.7uF	20%	50V	
		< DIODE >				
D1901	8-719-987-63	DIODE 1N4148M				
D1902	8-719-987-63	DIODE 1N4148M				
D1903	8-719-987-63	DIODE 1N4148M				
D1904	8-719-987-63	DIODE 1N4148M				
D1905	8-719-987-63	DIODE 1N4148M				

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



## POWER (R)

## TRANSFORMER

## TRANSFORMER SW

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< IC >				< RESISTOR >			
IC1901	8-749-921-04	IC STK-4211MK-2		△ R901	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	
< TRANSISTOR >				△ R902	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	
Q1901	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		△ R903	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	
Q1902	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		△ R904	1-219-120-11	FUSIBLE 0.15 5% 1/4W F	
Q1903	8-729-119-78	TRANSISTOR 2SC403SP-51		< TRANSFORMER >			
Q1904	8-729-900-36	TRANSISTOR DTC124ES		△ T901	1-431-504-11	TRANSFORMER,POWER (E,EA)	
< RESISTOR >				△ T901	1-431-619-11	TRANSFORMER,POWER (SP,MY,TH,AR)	
R1901	1-249-417-11	CARBON 1K 5% 1/4W F		< FUSE >			
R1902	1-249-438-11	CARBON 56K 5% 1/4W		△ F901	1-532-506-31	FUSE,TIME LAG (6.3A,250V)	
R1903	1-249-438-11	CARBON 56K 5% 1/4W		△ F903	1-533-919-11	FUSE,TIME LAG (12A,250V)	
R1904	1-249-415-11	CARBON 680 5% 1/4W F		△ F905	1-533-919-11	FUSE,TIME LAG (12A,250V)	
△ R1905	1-212-881-11	FUSIBLE 100 5% 1/4W F		*****			
R1906	1-260-107-11	CARBON 4.7K 5% 1/2W		*	1-667-247-12	TRANSFORMER SW BOARD	
R1907	1-260-107-11	CARBON 4.7K 5% 1/2W		*****			
△ R1908	1-212-881-11	FUSIBLE 100 5% 1/4W F		< CONNECTOR >			
R1909	1-260-105-11	CARBON 3.3K 5% 1/2W		* CN2905	1-564-687-11	PIN, CONNECTOR 3P (E,EA)	
R1910	1-260-105-11	CARBON 3.3K 5% 1/2W		* CN2905	1-568-106-11	PIN, CONNECTOR 4P (SP,MY,TH,AR)	
R1911	1-247-887-00	CARBON 220K 5% 1/4W		< SWITCH >			
R1912	1-249-429-11	CARBON 10K 5% 1/4W		△ S901	1-571-309-11	SWITCH (VOLTAGE SELECTOR) (E,EA)	
R1913	1-249-429-11	CARBON 10K 5% 1/4W		△ S901	1-692-328-11	SWITCH (VOLTAGE SELECTOR) (SP,MY,TH,AR)	
R1914	1-249-421-11	CARBON 2.2K 5% 1/4W F		*****			
R1915	1-249-441-11	CARBON 100K 5% 1/4W		MISCELLANEOUS			
R1916	1-249-417-11	CARBON 1K 5% 1/4W F		*****			
R1917	1-249-431-11	CARBON 15K 5% 1/4W		14	1-773-160-11	WIRE (FLAT TYPE) (21 CORE)	
R1918	1-249-431-11	CARBON 15K 5% 1/4W		15	1-769-947-11	WIRE (FLAT TYPE) (11 CORE)	
R1919	1-249-417-11	CARBON 1K 5% 1/4W F		64	1-777-869-11	WIRE (FLAT TYPE) (10 CORE)	
R1920	1-260-076-11	CARBON 10 5% 1/2W		65	1-777-936-11	WIRE (FLAT TYPE) (5 CORE)	
R1921	1-260-076-11	CARBON 10 5% 1/2W		66	1-773-051-11	WIRE (FLAT TYPE) (17 CORE)	
R1922	1-249-438-11	CARBON 56K 5% 1/4W		74	1-769-909-11	WIRE (FLAT TYPE) (9 CORE)	
R1923	1-249-415-11	CARBON 680 5% 1/4W F		104	1-777-870-11	WIRE (FLAT TYPE) (19 CORE)	
R1924	1-249-438-11	CARBON 56K 5% 1/4W		106	1-233-545-11	ENCAPSULATED COMPONENT (E2)	
R1925	1-249-417-11	CARBON 1K 5% 1/4W F		106	1-233-546-11	ENCAPSULATED COMPONENT (EXCEPT E2)	
R1926	1-260-107-11	CARBON 4.7K 5% 1/2W		108	1-751-086-11	WIRE (FLAT TYPE) (13 CORE) (E2)	
R1927	1-260-107-11	CARBON 4.7K 5% 1/2W		△ 115	1-575-653-11	CORD, POWER (E)	
△ R1928	1-202-972-61	FUSIBLE 1 5% 1/4W F		△ 116	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
R1929	1-249-441-11	CARBON 100K 5% 1/4W		△ 117	1-569-008-11	ADAPTOR, CONVERSION 2P (EA,SP,MY,TH,AR)	
R1930	1-249-441-11	CARBON 100K 5% 1/4W		△ 118	1-575-651-11	CORD, POWER (EA,SP,MY,TH,AR)	
R1931	1-249-441-11	CARBON 100K 5% 1/4W		M901	1-698-792-11	FAN, DC	
△ R1932	1-217-156-00	WIREWOUND 0.22 10% 5W F		*****			
△ R1933	1-217-156-00	WIREWOUND 0.22 10% 5W F		*****			
R1934	1-249-438-11	CARBON 56K 5% 1/4W		*****			
R1935	1-249-441-11	CARBON 100K 5% 1/4W		*****			
< THERMISTOR >				*****			
TH1901	1-807-796-11	THERMISTOR		*****			
*****				*****			
*	1-667-126-12	TRANSFORMER BOARD		*****			
< CONNECTOR >				*****			
CN901	1-564-321-00	PIN, CONNECTOR 2P		#1	7-685-871-01	SCREW +BVTT 3X6 (S)	
* CN2901	1-564-522-11	PLUG, CONNECTOR 7P		#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
* CN2902	1-564-518-11	PLUG, CONNECTOR 3P		#3	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
				#4	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
				#5	7-685-872-09	SCREW +BVTT 3X8 (S)	

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