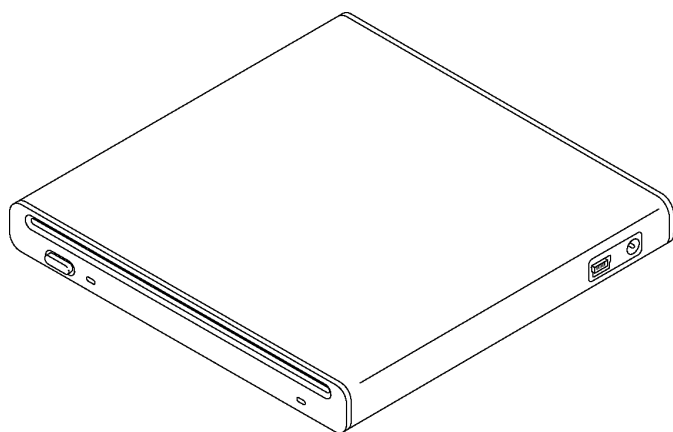


Service Manual

DVD Burner



VW-BN1PP
VW-BN1E
VW-BN1GK

Colour

(S).....Silver Type

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

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CONTENTS

	Page		Page
1 Safety Precaution	3	8 Measurements and Adjustments	12
1.1. General Guidelines	3	8.1. Service Positions	12
2 Warning	4	9 Block Diagrams	13
2.1. Prevention of Electrostatic Discharge (ESD) to		9.1. OVERALL BLOCK DIAGRAM	13
Electrostatic Sensitive (ES) Devices	4	10 Schematic Diagrams	15
2.2. Precaution of Laser Diode	5	10.1. MAIN SCHEMATIC DIAGRAM	15
2.3. Service caution based on legal restrictions	6	10.2. SUB SCHEMATIC DIAGRAM	16
3 Service Navigation	7	11 Printed Circuit Board	17
3.1. Service Information	7	11.1. MAIN P.C.B.	17
4 Specifications	8	11.2. SUB P.C.B.	19
5 Location of Controls and Components	9	12 Appendix Information of Schematic Diagram	21
6 Service Fixture & Tools	10	12.1. Voltage Chart	21
6.1. Service Tools and Equipment	10	13 Parts and Exploded Views	22
7 Disassembly and Assembly Instructions	11	13.1. Exploded Views	22
7.1. Disassembly Flow Chart	11	13.2. Replacement Parts List	24
7.2. Disassembly Procedures	11		

1 Safety Precaution

1.1. General Guidelines

1. IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

2 Warning

2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatic Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION:

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2.2. Precaution of Laser Diode

CAUTION:

This product utilizes a laser diode with the unit turned “on”, invisible laser radiation is emitted from the pickup lens.

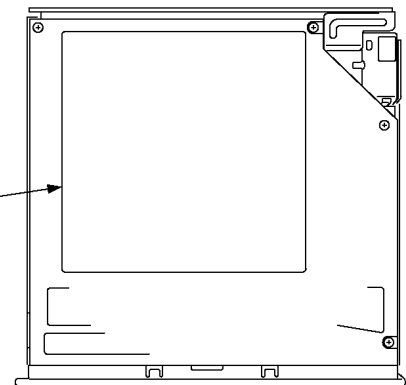
Wave length: 662 nm (DVDs)/780 nm (CDs)

Maximum output radiation power from pickup: 100 μ W/VDE

Laser radiation from the pickup lens is safety level, but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

CLASS 1 LASER PRODUCT	LASER KLASSE 1	LUOKAN 1 LASERLAITE	EN60825-1
KLASS 1 LASER APPARAT	APPAREIL À LASER DE CLASSE 1	1 类激光产品	
CAUTION - CLASS 2M LASER RADIATION WHEN OPEN. DO NOT STARE INTO THE BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. ATTENTION - RAYONNEMENT LASER. CLASSE 2M. EN CAS D'OUVERTURE, NE PAS REGARDER DANS LE FAISCEAU NI DIRECTEMENT À L'AIDE D'INSTRUMENTS D'OPTIQUE. VORSICHT - LASERSTRAHLUNG KLASSE 2M. WENN ABDECKUNG GEÖFFNET, NICHT IN DEN STRAHL BLICKEN ODER DIREKT MIT OPTISCHEN INSTRUMENTEN BETRACHTEN. ADVARSEL - KLASSE 2M LASERSTRÅLING VED ÅBNING. SE IKKE IND I STRÅLEN. HELLER IKKE MED OPTISKE INSTRUMENTER. ADVARSEL - KLASSE 2M LASERSTRÅLING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN ELLER SE DIREKTE MED OPTISKE INSTRUMENTER. VARNING - LASERSTRÅLNING KLASSE 2M VID ÖPPEN LUCKA. STIRRA INTE IN I STRÅLEN VARKEN DIREKT ELLER GENOM OPTIK. VARO - AVATTAESSA OLET ALTTIIN LUOKAN 2M LASERSATEILYLLÄ. ÄLÄ TUJOTA SATEESEEN TAI KATSO OPTISELLÄ LAITTEELLA SUORAAN SATEESEEN. 注意 - 打开时有激光辐射。避免光束照射。			
CAUTION - CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. ATTENTION - RAYONNEMENT LASER INVISIBLE. CLASSE 3B. EN CAS D'OUVERTURE, EVITER UNE EXPOSITION AU FAISCEAU. VORSICHT - UNSICHTBARE LASERSTRAHLUNG KLASSE 3B. WENN ABDECKUNG GEÖFFNET, NICHT DEM STRAHL AUSSETZEN. ADVARSEL - KLASSE 3B USYNLIG LASERSTRÅLING VED ÅBNING. UNNGÅ UDSÆTTELSE FOR STRÅLING. ADVARSEL - KLASSE 3B USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN. VARNING - OSYNLIG LASERSTRÅLNING KLASSE 3B VID ÖPPEN LUCKA. UNDVIK EXPONERING FÖR LASERSTRÅLNINGEN. VARO - AVATTAESSA OLET ALTTIIN LUOKAN 3B NÄKYMÄTÖNTÄ LASERSATEILYÄ. VÄRÖ ALTISTUMISTA SATEELLE. 注意 - 打开时有不可见激光辐射。避免光束照射。			
CAUTION - Laser radiation when open. DO NOT STARE INTO BEAM.			FDA 21 CFR / Class II
DANGER - Invisible Laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.			FDA 21 CFR / Class IIIb



CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

2.3. Service caution based on legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF
---	-----

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.
(Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
RFKZ03D01K----- (0.3mm 100g Reel)
RFKZ06D01K----- (0.6mm 100g Reel)
RFKZ10D01K----- (1.0mm 100g Reel)

Note

- * Ingredient: tin (Sn), 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

3 Service Navigation

3.1. Service Information

This service manual contains technical information which will allow service personnel's to understand and service this model.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

4 Specifications

Power source:	DC 5.0 V
Power consumption:	7.5 W (When writing to a disc)

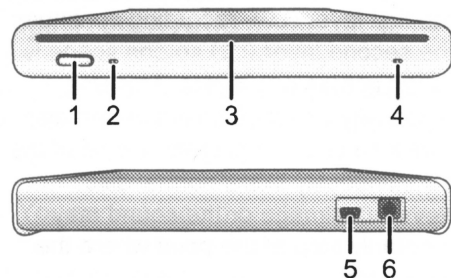
Compatible media	12 cm (5") DVD-RAM Ver.2.1 12 cm (5") DVD-RW Ver.1.1/2X-SPEED (2X/1X) 12 cm (5") DVD-R for General Ver.2.0 12 cm (5") DVD-R for DL Ver.3.0 12 cm (5") CD-R 12 cm (5") CD-RW	
Interface	Hi-Speed USB compliant (USB 2.0), USB terminal Type miniB	
Buffer capacity	2 MB	
Dimensions	139 mm (W)×16.8 mm (H)×138.1 mm (D) 5 5/16" (W) × 1/8" (H) × 5 7/16" (D) (excluding the projecting parts)	
Mass (Weight)	Approx. 390 g (0.86 lbs.) (DVD burner only)	
Operating temperature	5 °C to 35 °C (41 °F to 95 °F)	
Operating humidity	10% to 80%	
Data transfer rate	DVD-RAM: Maximum 3X-SPEED DVD-RW: Maximum 4X-SPEED DVD-R: Maximum 8X-SPEED	DVD-R DL: Maximum 4X-SPEED CD-R: Maximum 24X-SPEED CD-R: Maximum 16X-SPEED
Data reading rate	DVD-RAM: Maximum 3X-SPEED DVD-RW: Maximum 4X-SPEED DVD-R: Maximum 8X-SPEED	DVD-R DL: Maximum 6X-SPEED CD-R: Maximum 24X-SPEED CD-R: Maximum 24X-SPEED

AC adaptor: Information for your safety

Power source:	AC 110 V to 240 V, 50/60 Hz
Input capacitance:	0.22 A
DC output:	DC 5.0 V 1.6 A

5 Location of Controls and Components

◇ Parts identification and handling



- 1 Eject button [▲]
 - 2 Access lamp [ACCESS]
 - 3 Disc insertion slot
 - 4 Power lamp [POWER]
 - 5 USB terminal [↔]
 - 6 DC input terminal [DC/C.C.IN 5.0 V]
- Do not use any other AC adaptors except the supplied one.

6 Service Fixture & Tools

6.1. Service Tools and Equipment

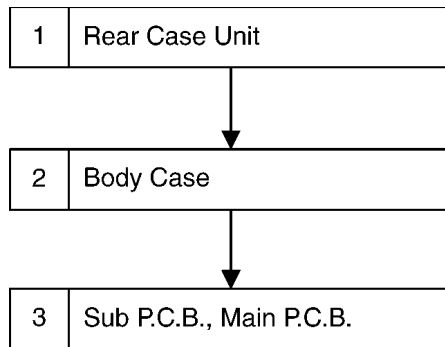
Parts Name	Parts No.	Q'ty	Remarks
Extension Cable (50pin)	RFKZ0444	1	B1 (Main) - B2 (Sub)

7 Disassembly and Assembly Instructions

7.1. Disassembly Flow Chart

This flow chart indicates the disassembly steps the cabinet parts, P.C.B. and Mecha. Unit in order to access to be serviced.

When reinstalling, perform the steps in the reverse order.



7.2. Disassembly Procedures

Flow-Chart for Disassembly Procedure

No.	Item / Parts	Fig.	Removal (Screw, Connector, Flex. & Other)
1	Rear Case Unit	Fig.D1	2-Screws (A) Rear Case Unit
2	Body Case	Fig.D2	4-Screws (B) Body Case
3	Sub P.C.B. and Main P.C.B.	Fig.D3	2-Connectors B2, B3 Sub P.C.B. 3-Screws (C) Main P.C.B.

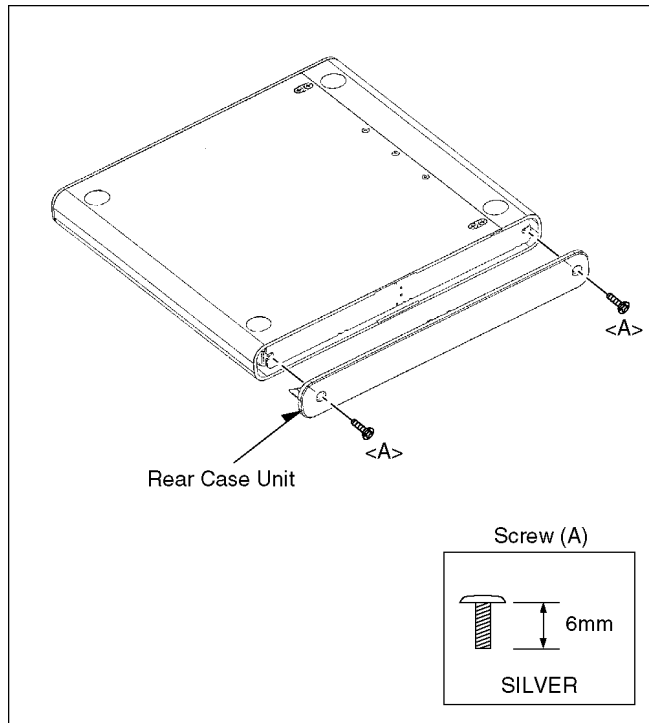


Fig. D1

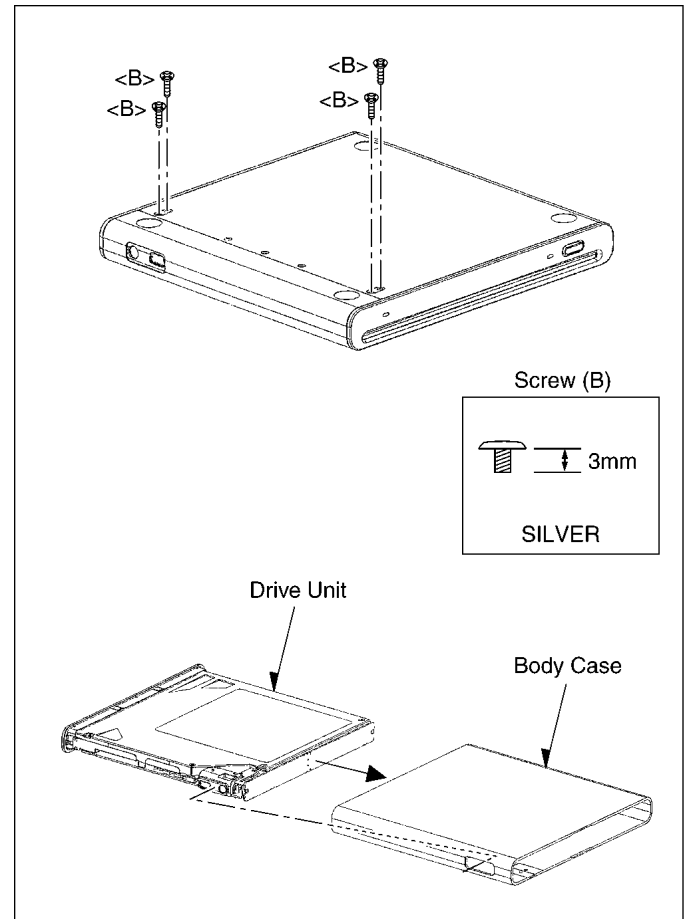


Fig. D2

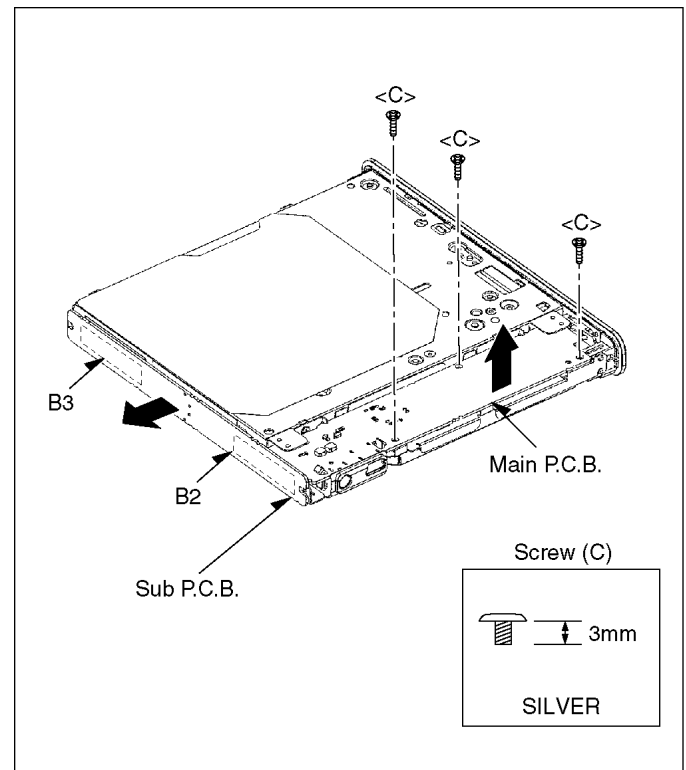


Fig. D3

8 Measurements and Adjustments

8.1. Service Positions

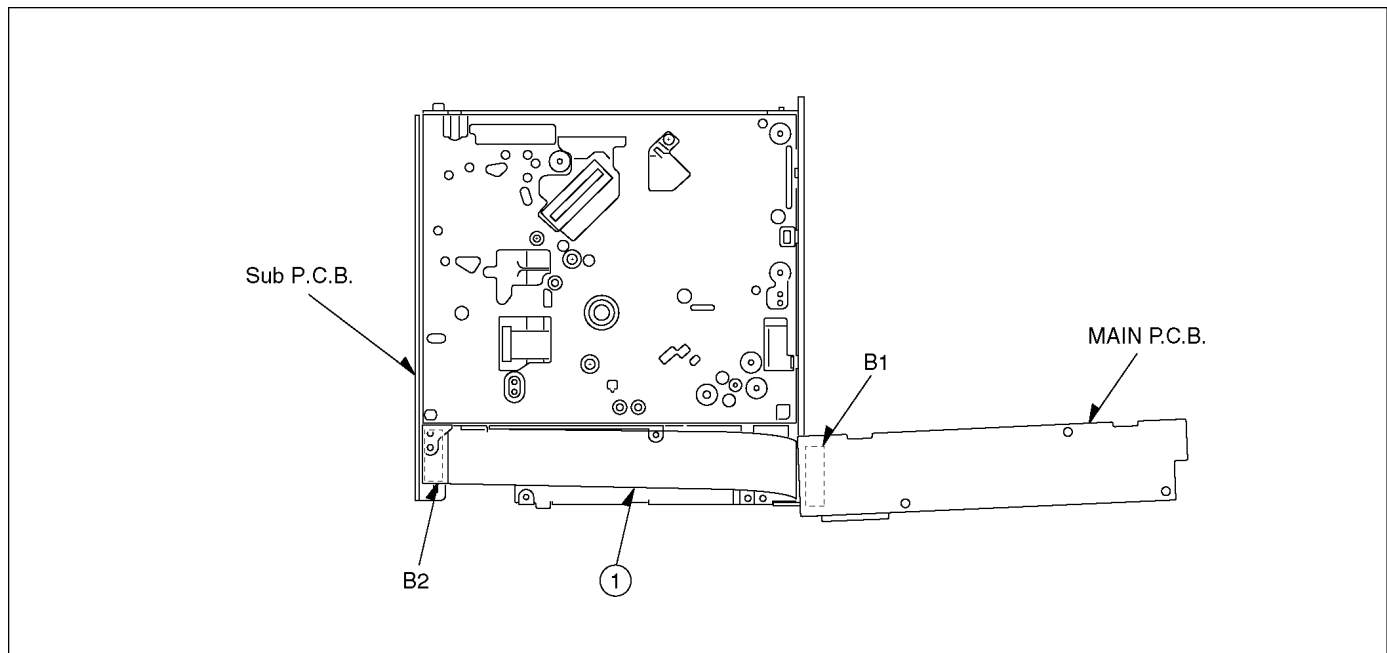
8.1.1. List of the extension cables

Use the following extension cables when checking individual circuit boards.

No.	Part No.	Pin	Part Name	Connection	Q'ty
1	RFKZ0444	50	Flat Cable	B1 (Main) ~ B2 (Sub)	1

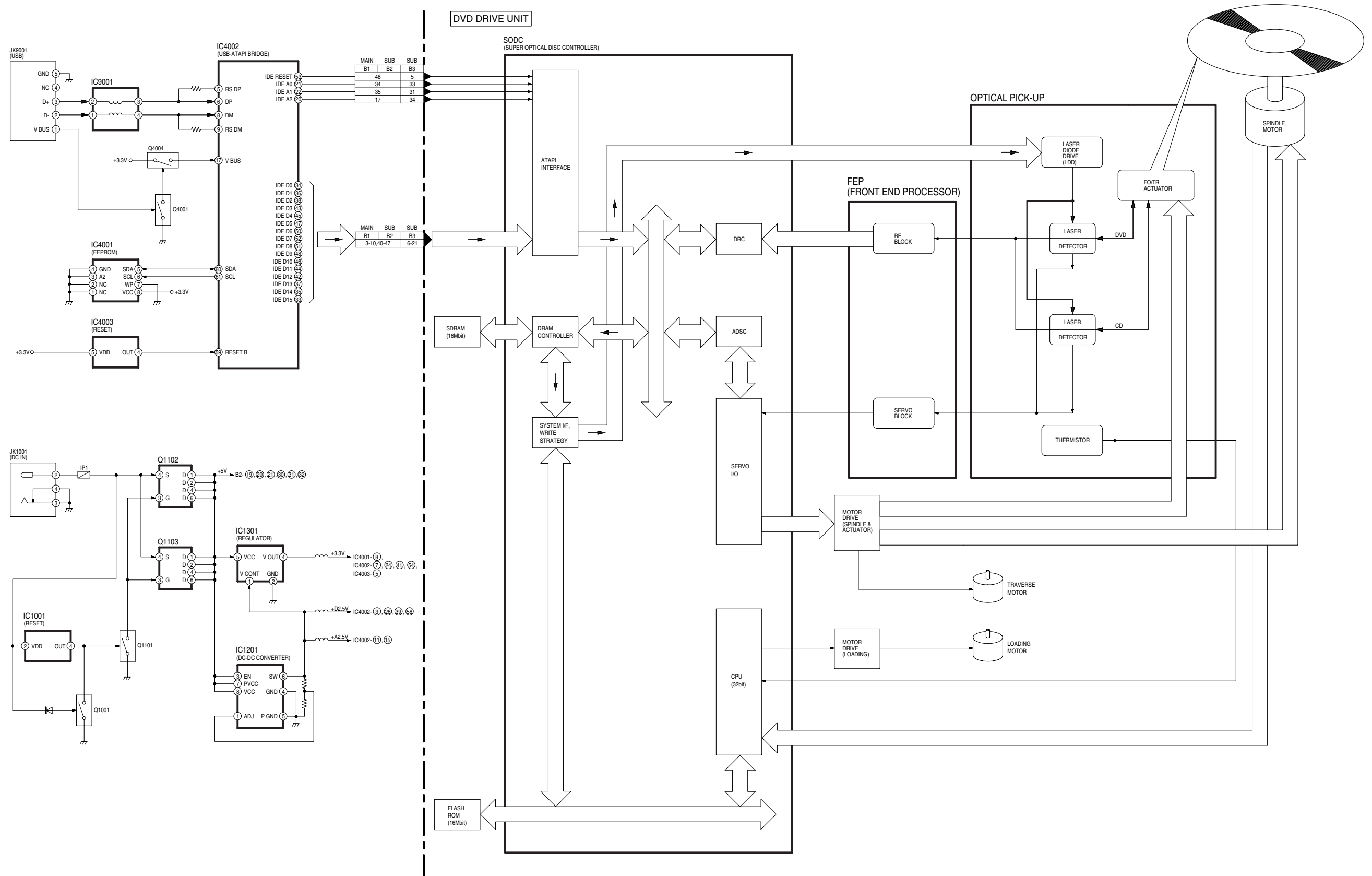
8.1.2. Checking and repairing individual circuit boards.

How to use extension cables.



9 Block Diagrams

9.1. OVERALL BLOCK DIAGRAM



VW-BN1PP/E/GK
OVERALL BLOCK DIAGRAM

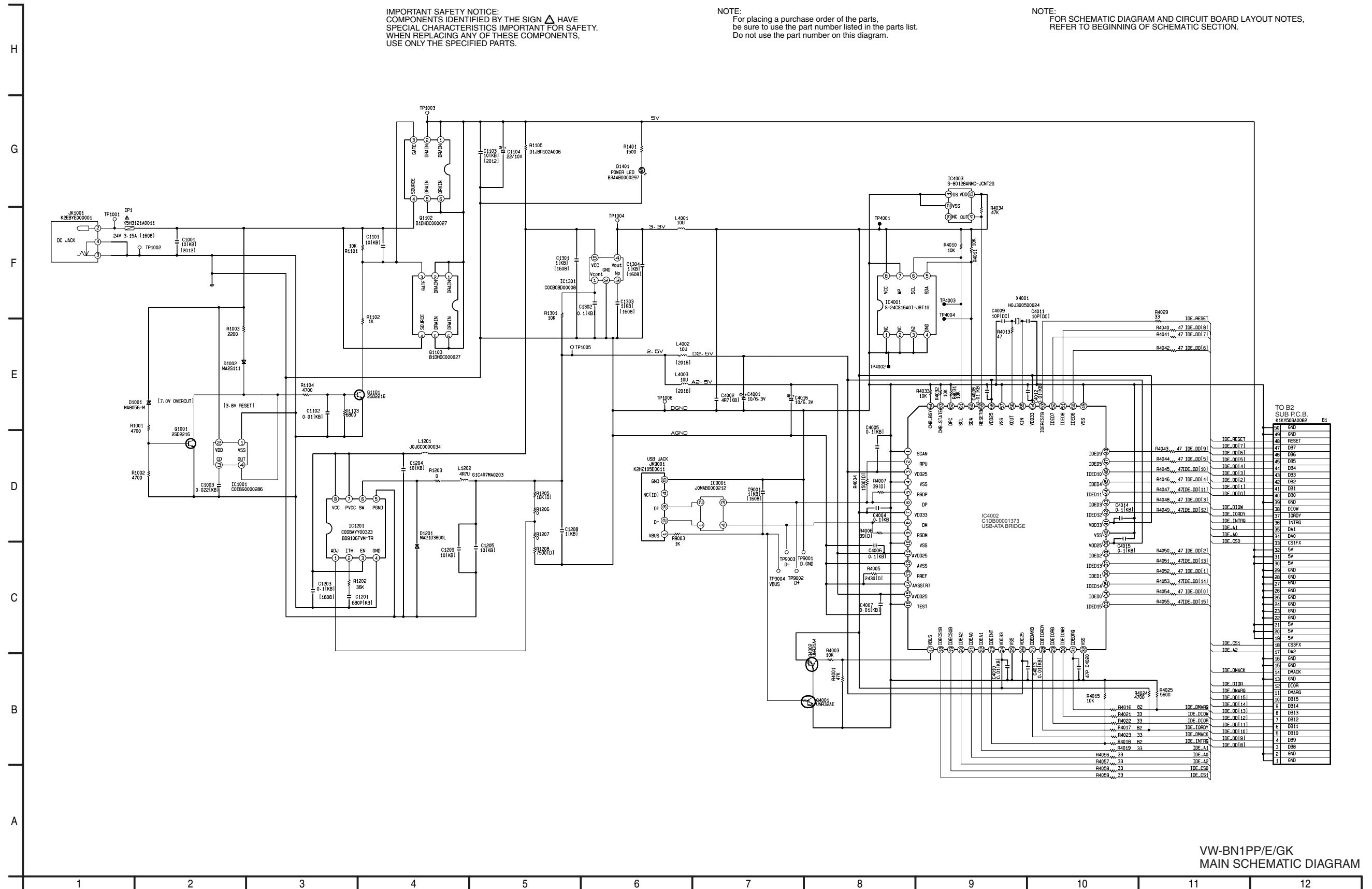
10 Schematic Diagrams

10.1. MAIN SCHEMATIC DIAGRAM

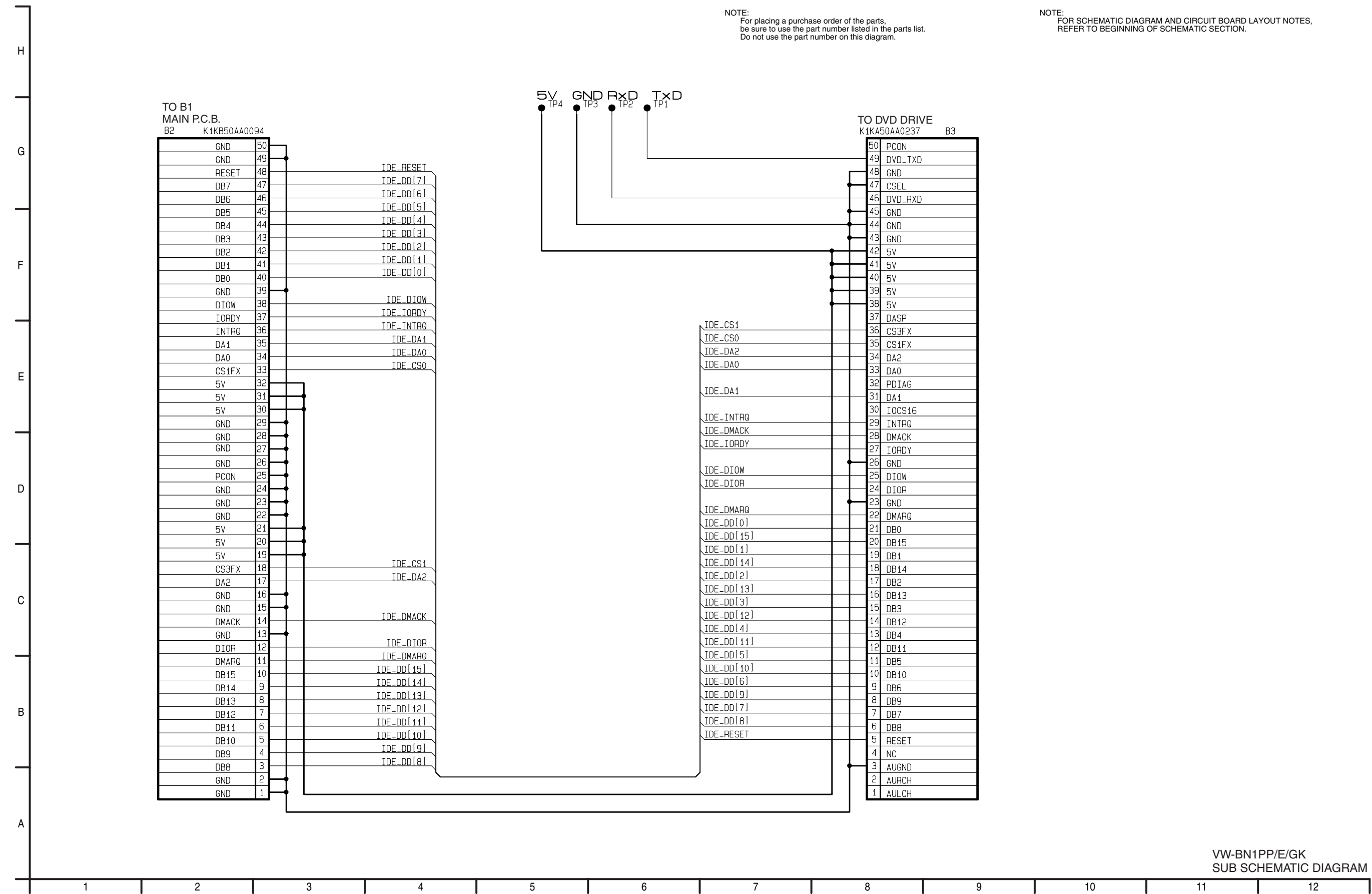
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

NOTE:
For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



10.2. SUB SCHEMATIC DIAGRAM



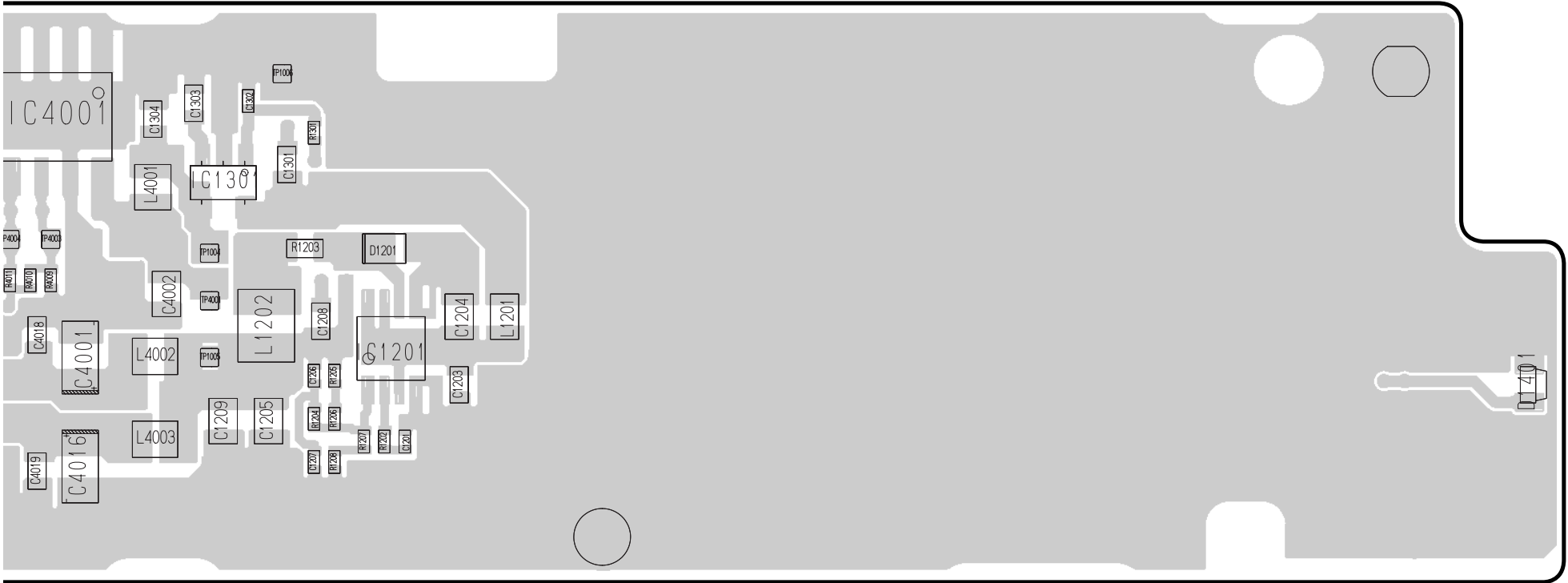
NOTE: MULTI-LAYER P.C.B.
THIS P.C.B. IS Multi-Layer P.C.B. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT-PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

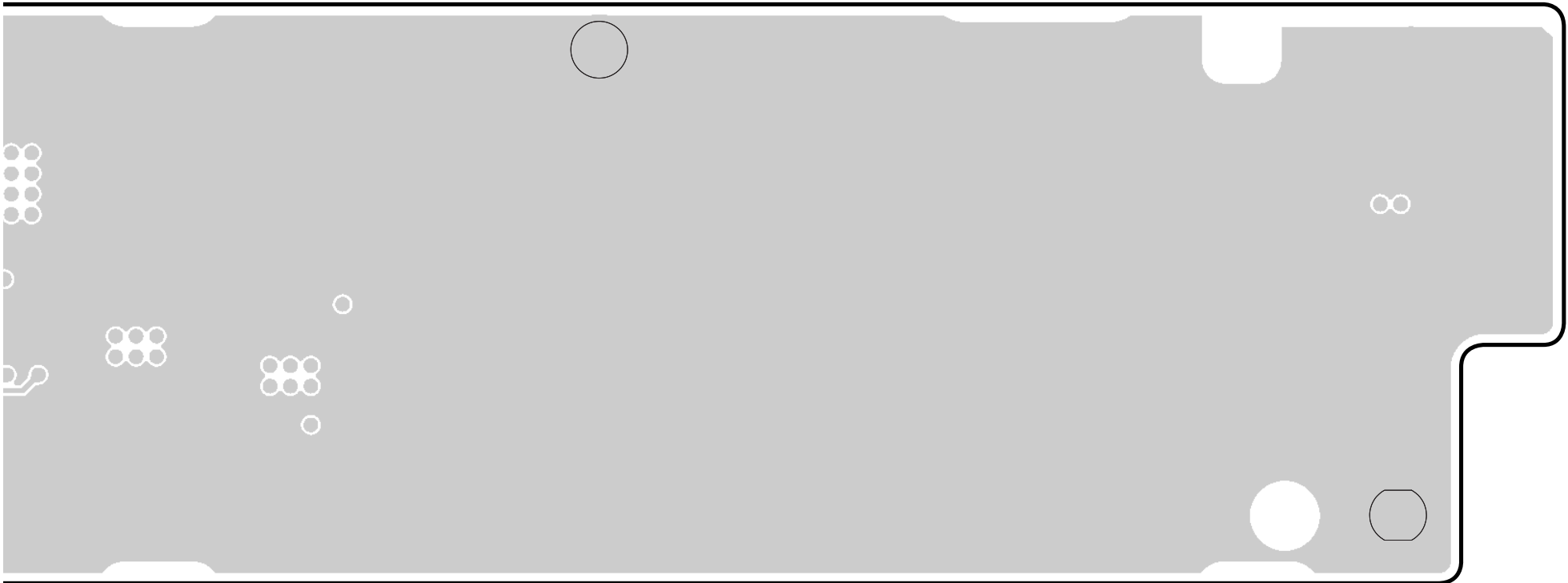
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS..

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.



(COMPONENT SIDE)



(FOIL SIDE)

VW-BN1PP/E/GK
MAIN P.C.B.

D

C

B

A

4

5

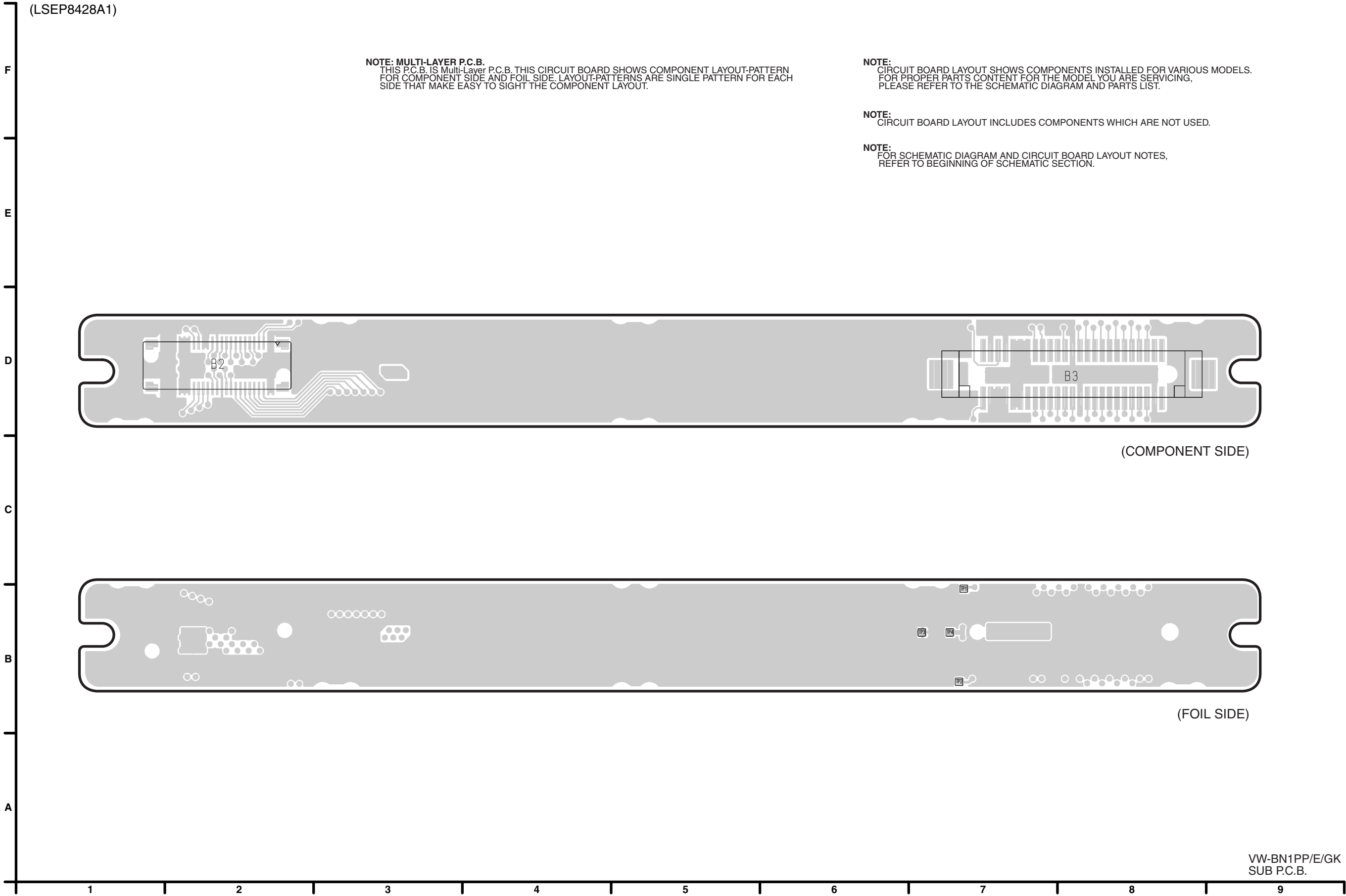
6

7

8

9

11.2. SUB P.C.B.



12 Appendix Information of Schematic Diagram

12.1. Voltage Chart

Note)

Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

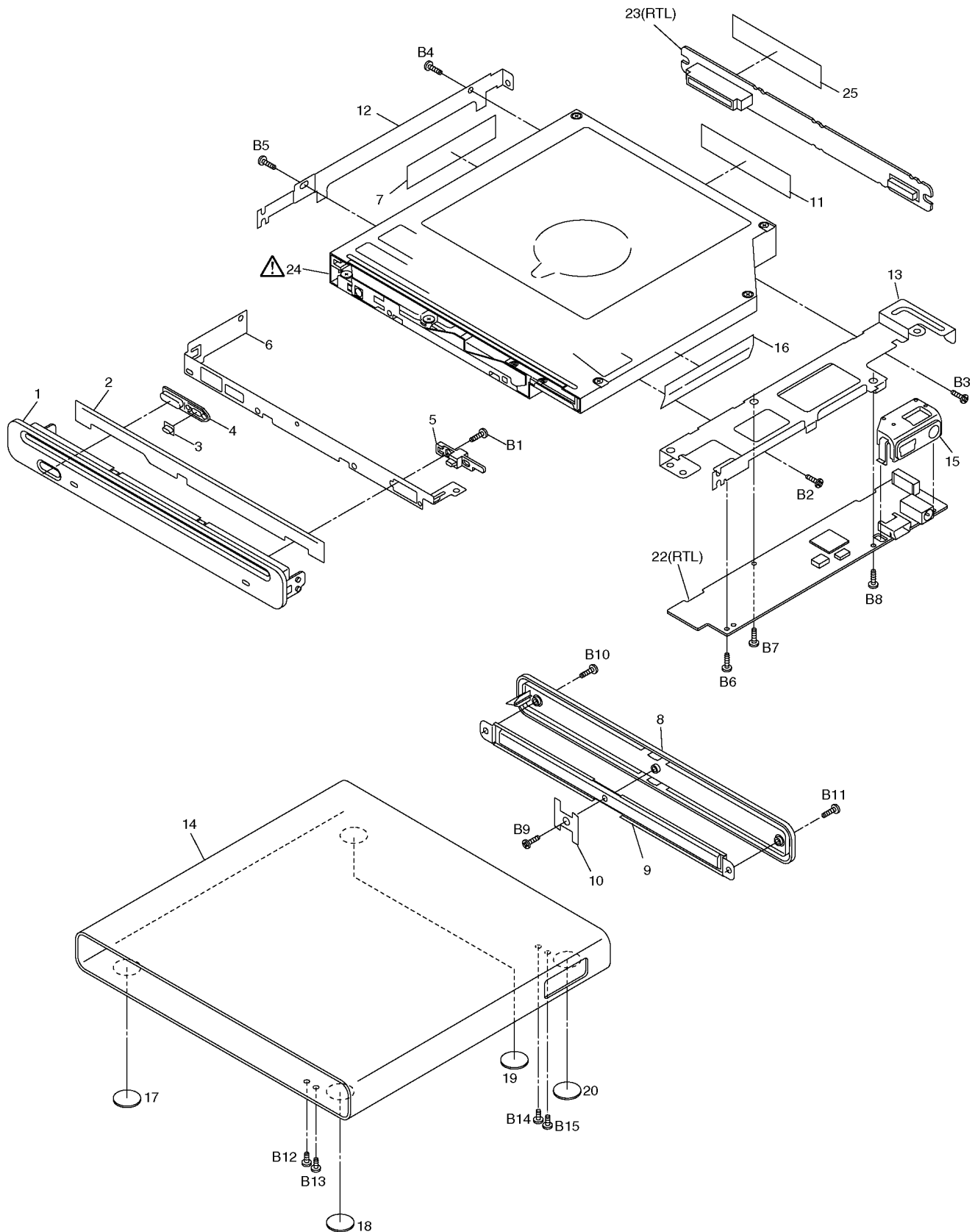
12.1.1. Main P.C.B.

Ref No.	IC1001					IC1201										IC1301					
MODE	1	2	3	4		1	2	3	4	5	6	7	8		1	2	3	4	5		
POWER:ON	0	5.3	0	3.4		0.8	0.2	5.3	0	0	2.5	5.3	5.3		2.4	0	1.3	3.3	5.3		
Ref No.	IC4001																				
MODE	1	2	3	4	5	6	7	8													
POWER:ON	0	0	0	0	3.3	3.3	0	3.3													
Ref No.	IC4002																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
POWER:ON	0	1.2	2.5	0	0.8	0.9	3.3	0.7	0	0	2.5	0	0	0	2.5	0	0	0.3	0.3	0.3	
Ref No.	IC4002																				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
POWER:ON	0.4	0.3	0	3.3	0	2.5	1.3	3.3	1.1	1.1	0	0	0	0	0	0	0	0	2.5	0	
Ref No.	IC4002																				
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
POWER:ON	3.3	0	0	0	0	0	0	0	0	0	0	0	0	5.3	-	-	0	2.4	3.3	0	
Ref No.	IC4002																				
MODE	61	62	63	64																	
POWER:ON	3.3	3.3	0	0																	
Ref No.	IC4003					IC9001															
MODE	1	2	3	4	5		1	2	3	4											
POWER:ON	0	0	0	3.3	3.3		1.4	1.4	1.4	1.4											
Ref No.	Q1001				Q1101				Q1102												
MODE	E	C	B		E	C	B		1	2	3	4	5	6							
POWER:ON	0	3.4	0		0	0	0.7		5.3	5.3	0.5	5.3	5.3	5.3							
Ref No.	Q1103						Q4001						Q4002								
MODE	1	2	3	4	5	6		E	C	B		E	C	B							
POWER:ON	5.3	5.3	0.5	5.3	5.3	5.3		0	3.3	0		3.3	0	3.3							

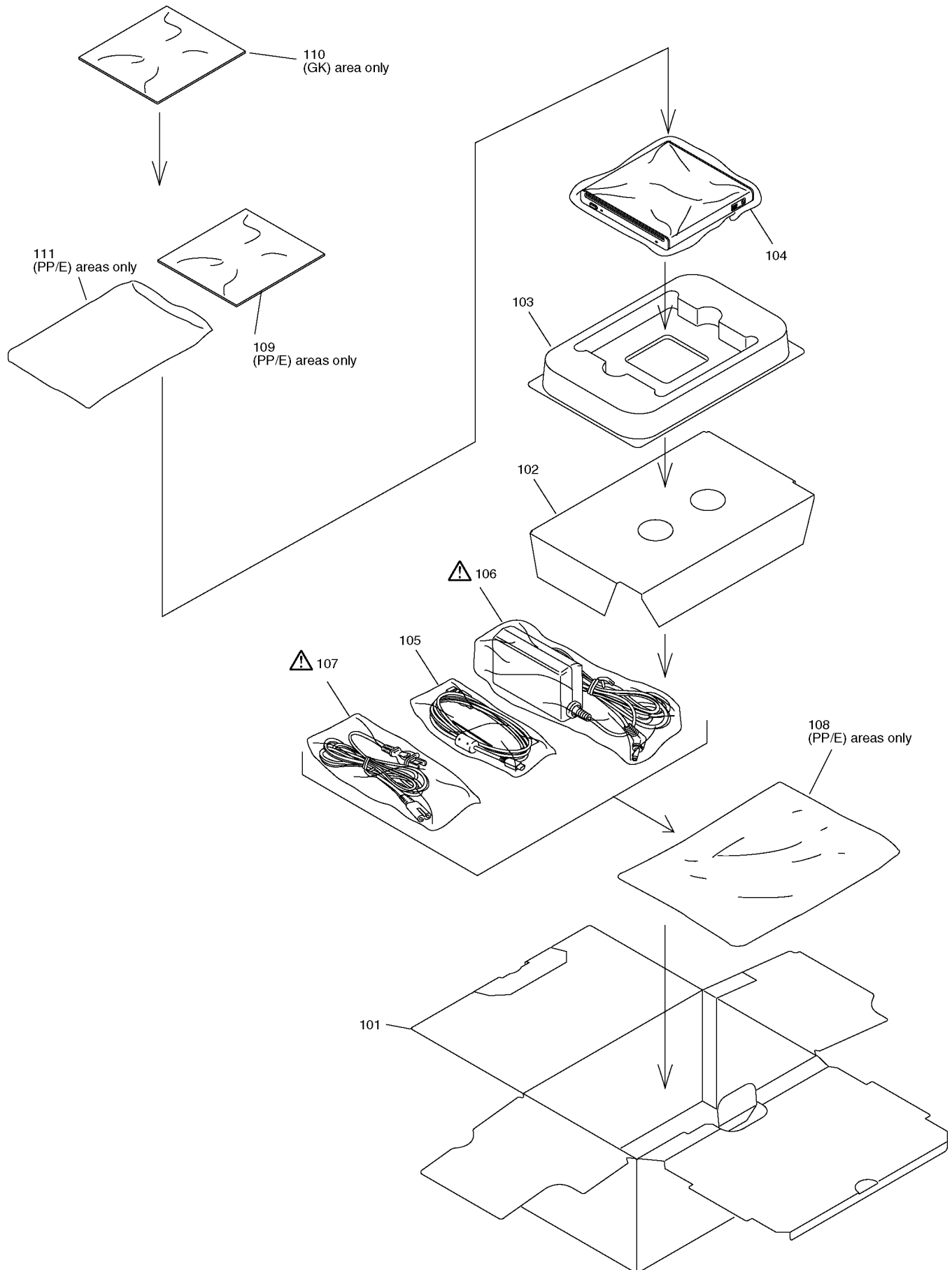
13 Parts and Exploded Views

13.1. Exploded Views

13.1.1. Frame & Casing Section



13.1.2. Packing & Accessories Section



13.2. Replacement Parts List

Notes:

*Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.

*Warning: This product uses a laser diode. Refer to caution statements.

*Capacity values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads (F).

*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).

*The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

*All parts are supplied by PAVC-CSG.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	LSEP8427A1	MAIN P.C.B.	1	(RTL)
	LSEP8428A1	SUB P.C.B.	1	(RTL)
	LSEP8427A1	MAIN P.C.B.		(RTL)
B1	K1KY50BA0082	CONNECTOR 50P	1	
C1001	F1J1A106A023	C.CAPACITOR CH 10V 10U	1	
C1003	ECJ0EB1C223K	C.CAPACITOR CH 16V 0.022U	1	
C1101	ECJ2FB0J106K	C.CAPACITOR CH 6.3V 10U	1	
C1102	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C1103	ECJ2FB0J106K	C.CAPACITOR CH 6.3V 10U	1	
C1104	F3G1A226A019	E.CAPACITOR CH 10V 22U	1	
C1201	ECJ0EB1H681K	C.CAPACITOR CH 50V 680P	1	
C1203	ECJ1VB1C104K	C.CAPACITOR CH 16V 0.1U	1	
C1204	ECJ2FB0J106K	C.CAPACITOR CH 6.3V 10U	1	
C1205	ECJ2FB0J106K	C.CAPACITOR CH 6.3V 10U	1	
C1208	F1H1A105A025	C.CAPACITOR CH 10V 1U	1	
C1209	ECJ2FB0J106K	C.CAPACITOR CH 6.3V 10U	1	
C1301	F1H1A105A025	C.CAPACITOR CH 10V 1U	1	
C1302	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C1303	F1H1A105A025	C.CAPACITOR CH 10V 1U	1	
C1304	F1H1A105A025	C.CAPACITOR CH 10V 1U	1	
C4001	F3F0J106A055	T.CAPACITOR CH 6.3V 10U	1	
C4002	ECJ2FB0J475K	C.CAPACITOR CH 6.3V 4.7U	1	
C4004	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C4005	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C4006	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4007	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C4008	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C4009	ECJ0EC1H080D	C.CAPACITOR CH 50V 8P	1	
C4010	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C4011	ECJ0EC1H080D	C.CAPACITOR CH 50V 8P	1	
C4012	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C4013	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C4014	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C4015	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C4016	ECST0JY106R	T.CAPACITOR CH 6.3V 10U	1	
C4020	ECJ0EC1H470J	C.CAPACITOR CH 50V 47P	1	
C9001	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
D1001	MAZ80560ML	DIODE	1	
D1002	MA2S111008	DIODE	1	
D1201	MA21D3800L	DIODE	1	
D1401	B3AAB0000297	LED	1	
IC1001	C0EBG0000286	IC	1	
IC1201	C0DBAYY00323	IC	1	
IC1301	C0CBBCD00008	IC	1	
IC4001	C3EBGC000055	IC	1	
IC4002	C1DB00001373	IC	1	
IC4003	C0EBE0000369	IC	1	
IC9001	J0MAB0000212	IC	1	
IP1	K5H3121A0011	IC PROTECTOR	1	
JK1001	K2EBYE000001	JACK	1	
JK9001	K2HZ105E0011	JACK	1	
L1201	J0JGC0000034	COIL	1	
L1202	G1C4R7MA0203	COIL 4.7UH	1	
L4001	G1C100K00020	CHIP INDUCTOR 10UH	1	
L4002	G1C100K00020	CHIP INDUCTOR 10UH	1	
L4003	G1C100K00020	CHIP INDUCTOR 10UH	1	
Q1001	2SD2216J08	TRANSISTOR	1	
Q1101	2SD2216J08	TRANSISTOR	1	
Q1102	B1DHDC000027	TRANSISTOR	1	
Q1103	B1DHDC000027	TRANSISTOR	1	
Q4001	UNR32AE00L	TRANSISTOR-RESISTOR	1	
Q4002	UNR31A400L	TRANSISTOR-RESISTOR	1	
R1001	D0GA472JA015	M.RESISTOR CH 1/16W 4.7K	1	
R1002	D0GA472JA015	M.RESISTOR CH 1/16W 4.7K	1	
R1003	ERJ2GEJ222X	M.RESISTOR CH 1/16W 2.2K	1	
R1101	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R1102	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R1103	ERJ2GEJ682X	M.RESISTOR CH 1/16W 6.8K	1	
R1104	D0GA472JA015	M.RESISTOR CH 1/16W 4.7K	1	
R1105	D1JBR102A006	RESISTOR 1/16W 1K	1	
R1202	ERJ2GEJ363X	RESISTOR 1/16W 36K	1	
R1203	D0GBR00Z0002	M.RESISTOR CH 1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R1205	ERJ2RHD163X	M.RESISTOR CH 1/16W 16K	1	
R1206	ERJ2GE0R00X	M.RESISTOR CH 1/16W 0	1	
R1207	ERJ2GE0R00X	M.RESISTOR CH 1/16W 0	1	
R1208	ERJ2RHD752X	M.RESISTOR CH 1/16W 7.5K	1	
R1301	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R1401	D0GB152JA041	M.RESISTOR CH 1/10W 1.5K	1	
R4001	D0GA473JA015	M.RESISTOR CH 1/16W 47K	1	
R4003	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R4004	ERJ2RHD152X	M.RESISTOR CH 1/16W 1.5K	1	
R4005	ERJ2RHD2431X	M.RESISTOR CH 1/16W 24K	1	
R4006	ERJ2RKD390X	M.RESISTOR CH 1/16W 39	1	
R4007	ERJ2RKD390X	M.RESISTOR CH 1/16W 39	1	
R4010	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R4011	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R4013	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4015	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R4016	ERJ2GEJ820X	M.RESISTOR CH 1/16W 82	1	
R4017	ERJ2GEJ820X	M.RESISTOR CH 1/16W 82	1	
R4018	ERJ2GEJ820X	M.RESISTOR CH 1/16W 82	1	
R4019	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R4021	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R4022	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R4023	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R4024	D0GA472JA015	M.RESISTOR CH 1/16W 4.7K	1	
R4025	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4029	D0GA330JA015	M.RESISTOR CH 1/16W 33	1	
R4031	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R4032	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R4033	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R4034	D0GA473JA015	M.RESISTOR CH 1/16W 47K	1	
R4040	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4041	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4042	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4043	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4044	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4045	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4046	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4047	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4048	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4049	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4050	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4051	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4052	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4053	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4054	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4055	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R4056	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R4057	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R4058	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R4059	ERJ2GEJ330X	M.RESISTOR CH 1/16W 33	1	
R9003	ERJ6GEYJ102V	M.RESISTOR CH 1/10W 1K	1	
X4001	H0J300500024	CRYSTAL OSCILLATOR	1	
	LSEP8428A1	SUB P.C.B.		(RTL)
B2	K1KB50AA0094	CONNECTOR 50P	1	
B3	K1KA50AA0237	CONNECTOR 50P	1	
1	LSKF0696	FRONT CASE	1	
2	LSMF0578	WINDOW FELT	1	
3	LSGL1520	ACCESS LED PANEL	1	
4	LSGU0741	EJECT BUTTON	1	
5	LSGL1521	POWER LED PANEL	1	
6	LSSC1002	FRONT SHIELD PLATE	1	
7	LSMZ0427	AL TAPE	1	
8	LSKF0699	REAR CASE	1	
9	LSML0377	REAR ANGLE	1	
10	LSMB0341	REAR SPRING PLATE	1	
11	LSMZ0427	AL TAPE	1	
12	LSML0375	DVD ANGLE L	1	
13	LSML0376	DVD ANGLE R	1	
14	LSKF0698	BODY CASE	1	
15	LSMD0875	JACK HOLDER	1	
16	LSMZ0427	AL TAPE	1	
17	LSKA0033	RUBBER FOOT	1	
18	LSKA0033	RUBBER FOOT	1	
19	LSKA0033	RUBBER FOOT	1	
20	LSKA0033	RUBBER FOOT	1	
22	LSEP8427A1	MAIN P.C.B.	1	(RTL)
23	LSEP8428A1	SUB P.C.B.	1	(RTL)
24	UJ-85J-CSU	DVD DRIVE U	1	△
25	LSMX0238	SUB PCB SHEET	1	
101	LSPG2560	PACKING CASE	1	(E)
101	LSPG2561	PACKING CASE	1	(GK)
101	LSPG2548	PACKING CASE	1	(PP)
102	LSPN0864	BOTTOM PAD	1	
103	LSPN0866	CUSHION	1	
104	VPF1129	POLY BAG	1	
105	K2K259B00002	USB CABLE	1	
106	VSK0692	AC ADAPTOR	1	(E,GK) △
106	VSK0691	AC ADAPTOR	1	(PP) △
107	K2CR2DA00004	AC CORD	1	(E) △
107	K2CT3CA00004	AC CORD	1	(E) △
107	K2CJ2DA00011	AC CORD	1	(E) △
107	K2CA2CA00020	AC CORD	1	(GK) △
107	K2CA2CA00029	AC CORD	1	(PP) △
108	LSPF0107	POLY BAG	1	(PP,E)
109	LSQT1269-A	O/I (EN/GE/FR/IT/SP/TK)	1	(E)
109	LSQT1282-A	O/I (SW/DA/HU/CZ/PO/PR)	1	(E)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
109	LSQT1283-A	O/I (RU/UR/AR/PE/TA/CO)	1	(E)
109	LSQT1268-A	O/I (EN/CF)	1	(PP)
110	LSQT1270-A	O/I (CN)	1	(GK)
111	VPF1112	POLYETHYLENE BAG	1	(PP,E)
B1	XQN2+BJ4FN	SCREW	1	
B2	LSHD0137	SCREW	1	
B3	LSHD0137	SCREW	1	
B4	LSHD0137	SCREW	1	
B5	LSHD0137	SCREW	1	
B6	LSHD0141	SCREW	1	
B7	LSHD0141	SCREW	1	
B8	LSHD0141	SCREW	1	
B9	LSHD0140	SCREW	1	
B10	LSHD0138	SCREW	1	
B11	LSHD0138	SCREW	1	
B12	LSHD0139	SCREW	1	
B13	LSHD0139	SCREW	1	
B14	LSHD0139	SCREW	1	
B15	LSHD0139	SCREW	1	