

Service Manual

DVD/CD Player

Model No. **DVD-S68GA**

DVD-S68GC

DVD-S68GN

DVD-S68GT

DVD-S685GW

DVD-S48GA

DVD-S48GC

DVD-S48GF

DVD-S48GJ

DVD-S48GN

DVD-S48GT

DVD-S48GW

DVD-S485GW



DVD-S68

Colour

(K).....Black 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.

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1 Safety Precautions

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.

1.2. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{ M}\Omega$ and $5.2\text{ M}\Omega$. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. Leakage Current Hot Check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5\text{ k}\Omega$, 10 W resistor, in parallel with a $0.15\text{ }\mu\text{F}$ capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with $1\text{ k}\Omega/\text{V}$ or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS . A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed $1/2\text{ mA}$. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

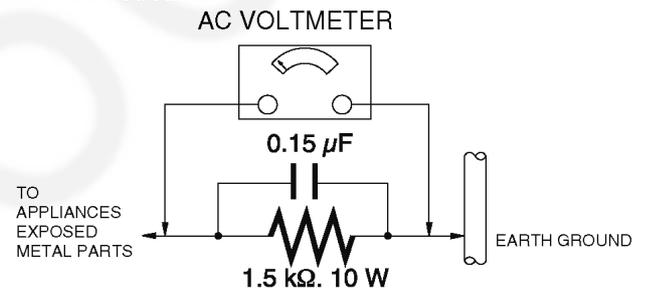


Figure. 1

2 Warning

2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatically 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 IC (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 electrostatic 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, Circuit Board 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. Caution for AC Cord (For the Saudi Arabia, Kuwait and Africa)

2.2.1. Information for Your Safety

IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.

CAUTION

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

FOR YOUR SAFETY

DO NOT REMOVE THE OUTER COVER

To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

2.2.2. Caution for AC Mains Lead

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amperes and it is approved by ASTA or BSI to BS1362

Check for the ASTA mark or the BSI mark on the body of the fuse.



If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

If the fitted moulded plug is unsuitable for the socket outlet in your home then the fuse should be removed and the plug cut off and disposed of safely.

There is a danger of severe electrical shock if the cut off plug is inserted into any 13-ampere socket.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt, please consult a qualified electrician.

2.2.2.1. Important

The wires in this mains lead are coloured in accordance with the following code:

Blue	Neutral
Brown	Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

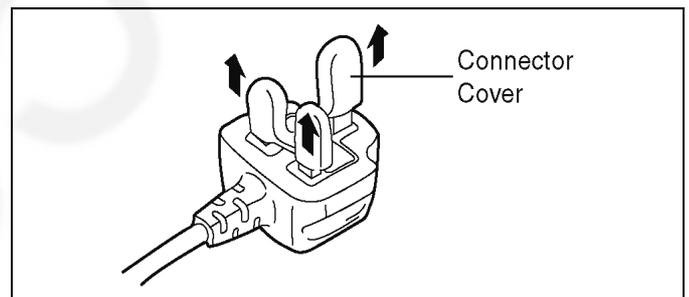
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol.



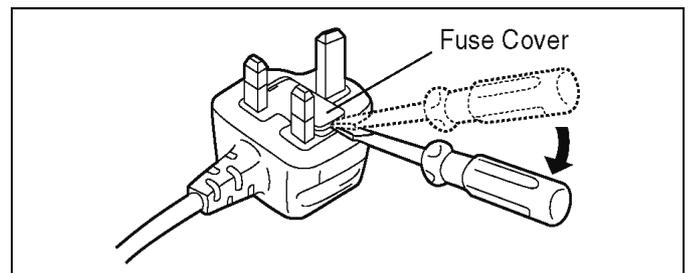
2.2.2.2. Before Use

Remove the Connector Cover as follows.

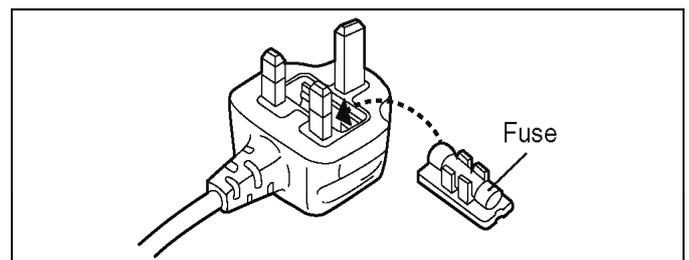


2.2.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



2. Replace the fuse and attach the Fuse cover.



2.3. Precaution of Laser Diode

CAUTION

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick-up lens.

Wave length: 770 to 800 nm (CDs)/645 to 660 nm (DVDs)
Maximum output radiation power from pick-up: 100 μ W/VDE
Laser radiation from the pick-up lens is safety level, but be sure the followings:

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

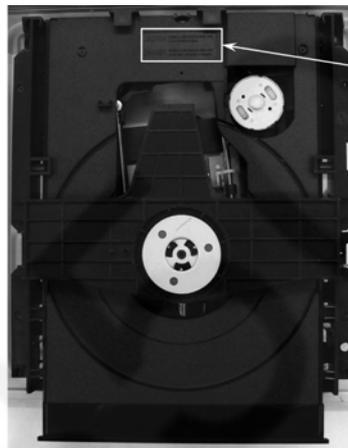
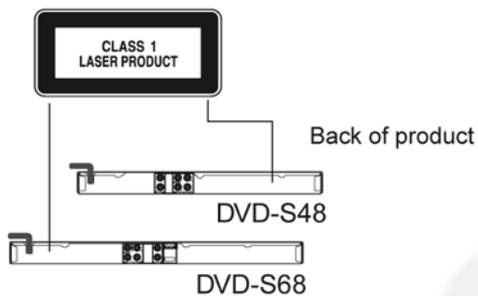
ACHTUNG

Dieses Produkt enthält eine Laserdiode.

Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge: 770 to 800 nm (CDs)/645 to 660 nm (DVDs)
Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE
Die Strahlung der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.



CAUTION INVISIBLE LASER RADIATION WHEN OPEN
DO NOT STARE INTO BEAM.

DANGER INVISIBLE LASER RADIATION WHEN OPEN
AVOID DIRECT EXPOSURE TO THE BEAM.

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.

2.4. Static Electricity Protection Measures

- The laser diode in the traverse unit (optical pick-up) may break down due to potential difference caused by static electricity of clothes or human body.

So, be careful of electrostatic breakdown during repair of the traverse unit (optical pick-up).

2.5. Ground for electrostatic breakdown prevention

- As for parts that use optical pick-up (laser diode), the optical pick-up is destroyed by the static electricity of the working environment.

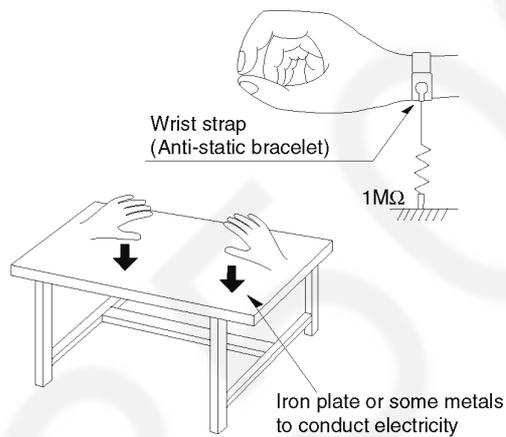
Repair in the working environment that is grounded.

2.5.1. Work table grounding

- Put a conductive material (sheet) or steel sheet on the area where the traverse unit (optical pick-up) is placed, and ground the sheet.

2.5.2. Human body grounding

- Use the anti-static wrist strap to discharge the static electricity from your body.



2.5.3. When exchange the Drive

- Before remove the ESD prevention bag, make sure to use the anti-static wrist strap to discharge the static electricity when replace the Drive.

Note:

The ESD prevention bag is used to replace the original short-circuit point.

It can be removed while placing the Drive.

3 Service Navigation

3.1. Service Information

This service manual contains technical information, which allow service personnel's to understand and service this model. Please place orders using the parts list and not the drawing reference numbers.

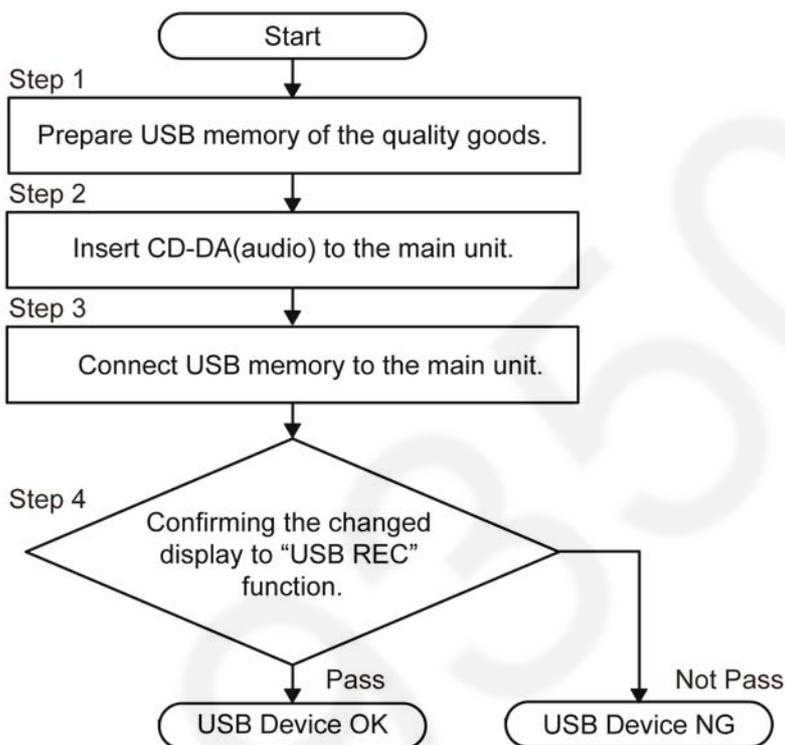
If the circuit is changed or modified, the information will be followed by service manual to be controlled with original service manual.

Note:

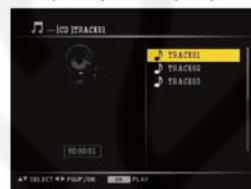
- The replacement parts of this model is supplied as block unit.
- Please use Troubleshooting Guide for your reference of the repair.

3.2. How to Checking Recognition of USB Device

3.2.1. USB Device Check Flowchart



Step 2 (Example)



Step 3 (Example)



Step 4 (Example)

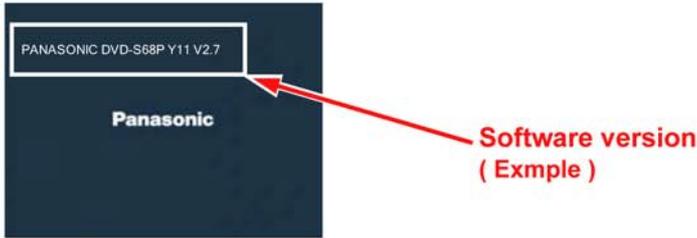


3.3. How to Update Firmware

The firmware of the DVD player may be renewed to improve the quality including operational performance and playability. Make sure to refer the following procedure when performing version-up.

Step 1 Check the software version currently installed in your DVD player.

1. Open the disc tray.
2. Push "6" button on the remote control four times, then Software version will appear.



(DVD-S68)

NOTE: It displays it for about ten seconds.
Please make note of this version number.

Step 2 Download the latest software.

The latest firmware required for version-up can be downloaded from "Support Information from NWBG/VDBG-PAVC" web-site in "TSN system".

Click file name to download.

After download, click file to decompress. (Total : 1 file)

Step 3 Decompress the downloaded file.

Use only CD-R.

1. The decompressed file will be named as follows. (Confirm the model No.)
File Name : PANASONICXX.BIN
2. Burn all files to a blank CD-R disc by the writing software.
(Burning method to CD-R disc is not image data writing but normal data writing.)

Step 4 Playback the CD-R disc by DVD Player



Set the CD-R disc into the DVD player and playback it.

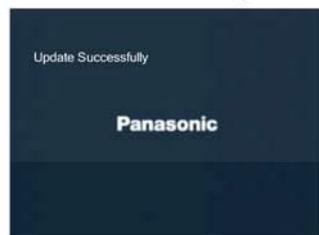


When the message of recommending the "Software Update" appear in the display monitor, select [Left cursor buttons : Yes] or [Right cursor buttons : No] and press [OK] with the remote control unit.



If you choose [Left cursor buttons : Yes], the DVD player is automatically updated.

Step 5 Install the software update.



3.4. Caution for DivX

Please will always pass the customer “Warning for Customers Who Use the DivX Video-on-Demand content.” with the product and get it when you unavoidably exchange DIGITAL P.C.B. including FLASH ROM (When the product is exchanged, it is the same.). You must use print attached to service part (DIGITAL P.C.B. including FLASH ROM) or must use copy of print below as “Warning for Customers Who Use the DivX Video-on-Demand content.”

Information needed without fail for the customer for whom it is used continuing DivX Video-on-Demand Service to “Manual for the customer” is recorded.

Appendix:

*Parts that memorize user’s information are only FLASH ROM.

*The registration of Registration Code is possible for half a year up to 6 recorders up to 10 recorders a year.

About DivX Video-on-Demand Control

ABOUT DIVX VIDEO-ON-DEMAND:

This DivX Certified® device must be registered in order to play DivX Video-on-Demand (VOD) content.

To generate the registration code, locate the DivX VOD section in the device setup menu.

Go to vod.divx.com with this code to complete the registration process and learn more about DivX VOD.

- Video images of the DivX VOD contents stored on USB device can be output only through the HDMI output terminal.

Display the unit’s registration code.



- After playing DivX VOD content for the first time, the registration code is not displayed.
- If you purchase DivX VOD content using a registration code different from this unit’s code, you will not be able to play this content.

Cancel the unit’s registration.

Press [◀, ▶] to select “Yes” in “DivX Registration”. Use the deregistration code to cancel the registration in www.divx.com.

Regarding DivX VOD content that can only be played a set number of times

Some DivX VOD contents can only be played a set number of times. When you play this content, the number of times already played and initially playable number of times is displayed.

- The remaining number of plays decreases each time a programme is played. However, when playing from the point where play was previously stopped, the remaining number of plays does not decrease due to the resume play function.

Registration Code is memorized in FLASH ROM (Digital P.C.B.).

If exchange above P.C.B. or FLASH ROM, new registration Code differ from previous Registration Code will be generated.

In this case if your customer uses DivX Video-on-Demand service, he/she will no longer be able to play any content that he/she purchased under that same registration code.

Therefore your customer will need to obtain and register the new registration code.

*Copy this page and cut on the dotted line and give the lower half to your customer.

Warning for Customers Who Use the DivX Video-on-Demand content.

1. The registration code has been changed for the repair of the product or the product exchange.
2. Obtain and register a new registration code, otherwise you will no longer be able to play DivX Video-on-Demand content.
3. Follow the procedure on the DivX Video-on-Demand web site to register at <http://vod.divx.com/>.

*If you do not use the DivX Video-on-Demand content, please ignore this warning.

4 Specifications

Power supply: [DVD-S68GA, S48GA/GF/GJ]
AC 110 to 240 V, 50 Hz/60 Hz
[DVD-S68GT, S48GT]
AC 110 V, 50 Hz/60 Hz
[DVD-S68GC, S48GC]
AC 220 to 240 V, 50 Hz/60 Hz
[DVD-S68GN, S48GN]
AC 230 to 240 V, 50 Hz
[DVD-S48GW, S485GW, S685GW]
AC 230 V, 50 Hz/60 Hz

Power consumption: Approx. 12 W

Power consumption in standby mode:

Less than 1W

Dimensions: [DVD-S68, S685]
430(W) x 209(D) x 38(H) mm
[DVD-S48, S485]
360(W) x 209(D) x 38(H) mm

Mass: [DVD-S68, S685]
Approx. 1.6 kg
[DVD-S48, S485]
Approx. 1.4kg

Signal system: PAL/NTSC

Operating temperature range:
+ 5 to + 35°C

Operating humidity range: 20 to 80 % RH (no condensation)

Playable medias:

- (1) DVD Video (DVD-Video format)
- (2) DVD-RW (DVD-Video format*1)
- (3) DVD-R / DVD-R DL (DVD-Video format*1, JPEG*2*3*4*5*6, MP3*3*7*8*9, DivX*3*10*11*12*13)
- (4) CD-R / CD-RW (CD-DA, JPEG*2*3*4*5*6, MP3*3*7*8*9, DivX*3*10*11*12*13, Video CD, Super Video CD)
- (5) Audio CD (CD-DA)
- (6) Video CD
- (7) Super Video CD
- (8) +RW / +R / +R DL (Video*1)
- (9) USB (MP3*7, JPEG*2*6, DivX*10*11*12)

*1 Finalizing is necessary.

*2 The file extensions has to be '.JPG' or '.JPEG'.

*3 ISO9660 level 1 or 2 (except for extended formats)
This unit is compatible with multi-session.
This unit is not compatible with packet writing.

*4 Picture resolution: between 34 x 34 and 6144 x 4096 pixels
(sub sampling is 4:2:2 or 4:2:0)
MOTION JPEG is not supported.

*5 The total combined maximum number of recognizable picture contents and folders: 9999 picture contents and 188 folders.

*6 Files that have been altered, edited or saved with computer picture editing software may not be displayed.

*7 The file extensions has to be '.mp3'.

*8 Compression rate: 32 kbps to 320 kbps
Sampling rate: 44.1 kHz, 48 kHz

*9 ID3 V2.3 is supported.

*10 The file extensions has to be '.DIVX', '.divx', '.AVI', or '.avi'.

*11 Subtitle text file is not supported.

*12 Certified to the DivX Home Theater Profile V3.0.
GMC (Global Motion Compensation) not supported.

*13 The total combined maximum number of recognizable file contents and folders: 9999 file contents and 188 folders
(include root folder).

Video output:

Output level: 1.0 Vp-p (75 Ω)

Output connector: Pin jack (1 system)

HDMI AV Output:

(DVD-S68, S685 only)

Output format: 1080p/1080i/720p/576p/480p

Output connector: TypeA (19 pin)

This unit supports "HDMI CEC" function.

Component video output: (480p/480i:60 Hz) (576p/576i:50 Hz)

Y output level: 1.0 Vp-p (75 Ω)

P_B output level: 0.7 Vp-p (75 Ω)

P_R output level: 0.7 Vp-p (75 Ω)

Output connector: Pin jack (Y: green, P_B: blue, P_R: red)
(1 system)

Video performance:

Horizontal resolution: More than 500 lines

Video S/N ratio: More than 53 dB

Audio output:

Output level: 2 Vrms (1 kHz, 0 dB)

Output connector: Pin jack

Number of connectors: [DVD-S68, S48]
2 channel (1 system)
[DVD-S685, S485]
5.1 channel (1 system)

USB slot: USB 2.0: 1 system

Digital audio output:

coaxial digital output Pin jack
(1 system)

Audio performance:

(1) Frequency response:

DVD (linear audio): 4 Hz-22 kHz (48 kHz sampling)

CD audio: 4 Hz-20 kHz

(2) S / N ratio:

CD audio: 90dB

(3) Dynamic range:

CD audio: 80dB

(4) Total harmonic distortion:

CD audio: 0.04%

Pickup:

Wave length: 770 to 800 nm (CD) /
645 to 660 nm (DVD)

Laser power: CLASS I / CLASS I

Note:

Specifications and subject to change without notice.

Mass and dimensions are approximate.

Solder:

This model uses lead free solder (PbF).

4.1. Others (Licenses)

"DVD Logo" is a trademark of DVD Format/Logo Licensing Corporation.

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

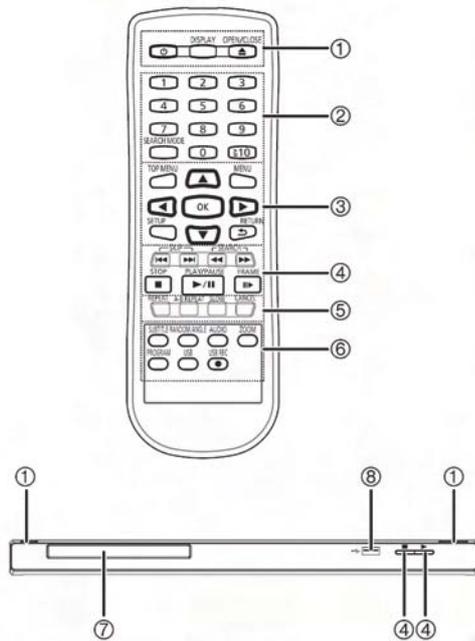
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MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson.

The recording and playback of content on this or any other device may require permission from the owner of the copyright or other such rights in that content. Panasonic has no authority to and does not grant you that permission and explicitly disclaims any right, ability or intention to obtain such permission on your behalf. It is your responsibility to ensure that your use of this or any other device complies with applicable copyright legislation in your country. Please refer to that legislation for more information on the relevant laws and regulations involved or contact the owner of the rights in the content you wish to record or playback.

5 Location of Controls and Components



① Standby/on switch ϕ , ϕ /I

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

DISPLAY

Displays information on TV screen during playback.

OPEN/CLOSE \blacktriangle

Opens/closes the disc tray

② 0-9, ≥ 10

To select title/chapter/track numbers etc.

e.g., 5: 5
15: $\geq 10 \rightarrow 1 \rightarrow 5$

SEARCH MODE

Starts to select the point

1. Press \blacktriangle to select the item.
2. Press 0 to 9 to specify the location.
3. Press OK.

③ TOP MENU

Shows Top menu

MENU

- Shows Menu
- Sets PBC of VCD equipped with Playback Control (PBC) function to On/Off

\blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright

- Selects items, input position, etc.
 - For moving the display position of enlarged images
 - For rotating JPEG images

OK

Confirms menu selection

SETUP

Enters or exits the system setup menu

RETURN \blacktriangleright

Returns to the previous display

④ SKIP, \blacktriangleleft , \blacktriangleright

- Skips to previous title/chapter/track or next title/chapter/track
- Switches the MENU page of VCD equipped with Playback Control (PBC) function

SEARCH, \blacktriangleleft , \blacktriangleright

Starts fast reverse or fast forward

STOP \blacksquare , \blacksquare

Stops playback

PLAY/PAUSE \blacktriangleright /II

Starts or pauses playback

\blacktriangleright

Starts playback

FRAME II \blacktriangleright

Plays Video frame by frame

⑤ REPEAT

Selects various repeat mode

Selectable modes differ depending on the type of contents. REP DIR plays all the same type of files in the selected folder repeatedly.

A-B REPEAT

Repeats playback from point A to B on a media

SLOW

Starts slow motion playback

CANCEL

Clear the input information

⑥ SUBTITLE

Shows the subtitle and selects different subtitle

RANDOM/ANGLE

Starts random playback/Switches the camera angle

AUDIO

Changes soundtracks

ZOOM

Changes zoom ratio

PROGRAM

Sets the playback order

1. Press \blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright to select the item.

2. Press 0 to 9 to specify the order.

To cancel: Press CANCEL.

3. Press \blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright to select PLAY.

To clear the whole program:

Press \blacktriangle \blacktriangledown \blacktriangleleft \blacktriangleright to select CLEAR.

4. Press OK.

USB

Switches to the USB mode / Returns to the disc mode

USB REC

Performs USB REC

⑦ Disc tray

When inserting a media, ensure that it is facing the right way up.

⑧ USB port

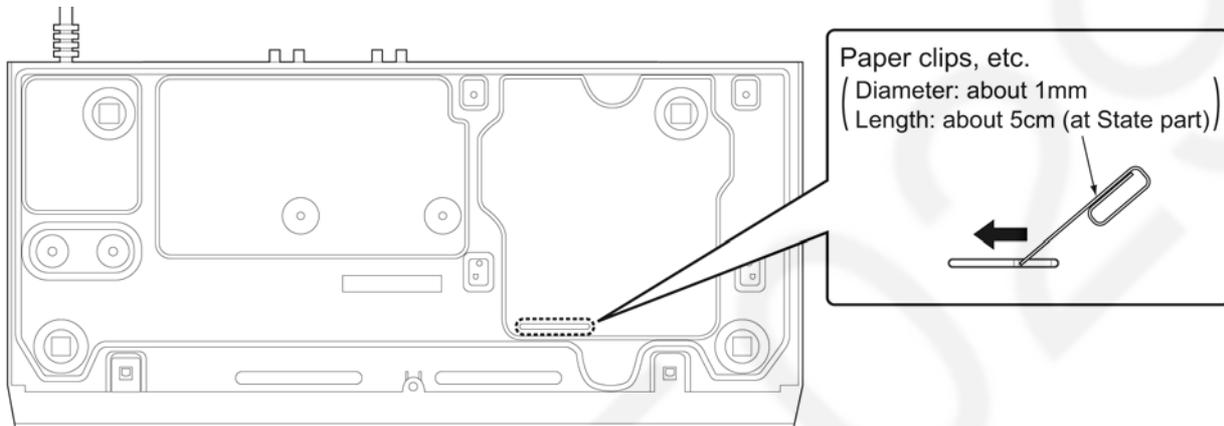
Connects a USB device

6 Operating Instructions

6.1. Taking out the Disc from Drive Unit when the Disc cannot be ejected by OPEN/CLOSE button

6.1.1. When the Disc Eject can not be done.

1. Turn off the power and pull out AC cord.
2. Put the unit so that bottom can be seen.
3. Insert paper clips, etc. into the hole on the bottom of Drive and slide the paper clips, etc. in the direction of the arrow to eject tray slightly.



4. Pull the tray in the direction of the arrow.



7 Troubleshooting Guide

7.1. About Operation of Set

To reset

Images from this DVD player do not appear on the television.

You forgot your password.

- ⇒ Reset the DVD player to the factory defaults.
 - 1) Press **POWER**  on the DVD player to turn it on.
 - 2) Press **OPEN/CLOSE**  to open the disc tray.
 - 3) Press and hold **■** and **▶** on the DVD player at the same time for more than 5 seconds with the tray open.All the settings return to the factory preset.

No picture./No sound.

- ⇒ Check the video connection between the DVD player and the TV.
- ⇒ Turn on your TV and set to the correct in channel for the DVD player.

Remote control does not work.

- ⇒ Aim the remote control directly at the sensor on the front of the DVD player.

The screen is distorted. Noise occurs.

- ⇒ Check if the TV System setting is correct.

Discs cannot be played back.

- ⇒ Check for any scratches or smudges on the disc. If the disc is dirty, clean the disc.

Not able to select some items in the setup/system menu.

- ⇒ Press **STOP**  twice before selecting the setup/system menu.
- ⇒ Depending on the disc availability, some menu items cannot be selected.

When the following messages on the unit's display.

LOAD (LOAD)

- ⇒ Loading the media. Wait a moment.

STOP (STOP)

- ⇒ Stopping the playback.

- ⇒ There is no disc, or a disc that cannot be played has been inserted.

OPEN (OPEN)

- ⇒ The tray is open.

TI TLE (TITLE)

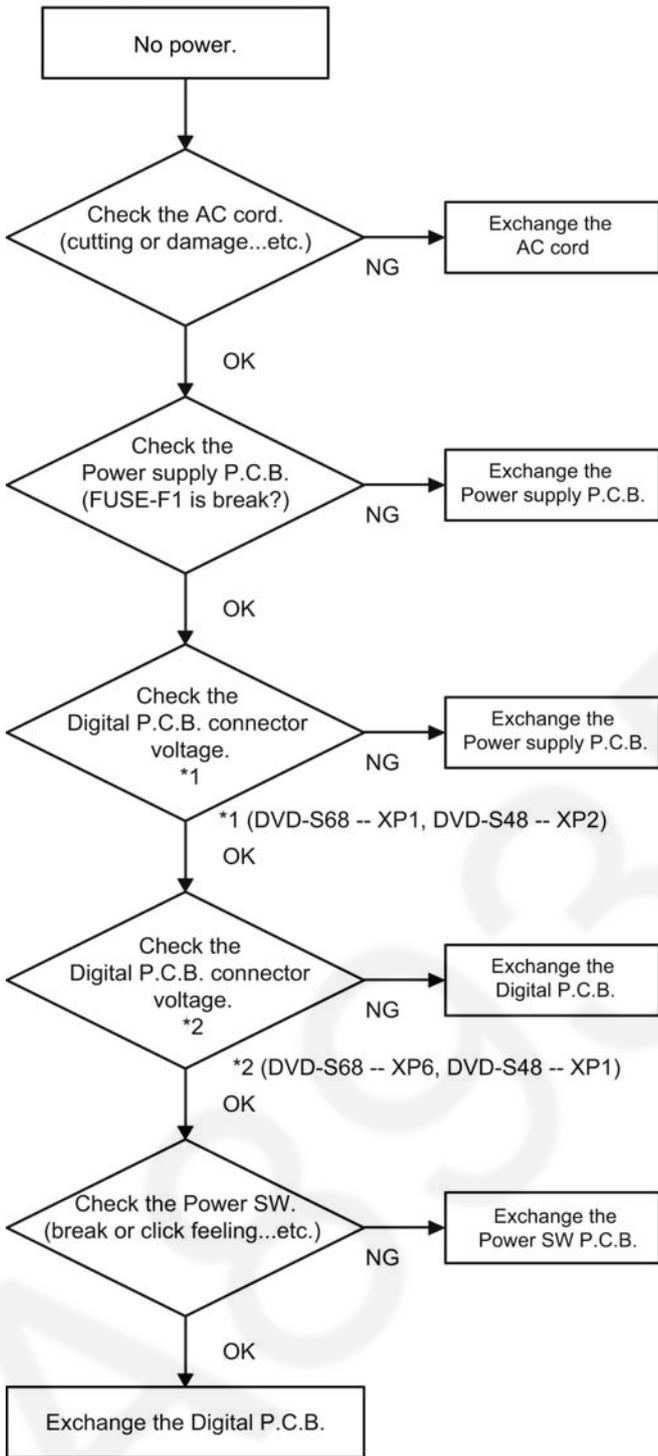
- ⇒ The disc title is displayed.
Press **▲ ▼ ◀ ▶** to select the title, then press **OK**.

NOUSB (NOUSB)

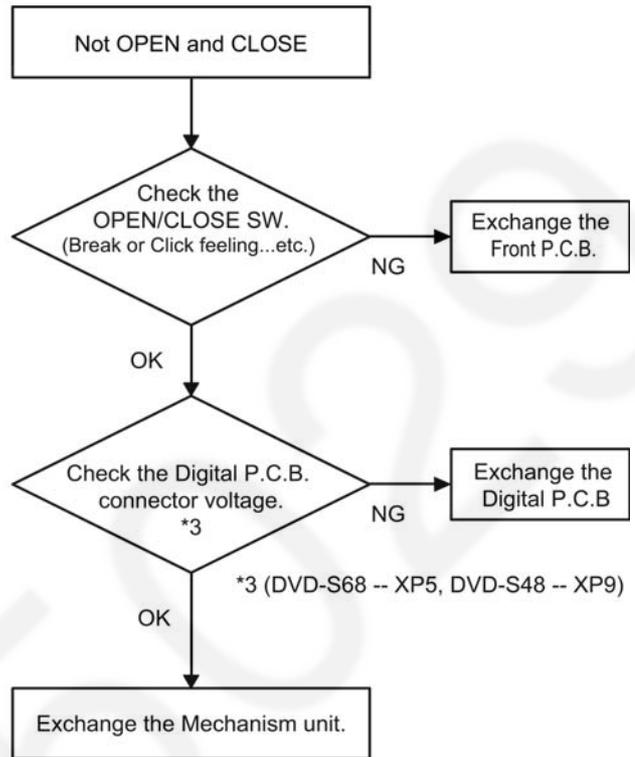
- ⇒ There is no USB device in USB mode.

7.2. About Circuit

Simptom - 1



Simptom - 2



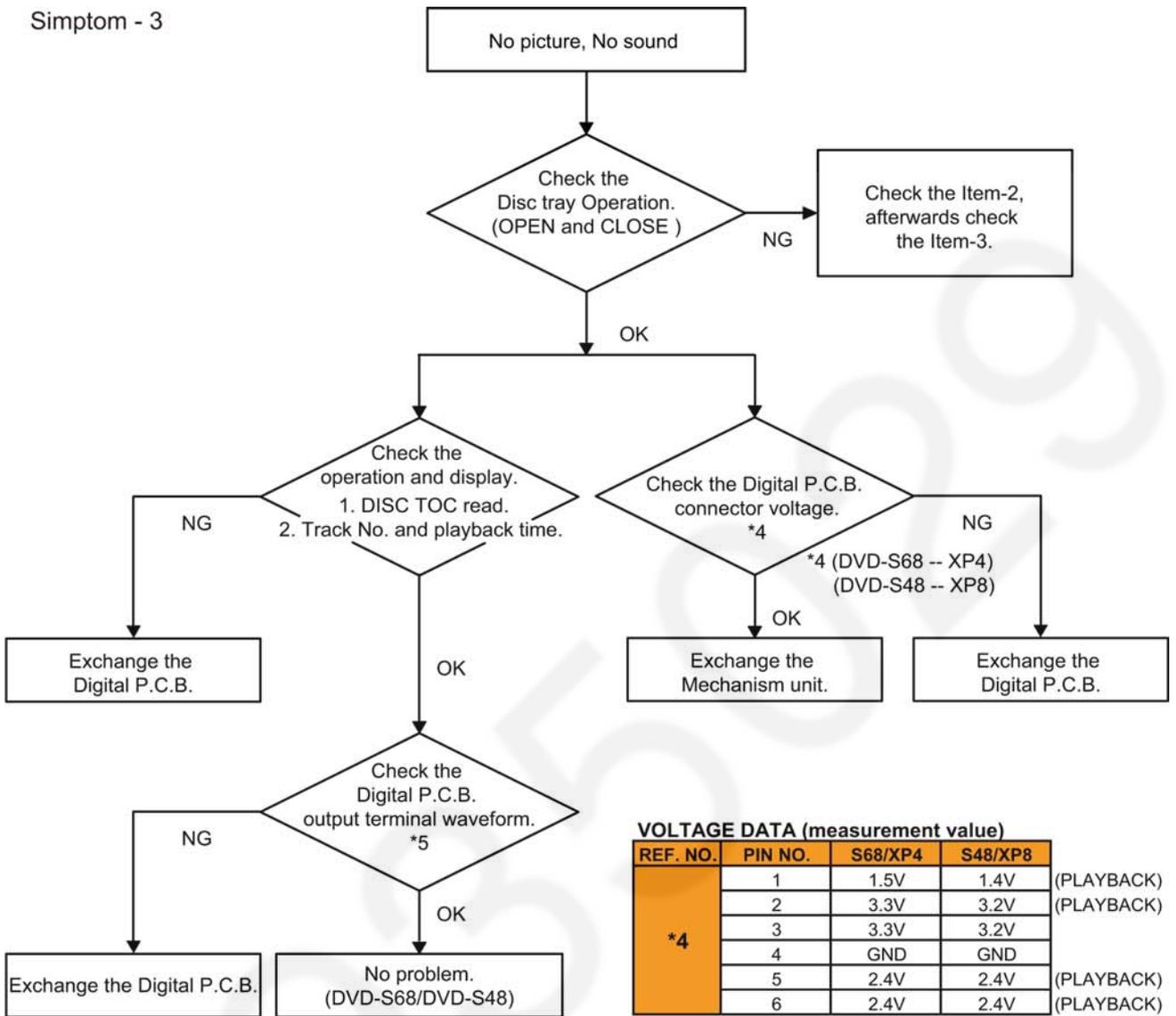
VOLTAGE DATA (measurement value)

REF. NO.	PIN NO.	S68/XP1	S48/XP2
*1	1	5.0V	5.0V
	2	5.0V	5.0V
	3	GND	GND
	4	13.2V	12.9V
	5	GND	GND

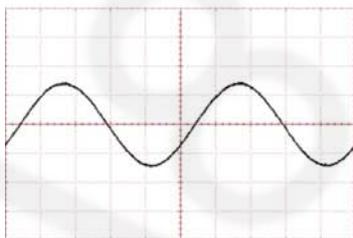
REF. NO.	PIN NO.	S68/XP6	S48/XP1
*2	1	3.3V	3.3V
	2	4.9V	5.0V
	3	-	-
	4	GND	GND
	5	5.0V	5.0V
	6	3.4V	3.3V

REF. NO.	PIN NO.	S68/XP5	S48/XP9
*3	1	3.8V	4.1V (CLOSE)
	2	4.0V	4.1V (OPEN)
	3	3.3V	3.2V
	4	0.5V	GND
	5	0.5V	0.0V

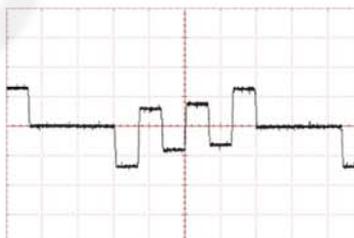
Simptom - 3



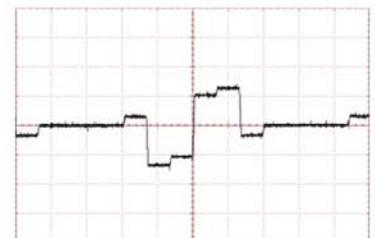
*5 DIGITAL P.C.B. OUTPUT TERMINAL WAVEFORM



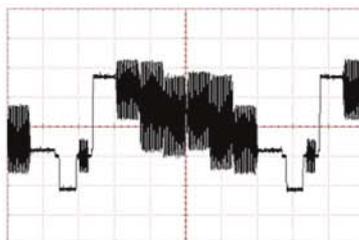
AUDIO(L ch)
5.8Vp-p (200u sec. div)



Pb COMPONENT
1.44Vp-p (10u sec. div)



Pr COMPONENT
1.44Vp-p (10u sec. div)



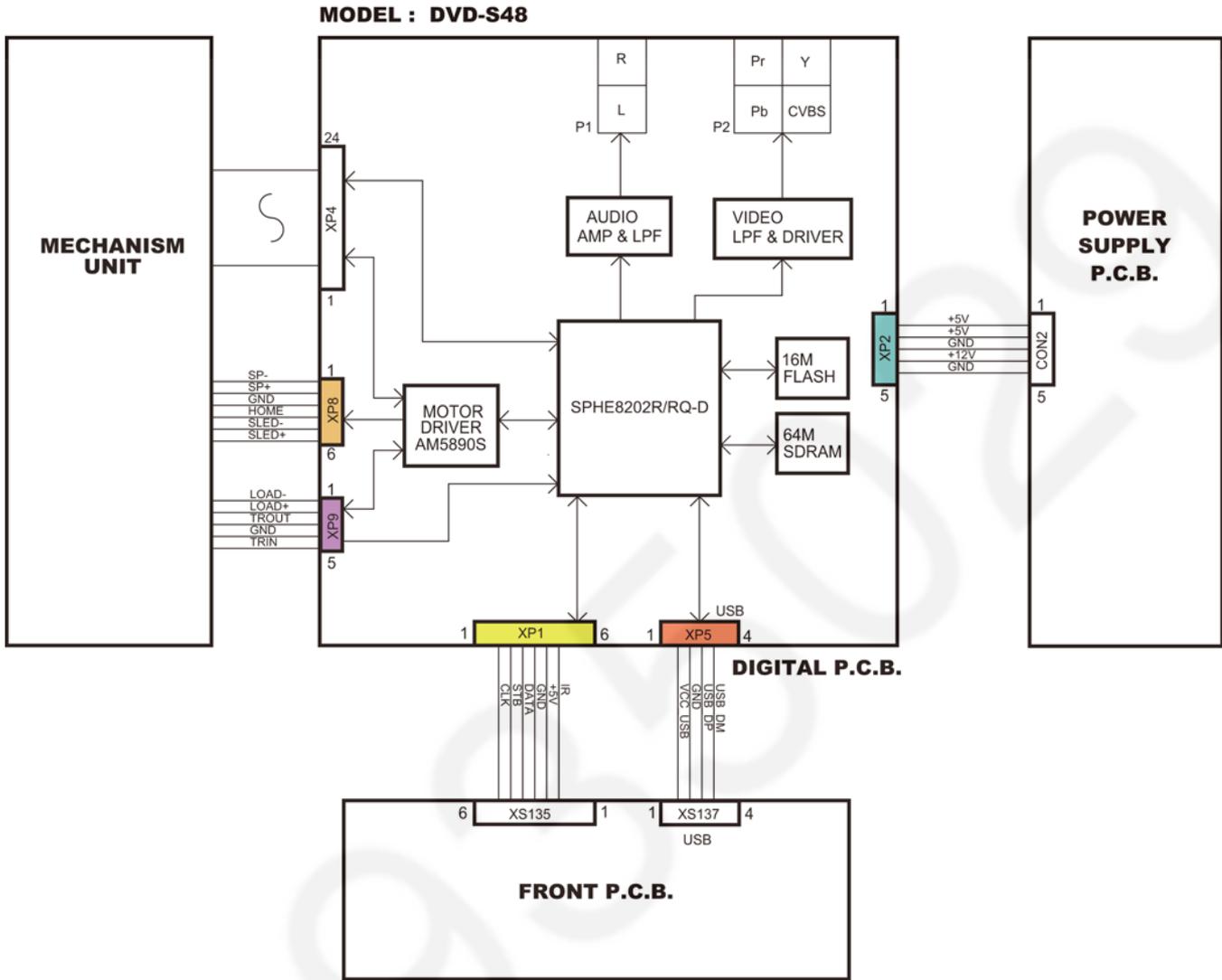
VIDEO COMPOSITE
2.3Vp-p (10u sec. div)



Y COMPONENT
2.0Vp-p (10u sec. div)

8 Wiring Connection and Voltage Data

8.1. DVD-S48



DVD-S48 VOLTAGE DATA (measurement value)

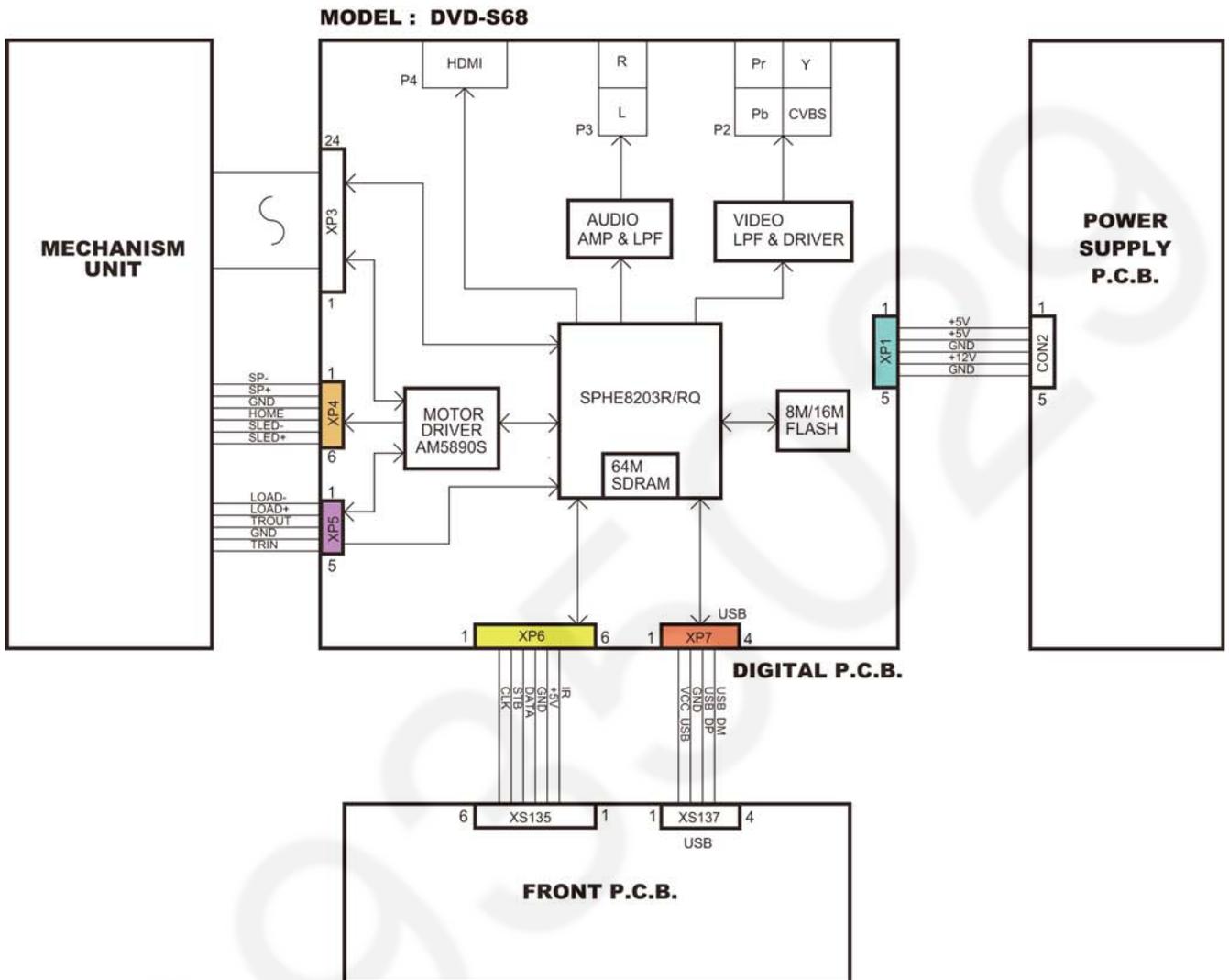
REF. NO.	PIN NO.	VALUE
XP8	1	1.4V (PLAYBACK)
	2	3.2V (PLAYBACK)
	3	3.2V
	4	GND
	5	2.4V (PLAYBACK)
	6	2.4V (PLAYBACK)

REF. NO.	PIN NO.	VALUE
XP2	1	5.0V
	2	5.0V
	3	GND
	4	12.9V
	5	GND

REF. NO.	PIN NO.	VALUE
XP9	1	4.1V (CLOSE)
	2	4.1V (OPEN)
	3	3.2V
	4	GND
	5	0.0V

REF. NO.	PIN NO.	VALUE
XP1	1	3.3V
	2	5.0V
	3	-
	4	GND
	5	5.0V
	6	3.3V

8.2. DVD-S68



DVD-S68 VOLTAGE DATA (measurement value)

REF. NO.	PIN NO.	VALUE
XP4	1	1.5V (PLAYBACK)
	2	3.3V (PLAYBACK)
	3	3.3V
	4	GND
	5	2.4V (PLAYBACK)
	6	2.4V (PLAYBACK)

REF. NO.	PIN NO.	VALUE
XP1	1	5.0V
	2	5.0V
	3	GND
	4	13.2V
	5	GND

REF. NO.	PIN NO.	VALUE
XP5	1	3.8V (CLOSE)
	2	4.0V (OPEN)
	3	3.3V
	4	0.5V
	5	0.5V

REF. NO.	PIN NO.	VALUE
XP6	1	3.3V
	2	4.9V
	3	-
	4	GND
	5	5.0V
	6	3.4V

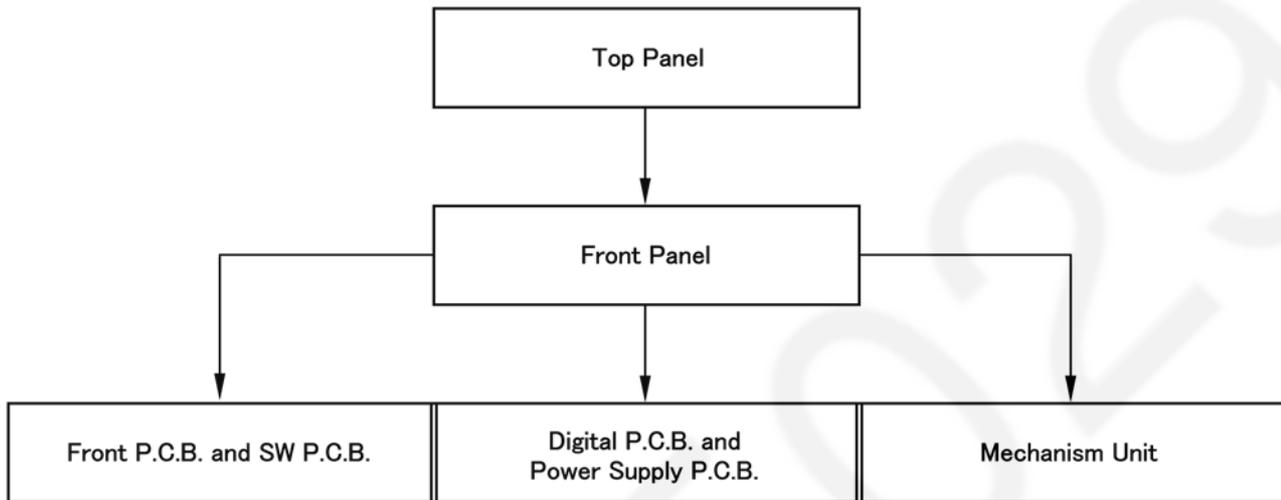
9 Disassembly and Assembly Instructions

9.1. Unit (DVD-S48)

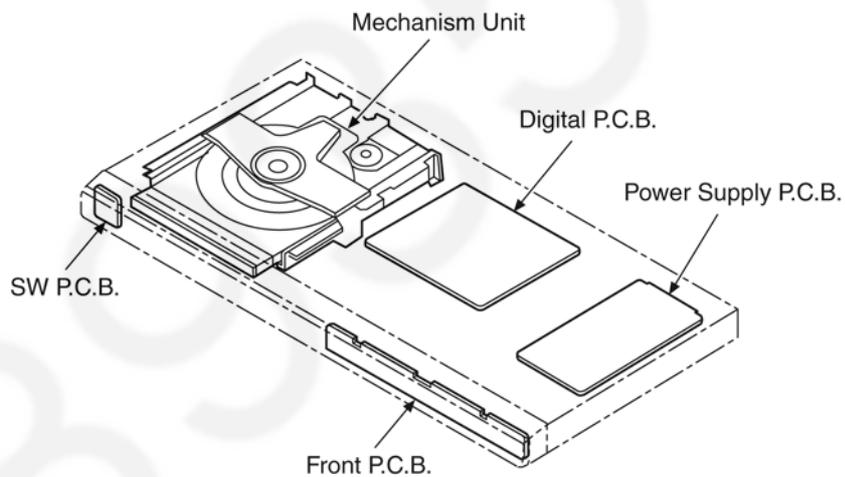
9.1.1. Disassembly Flow Chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.

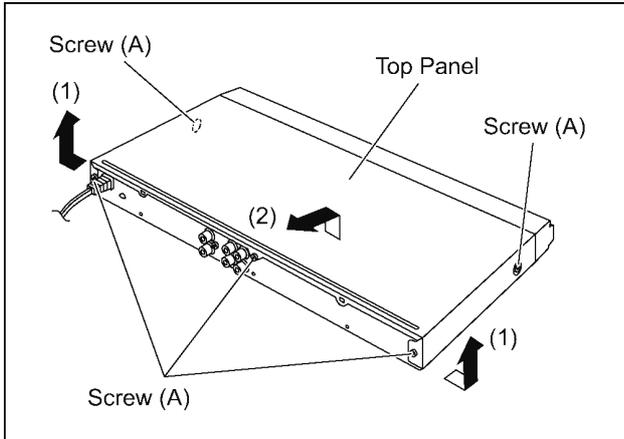


9.1.2. P.C.B. Positions



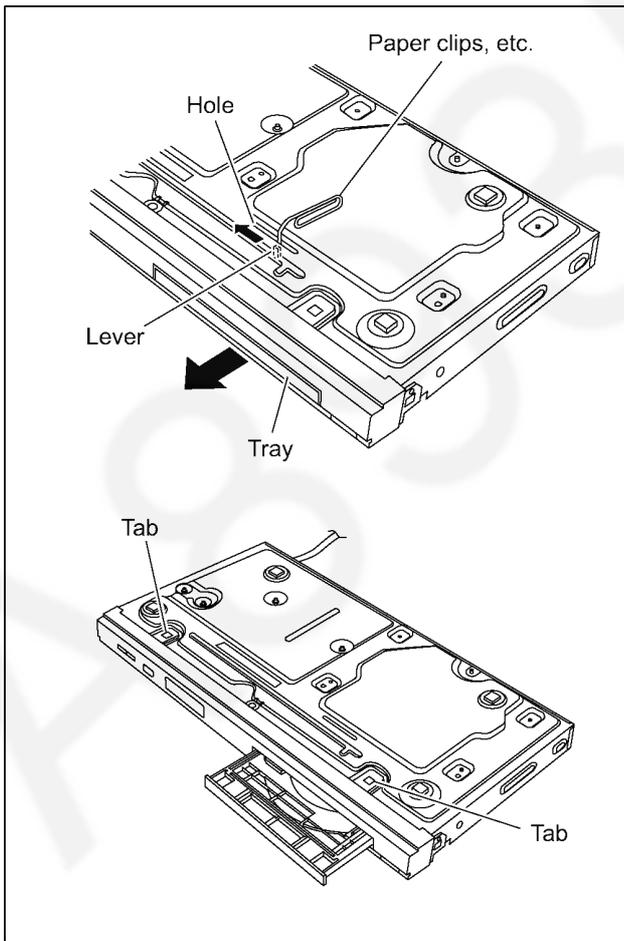
9.1.3. Top Panel

1. Remove the 5 Screws (A).
2. Expanded the both ends of the back of the top panel in the direction of arrow (1), and then remove it pull up in the direction of arrow (2).

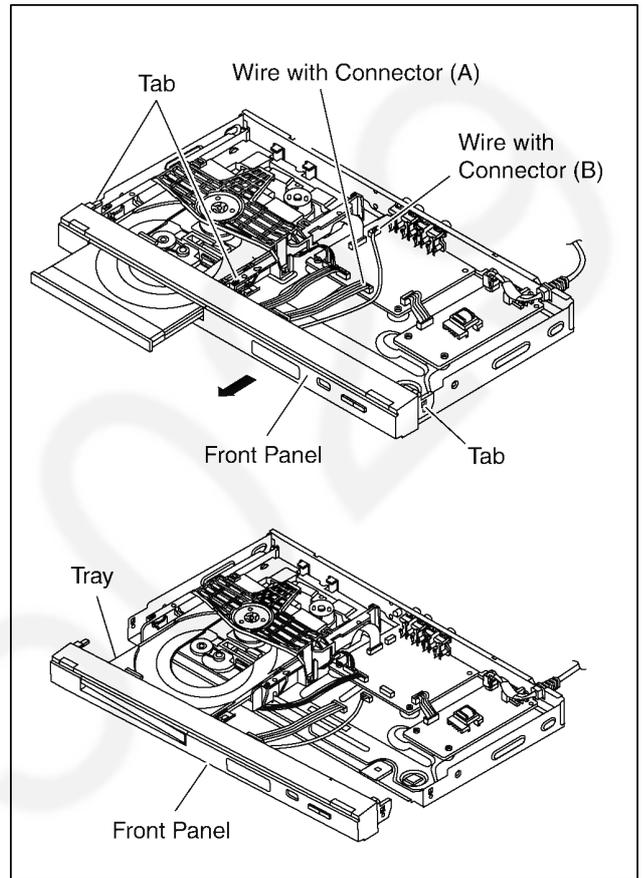


9.1.4. Front Panel

1. Insert paper clips, etc. into the hole on the bottom of DVD Drive, and slide the lever in the direction of arrow to eject tray slightly.
2. Unlock 2 tabs.

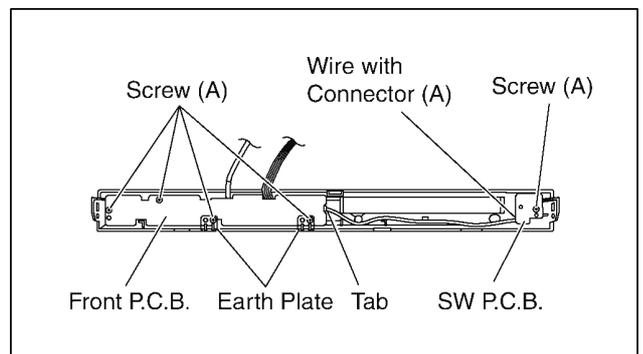


3. Remove the Wire with Connector (A).
4. Remove the Wire with Connector (B).
5. Unlock 3 tabs.
6. Remove the Front Panel.
(The Front Panel is detached from the Tray while inclined a little as shown below.)



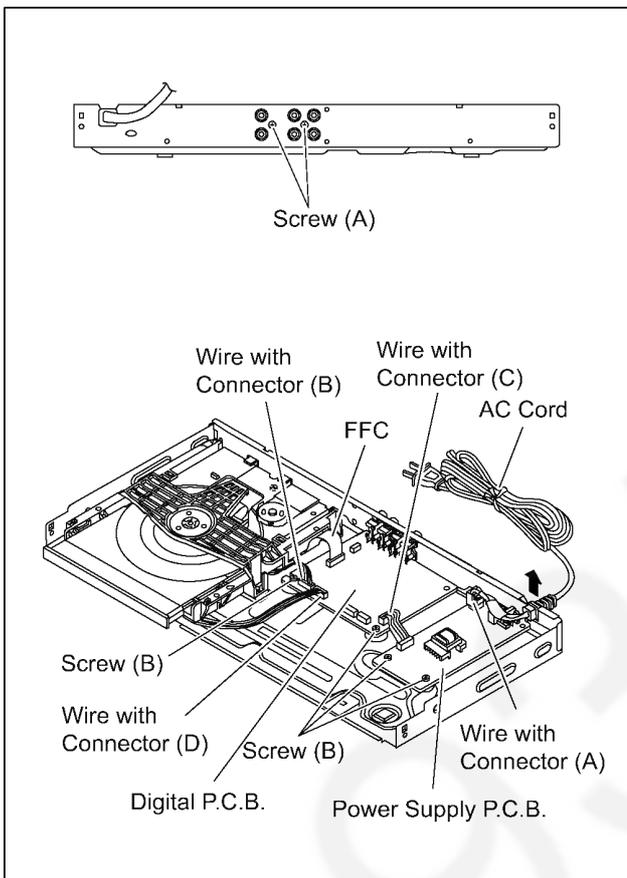
9.1.5. Front P.C.B. and SW P.C.B.

1. Remove the 5 Screws (A).
2. Remove the 2 Earth Plates.
3. Remove the Wire with Connector (A).
4. Unlock tab.
5. Remove the Front P.C.B. and SW P.C.B..



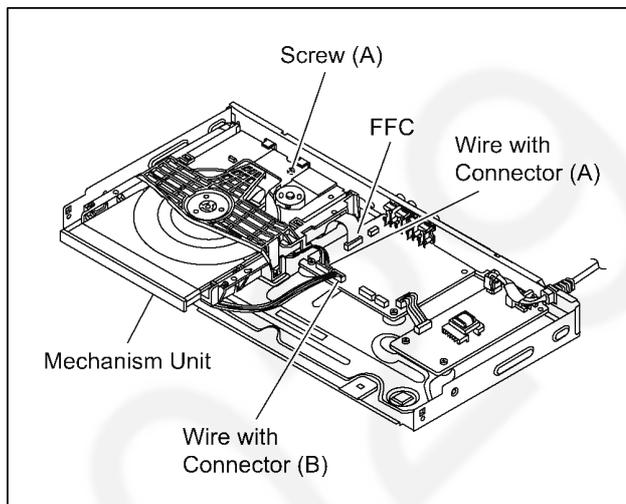
9.1.6. Digital P.C.B. and Power Supply P.C.B.

1. Remove the 2 Screws (A).
2. Remove the Wire with Connector (A).
3. Remove the AC cord.
4. Remove the Wire with Connector (B), Wire with Connector (C) and Wire with Connector (D).
5. Remove the FFC.
6. Remove the 4 Screws (B).
7. Remove the Digital P.C.B. and Power Supply P.C.B..



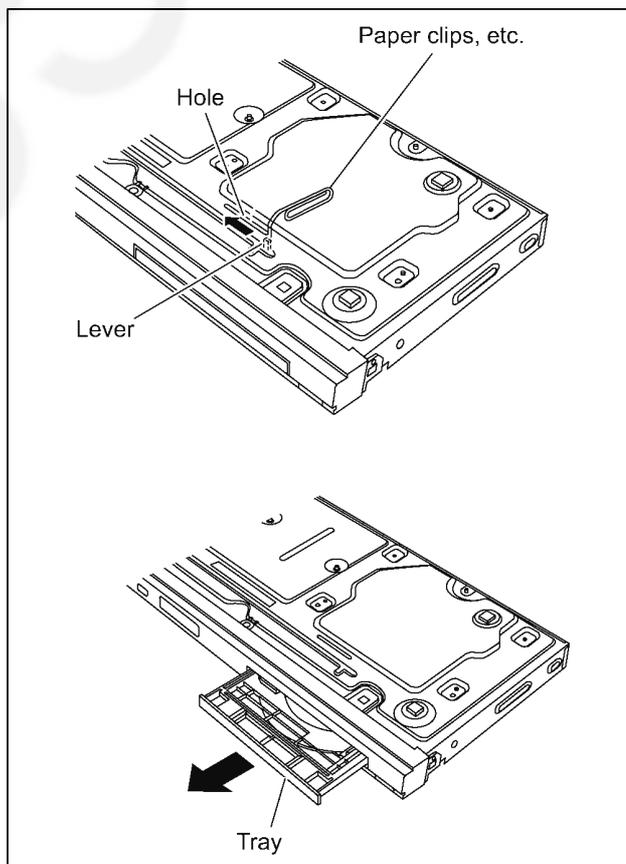
9.1.7. Mechanism Unit

1. Remove the Screw (A).
2. Remove the Wire with Connector (A) and Wire with Connector (B).
3. Remove the FFC.
4. Remove the Mechanism Unit.



Manual release method of tray

1. Insert paper clips, etc. into the hole on the bottom of DVD Drive, and slide the lever in the direction of arrow to eject tray slightly.
2. Pull the tray in the direction of the arrow.

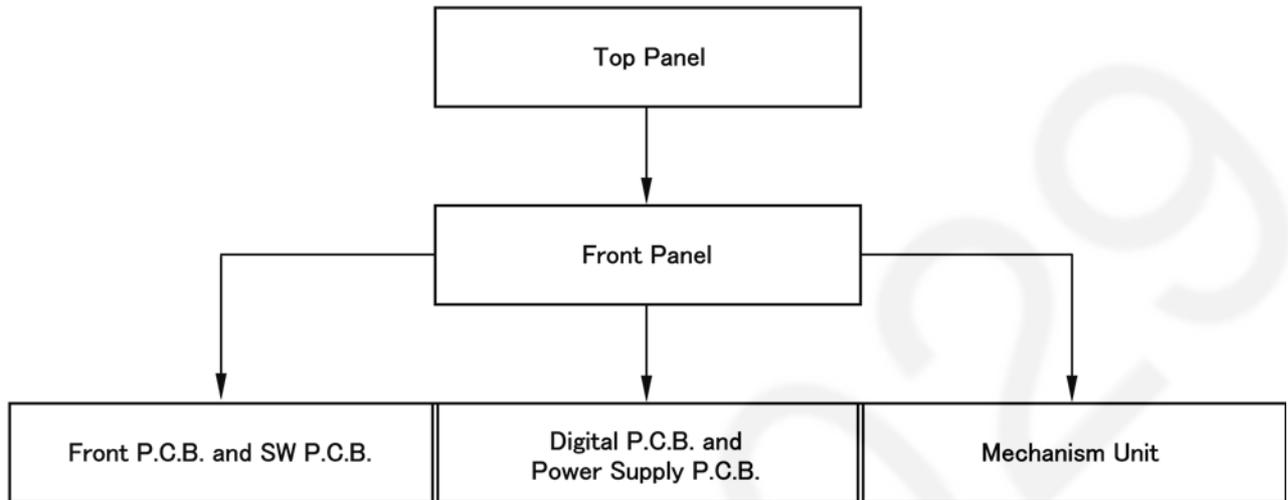


9.2. Unit (DVD-S68)

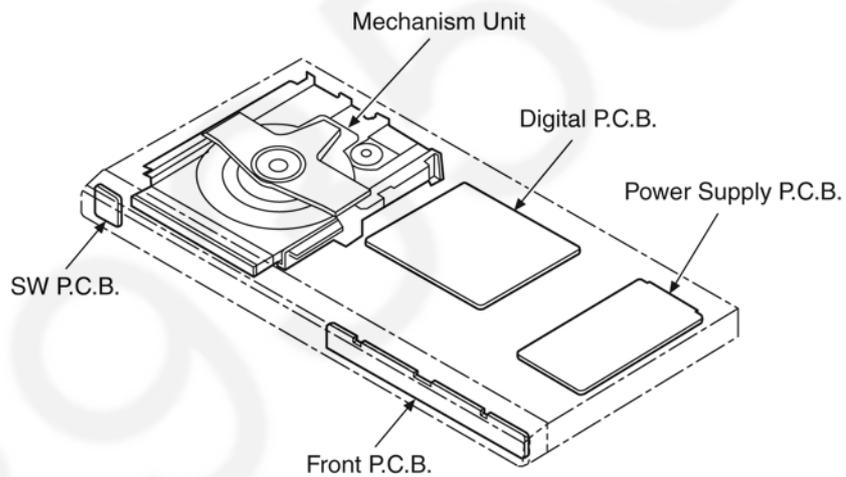
9.2.1. Disassembly Flow Chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.

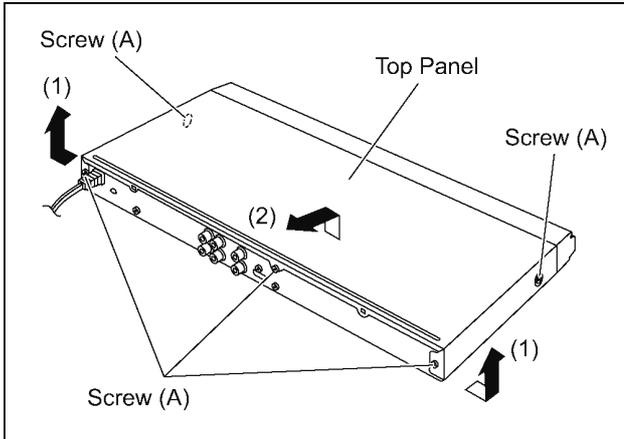


9.2.2. P.C.B. Positions



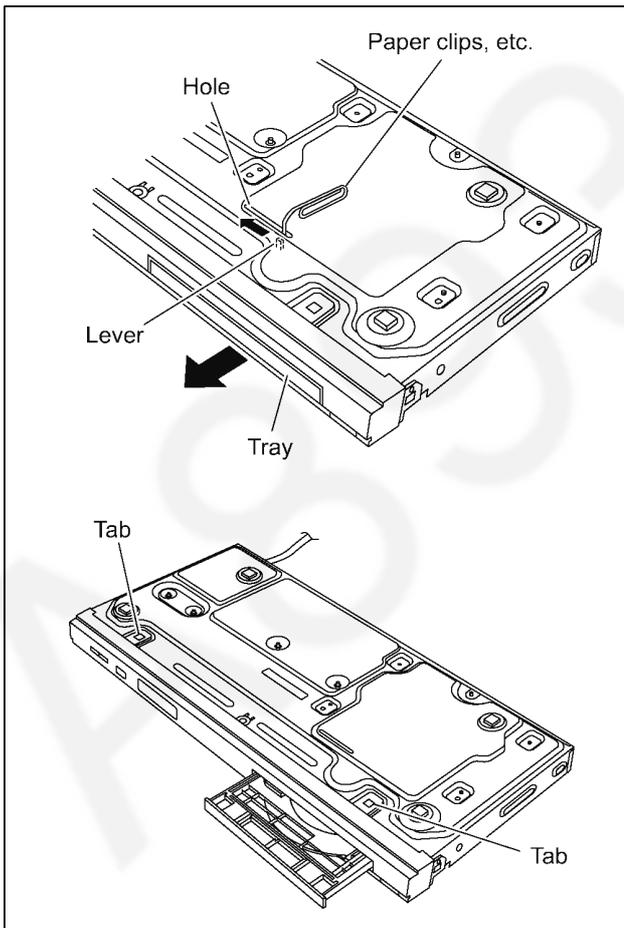
9.2.3. Top Panel

1. Remove the 5 Screws (A).
2. Expanded the both ends of the back of the top panel in the direction of arrow (1), and then remove it pull up in the direction of arrow (2).

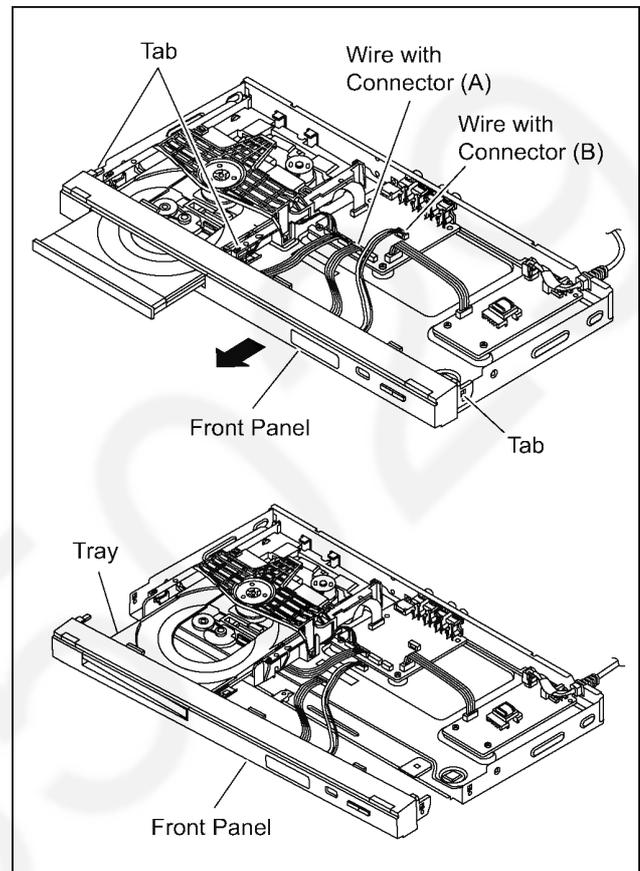


9.2.4. Front Panel

1. Insert paper clips, etc. into the hole on the bottom of DVD Drive, and slide the lever in the direction of arrow to eject tray slightly.
2. Unlock 2 tabs.

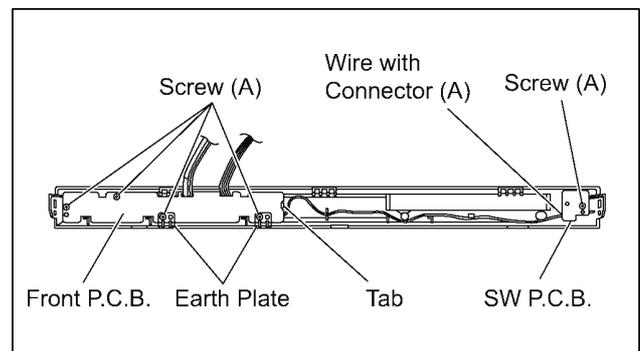


3. Remove the Wire with Connector (A).
4. Remove the Wire with Connector (B).
5. Unlock 3 tabs.
6. Remove the Front Panel.
(The Front Panel is detached from the Tray while inclined a little as shown below.)



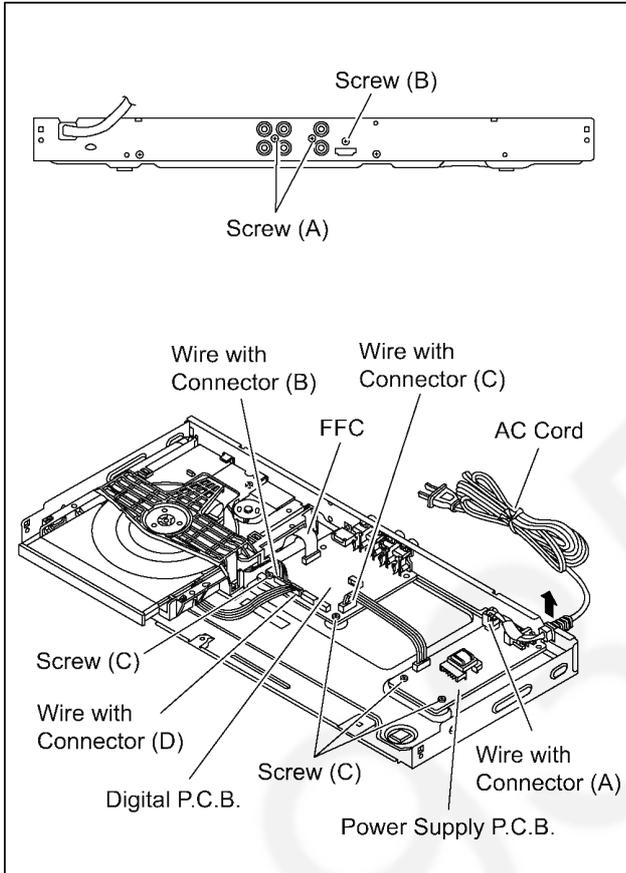
9.2.5. Front P.C.B. and SW P.C.B.

1. Remove the 5 Screws (A).
2. Remove the 2 Earth Plates.
3. Remove the Wire with Connector (A).
4. Unlock tab.
5. Remove the Front P.C.B. and SW P.C.B..



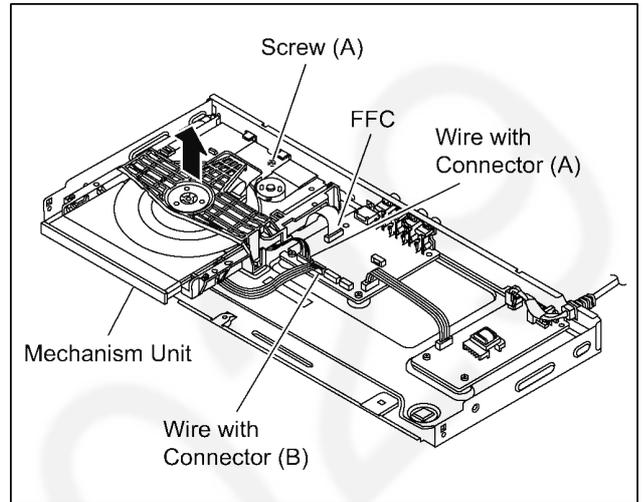
9.2.6. Digital P.C.B. and Power Supply P.C.B.

1. Remove the 2 Screws (A) and 1 screw (B).
2. Remove the Wire with Connector (A).
3. Remove the AC cord.
4. Remove the Wire with Connector (B), Wire with Connector (C) and Wire with Connector (D).
5. Remove the FFC.
6. Remove the 4 Screws (C).
7. Remove the Digital P.C.B. and Power Supply P.C.B..



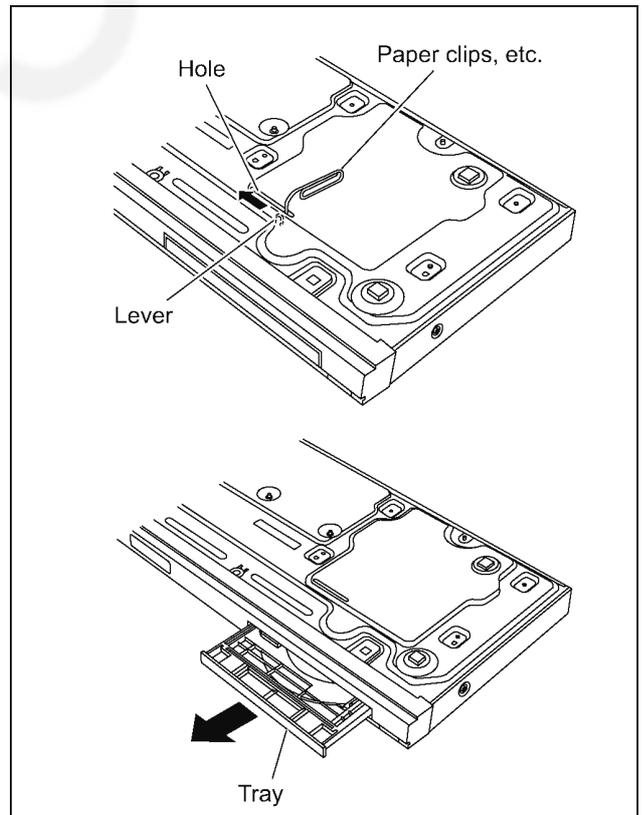
9.2.7. Mechanism Unit

1. Remove the Screw (A).
2. Remove the Wire with Connector (A) and Wire with Connector (B).
3. Remove the FFC.
4. Remove the Mechanism Unit.



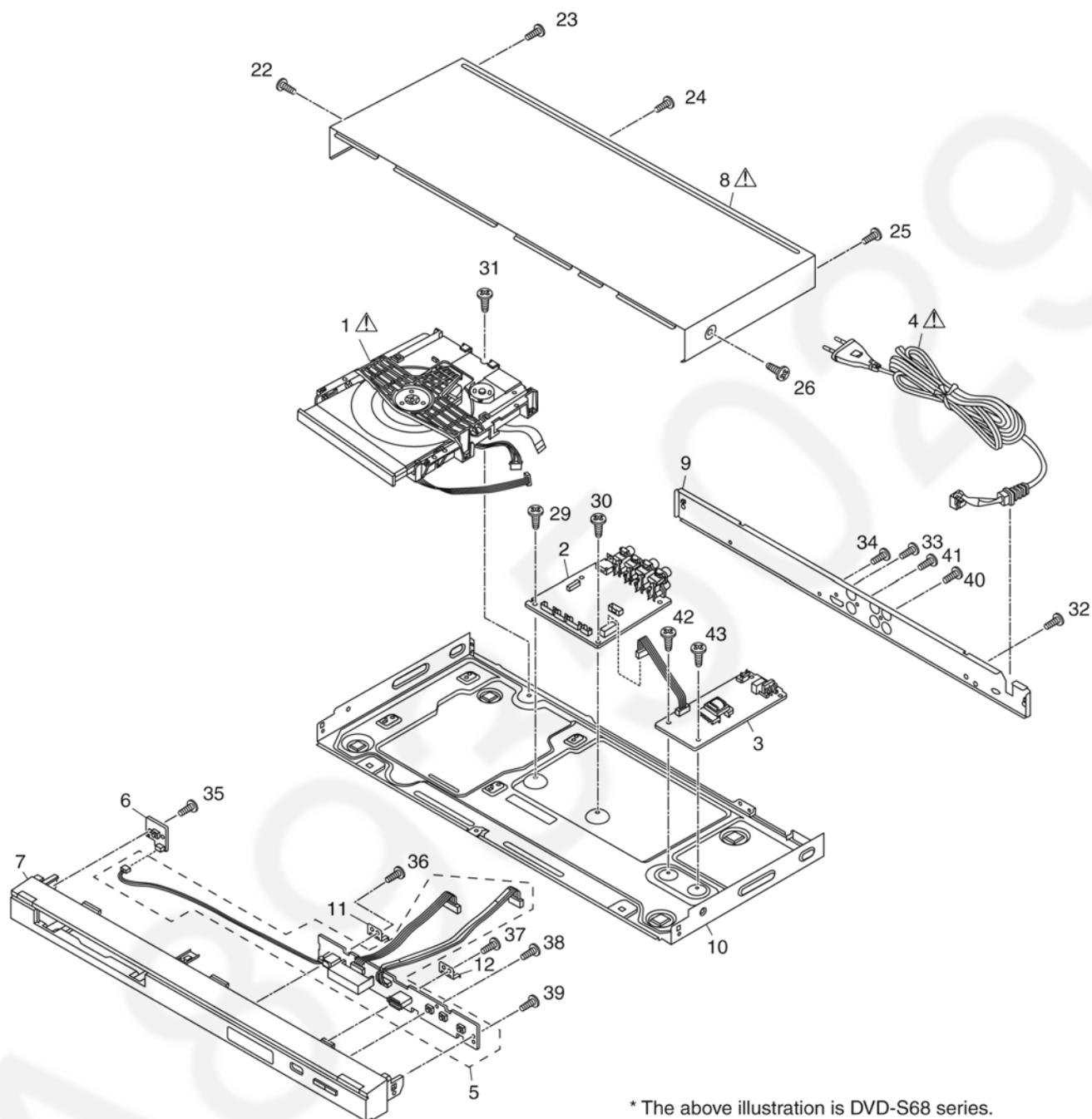
Manual release method of tray

1. Insert paper clips, etc. into the hole on the bottom of DVD Drive, and slide the lever in the direction of arrow to eject tray slightly.
2. Pull the tray in the direction of the arrow.

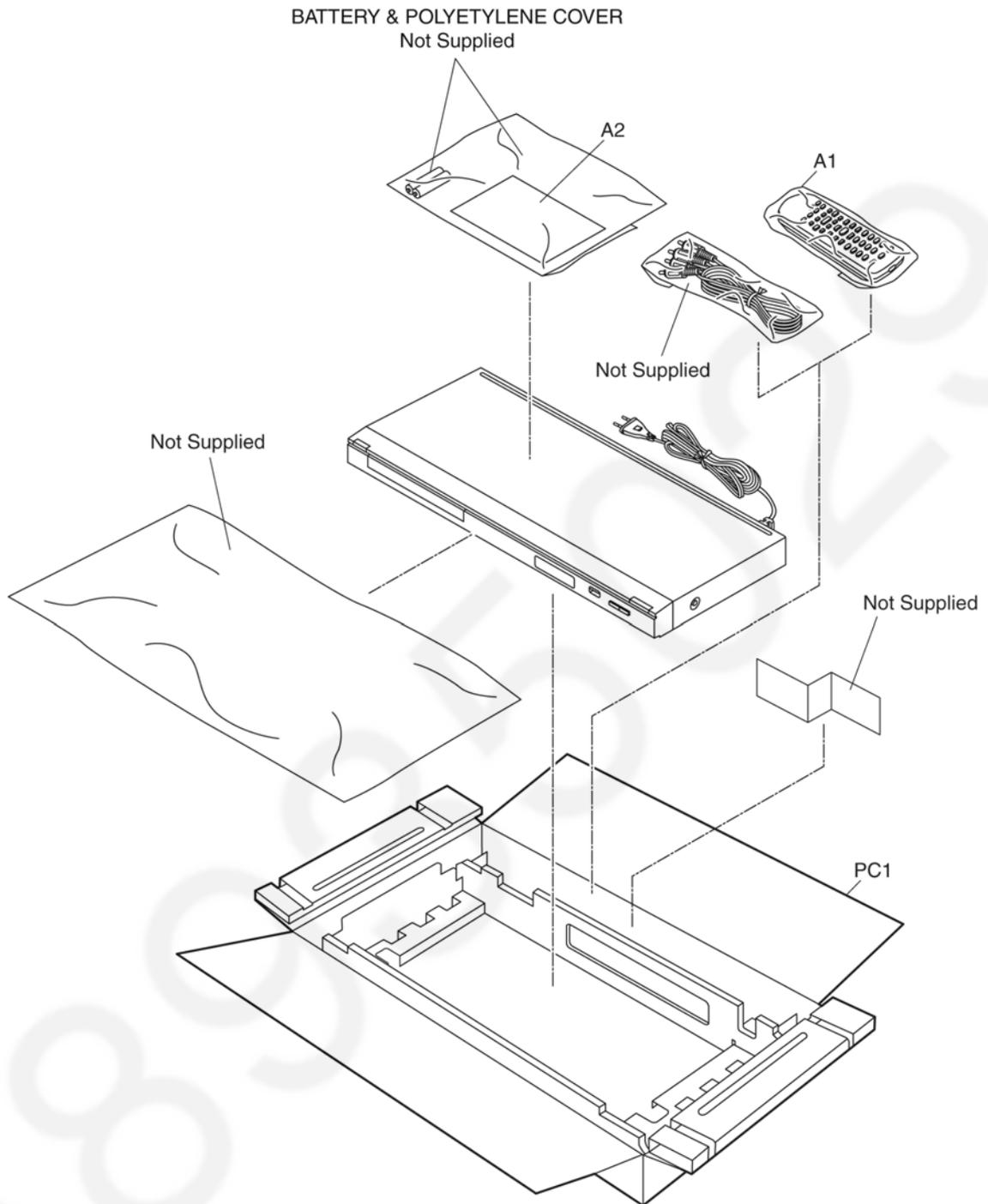


10 Exploded View and Replacement Parts List

10.1. Casing Parts & Mechanism Section



10.2. Packing & Accessories Section



10.3. Replacement Parts List

Notes:

*Important safety notice:

Components identified by  mark have special characteristics important for safety.

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

*All parts are supplied by PAVCSG.

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	1	VXY2134	MECHANISM UNIT	1	
	2	VEP73193A	DIGITAL P.C.B.U	1	DVD-S68GA-K
	2	VEP73194A	DIGITAL P.C.B.U	1	DVD-S68GT-K
	2	VEP73196A	DIGITAL P.C.B.U	1	DVD-S48GC-K/ GF-K/ GN-K
	2	VEP73198A	DIGITAL P.C.B.U	1	DVD-S48GA-K/ GJ-K/ GT-K
	2	VEP73200A	DIGITAL P.C.B.U	1	DVD-S48GW-K
	2	VEP73201A	DIGITAL P.C.B.U	1	DVD-S68GC-K/ GN-K
	2	VEP73202A	DIGITAL P.C.B.U	1	DVD-S485GW-K
	2	VEP73203A	DIGITAL P.C.B.U	1	DVD-S685GW-K
	3	VEP71224A	POWER SUPPLY P.C.B.U	1	DVD-S68GA-K/ GC-K/ GN-K, DVD-S685GW-K
	3	VEP71225A	POWER SUPPLY P.C.B.U	1	DVD-S68GT-K
	3	VEP71228A	POWER SUPPLY P.C.B.U	1	DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GW-K
	3	VEP71229A	POWER SUPPLY P.C.B.U	1	DVD-S48GT-K
	3	VEP71227A	POWER SUPPLY P.C.B.U	1	DVD-S485GW-K
	4	K2CQ2YY00092	AC CORD	1	DVD-S68GA-K, DVD-S48GA-K/ GF-K
	4	K2CP2YY00049	AC CORD	1	DVD-S68GT-K, DVD-S48GT-K
	4	K2CP2YY00050	AC CORD	1	DVD-S48GJ-K
	4	K2CT3YY00048	AC CORD	1	DVD-S68GC-K, DVD-S48GC-K
	4	K2CJ2YY00080	AC CORD	1	DVD-S68GN-K, DVD-S48GN-K
	4	K2CA2YY00187	AC CORD	1	DVD-S48GW-K, DVD-S485GW-K, DVD-S685GW-K

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	5	VEP77192A	FRONT P.C.B.U	1	DVD-S68GA-K/ GC-K/ GN-K/ GT-K, DVD-S685GW-K
	5	VEP77193A	FRONT P.C.B.U	1	DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GT-K/ GW-K, DVD-S485GW-K
	6	VEP70447A	SW P.C.B.U	1	DVD-S68GA-K/ GC-K/ GN-K/ GT-K, DVD-S685GW-K
	6	VEP70448A	SW P.C.B.U	1	DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GT-K/ GW-K, DVD-S485GW-K
	7	VGP6388	FRONT PANEL	1	DVD-S68GA-K/ GC-K/ GN-K/ GT-K, DVD-S685GW-K
	7	VGP6426	FRONT PANEL	1	DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GT-K/ GW-K, DVD-S485GW-K
	8	VGP6392	TOP PANEL	1	DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GT-K/ GW-K, DVD-S485GW-K
	8	VGP6391	TOP PANEL	1	DVD-S68GA-K/ GC-K/ GN-K/ GT-K, DVD-S685GW-K
	9	VGP6404	BACK PANEL	1	DVD-S48GJ-K
	9	VGP6405	BACK PANEL	1	DVD-S48GT-K
	9	VGP6427	BACK PANEL	1	DVD-S48GA-K
	9	VGP6428	BACK PANEL	1	DVD-S48GC-K/ GF-K
	9	VGP6429	BACK PANEL	1	DVD-S48GN-K
	9	VGP6430	BACK PANEL	1	DVD-S48GW-K
	9	VGP6431	BACK PANEL	1	DVD-S68GA-K

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	9	VGP6432	BACK PANEL	1	DVD-S68GC-K
	9	VGP6433	BACK PANEL	1	DVD-S68GN-K
	9	VGP6434	BACK PANEL	1	DVD-S68GT-K
	9	VGP6435	BACK PANEL	1	DVD-S485GW-K
	9	VGP6436	BACK PANEL	1	DVD-S685GW-K
	10	VKU0608	BOTTOM CABINET	1	DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GT-K/ GW-K, DVD-S485GW-K
	10	VKU0609	BOTTOM CABINET	1	DVD-S68GA-K/ GC-K/ GN-K/ GT-K, DVD-S685GW-K
	11	VSC6333	EARTH PLATE	1	
	12	VSC6333	EARTH PLATE	1	
	22	VHD2326	SCREW	1	
	23	VHD2326	SCREW	1	
	24	VHD2326	SCREW	1	
	25	VHD2326	SCREW	1	
	26	VHD2326	SCREW	1	
	29	VHD2327	SCREW	1	
	30	VHD2327	SCREW	1	
	31	VHD2327	SCREW	1	
	32	VHD2328	SCREW	1	DVD-S68
	33	VHD2328	SCREW	1	DVD-S68
	34	VHD2328	SCREW	1	DVD-S68
	35	VHD2329	SCREW	1	
	36	VHD2329	SCREW	1	
	37	VHD2329	SCREW	1	
	38	VHD2329	SCREW	1	
	39	VHD2329	SCREW	1	
	40	VHD2330	SCREW	1	
	41	VHD2330	SCREW	1	
	42	VHD2330	SCREW	1	
	43	VHD2330	SCREW	1	
	A1	N2QAYA000015	REMOTE CONTROLLER	1	DVD-S68GA-K/ GC-K/ GN-K/ GT-K, DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GT-K/ GW-K, DVD-S485GW-K, DVD-S685GW-K
△	A2	VQT3L81-1	OPERATING INSTRUCTIONS	1	DVD-S68GA-K/ GC-K/ GN-K, DVD-S48GA-K/ GC-K/ GF-K/ GJ-K/ GN-K/ GW-K

Safety	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
△	A2	VQT3L85-1	OPERATING INSTRUCTIONS	1	DVD-S68GA-K/ GT-K, DVD-S48GA-K/ GJ-K/ GT-K
△	A2	VQT3L86	OPERATING INSTRUCTIONS	1	DVD-S68GC-K, DVD-S48GC-K/ GF-K
△	A2	VQT3N06	OPERATING INSTRUCTIONS	1	DVD-S485GW-K, DVD-S685GW-K
	PC1	RPG9421	PACKING CASE	1	DVD-S48GC-K
	PC1	RPG9418	PACKING CASE	1	DVD-S48GA-K
	PC1	RPG9422	PACKING CASE	1	DVD-S48GF-K
	PC1	RPG9420	PACKING CASE	1	DVD-S48GJ-K
	PC1	RPG9417	PACKING CASE	1	DVD-S48GN-K
	PC1	RPG9423	PACKING CASE	1	DVD-S48GT-K
	PC1	RPG9424	PACKING CASE	1	DVD-S48GW-K
	PC1	RPG9407	PACKING CASE	1	DVD-S68GA-K
	PC1	RPG9577	PACKING CASE	1	DVD-S68GC-K
	PC1	RPG9406	PACKING CASE	1	DVD-S68GN-K
	PC1	RPG9408	PACKING CASE	1	DVD-S68GT-K
	PC1	RPG9574	PACKING CASE	1	DVD-S485GW-K
	PC1	RPG9573	PACKING CASE	1	DVD-S685GW-K