HDD / DVD Recorder Combi

DVDR560H/69/75/93/97

Service
Service
Service

Service Manual

Version 1.0

PHILIPS

CONTENTS

1.Specification

SPECIFICATIONS

DISC TYPES SUPPORTED (Read Only):
DVD-R/RW, DVD+R/RW, CD-R/RW

CONTENT FORMAT SUPPORTED :
1) DVD-Video
2) DVD+VR (DVD+VR format is compatible with DVD-Video in most case)
3) Video CD
4) Super VCD
5) Audio CD
6) MP3
   Maximum number of files recognizable : 9999 files
   Compression rate : between 32 kbps and 320 kbps
7) JPEG
   Maximum number of pictures recognizable : 9999 files
8) BMP
   Maximum number of pictures recognizable : 9999 files

RECORDABLE MEDIA SUPPORTED:
1) DVD+R/-R   (DVD+VR Mode)
2) DVD+RW/-RW   (DVD+VR Mode)
3) Built-in 160GB HDD   (DVD+VR mode)

VIDEO RECORDING MODE

Mode	DVD	HDD
M1	1hr	33hrs
M2	2hrs	66hrs
M2x	2.5hrs	83hrs
M3	3hrs	99hrs
M4	4hrs	132hrs
M6	6hrs	198hrs

VIDEO RECORDING FORMAT
MPEG2: DVD+VR (M1/M2/M2x/M3/M4 mode)
MPEG1: DVD+VR (M6 mode)

VIDEO PERFORMANCE
VIDEO PERFORMANCE

DA Converter	10-bit / 54MHz
Composite Output	1 Vpp 75 Ohm
S-Video Output	Y : 1 Vpp 75 Ohm
	C : 0.3 Vpp 75 Ohm
Components Output	Y : 1 Vpp 75 Ohm
	P_b : 0.7 Vpp 75 Ohm
	P_r : 0.7 Vpp 75 Ohm

AUDIO RECORDING FORMAT
DVD+VR (M1/M2/M2x/M3/M4/M6 mode): Dolby Digital 2-channel

AUDIO FORMAT Supported - Playback

Analog output	2channel
Digital output	coaxial/optical
Format supported	LPCM/Dolby Digital/MPEG

AUDIO PERFORMANCE

DA Converter	24-bit/96KHZ
AD Converter	24-bit/96KHZ
Signal-Noise (1kHz)	≥90dB
Dynamic Range (1kHz)	≥80dB
Channel Separation (1kHz)	≥110dB
Total Harmonic Distortion (1kHz)	≤-65dB

TUNER

TV format	PAL

CONNECTIONS
FRONT PANEL

Video Input	RCA Connector (yellow) x1
Audio L/R Input	RCA Connector (white/red) x1
IEEE 1394 Input	Mini jack x1

REAR PANEL

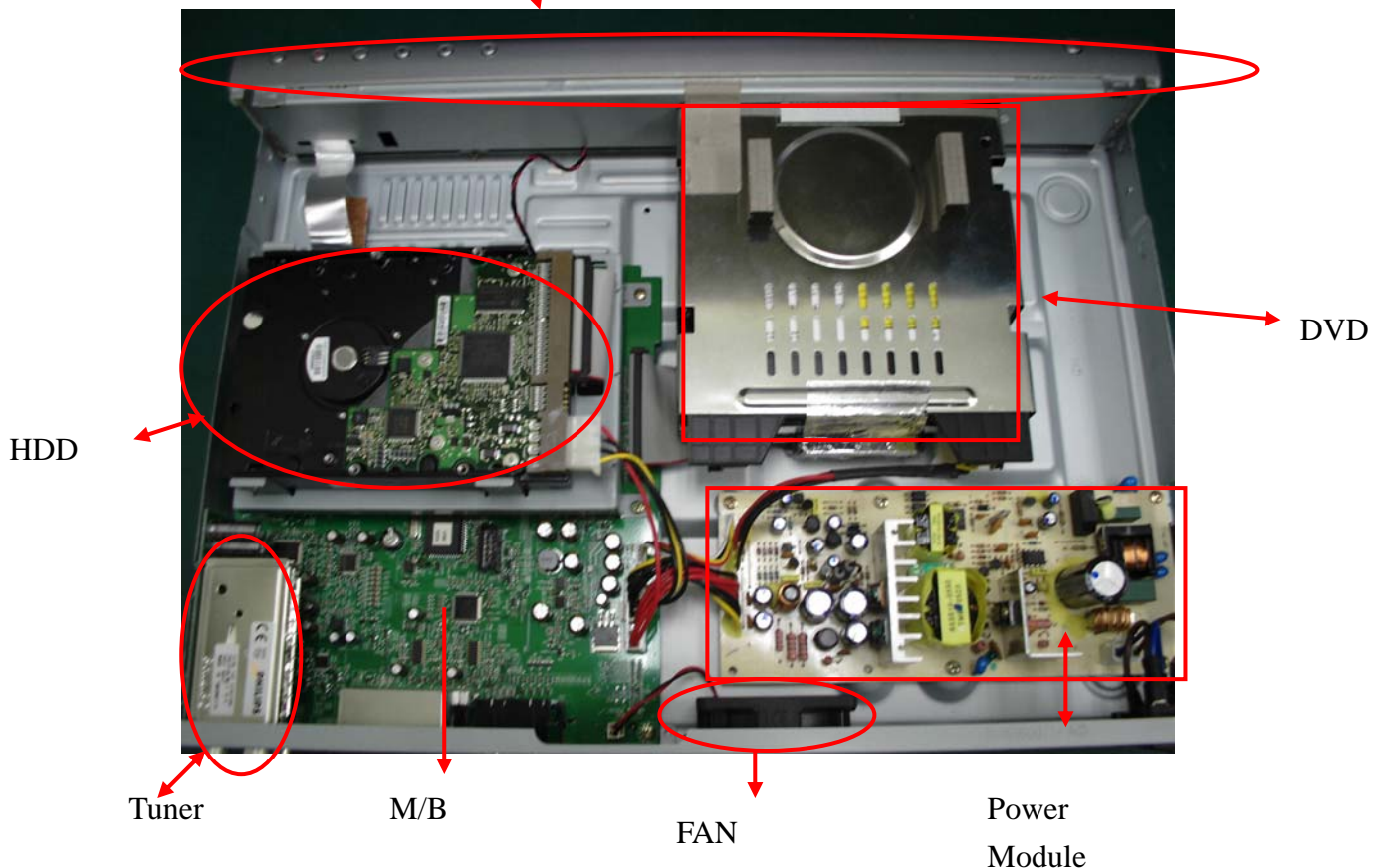|	
Video Output	RCA Connector (yellow) x1
Audio L/R Output	RCA Connector (white/red) x1
S-Video Output	4-pin
Video Input	RCA Connector (yellow) x1
Audio L/R Input	RCA Connector (white/red) x1
S-Video output	4 pin
Component / Progressive Scan Output	Y, P_b, P_r (Green/Blue/Red) x1
Digital Audio Output	Coaxial x1
	Optical x1

GENERAL

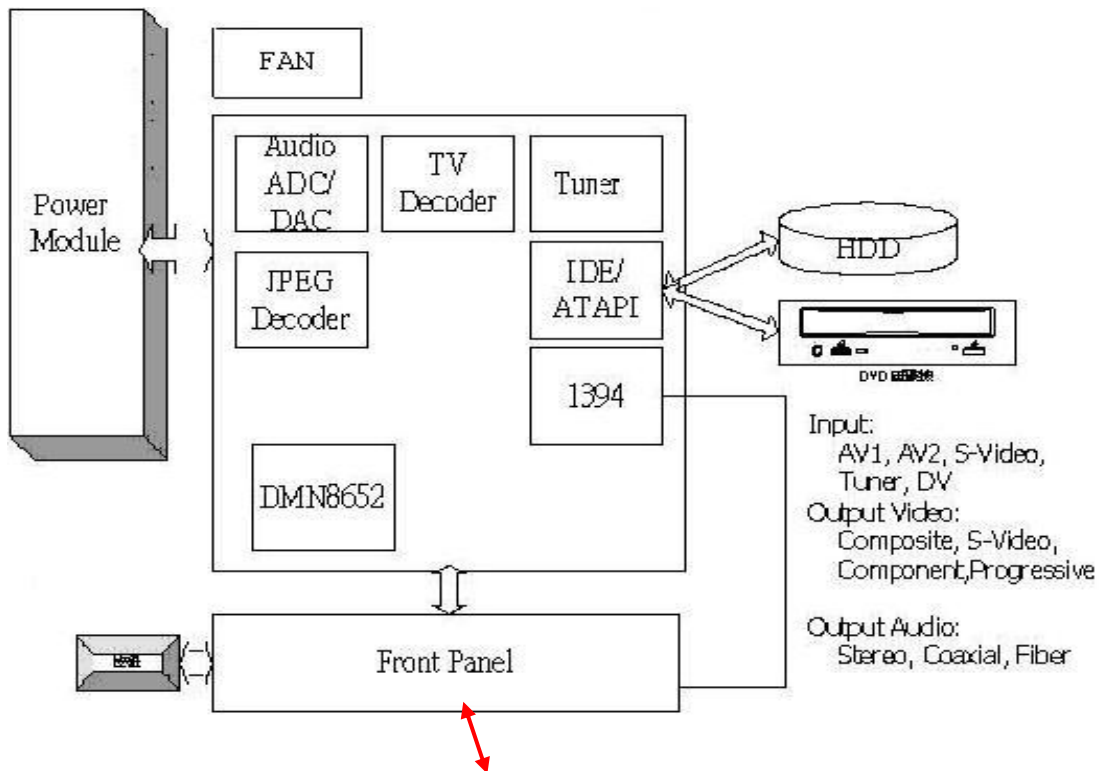|	
Power Supply	AC 100 ~ 240V 50/60Hz
Power Consumption	Approx. 50 W
Operating Temperature	+5°C to +40°C (+36°F to +104°F)
Operating Humidity	5% to 80% RH
Dimensions(W/H/D):	430 x 66 x 316 mm
Net Weight:	Approx. 4.3 kg

Notes:
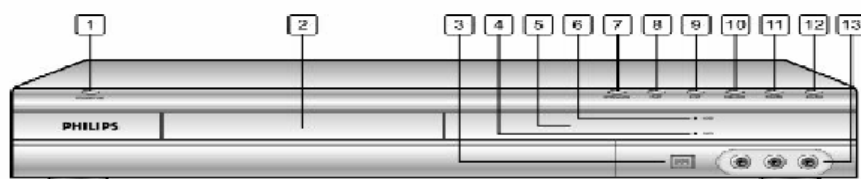The specifications and design of this product are subject to change without notice.

2.Product Validation Strategies and Process

2-1.System Block Diagram

2.1.1 Front Panel
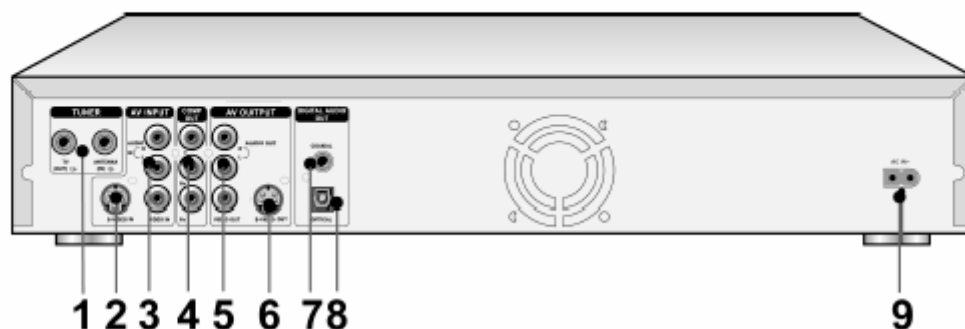
Front panel connections
(for reference only)

Names of parts and controls

1) **POWER ON/OFF Button**
   Turns the recorder on and off.

2) **DISC TRAY**
   Holds discs securely during recording or playback

3) **DV-LINK (IEEE-1394) Jack**
   Connects digital video camcorders to this DVD Recorder.

4) **DVD Indicator**
   Lights up when DVD is set as the target device.

5) **DISPLAY Panel**
   Operation indicators are displayed here.

6) **HDD Indicator**
   Lights up when HDD is set as the target device

7) **OPEN/CLOSE Button**
   Opens or closes the disk tray.

8) **PLAY Button**
   Plays a disk.

9) **STOP Button**
   Stops playing or recording a disk.

10) **HDD/DVD Button**
    Press to switch between HDD and DVD.

11) **RECORD Button**
    Starts recording.

12) **SOURCE Button**
    Select equipment connected to the line inputs.

13) **Front AV (VIDEO/AUDIO L/R) Jacks**
    Connects the input of external equipment.

2.1.2 Rear Panel

Rear panel connections
(for reference only)

Names of parts

1) **TUNER(TV/ANTENNA) Jacks**
   Connects TV/ANTENNA for signal output/input.
   Note:
   Playback signals don't go through here. Make proper connections before using this DVD Recorder.

2) **LINE IN (S-VIDEO) Jack**
   S-Video signal input.

3) **AV2 Rear (VIDEO/AUDIO L/R) Jacks**
   Composite signal input.

4) **COMPONENT VIDEO OUTPUT (Y/Pb/Pr) Jacks**
   Component signal output.

5) **LINE OUT (VIDEO/AUDIO L/R) Jacks**
   Composite signal output.

6) **LINE OUT (S-VIDEO) Jack**
   S-Video signal output.

7) **DIGITAL AUDIO OUT (COAXIAL) Jack**
   Connects an amplifier or receiver having a digital input jack.

8) **DIGITAL AUDIO OUT (OPTICAL) Jack**
   Connects an amplifier or receiver having a digital input jack.

9) **AC In Terminal**

3.Fault Finding Tree

Start condition:
1. Plug the power cord
2. Power on

```
Front panel display?  --N-->  Power cord plug?  --N-->  Plug the power cord
       |                             |
       | Y                           | Y
       v                             v
Display Normal?  --N-->       Open top cover and use "multimeter" to   --N-->  Replace power module
Replace front                 verify if the power module output both
display board                 5V&12V
       |                             |
       | Y                           | Y
       v                             v
Press "EJECT" buttom          Replace front
to verify if the player       display board
boot up and also tray
come out ?  --N-->  Replace drive
       |
       | Y
       v
Put a movie disc
and press the "play"
to verify if AV output
corret?  --N-->  Replace M/B
       |
       | Y
       v
Use the "Erase"  --Y-->  NPF
function of the "disc
tool " to verify if the   --N-->  Replace HDD
HDD work normal?
```

Start condition:
1. Plug the power cord
2. Power on

Recording

```
┌─────────────────┐  Y  ┌─────────────────┐     ┌─────────────────┐
│ Select Source   │────▶│ Select Target to│────▶│ Press Record    │
│ view and        │     │ HDD/DVD OK      │     │ button to start │
│ display OK      │     │                 │     │                 │
└─────────────────┘     └─────────────────┘     └─────────────────┘
        │ N                                              │ N
        ▼                                                ▼
┌─────────────────┐  Y  ┌─────────────────┐     ┌─────────────────┐  Y  ┌─────────────────┐
│ Select AV       │────▶│ Check           │     │ Show "Protected │────▶│ Source DVD is   │
│ sources but no  │     │ connection      │     │ Content"        │     │ not allowed to  │
└─────────────────┘     └─────────────────┘     └─────────────────┘     └─────────────────┘
        │ N                                              │ N
        ▼                                                ▼
┌─────────────────┐  Y  ┌─────────────────┐     ┌─────────────────┐  Y  ┌─────────────────┐
│ AV Sources      │────▶│ Check if TV     │     │ Show "Wrong     │────▶│ Recording disc  │
│ video is        │     │ system of input │     │ Signal Type"    │     │ was formatted   │
│ black&white or  │     │ device is       │     │                 │     │ when            │
│                 │     │ different       │     │                 │     │                 │
└─────────────────┘     └─────────────────┘     └─────────────────┘     └─────────────────┘
        │ N                                              │ N
        ▼                                                ▼
┌─────────────────┐  Y  ┌─────────────────┐     ┌─────────────────┐  Y  ┌─────────────────┐
│ Select DV but   │────▶│ Gray screen-    │     │ Show "Write     │────▶│ Bad write       │
│ no video        │     │ check           │     │ Fail"           │     │ quality on this │
│                 │     │ Connection      │     │                 │     │ disc            │
└─────────────────┘     └─────────────────┘     └─────────────────┘     └─────────────────┘
```

Start condition:
1. Plug the power cord
2. Power on

DVD Playback

| Select Target DVD, eject | →Y→ | Load supported disc DVD+-R/RW, CD-R | →Y→ | Auto-play DVD VCD SVCD and Media Disc |

↓N

| Invalid disc or Data disc | →Y→ | Not supported format |

↓N

| Blank disc | →Y→ | Show "Preparing" then start pre-format for |
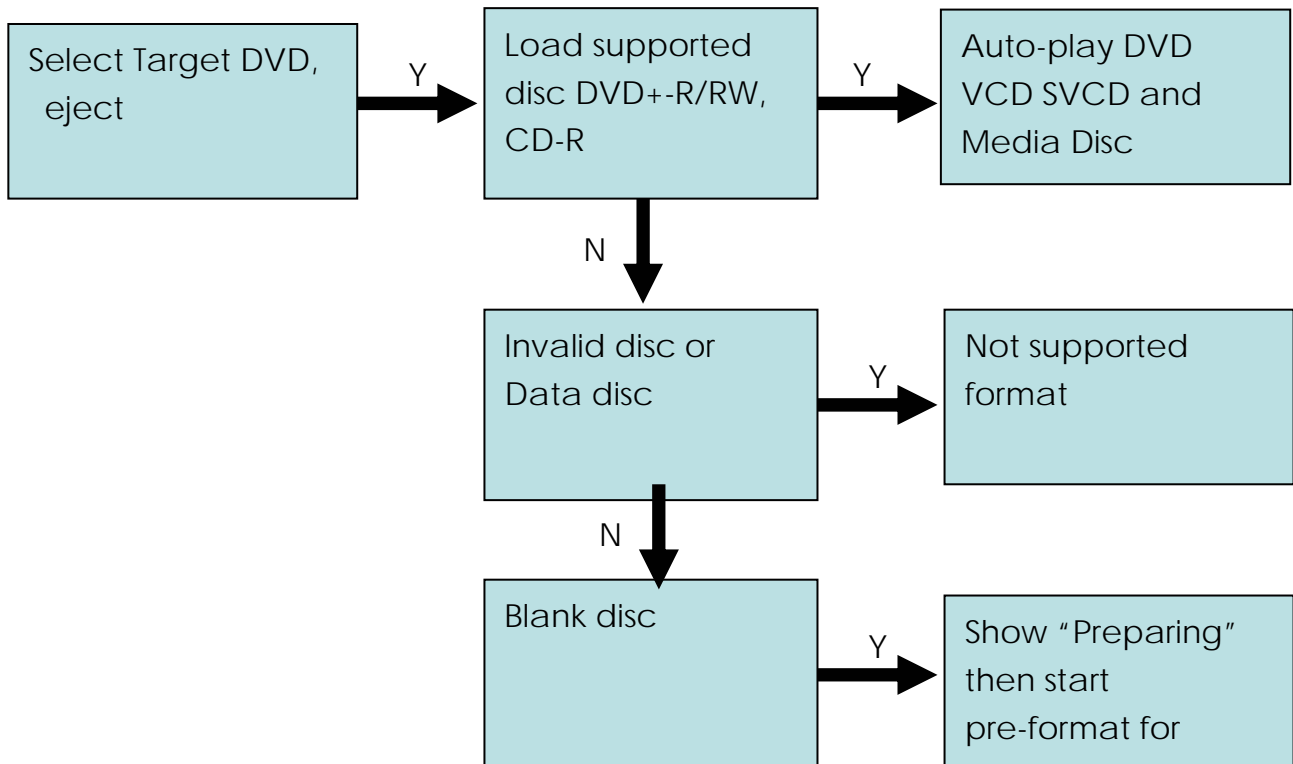
Tuner :
Select the source into TV mode first

| TV signal on screen ? | —N→ | Can scan All channel? | —N→ | Replace Tuner Board |

Can scan All channel? —Y→ TV signal on screen ?

TV signal on screen ? —Y→ (down)

| Display normally ? | —N→ | Can Fine tune Channel? | —N→ | Replace Tuner Board |

Can Fine tune Channel? —Y→ Display normally ?

Display normally ? —Y→ (down)

| Check if the Audio output properly ? | —N→ | Check if Audio /Video output properly when DVD playback ? | —Y→ | AV output issue |

Check if the Audio output properly ? —Y→ No problem found

Check if Audio /Video output properly when DVD playback ? —N→ Replace Tuner Board

| No problem found |

| Replace Tuner Board |

Reference of defect symptoms for repair

- After power cord plug in ,LED no display , but AV output normal after power on -> replace display board
- After power on , the color of the screen isn't correct -> replace M/B
- After power on , the fan doesn't work -> replace power module / Fan
- Can't eject or show "No Disc" -> replace drive
- Can't auto format any brand new disc -> replace drive
- Recording will auto stop or hang -> replace M/B & drive
- Playback will have mosaic -> replace M/B
- Can't format HDD -> replace HDD
- Can't record with HDD -> replace HDD
- No Audio or audio output abnormal -> replace M/B
- Optical / Coaxial no output when the setting is set as DTS output -> replace M/B
- Can't update F/W through drive -> replace drive
- Can't detect DV when plug in/out with a DV -> replace display board
- AV1 input mode doesn't output video / audio when connected to a normal external AV source -> replace display board
- AV2 (Scart) / S-Video input mode doesn't output video / audio when connected to a normal external AV source -> replace M/B

Module Fail / Problem	Remedy / Symptom
HDD	■ Run Disc Tool/Format/HDD show "Fail", this could be a bad HDD
	■ Run Disc Tool/Defragment show "Fail", this could be a bad HDD
	■ Format no problem but show "Write Fail" during recording , this could be a bad HDD
DVD Drive	■ Load any disc always show "No disc", this could be a bad DVD drive
	■ Load some kind of discs always show "No disc". For example load DVD no problem, but load CD-R show "No disc", this could be a bad DVD drive
	■ Cannot open tray. User can try to power off the recorder, and then press "Eject" to boot again. If still can not open, this could be a bad DVD drive. If tray open successfully and there is a disc inside, it's the disc cause drive busy. Try another disc, if user can tray in/out no problem, the drive should be ok.
DVD/CD disc	■ Run Disc Tool/Format/DVD show "Fail". This could be a bad disc or not compatible with our DVD drive.
	■ Format no problem but show "Write Fail" then stop during recording. Press "Record" again may be user can continue record, but part of the audio/video on this disc may not smooth. This could be a bad disc or not compatible with our DVD drive.
	■ Take long time to load disc then show "Invalid Disc". The disc could be a bad disc or unsupported format
Power	■ Connect power cord, but LED display show nothing, Press remote or button on the panel still nothing happened. This could be a power board problem
	■ Replace power cord if find any available. We use a common power cord user may able to find the same one on his other electronic products
Remote	■ Press buttons on remote but nothing happened, system can still power on by buttons on panel. OSD doesn't show system receive any key. This could be a bad remote or ran out of battery.
	■ Or it could be a bad receiver on the front panel
Front Panel	■ System can power on and work by remote no problem, but press buttons on panel does not work. This could be a bad front panel

Module Fail / Problem	Remedy / Symptom
Video Output	■ Can not see any display or color abnormal, video distortion. Make sure cables connected correctly. Try another output like S-video, AV, Component, and Scart.
	■ Run SETUP to select available video output
Audio Output	■ Can not hear any sound output through speakers of TV or amplifier. Make sure cables connected correctly. Try another output like AV, optical, coaxial
	■ Playing DVD movie, when select DTS out on DVD audio menu no audio output. User needs to run SETUP/Audio/DTS to set DTS ON
TV Tuner	■ Run SETUP, Tuner setting correctly, but after scan TV channel can not select correct TV programs. Run SETUP/ Tuner/TV signal, select Antenna or Cable then run "Channel Scan" again, don't use "Auto". "Auto" will re-arrange channel table and remove channel numbers not available.
	■ User selects TV signal/country correctly, after scan still cannot select channel, this could be a bad TV tuner.
External source	■ Connect external source like AV, S-video, Scart, DV-link (1394) can not see the video input. Make sure cables connected correctly. If these signals connect to other AV products no problem. This could be a bad connector
	■ For DV, user need to know the DV is NTSC/PAL, and the playing DV tape is NTSC/PAL. They must be the same TV type as the recorder to make it works properly.
Can not Real-time Record	■ Show "Protected Content", it's Copy-Protected and not allowed to copy
	■ Show "Wrong Signal Type" when record to disc. The disc was formatted by different TV system (NTSC/PAL). For DVD±RW, user can reformat this disc (contents on this disc will be erased). For DVD±R, user can only change another disc
	■ Press "Record" shows key blocked, will not start recording. Maybe user select wrong Target device. Press Target to choose HDD/DVD
	■ Empty DVD-R/RW, CD-R/RW user needs to format by Disc Tool before recording
Can not Timer Record	■ Open "Timer" record again, there is a message shows why it failed, please move the cursor to column status and it will show the reason it fails
	■ Selected recording "Target" is unable to record when Timer starting time

Module Fail / Problem	Remedy / Symptom
Cannot play a disc	■ If it's not "Invalid disc", could be unsupported format/contents in the disc
Copying	■ Show "Fail" when copying files/discs, it could be unsupported format
	■ Show "Fail" when copying recorded DVD+VR title, it could be out of disc space
System Upgrade	■ Follow the firmware update procedure in the chapter"Firmware update".
	■ If upgrade failed (power failure during upgrade or ...), maybe every time system power on will show "Put Cd In". Users most load the upgrade disc again to recover.

Trouble Shooting Guide

1   Just "HELLO"

1.1 First recognize what kind of "Hello" it is. You have got two types; one with Power on and one after Power on, when the DVD starts up.

1.2 If the unit takes a long time to complete the power-on process, check IDE cable (or 4 IDE connector: connecting between Loader & HDD) whether assembly / connecting properly or not.

1.3 To check the connector between main board and power module had been asembled / connected properly. (Fan on rear panel should rotate continuously) if there
is no power supplying to main board (Yellow: +12V <-> Red: +5V measured wth universal voltage meter), replace / change another new Power Module.

1.4   Check the FFC (18 pin) cable between main board and display board had been assembled connected well.

1.5 If after checking above still Just "Hello" do the following:
- ❑ Replace/change another new Main Board; if still not work,
- ❑ Replace/change another new DVD writer (Loader) if still not work,.
- ❑ Replace/change another new HDD;

2   No Display On LED Module

2.1 Put a paper in between the M/B and the barebone, for preventing the M/B shortcut with ground and Re-test again.

2.2 To check the connector between main board and power module had been assembled / connected properly. (Fan on rear panel should rotate continuously) if there

Is no power supplying to main board (Yellow: +12V <-> Red: +5V measured with universal voltage meter), replace / change another new Power Module.

2.3 Check the FFC (18 pin) cable between main board and display board had been assembled connected well.
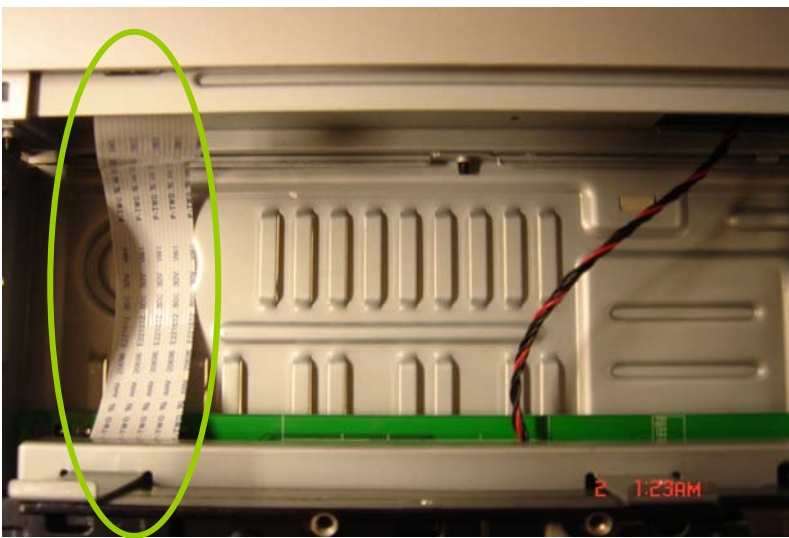
2.4 Short the JP8 (on the main board) with jumper, and then, plug with power cord to check if the text on the LED module had been lighted on. (Test mode of Display Board had been activated). In case the answer is negative, replace / change another new Display Board.

2.5 Replace / change another new Main Board. (There should be something wrong with IC component: AT89S52, DMN-8652 .....)
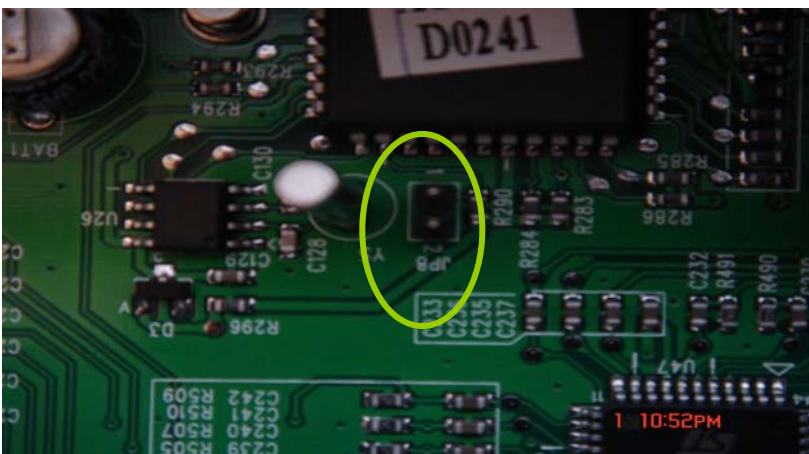
3   Loader (DVD writer) Failure

3.1 Tray can't open

3.1.1 Disassemble the Loader, and press the eject button on the Loader (with power

supply connected : 4 pin connector) to check whether the tray can open or not. Re-assembly DVD writer (Loader), pay attention to assembly issue (Plastic layer of Loader stuck to front) and the position of IDE cable (40 pin; flat cable).

3.1.2 Check the FFC (18 pin) cable between main board and display board had been assembled / connected well.

3.2 Not ready (Loader can't identify / recognize the disc)

3.2.1 In this case update the loader firmware to latest version. Please select several kind of DVD and CD discs including 8x and 4x DVD+R/RW, and test if loader

can both playback and record on the disc.

1. If yes, then this maybe a media compatibilities issue. The firmware update can solve it.
2. If can not playback or record at all, change another new loader.
3.   If just can't record on some disc, wait for a new firmware release or change another new loader.

3.3 Copy/Recording failure or Mosaic appeared

1. Check if the recorded disc is dirty or scratch. If yes, try another disc to check again.

2. If no, update loader to latest and check it again.

3. If it still can't work, Replace/change another new loader and check it again.

4. If it still can't work, Replace/change another new Main-board and check it again.

4   Update FirmWare

4.1 Tray can't open

4.1.1 Re-assembly DVD writer (Loader), pay attention to assembly issue (Plastic layer of Loader stuck to front) and the position of IDE cable (40 pin; flat cable).

4.1.2 Check the FFC (18 pin) cable between main board and display board had been assembled / connected well.

4.1.3 Disassemble the Loader, and press the eject key on the Loader (with power supply connected : 4 pin connector) to check whether the tray can open or not. If   the answer is negative, Replace / change another

new Loader.

4.1.4 After that, tray still can't open. Replace / change another new Main Board.

4.2 Put in CD

4.2.1 Put the update \disc on the tray and pressing open/close key to make the tray close, system would update firmware automatically. This may take a while, wait for the loader to read the firmware update. When "error" on panel replace Mainboard

4.2.2 In case the tray still eject in a few seconds later, Replace/change another new Main Board.

4.3 especially case (Firmware updating fail)

4.3.1 Open the tray and put in the firmware disc, tray in and wait the disc ready after A-up (AP upgrade) ,start to upgrade the loader, if finished it will show "done" in LCD panel.

4.3.2 In case d-up (loader upgrade) to 99% then show "error ",

1. Please wait tray-out and remove the update disc (**please note don't turn off the power immediately , please wait about 70 seconds**) .

2. Press the power key to power off , then restart the power on again .The set will show " put in CD " then put in update disc and update again..

3. If still fail , change the loader.

5   TV (Tuner Function) Failure

5.1 Make sure that the Tuner Board had been assembled on Main Board at the right (pin) position and that it is clicked in. Also check the capacitor 470uF on the Tuner Board must be shorted and is still intact .Look if the pins of the tuner are still straight and are placed in the right place

5.2 If the answer of former step is positive and all is assembled correctly, Replace another new Tuner Board.

5.3 In case the tuner (TV) function still had not worked, Replace/change another
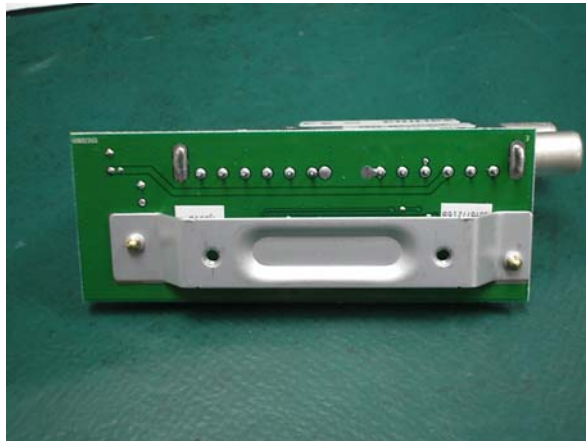
new Main Board.

## 6   Erasing   (HDD) Failure

6.1 First confirm recognizes HDD). See   that it is a HDD Failure by using the Timer (If it the HDD) and Erase Function (Format the Picture below
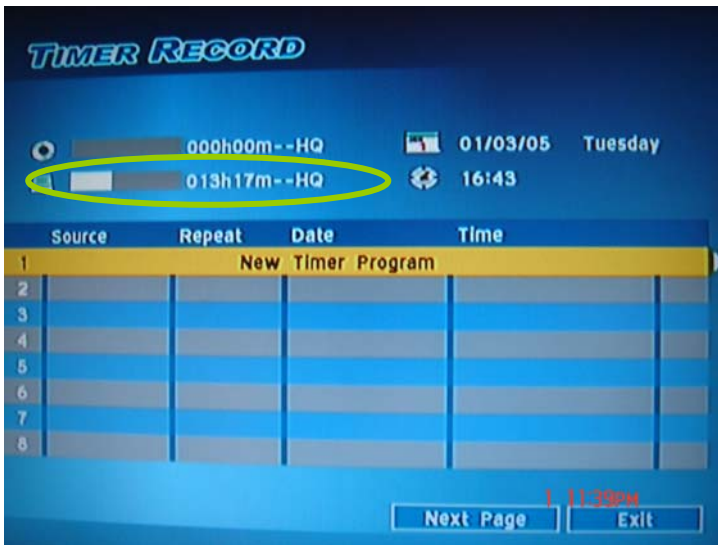

6.2   Check if the voltage of connector which connected to HDD is correct or not.(Yellow: +12V <-> Red: +5V).If no, change the power module. See picture below.

6.3 If failed, check IDE cable/connector (40 pin) of HDD device whether assembly / connecting properly or not.

6.4 If not, connect it well and try again

6.5   If yes, remove the HDD from the set and connect it to a PC to check if the PC can recognize it or not. (Seagate screen test)!

6.6   If the PC can recognize it ,the format it on the PC and put it back to the set, then excute erase function again.

6.7   If not, replace / change another new HDD.

6.8 If still Failed try replacing the Main Board.
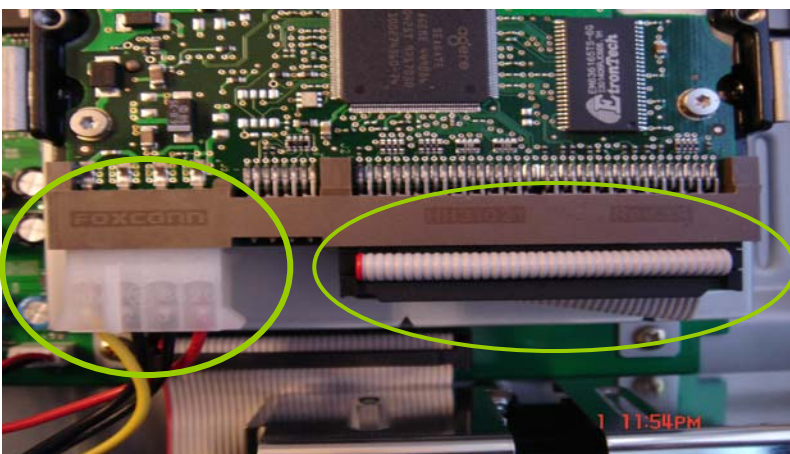
7   DV Test Failures:

7.1 To check JP1 (5 pin) connector on Main Board had been assembled / connected properly.
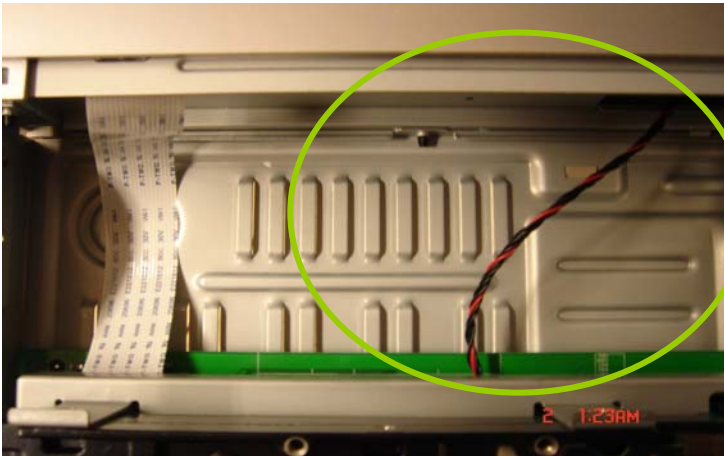
7.2 To check the place/position of Display Board where the 5 pin connector had been shorted or not, if the answer is yes, Replace/change another Display Board.

7.3 Otherwise, Replace/change another new Main Board.

8   Output picture abnormal

8.1 Black screen (LED display CH2)

8.1.1   Make sure that the Tuner Board had been assembled on Main Board at the right (pin) position and to check if the capacitor on the Tuner Board is open or shorted.

8.1.2   If yes , replace another new Tuner Board.

8.1.3   Otherwise, Replace/change another new Main Board.

8.2 No picture output (while Playback)

8.2.1   In case no scart out, please   make sure the RCA out is ok or not.
1.If yes and picture abnormal, update firmware to latest and check it again via scart
2.Otherwise , replace another new Main Board.

8.3 No picture output (while from AV1 input)

8.3.1   To check the connector between main board and display board had been assembled / connected properly

8.3.2   source from AV1(front) : exchange new front panel to make sure workable or not

8.3.3   if still failed, replace another new Main Board

4.Disassembly introductions

4.1Disassemble the TOP-COVER:

Step 1:

Loosening the fixed screws of the TOP-COVER totally 6 screws, 4 on the rear panel and 1 on the left side and the other on the right side of the TOP-COVER, (as PICTURE 1 & 2 & 3)
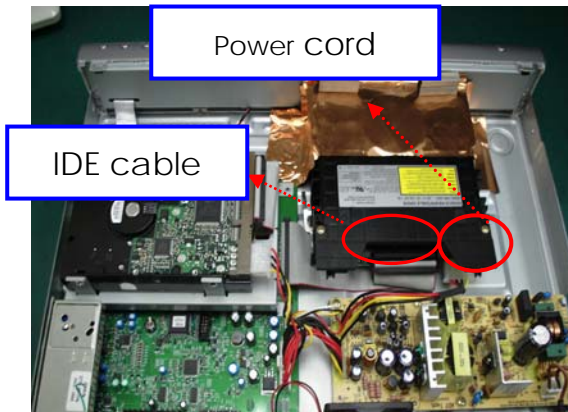

(PICTURE 1)

(PICTURE 2)
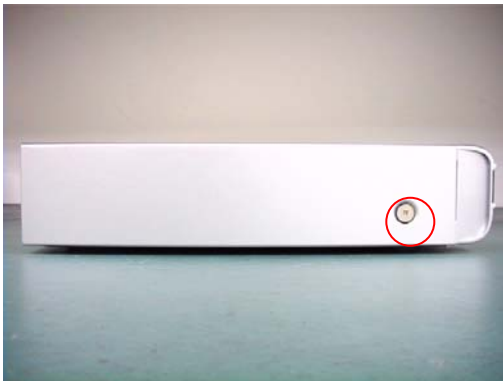
(PICTURE 3)

Step 2:

Pull back to remove the TOP-COVER and let the cover-top lie on horizontally smooth desk to prevent being out-of-shape place upside down (as PICTURE 4)
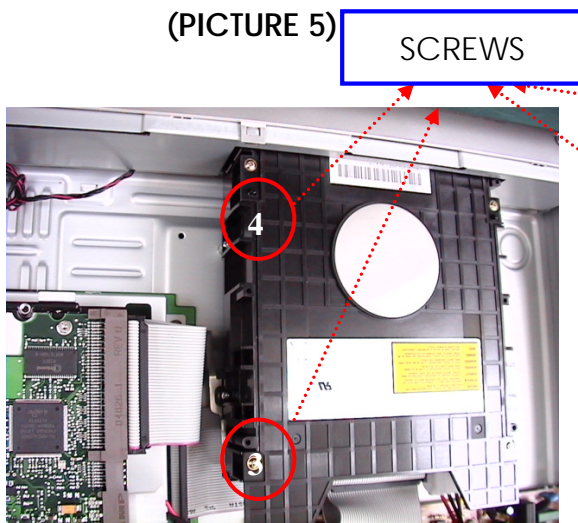

(PICTURE 4)

4.2 Disassemble the Drive:

Power cord

IDE cable

(PICTURE 5)

(PICTURE 6)

SCREWS

4

1

2
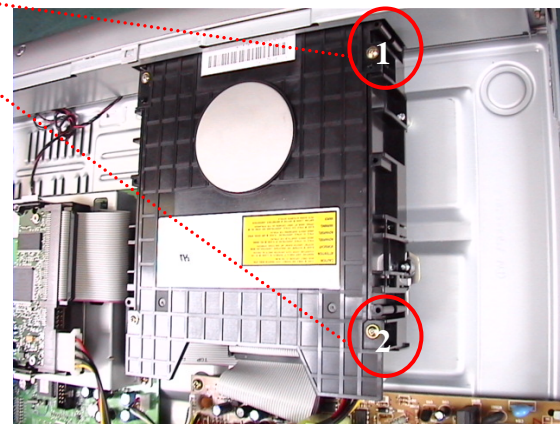
(PICTURE 7)

(PICTURE 8)

Step 1: Tray out → pull out the door and lift up to disassemble the tray door (as PICTURE 6)

Step 2: Tray in → Power off → unplug the power cord

Step 3: Disassembly the top cover

Step 4: Unplug the power cord and IDE cable (as PICTURE 5)

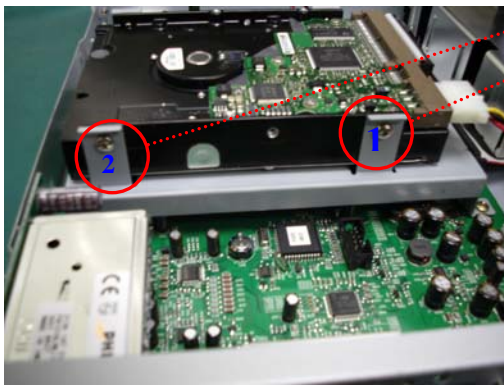**Step 5:** Remove the four fixed screws of the drive (screw 1~4 as PICTURE 7 &8)

Step 6: Remove the Drive

PS: If the tray is jammed can't be out on step 1, please unplug the power cord first ,then follow the step 3-5 ,and then lift up the drive on the rear side to separate the tray door and tray.

4.3 Disassemble HDD:

Power cord
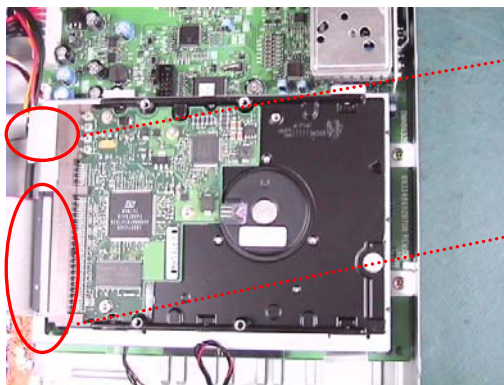
IDE cable

SCREWS
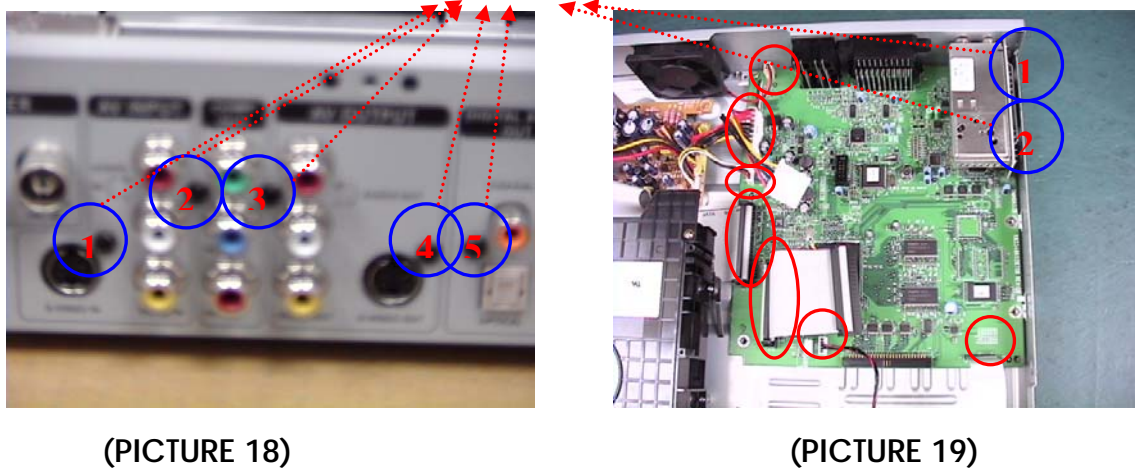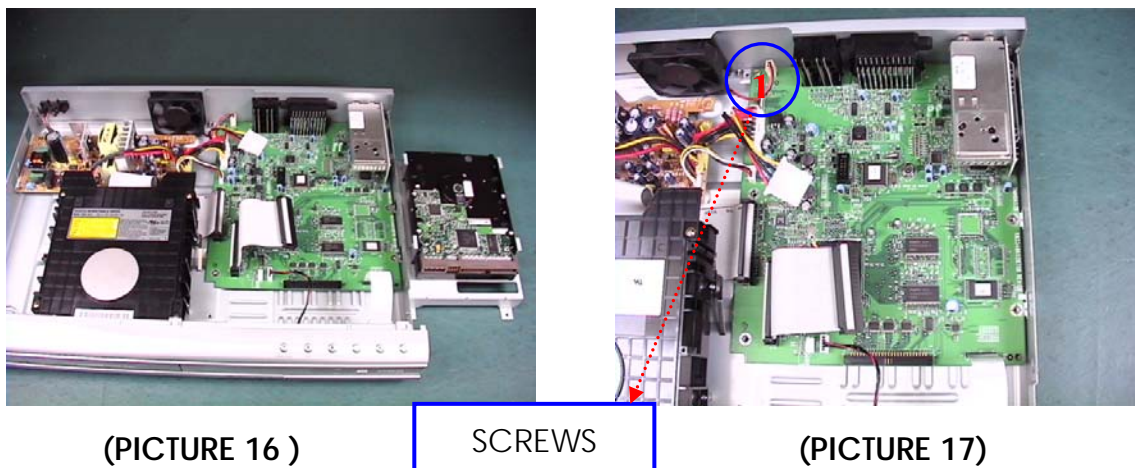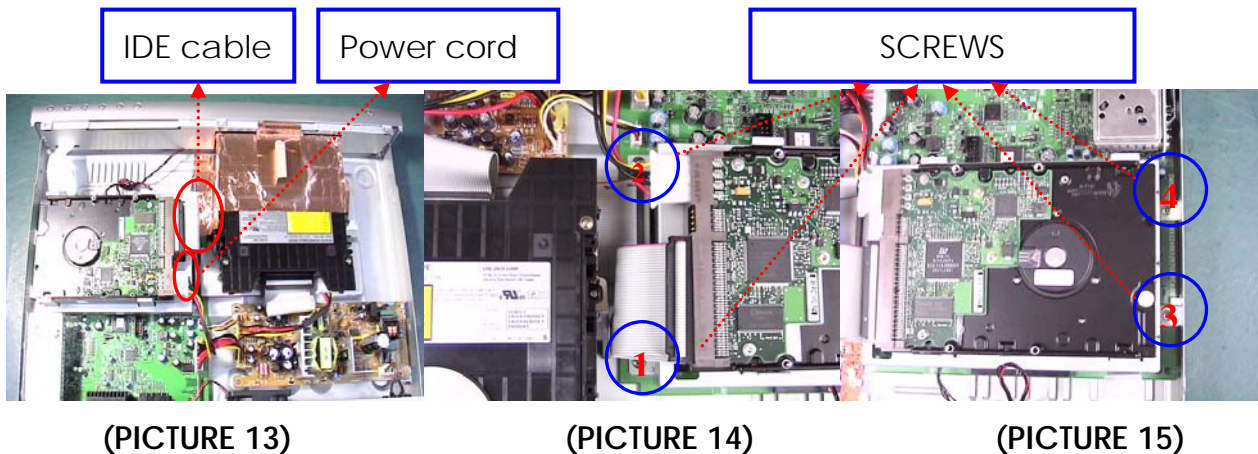
(PICTURE 9)
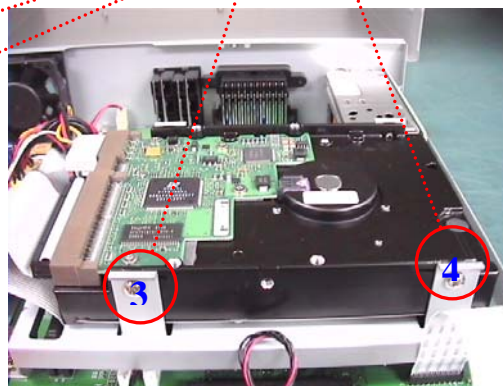
(PICTURE 10)

(PICTURE 11)

(PICTURE 12)

Step 1: Disassembly the top cover

Step 2: Unplug the power cord and IDE cable (as **PICTURE 9**)

Step 3: Loosen the screws off the chassis (1~4 in **PICTURE 10 & 11**)

Step 4: Take out the HDD (as **PICTURE 12**)

4.4   Disassemble the M/B:

IDE cable   Power cord   SCREWS

(PICTURE 13)   (PICTURE 14)   (PICTURE 15)

(PICTURE 16)   (PICTURE 17)

SCREWS

(PICTURE 18)   (PICTURE 19)

**Step 1:**   Unplug the power cord and IDE cable of the HDD module (as PICTURE 13)

Step 2:   Remove the HDD module from the M/B first, unfix the 4 screws of the HDD module (as PICTURE14, 15, 16)

Step 3:   Unfixed the screw of the M/B and remove all the cable (7 cables) connected to M/B (as PICTURE 17 & 19)

Step 4:   Loosen the 5 screws off the rear panel (as PICTURE 18)

Note: Tuner can be removed and reused if isn't broken when M/B is disassembled
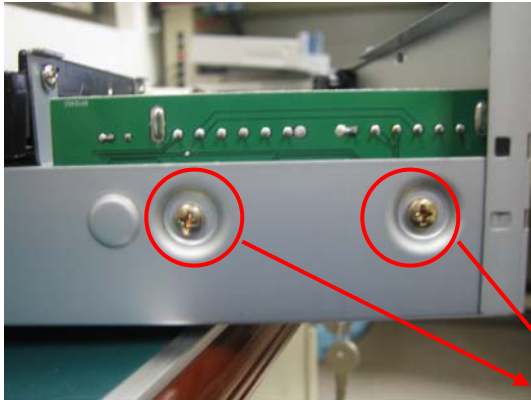
4.5   Disassemble the Power Module
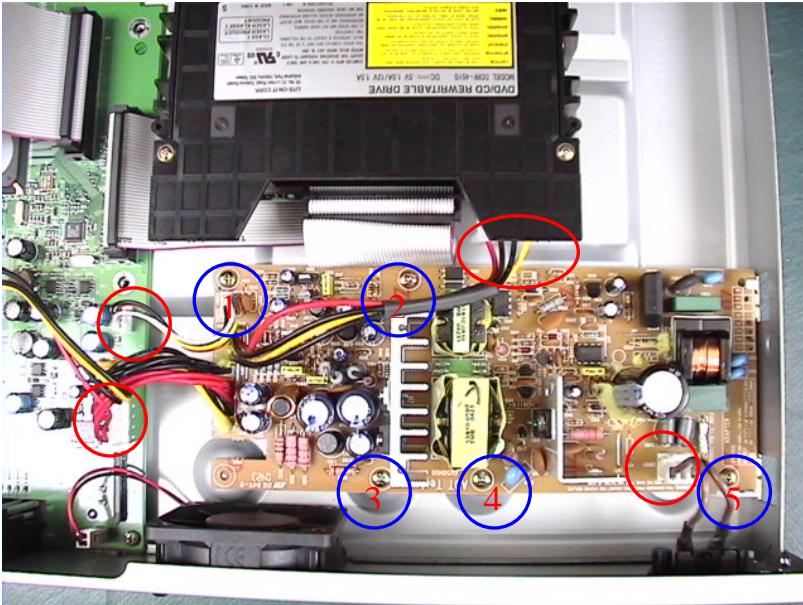
(PICTURE 20)

Step 1:   Disconnect all the cables connected to other module (total 4 cables as red circle in PICTURE 20)

Step 2:   Loosen the screws off the chassis (1~5 in PICTURE 20)

Step 3:   Take out the power module
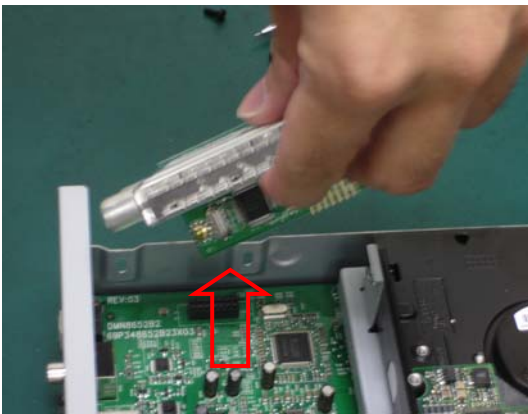
4.6 Disassemble Tuner board

(picture 21)

SCREW

(picture 22)

(picture 24)

(picture 23)

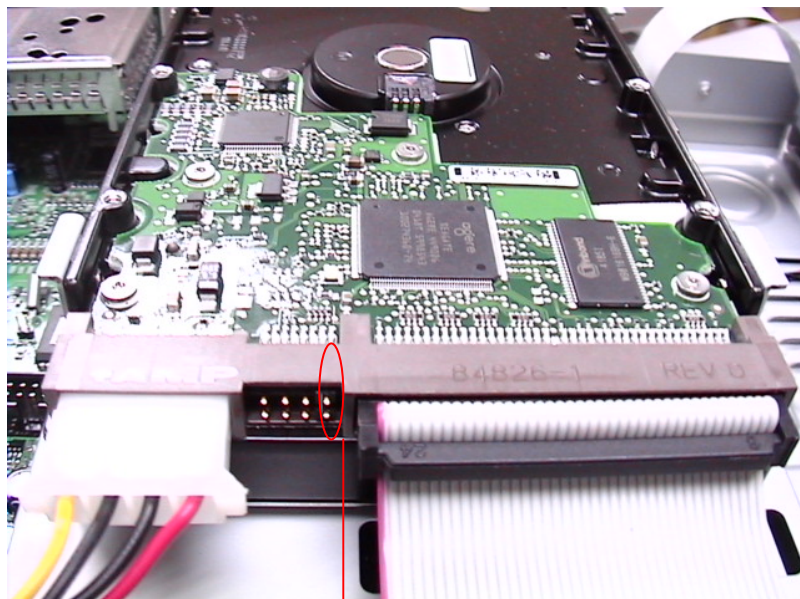**Step 1:** Unplug the power cord before replace the Tuner board

Step 2: Loosen the screws off the chassis (2in PICTURE 21)

Step 3: Take out the tuner board follow the disassemble direction as picture 22.23.24.

Note : When assemble Tuner Board please follow the sequence from picture 24 –> 21

4.7   JUMPER Settings

HDD

JUMPER

ODD

JUMPER

5. Firmware Update

1. Burn the firmware on a single-session ISO disc.
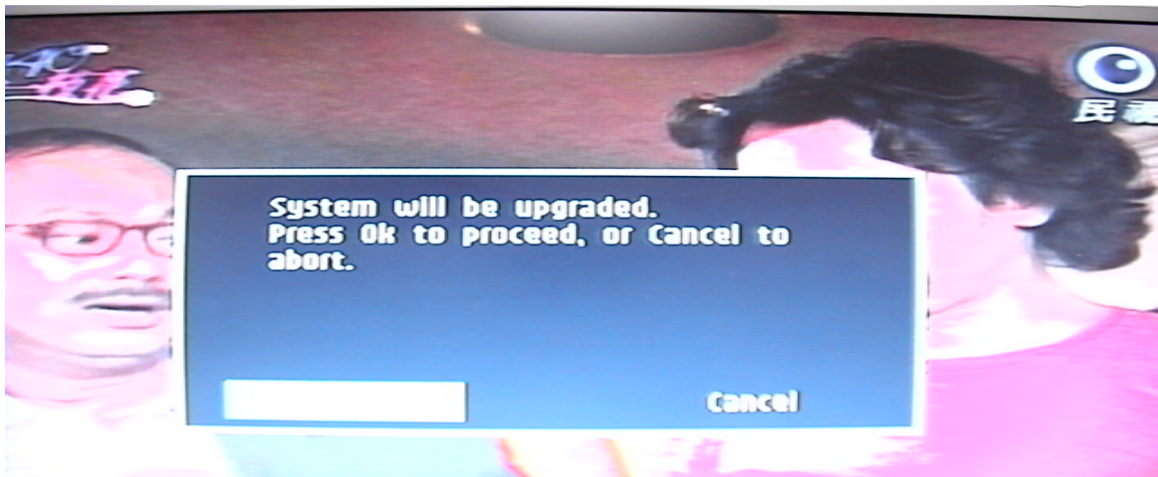2. Power on the system.

3. After system is ready, load the firmware update disc.

4. System will start detect the firmware image and if the image is detected, LED will show "F-UP xxxx", where "xxxx" is the build number.
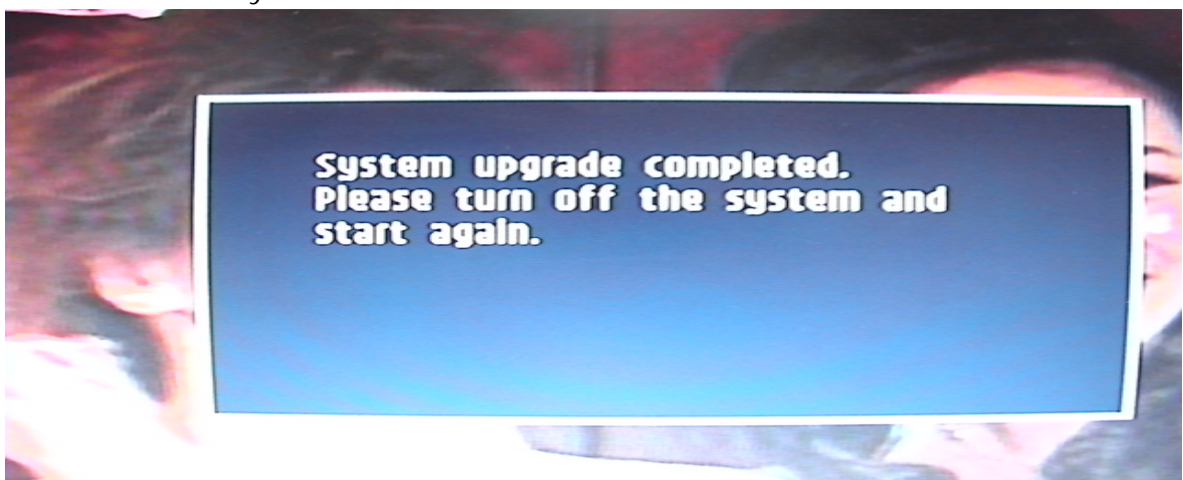
5. If system detects the image file, a confirm dialog will display on the screen. Follow the instruction to complete the update process.
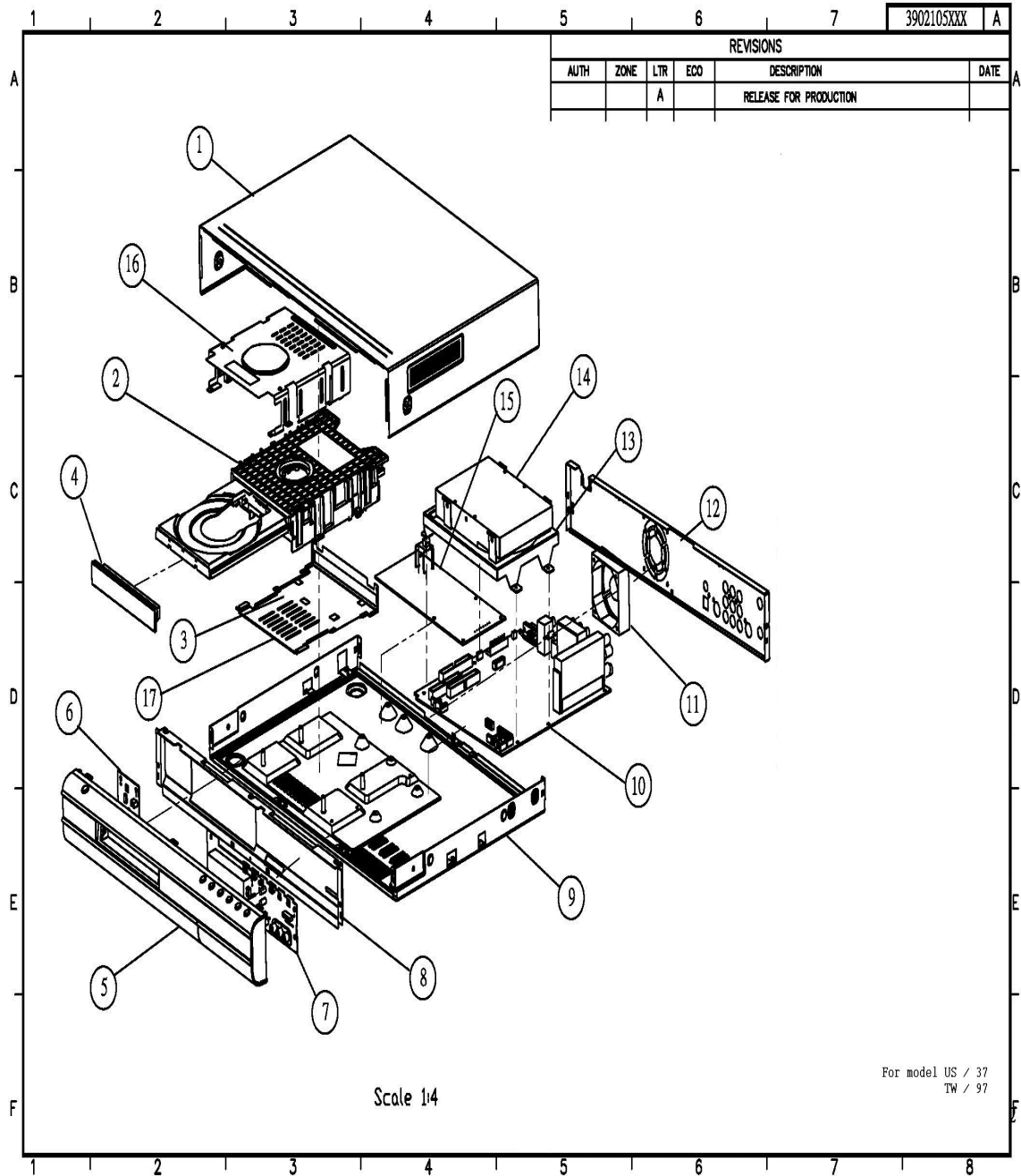

6. If system firmware is updated without error, LED will show "done". Else "error" will show.

7. Reboot the system.

6. Exploded View & Spare List

Scale 1:4

For model US / 37
TW / 97

3902105XXX   A

REVISIONS

AUTH	ZONE	LTR	ECO	DESCRIPTION	DATE
		A		RELEASE FOR PRODUCTION	

				3902205047	A

REVISIONS

AUTH	ZONE	LTR	ECO	DESCRIPTION	DATE
Sharin		A		RELEASE FOR PRODUCTION	2004/08/06

Scale 1:4

For Model EU / 00
EU / 02
EU / 04
EU / 05
FR / 00
NZ & AUS / 75
Sing & Maly/ 69
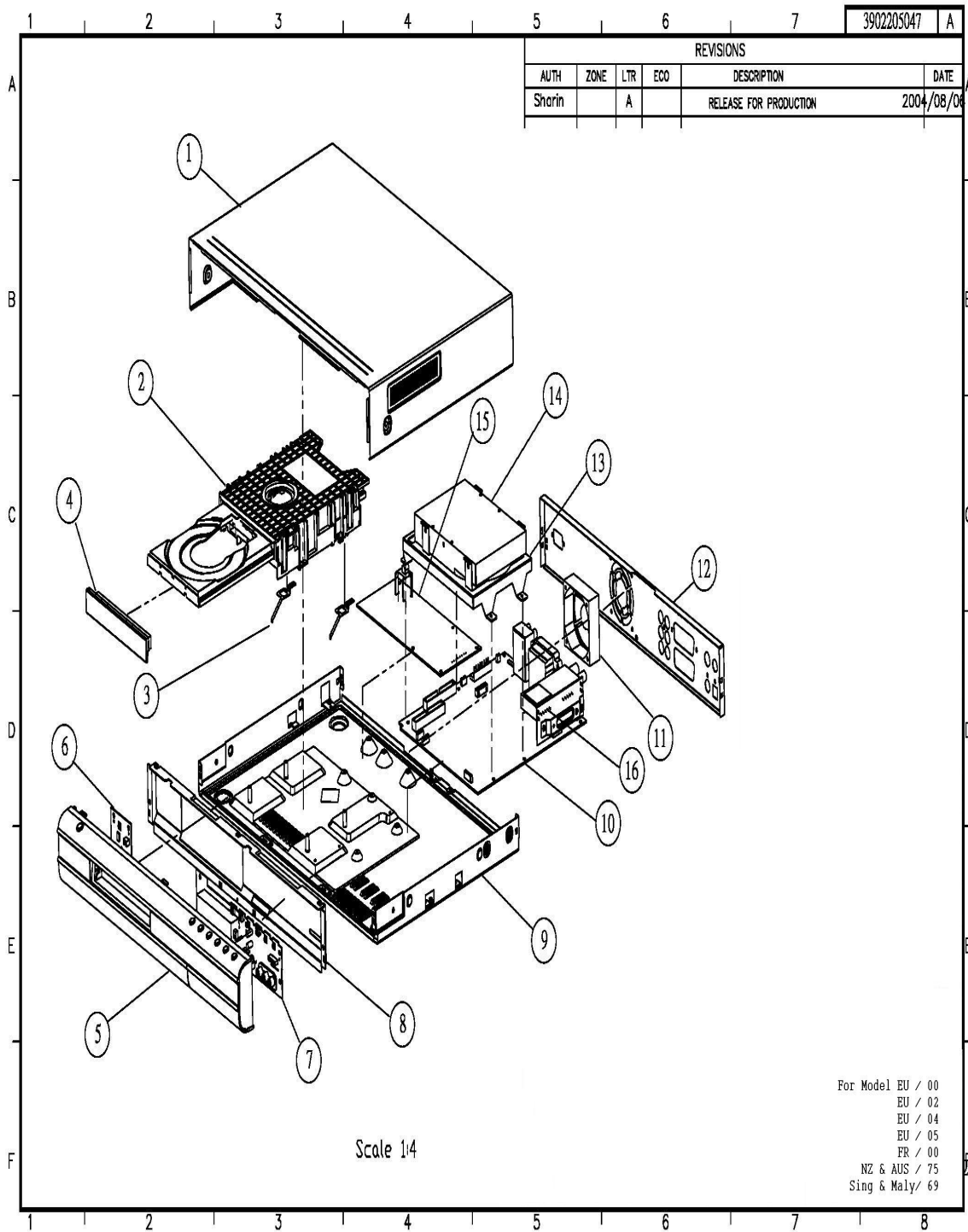
DVD Test Discs

	7104 099 91851	LVP12.01
	7104 099 96581	CD-RW LOW REFLECTION AUDIO DISC
	7104 099 94261	RICOH +R (4 SPEED) BLANK DISC

SERVICE SPARE PARTS

2	9965 000 32519	DVDR MECHANISM MODULE	
5+6+7	9965 000 32604	FRONT PANEL + PCBA ASSY	/69/75
5+6+7	9965 000 32609	FRONT PANEL + PCBA ASSY	/93
5+6+7	9965 000 32610	FRONT PANEL + PCBA ASSY	/97
10	9965 000 32605	MAIN BOARD W/O TUNER	/69
10	9965 000 32607	MAIN BOARD W/O TUNER	/75
10	9965 000 32608	MAIN BOARD W/O TUNER	/93
10	9965 000 32611	MAIN BOARD W/O TUNER	/97
11	9965 000 27109	FAN	
14	9965 000 32606	HD DRIVE HDD_160G_5400	
15	9965 000 29048	POWER BOARD	/69/75/93
15	9965 000 29057	POWER BOARD	/97
16	9965 000 32518	TUNER UNIT PAL	
RC	9965 000 29049	REMOTE CONTROL UNIT	/69/75
RC	9965 000 29054	REMOTE CONTROL UNIT	/93/97

Note: Only the parts mentioned in this list are normal service spare parts.