Service
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Simplified

Service Manual

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all DELL Company Equipment. The service procedures recommended by DELL and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. DELL could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, DELL has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by DELL must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

Hereafter throughout this manual, DELL Company will be referred to as DELL.

WARNING

Use of substitute replacement parts, which do not have the same, specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from DELL. DELL assumes no liability, express or implied, arising out of any unauthorized modification of design.

Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:
DANGER-Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
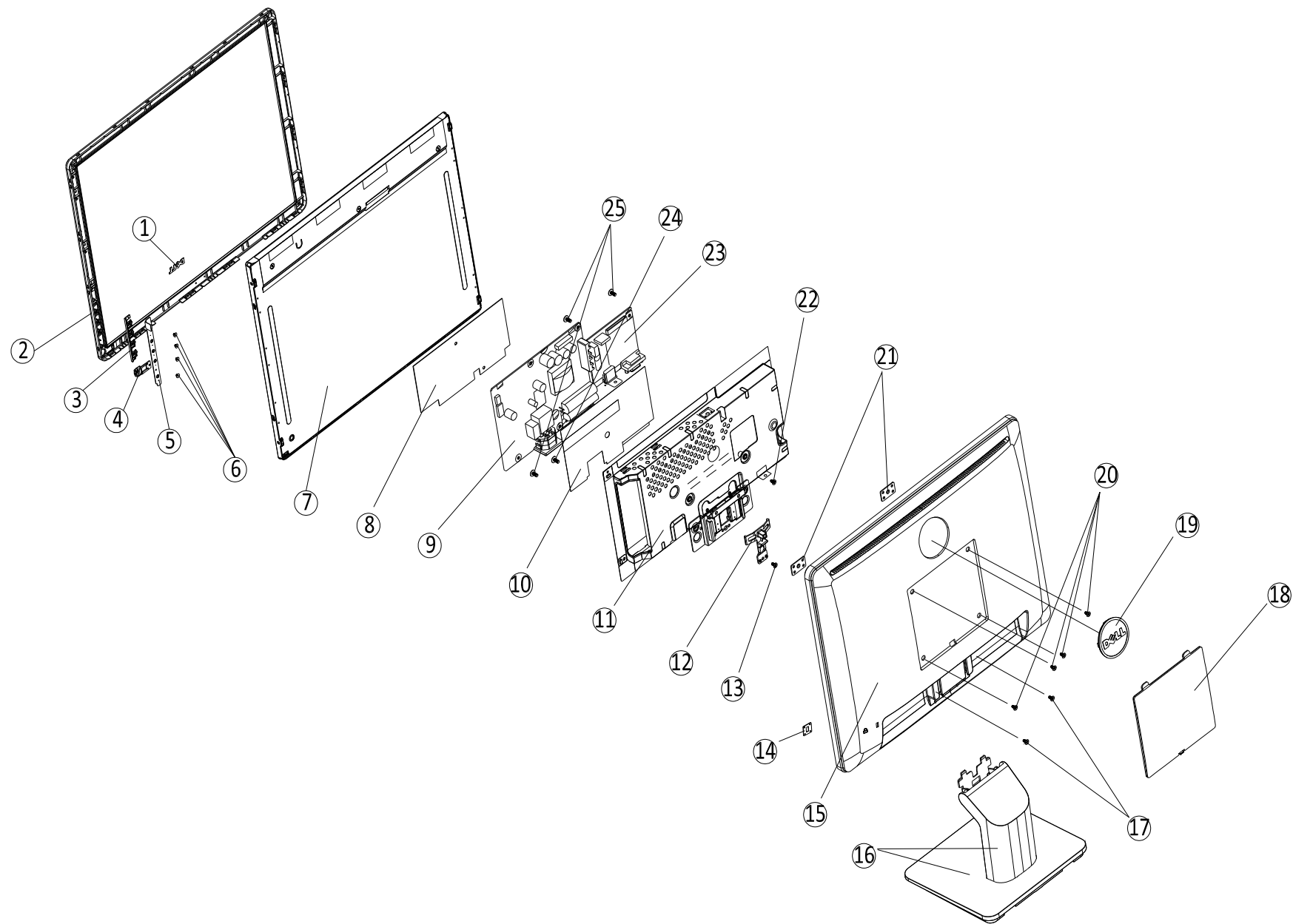CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

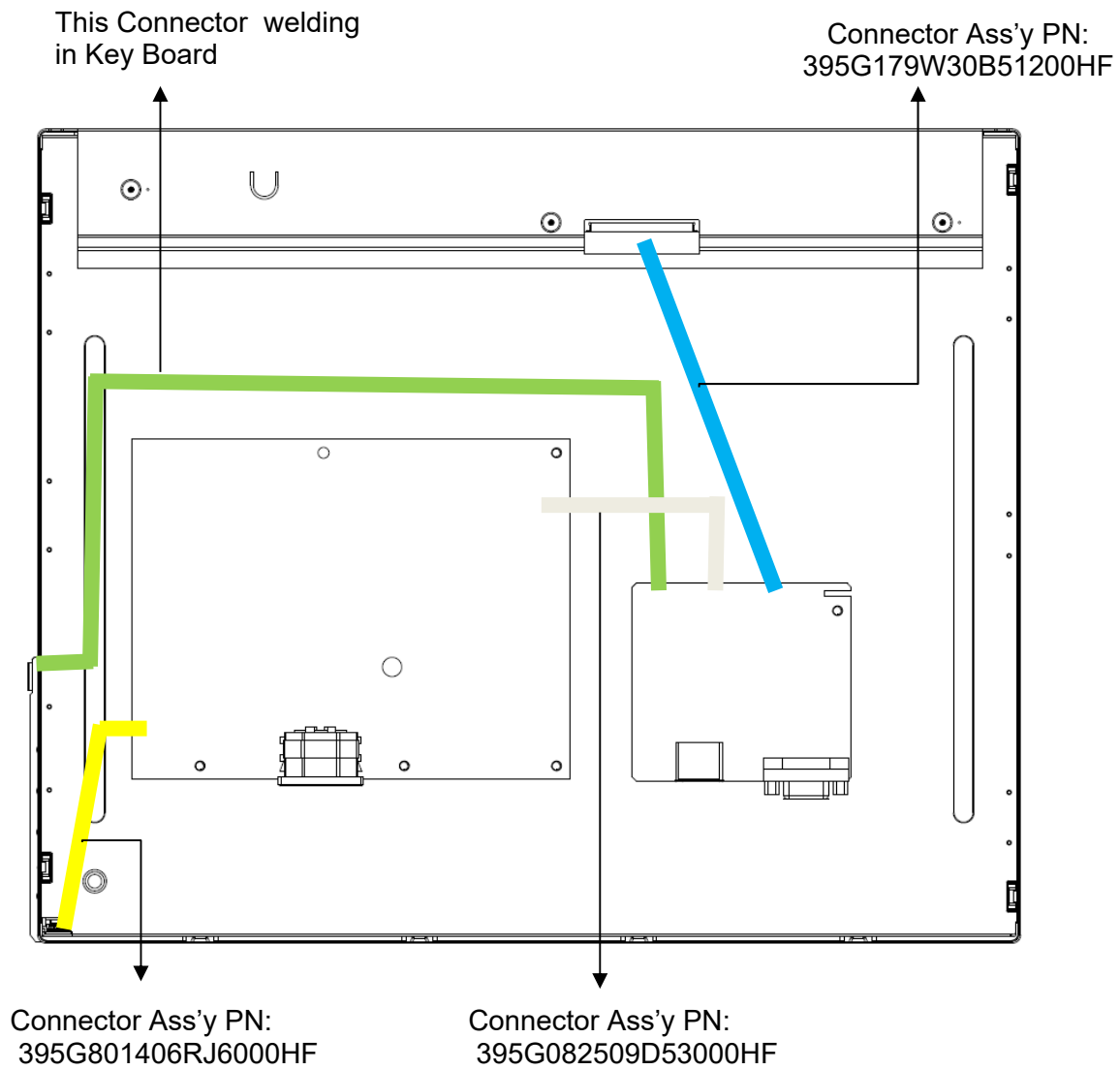Take care during handling the LCD module with backlight unit
-Must mount the module using mounting holes arranged in four corners.
-Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
-Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
-Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
-Make certain that treatment person's body is grounded through wristband.
-Do not leave the module in high temperature and in areas of high humidity for a long time.
-Avoid contact with water as it may a short circuit within the module.
-If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

1. Exploded view diagram with list of items

No.	Description	Q'ty
1	LOGO DELL	1
2	BEZEL	1
3	KEY_FUNCTION	1
4	KEY_POWER	1
5	KEY BOARD	1
7	PANEL	1
8	INSULATING SHEET	1
9	POWER	1
10	INSULATING SHEET	1
11	MAINFRAME	1
12	KNOB_CONTROL	1
14	MAINFRAME	1
15	REAR_COVER	1
16	STAND-BASE ASS'Y	1
18	COVER_VESA	1
19	DECO_LOGO	1
21	PLATE	2
23	MAIN BOARD	1

No.	Part No.	Description	Q'ty
6	0Q1G6019 1	SCREW (KEY BOARD-BEZEL)	4
13	0Q1G 130 6 47 CR3	SCREW (KNOB_CONTROL)	1
17	0M1G3030 4 47 CR3	SCREW (REAR_COVER-MAINFRAME)	2
20	0M1G2940 10 47 CR3	SCREW (REAR_COVER-MAINFRAME)	4
22	0M1G2430 5125	SCREW (MAIN BOARD-MAINFRAME)	1
24	0M1G1140 6120	SCREW (POWER BOARD-MAINFRAME)	1
25	0M1G1030 6120	SCREW (MAIN BOARD-POWER BOARD-MAINFRAME)	3

2. **Wiring connectivity diagram**

This Connector welding
in Key Board

Connector Ass'y PN:
395G179W30B51200HF

Connector Ass'y PN:
 395G801406RJ6000HF

Connector Ass'y PN:
 395G082509D53000HF
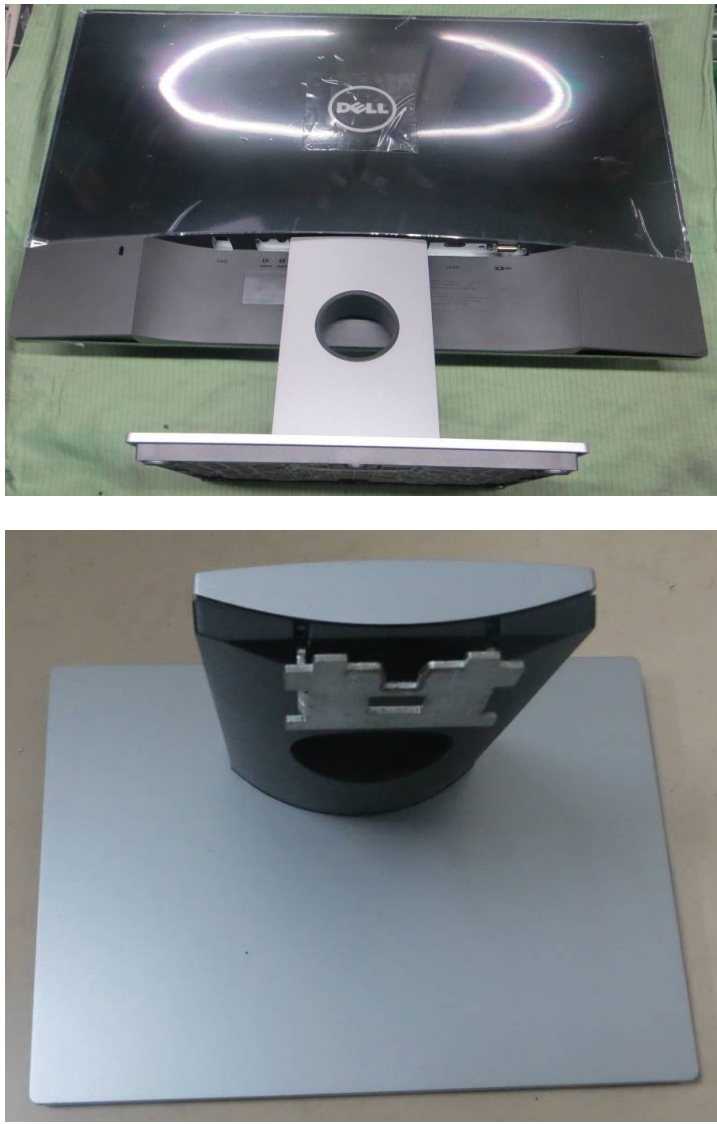
3. Mechanical Instruction

Tools Required

List the type and size of the tools that would typically can be used to disassemble the product to a point where components and materials requiring selective treatment can be removed.

Tool Description:

- Screwdriver (Phillip-head, Hexagonal head)

- Penknife

3.1 Disassembly Procedures:

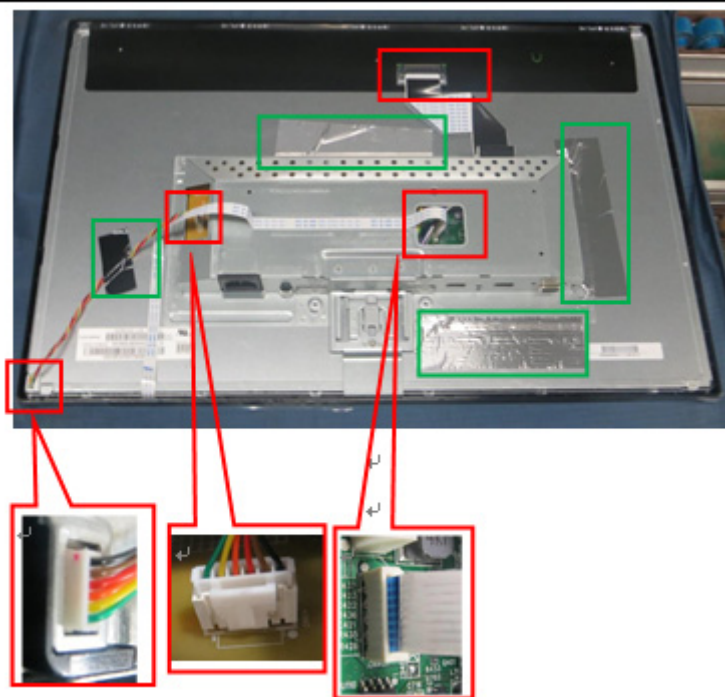| Step	Figure	Remark
S1. Before disassemble		Turn off power, Unplug external cables from product
S2.Remove the STAND-BASE ASS'Y		To remove the stand: 1. Wedge your fingers Press and hold the stand release button. 2. Lift the stand up and away from the monitor. Note: To prevent scratches on the LCD screen while removing the stand, ensure that the monitor is placed on a soft, clean surface.

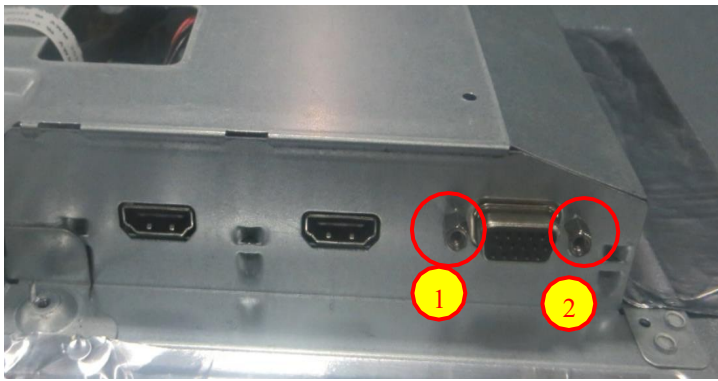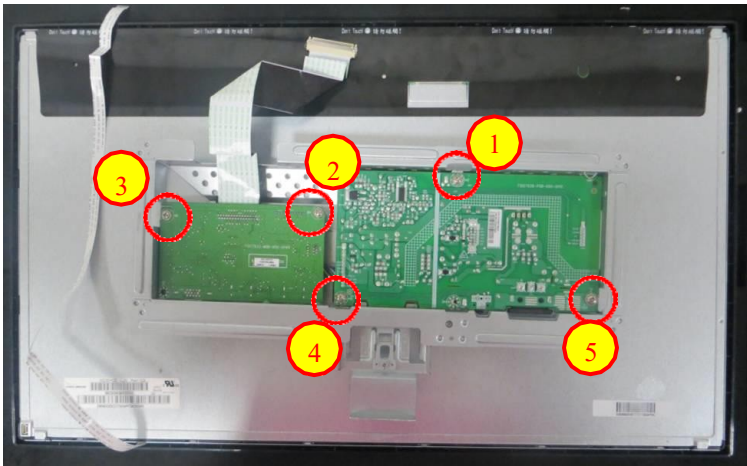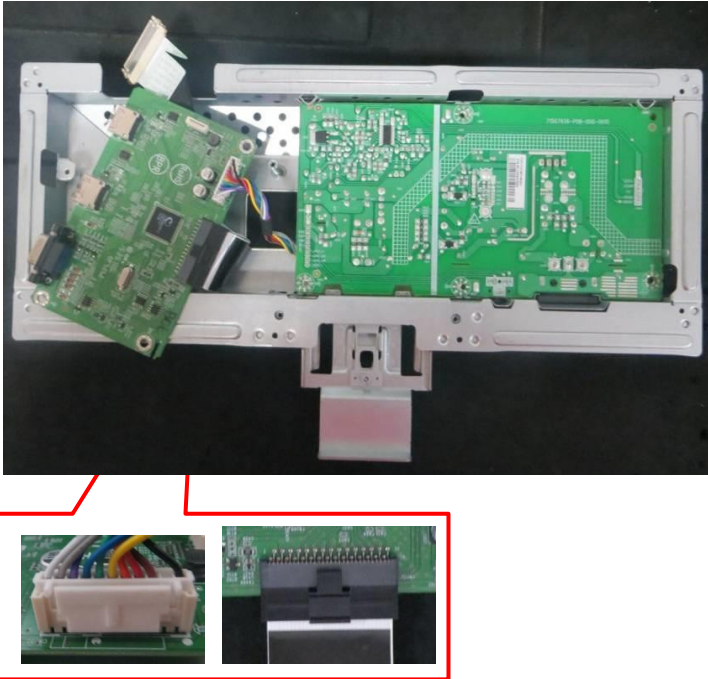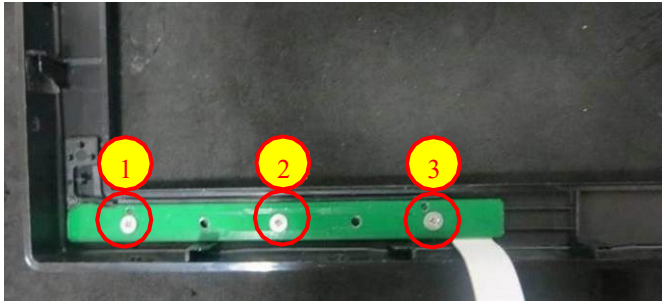|		
S3.Remove the REAR COVER		Use a Philips-head screwdriver to remove 2 screws for unlocking mechanisms. (No.1~2 screw size=M3x4; Torque=4±1kgf.cm) Use Penknife to separate the bezel and rear cove follow the arrows in sequence, then you can take out rear cover.
S4.Disconnect the connectors,and tear off the tapes		

S5.Unscrew the hex screws		Use a hex screwdriver to remove 2 screws for unlocking mainboard. (No.1~2 is Hex-screw, Torque= 4.5±0.5kgf.cm)
S6.Unscrew the screws to remove the Main board and Power board		Use a Philips-head screwdriver to remove 5 screws for unlocking mainboard. (No.1~4 screw size=M4x8;Torque= 6±1kgf.cm; No.5 screw size=D3x6;Torque= 6±1kgf.cm)
S7. Disconnect the connectors		
S8.Remove the KEY BOARD		Use a Philips-head screwdriver to remove 3 screws for unlocking Key board. (No.1~3 screw size= M2x2.5 Torque=0.9±0.4kgf.cm)
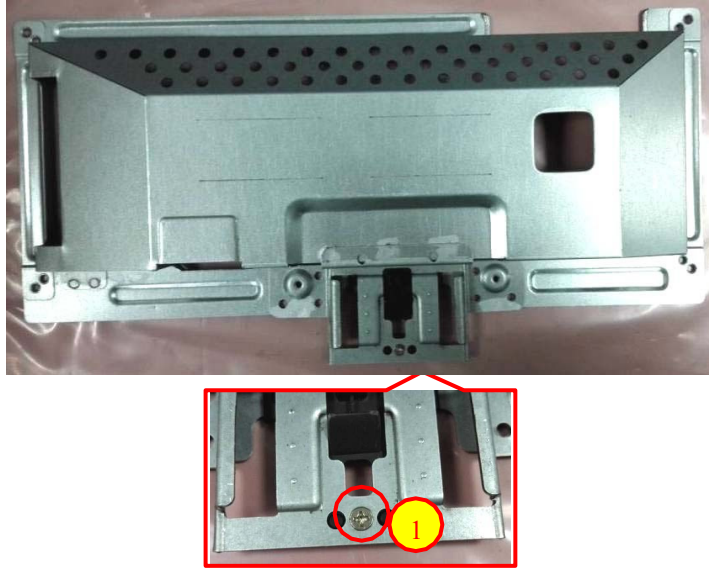
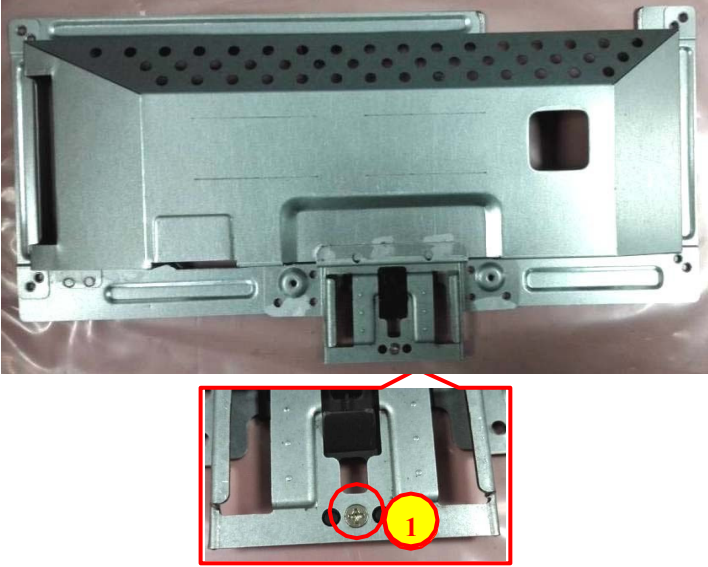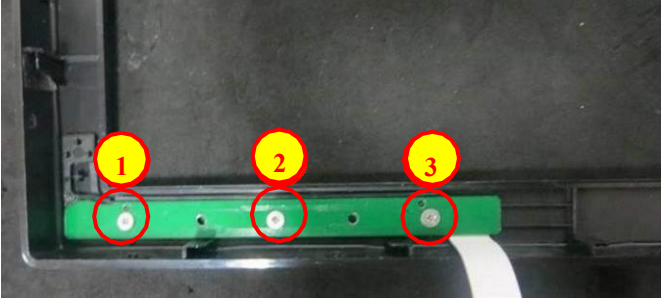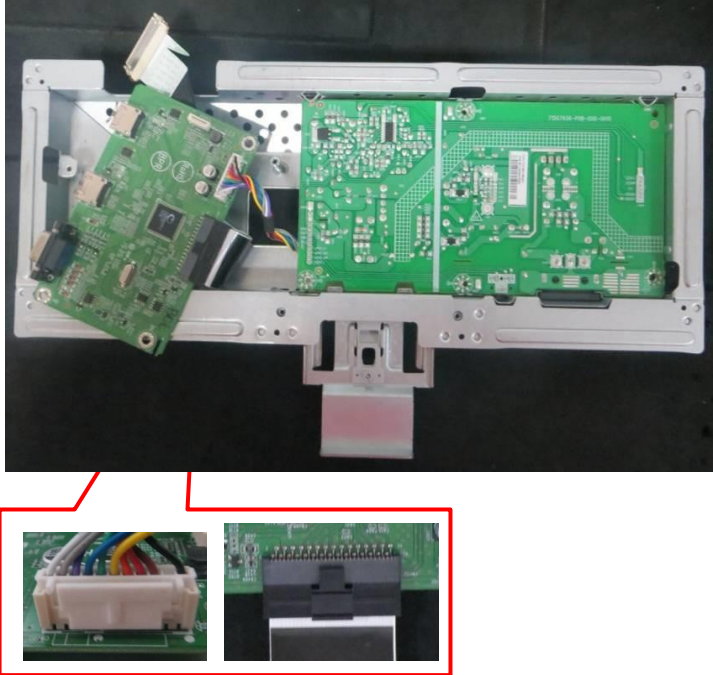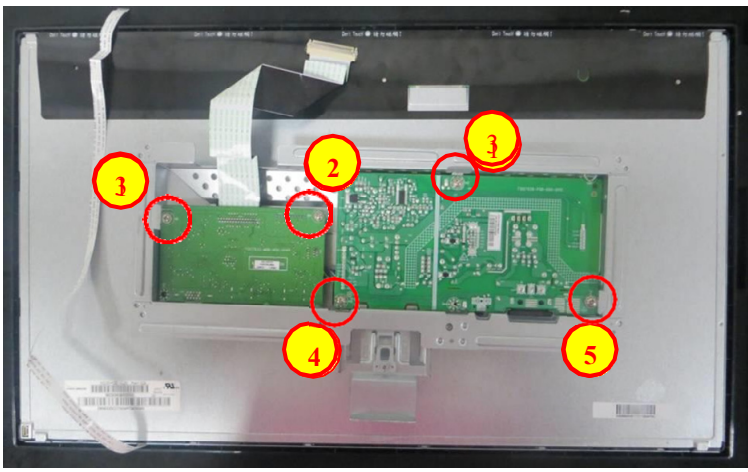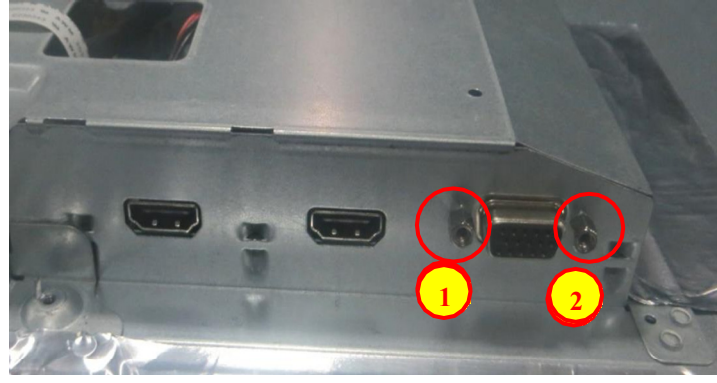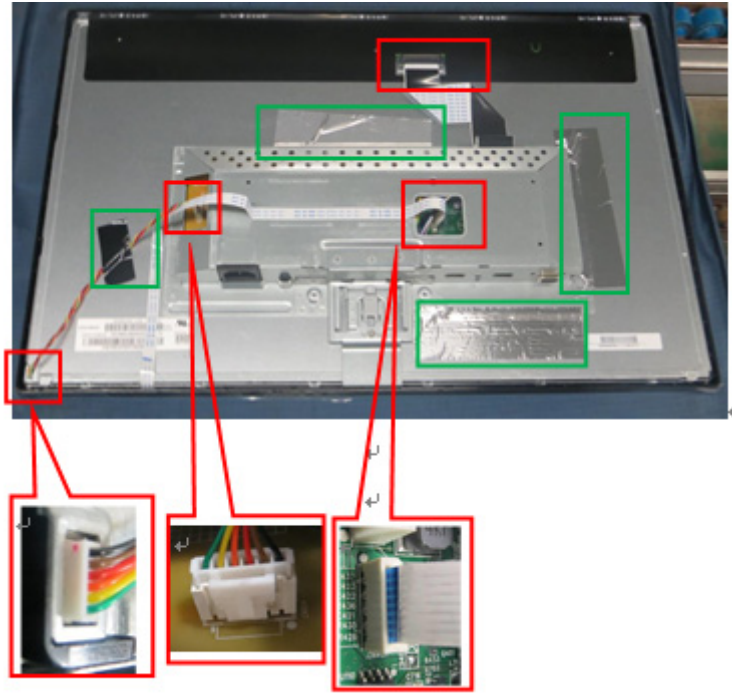|		
S9. Remove the screw		Use a Philips-head screwdriver to remove 1 screw for unlocking clip. (No.1 screw size=Q3x6; Torque=4±1kgf.cm)
The MAIN FRAME		

3.2 Assembly Procedures:

Step	Figure	Remark
S1. Tighten the clip		Use a Philips-head screwdriver to screw 1 screw for tighten the clip (No.1 screw size=Q3x6; Torque=4±1kgf.cm)
S2.Assembly the KEY BOARD		Use a Philips-head screwdriver to screw 3 screws for tighten Key board. (No.1~3 screw size= M2x2.5 Torque=0.9±0.4kgf.cm)
S3. Connect the connectors		

S4.Sscrew the screws to tighten the Main board and Power board		Use a Philips-head screwdriver to screw 5 screws for tighten mainboard. (No.1~4 screw size=M4x8;Torque= 6±1kgf.cm; No.5 screw size=D3x6;Torque= 6±1kgf.cm)
S5.Screw the hex screws		Use a hex screwdriver to screw 2 screws for tighten mainboard. (No.1~2 is Hex-screw, Torque= 4.5±0.5kgf.cm)
S5.Connect the connectors,and paste the tapes		

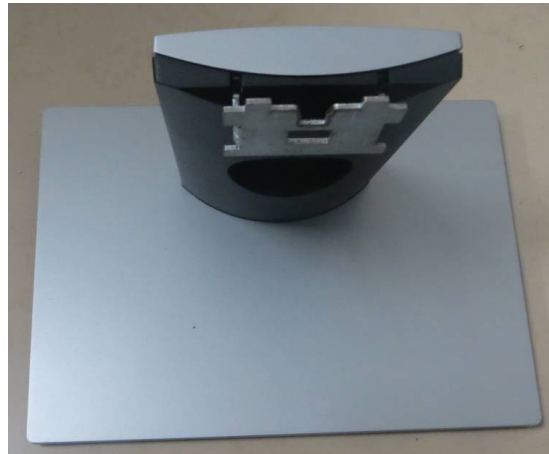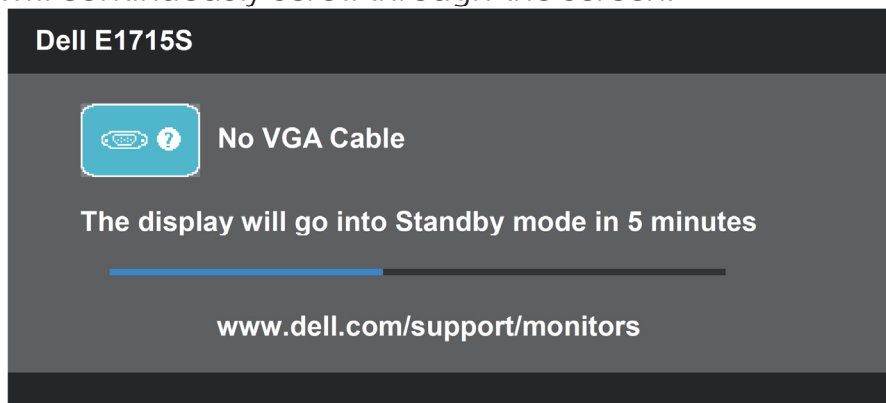|		
S6.Assembly the REAR COVER		Use a Philips-head screwdriver to screw 2 screws for tighten mechanisms. (No.1~2 screw size=M3x4; Torque=4±1kgf.cm)
S7.Assembly the STAND-BASE ASS'Y		
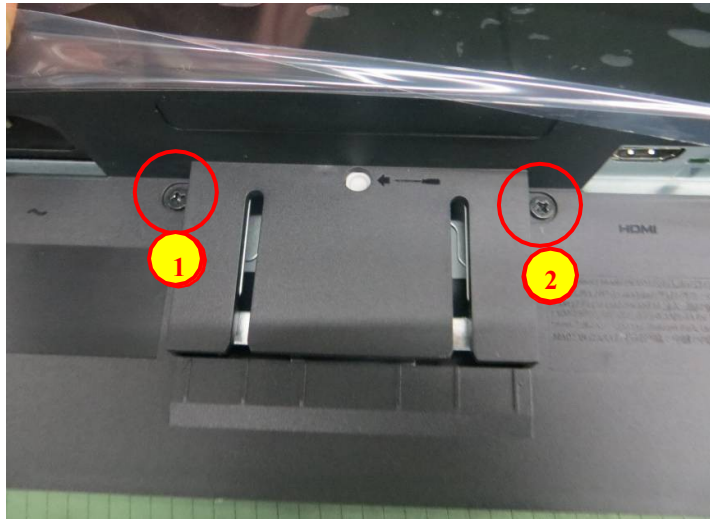
4. **Trouble shooting instructions**

⚠ WARNING: Before you begin any of the procedures in this section, follow the <u>Safety Instructions</u> .

Self-Test

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn off both your computer and the monitor.

2. Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove any connected video cable from the back of computer.

3. Turn on the monitor.

   The floating dialog box should appear on-screen (against a black background) if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains white. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through the screen.

   Dell E1715S

   🖥 ❓   **No VGA Cable**

   The display will go into Standby mode in 5 minutes

   www.dell.com/support/monitors

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4. This box also appears during normal system operation, if the video cable becomes disconnected or damaged. The monitor will enter **Standby Mode after 5 minutes** if left at this state.

5. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after you use the previous procedure, check your video controller and computer, because your monitor is functioning properly.

Built-in Diagnostics

Your monitor has a built-in diagnostic tool that helps you determine if the screen abnormality you are experiencing is an inherent problem with your monitor, or with your computer and video card.
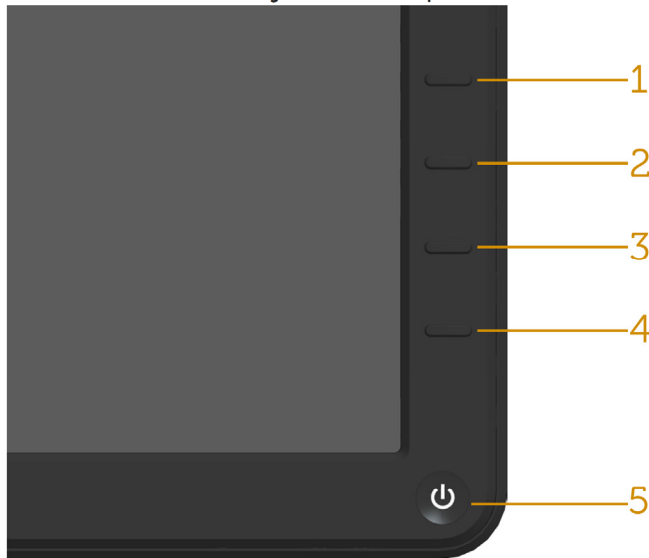
NOTE: You can run the built-in diagnostics only when the video cable is unplugged and the monitor is in self-test mode.

To run the built-in diagnostics:

1. Ensure that the screen is clean (no dust particles on the surface of the screen).
2. Unplug the video cable(s) from the back of the computer or monitor. The monitor then goes into the self-test mode.
3. Press and hold the **Button 1** and **Button 4** on the front panel simultaneously for 2 seconds. A gray screen appears.
4. Carefully inspect the screen for abnormalities.
5. Press the **Button 4** on the front panel again. The color of the screen changes to red.
6. Inspect the display for any abnormalities.
7. Repeat steps 5 and 6 to inspect the display in green, blue, black, white screens.

The test is complete when the white screen appears. To exit, press the **Button 4** again.

If you do not detect any screen abnormalities upon using the built-in diagnostic tool, the monitor is functioning properly. Check the video card and computer.

Common Problems

The following table contains general information about common monitor problems you might encounter and the possible solutions.

Common Symptoms	What You Experience	Possible Solutions
No Video/Power LED off	No picture	• Ensure that the video cable connecting the monitor and the computer is properly connected and secure. • Verify that the power outlet is functioning properly using any other electrical equipment. • Ensure that the power button is depressed fully. • Check the LED Button option under Energy Setting in OSD menu
No Video/Power LED on	No picture or no brightness	• Increase brightness & contrast controls via OSD. • Perform monitor self-test feature check. • Check for bent or broken pins in the video cable connector. • Ensure that the correct input source is selected via the **Input Source** Select menu. • Run the built-in diagnostics.
Poor Focus	Picture is fuzzy, blurry, or ghosting	• Perform Auto Adjust via OSD. • Adjust the Phase and Pixel Clock controls via OSD. • Eliminate video extension cables. • Reset the monitor to **Factory Settings**.
Shaky/Jittery Video	Wavy picture or fine movement	• Perform Auto Adjust via OSD. • Adjust the Phase and Pixel Clock controls via OSD. • Reset the monitor to **Factory Settings**. • Check environmental factors. • Relocate the monitor and test in another room.
Missing Pixels	LCD screen has spots	• Cycle power on-off. • Pixel that is permanently off is a natural defect that can occur in LCD technology. For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: **www.dell.com/support/monitors**.

Stuck-on Pixels	LCD screen has bright spots	• Cycle power on-off. • Pixel that is permanently off is a natural defect that can occur in LCD technology. For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: **www.dell.com/support/monitors**.
Brightness Problems	Picture too dim or too bright	• Reset the monitor to **Factory Settings**. • Auto Adjust via OSD. • Adjust brightness & contrast controls via OSD.
Geometric Distortion	Screen not centered correctly	• Reset the monitor to **Factory Settings**. • Auto Adjust via OSD. • Adjust brightness & contrast controls via OSD. **NOTE**: When using 'DP', the positioning adjustments are not available.
Horizontal/Vertical Lines	Screen has one or more lines	• Reset the monitor to **Factory Settings**. • Perform Auto Adjust via OSD. • Adjust Phase and Pixel Clock controls via OSD. • Perform monitor self-test feature check and determine if these lines are also in self-test mode. • Check for bent or broken pins in the video cable connector. **NOTE**: When using 'DP', the Pixel Clock and Phase adjustments are not available.
Synchronization Problems	Screen is scrambled or appears torn	• Reset the monitor to **Factory Settings**. • Perform Auto Adjust via OSD. • Adjust Phase and Pixel Clock controls via OSD. • Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode. • Check for bent or broken pins in the video cable connector. • Restart the computer in the safe mode.
Safety-Related Issues	Visible signs of smoke or sparks	• Do not perform any troubleshooting steps. • Contact Dell immediately.

Intermittent Problems	Monitor malfunctions on & off	• Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Reset the monitor to **Factory Settings**. • Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
Missing Color	Picture missing color	• Perform monitor self-test feature check. • Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Check for bent or broken pins in the video cable connector.
Wrong Color	Picture color not good	• Change the Color Setting Mode in the Color Settings OSD to Graphics or Video depending on the application. • Try different Color Preset Settings in Color Settings OSD. Adjust R/G/B value in Color Settings OSD if the Color Management is turned off. • Change the Input Color Format to PC RGB or YPbPr in the Advance Setting OSD.
Image retention from a static image left on the monitor for a long period of time	Faint shadow from the static image displayed appears on the screen	• Set the screen to turn off after a few minutes of screen idle time. These can be adjusted in Windows Power Options or Mac Energy Saver setting. • Alternatively, use a dynamically changing screensaver. • Use "LCD Conditioning" feature under "Other Settings" to eliminate image retention.

Product-Specific Problems

Specific Symptoms	What You Experience	Possible Solutions
Screen image is too small	Image is centered on screen, but does not fill entire viewing area	• Reset the monitor to **Factory Settings**.
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen	• Turn off the monitor, unplug the power cord, plug back, and then turn on the monitor.
No Input Signal when user controls are pressed	No picture, the LED light is white. When you press "up", "down" or "Menu" key, the message " No input signal" will appear.	• Check the signal source. Ensure the computer is not in the power saving mode by moving the mouse or pressing any key on the keyboard. • Check whether the signal cable is plugged in properly. Re-plug the signal cable if necessary. • Reset the computer or video player.
The picture does not fill the entire screen	The picture cannot fill the height or width of the screen	• Run the built-in diagnostics.

NOTE: When choosing DP mode, the Auto Adjust function is not available.