

1. Important Safety Notice

Product Announcement:

This product is certificated to meet RoHS Directive and Lead-Free produced definition. Using approved critical components only is recommended when the situation to replace defective parts. Vender assumes no liability express or implied, arising out of any unauthorized modification of design or replacing non-RoHS parts. Service providers assume all liability.

Qualified Repairability:

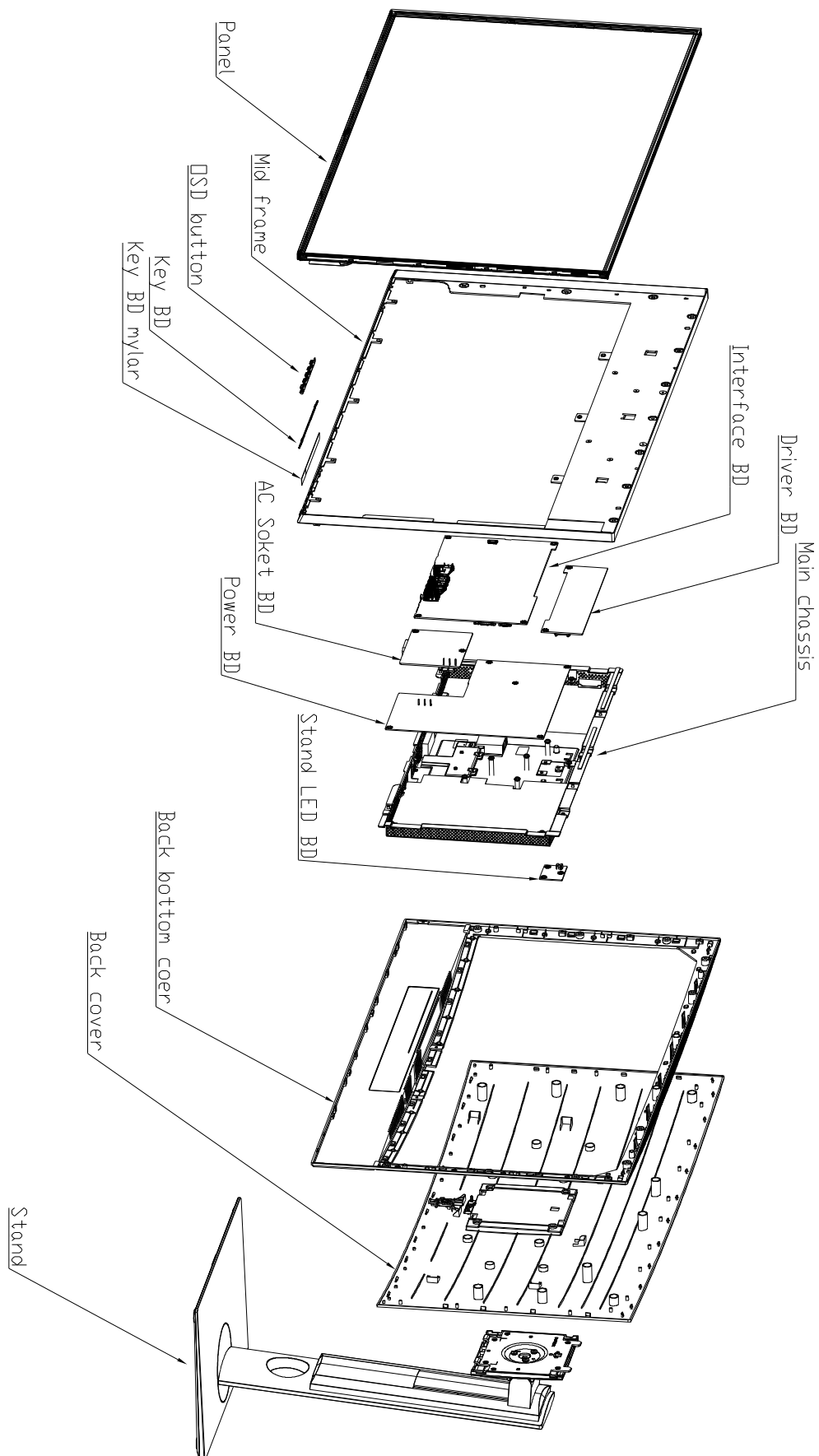
Proper service and repair is important to the safe, reliable operation of all series products. The service providers recommended by vender should be aware of notices listed in this service manual in order to minimize the risk of personal injury when perform service procedures. Furthermore, the possible existed improper repairing method may damage equipment or products. It is recommended that service engineers should have repairing knowledge, experience, as well as appropriate product training per new model before performing the service procedures.

NOTICE:

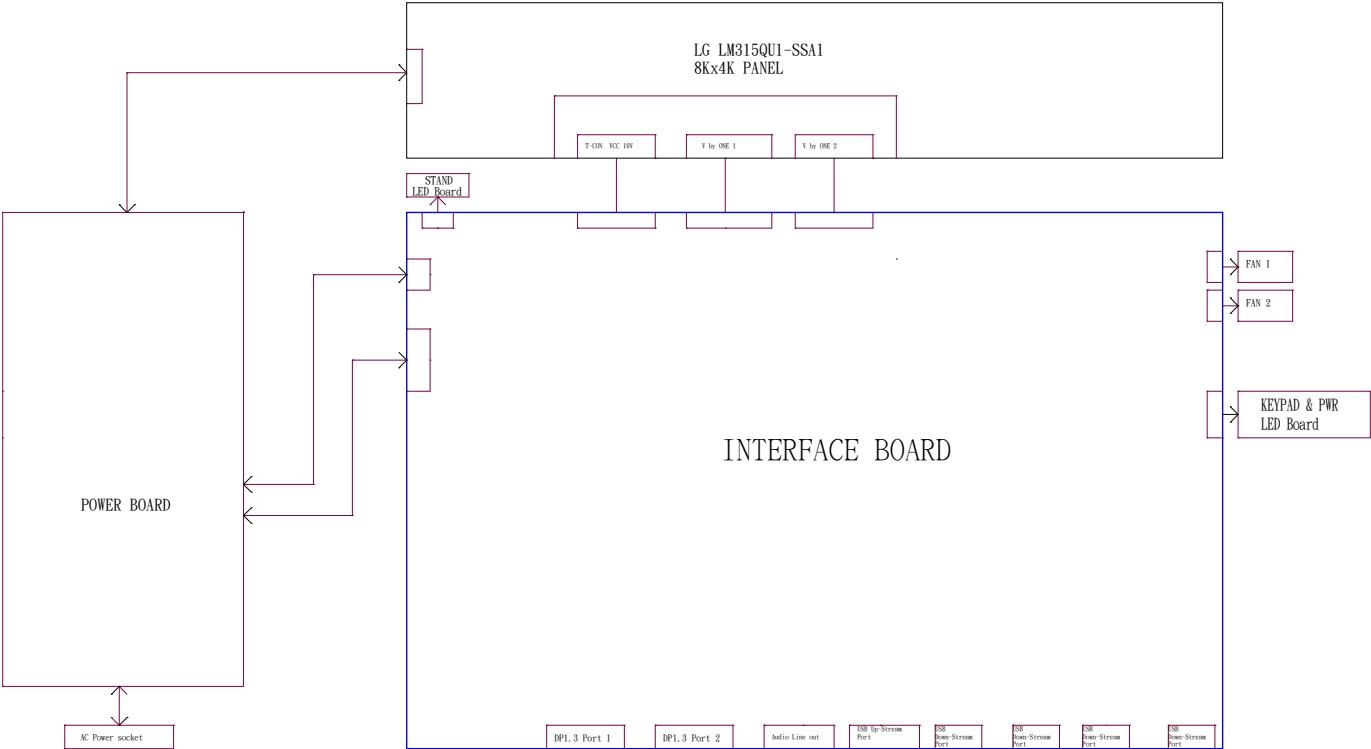
- ! To avoid electrical shocks, the products should be connected to an authorized power cord, and turn off the master power switch each time before removing the AC power cord.
- ! To prevent the product away from water or expose in extremely high humidity environment.
- ! To ensure the continued reliability of this product, use only original manufacturer's specified parts.
- ! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

- ! To ensure using a proper screwdriver, follow the torque and force listed in assembly and disassembly procedures to unscrew screws.
- ! Using Lead-Free solder to well mounted the parts.
- ! The fusion point of Lead-Free solder requested in the degree of 220°C.

2. Exploded view diagram with list of items



3. Wiring Connectivity Diagram



4. Disassembly and Assembly Procedures

Necessary repair and test equipment:

1. Philips-head screwdriver

4.1 Disassembly Procedures:

Remove the monitor stand base:

S1

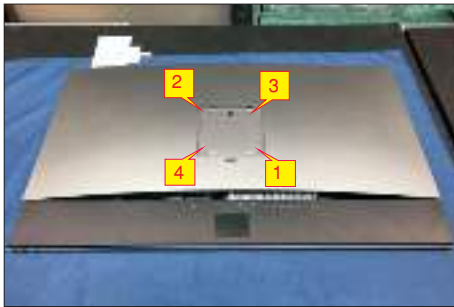
1. Place the monitor on a soft cloth or cushion.
2. Press and hold the stand-release button.
3. Lift the stand up and away from the monitor.



S2

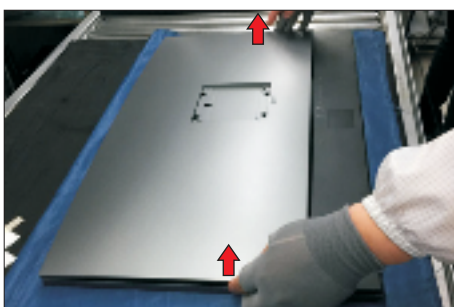
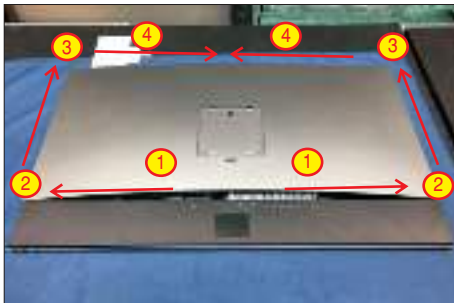
Use a Philips-head screwdriver to remove 4pcs screws for unlocking mechanisms.

(No.1~4 screw size=M4x10; Torque=12±0.5kgfxcM)



S3

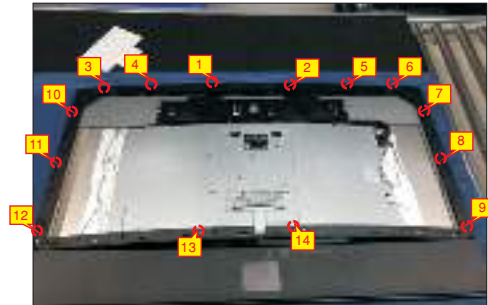
Wedge your fingers between the rear cover and the middle bezel on the corners of the top side of the monitor to release the rear cover, then use one hand to press the middle bezel, the other hand to pull up carefully the rear cover in order of arrow preference for unlocking mechanisms of rear cover.



S4

Remove the rear cover and put it on a protective cushion. Use a Philips-head screwdriver to remove 14 screws for unlocking the middle plastic bezel with the whole unit, and then remove the middle plastic bezel carefully.

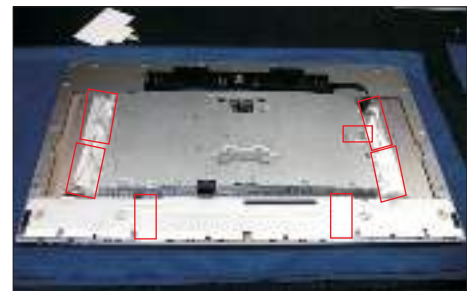
(No.1~14 screw size=M3x5.5, Torque=4±0.5kgfxcM)



S5

Tear off 7 pieces of aluminum foil. Disconnect the lamp cable from the connectors of the power board and panel module. Use a Philips-head screwdriver to remove 3 screws for unlocking the speakers' protective cover with the middle iron bezel.

(No.1~3 Screw size=M3x4, Torque=3.5~4.5kgfxcM)



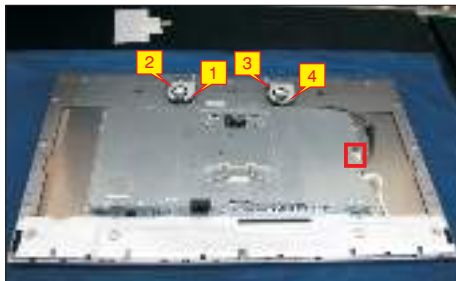
4. Disassembly and Assembly Procedures

S6

Tear off the aluminum foil for releasing the speakers' cable, then disconnect the cable from the connector.

Use a Philips-head screwdriver to remove four screws for unlocking the speakers. Remove the speakers from the probers.

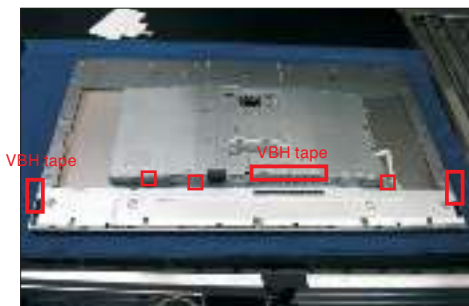
(No.1~4 Screw size=M2x6, Torque=3.5~4kgfxcn)



S7

Tear off three pieces of VBH tape on the specific position as the picture below shown. Disconnect the function key cable from the connector of the interface board. Use a Philips-head screwdriver to remove eight screws for unlocking the middle iron bezel with the panel module. Remove the middle iron bezel.

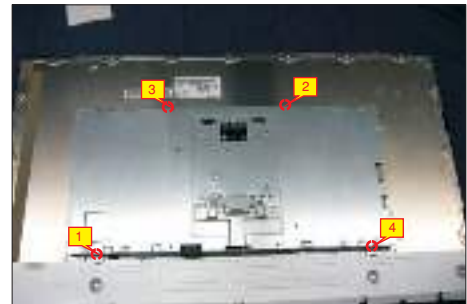
(No.1~8 Screw size=M3x0.5xL4, Torque=4±0.5kgfxcn)



S8

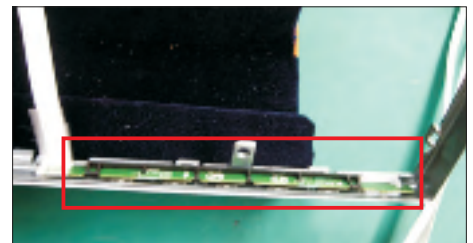
Use a Philips-head screwdriver to remove four screws for unlocking the bracket with the panel module. Use a Jip to lift up the bracket, then tear off the black mylar tape for releasing the LVDS connectors. Disconnect the LVDS cables from the connectors of the panel module.

(No.1~4 screw size=M3x0.5xL4, Torque=4±0.5kgfxcn)



S9

Remove the middle iron bezel. Tear off the mylar tape for releasing the function key cable from the hooks of the middle iron bezel.



S10

Lift up the bracket chassis module and put it on a protector cushion.



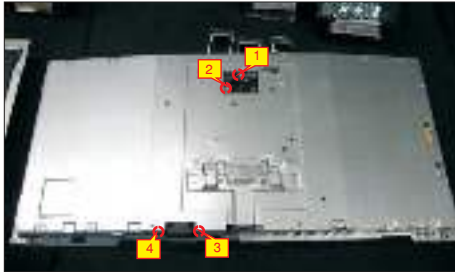
4. Disassembly and Assembly Procedures



S11

Use a Philips-head screwdriver to remove 2 screws for locking the AC power outlet, to remove 2 screws for unlocking the stand LED board. Remove the Stand LED board by disconnecting the cable.

(No.1~2 screw size=M3x4.5, Torque=7~8kgfxcn,
No.3~4 screw size=M3x10, Torque=6~8kgfxcn)



S12

Turn over the bracket chassis. Use a Philips-head screwdriver to remove 4 screws for unlocking the interface board and LED driver board. Disconnect the cables of the interface board and LED driver board away from the power board, then remove the two board from the hooks of the bracket.

(No.1~4 screw size=M3x7.5, Torque=7~8kgfxcn)



S13

Remove the Mylar from the hooks of the bracket chassis module.

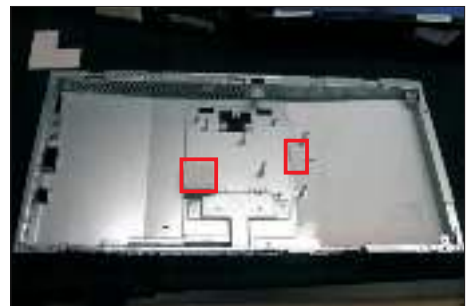
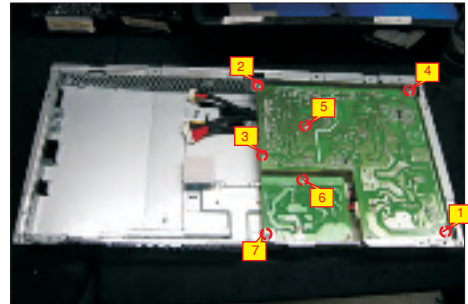


S14

Use a Philips-head screwdriver to remove 7pcs screws for unlocking the power board and AC board, then remove the two boards from the hooks of the bracket chassis. Disconnect all of the cables.

(No.1 screw size=M4x8, Torque=7~8kgfxcn;

No.2~7 screw size=M3x7.5, Torque=7~8kgfxcn;

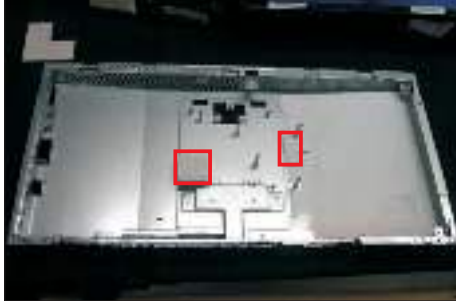


4. Disassembly and Assembly Procedures

4.2 Assembly Procedures:

S1

Place a bracket chassis base on a protective cushion, then stick two Silicon sheets on the positions as the picture below shown.



S2

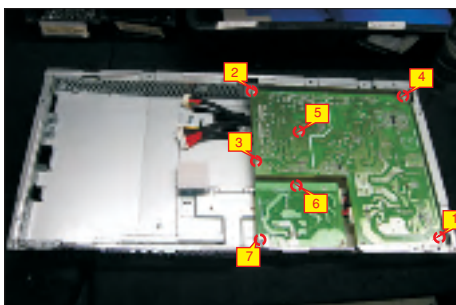
Take a AC board and a cable, connect the cable to the AC board, then locate the AC board into the bracket as the following picture shown.



S3

Take a power board, Connect the cable to the power board, then turn over the power board and locate it into the correct position. Use a Philips-head screwdriver to tighten 7 screws for locking the power board and AC board, then Insert a piece of mylar tape to the hooks of bracket to cover the power board.

(No.1 screw size=M4x8, Torque=7~8kgfxcn;
No.2~7 screw size=M3x7.5, Torque=7~8kgfxcn;



S4

Take a interface board, LED driver board and some cables, connect the LVDS cables to the connectors of the interface board. Take the interface board close to the power board, then connect the power board with the interface board, connect the LED driver board with the power board. Turn over the interface board, LED driver board and locate them into the hooks of the bracket chassis base. Use a Philips-head screwdriver to tighten 4 screws for locking the interface board and LED driver board.

(No.8~11 screw size=M3x7.5, Torque=7~8kgfxcn)



S5

Turn over the bracket chassis base. Connect cable to the a Stand LED board, then locate the stand LED board to the correct position. Use a Philips-head screwdriver to tighten two screws for locking the stand LED board. Use a Philips-head screwdriver to tighten two screws for locking the AC power outlet.

(No.1~2 screw size=M3x4.5, Torque=7~8kgfxcn,
No.3~4 screw size=M3x10, Torque=6~8kgfxcn)



4. Disassembly and Assembly Procedures

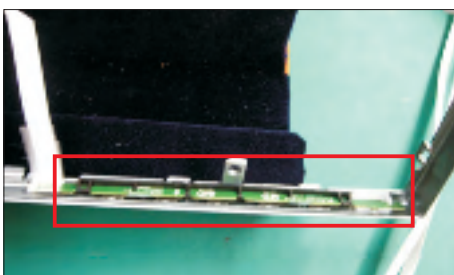
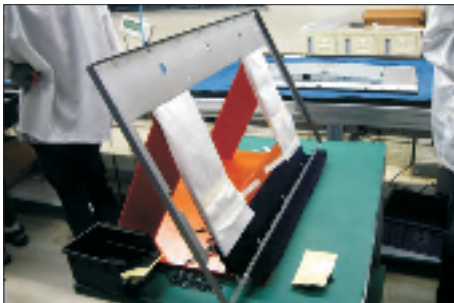
S6

Panel preparation: Take out a panel from the carton, then remove the PE bag, then examine the panel surface according to inspection criteria. Turn over the panel to place screen faced down, then put the bracket chassis module on the back of LCD module.



S7

Take a middle bezel and a function key board, locate the middle bezel into a JIP, then assemble the function key board with the middle bezel, and then stick a mylar tape to cover the function key board.



S8

Take a Jip to lift up the bracket, then connect the LVDS cables to the connectors of the panel module. Stick a piece of black mylar tape on the specific position. Move away the JIP, put down the bracket, then use a Philips-head screwdriver to tighten four screws for locking the bracket with the panel module. (No.1~4 screw size=M3x0.5xL4, Torque=4±0.5kgfxcn)



S9

Assemble the middle bezel with the panel module, adjust the middle bezel for two parts firmly attached. Settle the function key cable as the picture below shown.

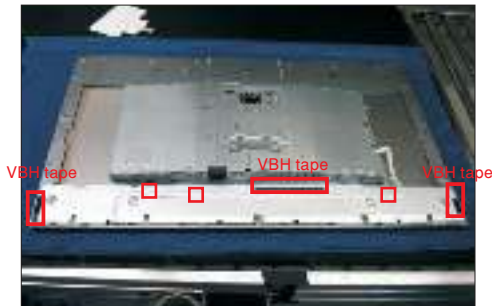
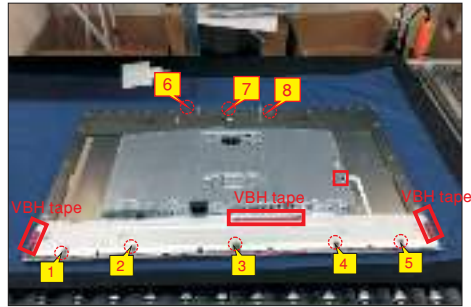


4. Disassembly and Assembly Procedures

S10

Use a Philips-head screwdriver to tighten eight screws for locking the middle iron bezel with the panel module. Connect the function key cable to the connector, then fix the function key cable with adhesive tapes which stuck on the back of the cable. Stick three pieces of VBH tape on the specific position as the picture below shown.

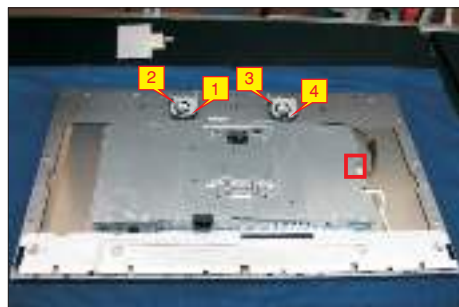
(No.1~8 Screw size=M3x0.5xL4, Torque=4±0.5kgfxcmm)



S11

Take a pair of speakers, locate the speakers to the holders, then use a Philips-head screwdriver to tighten four screws for locking the speakers, then connect the speakers' cable to the connector, then stick a piece of aluminum foil to fix the cable.

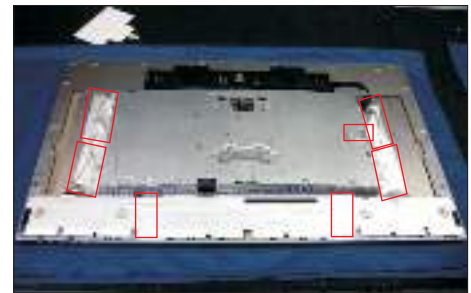
(No.1~4 Screw size=M2x6, Torque=3.5~4kgfxcmm)



S12

Assemble a protective cover with the middle iron bezel to cover the speakers, then use a Philips-head screwdriver to tighten 3 screws for locking the protective cover with the bezel. Take a long lamp cable to connect the panel and power board, settle the cables as the picture below shown. Stick 7 pieces of aluminum foil on the specific position to cover the cables and connectors.

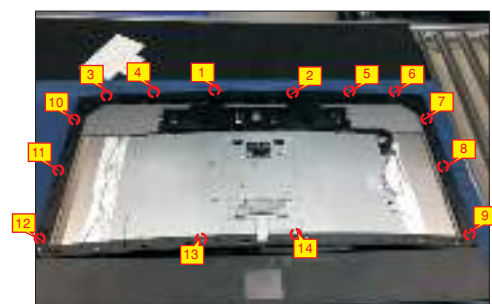
(No.1~3 Screw size=M3x4, Torque=3.5~4.5kgfxcmm)



S13

Take a middle plastic bezel, then assemble the middle bezel with the whole unit, adjust the bezel for the two parts firmly attached. Use a Philips-head screwdriver to tighten 14 screws for locking the middle plastic bezel with the whole unit.

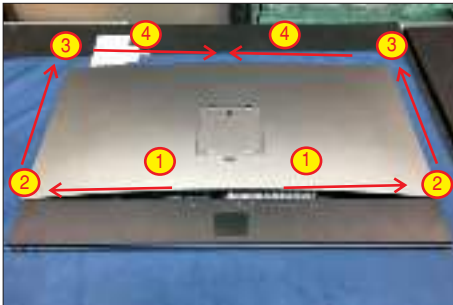
(No.1~14 screw size=M3x5.5, Torque=4±0.5kgfxcmm)



4. Disassembly and Assembly Procedures

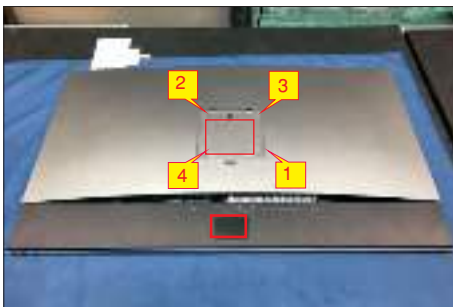
S14

Take a rear cover, then put down the rear cover and assemble it with the middle bezel, then push the rear cover on the positions marked as No.1~4 in priority order for mechanisms engagement.



S15

Use a Philips-head screwdriver to tighten four screws for locking mechanisms. Stick two pieces of label on the specific positions of the rear cover (No.1~4 screw size=M4x10; Torque=12±0.5kgfxcm)



S16

Take a stand, then insert the stand to the groove on the back of the monitor, and then press the stand so that the monitor mounting area snaps onto the stand.



S17

Lift up the monitor, check the gaps of the bezels of monitor whether up to standard. Provide power supply and a video signal to the monitor, then turn on the monitor for functionality check. Turn off the monitor, remove all the cables, stick an energy label on top left corner of the monitor for European region. Stick a screen protector by the adhesive tapes which stuck the four corner of the screen protector.



5. Trouble Shooting Instructions

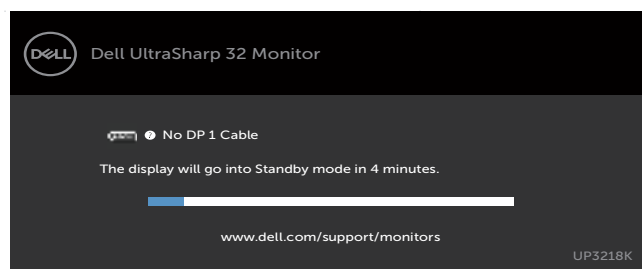
 **WARNING:** Before you begin any of the procedures in this section, follow the [Safety Instructions](#).

Self-Test

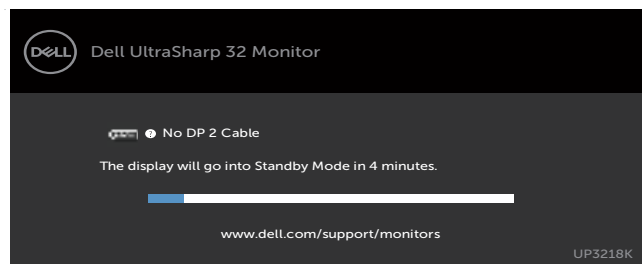
Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

- 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 all digital and the analog cables 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.



or



- 4 This box also appears during normal system operation, if the video cable becomes disconnected or damaged.
- 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.

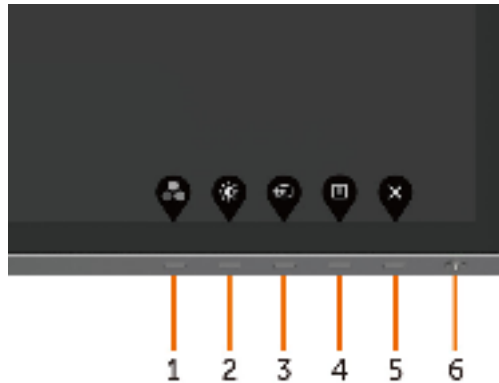
5. Trouble Shooting Instructions

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** Make sure 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 **Button 1** for 5 seconds. A gray screen appears.
- 4** Carefully inspect the screen for abnormalities.
- 5** Press **Button 1** 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, and text screens.

The test is complete when the text screen appears. To exit, press **Button 1** 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.

5. Trouble Shooting Instructions

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	<ul style="list-style-type: none">• 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.• Ensure that the correct input source is selected in the Input Source menu.
No Video/Power LED on	No picture or no brightness	<ul style="list-style-type: none">• Increase brightness & contrast controls via OSD.• Perform monitor self-test feature check.• Check for bent or broken pins in the video cable connector.• Run the built-in diagnostics.• Ensure that the correct input source is selected in the Input Source menu.
Missing Pixels	LCD screen has spots	<ul style="list-style-type: none">• 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: http://www.dell.com/support/monitors.
Stuck-on Pixels	LCD screen has bright spots	<ul style="list-style-type: none">• 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: http://www.dell.com/support/monitors.
Brightness Problems	Picture too dim or too bright	<ul style="list-style-type: none">• Reset the monitor to factory settings.• Adjust brightness & contrast controls via OSD.
Safety Related Issues	Visible signs of smoke or sparks	<ul style="list-style-type: none">• Do not perform any troubleshooting steps.• Contact Dell immediately.
Intermittent Problems	Monitor malfunctions on & off	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Perform monitor self-test.• 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.

5. Trouble Shooting Instructions

Common Symptoms	What You Experience	Possible Solutions
Wrong Color	Picture color not good	<ul style="list-style-type: none">• Change the settings of the Preset Modes in the Color menu OSD depending on the application.• Adjust R/G/B value under Custom. Color in Color menu OSD.• Change the Input Color Format to PC RGB or YPbPr in the Color menu OSD.• Run the built-in diagnostics.
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	<ul style="list-style-type: none">• 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.

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	<ul style="list-style-type: none">• Check the Aspect Ratio setting in the Display menu OSD.• Reset the monitor to factory settings.
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen	<ul style="list-style-type: none">• Turn off the monitor, unplug the monitor power cable, plug it back, and then turn on the monitor.
No Input Signal when user controls are pressed	No picture, the LED light is white	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen.• Run the built-in diagnostics.
No image when using DP connection to the PC or no BIOS/Post screen display	Black screen	<ul style="list-style-type: none">• Verify which DP standard is your Graphics Card certified to. Download and install the latest graphics card driver.• Some DP 1.1 or DP 1.2 graphics card cannot support DP 1.4 monitors. Go to OSD menu, under Input Source selection, press and hold DP select  key for 8 sec to change the monitor setting from DP 1.4 to DP 1.2.