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:

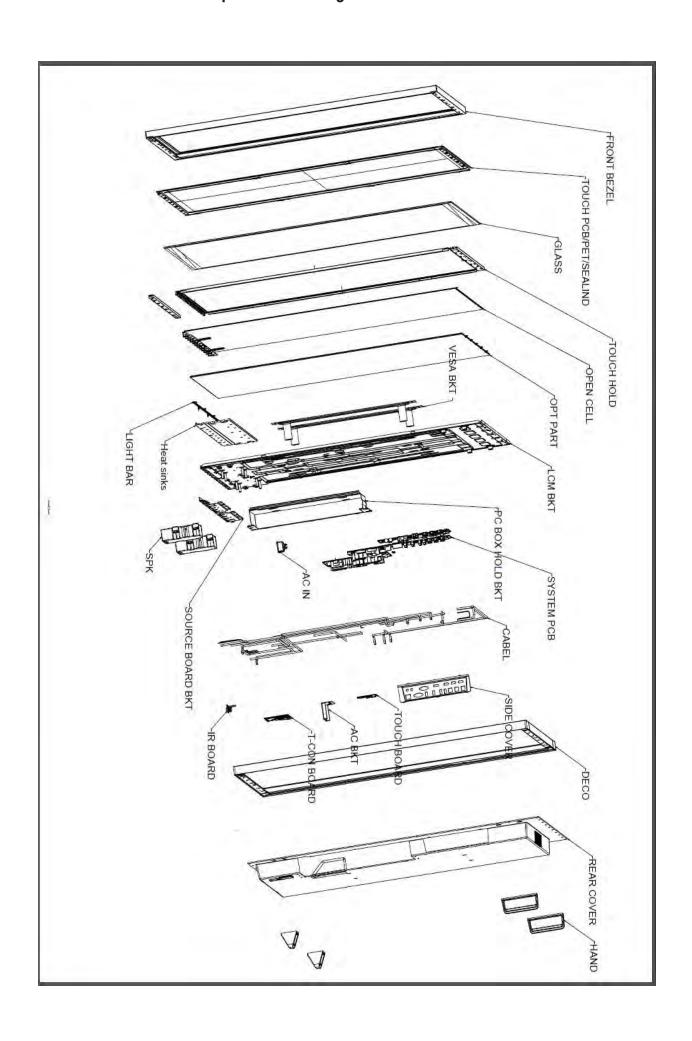
Proper service and repair is important to the safe, reliable operation of all series products. The service providers recommended by vender should be aware of notices listed in this service manual in order to minimize the risk of personal injury when perform service procedures. Furthermore, the possible 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:

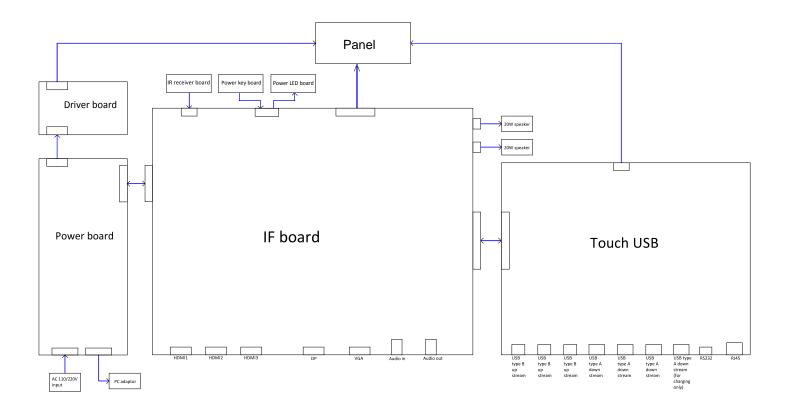
- ! To avoid electrical shocks, the products should be connected to an authorized power cord, and turn off the master power switch each time before removing the AC power cord.
- ! To prevent the product away from water or expose in extremely high humility environment.
- ! To ensure the continued reliability 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



S₅

S7

Necessary repair and test equipment:

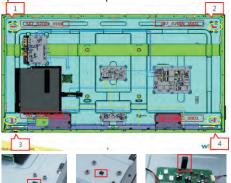
- 1. Philips-head screwdriver
- 2. Hex-head screwdriver
- 3. Air gun and roller
- 4.1 Disassembly Procedures:

Use a screwdriver to remove 8pcs screws for releasing the handles. (Torque:15±0.5kgf)

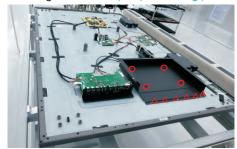
Remove 60pcs screws for unlocking the rear cover.(Torque: 3±0.3kgf)



Remove the handles and rear cover, then remove the 5pcs rubbers as the picture below shown.

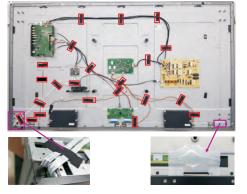


Use a screwdriver to remove 10pcs(4+6) screws for releasing the PC box.(Torque:3±0.3kgf)



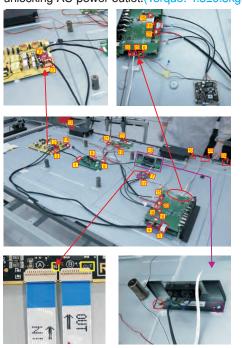
Remove 2pcs O/C mylar tapes away from the back bracket, then remove 22pcs black tapes and 1pcs conductive tape as the picture below shown.

S4



Disconnect all the cables as the picture below shown.

Use a screwdriver to remove 2pcs screws for unlocking AC power outlet.(Torque: 4.5±0.5kgf)



S6 Use a screwdriver to remove 8pcs screws for unlocking speakers. (Torque: 6kgf±0.5)



Use a Hex-head screwdriver to remove 4pcs screws for unlocking VGA connectors. (Torque: 4.5kgf±0.3)
Use a screwdriver to remove 12pcs screws for unlocking the USB board, IO holder and main board, remove 16pcs screws for locking the power board, driver board, touch board and T-Con board. (Torque: 4.5kgf±0.3)

Disconnect the FFC cables away from the T-con board.

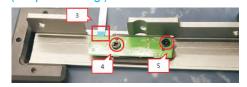


S13

Use a screwdriver to remove 42pcs screws
(left: 11pcs, right :11pcs, top: 10pcs, bottom: 10pcs)
for unlocking 4pcs strips.(Torque: 6±0.3kgf)



Use a screwdriver to remove 2pcs screws for unlocking the key board and the holder with strip. (Torque: 2±0.3kgf)





Use a screwdriver to remove 14pcs screws for unlocking the front bezels(top, left, right, bottom). (Torque: 3±0.3kgf)

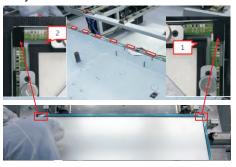


Disconnect the touch cable and FFC cables. Use a screwdriver to remove13pcs screws(Torque: 6±0.3kgf), 12pcs screws (Torque: 3±0.3kgf) for unlocking the ED holder with the assembled unit.





Tear off 12pcs conductive foams on the specific position of the O/C SB, then release the O/C SB away from the back bracket.



Turn over the panel module with the bracket for screen faced up. Use a thin film(such as Prism film) to disassemble the O/C with glass carefully, then remove the O/C with glass and put then on a protective cushion.

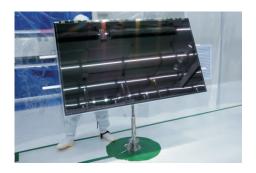




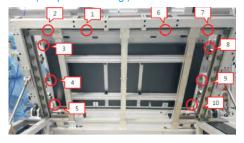








Use a tripper to lift up the unit, then use a screwdriver to remove 10pcs screws for unlocking the ED unit, then use the tripper to put down the unit. (Torque: 3.0±0.3kgf)

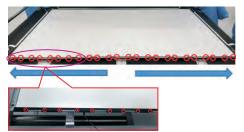


Use a ED holder fixture to fix the ED holders, then lift up the ED holder unit for removing the ED unit, and then put the unit on a protective cushion.



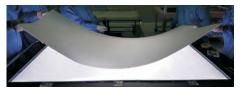


Use a screwdriver to remove 24pcs screws for unlocking the bottom-middle bezel and then remove the bottom-middle bezel.(Torque: 2±0.3kgf)





Remove 1pcs DEBF film, 1pcs Diffuser film, 1pcs LGP, 1pcs Reflector film away from the back bracket.





Use a screwdriver to remove 17pcs screws for unlocking the L/B heat sink with the back bracket. (Torque: 3±0.3kgf)



Use a screwdriver to remove10pcs screws for unlocking the two VESA brackets with back bracket.(Torque: 5±0.3kgf)

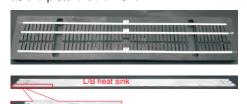


4.2 Assembly Procedures:

S1

Preparation: Take 3pcs light bars and 3pcs double-faced tapes, 1pcs L/B heat sink and 3pcs tapes.

Attach 3pcs double-faced tape on the back of the 3pcs light bar, attach 3pcs tapes on the L/B heat sink as the picture below shown.



Put 1pcs back bracket on the working table, then take 2pcs VESA brackets to assemble with the back bracket. Use a screwdriver to tighten 10pcs screws for locking the two VESA brackets with back bracket.

(Torque: 5±0.3kgf)



Tear off the papers of the tapes on the L/B heat sink, then assemble the L/B heat sink with back bracket.

Use a screwdriver to tighten 17pcs screws for locking the L/B heat sink with the back bracket.

(Torque: 3±0.3kgf)

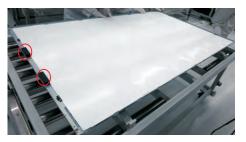
S4



Tear off the papers of double-faced tapes on the L/B, then paste 3pcs L/B from left to right on the hooks of the L/B heat sink, then use a laminating fixture to fix the light bar with the heat sink.



Assemble 2pcs fixture rubber on the side of the back bracket, then place 1pcs Reflector film into the back bracket. Make sure the gap between light and Reflector >1.2mm.



Use a sucking tool to suck 1pcs LGP, then tear off
the protective film of the LGP. Assemble the LGP
with the Reflector and back bracket, then power on
and make sure there is no particles on the film.





Place 1pcs Diffuser film on the back bracket, then
place 1pcs DEBF film on the back bracket, and then
power on to check and make sure no particles on the
films.





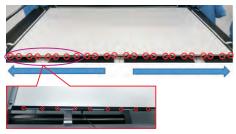
S11

S8

Take 1pcs bottom-middle bezel to assemble with the assembled back bracket, then use a screwdriver to lock bottom-middle bezel with 24pcs screws as the arrow indication.

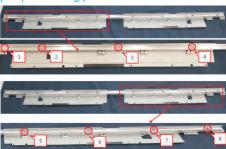
(Torque: 2±0.3kgf)



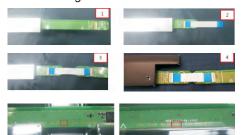


Take 1pcs bottom-ED-holder and 2pcs small brackets, then use a screwdriver to tighten 8pcs screws for locking the two bracket with the bottom ED holder.

(Torque: 3±0.3kgf)



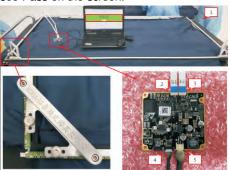
Take 1pcs ED Holder, 1pcs ED board and 1pcs FFC cable, then insert the 1pcs ED board into the ED holder as the picture 1 shown. Connect one end of FFC cable to the ED board as picture 2 shown. Take 1pcs ED board connect the other end of the FFC cable as picture 3 shown. Folder the FFC cable to make two ED boards firmly attached as picture 4. Insert 5pcs ED boards into top ED holder and Insert 3pcs ED boards into left ED holder, insert 3pcs ED boards into right ED holder.



Note: LS: the board is for Top ED holder; SS: the hold is for left and right ED holder.



Place the Top, left, right and bottom assembled ED holder units to form a square and then connect them with the FFC cables, then fix the ED unit with a fixture. Connect the FFC cable of ED board to the connectors of the touch board, then connect the power cable and signal cable to the touch board, then run the special program and input SN for testing, it stand ok when you see Pass on the screen.

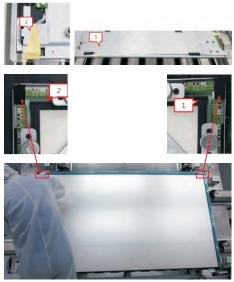


Disconnect the bottom ED holder away from the left and right ED holders, then replace the bottom ED holder with a fixture Jip as the picture below shown.

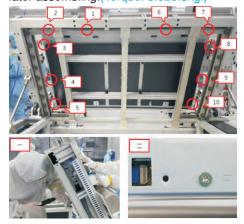


Assemble the ED holders unit with the assembled back bracket, then push the whole unit into a tripper, then fix the FFC cables with tapes, then paste 2pcs rubbers on the specific position as the picture below shown.

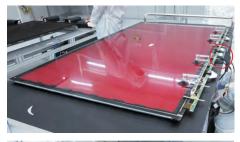




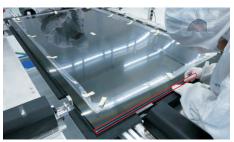
Operate the tripper to overturn the unit, then use a screwdriver to lock 10pcs screws for locking the ED unit with the back bracket, then turn over the unit for later assembling.(Torque: 3.0±0.3kgf)

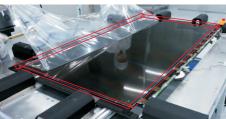


Use a sucking tool to suck 1pcs O/C module and place it on a protective cushion, then supply power and signal to the O/C module for functionality check, then disconnect the cables. Paste 4pcs release tapes around edge of screen of the O/C module, then tear off the protective film of the O/C module.







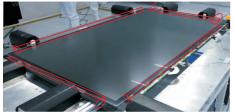


Use a sucking tool to suck 1pcs glass and set it on a jip, then check the glass carefully and make sure no particles on the glass.



Use a sucking tool to suck the glass and then assemble the glass with the O/C module, then tear off all release papers around edges of the O/C module., and then press the glass with a roll for two parts firmly attachment.







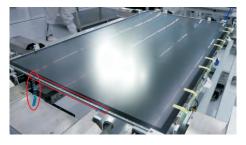
S15

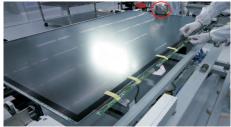
S20

Use a roller to clean the film as the direction of the arrow. Use a sucking tool to move the O/C with glass module to assemble with the back bracket. Tear off the releaser papers of left, right and top ED holders, and then use a roller to press the O/C with glass module with the back bracket firmly attached.

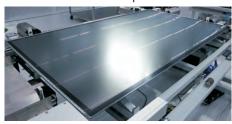








Use the tapes to fix the SB of the O/C on the back bracket, then use the tipper to turn over the unit to let the back bracket faced up.





Take 1pcs top front bezel, 1pcs left front bezel, 1pcs right front bezel, 1pcs bottom front bezel, 4pcs filter films, 8pcs reflector films (black 4pcs and white 4pcs), then paste the reflector and filter tapes on the bezel as the picture below shown.









Take 1pcs light pipe, and then use a screwdriver to lock 2pcs screws for locking the light pipe with front bezel. Take 1pcs IR board and 1pcs IR holder and 1pcs shading tape, then assemble the IR board with IR holder, then use a screwdriver to lock 2pcs screws for locking the IR holder with front bezel.(Torque: 3±0.3kgf)





S18

S19

Prepare all the cables, all boards, and all the bezel and strips, then place all the cables, boards and S22 bezel on a working tables as the picture below





Tear off the tapes on the back bracket, then paste the O/C SB on the back bracket, then paste 12pcs S23 conductive foams on the specific position of the O/C SB as the picture below shown.



Make sure ED FFC cables are connected well, then assemble 1pcs ED holder with the assembled unit, and then use a screwdriver to tighten 13pcs screws for locking the ED holder with the assembled unit. (Torque: 6±0.3kgf)Use a screwdriver to tighten 12pcs screws for locking the ED holder with the unit. (Torque: 3±0.3kgf)



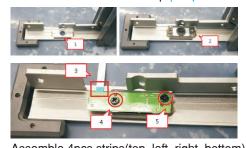
Take 1pcs touch cable to connect the ED boards as picture 1. Take 1pcs folded FFC cable to connect the S25 ED boards as picture 2, then assemble 2pcs rubbers to the assembled unit as picture 3 and picture 4.



Assemble 4pcs front bezels(top, left, right, bottom) with the assembled unit, then use a screwdriver to tighten S26 14pcs screws for locking the front bezels with the assembled unit.(Torque: 3±0.3kgf)



Paste 1pcs shading foam on the strip as the picture 1 shown, then assemble 1pcs key board holder with the strip, then locate the key board into the holder and use a screwdriver to tighten 2pcs screws for locking the board and the holder with strip.(Torque: 2±0.3kgf)



Assemble 4pcs strips(top, left, right, bottom) with the assembled unit. Use a screwdriver to tighten 42pcs (left: 11pcs, right:11pcs, top: 10pcs, bottom: 10pcs) S28 screws for locking the 4pcs strip with the assembled unit.(Torque: 6±0.3kgf)

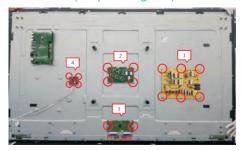


S27





Assemble 1pcs power board, 1pcs driver board, 1pcs touch board, 1pcs T-Con board and 2pcs FFC cables with back bracket as the picture below shown. Use the FFC cable to connect the T-con board with SB of O/C. Use a screwdriver to lock 16pcs screws for locking power board, driver board, touch board, and T-con board.(Torque: 4.5kgf±0.3)



Use a screwdriver to lock 4pcs screws to the back bracket, then use a screwdriver to lock 4pcs screws for locking 1pcs main board with the screws, and then assemble 1pcs USB board and 1pcs IO holder with the main board, then lock 4pcs screws for locking the USB board, lock 4pcs hex screws for locking the VGA connectors. (Torque:4.5kgf±0.3)



S29

S30



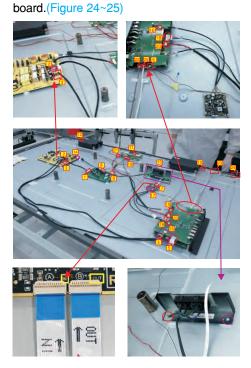




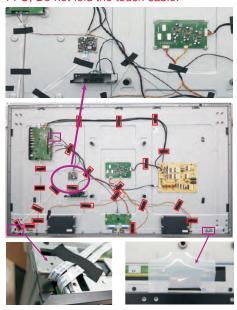
Take a pair of speakers to assemble with the back bracket, then use a screwdriver to lock 8pcs screws for locking speakers with the unit. (Torque: 6kgf±0.5)



Take 1pcs cable to connect driver board with power board(Figure 1~2). Take 2pcs cable to connect the power board with main board and USB board(Figure 3~4). Take 1pcs cable to connect USB board with main board(Figure 5). Connect the speakers' cable to the connector of main board(Figure 6). Connect the touch cable to the connector of touch board(Figure 7). Take 1pcs L/B cable to connect driver board with the unit(Figure8~12). Take 1pcs AC power outlet and cable to assemble with the back bracket, then use a screwdriver to lock 2pcs screws for locking the AC outlet and grounding wire, then plug the other end of cable to the power board.(Figure 13~14)(Torque: 4.5kgf±0.3) Take 1pcs cable to connect touch board with main board, take 1pcs cable connect touch board with USB board (Figure 15~17). Take 1pcs LVDS cable to connect main board with T-con board(Figure 18~19). Take 1pcs cable to connect main board with T-con board. (Figure 20~21) Take 1pcs IR cable to connect the main board with the unit.(Figure 22~23) Connect the function key cable to the connector of the main



Paste 22pcs black tapes for fixing the cables as the picture below shown. Paste 1pcs conductive tape on the specific position of the boards, then paste 2pcs O/C mylar tapes on the bracket as the picture below show. Notice: Make sure no metal parts press on the FFC; Do not fold the touch cable.



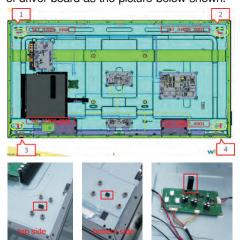
Place 1pcs PC box to the specific positions of the whole unit, then use a screwdriver to lock 10pcs(4+6) screws for fixing the PC box. (Torque:3±0.3kgf)

S34

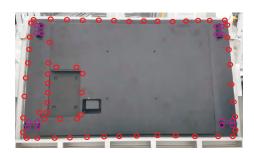
S35



Paste 2pcs rubbers on the specific positions of topside, and then paste 2pcs rubbers on the specific positions of bottom-side. Paste 1pcs rubber on the side of driver board as the picture below shown.



Take 1pcs rear cover, assemble the rear cover with the assembled unit, then use a screwdriver to lock the rear cover with 60pcs screws.(Torque: 3±0.3kgf)
Assemble 4pcs handles with the rear cover, then lock the handles with 16pcs screws.(Torque:15±0.5kgf)



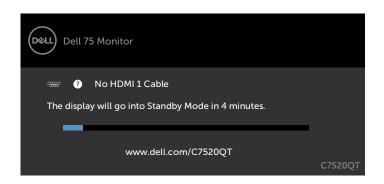
MARNING: Before you begin any of the procedures in this section, follow the Safety Instructions.

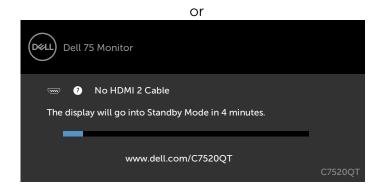
Self-Test

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

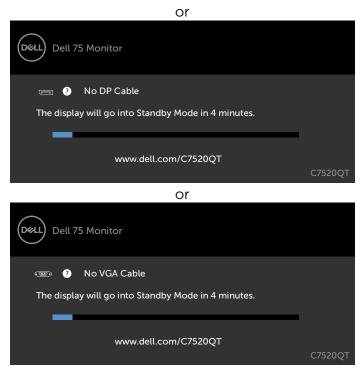
- 1. Turn off both your computer and the display.
- 2. Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove all digital and the analog cables from the back of computer.
- **3.** Turn on the display.

The floating dialog box should appear on-screen (against a black background), if the display 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 Dell 75 Monitor ■ ? No HDMI 3 Cable The display will go into Standby Mode in 4 minutes. www.dell.com/C7520QT

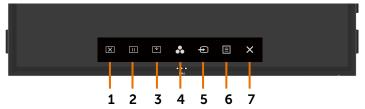


- **4.** This box also appears during normal system operation, if the video cable becomes disconnected or damaged.
- **5.** Turn off your display and reconnect the video cable; then turn on both your computer and the display.

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

Built-in Diagnostics

Your display has a built-in diagnostic tool that helps you determine if the screen abnormality you are experiencing is an inherent problem with your display, or with your computer and video card.



To run the built-in diagnostics:

- 1. Make sure that the screen is clean (no dust particles on the surface of the screen).
- 2. Touch and hold for 5 seconds in lock Select Option. Touch the self-inspection icon A gray screen appears.
- **3.** Carefully inspect the screen for abnormalities.
- **4.** Touch the front panel. The color of the screen changes to red.
- 5. Inspect the display for any abnormalities.
- 6. Repeat steps 4 and 5 to inspect the display in green, blue, black, white, and text screens.

The test is complete when the text screen appears. To exit, touch panel again.

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

Common Problems

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

NOTE: Auto Adjust function is applicable to VGA input only.

Common Symptoms	What You Experience	Possible Solutions
No Video/Power LED off	No picture	 Ensure that the video cable connecting the display 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	 Increase brightness & contrast controls via OSD. Perform display 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.
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 display to factory settings. Change the video resolution to the correct aspect ratio.
Shaky/Jittery Video	Wavy picture or fine movement	 Perform Auto Adjust via OSD. Adjust the Phase and Pixel Clock controls via OSD. Reset the display to factory settings. Check environmental factors. Relocate the display 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 Display Quality and Pixel Policy, see Dell Support site at: http://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 Display Quality and PixelPolicy, see Dell Support site at: http://www.dell.com/support/monitors.
Brightness Problems	Picture too dim or too bright	Reset the display to factory settings.Auto Adjust via OSD.Adjust brightness & contrast controls via OSD.

Common Symptoms	What You Experience	Possible Solutions
Audio problem	No Audio	Check PC setting if the playback is correctly selected.Checking other video cables.Ensure that the Speaker is enabled via OSD
Geometric Distortion	Screen not centered correctly	Reset the display to factory settings.Auto Adjust via OSD.Adjust horizontal & vertical controls via OSD.
Horizontal/Vertical Lines	Screen has one or more lines	 Reset the display to factory settings. Perform Auto Adjust via OSD. Adjust Phase and Pixel Clock controls via OSD. Perform display 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. Run the built-in diagnostics.
Synchronization Problems	Screen is scrambled or appears torn	 Reset the display to factory settings. Perform Auto Adjust via OSD. Adjust Phase and Pixel Clock controls via OSD. Perform display 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 safe mode.
Safety Related Issues	Visible signs of smoke or sparks	Do not perform any troubleshooting steps.Contact Dell immediately.
Intermittent Problems	Display malfunctions on & off	 Ensure that the video cable connecting the display to the computer is connected properly and is secure. Reset the display to factory settings. Perform display self-test feature check to determine if the intermittent problem occurs in self-test mode.
Missing Color	Picture missing color	 Perform display self-test. Ensure that the video cable connecting the display 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 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 display 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.
Touchscreen non- responsive	Display cannot wake on touch	 Ensure Wake On Touch is enabled via OSD. Wake On Touch is default off.

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	Check the Aspect Ratio setting in the Display menu OSD.Reset the display to factory settings.
Cannot adjust the display with touch OSD	OSD does not appear on the screen	 Turn off the display, unplug the display power cable, plug it back, and then turn on the display. Check whether the OSD menu is locked. If yes, touch icon for 4 seconds to unlock.
No Input Signal when user controls are pressed	No picture, the LED light is white	 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	 Due to different video formats (aspect ratio) of DVDs, the display may display in full screen. Run the built-in diagnostics.

Touchscreen Problems

Specific Symptoms	What You Experience	Possible Solutions
		 Use the Dell provided USB cable to connect your computer.
		· Make sure the power cable has a ground pin.
Touch report error	Touch function miss alignment or no touch function	 Unplug and replug the power cable to allow initialization of the touch module.
		· Make sure computer supports USB 2.0 or later.
		 If the display cannot be detected by the computer, power off/on the monitor or unplug and replug the USB cable.
Touchscreen non-responsive in standby mode	Cannot wake up display and computer by using touch in standby mode	Access Device Manager, expand HID Interface Device under Human Device.
		 Right click HID- compliant device, click Properties and select the check-box to allow the device to wake the computer.
		\cdot Check Display OSD 'Wake on touch' setting is enabled.

Universal Serial Bus (USB) Specific Problems

Specific Symptoms	What You Experience	Possible Solutions
USB interface is not working	USB peripherals are not working	 Check that your display is turned ON. Reconnect the upstream cable to your computer. Reconnect the USB peripherals (downstream connector). Switch off and then turn on the display again. Reboot the computer. Some USB devices like external portable HDD require higher electric current; connect the device directly to the computer system.
SuperSpeed USB 3.0 interface is slow.	SuperSpeed USB 3.0 peripherals working slowly or not working at all	 Check that your computer is USB 3.0-capable. Some computers have USB 3.0, USB 2.0, and USB 1.1 ports. Ensure that the correct USB port is used. Reconnect the upstream cable to your computer. Reconnect the USB peripherals (downstream connector). Reboot the computer.
Wireless USB peripherals stop working when a USB 3.0 device is plugged in	Wireless USB peripherals responding slowly or only working as the distance between itself and its receiver decreases	 Increase the distance between the USB 3.0 peripherals and the wireless USB receiver. Position your wireless USB receiver as close as possible to the wireless USB peripherals. Use a USB-extender cable to position the wireless USB receiver as far away as possible from the USB 3.0 port.
USB is not working	No USB functionalities	Refer to input source and USB pairing table.

Ethernet Problems

Specific Symptoms	What You Experience	Possible Solutions
Ethernet not working	Dell Web Management for Displays Webpage control is not working	 Ensure that the Network cable connecting the Display is properly secured.
		• Touch the icon 5 on the screen for 4 seconds to turn on , A network icon appears and is shown on the center for 4 seconds .
		• Touch the icon 5 on the front panel for 4 seconds to turn off, A network icon ### appears and is shown on the center for 4 seconds.
		1 2 3 4 5 6 7