Service Manual - P2725HE

Version: 01

Date: 2024/03/01

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.

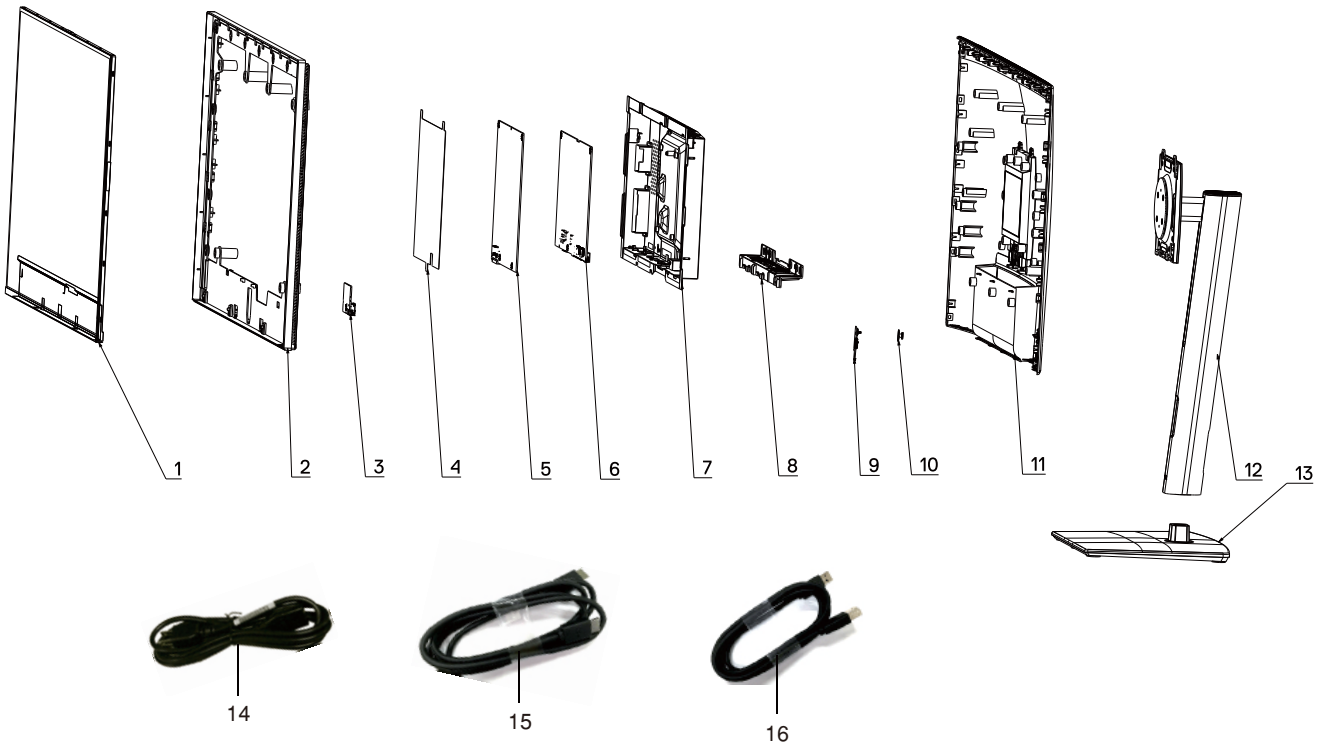
! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

! 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



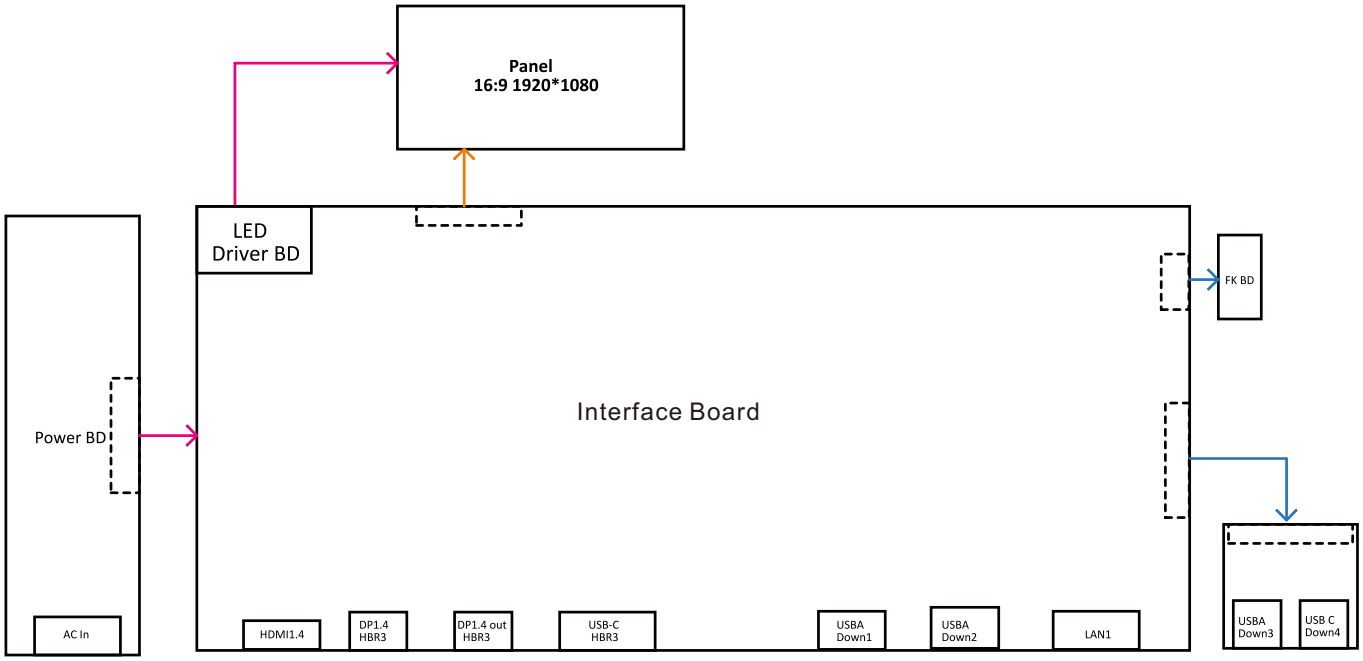
Item	Description	Q'ty	Remark
1	Panel	1	For EMEA Only, not for other regions
2	Middle Frame	1	
3	USB BD	1	
4	Panel Mylar	1	
5	Power BD	1	
6	Interface BD	1	
7	Main Bracket	1	
8	IO Connector Cover	1	
9	Key BD	1	
10	Joystick button	1	
11	Back cover	1	
12	Riser ASSY	1	
13	Base ASSY	1	
14	Power cable	1	See “NOTE”
15	DisplayPort 1.4 cable(1.8 meter)	1	See “NOTE”
16	USB Type-C 3.2 Gen2 cable(1 meter)	1	See “NOTE”

NOTE:

For replacement of power cord, connectivity cable and external power supply (if applicable), contact Dell:

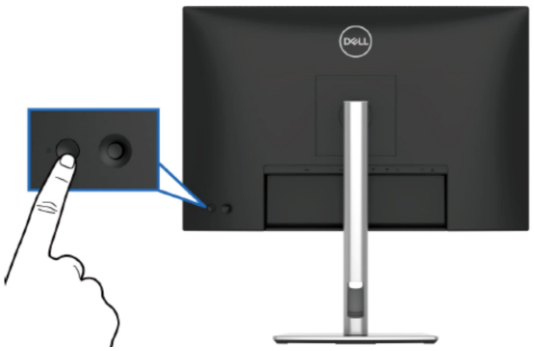
1. Go to https://www.dell.com/support.
2. Verify your country or region in the Choose A Country/Region drop-down menu at the bottom-right corner of the page.
3. Click Contact Us next to the country dropdown.
4. Select the appropriate service or support link based on your need.
5. Choose the method of contacting Dell that is convenient for you.

3. Wiring Connectivity Diagram

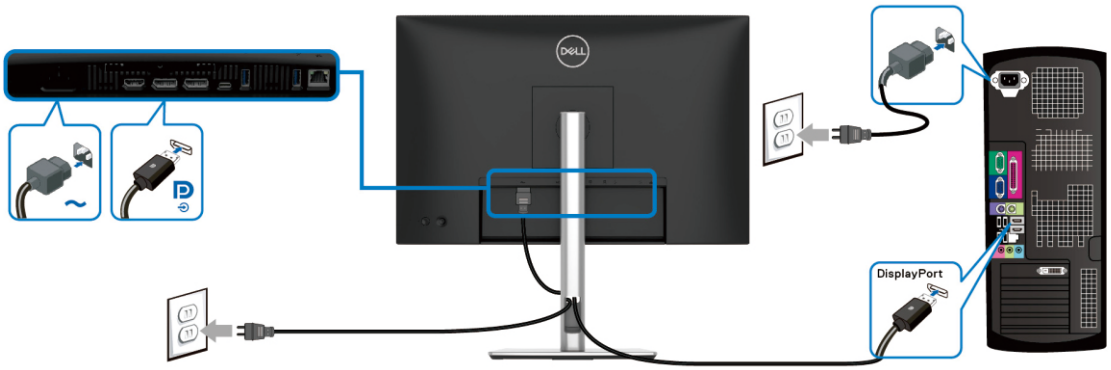


4. How to connect and disconnect power cable/ connectivity cable

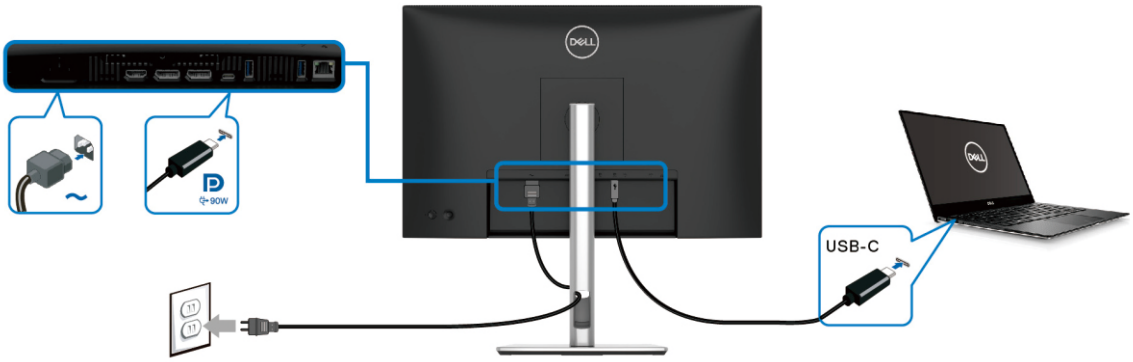
WARNING: To change power cable/ connectivity cable, switch off power before unplugging the cable and replugging in required cable.



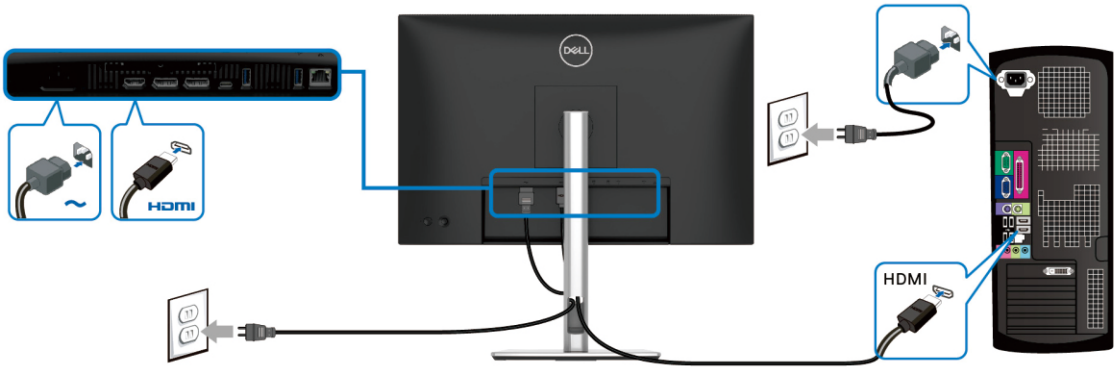
Connecting the DisplayPort (DP to DP) cable



Connecting the USB-C to USB-C cable

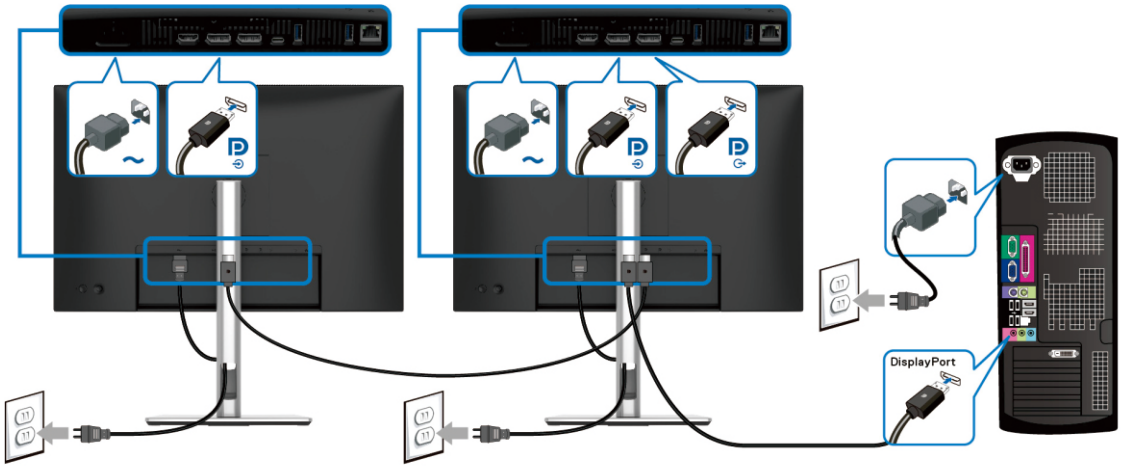


Connecting the HDMI cable (optional)

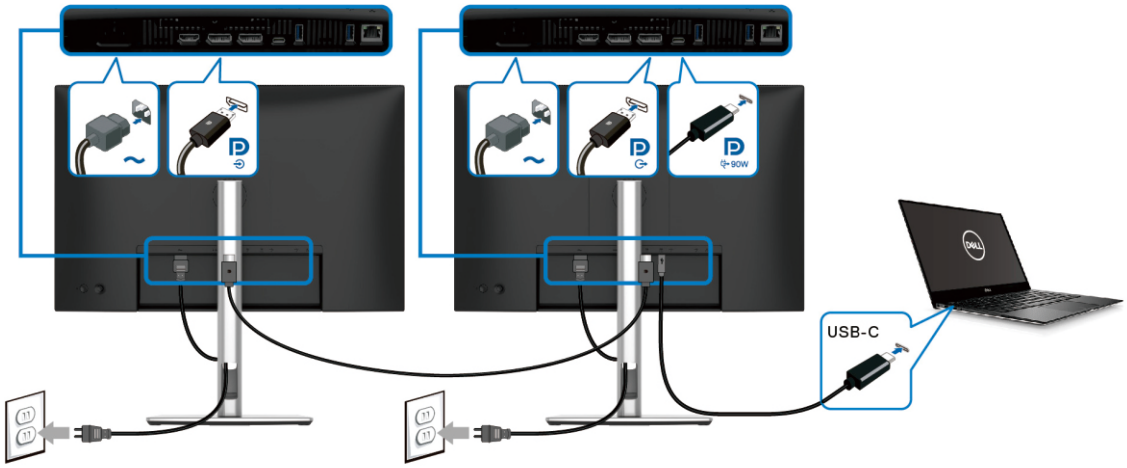


4. How to connect and disconnect power cable/ connectivity cable

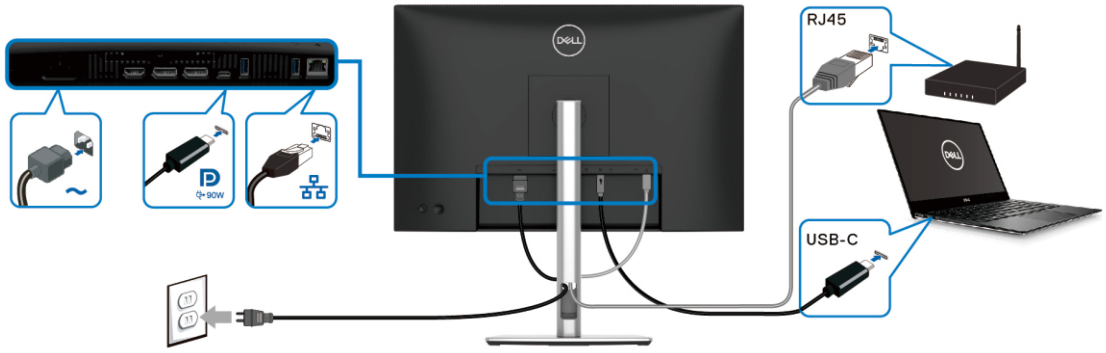
Connecting the monitor for DP Multi-Stream Transport (MST) function



Connecting the monitor for USB-C Multi-Stream Transport (MST) function



Connecting the monitor for RJ45 cable (optional)



5. Disassembly and Assembly Procedures

NOTE:
This "Disassembly and Assembly Procedures" is for EMEA only, not for other regions. Please note that Dell will deem warranty void if any disassembly is done on the monitors.

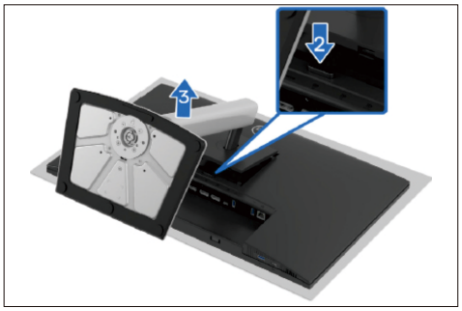
Tool Required:
List the type and size of the tools that would typically can be used to disassemble the product to a point where components and materials requiring selective treatment can be removed.

Tool Description:
- Screwdriver(Phillip head) #1
- Screwdriver(Phillip head) #2
- Penknife
- Soldering iron and absorber

5.1 Disassembly Procedures:

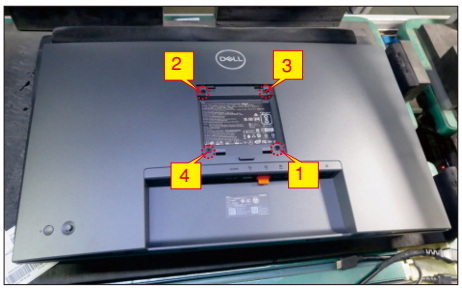
S1

Remove the monitor stand base:
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.



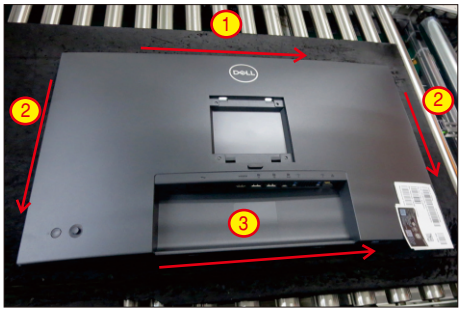
S2

Use a Philips-head screwdriver to remove four screws for unlocking mechanisms.
(No.1~4 screw size=M4x10; Torque=10±1kgfxcm)



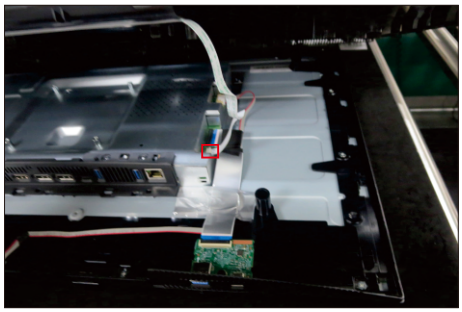
S3

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.



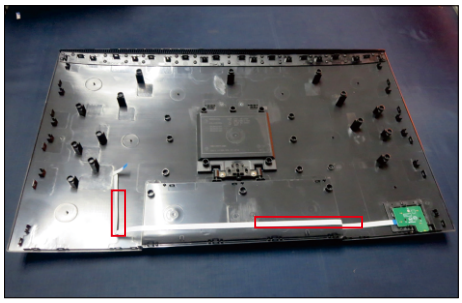
S4

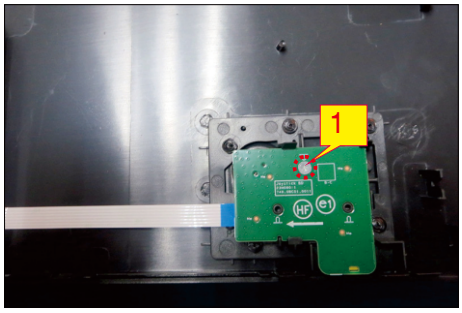
Lift the rear cover up carefully. Disconnect the key cable and USB FFC cable from the connectors of the interface board, and then remove the rear cover.



S5

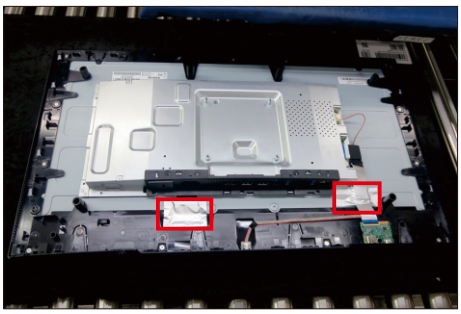
Put the rear cover into a fixture jip, then release the key cable by tearing off the tapes. Use a Philips-head screwdriver to remove 1pcs screws for unlocking the joystick key board with the rear cover.
(No.1 screw size=M2x3.3,Torque=1±0.2kgfxcm)



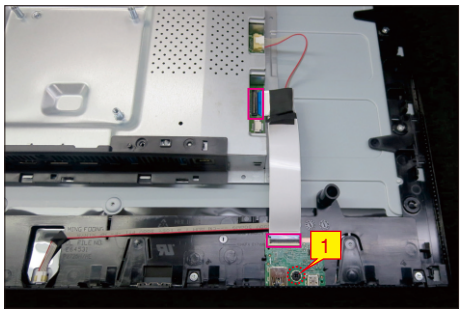


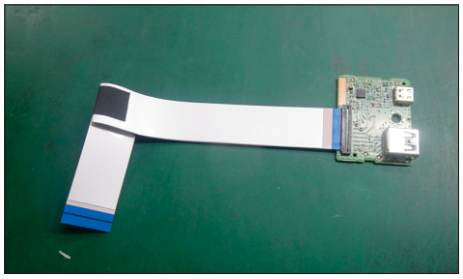
S6

Tear off 2pcs aluminum foil, then use a Philips-head screwdriver to remove 1pcs screw for unlocking the USB unit, then disconnect the USB cable away from the board and release the USB board unit.
(No.1 screw size=M3x6, Torque=4±1kgfxcm)

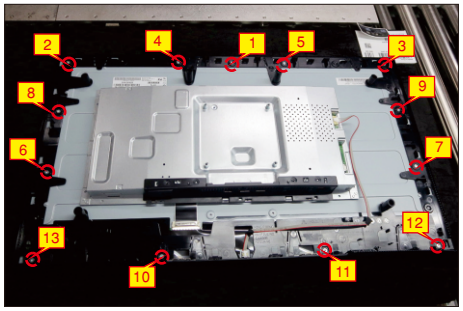


5. Disassembly and Assembly Procedures

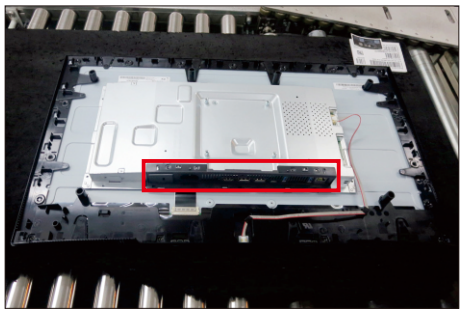




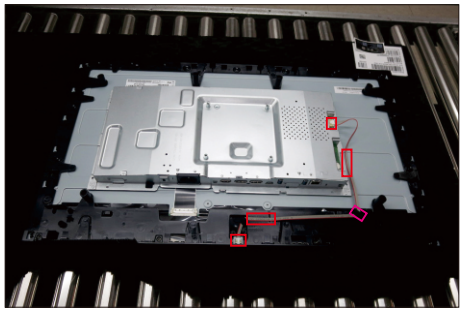
S7 Use a Philips-head screwdriver to remove 13pcs screws for unlocking the middle frame with the panel.
(No.1~13 screw size=M3x4, Torque=5±1kgfxcm)



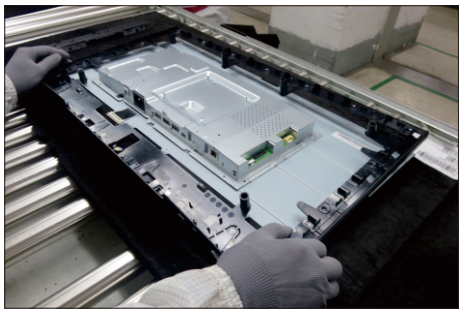
S8 Release the IO cover from the hooks of the main bracket chassis and put it aside.



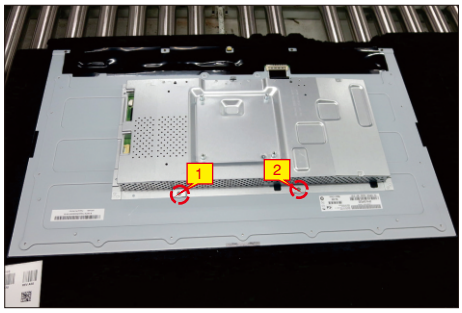
S9 Disconnect the panel lamp cable from the connectors of the panel and interface board, then tear off the tapes and release the lamp cable from the hook of middle frame.



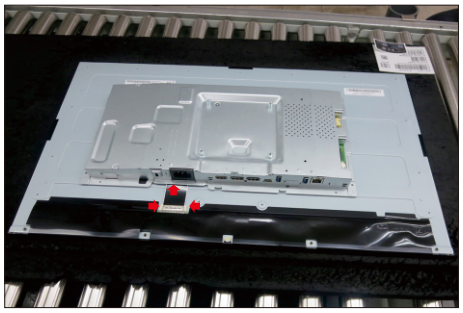
S10 Lift up the middle frame away from the panel module and put it aside.



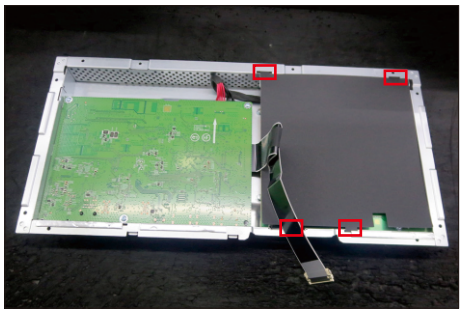
S11 Use a Philips-head screwdriver to remove 2pcs screws for unlocking the bracket chassis with the panel.
(No.1~2 Screw size= M3x3, Torque=5±1kgfxcm)



S12 Push the earing -locks and disconnect the LVDS cable from the connector of the panel module, then lift up and take away the bracket chassis module and then put it on a cushion for later disassembling.

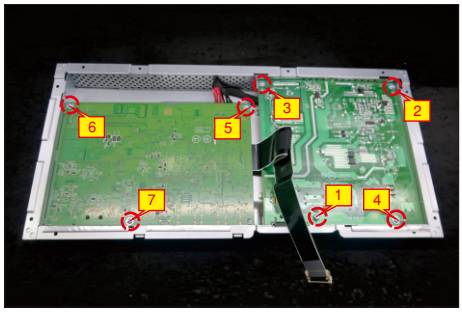


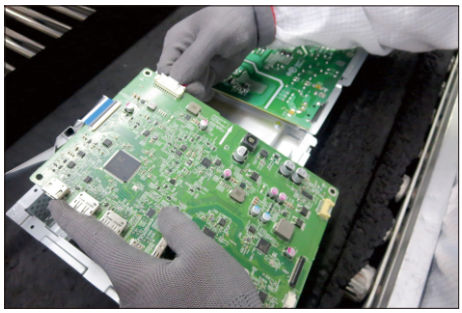
S15 Remove the black Mylar sheet from the hooks of the main bracket as the picture below shown.



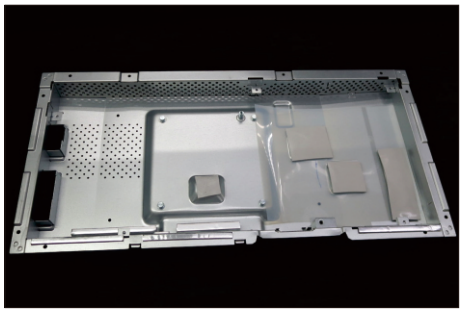
S16 Use a Philips-head screwdriver to remove 5pcs screws for unlocking the power board and interface board, and then release all the cables from the hooks.

(No.1~4 screw size=M3x6, Torque=5±1kgfxcm;
No.5 screw size=M4x8, Torque=5±1kgfxcm)





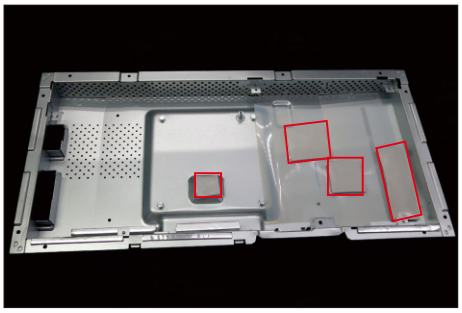
S17 Remove the interface board and power board from the bracket chassis module carefully, and disconnect all the cables.



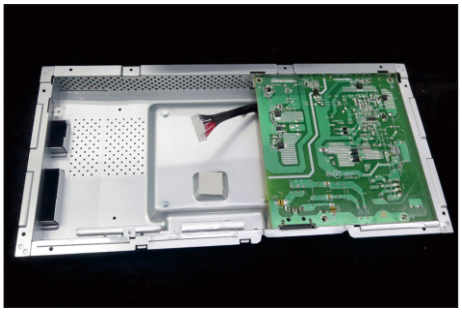
5. Disassembly and Assembly Procedures

5.2 Assembly Procedures:

S1 Place a bracket chassis base on a protective cushion, then paste 4pcs silicon sheet on the position as the picture below shown.

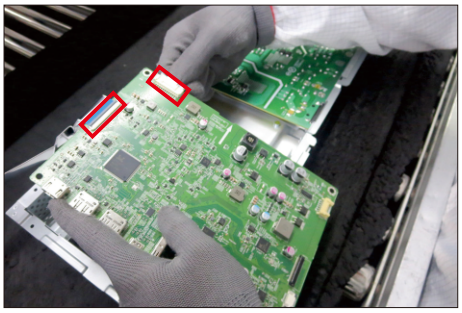


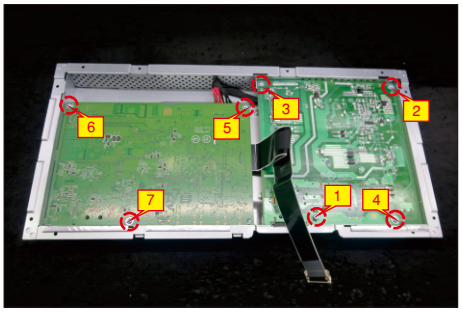
S2 Turn over a power board and put the power board into the correct position of the bracket chassis base as the picture below shown.



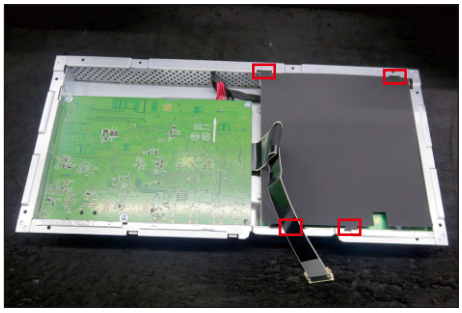
S3 Take a interface board, connect a LVDS cable to the connector of the interface board, then connect the cable of the power board to the connector of the interface board. Turn over the interface board and locate it into the bracket. Use a Philips-head screwdriver to tighten 7pcs screws for locking the power board and interface board.

(No.1 screw size=M4x8, Torque=5±1kgfxcm;
No.2~7 screw size=M3x6, Torque=5±1kgfxcm)

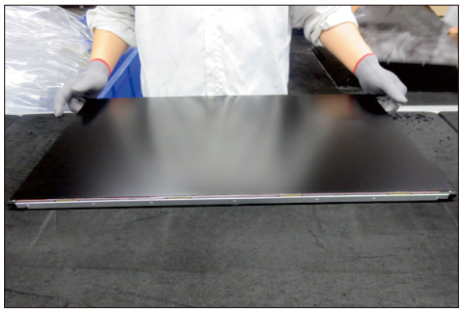




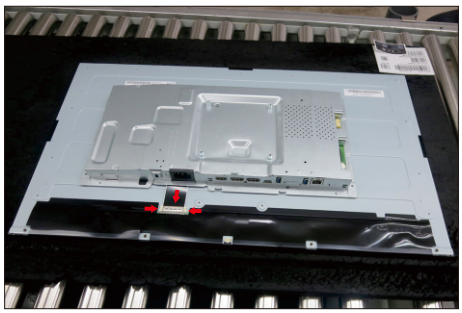
S5 Take a mylar to insert the hooks of the bracket to cover the power board.



S6 Panel preparation: Take out 1pcs panel from the carton and then examine the panel surface according to inspection criteria. Tear off the protective film of the panel screen, and then turn over the panel to place screen faced down for later assembling.

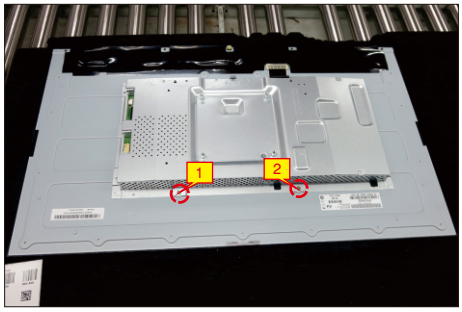


S7 Put the bracket chassis module on the back of LCD module, then push the earing-locks and connect LVDS cable and panel lamp cable to the connectors of the panel module.

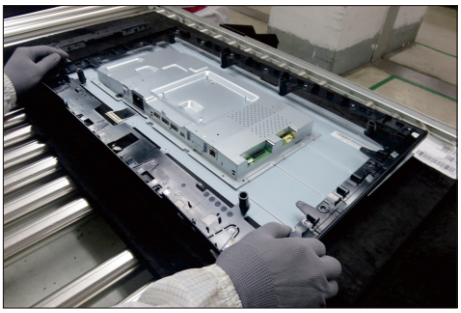


5. Disassembly and Assembly Procedures

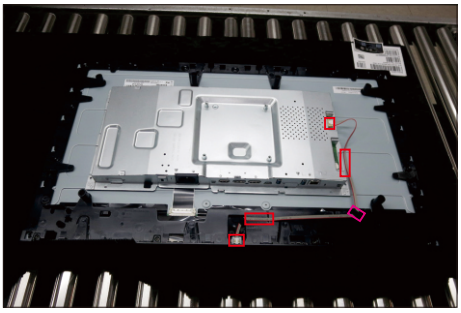
S8 Use a Philips-head screwdriver to tighten 2pcs screws for locking the bracket with panel module. (No.1~2 screw size=M3x4, Torque=5±1kgfxcm)



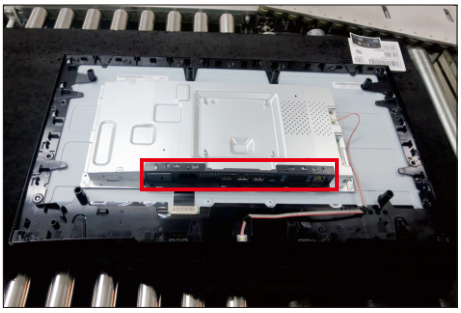
S9 Take 1pcs middle frame to assemble the panel module, then adjust the middle bezel for two parts firmly attachment.



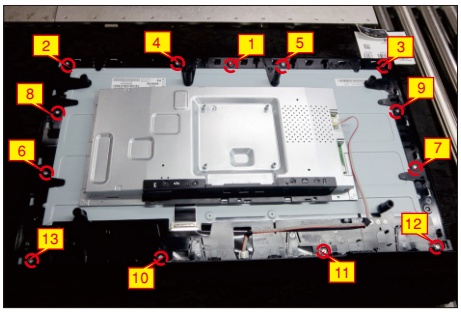
S10 Take 1pcs panel lamp cable to connect the panel and interface board, then locate the panel lamp cable to the hook of the middle frame and fix the lamp cable on the back of panel by the tapes on the back of the cable.



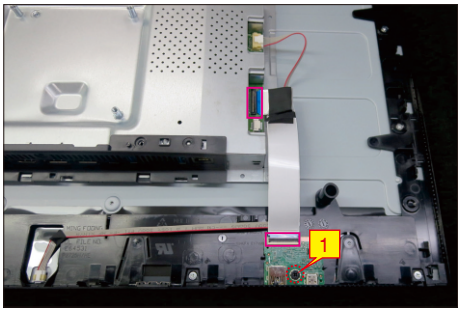
S11 Take 1pcs IO cover to locate the hooks of the bracket chassis module as the picture below shown.

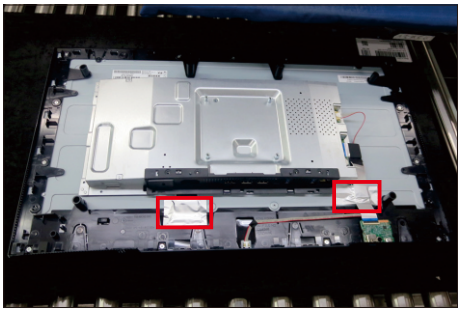


S12 Use a Philips-head screwdriver to tighten 13pcs screws for locking the middle frame with the panel. (No.1~13 screw size=M3x4, Torque=5±1kgfxcm)

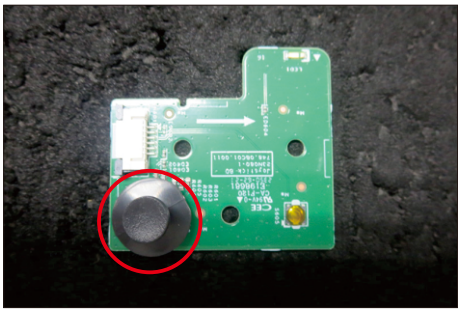


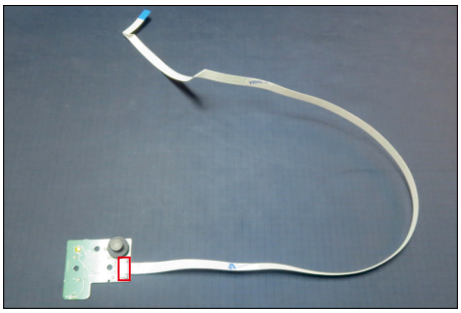
S13 Take 1pcs USB board and 1pcs connect cable. Connect the cable to the USB board, then locate the USB board into the hook of the middle frame. Use a Philips-head screwdriver to tighten one screw for locking the USB unit with middle frame, then connect the USB cable to the connector of interface board, then fix the cable by tape on the back of the cable. Paste 2pcs AL foil on the correct position to fix the cables. (No.1 screw size=M3x6, Torque=4±1kgfxcm)



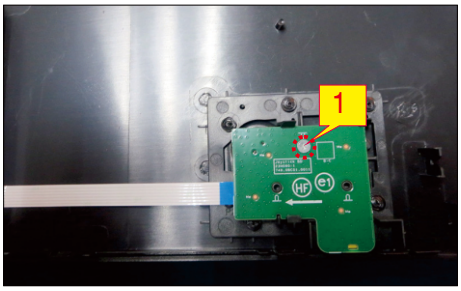


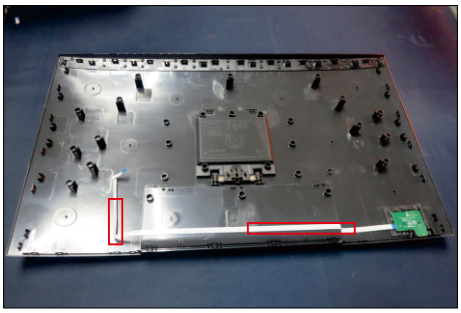
S14 Take 1pcs joystick key, 1pcs joystick board and 1pcs joystick cable, then assemble the joystick key with board, and then connect the cable to the connector of the joystick board.



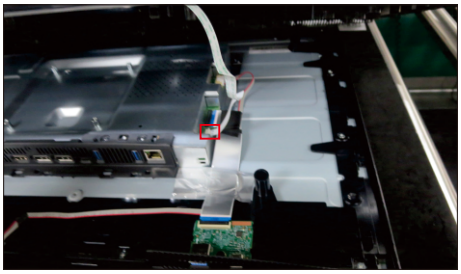


S15 Locate the joystick board to the correct position of the rear cover, then use a Philips-head screwdriver to tighten 1pcs screw for locking the joystick board with rear cover, then fix the key cable with 2pcs tapes.
(No.1 screw size=M2x3.3,Torque=1±0.2kgfxcm)

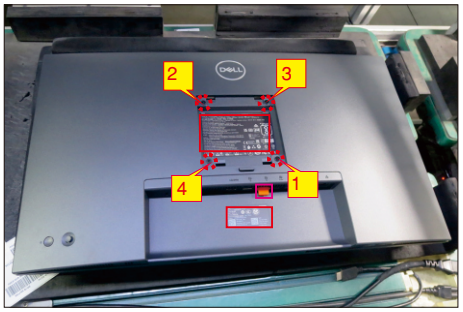




S16 Move the assembled rear cover close to the panel, then connect the joystick cable to the connector of interface board. Put down the rear cover and push the rear cover on the positions marked as the picture below shown for mechanisms engagement.



S17 Use a Philips-head screwdriver to tighten 4pcs screws for locking rear cover with the assembled unit. Paste 2pcs labels and insert 1pcs DP cap on the specific positions as the picture below shown.
(No.1~4 screw size=M4x10; Torque=10±1kgfxcm)



S18 Take 1pcs assembled stand base, then fit the two tabs on the upper part of the stand into the grooves on the back of the monitor, and then press the stand so that the monitor mounting area snaps onto the stand.

S19 Lift up the monitor, then provide power supply and a video signal to the monitor, then turn on the monitor for functionality check.

Troubleshooting

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 computer.
3. Turn on the monitor.

If the monitor cannot sense a video signal and is working correctly, the following message will appear:

or

NOTE: The message may be slightly different according to the connected input signal.

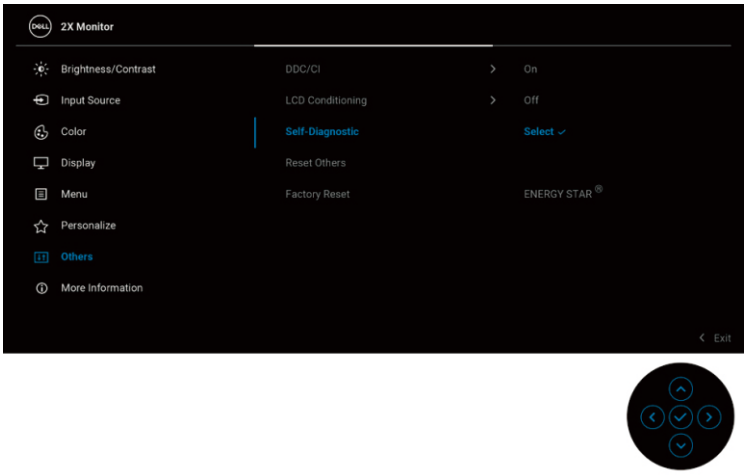
NOTE: While in self-test mode, the power LED remains white.

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.

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.



To run the built-in diagnostics:

1. Ensure that the screen is clean (no dust particles on the surface of the screen).
2. Move or press the joystick to launch the Menu Launcher.
3. Move the joystick up to select and open the Main Menu.
4. Move the joystick to navigate and select **Others** and then **Self-Diagnostic**.
5. Press the joystick to initiate the built-in diagnostics. A gray screen is displayed.
6. Observe if the screen has any defects or abnormalities.
7. Toggle the joystick once again until a red screen is displayed.
8. Observe if the screen has any defects or abnormalities.
9. Repeat steps 7 and 8 until the screen displays green, blue, black, and white colors. Note any abnormalities or defects.

The test is complete when a text screen is displayed. To exit, toggle the joystick control 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 pressed 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 and contrast controls using the OSD. • Perform monitor self-test feature check. • Check for bent or broken pins in the video cable connector. • Run the built-in diagnostics. For more information, see Built-in diagnostics. • Ensure that the correct input source is selected in the Input Source menu.
Poor focus	Picture is fuzzy, blurry, or ghosting	• Eliminate video extension cables. • Reset the monitor to factory settings. • Change the video resolution to the correct aspect ratio.
Shaky/jittery video	Wavy picture or fine movement	• Reset the monitor to factory settings. • Check environmental factors. • Relocate the monitor and test in another room.

6. Trouble Shooting Instructions

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/pixelguidelines**.
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/pixelguidelines**.
Brightness problems	Picture too dim or too bright	• Reset the monitor to factory settings. • Adjust brightness and contrast controls using the OSD.
Geometric distortion	Screen not centered correctly	Reset the monitor to factory settings.
Horizontal/ vertical lines	Screen has one or more lines	• Reset the monitor to factory settings. • 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. • Run the built-in diagnostics. For more information, see **Built-in diagnostics**.

Synchronization problems	Screen is scrambled or appears torn	• Reset the monitor to factory settings. • 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 and 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 settings of the **Preset Modes** in the **Color** menu OSD depending on the application. • Adjust the R/G/B values under **Custom Color** in the **Color** menu OSD. • Change the **Input Color Format** to **RGB** or **YCbCr/YPbPr** in the **Color** settings OSD. • Run the built-in diagnostics. For more information, see Built-in diagnostics.

6. Trouble Shooting Instructions

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.
Video ghosting or overshooting	Video ghosting, shadows or color smear while scrolling	Change the **Response Time** in the **Display** menu OSD to **Norma**l or **Fast**, depending on your application and usage.
Picture quality (Refresh rate of native resolution changes from 60 Hz to 30 Hz; or color depth drops to 18 bits)	Issues of incorrect refresh rate or missing colors	• Set **USB-C Prioritization** to **High Resolution**. • Check the resolution settings of your graphic card.

Product specific problems

Specific symptoms	What you experience	Possible solutions
Screen image is too small	Image is centered on screen, but does not fill the entire viewing area	• Check the **Aspect Ratio** setting in the **Display** menu OSD. • Reset the monitor to factory settings.
Cannot adjust the monitor with the joystick	OSD does not appear on the screen	• Turn off the monitor, unplug the power cord, plug it back, and then turn on the monitor. • Check whether the OSD menu is locked. If yes, move and hold the joystick up/down/left/right for 4 seconds to unlock (see Lock and Locking the control buttons).
No input signal when you press the power button or toggle the joystick	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 monitor may display in full screen. • Run the built-in diagnostics. For more information, see Built-in diagnostics.

No video at HDMI/ DisplayPort/USB Type-C port	When connected to some dongle/ docking device at the port, there is no video when unplugging/plugging the cable from the notebook	Unplug the HDMI/DisplayPort/USB Type-C cable from dongle/docking device, then plug the docking HDMI/DisplayPort/USB Type-C cable into the notebook.
No network connection	Network dropped or intermittent	• Check to ensure **USB-C Prioritization** is set to **High Data Speed**. • Do not turn off the display during network connection.
The LAN port is not functioning	OS setting or cable connection issue	• Ensure that the latest BIOS and drivers for your computer are installed on your computer. • Ensure that the RealTek Gigabit Ethernet Controller is installed in the Windows Device Manager. • If your BIOS Setup has LAN/ GBE Enabled/Disabled option, make sure it is set to Enabled. • Ensure that the Ethernet cable is connected securely on the monitor and the hub/router/ firewall. • Check the status LED of the Ethernet cable to confirm connectivity. Re-connect both ends of the Ethernet cable if the LED is not lit. • First power off the computer and unplug the USB Type-C cable and the power cord from the monitor. Then, power on the computer and plug the power cord and the USB Type-C cable into the monitor.

When a PS console is connected, the monitor is not compatible with the 1080i (interlaced) video timing	A message appears to notify you that the monitor does not support the current input timing.	Change the resolution of the PS console in Safe Mode. For the information about setting up the resolution, go to the official website of PlayStation.
When the first monitor is connected to your PC or laptop using the USB-C connection, you might not be able to select the optimal resolution* for the 3rd (or more) monitor in Daisy chain mode in DP1.4 (DSC Disabled)	When **MST** is **On** and **USB-C Prioritization** is set to **High Data Speed**, the displayed pictures on the 3rd (or more) daisy chained monitor are not at the optimal resolution*	Switch **USB-C Prioritization** from **High Data Speed** to **High Resolution** (USB speed reduced to 2.0).

*The optimal resolution for **P2425HE/P2425HE WOST/P2725HE** is **1920 x 1080** at 60 Hz; the optimal resolution for **P2425E** is **1920 x 1200** at 60 Hz.

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 monitor is turned On. • Reconnect the upstream cable to your computer. • Reconnect the USB peripherals (downstream connector). • Switch off and then turn on the monitor again. • Reboot the computer. • Some USB devices like external portable HDD require higher electric current; connect the device directly to the computer system.
USB Type-C port does not supply power	USB peripherals can not be charged	• Check that the connected device is compliant with the USB-C specification. The USB Type-C port (video and data) with icon supports USB 3.2 Gen1 and an output of 90 W. • Check that you use the USB Type-C cable shipped with your monitor.
Super speed USB 5 Gbps (USB 3.2 Gen1) interface is slow	Super speed USB 5 Gbps (USB 3.2 Gen1) peripherals working slowly or not working at all	• Check that your computer is super speed USB 5 Gbps (USB 3.2 Gen1)-compatible. • Some computers have USB 3.2, 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 3.2 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 3.2 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 3.2 port.
Wireless USB mouse does not work properly	When plugged into one of the USB ports on the rear side of the monitor, the Wireless USB mouse lags or freezes during use	Unplug the Wireless USB Mouse receiver and re-plug it into one of the Quick Access USB ports at the bottom of the monitor.