# **Dell E2425HS Monitor**

Service Manual



# Notes, cautions, and warnings

(i) NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

MARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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# **Safety Instructions**

Use the following safety guidelines to protect your monitor from potential damage and to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that you have read the safety information that shipped with your monitor.

- (i) **NOTE:** Before using the monitor, read the safety information that is shipped with your monitor and printed on the product. Keep the documentation at a secure location for future reference.
- MARNING: Use of controls, adjustments, or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards and/or mechanical hazards.
- CAUTION: The possible long-term effect of listening to audio at high volume through the headphones (on monitor that support it) may damage your hearing ability.
- Place the monitor on a solid surface and handle it carefully. The screen is fragile and can be damaged if dropped or hit with a sharp object.
- Ensure that your monitor is electrically rated to operate with the AC power available in your location.
- Keep the monitor in room temperature. Excessive cold or hot conditions can have an adverse effect on the liquid crystal of the display.
- Connect the power cable from the monitor to a wall outlet that is near and accessible. See Connecting the cables.
- Do not place and use the monitor on a wet surface or near water.
- Do not subject the monitor to severe vibration or high impact conditions. For example, do not place the monitor inside a car trunk.
- Unplug the monitor when it is going to be left unused for an extended period.
- To avoid electric shock, do not attempt to remove any cover or touch the inside of the monitor.
- Read these instructions carefully. Keep this document for future reference. Follow all warnings and instructions that are marked on the product.
- Certain monitors can be wall mounted using the VESA mount that is sold separately. Ensure to use the correct VESA specifications as
  mentioned in the wall mounting section of the User's Guide.

For information about safety instructions, see the Safety, Environmental and Regulatory Information (SERI) document that is shipped with your monitor.

# Before working inside your monitor

### **Steps**

- 1. Save and close all open files and exit all open applications.
- 2. Turn off your monitor.
- 3. Disconnect your monitor and all attached devices from their electrical outlets.
- 4. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and dock from your monitor.
- CAUTION: To disconnect a network cable, first unplug the cable from your monitor and then unplug the cable from the network device.
- 5. Remove any media card and optical disc from your monitor, if applicable.

# After working inside your monitor

Aution: Leaving any loose or misplaced screws inside your monitor may severely damage it.

- 1. Replace all screws and ensure that no stray screws remain inside your monitor.
- 2. Connect any external devices, peripherals, or cables you removed before working on your monitor.
- 3. Replace any media cards, discs, or any other parts that you removed before working on your monitor.
- 4. Connect your monitor and all attached devices to their electrical outlets.
- 5. Turn on your monitor.

# **Views of E2425HS monitor**

# **Side view**



Figure 1. Side view of the monitor

# **Front view**



Figure 2. Front view of the monitor

### 1. Display panel

Provides visual output to the user.

# **Bottom view**



Figure 3. Bottom view of the monitor

### 1. Power port

To connect the monitor power cable.

### 2. DisplayPort 1.2 port

Connect to your computer with the DisplayPort cable.

### 3. HDMI port

Connect to your computer with the HDMI cable.

### 4. VGA port

Connect to your computer with the VGA cable.

### 5. Speakers

To produce audio output.

# Major components of E2425HS monitor

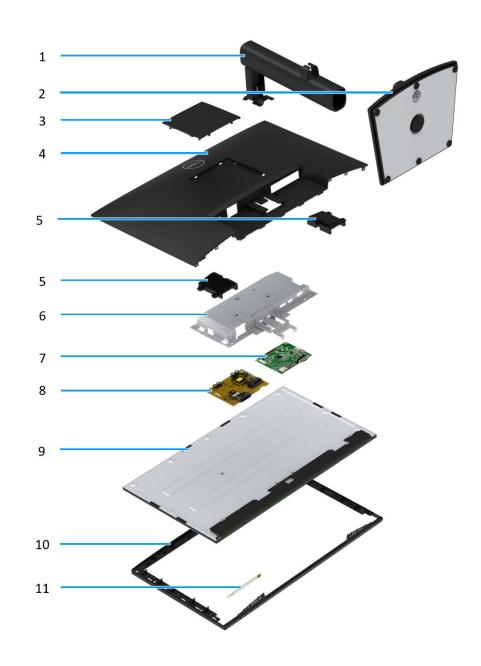


Figure 4. Major components

Table 1 Components

Item	Description	Item	Description
1	Stand riser	7	Interface board
2	Stand base	8	Power board
3	VESA cover	9	Display panel
4	Back cover	10	Midframe
5	Speakers	11	Keypad board
6	Chassis		

# Wiring connectivity diagram

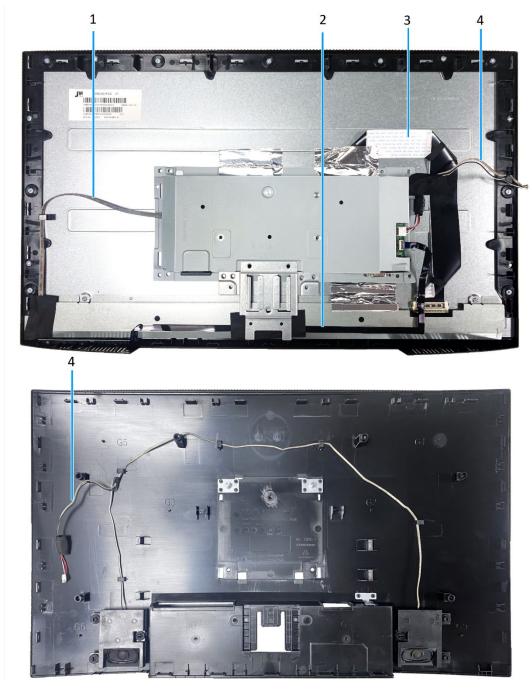


Figure 5. Wiring connectivity diagram

Table 2 Cables

Item	Description
1	Lightbar cable
2	Keypad cable
3	LVDS cable
4	Speaker cable

# Connecting the cables

- MARNING: Before you begin any of the following procedures, follow the Safety Instructions.
- MARNING: Ensure that the grounded power outlet for the power cable is accessible to the operator and located close to the equipment.
  - To disconnect power from the equipment, unplug the power cord from the power outlet by grasping the plug firmly. Never pull on the cord.
- MARNING: A certified power supply cord has to be used with this equipment. The relevant national installation and or equipment regulations shall be considered. Use a certified power supply cord meeting IEC 60227 standards (H05VV-F 3G 0.75 mm² or H05VVH2-F2 3G 0.75 mm²). Alternatively, you can consider a synthetic rubber flexible cord.
- (i) NOTE: Do not connect all cables to the computer simultaneously. It is recommended to route the cables through the cable-management slot before you connect them to the monitor.
- (i) NOTE: Dell monitors are designed to work optimally with Dell-supplied inbox cables. Dell does not guarantee the video quality and performance if non-Dell cables are used.

To connect your monitor to the computer:

- 1. Turn off your computer and disconnect the power cable.
- 2. Connect VGA or DP or HDMI cable from your monitor to the computer.

### **Connecting VGA cable**



Figure 6. Connecting VGA cable

# **Connecting DP cable**



Figure 7. Connecting DP cable

# **Connecting HDMI cable**



Figure 8. Connecting HDMI cable

# Disassembly and reassembly

(i) NOTE: The images in this document may differ from your computer depending on the configuration you ordered.

### **Recommended tools**

- Phillips screwdriver #2
- Nut driver 5 mm
- Plastic scribe

### **Screw list**

- i NOTE: When removing screws from a component, it is recommended to note the screw type, the quantity of screws, and then place them in a screw storage box. This is to ensure that the correct number of screws and correct screw type is restored when the component is replaced.
- (i) NOTE: Some computers have magnetic surfaces. Ensure that the screws are not left attached to such surfaces when replacing a component.
- i NOTE: Screw color may vary with the configuration ordered.

### Table 3 Screw list

Component	Screw type	Quantity	Screw image
Back cover VESA	M4x10	4	
Back cover hinge	M4x4.5	2	•
Interface board	М3х6	2	
Power board	М3х6	2	
Power-board grounding	M4x9	1	
VGA port	#4-40x11.8	2	

# **Stand**

# Removing the stand

### **Prerequisites**

Follow the procedure in Before working inside your monitor.

- 1. Loosen the thumbscrew anti-clockwise.
- 2. Pull the stand from the monitor.
- 3. Loosen the thumbscrew anti-clockwise on the bottom of the base to separate stand base from stand riser.

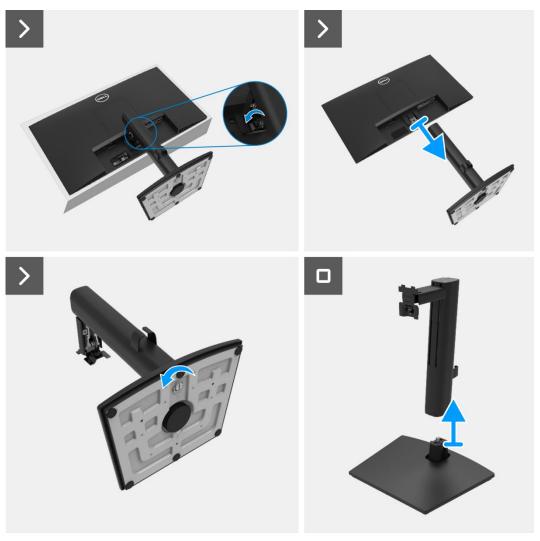


Figure 9. Removing the stand

# Installing the stand

### Steps

- 1. Attach the stand riser to the stand base.
- 2. Tighten the screw clockwise.
- 3. Align the stand assembly bracket to the monitor groove.
- 4. Slide the stand into the slot on the back cover.
- 5. Tighten the thumbscrew clockwise.

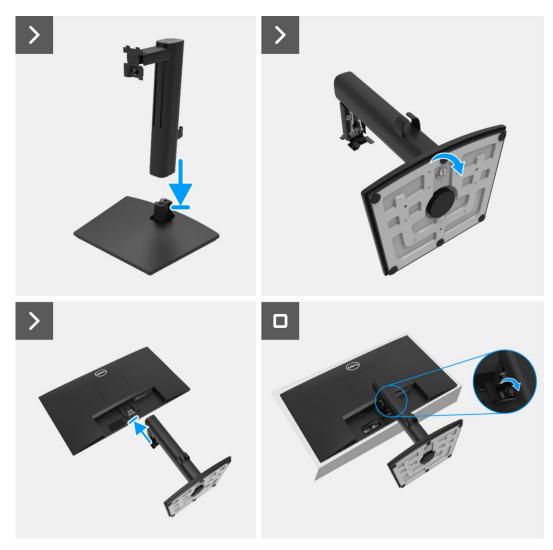


Figure 10. Installing the stand

- 1. Install the VESA cover.
- 2. Follow the procedure in After working inside your monitor.

### **VESA** cover

# Removing the VESA cover

### **Prerequisites**

1. Follow the procedure in Before working inside your monitor.

### Steps

- 1. Press the rift on the VESA cover to release it from the back of the monitor.
- 2. Lift the VESA cover away from the monitor.



Figure 11. Removing the VESA cover

# **Installing the VESA cover**

### Steps

1. Attach the VESA cover onto the back cover.



Figure 12. Installing the VESA cover

- 1. Install the stand.
- 2. Follow the procedure in After working inside your monitor.

### **Back cover**

### Removing the back cover

### **Prerequisites**

- 1. Follow the procedure in Before working inside your monitor.
- 2. Remove the stand.
- 3. Remove the VESA cover.

- 1. Remove the two screws (M4x10) that secure the back cover to the chassis assembly.
- 2. Remove the two screws (M4x4.5) that secure the back cover to the chassis assembly.
- 3. Using the plastic scribe, pry the back cover starting from the bottom edge of the monitor.
- 4. Lift the back cover up.
- 5. Peel the tape on the speaker cable.
- 6. Disconnect the speaker cable from the connector on the interface board. Then, remove the back cover away.

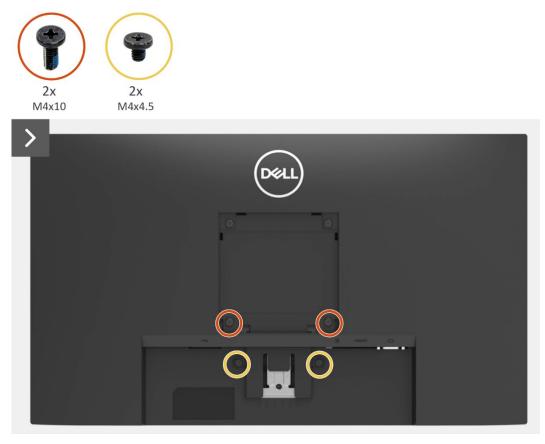


Figure 13. Removing the back cover



Figure 14. Removing the back cover

# Installing the back cover

- 1. Hold the back cover above the chassis assembly.
- 2. Connect the speaker cable to the connector on the interface board.
- 3. Adhere the tape to secure the speaker cable to the display panel. Place and snap the back cover into place on the chassis assembly.
  - i NOTE: Align the screw holes on the back cover with the screw holes on the chassis assembly before applying slight pressure to the back cover.
- 4. Replace the four screws (M4x10) to secure the back cover to the monitor.
- 5. Replace the two screws (M4x4.5) to secure the back cover to the monitor.

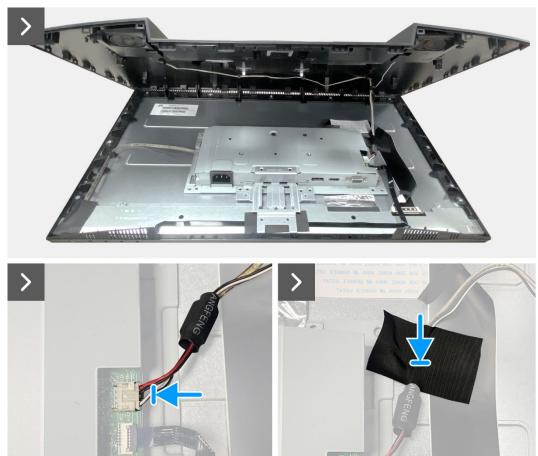


Figure 15. Installing the back cover



Figure 16. Installing the back cover

- 1. Install the VESA cover.
- 2. Install the stand.
- 3. Follow the procedure in After working inside your monitor.

# **Speakers**

### Removing the speakers

### **Prerequisites**

- 4. Follow the procedure in Before working inside your monitor.
- 5. Remove the stand.
- 6. Remove the VESA cover.
- 7. Remove the back cover.

- 1. Release the speaker cable from the cable management on the back cover.
- 2. Remove the speakers from the back cover.

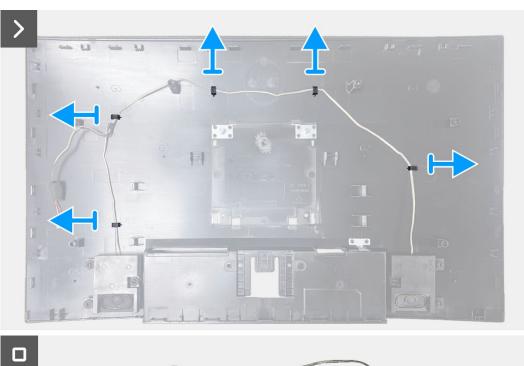


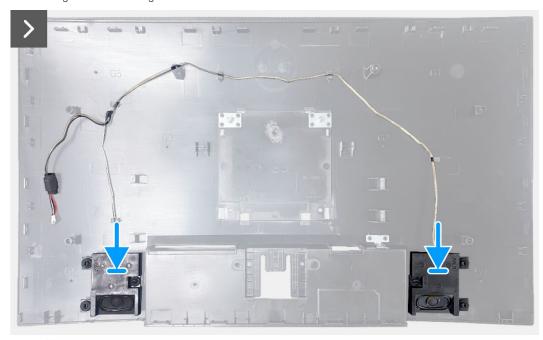


Figure 17. Removing the speakers

# Installing the speakers

### Steps

- 1. Attach the speakers onto the back cover.
- 2. Hold the speaker cable using the cable management on the back cover.



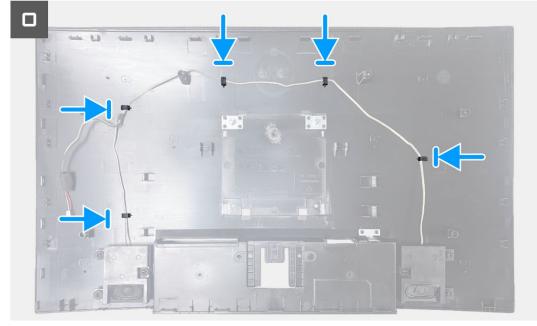


Figure 18. Installing the speakers

- 1. Install the back cover.
- 2. Install the VESA cover.
- 3. Install the stand.
- 4. Follow the procedure in After working inside your monitor.

# **Chassis assembly**

### Removing the chassis assembly

### **Prerequisites**

- 1. Follow the procedure in Before working inside your monitor.
- 2. Remove the stand.
- 3. Remove the VESA cover.
- 4. Remove the back cover.
- 5. Remove the speakers.

- 1. Release the lightbar cable from the cable management on the midframe.
- 2. Peel the tape at the bottom left corner of the monitor.
- 3. Disconnect the lightbar cable from the connector on the display panel.
- 4. Open the latch and disconnect the keypad cable from the connector on the interface board.
- 5. Peel the three aluminum foils on the chassis assembly.
- 6. Disconnect the LVDS cable from the connector on the display panel.
- 7. Remove the chassis assembly from the display panel.

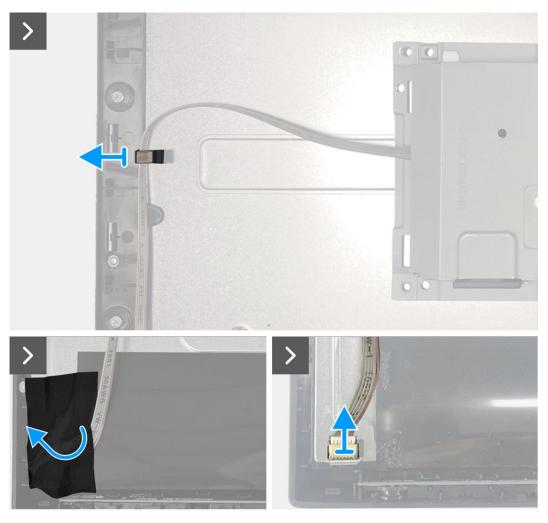


Figure 19. Removing the chassis assembly

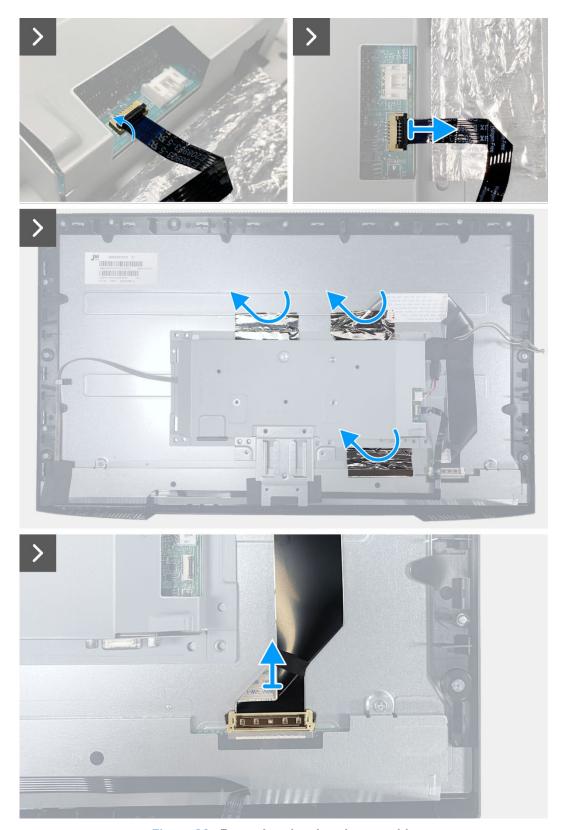


Figure 20. Removing the chassis assembly

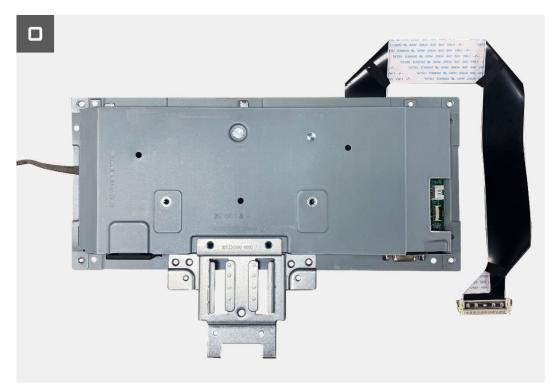


Figure 21. Removing the chassis assembly

# Installing the chassis assembly

- 1. Align the chassis bracket to the rib on the midframe. And place the chassis assembly on the display panel.
- 2. Connect LVDS cable to the connector on the display panel.
- 3. Adhere two aluminum foils at the top and one aluminum foil at the bottom side of the chassis assembly.
- 4. Connect the keypad cable to the connector on the interface board. Close the latch after connecting the keypad cable to the connector.
- 5. Connect the lightbar cable to the panel and adhere the tape to cover the connector.

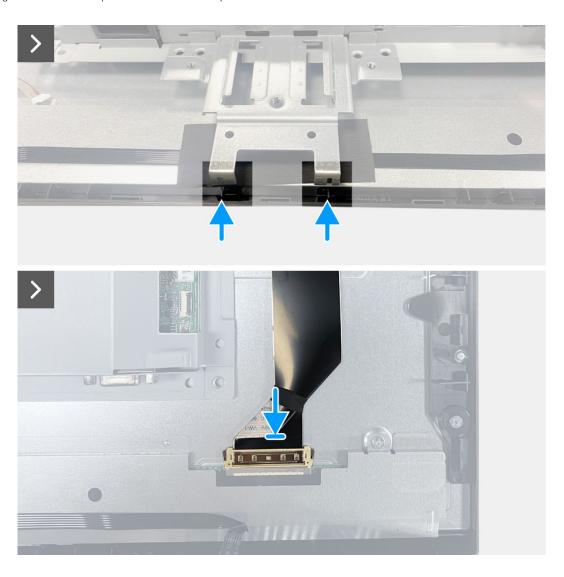


Figure 22. Installing the chassis assembly

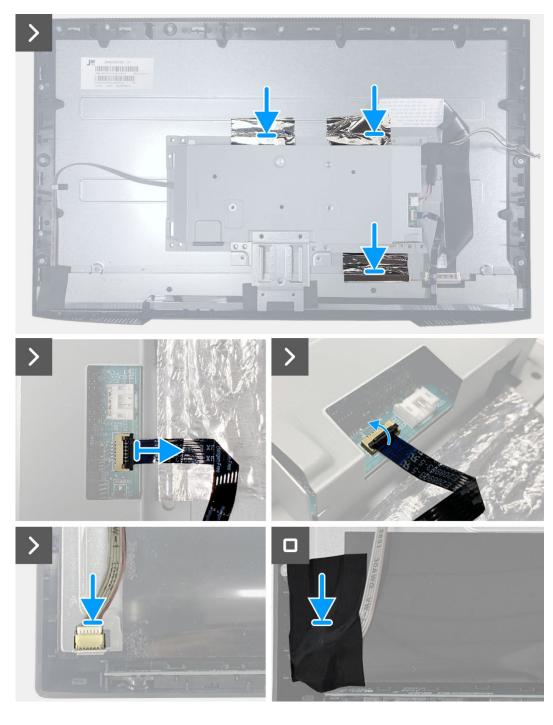


Figure 23. Installing the chassis assembly

- 1. Install the speakers.
- 2. Install the back cover.
- 3. Install the stand.
- 4. Install the VESA cover.
- 5. Follow the procedure in After working inside your monitor.

# **Keypad board**

### Removing the keypad board

### **Prerequisites**

- 1. Follow the procedure in Before working inside your monitor.
- 2. Remove the stand.
- 3. Remove the VESA cover.
- 4. Remove the back cover.
- 5. Remove the speakers.
- 6. Remove the chassis assembly.

- 1. Remove the tape at the bottom.
- 2. Remove the keypad board from the slot on the front bezel.
- 3. Peel the keypad cable off from the panel shielding.

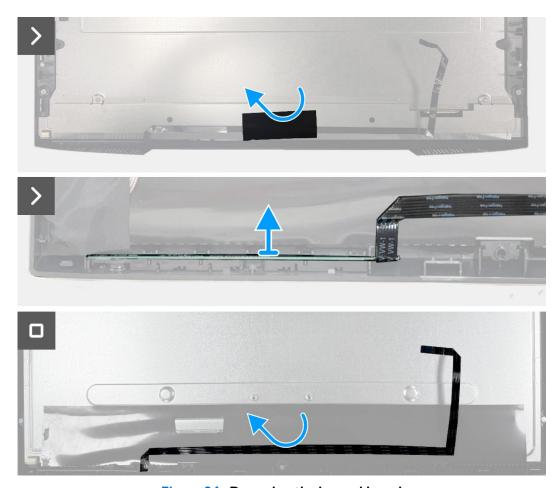


Figure 24. Removing the keypad board

# Installing the keypad board

### Steps

- 1. Align and place the keypad board onto the front bezel.
- 2. Adhere the keypad cable on the panel shielding.
- 3. Adhere the tape on the keypad cable.

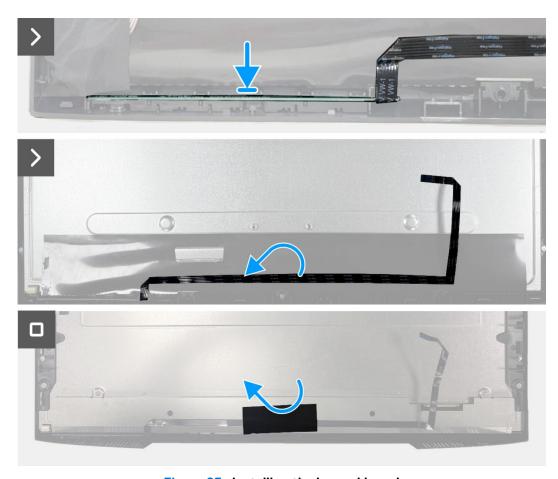


Figure 25. Installing the keypad board

- 1. Install the chassis assembly.
- 2. Install the speakers.
- 3. Install the back cover.
- 4. Install the stand.
- 5. Install the VESA cover.
- 6. Follow the procedure in After working inside your monitor.

### Interface board

### Removing the interface board

### **Prerequisites**

- 1. Follow the procedure in Before working inside your monitor.
- 2. Remove the stand.
- 3. Remove the VESA cover.
- 4. Remove the back cover.
- 5. Remove the speakers.
- 6. Remove the chassis assembly.
- 7. Remove the keypad board.

- 1. Remove the two hex screws from the VGA port.
- 2. Peel the mylar from the chassis assembly.
- 3. Remove the four screws (M3x6) from the interface board and power board.
- 4. Remove the screw (M4x9) from the power board.
- 5. Remove the interface board and power board from the chassis.
- 6. Disconnect the power cable from the connector on the interface board.
- 7. Disconnect the LVDS cable from the connector on the interface board.



Figure 26. Removing the interface board

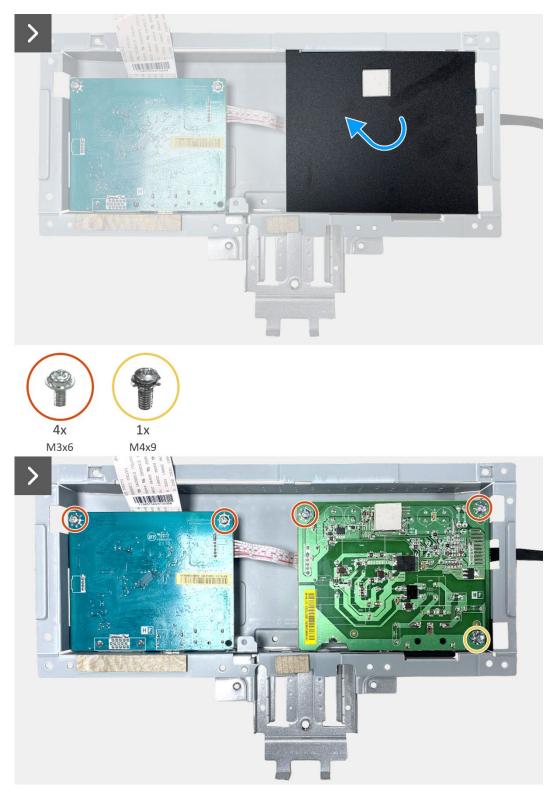


Figure 27. Removing the interface board

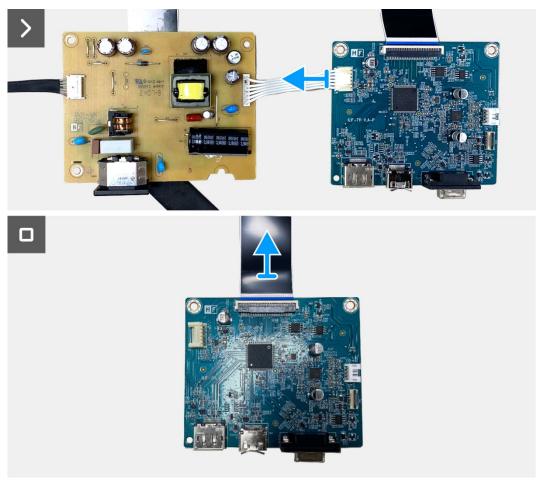


Figure 28. Removing the interface board

# Installing the interface board

- 1. Connect the LVDS cable to the connector on the interface board.
- 2. Connect the power cable to the connector on the interface board.
- 3. Assemble the interface board and power board to the chassis.
- 4. Replace the two screws (M3x6) to secure the interface board with the chassis.
- 5. Attach the mylar onto the chassis assembly.
- 6. Replace the two hex screws (#4-40x11.8) to secure the VGA port.



Figure 29. Installing the interface board

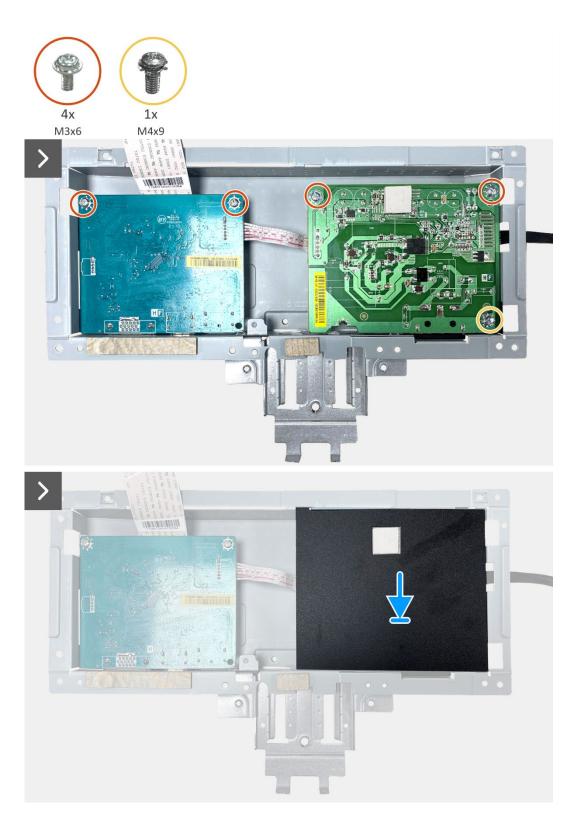


Figure 30. Installing the interface board



Figure 31. Installing the interface board

- 1. Install the keypad board.
- 2. Install the chassis assembly.
- 3. Install the speakers.
- 4. Install the back cover.
- 5. Install the stand.
- 6. Install the VESA cover.
- 7. Follow the procedure in After working inside your monitor.

# **Power board**

# Removing the power board

### **Prerequisites**

- 1. Follow the procedure in Before working inside your monitor.
- 2. Remove the stand.
- 3. Remove the VESA cover.
- 4. Remove the back cover.
- 5. Remove the speakers.
- 6. Remove the chassis assembly.
- 7. Remove the keypad board.
- 8. Remove the interface board.

### Steps

1. Disconnect the lightbar cable from the connector on the power board.

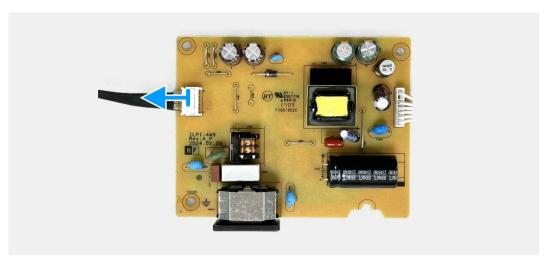


Figure 32. Removing the power board

# Installing the power board

### Steps

1. Connect the lightbar cable to the connector on the power board.

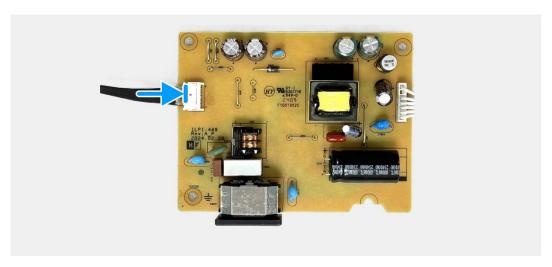


Figure 33. Installing the power board

- 1. Install the interface board.
- 2. Install the keypad board.
- 3. Install the chassis assembly.
- 4. Install the speakers.
- 5. Install the back cover.
- 6. Install the VESA cover.
- 7. Install the stand.
- 8. Follow the procedure in After working inside your monitor.

# **Troubleshooting Instructions**

MARNING: 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 if 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. Disconnect all video cables from the monitor. To ensure proper self-test operation, remove all digital cables from the back of the computer.
- 3. Turn on the monitor.
- (i) NOTE: A 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.

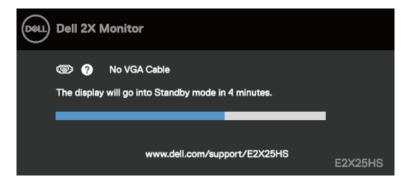


Figure 34. VGA cable disconnected warning message

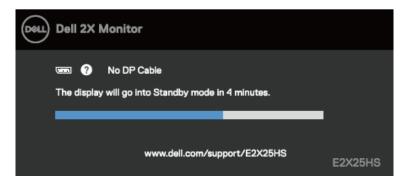


Figure 35. DP cable disconnected warning message

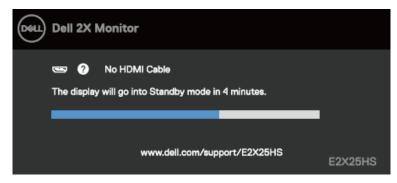


Figure 36. HDMI cable disconnected warning message

- (i) NOTE: This message also appears during normal operation, when the video cable is disconnected or damaged.
- 4. Turn off your monitor and reconnect the video cable; then turn on your computer and the monitor.

If your monitor screen remains blank after you perform 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 any screen abnormality you experience is an inherent problem with your monitor, or with your computer and video card.

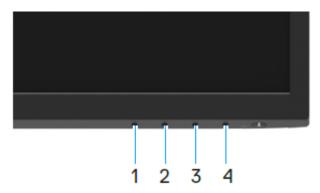


Figure 37. Built-in diagnostics function buttons

To run the built-in diagnostics:

- 1. Ensure that the screen is clean (no dust particles on the surface of the screen).
- 2. Press and hold **Button 4** for about 4 seconds and wait for a pop-up menu.
- Use Button 1 or 2 to select the and press to confirm.
   A gray test pattern appears at the beginning of the diagnostic program.
- 4. Carefully inspect the screen for abnormalities.
- 5. Press **Button 1** to change the test patterns.
- 6. Repeat steps 4 and 5 to inspect the display in red, green, blue, black, white, and text screens.
- 7. When in a White color test screen, check for white color uniformity and if there white color appears greenish/reddish, so on.
- 8. Press **Button 1** to end the diagnostic program.

# **Common problems**

The following table provides general information about common monitor problems that you might encounter and the possible solutions:

 Table 4.
 Common problems and solutions.

Common symptoms	Possible solutions
No video/Power LED off	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.
	Ensure that the correct input source is selected using the Input Source menu.
No video/Power LED on	Increase brightness and contrast controls using the OSD.
	Perform a 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 using the Input Source menu.
Poor focus	Eliminate video extension cables.
	Reset the monitor to Factory Settings (Factory Reset).
	Change the video resolution to the correct aspect ratio.
Shaky/Jittery video	Reset the monitor to Factory Settings (Factory Reset).
,	Check environmental factors.
	Relocate the monitor and test in another room.
Missing pixels	Cycle power On-off.
TVIIIONING PIXOIO	A pixel that is permanently off is a natural defect that can occur in LCD technology.
	For more information about Dell Monitor Quality and Pixel Policy, see Dell Support site
	at: www.dell.com/pixelguidelines.
Stuck-on pixels	Cycle power On-off.
·	A pixel that is permanently off is a natural defect that can occur in LCD technology.
	For more information about Dell Monitor Quality and Pixel Policy, see Dell Support site
	at: www.dell.com/pixelguidelines.
Brightness problems	Reset the monitor to Factory Settings (Factory Reset).
	Adjust brightness and contrast controls using OSD.
Geometric distortion	Reset the monitor to Factory Settings (Factory Reset).
	Adjust horizontal and vertical using OSD.
Horizontal/Vertical lines	Reset the monitor to Factory Settings (Factory Reset).
	Perform a 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.
Synchronization problems	Reset the monitor to Factory Settings (Factory Reset).
	Perform a 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.  Particle the connector is a factor of the connector.
	Restart the computer in safe mode.
Safety-related issues	Do not perform any troubleshooting step.
	Contact Dell immediately.
Intermittent problems	<ul> <li>Try different Preset Modes in Color settings OSD. Adjust R/G/B value in Custom Color in Color settings OSD.</li> </ul>
	• Change the Input Color Format to RGB or YCbCr/YPbPr in the Color settings OSD.
	Run the built-in diagnostics.

Common symptoms	Possible solutions
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	• Try different <b>Preset Modes</b> in <b>Color</b> settings OSD. Adjust <b>R/G/B</b> value in <b>Custom Color</b> in <b>Color</b> settings OSD.
	• Change the <b>Input Color Format</b> to <b>RGB</b> or <b>YCbCr/YPbPr</b> in the <b>Color</b> settings OSD.
	Run the built-in diagnostics.
Image retention from a static image left on the monitor for a long time	Set the screen to turn off after a few minutes of screen idle time. These can be adjusted in the Windows Power Options or Mac Energy Saver setting.
	Alternatively, use a dynamically changing screensaver.
Video ghosting or overshooting	Change the <b>Response Time</b> in the <b>Display</b> OSD to <b>Fast</b> or <b>Normal</b> depending on your application and usage.

# **Product-specific problems**

**Table 5.** Product-specific problems and solutions.

Specific symptoms	Possible solutions		
Screen image is too small	Check the <b>Aspect Ratio</b> setting in the <b>Display</b> settings OSD.		
	Reset the monitor to Factory Settings (Factory Reset).		
Cannot adjust the monitor with the	Turn off the monitor, unplug the power cord, plug it back, and then turn on the monitor.		
buttons on the bottom of the panel	Check if the OSD menu is locked. If yes, press and hold the Exit button (button 4) for four seconds to unlock.		
No input signal when user controls are pressed	Check the signal source. Ensure that the computer is not in standby or sleep mode by moving the mouse or pressing any key on the keyboard.		
	Check if the video cable is plugged in properly. Disconnect and reconnect the video cable if necessary.		
	Reset the computer or video player.		
The picture does not fill the entire	Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen.		
screen	Run the built-in diagnostics.		

# **Contacting Dell**

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

- (i) NOTE: Availability varies by country and product, and some services may not be available in your country.
- i NOTE: If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog.