Dell Pro 22 Monitor
E2225HM
Simplified Service Manual

Model: E2225HM
Regulatory Model: E2225HMt/E2225HMo
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DELL Technologies

Notes, cautions, and warnings

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.**

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

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Contents

Safety instructions 4
- **Before working inside your monitor** 4
- **After working inside your monitor** 4

View of E2225HM monitor 5
- **Front view** 5
- **Back view** 6
- **Side view** 7
- **Bottom view** 7

Major components of E2225HM monitor 8

Wiring connectivity diagram 9
- **Connecting your monitor** 9
  - Connecting VGA cable (Optional) 10
  - Connecting DP cable 10
  - Connecting HDMI cable 10

Disassembly and reassembly 11
- **Recommended tools** 11
- **Screw list** 11
- **Stand** 12
  - Removing the stand 12
  - Installing the stand 12
- **Back cover** 13
  - Removing the back cover 13
  - Installing the back cover 13
- **Main chassis** 14
  - Removing the main chassis 14
  - Installing the main chassis 16
- **Middle frame** 18
  - Removing the middle frame 18
  - Installing the middle frame 19
- **Keypad board** 19
  - Removing the keypad board 19
  - Installing the keypad board 20
- **Main board** 21
  - Removing the main board 21
  - Installing the main board 22

Troubleshooting 24
- **Self-test** 24
- **Built-in diagnostics** 25
- **Common problems** 26
- **Product-specific problems** 27

Contacting Dell 28

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 in this document assumes that you have read the safety information that shipped with your monitor.

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.

WARNING: 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 monitors that support it) can 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 pressed with a sharp object.
  - Ensure that your monitor is electrically rated to operate with the AC power available in your location.
  - Keep the monitor at 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 your monitor.
- Do not place or 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.

WARNING: 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

CAUTION: Leaving stray or loose screws inside your monitor may severely damage your monitor.

Steps

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.

View of E2225HM monitor

Front view

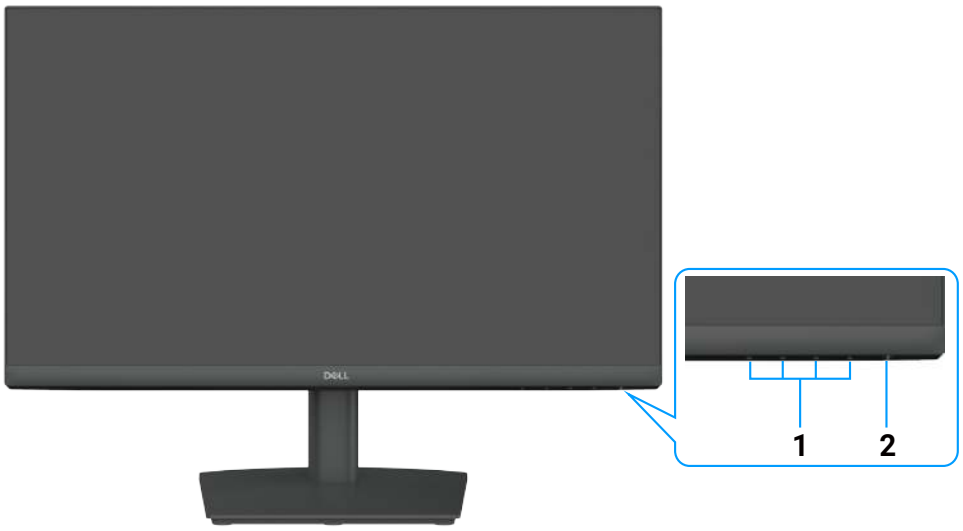


Figure 1. Front view

Table 1. Components and descriptions.

Label	Description	Use
1	Function buttons	To access the OSD menu and change the settings if required.
2	Power button (with LED indicator)	To turn the monitor on or off. • Solid white light indicates that the monitor is turned on and functioning normally. • Blinking white light indicates that the monitor is in Standby Mode.

Back view

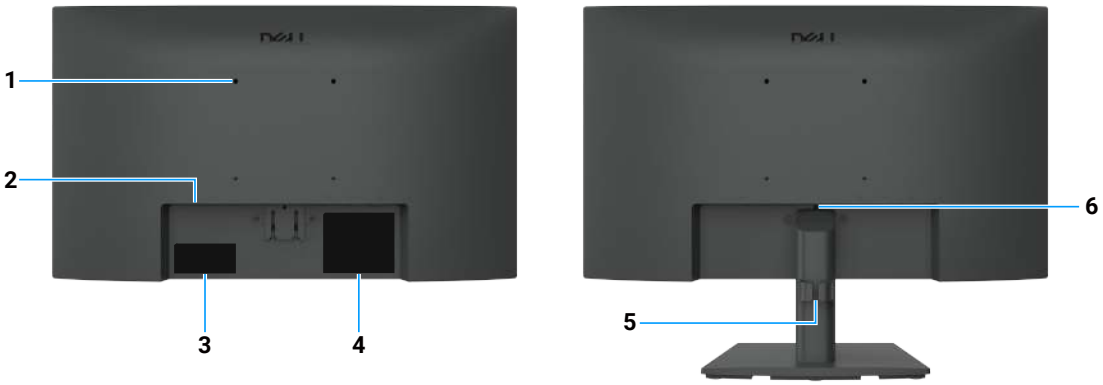


Figure 2. Back view

Table 2. Components and descriptions.

Label	Description	Use
1	VESA mounting holes (100 mm x 100 mm) - behind attached VESA cover	Wall-mount the monitor using VESA-compatible wall mount kit.
2	Security-lock slot (based on Kensington Security Slot)	Secure your monitor using a security lock (purchased separately) to prevent unauthorized movement of your monitor.
3	Regulatory label (including MyDell QR code, serial number, and Service Tag label)	See this label if you need to contact Dell for technical support. The Service Tag is a unique alphanumeric identifier that allows Dell service technicians to identify your monitor's specifications and access warranty information.
4	Regulatory information label	Lists the regulatory approvals.
5	Cable-management clip	To organize the cables.
6	Stand release button	Release the stand from the monitor.

Side view



Figure 3. Side view

Bottom view

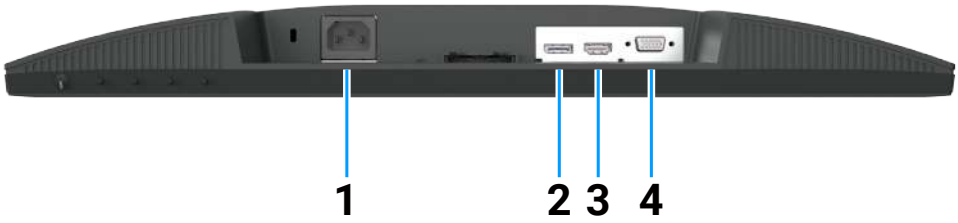


Figure 4. Bottom view

Table 3. Components and descriptions.

Label	Description	Use
1	Power connector	To connect the monitor power cable.
2	DisplayPort 1.2 port	Connect to your computer with the DisplayPort cable.
3	HDMI 1.4 port	Connect your computer with the HDMI cable.
4	VGA port	Connect to your computer with the VGA cable.

Major components of E2225HM monitor

The following image shows the major components of E2225HM.

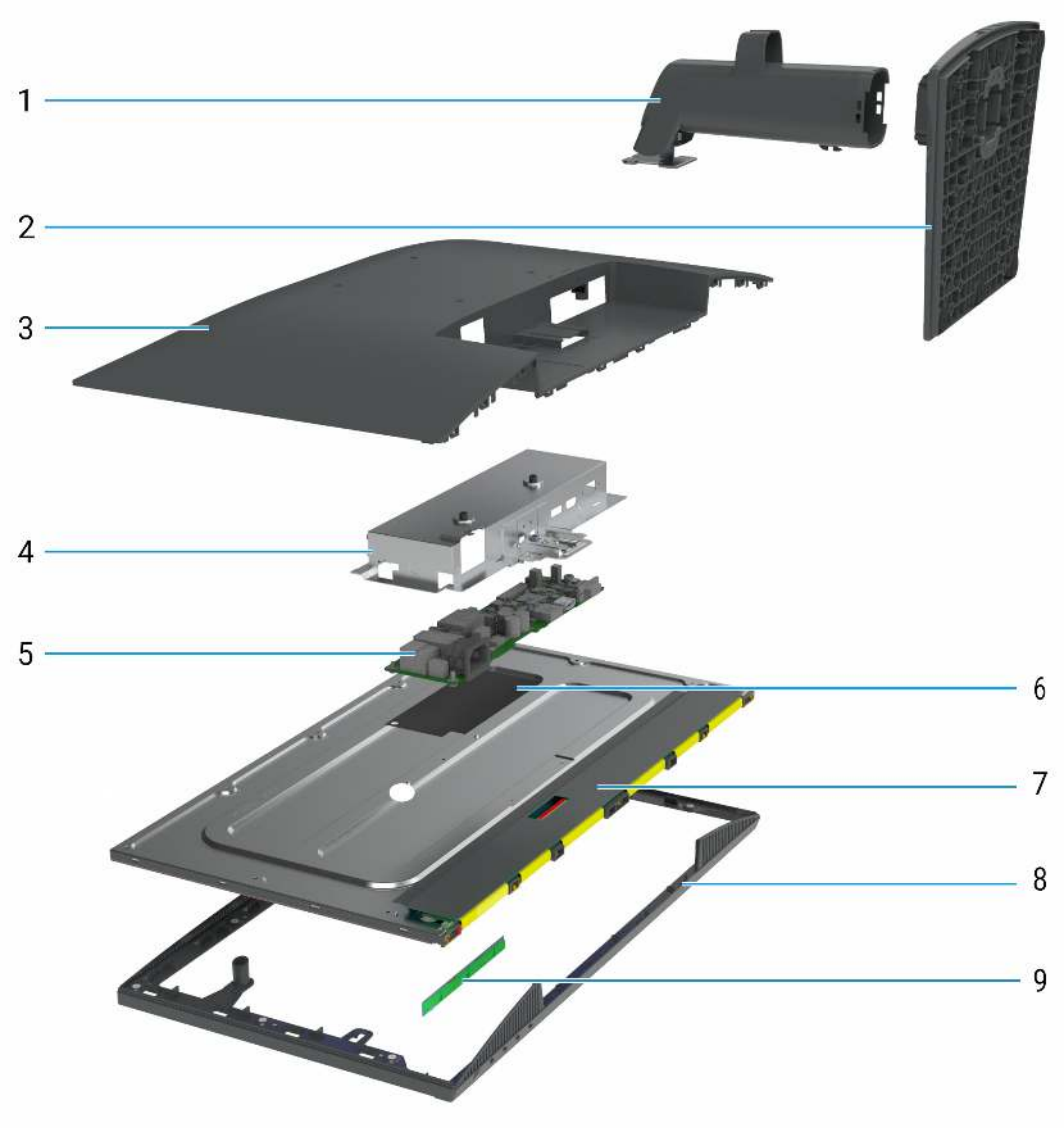


Figure 5. Major Components of E2225HM monitor

Table 4. Major components.

Callout	Description
1	Stand riser
2	Stand base
3	Back cover
4	Main chassis
5	Main board
6	Mylar sheet
7	Display panel
8	Middle frame
9	Keypad board

Wiring connectivity diagram

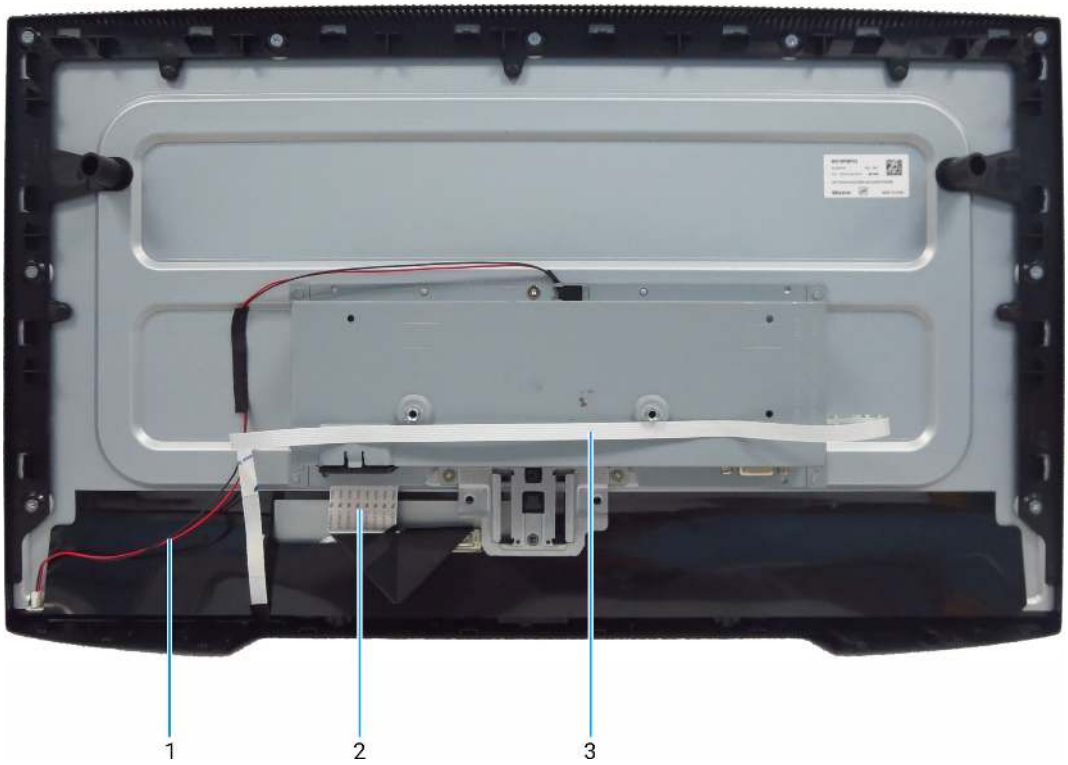


Figure 6. Wiring connectivity diagram

Table 5. Wiring connectivity diagram

Callout	Description
1	Lightbar cable
2	Low Voltage Differential Signaling (LVDS) cable
3	Keypad cable

Connecting your monitor

⚠ **WARNING: Before you begin any of the procedures in this section, follow the** Safety instructions**.**

⚠ **WARNING: For your safety, be sure that the grounded power outlet you plug the power cable into is accessible to the operator and located as close to the equipment as possible.**
To disconnect power from the equipment, unplug the power cable from the power outlet by grasping the plug firmly. Never pull on the cord.

⚠ **WARNING: A certified power supply cable has to be used with this equipment. The relevant national installation and/or equipment regulations shall be considered. A certified power supply cord not lighter than ordinary polyvinyl chloride flexible cord according to IEC 60227 (designation H05VV-F 3G 0.75 mm² or H05VVH2-F2 3G 0.75 mm²) shall be used. An alternative flexible cord is synthetic rubber.**

ⓘ **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.

ⓘ **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 the HDMI/DisplayPort, and the USB-C cable from your monitor to the computer.

△ **CAUTION: Before using the monitor, it is recommended to fasten the stand riser to a wall using cable tie or a cord that can support the weight of the monitor in order to prevent the monitor from falling.**

Connecting VGA cable (Optional)



Figure 7. Connecting VGA cable

Connecting DP cable



Figure 8. Connecting DP cable

Connecting HDMI cable



Figure 9. Connecting HDMI cable

Disassembly and reassembly

△ **CAUTION: The information in this section is intended for authorized service technicians in the EMEA region. Dell prohibits users from disassembling the monitor, and any damage that is caused by unauthorized servicing will not be covered under the warranty.**

Recommended tools

Tool Description:

- Phillips screwdriver #0
- Phillips screwdriver #2
- Nut driver 5 mm
- Penknife

Screw list

ⓘ **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.

ⓘ **NOTE:** Some monitors have magnetic surfaces. Ensure that the screws are not left attached to such surfaces when replacing a component.

ⓘ **NOTE:** Screw color may vary with the configuration ordered.

Table 6. Components and descriptions.

Component	Screw type	Quantity	Screw image
Back cover	M4x6	2	
VGA connector	M3x8	2	
Main chassis	M3x3	3	
Middle frame	M3x5	9	
Main board groundwire	M4x8	1	
Main board	M3x6	2	
Key board	M2x3.3	3	

Stand

Removing the stand

Prerequisites

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

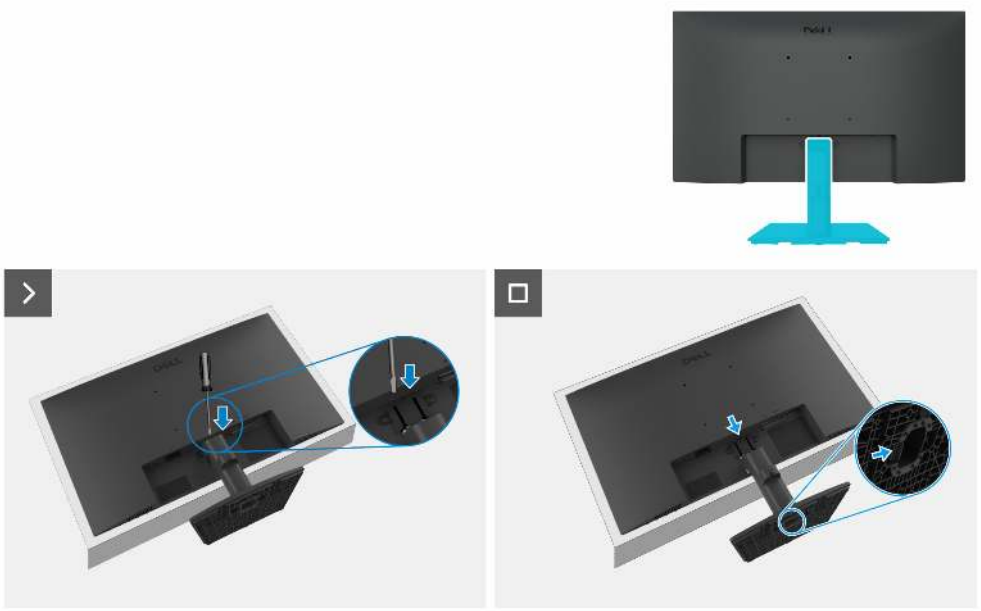


Figure 10. Removing the stand

Steps

1. Place the monitor on a soft cloth or cushion on the desk.
2. Use a long, thin screwdriver to push the release button.
3. While keeping the release button pressed, pull the stand out from the monitor.
4. Press the quick release tab on the bottom of the base to separate the stand base from the stand riser.

Installing the stand



Figure 11. Installing the stand

Steps

1. Place the monitor stand base on a stable tabletop.
2. Slide the monitor stand body in the correct direction down onto the stand base until it clicks into place.

3. Place the monitor on a soft cloth or cushion near the edge of the desk.
4. Align the stand assembly bracket with the monitor groove.
5. Insert the stand assembly towards the monitor until it locks in place.

Next steps

1. 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.



Figure 12. Removing the back cover

Steps

1. Remove two screws (M4x6) to release the back cover.
2. Using both hands, gently pry the back cover off, starting from the left and right sides, then moving to the top and bottom.
3. Lift and remove the back cover from the monitor.

Installing the back cover

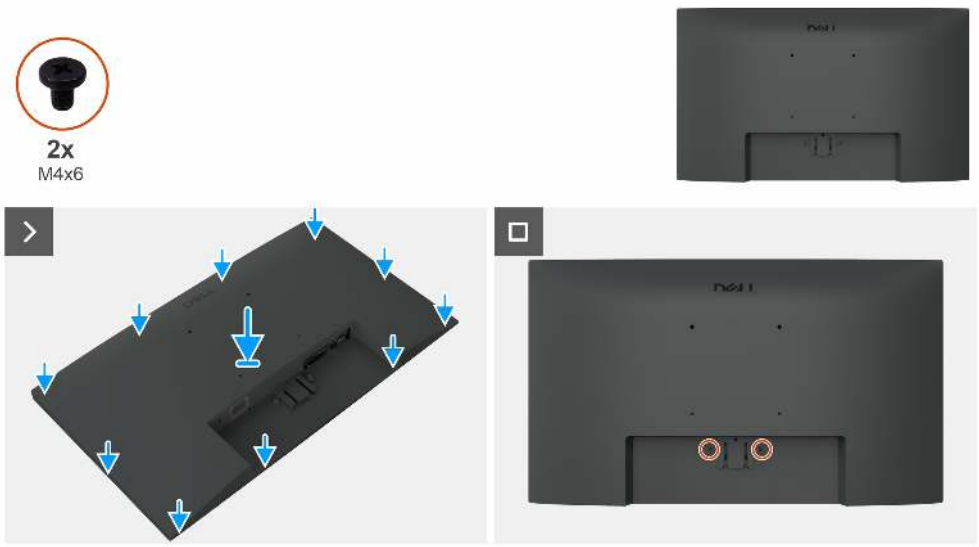


Figure 13. Installing the back cover

Steps

1. Align the slots on the back cover with the slots on the main chassis, then press along the sides to snap the back cover into place.
2. Replace the two screws (M4x6) that secure the back cover to the display monitor.

Next steps

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

Main chassis

Removing the main chassis

Prerequisites

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

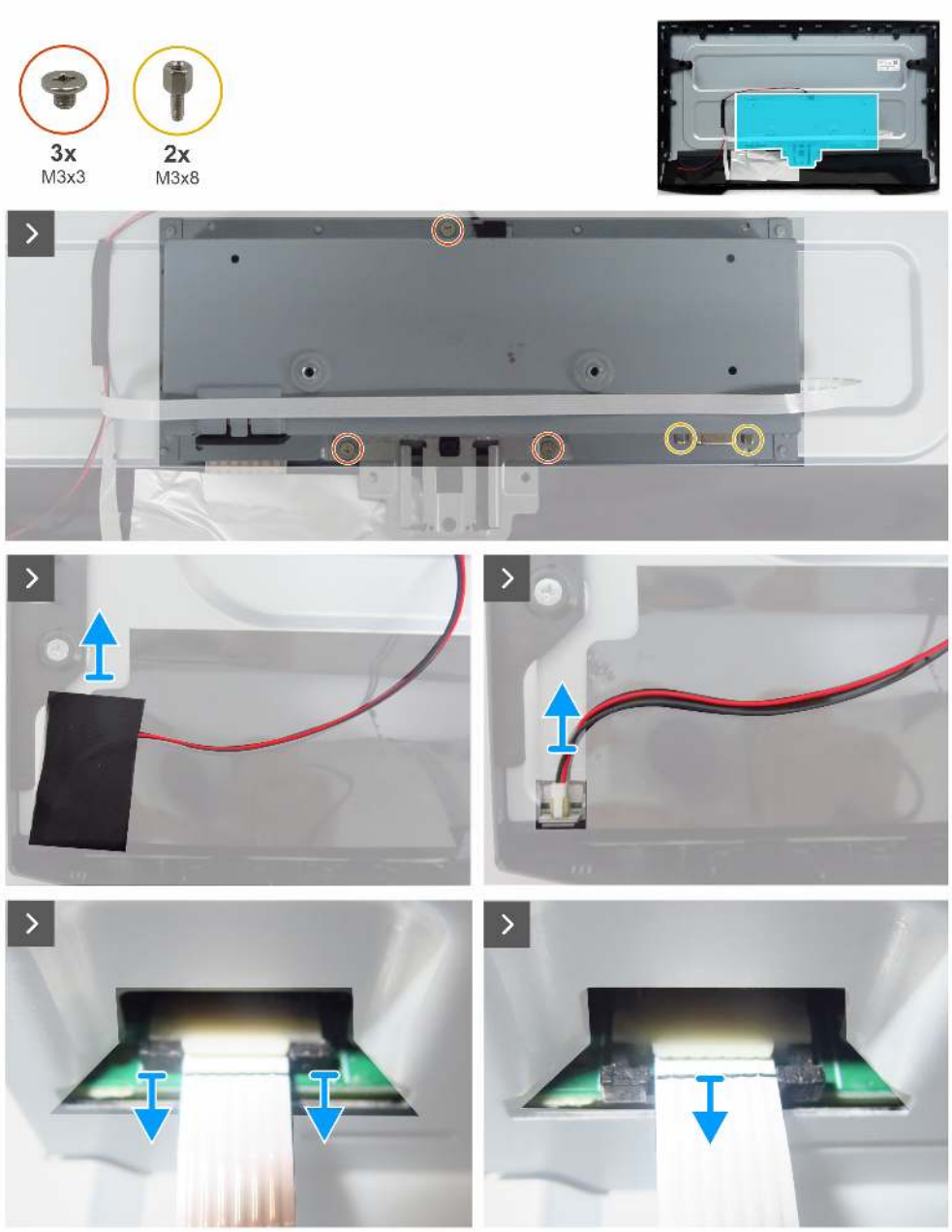


Figure 14. Removing the main chassis

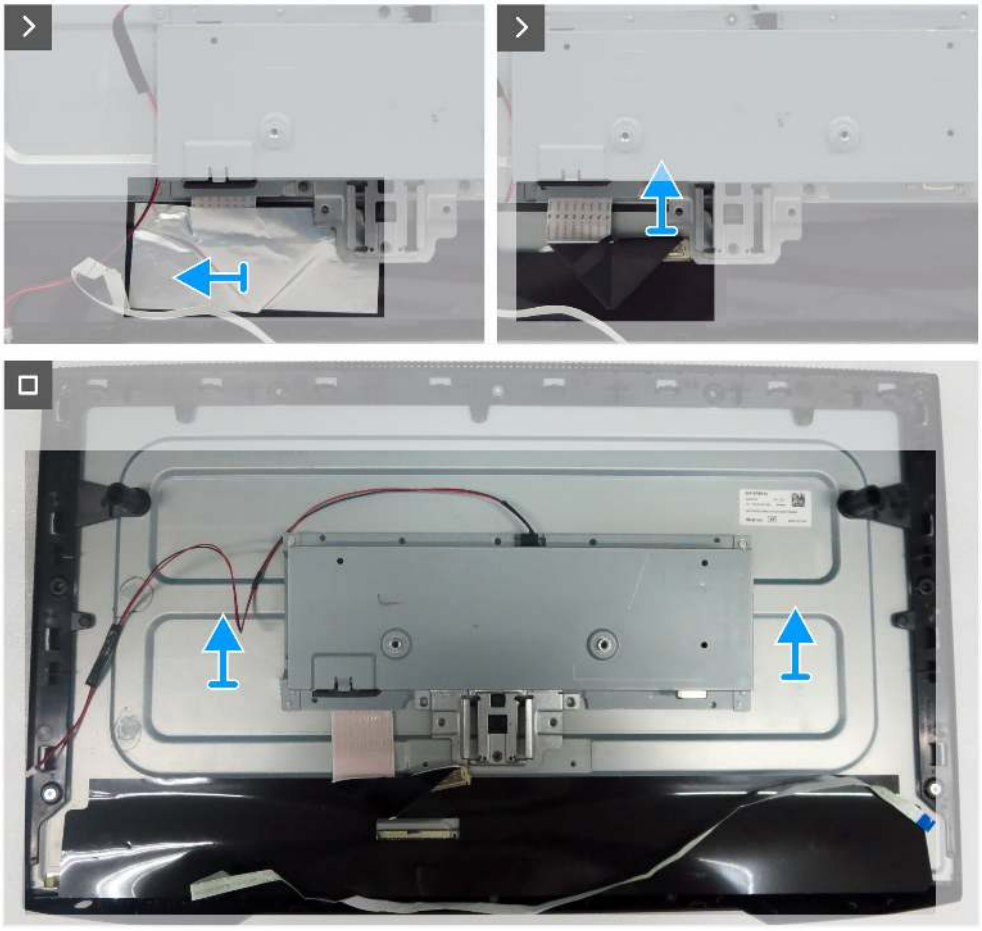


Figure 15. Removing the main chassis

Steps

1. Remove the three screws (M3x3) that secure the main chassis to the display panel.
2. Remove the two screws (M3x8) that secure the VGA connector to the main chassis.
3. Peel the acetate tape and disconnect the lightbar cable from the connector on the display panel.
4. Disconnect the keypad cable from the connector on the main board.
5. Peel the aluminum foil on the LVDS cable.
6. Disconnect the LVDS cable from the connector on the display panel.
7. Lift and remove the main chassis from the display panel.

Installing the main chassis

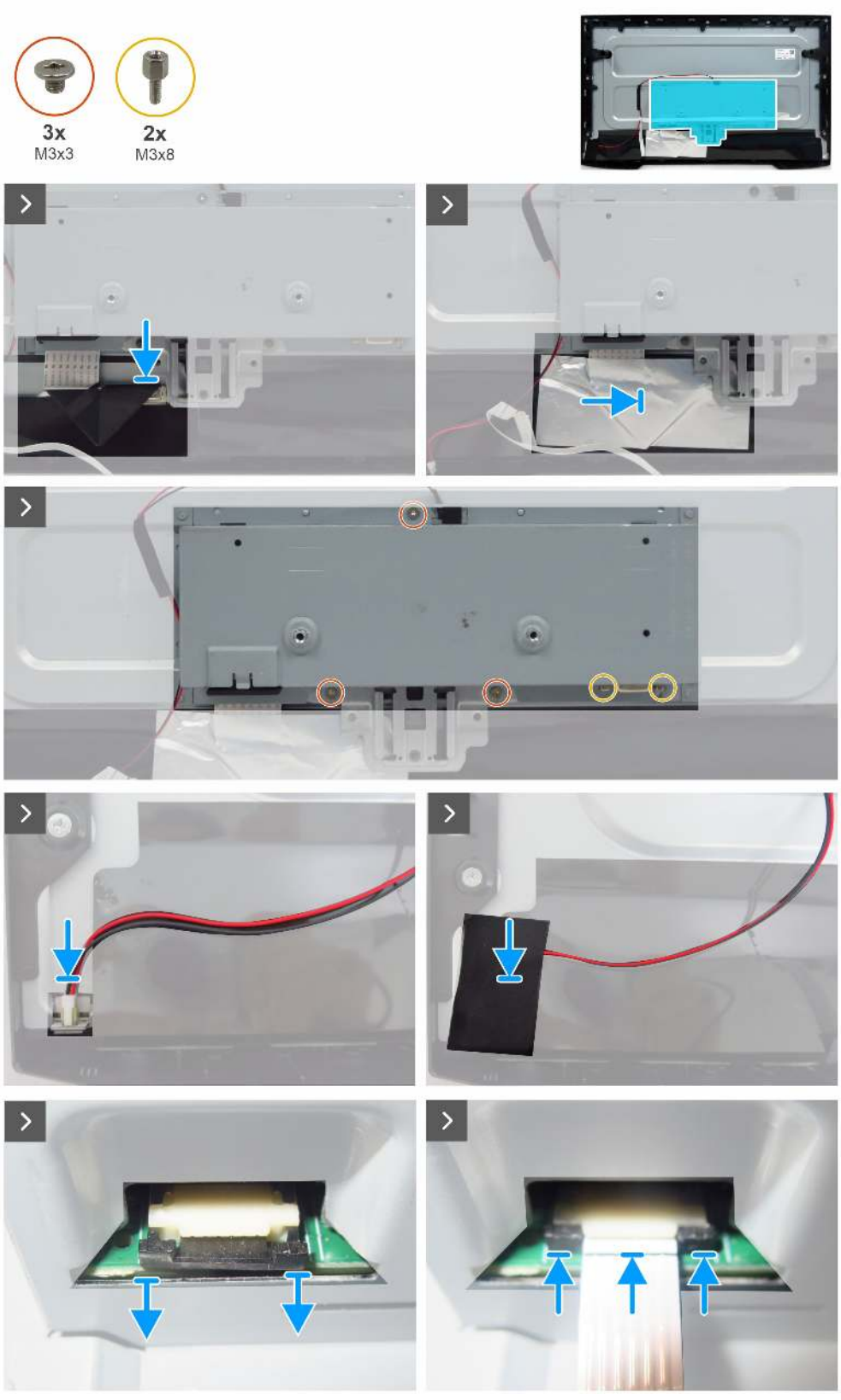


Figure 16. Installing the main chassis

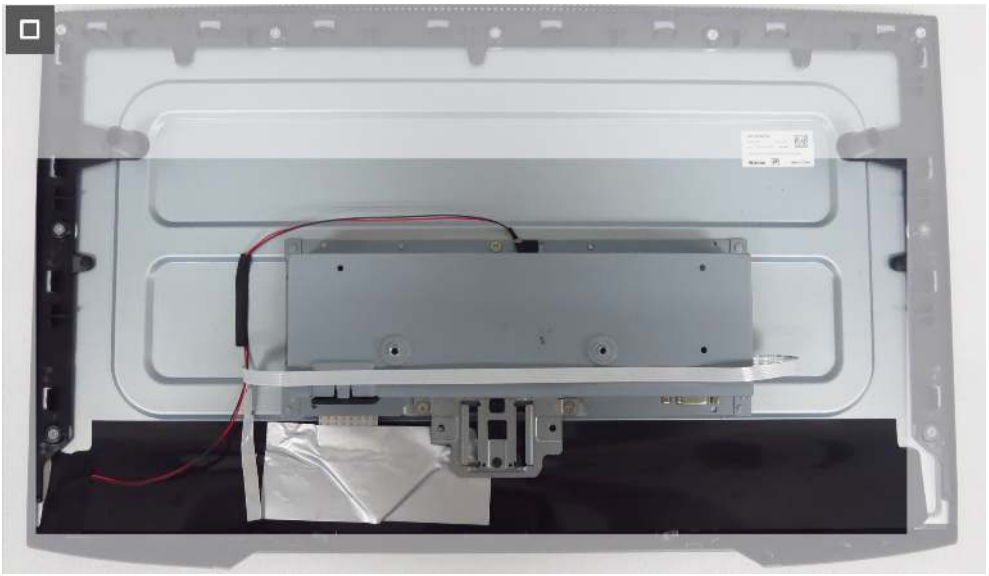


Figure 17. Installing the main chassis

Steps

1. Connect the LVDS cable to the connector on the display panel.
2. Adhere the aluminum foil to cover the LVDS connector.
3. Align the holes on the main chassis with the screw holes on the display panel and place it down.
4. Replace the three screws (M3x3) that secure the main chassis to the display panel.
5. Replace the two screws (M3x8) to secure the VGA connector.
6. Connect the lightbar cable to the connector on the display panel.
7. Adhere the acetate tape to cover the connector.
8. Connect the keypad cable to the connector on the main board.
9. Adhere the keypad cable on the main chassis.

Next steps

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

Middle frame

Removing the middle frame

Prerequisites

1. Follow the procedure in Before working inside your monitor.
2. Remove the stand.
3. Remove the back cover.
4. Remove the main chassis.



Figure 18. Removing the middle frame

Steps

1. Remove the nine screws (M3x5) that secure the middle frame to the display panel.
2. Lift and remove the middle frame from the display panel.

Installing the middle frame



Figure 19. Installing the middle frame

Steps

1. Align the screw holes on the middle frame with the holes on the display panel and place it down.
2. Replace the nine screws (M3x5) that secure the middle frame to the display panel.

Next steps

1. Install the main chassis.
2. Install the back cover.
3. Install the stand.
4. 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 back cover.
4. Remove the main chassis.
5. Remove the middle frame.

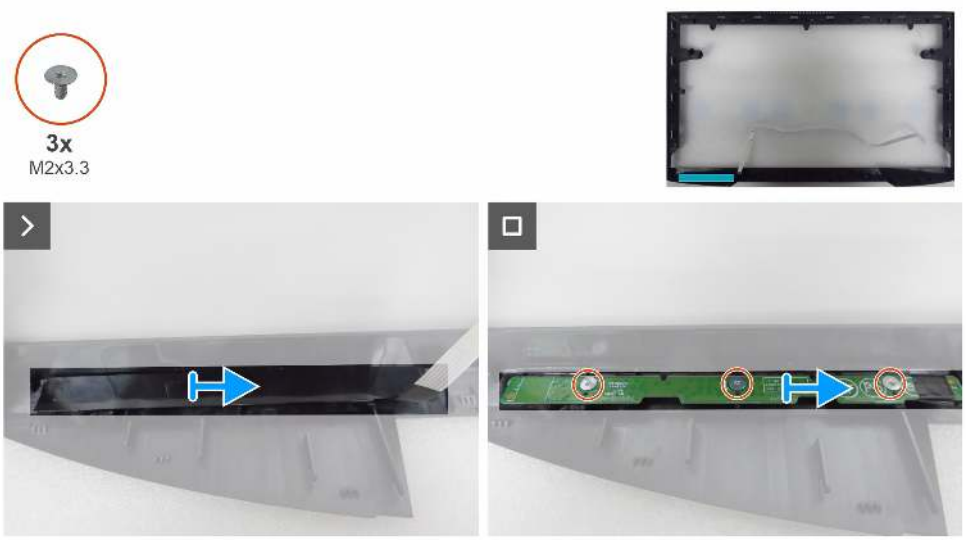


Figure 20. Removing the keypad board

Steps

1. Peel the Mylar tape from the middle frame.
2. Remove the three screws (M2x3.3) that secure the keypad board to the middle frame.
3. Remove the keypad board from the slots of the middle frame.

Installing the keypad board



Figure 21. Installing the keypad board

Steps

1. Align the holes on the keypad board with the screw holes on the middle frame and place it down.
2. Replace the three screws (M2x3.3) that secure the keypad board to the middle frame.
3. Adhere the Mylar tape to cover the keypad board.

Next steps

1. Install the middle frame.
2. Install the main chassis.
3. Install the back cover.
4. Install the stand.
5. Follow the procedure in After working inside your monitor.

Main board

Removing the main board

Prerequisites

1. Follow the procedure in Before working inside your monitor.
2. Remove the stand.
3. Remove the back cover.
4. Remove the main chassis.
5. Remove the middle frame.
6. Remove the keypad board.

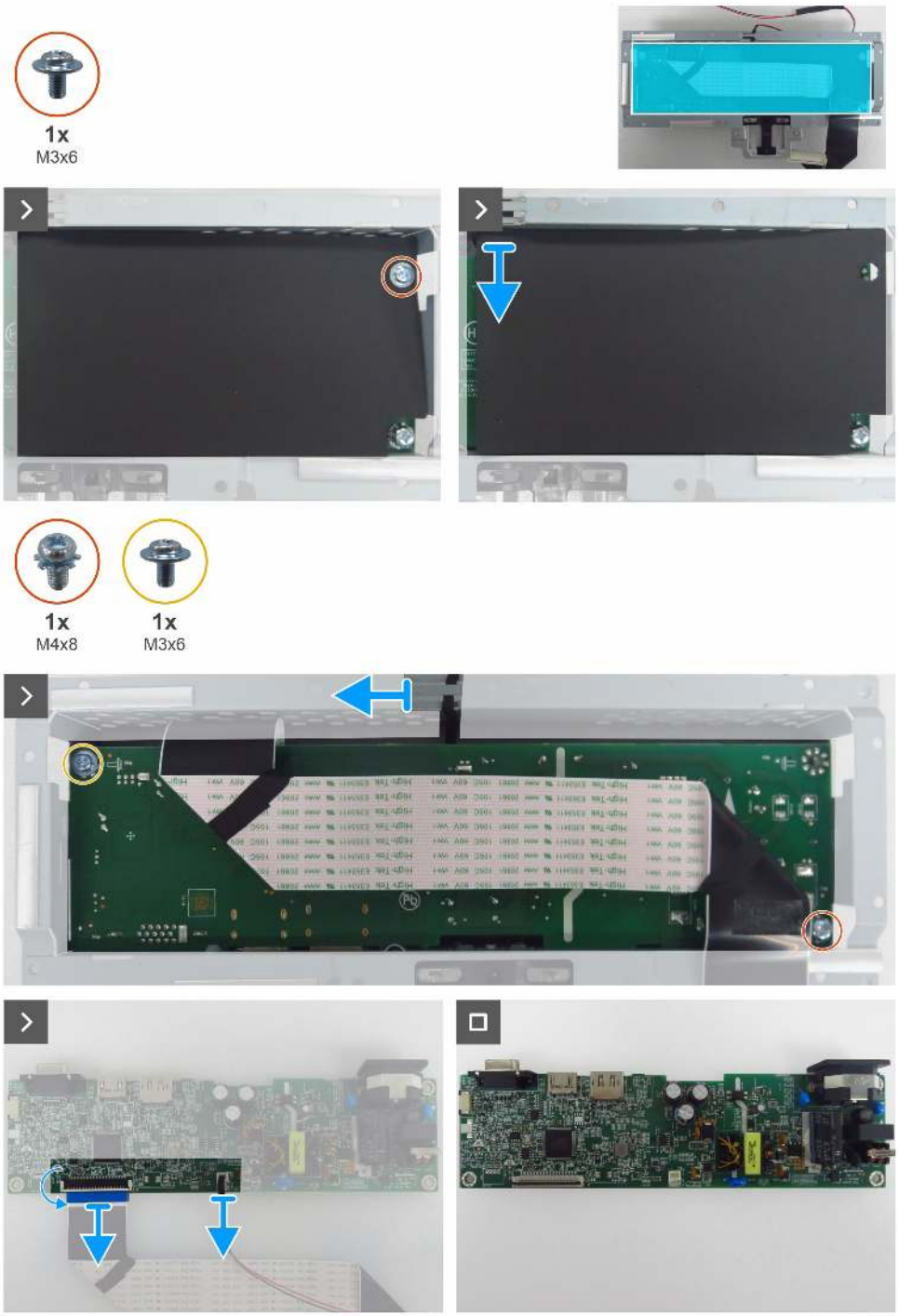


Figure 22. Removing the main board

Steps

1. Remove the screw (M3x6) on the main board that secures the Mylar sheet and the main board to the main chassis.
2. Remove the Mylar sheet from the slots of the main chassis.
3. Remove the screw (M3x6) and the screw (M4x8) that secure the main board to the main chassis.
4. Remove the lightbar cable from the routing guides on the main chassis.
5. Remove the main board from the main chassis.
6. Disconnect the LVDS cable and lightbar cable from the connectors on the main board.

Installing the main board

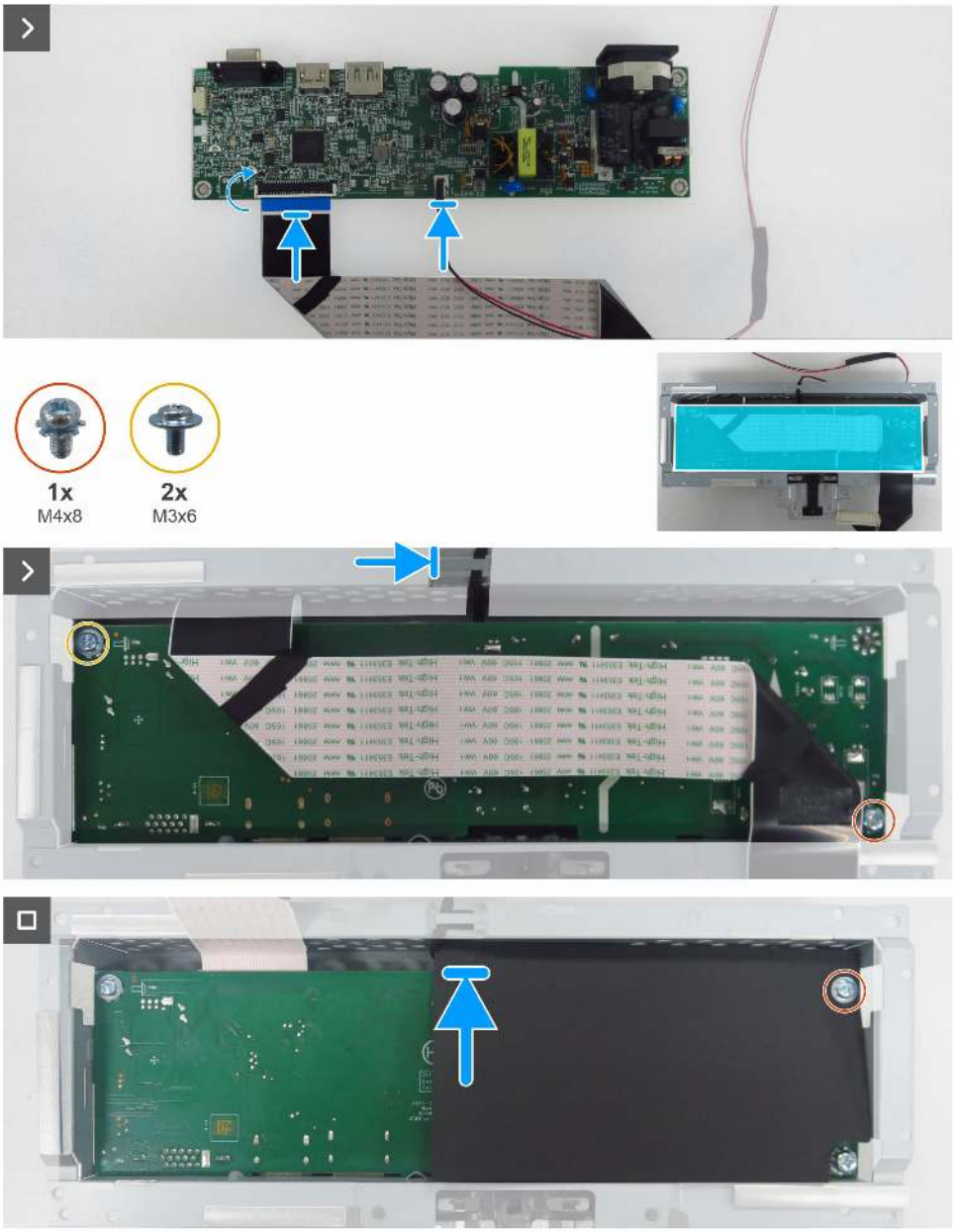


Figure 23. Installing the main board

Steps

1. Connect the LVDS cable and the lightbar cable to the connectors on the main board.
2. Align the screw holes on the main board with the screw holes on the main chassis and place it down.
3. Replace the screws (M3x6) and the screw (M4x8) that secure the main board to the main chassis.
4. Route the lightbar cable through the routing guides on the main chassis.
5. Replace the Mylar sheet to the main chassis.
6. Replace the screw (M3x6) that secures the Mylar sheet and the main board to the main chassis.

Next steps

1. Install the keypad board.
2. Install the middle frame.
3. Install the main chassis.
4. Install the back cover.
5. Install the stand.
6. Follow the procedure in After working inside your monitor.

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 back of the computer. To ensure proper Self-Test operation, remove all digital and analog cables from the back of the computer.
3. Turn on the monitor.

ⓘ **NOTE:** If the monitor cannot sense a video signal and is working correctly, a dialog box appears on the screen (against a black background). While in self-test mode, the power LED remains white.

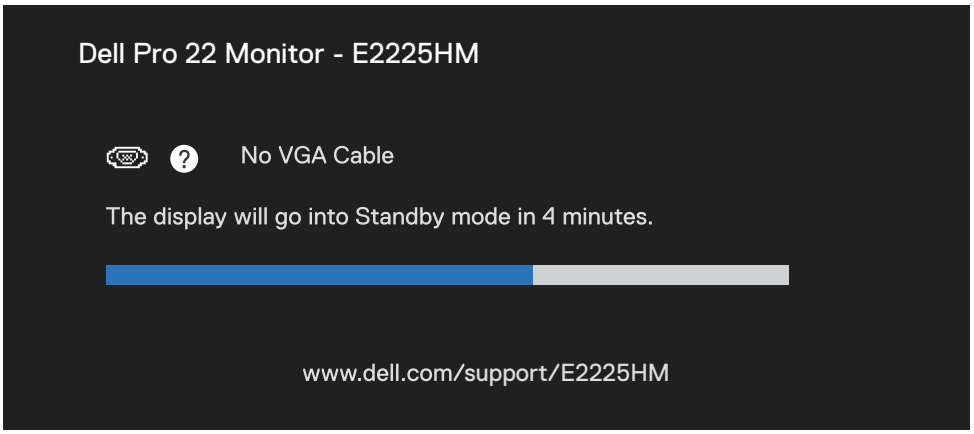


Figure 24. VGA cable disconnected warning message

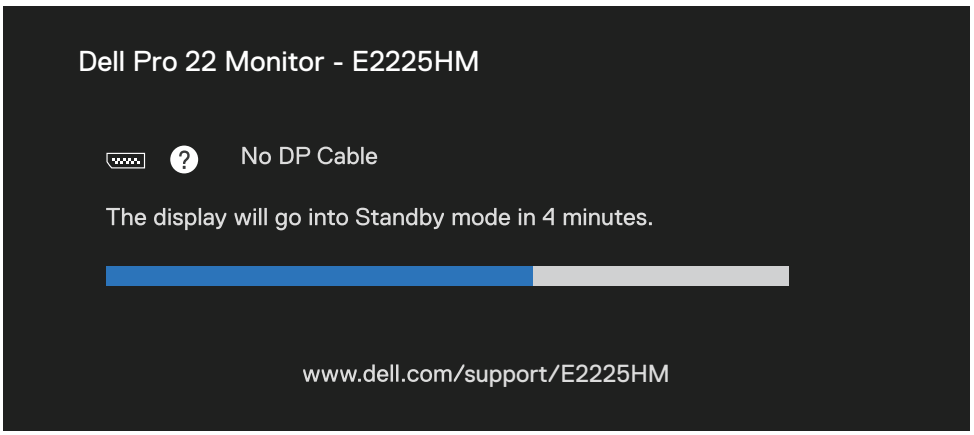


Figure 25. DP cable disconnected warning message

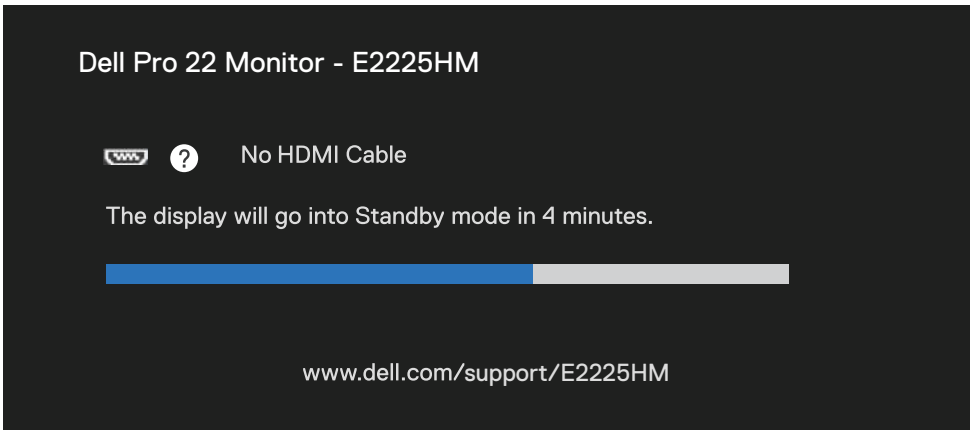


Figure 26. HDMI cable disconnected warning message

NOTE: This dialog box also appears during normal operation if the video cable is disconnected or damaged.

4. 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 perform the previous procedure, check your video controller and computer, because your monitor is functioning properly.

Built-in diagnostics

Your monitor includes a built-in diagnostic tool to helps you identify whether the screen abnormality is due to an issue with the monitor itself or with your computer and video card.

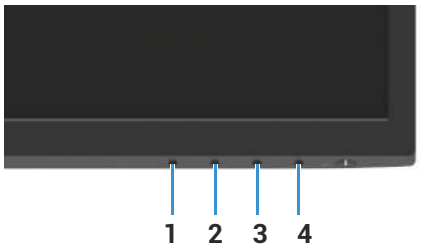


Figure 27. Built-in diagnostics function buttons

Table 7. Label description.

Label	Description
1	Button 1
2	Button 2
3	Button 3
4	Button 4

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.
3. 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 white color test screen, check for white color uniformity and if there white color appears greenish/reddish and so on.
8. Press **Button 1** to end the diagnostic program.

Common problems

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

Table 8. 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 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	• Turn off the monitor and turn it on again. • 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	• Turn off the monitor and turn it on again. • 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 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. • Restart the computer in safe mode.
Safety-related issues	• Do not perform any troubleshooting step. • Contact Dell immediately.
Intermittent problems	• Try different **Preset Modes** in **Color** settings OSD. Adjust **R/G/B** value in **Custom Color** in **Color** settings OSD. • 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 **Preset Modes** in **Color** settings OSD. Adjust **R/G/B** value in **Custom Color** in **Color** settings OSD. • Change the **Input Color Format** to **RGB** or **YCbCr/YPbPr** in the **Color** settings OSD. • Run the built-in diagnostics.
Image retention from a static image left on the monitor for a long period of 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 **Response Time** in the **Display** OSD to **Fast** or **Normal** depending on your application and usage.

Product-specific problems

Table 9. Product-specific problems and solutions.

Specific symptoms	Possible solutions
Screen image is too small	• Check the **Aspect Ratio** setting in the **Display** settings OSD. • Reset the monitor to factory settings (**Factory Reset**).
Cannot adjust the monitor with the buttons on the bottom of the panel	• Turn off the monitor, unplug the power cable, plug it back, and then turn on the monitor. • 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 screen	• Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen. • Run the built-in diagnostics.

Contacting Dell

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

NOTE: Availability varies by country and product, and some services may not be available in your country.

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.