Lenovo

ThinkPad®

ThinkPad USB-C Dock User Guide

$\boxed{\text{i}}$ http://www.lenovo.com/safety
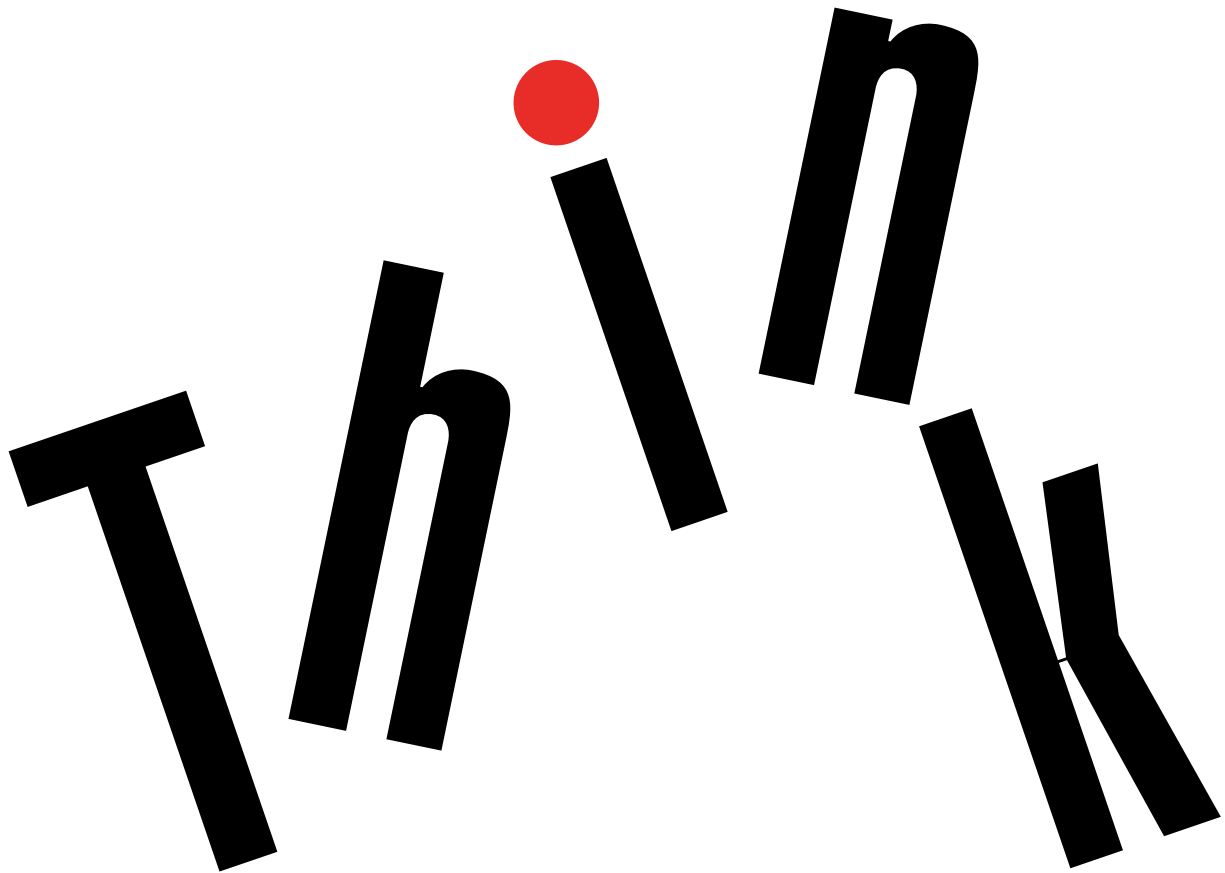
Note: Before using this information and the product it supports, ensure that you read and understand the warranty information in the documentation that comes with the product.

Contents

Chapter 1. About the dock

This chapter contains product information about the ThinkPad® USB-C Dock (hereafter called dock).

Product description

The dock is a portable expansion module that enables you to easily connect your computer to the Ethernet and multiple devices, such as a headset, a monitor, and Universal Serial Bus (USB) devices.

You can set up your work area by connecting your computer to the dock with a USB-C cable, connecting multiple devices to the dock, and configuring the dock on your computer. Then, you are ready to use the multiple devices each time you connect your computer to the dock. The dock can also supply power to your computer when it is connected to the computer.

Your option package includes the following:

- ThinkPad USB-C Dock
- Power adapter
- Power cord
- USB-C cable
- Warranty poster

Contact your place of purchase if any item is missing or damaged. Be sure to retain your proof of purchase and packing material. They might be required to receive warranty service.

Main features

The dock provides the following main features:

- USB connectors: three USB 3.0 connectors, two USB 2.0 connectors, and one USB-C connector
- Network connection: Gigabit Ethernet speed
- Supported external monitors: DisplayPort® (DP) monitor and video graphics array (VGA) monitor
- Supported functions:
  - ThinkVantage® Access Connections™ (Windows® 7 only)
  - Preboot eXecution Environment (PXE) (supported on some Lenovo® computers)
  - Media Access Control (MAC) address Pass Through
  - Wake on LAN

  For more information about the supported functions, see "Using the Ethernet connector" on page 7.

Maximum resolutions and refresh rates

To achieve better display experience, it is recommended that you connect one or two external monitors to the dock at a time.

- DP output only: 3840 x 2160 pixels (30 Hz)
- VGA output only: 1920 x 1200 pixels (60 Hz)
- DP and VGA simultaneous output: 1920 x 1080 pixels (60 Hz)

- DP and DP simultaneous output: 1920 x 1080 pixels (60 Hz)

Component overview

The following illustration helps you locate and identify the connectors and controls on your dock.
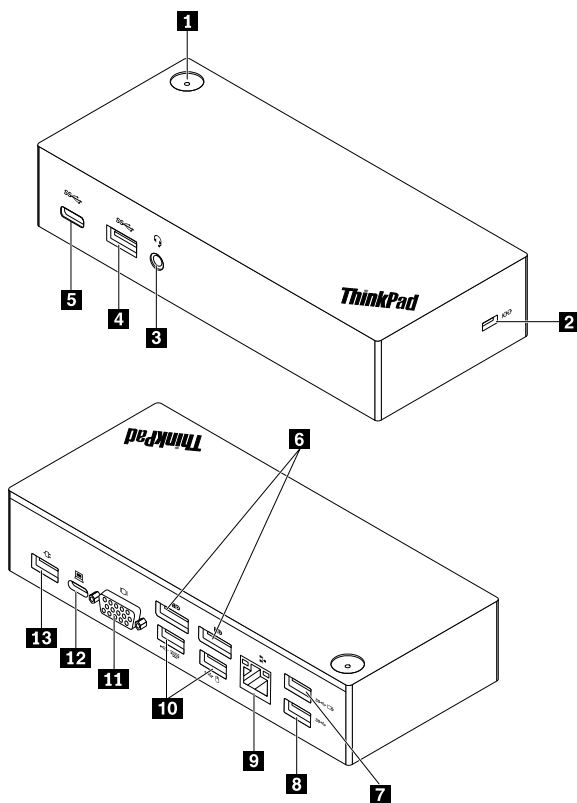
Figure 1. Component overview

1 Power button with indicator	**2** Security-lock slot
3 Headset and microphone combo connector	**4** USB 3.0 connector
5 USB-C connector	**6** DP connectors
7 Always On USB 3.0 connector	**8** USB 3.0 connector
9 Ethernet connector	**10** USB 2.0 connectors
11 VGA connector	**12** USB-C connector
13 Power connector	

1 Power button with indicator

- Power button
    - When the dock is disconnected from the computer, press the power button to turn off the dock.
    - When the dock is connected to the computer, the power button on the dock has the same functions as the power button of the computer. You can use the power button on the dock to turn on, turn off, sleep, hibernate, or wake up the computer after you define what power button does on your computer. To change what the power button does, do the following:

1. Got to Control Panel and then change the view of the Control Panel from Category to Large icons or Small icons.
2. Click **Power Options** ➙ **Choose what the power buttons do.**
3. Follow the instructions on the screen.

- Power button indicator

  The indicator shows the dock status and computer status:

  – **Off**: The dock is off, or the computer is off or in hibernation mode.

  – **White**: The computer is on.

  – **White and blinking slowly**: The computer is in sleep mode.

  – **Amber**: The dock is on and ready to connect to the computer.

2 Security-lock slot

To protect your dock from theft, lock your dock to a desk, table, or other fixtures through a security cable lock that fits this security-lock slot.

Note: You are responsible for evaluating, selecting, and implementing the locking device and security feature. Lenovo makes no comments, judgments, or warranties about the function, quality, or performance of the locking device and security feature.

3 Headset and microphone combo connector

Connect headphones or a headset with a 3.5-mm (0.14-inch), 4-pole plug.

4 8 USB 3.0 connector

Connect USB-compatible devices, such as a USB storage device, or a USB printer. For optimal data transfer, connect a USB 3.0 device to a USB 3.0 connector instead of a USB 2.0 connector.

5 USB-C connector

Connect USB-C compatible devices for data transfer only, such as a USB-C storage device.

6 DP connector

Connect a high-performance monitor, a direct-drive monitor, or other devices that use a DP connector.

7 Always On USB 3.0 connector

Charge devices even when your computer is turned off, in sleep mode, or in hibernation mode; or when the dock is disconnected from your computer.

9 Ethernet connector

Connect the dock to an Ethernet LAN with an Ethernet cable.

10 USB 2.0 connectors

Connect USB 2.0 devices, such as a USB keyboard, a USB mouse, a USB storage device, or a USB printer.

Notes:

- It is recommended that you connect a USB keyboard and a USB mouse to the USB 2.0 connectors.

- If you are using a USB 3.0 device, it is recommended that you connect it to a USB 3.0 connector for faster USB transmission speed.

🔢 VGA connector

Connect a VGA-compatible video device, such as a VGA monitor.

🔢 USB-C connector

Connect the dock to your computer by a USB-C cable.

🔢 Power connector

Connect the dock to the power adapter.

Statement on USB transfer rate

Depending on many factors such as the processing capability of the host and peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and will be slower than the data rate listed below for each corresponding device.

USB device	Data rate (Gbit/s)
3.1 Gen 1 (3.0)	5

System requirements

Before using the dock, ensure that your computer has one of the following Microsoft® operating systems installed:

- Windows 7
- Windows 10

Chapter 2. Setting up the dock

This section provides information about how to connect the dock to your computer, and how to install and uninstall the device driver.

Installing the device driver on Windows operating systems

The Lenovo computer with USB-C connectors has the dock device driver preinstalled. In this situation, the dock is ready for use after you connect it to an ac power source and your computer. For the detailed computer model information, go to http://www.lenovo.com/support/docks and click **ThinkPad USB-C Dock**.

The latest device driver for the dock also is available for downloading from the Lenovo Web site. Go to http://www.lenovo.com/support/docks, click **ThinkPad USB-C Dock**, and download the driver installation file. Then follow the instructions on the screen to install the device driver.

Connecting the dock to your computer

To connect the dock to your computer, do the following:

1. Connect the ac power adapter to the power cord **1**.
2. Connect the power cord to an electrical outlet **2**.
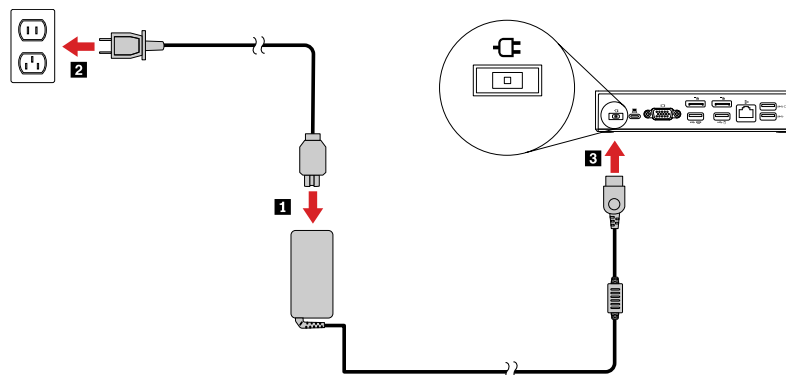3. Connect the ac power adapter to the power connector of the dock **3**.

Figure 2. Connecting the dock to the power supply

4. Connect one end of the USB-C cable to the dock **1**.
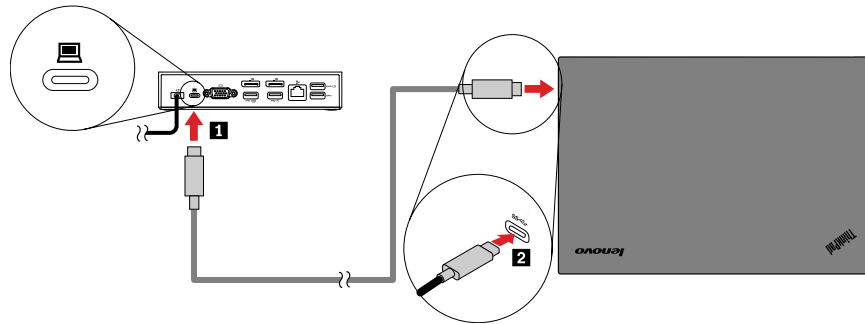5. Connect the other end of the USB-C cable to the computer **2**.

Figure 3. Connecting the dock to the computer

Note: The dock supplies power to the computer when it is connected to the computer.

Uninstalling the device driver from Windows operating systems

To uninstall the device driver, do the following:

For the Windows 7 operating system:

1. Exit all applications that use the dock.

2. Click **Start ➙ Control Panel**. Then change the view of Control Panel to Category.

3. Click **Uninstall a program ➙ ThinkPad USB-C Dock USB Audio**, and then right-click to select **Uninstall**.

4. Follow the instructions on the screen to uninstall the device driver.

5. If necessary, restart your computer.

For the Windows 10 operating system:

1. From the desktop, move the pointer to the bottom-left corner of the screen, and then search **Control Panel** in the search box.

2. Click **Control Panel**, and then change the view of Control Panel to Category.

3. Click **Uninstall a program ➙ ThinkPad USB-C Dock USB Audio**, and then right-click to select **Uninstall**.

4. Follow the instructions on the screen to uninstall the device driver.

Chapter 3.   Using the dock

This section provides instructions on how to use the connectors on the dock:

- "Using the headset and microphone combo connector" on page 7
- "Using the Ethernet connector" on page 7
- "Using the USB connectors" on page 8
- "Using the DP and VGA connectors" on page 8

The dock expands the connection capability of your computer. You can connect devices to the appropriate connectors on the dock after your computer is turned on. Normally it takes several seconds for the computer to recognize new devices.

The dock simplifies the connection between your computer and multiple devices. For example, you can connect the USB devices and external monitors to the dock rather than the computer. When you want to take your computer away, you can disconnect the computer from the dock rather than remove the USB devices and external monitors. When you come back, simply connect your computer to the dock to resume all previous connections and start working at once.

Using the headset and microphone combo connector

The headset and microphone combo connector on the dock is a 3.5-mm (0.14-inch) microphone combined stereo line-out connector. It works for the standard 3.5-mm (0.14-inch) headset, microphone, or speaker.

Note: The headset and microphone combo connector on the dock are automatically enabled after you have successfully connected the dock to your computer and installed the device driver. However, if you cannot hear anything from the headset connected to the dock, you can manually enable the headset and microphone combo connector on the dock. See "Manually enabling the headset and microphone combo connector" on page 11 for more information.

Using the Ethernet connector

To use the Ethernet connector on the dock, connect the dock to a standard 10 Mbps, 100 Mbps, or 1000 Mbps network.

The Ethernet connection on the dock supports the following functions:

- ThinkVantage Access Connections (Windows 7 only)

  Access Connections is a connectivity assistant program for creating and managing location profiles. Each location profile stores all the network and Internet configuration settings needed for connecting to a network infrastructure from a specific location such as a home or an office. By switching between location profiles as you move your computer from place to place, you can quickly and easily connect to a network with no need to manually reconfigure your settings and restart the computer each time.

- Preboot eXecution Environment (supported on some Lenovo computers)

  The PXE technology makes the computer more manageable by enabling the computer to start from a server. For the PXE supported computer list, go to www.lenovo.com/accessoriesguide.

- MAC address Pass Through

  Your dock MAC address is the same as that of your computer, after enabling the MAC address Pass Through function.

- Wake on LAN

The network administrator can turn on a computer from a management console by using the Wake on LAN function. When the Wake on LAN function is enabled, many operations, such as data transfer, software updates, and flash updates of the UEFI BIOS, can be done remotely without remote attendance. The updating process can perform after normal working hours and on weekends, so that the users are not interrupted during work, and the LAN traffic is kept to a minimum. It saves time and increases productivity.

Note: You can enable the PXE function, the MAC address Pass Through function, and the Wake on LAN function through configuring the BIOS on your computer. For more information about configuring the BIOS, refer to the user guide that comes with your computer.

There are two indicators on the top of the Ethernet connector.

| Indicator activity	Working status
The right indicator stays on in green.	The dock connects to the Ethernet successfully.
The left indicator keeps flashing in amber.	The dock is transferring data.

Using the USB connectors

Connect USB-compatible devices, such as a USB storage device or a USB printer to the USB connectors.

Notes:

- It is recommended that you connect a USB keyboard and a USB mouse to the USB 2.0 connectors.
- If you are using a USB 3.0 device, it is recommended that you connect it to a USB 3.0 connector for faster USB transmission speed.
- The dock provides two types of USB-C connectors:

    – ⬚: Connect your computer to this USB-C connector on the dock.

    – ⬚: Connect a USB-C compatible device to this USB-C connector on the dock for data transfer only, such as a USB-C storage device.

Using the Always On USB 3.0 connector

By default, the Always On USB 3.0 connector (SS⇇⬓) enables you to charge some mobile digital devices and smartphones when the dock is connected to the power supply.

The Always on USB 3.0 connector can supply power up to 2.4 A during the charging process. When you press the power button to turn off the dock, the dock stops power supply.

Using the DP and VGA connectors

To use the DP connector, connect an external DP monitor to the dock using a DP cable. To use the VGA connector, connect an external VGA monitor to the dock using a VGA cable.

Note: For better performance, occasionally adjust the external monitor to realign its settings with the video output of the dock. For more information about the adjustment procedure, refer to the documentation that comes with your external monitor.

Chapter 4. Working with the dock

This section provides information about the video output modes of the dock and instructions on how to configure the dock to your needs.

Understanding the video output modes

The dock works in the following three video output modes:

- "Extend mode" on page 9
- "Mirror mode" on page 10
- "Single-display mode" on page 10

By default, the dock works in the extend mode. The first time you connect the dock to your computer, the resolution of your computer and the connected monitor is changed to the default. You can configure your resolution to your needs.

Extend mode

When the dock is in the extend mode, it splits your display across two monitors. Your computer monitor becomes the primary display and the external monitor becomes the secondary display. By default, the external monitor display is on the right side of the computer monitor display.

In extend mode, you can drag and drop windows from one display to the other. You also can increase your productivity by doing the following:

- Reading e-mails on one display and opening the attachments on the other
- Expanding a spreadsheet across two displays
- Increasing your work area by putting all the palette and toolbars on the other display when you are doing graphics editing
- Keeping the desktop on one display and watching videos on the other

To enter the extend mode, do the following:

For the Windows 7 operating system:

1. Click **Start ➙ Control Panel**.
2. Depending on your Control Panel mode, do one of the following:
   - Click **Display ➙ Change display settings**.
   - Click **Appearance and Personalization ➙ Display ➙ Change display settings**.
3. In the **Multiple displays** drop-down list box, select **Extend these displays**.
4. Follow the instructions on the screen to complete the setting.

For the Windows 10 operating system:

1. From the desktop, move the pointer to the bottom-left corner of the screen, and then search **Control Panel** in the search box.
2. Depending on your Control Panel mode, do one of the following:
   - Click **Display ➙ Change display settings**.
   - Click **Appearance and Personalization ➙ Display ➙ Change display settings**.

3. In the **Multiple displays** drop-down list box, select **Extend these displays**.

4. Follow the instructions on the screen to complete the setting.

Mirror mode

When the dock is in the mirror mode, it clones your computer screen to the external monitor. The dock automatically selects the settings (screen resolution, color quality, and refresh rate) for the external monitor, which achieves optimal resolution based on your computer.

To enter the mirror mode, do the following:

For the Windows 7 operating system:

1. Click **Start** ➙ **Control Panel**.

2. Depending on your Control Panel mode, do one of the following:

   - Click **Display** ➙ **Change display settings**.
   - Click **Appearance and Personalization** ➙ **Display** ➙ **Change display settings**.

3. In the **Multiple displays** drop-down list box, select **Duplicate these displays**.

4. Follow the instructions on the screen to complete the setting.

For the Windows 10 operating system:

1. From the desktop, move the pointer to the bottom-left corner of the screen, and then search **Control Panel** in the search box.

2. Depending on your Control Panel mode, do one of the following:

   - Click **Display** ➙ **Change display settings**.
   - Click **Appearance and Personalization** ➙ **Display** ➙ **Change display settings**.

3. In the **Multiple displays** drop-down list box, select **Duplicate these displays**.

4. Follow the instructions on the screen to complete the setting.

Single-display mode

When the dock is in the single-display mode, you can show your desktop on only one screen.

To enter the single-display mode, do the following:

For the Windows 7 operating system:

1. Click **Start** ➙ **Control Panel**.

2. Depending on your Control Panel mode, do one of the following:

   - Click **Display** ➙ **Change display settings**.
   - Click **Appearance and Personalization** ➙ **Display** ➙ **Change display settings**.

3. In the **Multiple displays** drop-down list box, select **Show desktop only on 1** or **Show desktop only on 2**.

4. Follow the instructions on the screen to complete the setting.

For the Windows 10 operating system:

1. From the desktop, move the pointer to the bottom-left corner of the screen, and then search **Control Panel** in the search box.

2. Depending on your Control Panel mode, do one of the following:

- Click **Display ➙ Change display settings**.
- Click **Appearance and Personalization ➙ Display ➙ Change display settings**.

3. In the **Multiple displays** drop-down list box, select **Show desktop only on 1** or **Show desktop only on 2**.

4. Follow the instructions on the screen to complete the setting.

Note: If you select **Show desktop only on 1**, your computer display will be on and the external monitor will turn off. However, the other functions such as audio, Ethernet, and USB connection can still work though the external monitor is off. If you select **Show desktop only on 2**, the external monitor will be on and your computer display will turn off.

Configuring the dock

You can configure the display settings of the dock to your needs:

- "Manually enabling the headset and microphone combo connector" on page 11
- "Rotating the external monitor display" on page 11
- "Setting the color quality of the external monitor" on page 12
- "Setting the resolution of the external monitor" on page 12

Note: The settings you have configured for the dock will be retained each time when you connect the computer to the dock.

Manually enabling the headset and microphone combo connector

To manually enable the headset and microphone combo connector on the dock, do the following:

1. Right-click the speaker icon in the Windows notification area. A pop-up menu opens.
2. Click **Playback devices** to select a USB audio line-out device, and then click the **Recording** tab to select a USB audio line-in device.
3. Click **OK**.

Note: To apply the new settings, restart the applications that are using the audio devices.

Rotating the external monitor display

The dock enables you to rotate only your external monitor display as you want.

To rotate the external monitor display, do the following:

For the Windows 7 operating system:

1. Click **Start ➙ Control Panel**.
2. Depending on your Control Panel mode, do one of the following:
   - Click **Display ➙ Change display settings**.
   - Click **Appearance and Personalization ➙ Display ➙ Change display settings**.
3. In the **Orientation** drop-down list box, select one of the following options:
   - **Landscape**: The external monitor display remains the same as your computer monitor display.
   - **Portrait**: The external monitor display rotates 90 degrees to the left.
   - **Landscape (flipped)**: The external monitor display becomes upside-down.
   - **Portrait (flipped)**: The external monitor display rotates 90 degrees to the right.

4. Follow the instructions on the screen to complete the setting.

For the Windows 10 operating system:

1. From the desktop, move the pointer to the bottom-left corner of the screen, and then search **Control Panel** in the search box.
2. Depending on your Control Panel mode, do one of the following:
   - Click **Display → Change display settings**.
   - Click **Appearance and Personalization → Display → Change display settings**.
3. In the **Orientation** drop-down list box, select one of the following options:
   - **Landscape**: The external monitor display remains the same as your computer monitor display.
   - **Portrait**: The external monitor display rotates 90 degrees to the left.
   - **Landscape (flipped)**: The external monitor display becomes upside-down.
   - **Portrait (flipped)**: The external monitor display rotates 90 degrees to the right.
4. Follow the instructions on the screen to complete the setting.

Note: For a normal display, you can continually click **Portrait** or **Portrait (flipped)** until the display becomes upside-down.

Setting the color quality of the external monitor

The color quality setting of the external monitor is supported only on the Windows 7 operating system.

To set the color quality of the external monitor, do the following:

1. Click **Start → Control Panel**.
2. Depending on your Control Panel mode, do one of the following:
   - Click **Display → Change display settings**.
   - Click **Appearance and Personalization → Display → Change display settings**.
3. Click **Advanced settings**, and then click the **Monitor** tab.
4. Select **High Color (16 bit)** or **True Color (32 bit)** from the **Colors** drop-down list box.

   Note: The default and recommended setting is **True Color (32 bit)**.
5. Click **OK** to save the setting.

Setting the resolution of the external monitor

To set the resolution of the external monitor, do the following:

For the Windows 7 operating system:

1. Click **Start → Control Panel**.
2. Depending on your Control Panel mode, do one of the following:
   - Click **Display → Change display settings**.
   - Click **Appearance and Personalization → Display → Change display settings**.
3. In the **Resolution** drop-down list box, move the slider up to increase or down to decrease the resolution of the external monitor.
4. Follow the instructions on the screen to complete the setting.

For the Windows 10 operating system:

1. From the desktop, move the pointer to the bottom-left corner of the screen, and then search **Control Panel** in the search box.

2. Depending on your Control Panel mode, do one of the following:
   - Click **Display** → **Change display settings**.
   - Click **Appearance and Personalization** → **Display** → **Change display settings** → **Advanced display settings**.

3. In the **Resolution** drop-down list box, move the slider up to increase or down to decrease the resolution of the external monitor.

4. Follow the instructions on the screen to complete the setting.

Chapter 5. Troubleshooting

This chapter provides some troubleshooting hints and tips to assist you if you experience any problems with the dock. Check the following items first to try to solve the problem.

General

1. **The dock does not work after connected to a computer with the provided USB-C cable.**

   - Ensure that the dock is correctly connected to the power adapter. The dock always needs external power adapter for operation, because it does not get power supply from the USB connector attached to your computer.
   - Ensure that the device driver of the dock is installed; if not, install the device driver and restart the computer.

2. **The 2.4 GHz wireless keyboard or 2.4 GHz wireless mouse function is interrupted. The mouse pointer lags or it cannot move. Some characters are lost when you input by the keyboard.**

   It is recommended that you connect your 2.4 GHz device receiver to the front USB 3.0 connector on the dock and avoid connecting another USB 3.0 device next to the connector with the receiver attached.

3. **The charging speed becomes slow, after I connect my device (such as a mobile phone) to the dock for charging.**

   Ensure that you connect your mobile phone to the Always On USB 3.0 connector. Disconnect the dock from the computer, the charging speed might become faster.

4. **The mobile phones or other USB devices cannot be charged when connected to the Always On USB 3.0 connector.**

   It is recommended that you can disconnect the dock from the computer, and then you can charge the mobile phones or other USB devices.

5. **The mouse and keyboard cannot wake up my computer when connected to the Always On USB 3.0 connector.**

   Ensure that you connect your keyboard and mouse to other USB connectors on the dock instead of the Always On USB 3.0 connector.

6. **The computer is not charged after connected to the dock.**

   Ensure that you use the power adapter that shipped with the dock.

Video output

1. **The external monitor display is blank.**

   - Ensure that the computer connected to the dock is running correctly and is not in standby or hibernation mode. When the computer is in standby or hibernation mode, the external monitor display is always blank.
   - Ensure that the device driver is installed following the installation instructions.
   - Ensure that the following connections are correct:
     - The connection between the USB-C cable and your computer
     - The connection between the USB-C cable and the dock
     - The connection among the power adapter, the dock, and the electrical outlet
     - The connection between your video cable to the dock and the external monitor.

   If the problem persists, disconnect all connections of the dock, and uninstall the dock device driver. Then, reinstall the device driver and the dock.

2. **I cannot play back videos on the external monitor but can play them back on the computer monitor.**

   Some computers do not support the Certified Output Protection Protocol (COPP), and you will not be able to play back the protected videos on the external monitor connected to the dock.

   To play back videos on the external monitor, you can connect the external monitor to the VGA or DP connector on your computer, and extend the display to the external monitor. For more information about configuring the display settings, see Chapter 4 "Working with the dock" on page 9.

3. **The images on the external monitor flutter.**

   Check the display resolution setting of the computer and ensure that the resolution is supported by the dock.

4. **The images on the external monitor are not in correct colors.**

   Check the color quality of the external monitor and adjust the color to the correct color. See "Setting the color quality of the external monitor" on page 12.

5. **The computer can play back Web flashes. However, when I drag the window to the external monitor and maximize the playback window, the playback stops.**

   To solve the problem, update your Adobe Flash Player to the latest version.

6. **The external monitor display is blank, or the images on the external monitor flutter.**

   Connect one or two external monitors at a time. It is not recommended that you connect three external monitors.

Audio

I cannot hear anything through my computer speakers or I cannot use the audio connectors on the computer.

By default, ThinkPad and other Lenovo computers use the headset and microphone combo connector on the dock and disable built-in audio connectors when the dock is connected.

To enable the built-in audio connectors on your computer, do the following:

1. Right-click the **Volume** icon in the Windows notification area.
2. Select **Sounds**, and the Sound window is displayed.
3. Click the **Playback** tab to select a built-in audio device, and then click the **Recording** tab to select another built-in audio device.

See "Manually enabling the headset and microphone combo connector" on page 11 for more information.

Notes:
- To apply the new settings, restart the applications that are using the audio devices.
- The settings you have adjusted will be saved until you change the settings next time.

Appendix A. Accessibility information

Documentation in accessible formats

Lenovo provides electronic documentation in accessible formats, such as properly tagged PDF files or HyperText Markup Language (HTML) files. Lenovo electronic documentation is developed to ensure that visually impaired users can read the documentation through a screen reader. Each image in the documentation also includes adequate alternative text to explain the image so that visually impaired users can understand the image when they use a screen reader.

To open and view PDF files, your computer must have the Adobe Reader program installed. The Adobe Reader program also is available for download at:
http://www.adobe.com

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Appendix B. Trademarks

ACCESS CONNECTIONS, LENOVO, LENOVO logo, THINKPAD, THINKPAD logo, and THINKVANTAGE are trademarks of Lenovo.

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Part Number: SP40L36280

Printed in China

(1P) P/N: SP40L36280