

Lenovo

ThinkVision

P34w-20 WQHD Curved Panel Monitor

User's Guide

Machine Type: 62CC/62DC/63F2

Think

Product numbers

62CC-RAR3-WW

62DC-RAR3-WW

63F2-RAR3-WW

Type/Model

F213403P0



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Safety Information

General safety guidelines

For tips to help you use your computer safely, go to:
<http://www.lenovo.com/safety>

Before installing this product, read the Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφαλείας (safety information).

לפני שתתקין מדפסת זו, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le informazioni sulla Sicurezza.

Antes de instalar este produto, leia as informações de Segurança.

Läs säkerhetsinformationen innan du installerar den här produkten.

Preje instalacije ovog produkta obavezno pročitatje Sigurnosne Upute.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Предна се инсталира овој продукт, прочитајте информацијата за безбедност.

Před instalací tohoto zařízení si přečtěte Bezpečnostní předpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Před instalací tohoto produktu si přečtěte Bezpečnostní informace.

在安装本产品之前，请仔细阅读 Safety information (安全信息)。

安装本产品之前，请先阅读「安全资讯」。

يجب قراءة إرشادات السلامة قبل تشغيل هذا المنتج.

Les sikkerhetsinstruksjoner, før du installerer dette produktet.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Antes de instalar este produto, leia as informações de segurança.

Antes de instalar este produto, leia as informações de Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Les voordat u dit product installeert Lees de veiligheidsvoorschriften.

Safety and Maintenance Guidelines

Important Safety Information

The power cord is designed for use with your monitor. To use a different cord, use only a power source and connection compatible with this monitor.



WARNING: Always connect your monitor, the computer, and other equipment to a grounded (earthed) power outlet. To reduce the risk of electric shock or damage to your equipment, do not disable the power cord grounding feature. The grounding plug is an important safety feature.



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



CAUTION: To protect your monitor, as well as your computer, connect all power cords for your computer and its peripheral devices (such as a monitor, printer, or scanner) to a surge protection device such as a power strip with surge protection or uninterruptible power supply (UPS). Not all power strips provide surge protection; the power strips must be specifically labelled as having this ability. Use a power strip whose manufacturer offers a damage replacement policy, so you can replace your equipment if surge protection fails.



CAUTION: A certified power supply cord 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 0.75mm² or H05VVH2-F2 3G 0.75mm²) shall be used. An alternative flexible cord is synthetic rubber.

Safety Precautions

- Use only a power source and connection compatible with this monitor, as indicated on the label/back plate of the monitor.
- Be sure the total ampere rating of the products connected to the outlet does not exceed the current rating of the electrical outlet, and the total ampere rating of the products connected to the power cord does not exceed the rating of the power cord. Look on the power label to determine the ampere rating (Amps or A) for each device.
- Install your monitor near a power outlet that you can easily reach. Disconnect the monitor by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.
- Do not allow anything to rest on the power cord. Do not walk on the cord.
- While using VESA mount application, the AC Inlet must face to down side. Do not face any other position.

Maintenance Guidelines

To enhance the performance and extend the life of your monitor:

- Do not open your monitor cabinet or attempt to service this product yourself. If your monitor is not operating properly or has been dropped or damaged, contact your Lenovo authorized dealer, reseller, or service provider.
- Adjust only those controls that are described in the operating instructions.
- Turn your monitor off when not in use. You can substantially increase the life expectancy of the monitor by using a screen saver program and turning off the monitor when not in use.
- Keep your monitor in a well-ventilated area, away from excessive light, heat, or moisture.
- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.
- Unplug the monitor from the power outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
- Do not drop the monitor or place it on an unstable surface.
- When removing the monitor base, you must lay the monitor face down on a soft area to prevent it from getting scratched, defaced, or broken.

Cleaning the Monitor

The monitor is a high-quality optical device that requires special care when cleaning. To clean the monitor, follow these steps:

1. Turn off the computer and the monitor.
2. Unplug your monitor from the power outlet before cleaning.



CAUTION: Do not use benzene, thinner, ammonia, or any volatile substance to clean the monitor screen or cabinet. These chemicals may damage the monitor. Do not use liquid or aerosol cleaners. Never use water to clean an LCD screen.

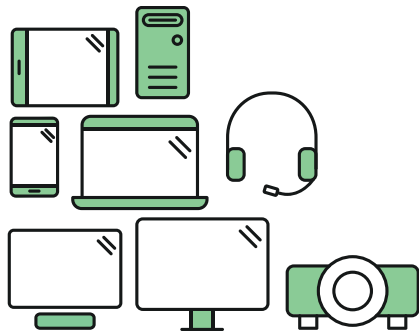
3. Wipe the screen with a dry, soft, clean cloth. If the screen requires additional cleaning, use an antistatic screen cleaner.
4. Dust the monitor housing. Use a damp cloth to clean the cabinet. If the cabinet requires additional cleaning, use a clean cloth dampened with isopropyl alcohol.
5. Plug in the monitor.
6. Turn on the monitor and the computer.

TCO Certified

A third-party certification according to ISO 14024



Toward sustainable IT products



Say hello to a more sustainable product

IT products are associated with a wide range of sustainability risks throughout their life cycle. Human rights violations are common in the factories. Harmful substances are used both in products and their manufacture. Products can often have a short lifespan because of poor ergonomics, low quality and when they are not able to be repaired or upgraded.

This product is a better choice. It meets all the criteria in TCO Certified, the world's most comprehensive sustainability certification for IT products. Thank you for making a responsible product choice, that help drive progress towards a more sustainable future!

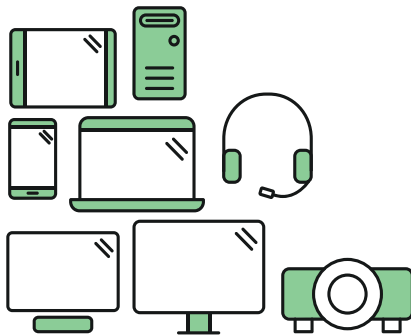
Criteria in TCO Certified have a life-cycle perspective and balance environmental and social responsibility. Conformity is verified by independent and approved verifiers that specialize in IT products, social responsibility or other sustainability issues. Verification is done both before and after the certificate is issued, covering the entire validity period. The process also includes ensuring that corrective actions are implemented in all cases of factory non-conformities. And last but not least, to make sure that the certification and independent verification is accurate, both TCO Certified and the verifiers are reviewed regularly.

Want to know more?

Read information about TCO Certified, full criteria documents, news and updates at tcocertified.com. On the website you'll also find our Product Finder, which presents a complete, searchable listing of certified products.



Toward sustainable IT products



Say hello to a more sustainable product

IT products are associated with a wide range of sustainability risks throughout their life cycle. Human rights violations occur in the supply chain. Harmful substances are used both in products and their manufacture. Products can often have a short lifespan because of poor ergonomics, low quality and when they are not able to be repaired or upgraded.

This product is a better choice. It meets all the criteria in TCO Certified, the world's most comprehensive sustainability certification for IT products. Additionally, it fulfills the requirements of TCO Certified Edge, the supplemental certification that recognizes leading-edge products that exceed typical performance in a particular sustainability attribute. At our Product Finder (tcocertified.com/product-finder) you can find out which TCO Certified Edge criterion or criteria this product meets.

Criteria in TCO Certified have a life-cycle perspective and balance environmental and social responsibility. Compliance is verified by independent verification organizations that specialize in IT products, social responsibility or other sustainability issues. Verification is done both before and after the certificate is issued, covering the entire validity period. The process also includes ensuring that corrective actions are implemented in all cases of factory non-conformities.

Thank you for making a responsible product choice, that help drive progress towards a more sustainable future!

Want to know more?

Read information about TCO Certified, full criteria documents, news and updates at tcocertified.com. On the website you'll also find our Product Finder, which presents a complete, searchable listing of certified products.

Chapter 1. Getting Started

This User's Guide contains detailed information on the ThinkVision® P34w-20 Curved Panel Monitor. For a quick overview, please see the Setup Poster that was shipped with your monitor.

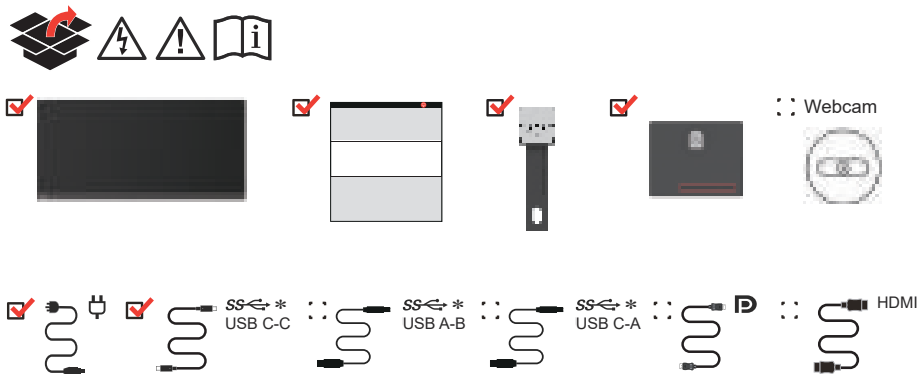
P34w-20 supports Lenovo Accessories and Display Manager*-**ThinkColour**.

*Formerly Lenovo Display Control Center.

Shipping contents

The product package should include the following items:

- Information Flyer
- Curved Panel Monitor
- Monitor Stand
- Monitor Base
- Power Cord
- USB-C to C cable
- USB-A to B cable (Optional)
- USB-C to A cable (Optional)
- DP Cable (Optional)
- HDMI Cable (Optional)

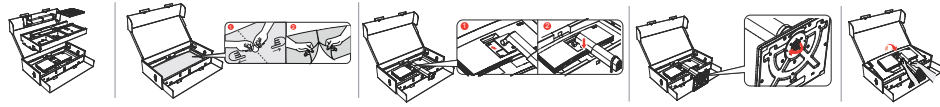


*: Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: 5 Gbit/s for USB 3.2 Gen 1; 10 Gbit/s for USB 3.2 Gen 2 x 2 Gbit/s for USB 3.2.

Notice for use

To set up your monitor, please see the illustrations below.

Note: Do not touch the screen of the monitor. The screen is made of glass and can be damaged by rough handling or excessive pressure.



1. Take out the Top cushion and accessories.
2. Mounting the stand to monitor's recess.
 - Insert the tabs on the upper part of the stand to the groove on the back of the monitor.
 - Press the stand down till it snaps into place.
3. Insert the base towards the stand and tighten the thumbscrew.
4. Stand up the monitor with both hands carefully.

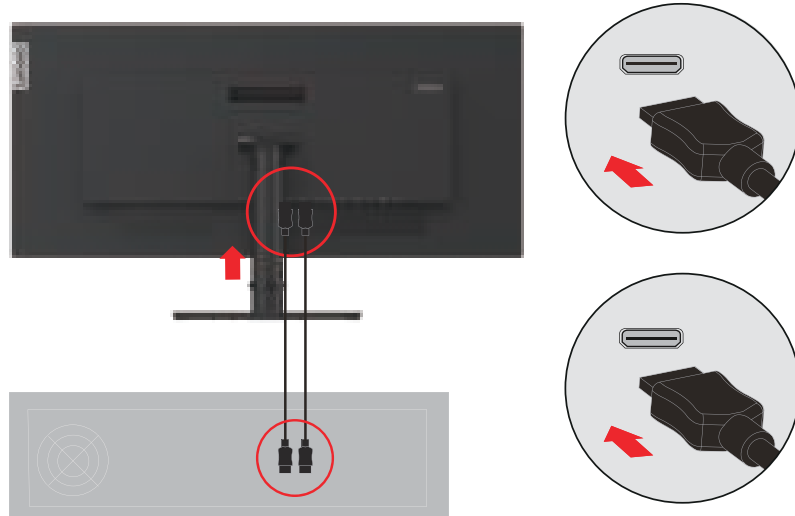
Note: To connect VESA mounting accessories, refer to "Wall Mounting (Optional)" on page 2-11.

3. Connect one end of the HDMI 2.0 cable to the HDMI connector on the back of the computer, and the other end to the HDMI connector on the monitor. Lenovo recommends that customers who require to use the HDMI input on their monitor purchase the “Lenovo HDMI to HDMI cable OB47070”.

For more information, go to the following:

www.lenovo.com/support/monitor_accessories

HDMI

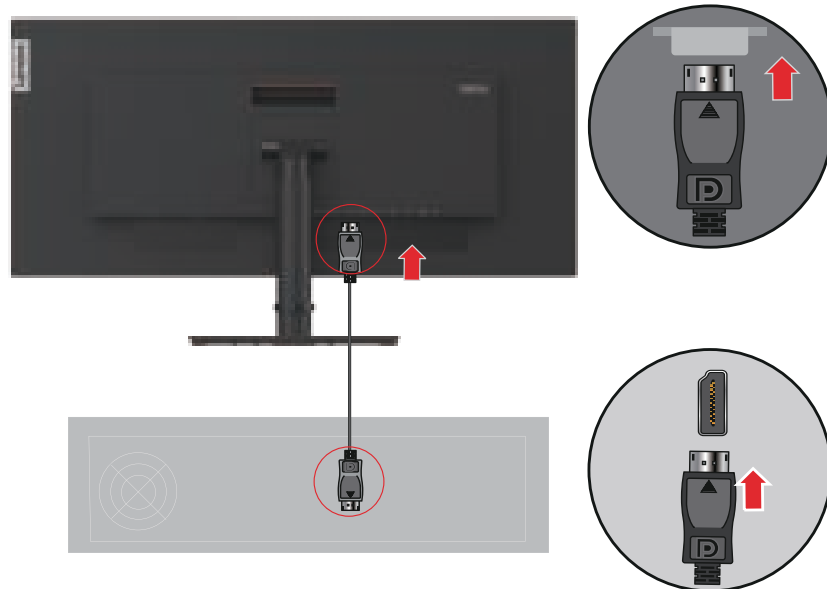


4. Connect one end of the DisplayPort 1.4 cable to the DisplayPort connector on the back of the computer, and the other end to the DisplayPort connector on the monitor. Lenovo recommends that customers who require using the DisplayPort input on their monitor purchase the “Lenovo DisplayPort to DisplayPort cable 0A36537”.

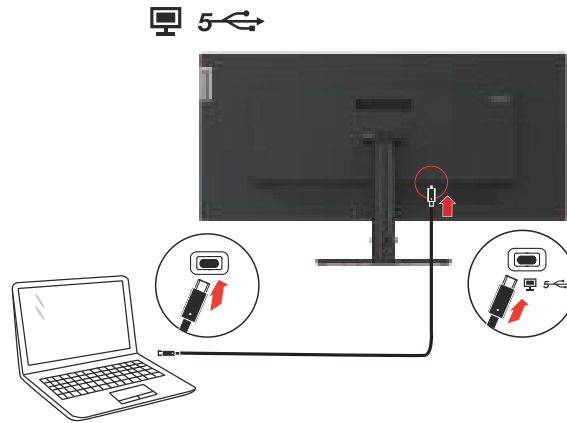
For more information, go to the following:

www.lenovo.com/support/monitor

DP



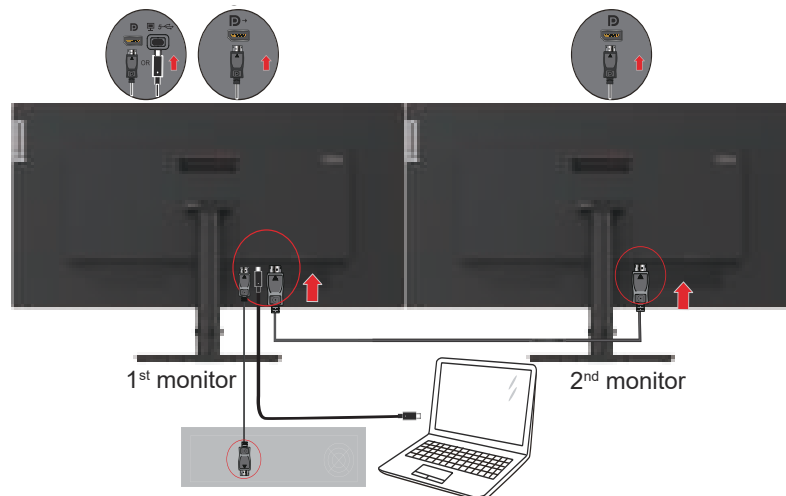
5. Connect one end of the USB Type-C cable to the USB Type-C port of the monitor and the other end to the USB Type-C port of the computer.



Note: The USB Type-C port of this monitor provides data, video and power transmission. The host device must support DisplayPort Alt mode (video, charging and USB 3.1) via the USB Type-C interface.

Power supplies 5VDC/3A, 9VDC/3A, 15VDC/3A, 20VDC/4.8A up to 100W

6. Connect one end of the DP cable to the DP output port of the monitor (see 1st Monitor) and the other end to the DP input point of another monitor (see 2nd Monitor). Connect one end of the Type C-C cable to the Type-C port of the monitor (see 1st Monitor) and the other end to the computer or Connect one end of the DP cable to the DP port of the monitor (see 1st Monitor)

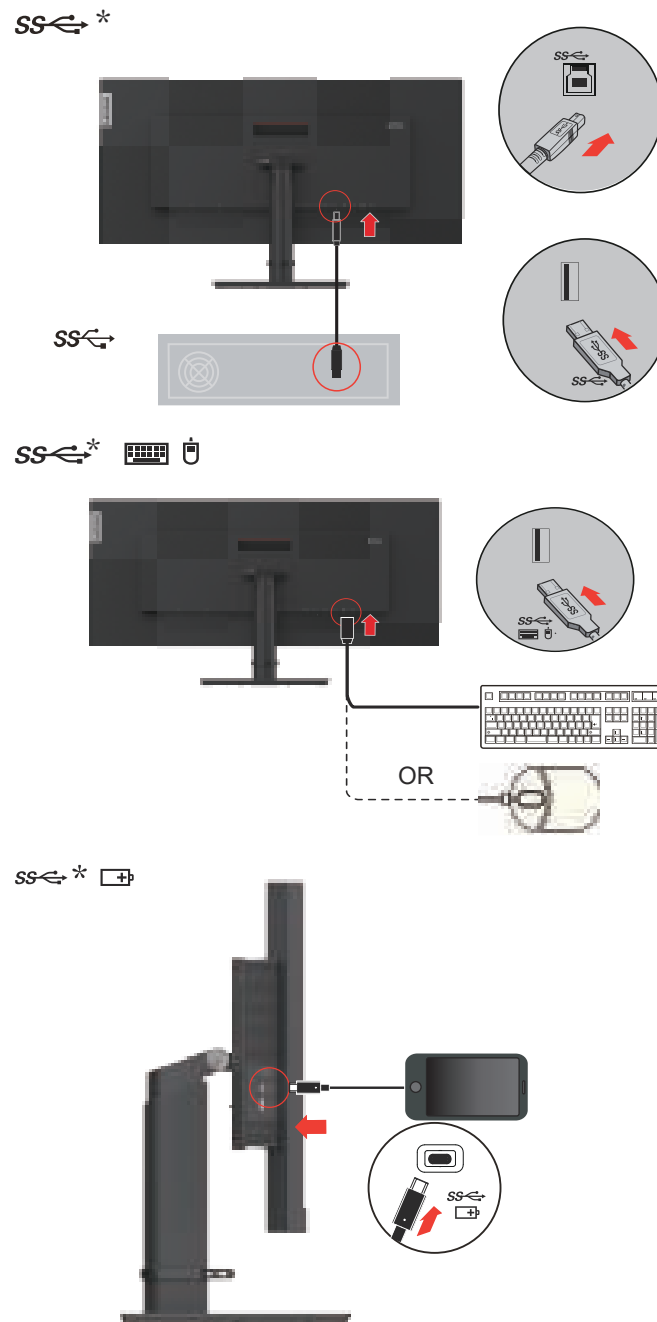


Note: Lenovo recommends users who need to use the DP cable on their monitors to purchase the “Lenovo DisplayPort to DisplayPort cable 0A36537” website: www.lenovo.com/support/monitoraccessories.

7. Connect one end of the USB cable to the USB downstream terminal of the monitor, and connect the other end of the USB cable to an appropriate USB port on your device.

Note:

1. The USB downstream port does not provide power while the monitor is switched off.
2. Power output for USB-A: 5V/0.9A.
3. Power output for USB-C: 5V/3A, 9V/3A, 15V/1.86A and PPS 27W.

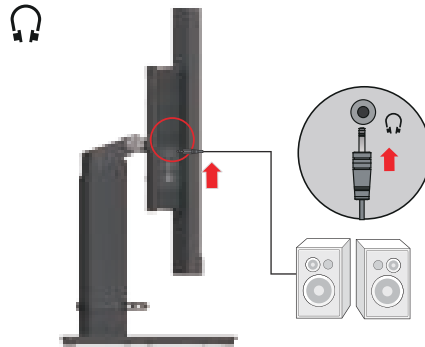


If there are any * tag, you can consult the comments on page 1-1.

8. Connect the speaker's audio cable and audio jack of monitor to transfer audio source from DP, USB-C or HDMI.

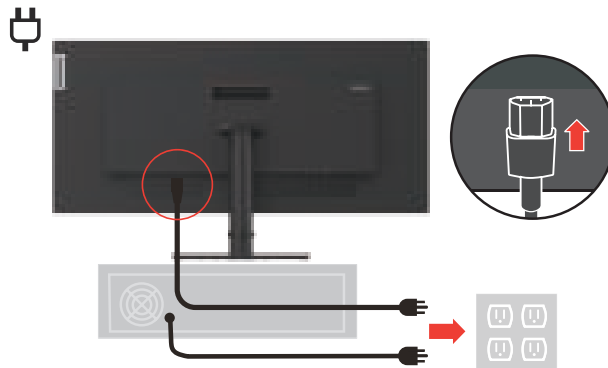
Note 1: The audio output in DP, USB-C and HDMI modes.

Note 2: Excessive sound pressure from ear-/headphones can cause hearing damage/hearing loss.

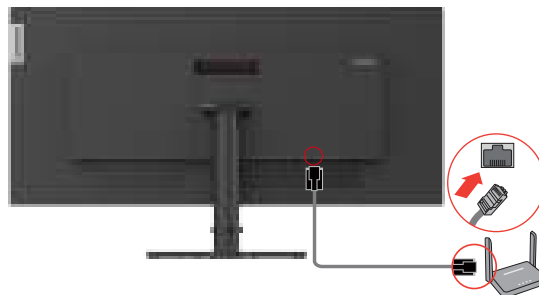


9. Plug the power cord into the monitor, and then plug the monitor power cord and computer cord into a grounded power outlet.

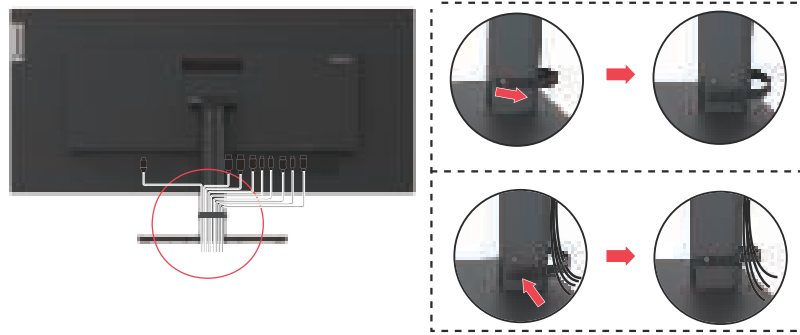
Note: A certified power supply cord has to be used with this equipment. The relevant national (regional) installation and/or equipment regulations shall be considered. The certified power cord used should not be lighter than the ordinary PVC flexible cord specified by IEC 60227 (marking H05VV-F 3G 0.75mm² or H05VVH2-F2 3G 0.75mm²). According to IEC 60245 (marking H05RR-F 3G 0.75mm²), synthetic rubber cord should be used.



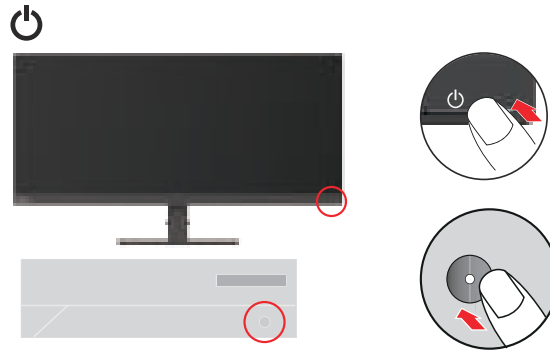
10. Connect one end of the network cable to the Ethernet interface of the monitor and the other end to the router.



11. Use cable clamps when connecting cables.



12. Power on the monitor and the computer.



13. When you install the monitor driver, download the driver that corresponds to your monitor model from the Lenovo website
https://pcsupport.lenovo.com/solutions/p34w_20. Refer to the “Manually installing the monitor driver” on page 3-5 section to install the driver.



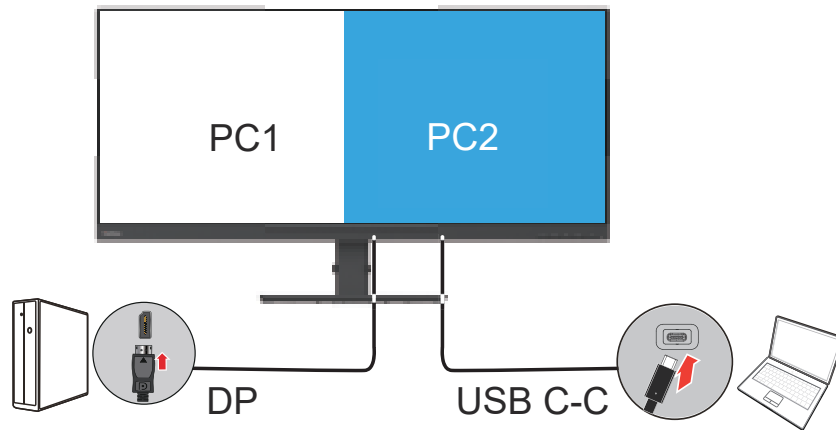
Registering your option

Thank you for purchasing this Lenovo™ product. Please take a few moments to register your Product and provide us with information that will help Lenovo to better serve you in the future. Your feedback is valuable to us in developing products and services, as well as in developing better ways to communicate with you. Register your option on the following Website:

<http://www.lenovo.com/register>.

Lenovo will send you information and updates on your registered product unless you indicate on the Web site questionnaire that you do not want to receive further information.

PBP

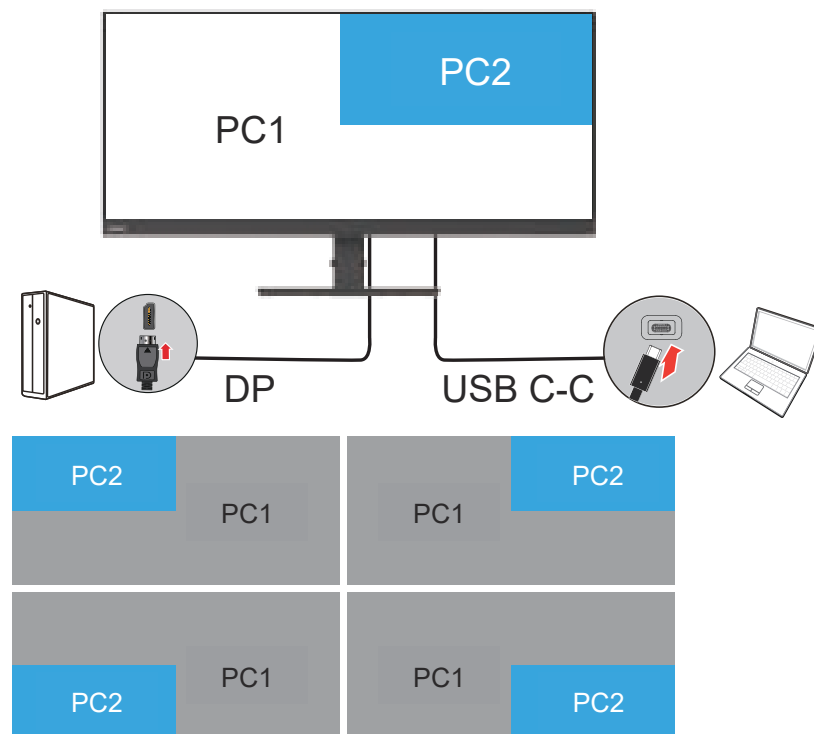


The PBP (Picture-by-Picture) function make the monitor to display two different video sources simultaneously. User can select any one of 3 inputs (DP, HDMI, USB-C) for the left screen, select another input for the right one.

For example, the left screen PC1 could be input of DisplayPort, HDMI or USB-C notebook, the right screen PC2 would be rest input.

The Layout of PbP is always 5:5 of which is for the best experience and highest working efficiency, best resolution for each sub-screen is 1720x1440@60hz.

PIP



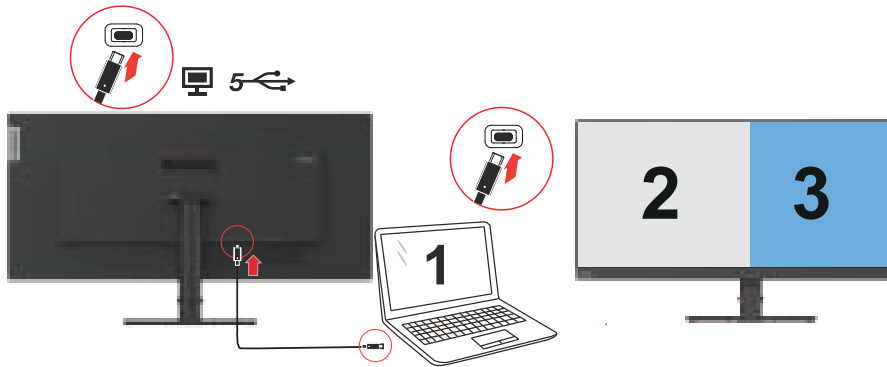
As same to PBP, the PIP (Picture-in-Picture) function can receive two different video sources too.

The best resolution of foreground PC2 is 1366x768@60hz.

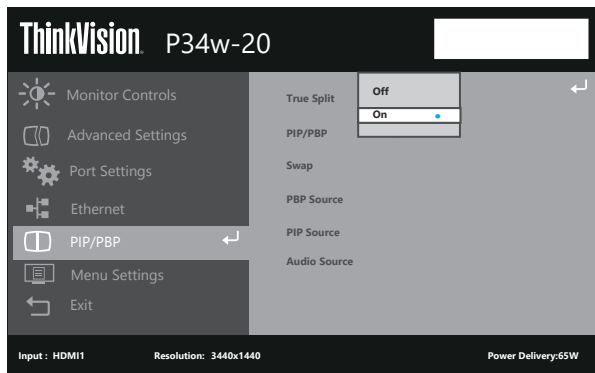
The foreground PC2 sub-screen can be placed on top left, top right, bottom left, bottom right of monitor.

True Split

Step 1 Connect your PC to monitor thru the USB-C or DisplayPort.



Step 2 Enable True Split in OSD.



Step 3 Press Win + P to select Extend mode in Windows 10.



Display

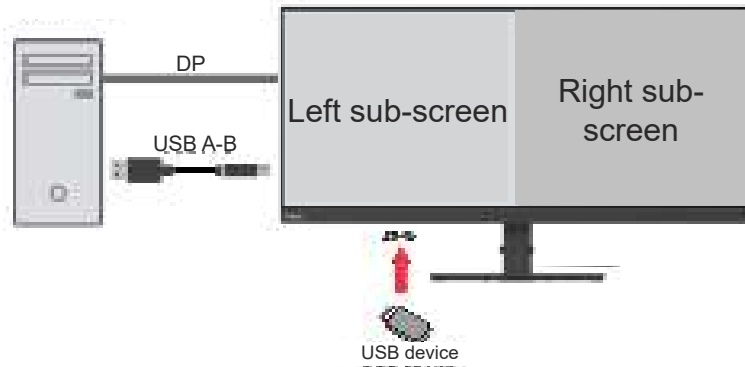
Choose how you want to use your display

Select a display layout to use to change the settings for all the connected displays. Press the Windows key + P to select a display layout.

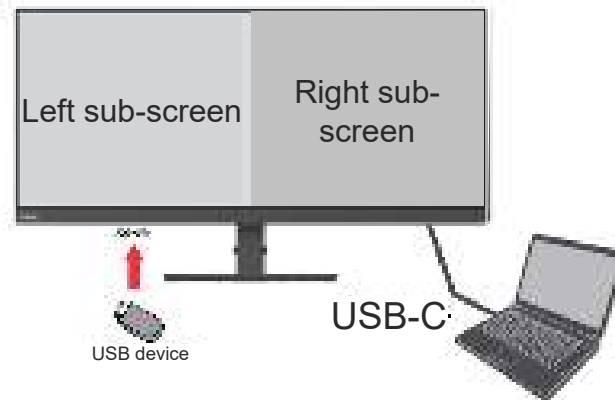


Note: On Window control panel, 2 and 3 indicate your P34w-20 monitor, screen 1 indicate your notebook screen. You can layout all the screens appropriately.

Case 1



Case 2



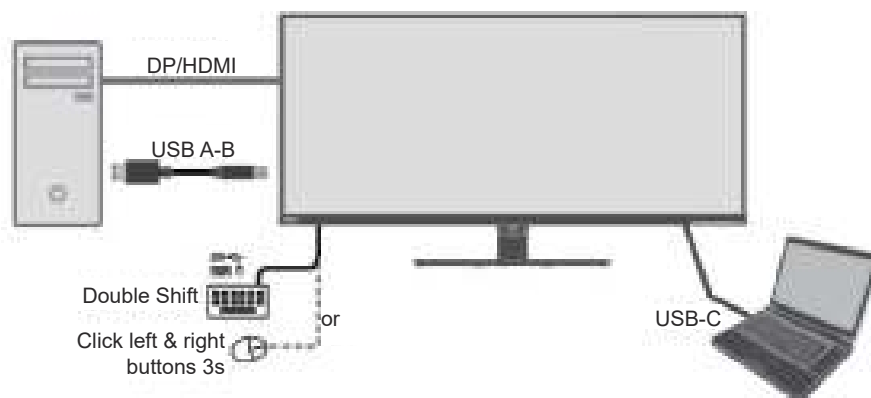
Notebook	OSD setting	Left sub-screen	Right sub-screen	Supported USB Speed
USB-C (Alt Mode DP 1.4)	DP 1.4	1720x1440@60hz	1720x1440@60hz	USB 3.2 Gen 1
	DP 1.2	1720x1440@60hz	1720x1440@60hz	USB 3.2 Gen 1
USB-C (Alt Mode DP 1.2)	DP 1.4	1720x1440@60hz	1720x1440@60hz	USB 3.2 Gen 1
	DP 1.2	1720x1440@60hz	1720x1440@60hz	USB 3.2 Gen 1
DisplayPort 1.2	DP 1.2	1720x1440@60hz	1720x1440@60hz	USB 3.2 Gen 1
DisplayPort 1.2	DP 1.4	1720x1440@60hz	1720x1440@60hz	USB 3.2 Gen 1
DisplayPort 1.4	DP 1.4	1720x1440@60hz	1720x1440@60hz	USB 3.2 Gen 1

eKVM & KVM

Built-In KVM Switch give user to operate two PC which connecting USB Type-B and Type-C upstream ports, also user can use USB keyboard or USB mouse to reach the same function, called eKVM.



eKVM



How to enable KVM and/or eKVM

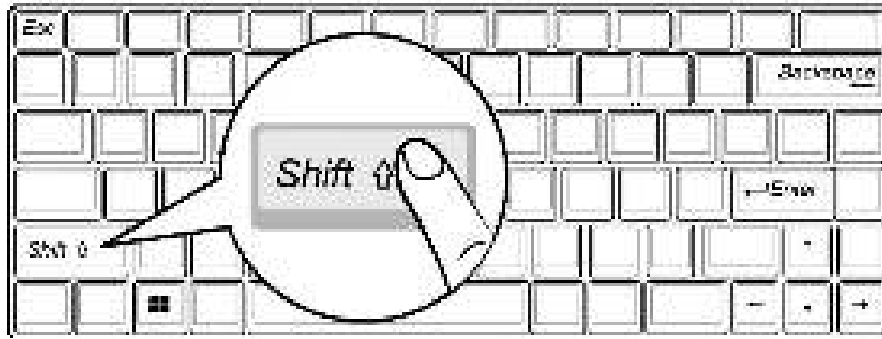
Option 1

The hotkey of KVM locate on the specific button of front bezel.



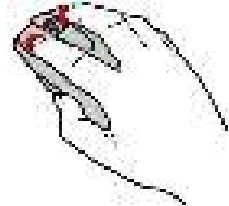
Option 2

Keyboard hotkey: double click 'Shift' function key in 0.5s.

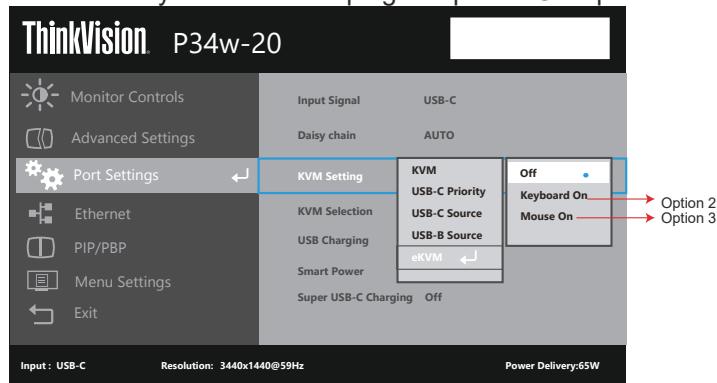


Option 3

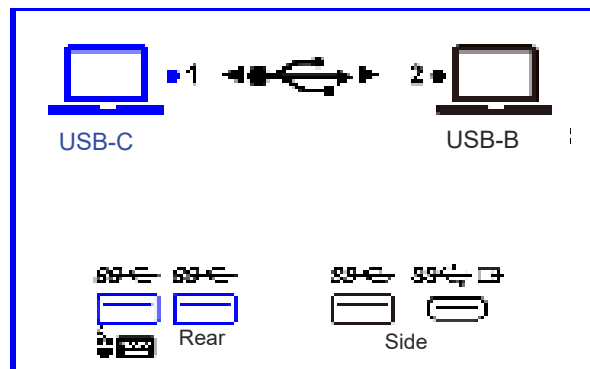
Mouse hotkey: press and hold left & right button of mouse.



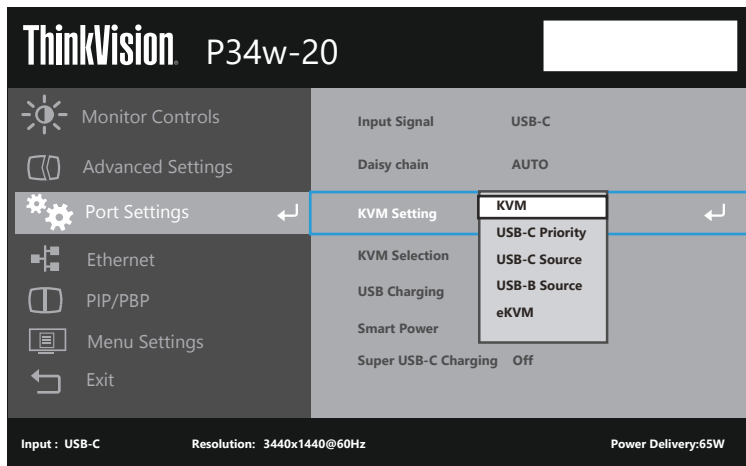
- Mouse or Keyboard must be plug on specific USB port  on the back for option 2 or 3.



- After operating option 2 or option 3, the OSD pops up. The USB devices will be switched to another upstream port after OSD disappears, else manually press the "Menu key" to switch immediately.



*Remarks: eKVM functionality may vary depending upon the different brands of the mouse.



[KVM] On:

Pressing the KVM hotkey will switch both video and USB data between USB-C and USB-B (according to OSD bonding settings). If there is no active video signal after the KVM is switched, both video and USB data will switch back to the previous source after signal lock timeout.

If the current input source is not the bonded video source and the [USB-B] setting is “non-Auto”, pressing the KVM hotkey will behave as follows:

- If the current USB selection is USB-B, pressing the KVM hotkey will switch to USB-C data + bonded video (default TYPE-C).
- If the current USB selection is USB-C, pressing the KVM hotkey will switch to USB-B data + bonded video.
- If no video signal lock after the switch, both video and USB data will switch back to the previous source after signal lock timeout.

The input source Hotkey can also switch the video source and the USB channel (video and USB is bonding after pressing Source Hotkey). Then the user can press the KVM Hotkey to switch back to the previous video source with the bonded USB channel.

When True Split is on, pressing the KVM hotkey will switch both video and USB data between USB-C and USB-B (according to OSD bonding settings). When switching to DP+USB-B/USB-C, True Split remains on; when switching to HDMI+USB-B, True Split will automatically switch to off and become grayed out.

[KVM] Off:

KVM hotkey will switch USB data path only, the video source will stay fixed.

[USB-C Priority]:

[USB-C priority] On:

In [KVM] ON mode, attaching a USB-C cable and DP_ALT video signal detected will switch both the video and USB data channel to USB-C automatically even if data is transferring on USB-B.

In [KVM] OFF mode, this function is disabled ([USB-C Priority] will be grayed out).

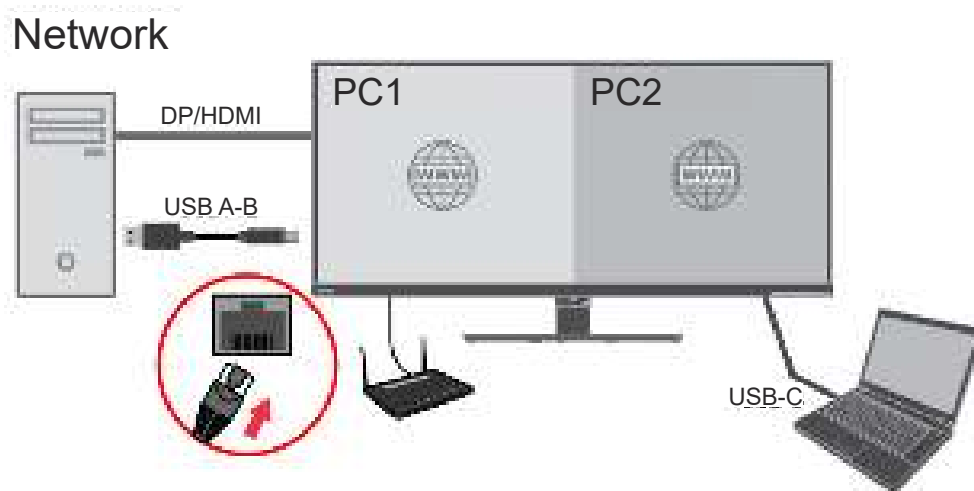
[USB-C priority] Off:

No automatic switching when attaching a USB-C cable with DP_ALT video signal.

Switching controlled by active video source or KVM button.

*Remarks: KVM switching will cause the Hub to be powered off for a few seconds, resulting in a temporary disconnection from the network, and a temporary unavailability of USB devices. It will be restored after a few seconds (the time may vary depending on the PC).

Network



This monitor can support two PC access Ethernet simultaneously by one LAN port (RJ45). One of the PC connect network thru USB-B port of monitor by USB A-B cable, another PC connect network thru USB-C port.

Rather than regular Ethernet, it support Intel vPro managed network on USB-C port.

- PXE boot
- MAC address pass through (MAPT): This monitor support MAPT from the S0 (on), S3 (Sleep), S4 (Hibernate), S5 (Off) by selected ThinkPad models.
- Wake on LAN (WoL): This monitor support WoL from the S3 (Sleep), S4 (Hibernate), S5 (Off) by selected ThinkPad models.

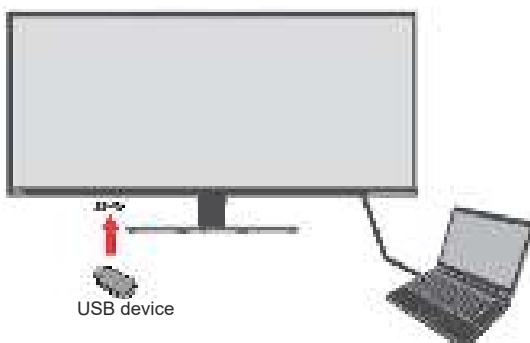
Best Resolution

To get the best experience, suggest setting below resolution for your PC.



PC	Monitor OSD setting	
	HDMI 1.4	HDMI 2.0
HDMI 1.4	3440x1440@60hz	3440x1440@60hz
HDMI 2.0	3440x1440@60hz	3440x1440@60hz

PC	Monitor OSD setting	
	HDR Off (DP 1.2)	HDR On (DP 1.4)
DP 1.2	3440x1440@60hz	3440x1440@60hz
DP 1.4	3440x1440@60hz	3440x1440@60hz



PC	Monitor OSD setting		Supported USB Speed
	HDR Off (DP 1.2)	HDR On (DP 1.4)	USB
USB-C Gen 1 (Alt Mode DP 1.2)	3440x1440@60hz	3440x1440@60hz	USB 2.0/3.0
USB-C Gen 2 (Alt Mode DP 1.4)	3440x1440@60hz	3440x1440@60hz	USB 2.0/3.0

- Above tables is based on HDR setting off in Windows OS.
- The best resolution is depending on your PC too.

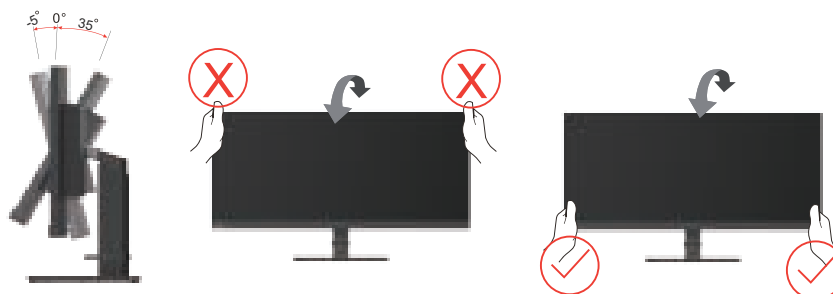
Product overview

In this section, we will describe how to adjust the position of the monitor; how to set user controls; how to use the cable lock slot and install the shading hood.

Adjustment type

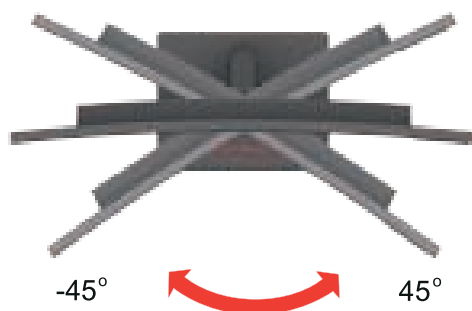
Tilt

Please see the illustration below for an example of the tilt range.



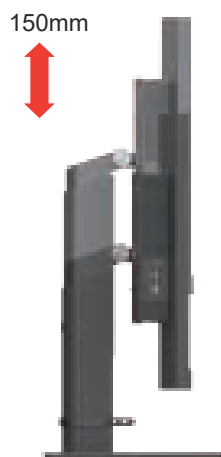
Swivel

With the built-in base, you can tilt and rotate the monitor to get the best viewing angle.



Height Adjustment

To adjust the height, the user needs to press or lift the monitor.



Monitor controls

The keypad controls on the panel frame are accesses to various functions.



For information on how to utilize these keypad controls, please see “Adjusting your monitor image” on page 2-3.

Cable lock slot

Your monitor is equipped with a cable lock slot located on the rear of your monitor (in the lower position).



Chapter 2. Adjusting and Using the Monitor

This section will give you information on adjusting and using your monitor.

Comfort and accessibility

Good ergonomic design is important to get the most from your personal computer and to avoid discomfort. Arrange your workplace and the equipment you use to suit your individual needs and the kind of work that you perform. In addition, use healthy work habits to maximize your performance and comfort while using your computer. For more detailed information on any of these topics, visit the Healthy Computing Website at: <http://www.lenovo.com/healthycomputing/>.

Arranging your work area

Use a work surface of appropriate height and sufficient working area to allow you to work in comfort.

Organize your work area to match the way you use materials and equipment. Keep your work area clean and clear for the materials that you typically use and place the items that you use most frequently, such as the computer mouse or telephone, within the easiest reach.

Equipment layout and setup play a large role in your working posture. The following topics describe how to optimize equipment setup to achieve and maintain good working posture.

Positioning your monitor

Position and adjust your computer monitor for comfortable viewing by considering the following items:

- **Viewing distance:** Recommended viewing distance between the eye and the monitor screen is 1.5 x the diagonal of the screen. Solutions in meeting this required distance in cramped office situations include pulling the desk away from the wall or divider to make room for the monitor, using flat panel or compact displays to place the monitor in the desk corner, or placing the keyboard in an adjustable drawer to create a deeper working surface.

1.5 times of screen diagonal



- **Monitor height:** Position the monitor so your head and neck are in a comfortable and neutral (vertical, or upright) position. If your monitor does not have height adjustments, you might have to place books or other sturdy objects under the base of the monitor to achieve the desired height. A general guideline is to position the monitor such that the top of the screen is at or slightly below your eye-height when you are comfortably seated. However, be sure to optimize your monitor height so the line of site between your eyes and the center the monitor suits your preferences for visual distance and comfortable viewing when your eye muscles are in a relaxed state.
- **Tilt:** Adjust the tilt of your monitor to optimize the appearance of the screen content and to accommodate your preferred head and neck posture.
- **General location:** Position your monitor to avoid glare or reflections on the screen from overhead lighting or nearby windows.

The following are some other tips for comfortable viewing of your monitor:

- Use adequate lighting for the type of work you are performing.
- Use the monitor brightness, contrast controls (if equipped) to optimize the image on your screen to meet your visual preferences.
- Keep your monitor screen clean so you can focus on the screen's contents.

Any concentrated and sustained visual activity can be tiring for your eyes. Be sure to periodically look away from your monitor screen and focus on a far object to allow your eye muscles to relax. If you have questions on eye fatigue or visual discomfort, consult a vision care specialist for advice.

Quick tips for healthy work habits

The following information is a summary of some important factors to consider to help you remain comfortable and productive while you use your computer.

- **Good posture starts with equipment setup:** The layout of your work area and the setup of your computer equipment have a large effect on your posture while using your computer. Be sure to optimize the position and orientation of your equipment by following the tips outlined in “Arranging your work area” on page 2-1 so you can maintain a comfortable and productive posture. Also, be sure to use the adjustment capabilities of your computer components and office furniture to best suit your preferences now and as your preferences change over time.
- **Minor changes in posture can help avoid discomfort:** The longer you sit and work with your computer, the more important it is to observe your working posture. Avoid assuming any one posture for an extended period of time. Periodically make minor modifications in your posture to help deter any discomforts that might arise. Make use of any adjustments that your office furniture or equipment provide to accommodate changes in posture.
- **Regular short breaks help ensure healthy computing:** Because computing work is mainly static activity, short breaks during work are especially important. Periodically, stand up from your work area, stretch, walk around or have a drink etc., to take a short break from using your computer. A short break from work gives your body a welcome change in posture and helps to ensure you remain comfortable and productive while working.

Accessibility information

Lenovo is committed to providing greater access to information and technology to people with disabilities. With assistive technologies, users can access information in the way most appropriate to their disability. Some of these technologies are already provided in your operating system; others can be purchased through vendors or accessed at:









https://lenovo.ssbartgroup.com/lenovo/request_vpat.php

Adjusting your monitor image

This section describes the control features to adjust your monitor images.

Using direct access controls

Direct access controls can be used when the On-Screen Display (OSD) is not displayed.

	Icon	Name	Description
1		One Key Switch	Select "1" is Type C port USB-C function. Select "2" is HDMI/DP port USB-B function.
		DDC-CI	Press and hold for 10 seconds to enable or disable the DDC-CI function.
		Exit	Exit and return to the previous level.
2		Input Source	Switch the video input source. Shift back to the previous level when in OSD mode.
		Increase/Up	Press to move the main menu cursor up from the active item to the last one. Press to increase current values on the adjustment bar.
3		Brightness	Direct access to Brightness adjustment.
		Decrease/Down	Press to move the main menu cursor down from the active item to the next one. Press to decrease current values on the adjustment bar.
4		Menu	Access the OSD menu. Press to confirm selection. Press and hold for 10 seconds will lock/un-lock the menu.
		Enter	Press to enter the next level on the main menu/ sub menu status or enter the previous level on the adjustment bar.

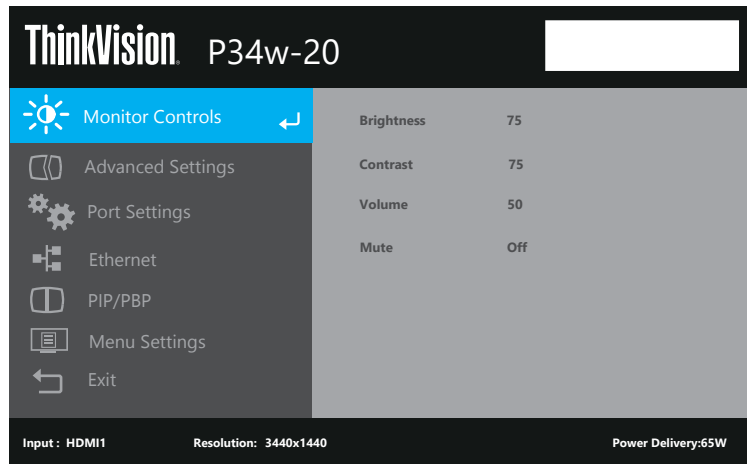
*Note:

One Key Switch: Press and select "1" to be Type C port USB-C function.















Press and select "2" to be HDMI/DP port USB-B function.

Using On-Screen Display (OSD) controls

To adjust the settings, the user controls can be viewed through the OSD.



Using controls:

1. Press  to open the main OSD menu.
2. Use  or  to move among the icons. Select an icon and press  to access the selected function. If there is a sub-menu, you can move among options using  or , then press  to select that function. Use  or  to make adjustments then press  to save.
3. Press  to move backwards through the sub-menus and exit from the OSD.
4. Press and hold  for 10 seconds to lock the OSD. This will prevent accidental adjustments to the OSD. Press and hold  for 10 seconds to unlock the OSD and allow adjustments to the OSD.
5. Enable DDC/CI by default. Use OSD Exit Key, press and hold  for 10 seconds to disable/enable DDC/CI function. A message “DDC/CI disable” is shown on the screen.
6. The ENERGY STAR option resets all user settings to default values so that the monitor can meet the requirements of Energy Star.



Energy Star is an energy saving program for consumer electronics led by the U.S. government. It was launched in 1992 by EPA and DOE to reduce energy consumption and greenhouse gas emissions. Energy Star logo is a symbol of energy conservation and environmental protection. It improves the concept of energy efficiency of consumers and manufacturers, and effectively guides the market.

The regulation of Energy Star improves energy efficiency and reduces air pollution by using more energy-efficient equipment in homes, offices and factories. One way to achieve this goal is to use management to reduce energy consumption when products are not in use.

The default settings for monitors conform to Energy Star certification. Any changes by users for more features and functionalities may increase power consumption, which will exceed the limitation of Energy Star's standard. If the user changes the options related to energy efficiency when using, such as brightness, color mode, etc., select All Reset Factory or choose the Energy Star option, the power consumption will be restored to the energy efficiency with Energy Star standard.

For more information, please refer to (www.energystar.gov/products). All products of Energy Star will be posted online and can be accessed directly by governments, public institutions and consumers.

Table 2-1. OSD function



OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments
 Monitor Controls	Brightness	Adjusts overall brightness	↑↓
	Contrast	Adjusts difference between light and dark areas	↑↓
	Volume	Adjust headphone output volume	↑↓
	Mute	<ul style="list-style-type: none"> • Off • On 	↑↓
 Advanced Settings	Dynamic Contrast	<ul style="list-style-type: none"> • Off • On 	↑↓
	Over Drive	Response time enhancement. <ul style="list-style-type: none"> • Off • Normal • Extreme 	↑↓
	Color Mode	Adjust the intensity of red, green, and blue. Preset mode <ul style="list-style-type: none"> • sRGB • DCI-P3 • BT.709 • Neutral • Warm • Cool Custom <ul style="list-style-type: none"> • Red: Increase or decrease the saturation of “red” in the image. • Green: Increase or decrease the saturation of “green” in the image. • Blue: Increase or decrease the saturation of “blue” in the image. 	↑↓
	Scenario Mode	<ul style="list-style-type: none"> • Panel Native • Image Creation • Digital Cinema • Video Creation 	↑↓
	HDR10	<ul style="list-style-type: none"> • Off • On 	↑↓
	Aspect Ratio	<ul style="list-style-type: none"> • Full Screen • Original AR 	↑↓

Table 2-1. OSD functions






OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments
 Port Settings	Input Signal	This monitor can accept video signals through three different connectors. Select digital among OSD controls when you use HDMI/DP/USB-C connector. • USB-C • Display Port • HDMI1 • HDMI2	↑ ↓
	Daisy Chain	Select DP Daisy Chain • Auto • USB-C • DisplayPort • Off	↑ ↓
	KVM Setting	KVM • Off • On USB-C Priority • Off • On USB-C Source • USB-C • DP • HDMI1 • HDMI2 USB-B Source • AUTO • DisplayPort • HDMI1 • HDMI2 eKVM • Off • Keyboard On • Mouse On	↑ ↓
	USB Charging	• Off • On	↑ ↓
	Smart Power	• Off • On	↑ ↓
	Mirrored Power Button	USB-C This function allows you to turn on or off the device connected to the USB-C port. [Off] Off/On	↑ ↓
	Super USB-C Charging	• Off • On	↑ ↓
	USB Speed	• USB 2.0 • USB 3.0 Note: 1. When you select USB2.0 in OSD, the Type-C will be switched to 4 Lane DP mode and transfer the USB2.0 data 2. When you select USB3.0 in OSD, the Type-C will be switched to 2 Lane DP mode and transfer the USB3.0 or USB2.0 data	↑ ↓
	HDMI select	• HDMI 2.0 • HDMI1.4	↑ ↓

Table 2-1. OSD functions

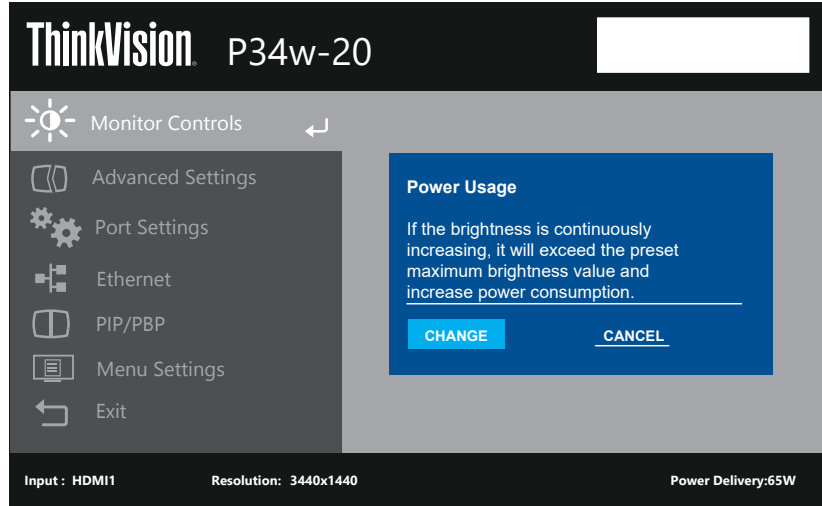
OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments
 Ethernet	USB-B Port	<ul style="list-style-type: none"> • Off • On 	↑↓
	USB-C Port	<ul style="list-style-type: none"> • Off • On 	↑↓
 PIP/PBP	True Split	<ul style="list-style-type: none"> • Off • On 	↑↓
	PIP/PBP	<ul style="list-style-type: none"> • PIP • PBP • Off 	↑↓
	Swap	<ul style="list-style-type: none"> • Off • On 	↑↓
	PBP Source	Left/Right (only active after PBP On)	↑↓
	PIP Source	<ul style="list-style-type: none"> • Background • Foreground • Position 	↑↓
	Audio Source	<ul style="list-style-type: none"> • Left (background) • Right (Foreground) 	↑↓
 Menu Settings	Language	Change the language of the menu. Note: The selected language only affects the language of the OSD. It has no effect on any software running on the computer.	↑↓
	Menu Time Out	Sets the length of time the OSD will remain active after the last time a button is pressed.	↑↓
	Menu Horizontal	Adjust menu location. Change the horizontal position of the OSD.	↑↓
	Menu Vertical	Adjust menu location. Changes the vertical position of the OSD.	↑↓
	Transparency	Choose the transparency of OSD	↑↓
	Factory Reset	Resets monitor to the original factory settings. <ul style="list-style-type: none"> • Yes • No The ENERGY STAR Logo means resets all user settings to default values so that the monitor can meet the requirements of Energy Star.	↑↓
 Exit		Exit the OSD menu.	↑↓

* The use of Extreme Mode (response time) may result in reduced display quality when fast moving video graphics are displayed.

Users should check Extreme Mode (response time) to verify if it is compatible with any applications they would like to use it with.

Extended brightness mode

When the user adjusts the OSD default value over 100, the Warning message will pop up, “If the brightness is continuously increasing, it will exceed the preset maximum brightness value and increase power consumption.”, after selecting the CHANGE, the OSD brightness maximum value can be adjusted to 150.



Selecting a supported display mode

The display mode of the monitor uses is controlled by the computer. Therefore, refer to your computer documentation on how to change display modes.

The image size, position and shape might be changed when the display mode changes. This is normal and the image can be re-adjusted using automatic image setup and the image controls.

Unlike CRT monitors, which require a high refresh rate to minimize flicker, LCD or Flat Panel technology is inherently flicker-free.

Note: If your system has previously been used with a CRT monitor and is currently configured to a display mode outside the range of this monitor, you may need to reattach the CRT monitor temporarily until you have re-configured the system; preferably to 3440 x 1440 at 60 Hz, which is a common display mode.

The display modes shown below have been optimized at the factory.

Table 2-2. Factory set display modes

Address ability	Refresh rate
640 x 480	60 Hz
800 x 600	60 Hz
1024 x 768	60 Hz
1280 x 720	60 Hz
1280 x 1024	60 Hz
1360 x 765	60 Hz
1600 x 900	60 Hz
1680 x 1050	60 Hz
1920 x 1080	60 Hz
3440 x 1440	60 Hz
480p	60 Hz
576p	50 Hz
720p	50 Hz, 60 Hz
1080p	50 Hz, 60 Hz
3440 x 1440p	60 Hz

Understanding power management

Power management is invoked when the computer recognizes that you have not used your mouse or keyboard for a user-definable period. There are several states as described in the table below.

For optimal performance, switch off your monitor at the end of each working day, or whenever you expect to leave it unused for long periods during the day.

Table 2-3. Power indicator

State	Power Indicator	Screen	Restoring Operation	Compliance
On	Green	Normal		
Standby/ Suspend	Orange	Blank	Press a key or move the mouse There may be a slight delay before the image reappears. Note: Standby also occurs if there is no image output to the monitor.	ENERGY STAR
Off	Off	Blank	Press the power button There may be a slight delay before the image reappears.	ENERGY STAR

Power Management Modes

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	230W(Max) * 36W (typical)
Active-off mode	Inactive	Inactive	Off	Amber	Less than 0.5 W
Switch off	-	-	-	Off	Less than 0.3W

Energy Star	Power consumption
P _{on}	29.71W
E _{TEC}	92.46kWh

* **Maximum power consumption with max luminance.**

This document is informational only and reflects laboratory performance. Your product may perform differently, depending on the software, components and peripherals you ordered and shall have no obligation to update such information. Accordingly, the customer should not rely upon this information in making decisions about electrical tolerances or otherwise. No warranty as to accuracy or completeness is expressed or implied.

Caring for your monitor

Be sure to turn off the power before you perform any maintenance on the monitor.

Do not:

- Apply water or liquid directly to your monitor.
- Use solvents or abrasives.
- Use flammable cleaning materials to clean your monitor or any other electrical equipment.
- Touch the screen area of your monitor with sharp or abrasive items. This type of contact may cause permanent damage to your screen.
- Use any cleaner which contains an anti-static solution or similar additives. This may harm the coating of the screen area.

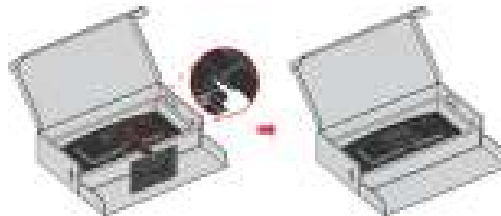
Do:

- Lightly dampen a soft cloth with water and use this to gently wipe the covers and the screen.
- Remove grease or finger marks with a damp cloth and a little mild detergent.

Detaching the monitor base and stand

Step 1: Place the monitor on a soft and flat surface.

Step 2: Remove the screws from base before detaching base and stand from the monitor.



Wall Mounting (Optional)

Refer to the instructions that come with the VESA compatible base mounting kit.

1. Place the monitor face down in the original packing.
2. Remove the stand.
3. Attach the mounting bracket from the wall mounting kit to the monitor.
4. Mount the monitor on the wall by following the instructions that come with the base mounting kit.

NOTE: For use only with UL and GS Listed Wall Mount Bracket with minimum weight/load bearing capacity of 12.0 kg. In order to fulfil TCO Certification for this wall mounting option, shielded power cable is mandatory to be used.



Chapter 3. Reference Information

This section contains monitor specifications, instructions to manually install the monitor driver, troubleshooting information, and service information.

Monitor specifications

Table 3-1. 62CC-RAR3-WW/62DC-RAR3-WW/63F2-RAR3-WW model monitor specifications

Size	Depth	245 mm (9.65 inches)
	Height	621.35mm (24.46 inches)
	Width	817.25 mm (32.18 inches)
Stand	Tilt	Range: -5°~35°
	Swivel	Range: -45°~45°
	Height adjustment	150mm
	Pivot	NO
Image	Viewable image size	867 mm (34.14 inches)
	Maximum height	334.8 mm (13.187 inches)
	Maximum width	799.8 mm (31.48inches)
	Pixel pitch	0.2325 mm x 0.2325 mm (0.009 inches)
	Response time	Normal: 14 ms
AC/DC adapter	Model	100-240 V AC
	Maximum	2.5 A
USB-C upstream port PD Function	Supply voltage/Watt	5V/9V/15V/20V <65 W (Typical) <96 W (Max) in Smart Power Mode
USB-C downstream port PD Function	Supply voltage/Watt	5V/3A, 9V/3A, 15V/1.86A PPS 27W
Power consumption Note: Power consumption figures are for the monitor and the power supply combined	Normal operation	<230W(Max) <36W(Typical)
	Standby/Suspend	<0.5 W
	Off	<0.3 W
Video input (HDMI)	Input signal	HDMI
	Horizontal addressability	3440 pixels (maximum)
	Vertical addressability	1440 lines (maximum)
	Clock frequency	320 MHz

Table 3-1. 62CC-RAR3-WW/62DC-RAR3-WW/63F2-RAR3-WW model monitor specifications

Video input (DP)	Input signal	DP
	Horizontal addressability	3440 pixels (maximum)
	Vertical addressability	1440 lines (maximum)
	Clock frequency	320 MHz
Video input (USB-C)	Input signal	USB-C
	Horizontal addressability	3440 pixels (maximum)
	Vertical addressability	1440 lines (maximum)
	Clock frequency	320 MHz
Communications	VESA DDC	CI
Altitude Test	Operation	5000 m (16404 ft.)
Supported Display Modes (VESA Standard modes between noted ranges)	Horizontal frequency	27 kHz - 136 kHz
	Vertical frequency	24 Hz - 60 Hz
	Native Resolution	3440 x 1440 @ 60 Hz
Temperature	Operating	0° to 40°C (32° to 104°F)
	Storage	-20° to 60°C (-4° to 140°F)
	Shipping	-20° to 60°C (-4° to 140°F)
Humidity	Operating	10% to 80% non-condensing
	Storage	5% to 95% non-condensing
	Shipping	5% to 95% non-condensing

Troubleshooting

If you have a problem setting up or using your monitor, you might be able to solve it yourself. Before calling your dealer or Lenovo, try the suggested actions that are appropriate to your problem.

Table 3-2. Troubleshooting

Problem	Possible cause	Suggested action	Reference
The words “Out of Range” are shown on the screen, and the power indicator is flashing white.	The system is set to a display mode which is not supported by the monitor.	If you are replacing an old monitor, reconnect it and adjust the display mode to within the specified range for your new monitor. If using a Windows system, restart the system in safe mode, then select a supported display mode for your computer. If these options do not work, contact the Support Center.	“Selecting a supported display mode” on page 2-9
The image quality is unacceptable.	The video signal cable is not connected with the monitor or system completely.	Be sure the signal cable is firmly plugged into the system and monitor.	“Connecting and turning on your monitor” on page 1-3
	The color settings may be incorrect.	Select another color setting from the OSD menu.	“Adjusting your monitor image” on page 2-3
	The automatic image setup function was not performed.	Perform automatic image setup.	“Adjusting your monitor image” on page 2-3
The power indicator is not lit and there is no image.	<ul style="list-style-type: none">• The monitor’s power switch is not switched on.• The power cord is loose or disconnected.• There is no power at the outlet.	<ul style="list-style-type: none">• Be sure the power cord is connected properly.• Be sure the outlet has power.• Power on the monitor.• Try using another power cord.• Try using another electrical outlet.	“Connecting and turning on your monitor” on page 1-3
Screen is blank and power indicator is amber.	The monitor is in Standby/Suspend mode.	<ul style="list-style-type: none">• Press any key on the keyboard or move the mouse to restore operation.• Check the Power Options settings on your computer.	“Understanding power management” on page 2-10

Table 3-2. Troubleshooting

Problem	Possible cause	Suggested action	Reference
The power indicator is amber, but there is no image.	The video signal cable is loose or disconnected from the system or monitor.	Be sure the video cable is connected with the system properly.	"Connecting and turning on your monitor" on page 1-3
	The monitor brightness and contrast are at the lowest setting.	Adjust the brightness and contrast setting on the OSD menu.	"Adjusting your monitor image" on page 2-3
One or more of the pixels appear discolored.	This is a characteristic of the LCD technology and is not an LCD defect.	If there are more than five pixels missing, contact the Support Center.	"Appendix A. Service and Support" on page A-1
<ul style="list-style-type: none"> • Lines or images are blurred in the text. • There are horizontal or vertical lines in images. 	<ul style="list-style-type: none"> • Image setup has not been optimized. • The "Display Properties" settings of your system have not been optimized. 	According to the resolution of the monitor itself, adjust the resolution setting of the system: 3440 × 1440 @ 60 Hz.	"Adjusting your monitor image" on page 2-3
		Perform automatic image setup. If automatic image setup does not help, perform manual image setup.	"Selecting a supported display mode" on page 2-9
		When working in the native resolution, you may find additional improvements by adjusting the Dots Per Inch (DPI) setting on your system.	See the Advanced section of your system's display properties.

Manually installing the monitor driver

Below are steps for manually installing the monitor driver in Microsoft Windows 7, Microsoft Windows 10.

Installing the monitor driver in Windows 7

To use the Plug and Play feature in Microsoft Windows 7, do the following:

1. Turn off the computer and all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow your computer to start the Windows 7 operating system.
4. From the Lenovo website https://pcsupport.lenovo.com/solutions/p34w_20, find the corresponding monitor driver and download it to a PC to which this monitor is connected (such as a desktop).
5. Open the **Display Properties** window by clicking **Start, Control Panel** and **Hardware and Sound** icon, and then clicking the **Display** icon.
6. Click the **Change the display settings** tab.
7. Click the **Advanced Settings** icon.
8. Click the **Monitor** tab.
9. Click the **Properties** button.
10. Click the **Driver** tab.
11. Click **Update Driver**, then click **Browse the computer to find the driver program**.
12. Select **Pick from the list of device driver program on the computer**.
13. Click the **Hard Disk** button. By clicking the **Browse** button, browse and open the following path: **X:\Monitor Drivers\Windows 7**
(where X indicates “the folder in which the downloaded driver is located” (such as a desktop)).
14. Select the “**P34w-20.inf**” file and click the **Open** button. Click the **OK** button.
15. In the new window, select **P34w-20**, and click **Next**.
16. After the installation is completed, delete all downloaded files and close all windows.
17. Restart the system. The system will automatically select the maximum refresh rate and corresponding Color Matching Profiles.

Note: On LCD monitors, unlike CRTs, a faster refresh rate does not improve display quality. Lenovo recommends using either 3440 x 1440 at a refresh rate of 60 Hz, or 1920 x 1080 at a refresh rate of 60 Hz.

Installing the monitor driver in Windows 10

To use the Plug and Play feature in Microsoft Windows 10, do the following:

1. Turn off the computer, all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow your computer to start the Windows operating system.
4. From the Lenovo website https://pcsupport.lenovo.com/solutions/p34w_20, find the corresponding monitor driver and download it to a PC to which this monitor is connected (such as a desktop).
5. Right-click the Windows **Start** button on the desktop, then click **Device Manager**, and double click **Monitor**.
6. Double-click **Generic Monitor**.
7. Click the **Driver** tab.
8. Click **Update Driver**, and then click **Browse Computer to find the driver**.
9. Click **Let me pick from a list of available drivers on my computer**.
10. Click the **Have Disk...** button. By clicking the **Browse** button, browse and point to the following path: **X:\Monitor Drivers\Windows** (where X indicates “the folder in which the downloaded driver is located” (such as a desktop)).
11. Select **P34w-20.inf** file, Click **Open** button. Click **OK** button.
12. In the new window, select **P34w-20** and click **Next**.
13. After the installation is complete, delete all downloaded files and close all Windows.
14. Restart the system. The system will automatically select the refresh rate and the corresponding color matching profile.

Note: On LCD monitors, unlike CRTs, a faster refresh rate does not improve display quality. Lenovo recommends using either 3440 x 1440 at a refresh rate of 60 Hz, or 1920 x 1080 at a refresh rate of 60 Hz.

Getting further help

If you still can't solve your problem, please contact the Lenovo Support Center. For more information on contacting the Support Center, please see “Appendix A. Service and Support” on page A-1

Service information

Customer responsibilities

The warranty does not apply to a product which has been damaged due to accident, misuse, abuse, improper installation, usage not in accordance with product specifications and instructions, natural or personal disaster, or unauthorized alterations, repairs or modifications.

The following are examples of misuse or abuse and not covered by warranty:

- Images burned onto the screen of a CRT monitor. Burned image is preventable by utilizing a moving screen saver or power management.
- Physical damage to covers, bezel, base and cables.
- Scratches or punctures on monitor screens.

Getting further help

If you still can't solve your problem, please contact the Customer Support Centre. For more information on contacting the Customer Support Centre, please see Appendix A, "Service and support" on page A-1.

Service parts

The following parts are for use by Lenovo service, or Lenovo authorized dealers, to support the customer warranty. Parts are for service use only. The table below shows information for model 62CC-RAR3-WW/62DC-RAR3-WW/63F2-RAR3-WW.

Table 3-3. Repair parts list

FRU (FIELD REPLACEABLE UNIT) PART NUMBER	Description	Machine Type/Model (MTM)	Color
5D11C92893	P34w-20 - 34 inch FRU Monitor (HDMI)	62CC/62DC	Raven Black
5D11M74933	P34w-20 - 34 inch FRU Monitor (HDMI)	63F2	Raven Black
5C11C92892	P34w-20 USB Type C Gen 1 cable 1.8m	62CC/62DC	Raven Black
5C11C92894	P34w-20 DP 1.2 cable 1.8m	62CC/62DC	Raven Black
5C11C92896	P34w-20 USB Type A to B cable 1.8m	62CC/62DC	Raven Black
5C11C92899	P34w-20 USB Type C to A cable 1.8m	62CC/62DC	Raven Black
5SE1C92897	P34w-20 - FRU Stand and Base	62CC/62DC	Raven Black
5C21D66060	FRU for ThinkVision MC50 Monitor Webcam	62DC	Black

Appendix A. Service and Support

The following information describes the technical support that is available for your product, during the warranty period or throughout the life of your product. Refer to the Lenovo Limited Warranty for a full explanation of Lenovo warranty terms.

Registering your option

Register to receive product service and support updates, as well as free and discounted computer accessories and content. Go to:
<http://www.lenovo.com/register>

Online technical support

Online technical support is available during the lifetime of a product at:
<http://www.lenovo.com/support>

Product replacement assistance or exchange of defective components also is available during the warranty period. In addition, if your option is installed in a Lenovo computer, you might be entitled to service at your location. A Lenovo technical support representative can help you determine the best alternative.

Telephone technical support

Installation and configuration support through the Customer Support Center will be available until 90 days after the option has been withdrawn from marketing. After that time, the support is cancelled, or made available for a fee, at Lenovo's discretion. Additional support is also available for a nominal fee.

Before contacting a Lenovo technical support representative, please have the following information available: option name and number, proof of purchase, computer manufacturer, model, serial number and manual, the exact wording of any error message, description of the problem, and the hardware and software configuration information for your system.

Your technical support representative might want to walk you through the problem while you are at your computer during the call.

Telephone numbers are subject to change without notice. The most up-to-date telephone list for Lenovo Support is always available at: <http://www.lenovo.com/support/phone>

Country or Region	Telephone Number
Argentina	0800-666-0011 (Spanish, English)
Australia	1-800-041-267 (English)
Austria	0810-100-654 (For local rate) (German)
Belgium	Warranty service and support: 02-339-36-11 (Dutch, French)

Country or Region	Telephone Number
Bolivia	0800-10-0189 (Spanish)
Brazil	Calls made from within the Sao Paulo region: 11-3889-8986 Calls made from outside the Sao Paulo region: 0800-701-4815 (Portuguese)
Brunei Darussalam	Dial 800-1111 (English)
Canada	1-800-565-3344 (English, French)
Chile	800-361-213 (Spanish)
China	Technical Support Line: 400-100-6000 (Mandarin)
China (Hong Kong S.A.R.)	(852) 3516-8977 (Cantonese, English, Mandarin)
China (Macau S.A.R.)	0800-807/(852) 3071-3559 (Cantonese, English, Mandarin)
Colombia	1-800-912-3021 (Spanish)
Costa Rica	0-800-011-1029 (Spanish)
Croatia	385-1-3033-120 (Croatian)
Cyprus	800-92537 (Greek)
Czech Republic	800-353-637 (Czech)
Denmark	Warranty service and support: 7010-5150 (Danish)
Dominican Republic	1-866-434-2080 (Spanish)
Ecuador	1-800-426911-OPCION 4 (Spanish)
Egypt	Primary: 0800-0000-850 Secondary: 0800-0000-744 (Arabic, English)
El Salvador	800-6264 (Spanish)
Estonia	372-66-0-800 (Estonian, Russian, English)
Finland	Warranty service and support: +358-800-1-4260 (Finnish)
France	Warranty service and support: 0810-631-213 (hardware) (French)

Country or Region	Telephone Number
Germany	Warranty service and support: 0800-500-4618 (toll-free) (German)
Greece	Lenovo Business Partner (Greek)
Guatemala	Dial 999-9190, wait for operator, and request to reach 877-404-9661 (Spanish)
Honduras	Dial 800-0123 (Spanish)
Hungary	+36-13-825-716 (English, Hungarian)
India	Primary: 1800-419-4666 (Tata) Secondary: 1800-3000-8465 (Reliance) Email: commercialts@lenovo.com (English and Hindi)
Indonesia	1-803-442-425 62 213-002-1090 (Standard Charges Apply) (English, Bahasa Indonesia)
Ireland	Warranty service and support: 01-881-1444 (English)
Israel	Givat Shmuel Service Center: +972-3-531-3900 (Hebrew, English)
Italy	Warranty service and support: +39-800-820094 (Italian)
Japan	0120-000-817 (Japanese, English)
Kazakhstan	77-273-231-427 (Standard Charges Apply) (Russian, English)
Korea	080-513-0880 (Collect call) 02-3483-2829 (Toll Call) (Korean)
Latvia	371-6707-360 (Latvian, Russian, English)
Lithuania	370 5278 6602 (Italian, Russian, English)
Luxembourg	ThinkServer and ThinkStation: 352-360-385-343 ThinkCentre and ThinkPad: 352-360-385-222 (French)
Malaysia	1-800-88-0013 03-7724-8023 (Standard Charges Apply) (English)
Malta	356-21-445-566 (English, Italian, Maltese Arabic)
Mexico	001-866-434-2080 (Spanish)

Country or Region	Telephone Number
Netherlands	020-513-3939 (Dutch)
New Zealand	0508-770-506 (English)
Nicaragua	001-800-220-2282 (Spanish)
Norway	8152-1550 (Norwegian)
Panama	Lenovo Customer Support Center: 001-866-434 (toll-free) (Spanish)
Peru	0-800-50-866 OPCION 2 (Spanish)
Philippines	1-800-8908-6454 (GLOBE subscribers) 1-800-1441-0719 (PLDT subscribers) (Tagalog, English)
Poland	Laptops and tablets branded with logo Think: 48-22-273-9777 ThinkStation and ThinkServer: 48-22-878-6999 (Polish, English)
Portugal	808-225-115 (Standard Charges Apply) (Portuguese)
Romania	4-021-224-4015 (Romanian)
Russia	+7-499-705-6204 +7-495-240-8558 (Standard Charges Apply) (Russian)
Singapore	1-800-415-5529 6818-5315 (Standard Charges Apply) (English, Mandarin, Bahasa Malaysia)
Slovakia	ThinkStation and ThinkServer: 421-2-4954-5555
Slovenia	386-1-2005-60 (Slovenian)
Spain	34-917-147-833 (Spanish)
Sri Lanka	9477-7357-123 (Sumathi Information systems) (English)
Sweden	Warranty service and support: 077-117-1040 (Swedish)
Switzerland	Warranty service and support: 0800-55-54-54 (German, French, Italian)
Taiwan	0800-000-702 (Mandarin)
Thailand	001-800-4415-734 (+662) 787-3067 (Standard Charges Apply) (Thai, English)

Country or Region	Telephone Number
Turkey	444-04-26 (Turkish)
United Kingdom	Standard warranty support: 03705-500-900 (local toll calls) Standard warranty support: 08705-500-900 (English)
US	1-800-426-7378 (English)
Uruguay	000-411-005-6649 (Spanish)
Venezuela	0-800-100-2011 (Spanish)
Vietnam	120-11072 (Toll Free) 84-8-4458-1042 (Standard Charges Apply) (Vietnamese, English)

Appendix B. Notices

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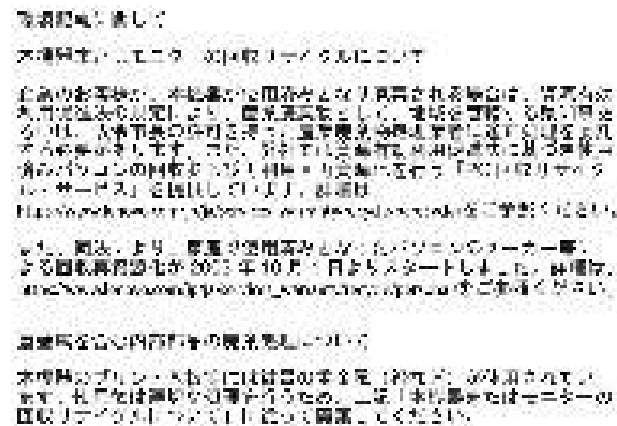
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The performance data contained in this document is measured in a controlled environment. Therefore, the results obtained in other operating environments may be very different. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Recycling information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information on recycling Lenovo products, go to:

<http://www.lenovo.com/lenovo/environment/recycling>



Collecting and recycling a disused Lenovo computer or monitor

If you are a company employee and need to dispose of a Lenovo computer or monitor that is the property of the company, you must do so in accordance with the Law for Promotion of Effective Utilization of Resources. Computers and monitors are categorized as industrial waste and should be properly disposed of by an industrial waste disposal contractor certified by a local government. In accordance with the Law for Promotion of Effective Utilization of Resources, Lenovo Japan provides, through its PC Collecting and Recycling Services, for the collecting, reuse, and recycling of disused computers and monitors. For details, visit the Lenovo Web site at https://www.lenovo.com/jp/ja/services_warranty/recycle/pcrecycle/. Pursuant to the Law for Promotion of Effective Utilization of Resources, the collecting and recycling of home-used computers and monitors by the manufacturer was begun in October 1, 2003. This service is provided free of charge for home-used computers sold after October 1, 2003. For details, visit the Lenovo Web site at:

https://www.lenovo.com/jp/ja/services_warranty/recycle/personal/.

Disposing of Lenovo computer components

Some Lenovo computer products sold in Japan may have components that contain heavy metals or other environmental sensitive substances. To properly dispose of disused components, such as a printed circuit board or drive, use the methods described above for collecting and recycling a disused computer or monitor.

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Use only the power cords and power adapters supplied by the product manufacturer.

Do not use the ac power cord for other devices.

Zambia

