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$$ROG_{20} = \infty$$

$$[ROG]_{20^+}$$



ROG XREAL R1
EDITION 20 USER GUIDE



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About this manual

This manual provides information about the hardware and software features of your glasses through the following chapters:

Safety information

This section provides safety precautions and guidelines for using, storing, and disposing of your glasses.

Chapter 1: Getting to know your glasses

This chapter details the parts of your glasses, including an overview of their features and the control buttons.

Chapter 2: Setting up your glasses

This chapter shows you how to set up your glasses, including customizing the fit (nose pads and prescription insert) and connecting them to supported host devices.

Chapter 3: Using your glasses

This chapter explains how use the control buttons to navigate the user interface.

Appendix

This section includes product specifications, trademark notices, and service and support information.

Conventions used in this manual

To highlight key information in this manual, some text are presented as follows:

WARNING! This message contains important information that must be followed to keep you safe while performing tasks and prevent damage to your product's data and components.

IMPORTANT! This message contains vital information that must be followed to complete a task.

NOTE: This message contains additional information and tips that can help complete tasks.

Typography

Bold This indicates a menu or an item that must be selected.

Bold italic This indicates a section that you can refer to in this manual.

Multi-language versions

Download other language versions of this User Manual via this website: <https://www.asus.com/support>

Safety information

Safety precautions

- Refer to the user manual and take note of the safety instructions before using this product.
- This product does not contain a battery and must be connected to a device capable of DisplayPort (DP) output via a USB Type-C® cable.
- This product is not intended for use by children under the age of 18. For those between 18 and the legal age of majority, this product should only be used under the supervision of a legal guardian.
- Do not use this product if you are pregnant; have a history of epilepsy, high blood pressure, acrophobia, or severe myopia; or suffer from pre-existing heart or other serious medical conditions.
- Before putting on this product, check the volume of the media being played, and avoid using this product for prolonged periods at high volume to prevent damage to your hearing.
- Do not use this product while driving or playing sports, as this product will affect your field of vision.
- Keep this product away from water; do not immerse this product in liquid.
- Keep this product dry and avoid using it in dusty, humid, and elevated salt environments.
- Do not use this product during thunderstorms to avoid potential malfunctions and the risk of electric shock.
- Use this product only within the temperature range of 0°C (32°F) to 35°C (95°F), and store it within the range of 0°C (32°F) to 45°C (113°F).
- Do not expose this product to high temperature or heat sources.
- Do not disassemble or alter this product in any way.
- Do not throw this product into fire.
- Keep children and pets away from this product, and do not allow them to place it into their mouth.
- Always handle this product with care. Do not drop, put pressure on, or toss it.
- Store this product and its accessories out of the reach of children, as they may contain small parts that pose a choking hazard.

Operating environment

- Assess the safety of the environment before use. Stay away from stairs, balconies, open doors and windows, and open flames.
- We advise against using this product while in a moving vehicle, as speed variations may exacerbate adverse reactions.
- Do not use this product in noisy settings to reduce distraction risks.

Health

- This product is factory-set to low blue light mode to meet hardware-based low blue light eye protection standards. Low blue light eye protection can reduce harmful blue light emitted from the screen, thereby reducing visual fatigue caused by prolonged screen viewing.
- This product is not a toy and is not suitable for children or people with sensory impairment.
- Adjust the brightness as needed during the use of this product to protect your eyesight.
- Immediately discontinue use of this product upon experiencing any signs of dizziness or eye discomfort, and consult a doctor.
- To avoid discomfort, limit device use to under two hours, and take a 10 to 15-minute break every 45 minutes.

Product safety and storage

- Do not wear this product over another pair of glasses.
- Do not expose this product to liquid or strong physical impact to avoid damaging it.
- Use only authorized accessories with this product.
- Do not disassemble or attempt to repair this product yourself or through an unauthorized repair center.
- If this product overheats, stop using it immediately, and allow it to cool down.
- Store this product in its dedicated case, keeping it away from liquids, moisture, and direct sunlight.
- Store this product in a temperature range of 0°C (32°F) to 45°C (113°F) with low humidity. It is only designed to withstand sweat and small water droplets.

Proper disposal



The Waste Electrical and Electronic Equipment (WEEE) Directive (Directive 2012/19/EU) is a European Union law that aims to reduce the environmental impact of electrical and electronic equipment. It mandates producers to take responsibility for the end-of-life management of their products, promoting collection, treatment, and recycling to minimize waste and encourage resource recovery.

Do not throw your electrical and electronic equipment in municipal waste.

The symbol of the crossed-out wheeled bin on the product or packaging indicates that this product (including any batteries it contains) must not be disposed of with your household waste.

To prevent potential harm to the environment and human health, a collection framework should be used to return, recycle, and recover waste electrical and electronic equipment (WEEE), and this product has been designed to enable the reuse of parts and facilitate the recycling of certain materials.

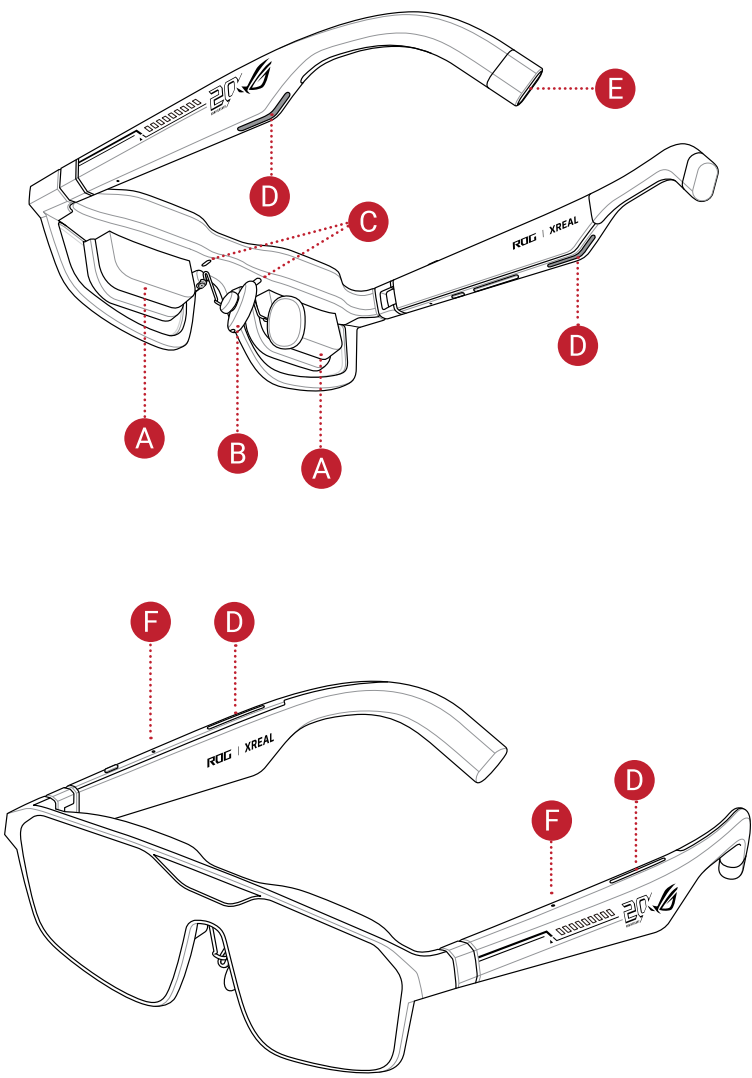
Improper disposal may involve risks due to the presence of hazardous substances within electrical and electronic equipment, such as lead and BFR and other harmful components.

Check your local recycling services for electronic products.

(<https://esg.asus.com/en/circular-economy/resource-regeneration/global-take-back-service>)

Chapter 1: Getting to know your glasses

Overview



A

Displays

The built-in micro-OLED displays provide full HD resolution.

B

Nose pads

The adjustable nose pads allow your glasses to fit comfortably at the right height for the correct viewing angle.

NOTE: If the pre-installed nosepiece does not fit comfortably or at the right height to facilitate the optimal viewing angle, you can switch to alternate size nose pads bundled in the box. See ***Changing the nose pads*** for detailed instructions.

C

Prescription insert mounting points

The prescription insert mounting points allow you to install a removable insert that holds your custom corrective lenses for clear AR viewing. See ***Adding the prescription insert*** for detailed instructions.

D

Built-in speakers

The built-in speakers deliver an immersive audio experience without the need for external headphones or earbuds.

E

USB Type-C® port

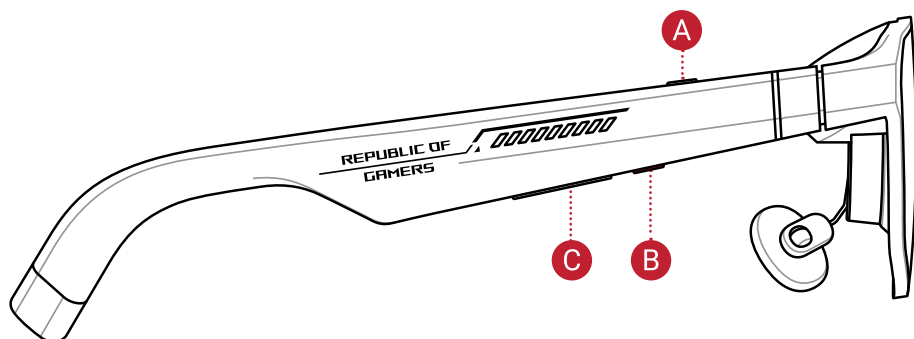
This port allows you to connect compatible devices, such as smartphones, personal computers, and gaming consoles with a USB Type-C port. See ***Host device requirements*** for supported devices.

F

Built-in microphones

The built-in microphones capture clear audio for calls and voice commands, enabling convenient hands-free communication.

Control buttons



A Quick button

The Quick button gives you quick access to key features, such as switching between Immersive and Instant Transparent modes, opening your personalized OSD menu (if set up), adjusting the Frame Rate Boost setting, and navigating the OSD menus. See **Control buttons** for details.

B Menu button

The **Menu** button gives you quick access to key features, such as switching between Anchor and Follow modes, opening the **Main** menu, repositioning the virtual screen, and navigating the OSD menus. See **Control buttons** for details.

C + /- button

The + /- button gives you quick access to key features, such as switching between Spatial Anchor and Follow modes, opening the **Main** menu, repositioning the virtual screen, and navigating the OSD menus. See **Control buttons** for details.

NOTE: Refer to **Control buttons** for how these buttons work.

Chapter 2: Setting up your glasses

Customizing your fit

Before getting started with your glasses, it is important to understand how to adjust and customize them to achieve the best fit and optimal viewing experience. This section will guide you through the process of making adjustments and customizations for improved comfort and overall experience.

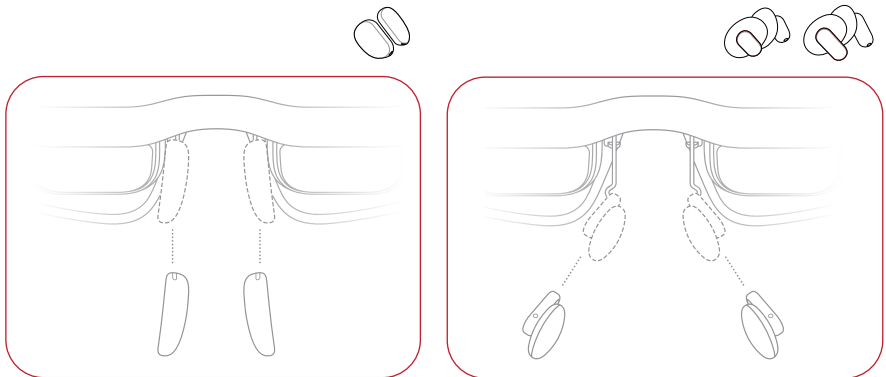
Changing the nose pads (optional)

If the pre-installed nose pads does not fit comfortably or positioned at the right height for the optimal viewing angle, you can switch to alternate size nose pads bundled in the box.

1. Hold the glasses securely with one hand and use the other hand to gently loosen and slide off the existing nose pads from the frame.

NOTE: Ensure not to damage the frame or any other components.

2. Install an alternate set of nose pads by aligning and inserting them in the orientation shown.



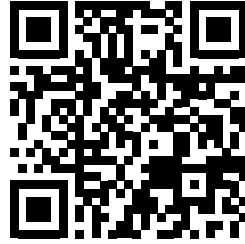
Adjusting the nose pads (optional)

Adjust the nose pads so that your glasses sit comfortably on your face at a comfortable height. The nose pads can be adjusted by gently pushing them together or pulling them apart.

Adding the prescription insert (optional)

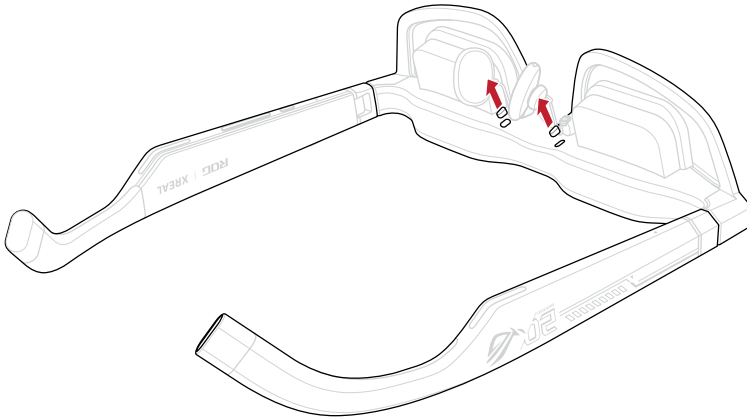
1. Visit a local optical store to fit corrective lenses to the bundled prescription insert.

NOTE: In certain countries, you may need to first visit an eye doctor to obtain a prescription before you can get corrective lenses fitted at an optical store.

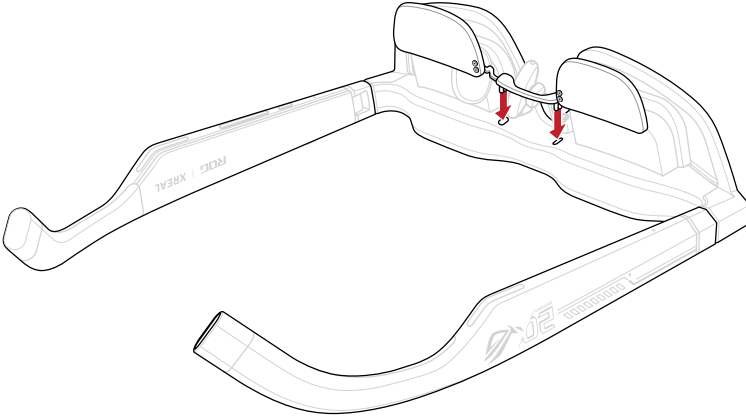


www.xreal.com/prescription-lens-ROG-XREAL-R1

2. Place your glasses on a sturdy flat surface with the nose pads facing up.
3. Remove the rubber dust covers near the nose pad mounts.

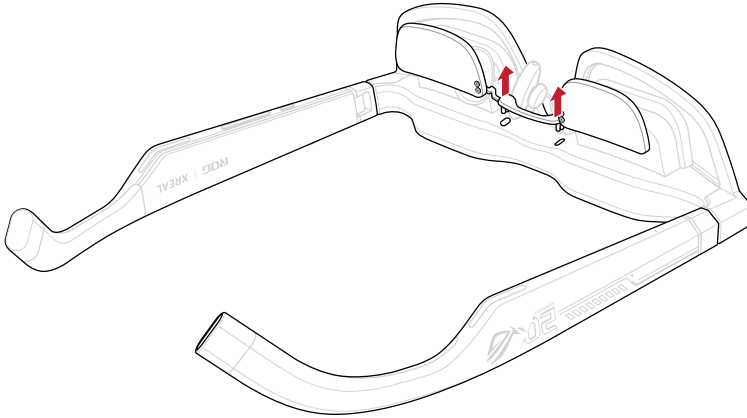


4. Align the prescription insert's retention prongs to the uncovered openings, then press firmly until the prescription insert is securely seated.



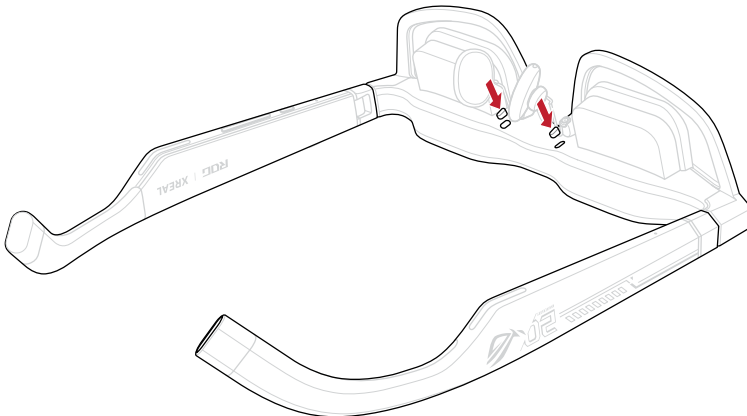
Removing the prescription insert

1. Place your glasses on a sturdy flat surface with the nose pads facing up.
2. Hold the glasses securely with one hand and use the other hand to gently loosen and remove the prescription insert from the frame.



NOTE: Remove the insert carefully to prevent damaging the nose pad mounts.

3. Reinstall the rubber dust covers.



Connecting a host device

You can connect your glasses to various host devices, such as laptop computers, smartphones, and gaming handhelds. For laptop computers, you will need a Thunderbolt™ 4 port or a USB Type-C port that supports the output of a display signal through DP alt mode. Similarly, for smartphones and gaming handhelds, you will need a USB Type-C port that supports display signal output through DP alt mode.

Your glasses will automatically turn on when connected and turn off when the USB cable is disconnected.

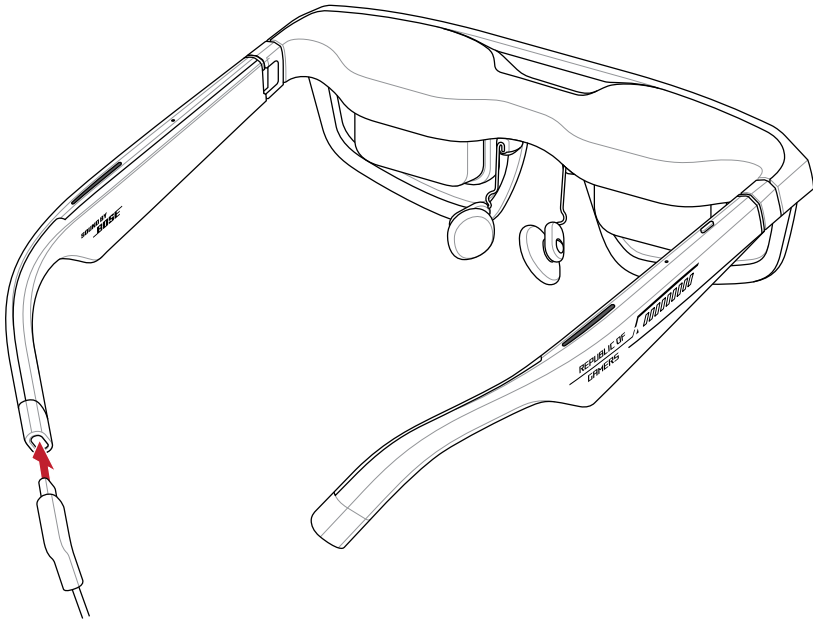
WARNING! Do not connect your glasses directly to a power outlet or a power bank.

Host device requirements

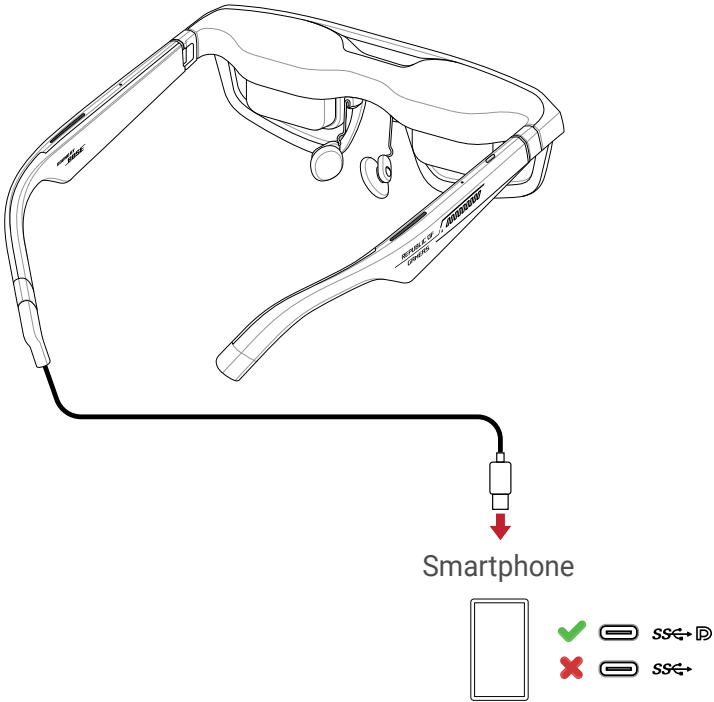
Device type	Connection type
Smartphones	USB Type-C port with DP alt mode
Laptops / Desktop PCs	USB Type-C port with DP alt mode <u>or</u> Thunderbolt™ 4 port
Gaming handhelds	USB Type-C port with DP alt mode

Connecting to a smartphone

1. Connect the angled end of the USB cable bundled with your glasses to the USB Type-C port on your glasses.



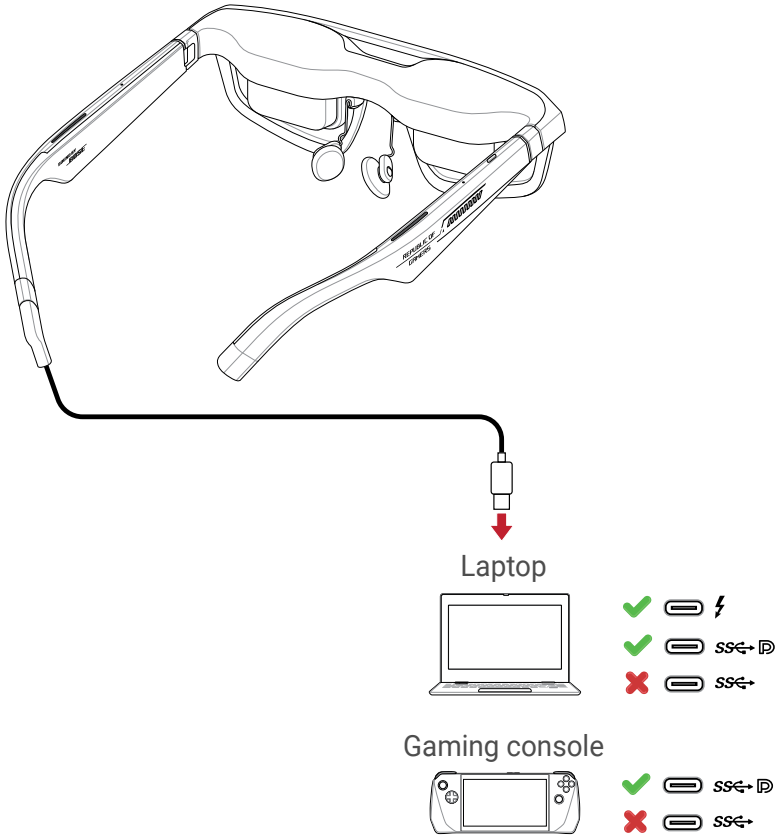
2. Connect the other end of the USB cable to the USB Type-C port on your smartphone.



NOTE: To use your glasses with a smartphone, the smartphone must be able to support DP output through its USB Type-C port.

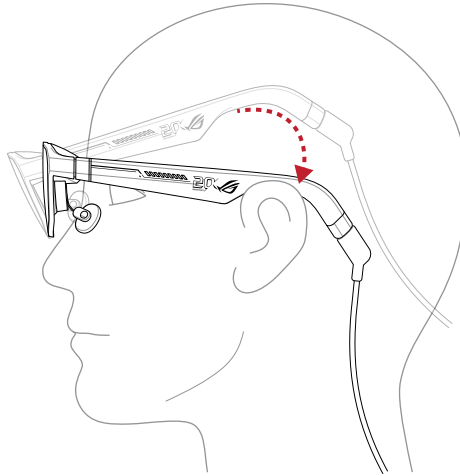
Connecting to a laptop or gaming handheld

- 1. Connect the angled end of the bundled USB cable to the USB Type-C port on your glasses.
- 2. Connect the other end of the USB cable to the USB Type-C port on your laptop or gaming handheld.

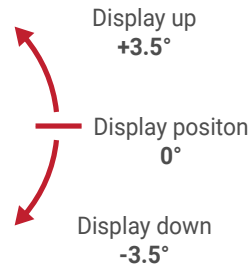
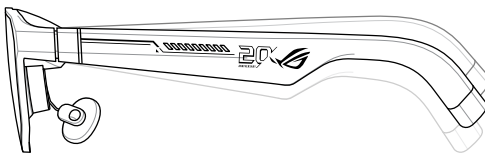


Putting on your glasses

1. Hold the glasses by the temples with both hands.
2. Put on the glasses as shown, ensuring the temples rest comfortably on your ears.



3. Tilt or adjust the glasses on your face until the display is directly in line with your eyes.



4. Continue to adjust the glasses until they are at an optimal viewing angle. Refer to **Adjusting the nose pads** to further adjust the nose pads, if necessary.

Chapter 3: Using your glasses

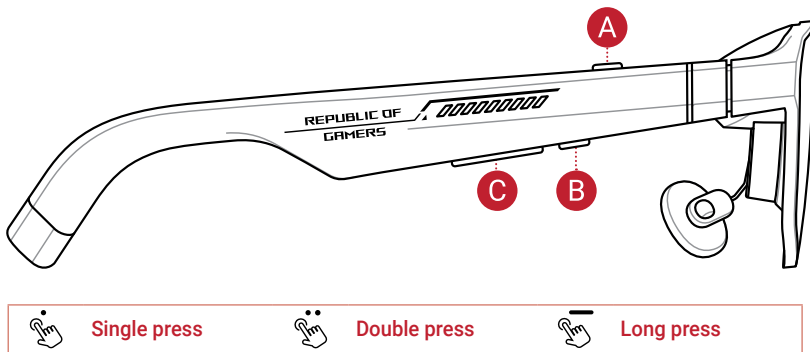
Turning on and off

Your glasses automatically turn on when connected to a compatible device using the USB cable bundled with your glasses.

To turn off your glasses, disconnect the USB cable.

NOTE: Your glasses do not have a built-in battery and is powered by the connected device.

Control buttons and actions



Basic control

The button functions described in this section apply only during normal use when an on-screen display (OSD) menu is not displayed. When a menu is displayed, the buttons are used to navigate, make selections, and close the menu.

A

Quick button

Single press	Double press	Long press
Switches between Immersive and Instant Transparent modes.	Opens your personalized OSD menu (if you have set it up). See <i>Creating your personalized OSD menu</i> .	Quick access to the Frame Rate Boost setting.

B

Menu button

Single press	Double press	Long press
Switches between Spatial Anchor and Follow modes.	Opens the Main menu.	Centers and anchors the virtual screen.

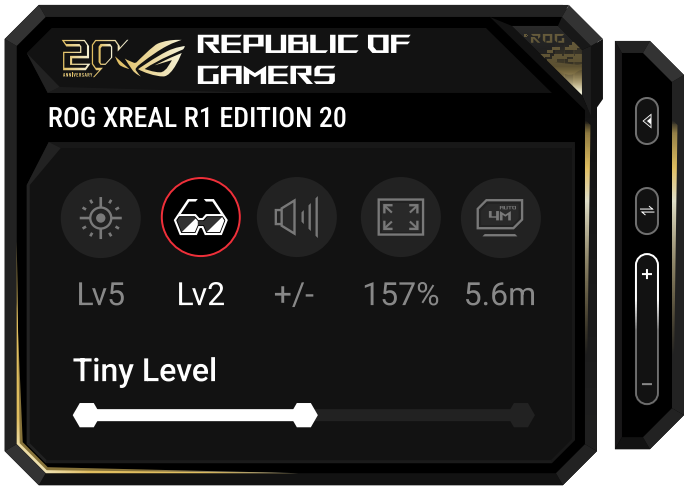
C

+ / - button

Single press	Double press	Long press
Opens the Quick menu.	---	---

Quick menu navigation

Single press the + / - button to open the **Quick** menu.



A Quick button

Single press	Double press
Closes the menu.	---

B Menu button

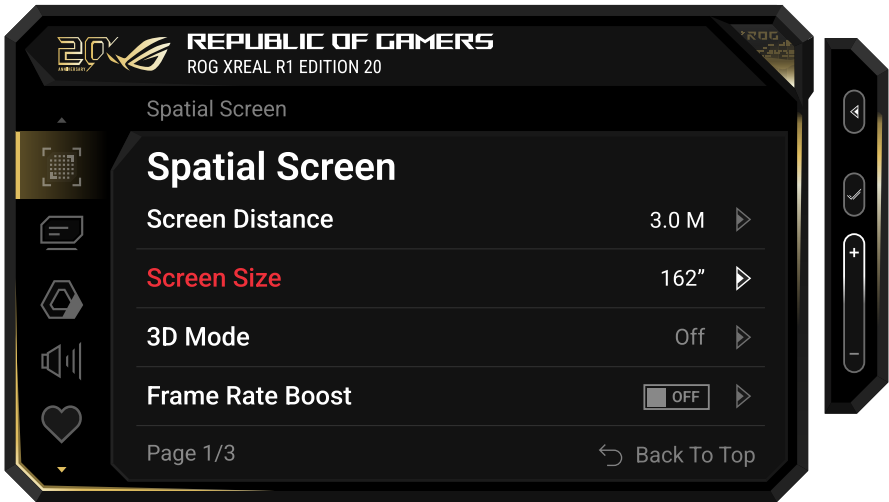
Single press	Double press
Navigates through the Quick menu items.	Goes to the previous menu.

C + / - button

Single press	Double press
Adjusts the current menu item.	---

Main menu navigation

Double press the **Menu** button to open the **Main** menu.



A Quick button

Single press	Double press
Closes the menu.	---

B Menu button

Single press	Double press
Confirms selection.	Goes to the previous menu.

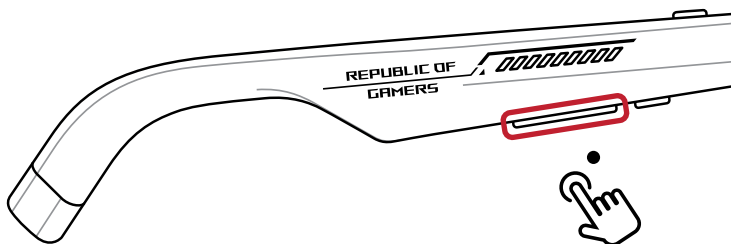
C + / - button

Single press	Double press
Navigates through the menu items	---

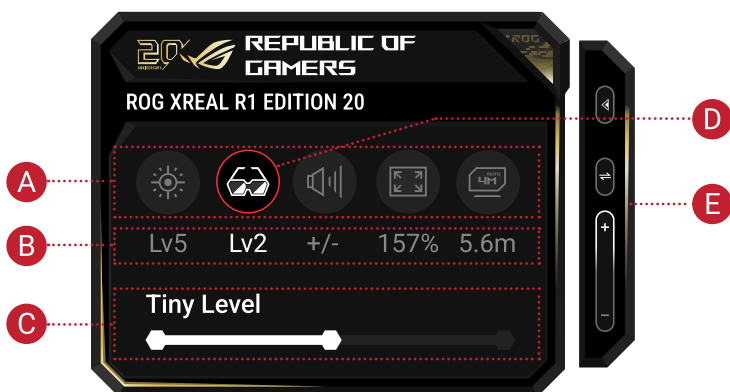
Quick menu

Accessing the Quick menu

Single press the + / - button to open the **Quick** menu.



Quick menu overview



A

Quick menu items

Brightness	Use to adjust the brightness of the virtual screen. Available options: Lv1 to Lv10 NOTE: To increase brightness beyond Lv10 , see <i>Increasing maximum brightness</i> for detailed instructions.
Tint Level	Use to adjust the lens tint level. Available options: Lv1 , Lv2 , Lv3
Volume	Use to adjust the volume of the audio from the built-in speakers.
Screen Size	Use to change the virtual screen size to fit different content and viewing requirements.
Screen Distance	Use to change how far the virtual screen appears. Available options: 1 m to 10 m

B

Current setting

Shows the current setting for each of the menu items.

C

Setting adjustment

Shows the selected menu item's setting, and as you press **+/-**, it cycles through the available options.

D

Red circle selection

Highlights the currently selected **Quick** menu item.

E

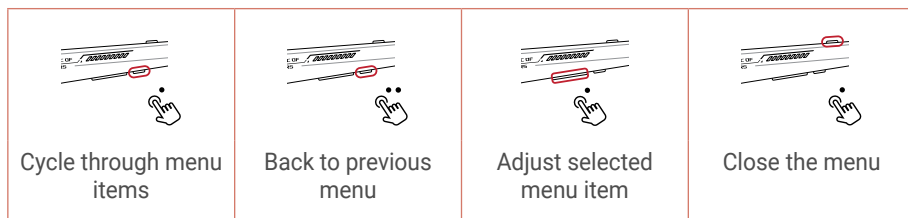
On-screen button guide

Use the on-screen button guide to see what each physical button does on the current screen.

NOTE: Use the on-screen button guide to quickly identify which physical button is being pressed and its function on the current menu.

Navigating the Quick menu

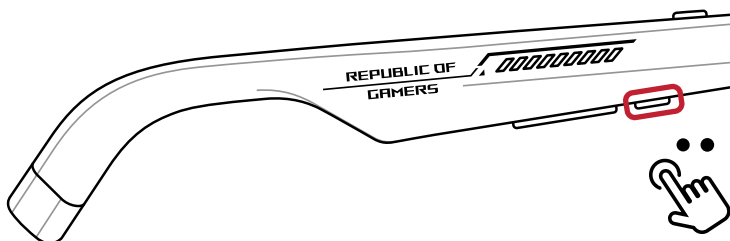
Single press the **Menu** button to cycle through the menu items, double press the **Menu** button to go back to the previous menu, and use the **+ / -** button to adjust the selected menu item. To close the **Quick** menu at any level, single press the **Quick** button.



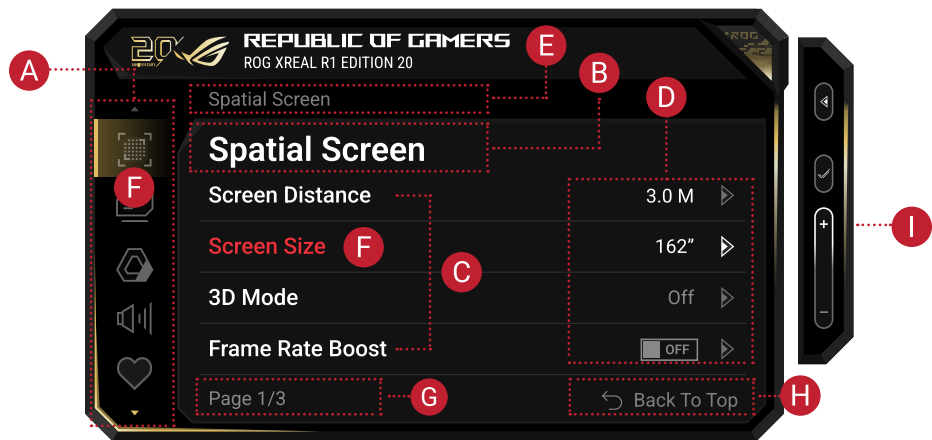
Main menu

Accessing the Main menu

Double press the **Menu** button on the right to access the **Main** menu.



Main Menu Overview



A Top-level menus

Spatial Screen	Use to adjust how content is presented on the virtual screen.
Image	Use to adjust the virtual sceen's image settings, such as electrochromic dimming, brightness, and color temperature.
Aura RGB	Use to configure the Aura RGB lighting effects.
Sound	Use to adjust the volume of the audio from the built-in speakers or switch the audio input source (audio protocol) between UAC and DP.
MyFavorite	Use to manage your preferred settings for quick access using the Quick button or save and load up to three customized settings for the virtual screen.
Other	Use to access additional system and menu options, such as on-screen tutorial, sensor calibration, language, reverse menu direction, and restoring factory defaults.

B Current top-level menu

Shows the name of the current top-level menu.

C**Menu items or submenu**

Shows either the available menu options for the selected top-level menu or nested submenus.

D**Current menu item settings**

Shows the current settings for the listed menu items. If a menu item has no setting shown, select it to open its adjustment screen.

E**Previous menu**

Shows the name of the previous menu.

F**Selection indicator**

Shows the currently selected menu or menu item (indicated by a red highlight or red text).

G**Page indicator**

Shows the current page and total pages within this menu.

H**Back to Top prompt**

A prompt indicating you can return to the top of the current menu.

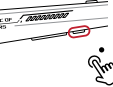
I**On-screen button guide**

Use the on-screen button guide to see what each physical button does on the current screen.

NOTE: Use the on-screen button guide to quickly identify which physical button is being pressed and its function on the current menu.

Navigating the Main menu

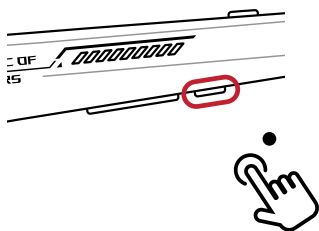
Single press the **Menu** button to cycle through the menu items, double press the **Menu** button to go back to the previous menu, and use the **+ / -** button to adjust the selected menu item. To close the **Quick** menu at any level, single press the **Quick** button.

 Navigate through the menu items. or Adjust selected menu item	 Confirm	 Back to previous menu	 Close the menu
--	--	--	---

Increasing maximum brightness

If the current maximum brightness of Lv10 is not bright enough for you, you can make available brightness levels Lv11-Lv14 by following these steps.

1. Switch to Follow mode. If you are currently in Anchor mode, single press the **Menu** button on the right temple to switch to Follow mode.



2. Go to the **Main** menu > **Spatial Screen** > **Stabilizer** and turn off **Stabilizer**.
3. Go to the **Main** menu > **Image** > **Increase Brightness** and turn on **Increase Brightness**.
4. Go to the **Quick** menu > **Brightness** or the **Main** menu > **Image** > **Increase Brightness**, then press the **+ / -** button.

Appendix

Regulatory Notices

Federal Communications Commission Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Simplified EU Declaration of Conformity

ASUSTek Computer Inc. hereby declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. Full text of EU declaration of conformity is available at <https://www.asus.com/support>.

Simplified UKCA Declaration of Conformity

ASUSTek Computer Inc. hereby declares that this device is in compliance with the essential requirements and other relevant provisions of The Radio Equipment Regulations 2017 (S.I. 2017/1206). Full text of UKCA declaration of conformity is available at <https://www.asus.com/support/>.

Declaration of Compliance for Product Environmental Regulation

ASUS follows the green design concept to design and manufacture our products, and makes sure that each stage of the product life cycle of ASUS product is in line with global environmental regulations. In addition, ASUS disclose the relevant information based on regulation requirements.

Please refer to <https://esg.asus.com/Compliance.htm> for information disclosure based on regulation requirements ASUS is complied with.

EU REACH and Article 33

Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework, we publish the chemical substances in our products at ASUS REACH website at <https://esg.asus.com/Compliance.htm>.

India RoHS

This product complies with the “India E-Waste (Management) Rules, 2016” and prohibits use of lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) in concentrations exceeding 0.1% by weight in homogenous materials and 0.01% by weight in homogenous materials for cadmium, except for the exemptions listed in Schedule II of the Rule.

Türkiye RoHS

AEEE Yönetmeliğine Uygundur

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to <https://esg.asus.com/en/Takeback.htm> for detailed recycling information in different regions.

Vietnam RoHS

ASUS products sold in Vietnam, on or after September 23, 2011, meet the requirements of the Vietnam Circular 30/2011/TT-BCT.

Vietnamese: Các sản phẩm ASUS bán tại Việt Nam, vào ngày 23 tháng 9 năm 2011 trở về sau, đều phải đáp ứng các yêu cầu của Thông tư 30/2011/TT-BCT của Việt Nam.

Ukraine Certification Logo



Specifications

ROG XREAL R1 EDITION 20 glasses

Feature	Sub-category	Specifications
Display	Display Technology	SONY Micro OLED
	Field of View (FoV)	57° (covers 95% human focus area)
	Resolution	1920 x 1080
	Refresh Rate	Up to 240 Hz
	Motion-to-photon (M2P) Latency	3 ms
	Response time	0.01 ms
	Peak Brightness	700 nits
	Panel Size	0.55"
	Adjustable Lens Transparency	3 levels (tint level)
	Color Gamut	106% sRGB
	IPD Adjustment	2 physical IPD product + software-based
	Size (IPD)	Narrow: IPD 57 mm - 66 mm
		Broad: IPD 66 mm - 75 mm
	Diopter Adjustment	No
	Virtual Image Distance	4 m
	3D Mode Support	Yes (full SBS, half SBS, instant 3D)
Device	Dimensions (W x H x D)	153 mm x 50.2 mm x 166.5 mm
	Net Weight	91 g
	Chassis Color	Black
	Power Input	5.0 V === 2.5 A
	Replaceable Nosepiece	Yes
Tracking	Positioning Feature	Native 3 degree-of-freedom (DoF)
Audio Features	Built-in speakers	Sound by Bose
	Built-in microphones	4 x microphones (noise-canceling)
Connectivity	Ports	USB Type-C®

Patents and trademarks

USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum.

Bose and sound by Bose are trademarks of Bose Corporation.

Service and Support

Visit our multi-language website at <https://www.asus.com/support/>.

