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xbx a01 User Manual

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xbx a01 User Manual

This user manual applies to xbx a01 glasses and will introduce the device's features, usage, and related information to help you quickly understand and start using your device.

xbx a01 Product Overview

xbx a01 is an entry-level viewing glasses under the XREAL spatial display series, bringing you a private, immersive large-screen experience. By connecting to devices that support DP video output, you can enjoy an ultra-large virtual screen in your personal space, getting a cinema-level visual experience wherever you are. xbx a01 features an ergonomic design, is lightweight and comfortable to wear, suitable for long-term use.

Core OSD Features

1. 「Display Mode」 Provides three preset display effects: 「Standard」, 「Cinema」, and 「Eye Care」, allowing you to quickly get a more comfortable viewing experience for different scenarios such as daily use, movie entertainment, and long-term viewing.
2. 「Dynamic Range」 Provides three 「Dynamic Range」 options: 「SDR」, 「AI-HDR」, and 「HDR 10」, allowing you to freely switch to enhance picture performance according to personal needs.
3. 「Stabilization」 After enabling, it can stabilize the image, improving image stability during head movement, especially suitable for light mobile scenarios. Note: Only available when connecting to devices with 60/90/120Hz refresh rate output.
4. 「3D」 Mode Provides a more immersive viewing experience for movies, photos, short videos, and games, making you feel as if you are in the scene.

Compatible with Multiple Devices

- Smartphones: iPhone 15/16/17 series, some Android phones that support DP output
- Computers: Laptops and desktops with USB-C interface
- Gaming Devices: Handheld gaming devices that support DP output

DisplayPort is a digital interface standard used for transmitting video and audio data. Devices equipped with DP video output functionality can transmit audio and video signals that comply with this protocol through their own ports (most commonly USB-C), enabling external display devices to render images and sound. If you are not sure whether your device supports DP video output, it is recommended that you consult the device manufacturer's customer support for confirmation.

Connection Method

Using xbx a01 is very simple, just a few steps to get started:

1. Prepare the device: Ensure your device supports DP video output
2. Connect the device: Use the included USB-C cable to connect the glasses to the device
3. Auto recognition: After connection, the glasses will automatically recognize the video signal
4. Start experiencing: The virtual large screen will immediately appear in your field of view

Tip: No complex setup required, plug and play, allowing you to quickly start enjoying the large-screen experience.

Usage Scenarios

-  Office Productivity: Create a virtual workstation on the go to improve work efficiency
-  Gaming Entertainment: Enjoy large-screen gaming experience with stronger immersion
-  Travel Movie Viewing: Enjoy a private cinema experience on planes or trains
-  Financial Monitoring: Monitor multiple stock quotes simultaneously at home
-  Online Learning: Create an immersive learning environment to improve learning focus
-  Design Creation: View design work details and get more realistic visual feedback

Target Audience

- Business Professionals: Professionals who need to work on the go
- Gamers: Players pursuing immersive gaming experiences
- Movie Enthusiasts: Audiences who want to enjoy cinema-level experiences anytime, anywhere

- Students: Students who need large screens for learning
- Creative Workers: Designers and creators who need precise visual feedback

First Use

Welcome to xbx a01 series glasses! This guide will walk you through the complete setup process, including unboxing, device connection, wearing adjustment, and button functions, helping you quickly start your immersive spatial large-screen experience.

xbx a01 Unboxing Guide

Please follow the steps below to unbox your product.

Welcome to xbx a01! This guide will help you quickly understand what's in the package and get ready for your first use.

1. Inspect the Packaging

Confirm that the outer packaging is intact, with no obvious damage or compression marks.

2. Open the Seal and Remove the Product

3. Confirm All Accessories are Present



Item	xbx a01	xbx a01+
xbx a01 / xbx a01+ Glasses	✓	✓
Detachable Front Frame (pre-installed on the glasses)	✓	✓
Light Shield	✗	✓
Portable Capsule Case	✓	✓
USB-C Cable	✓	✓
Nose Pads (three sizes: S/M/L; size M is pre-installed on the glasses)	✓	✓
Cleaning Cloth	✓	✓
Brand Sticker	✓	✓
Disclaimer (Warranty Card)	✓	✓



Tips

When opening the packaging, please handle the glasses case and product carefully to avoid dropping.

Note: If any item is missing or damaged, please keep the complete packaging and contact the e-commerce customer service.

4. Open the Case and Connect the Device

4.1 Remove the Optical Engine Protective Film

Peel off the protective film on the optical engine by pulling the small tab indicated by the arrow.

4.2 Remove the Front Protective Film

Peel off the protective film on the front side by pulling the small tab indicated by the arrow.

4.3 Take Out the Cable

Remove the cable from the storage case.

4.4 Connect to the Glasses

Plug the L-shaped end of the cable into the glasses port.

4.5 Connect to an External Device

Plug the other end (straight) of the cable into a device that supports DP video output.

Once connected, put on the glasses and enjoy the immersive spatial large screen.

Precautions

- Avoid using or storing the glasses in humid or dusty environments
- The lens surface has an optical coating. Do not clean it with alcohol or chemical solvents

How to Get a Comfortable Wearing Experience

This chapter helps you learn how to wear and adjust the glasses for the best wearing comfort and display experience.

1. Wear the Glasses and Make Sure the Image Is Clear

1. Connect the glasses to a compatible device that supports DP video output, and make sure the image is displayed properly.
2. After putting on the glasses, check the following:
 - The image is centered in your field of view
 - The full display area is visible
 - The image is not noticeably cropped or shifted
3. If the image position or clarity is not ideal, follow the steps below to adjust the fit.

2. Adjust the Wearing Position

If the image is not centered, or appears too high or too low, try adjusting the temples and replacing the nose pads.

Adjust the Temples

The temples support 3 levels of vertical adjustment. You can move the temples up or down to find a comfortable wearing angle and see the full image clearly.



Recommendation

When wearing the glasses for the first time, we recommend starting with the middle position (0°), then fine-tuning the angle based on the display effect and your personal comfort.

Replace or Adjust the Nose Pads

The glasses come with 3 sizes of nose pads (S/M/L), with size M installed by default. Choose the appropriate size based on your nose bridge height. Choosing the right nose pads helps improve image clarity and overall wearing comfort.



Recommendation

If the image appears too high or too low, try changing the nose pad size. Size S nose pads position the glasses relatively higher, while size L nose pads position the glasses relatively lower.

Nose Pad Size	Suitable For
S (Small)	Higher nose bridge
M (Medium)	Medium nose bridge height (default)
L (Large)	Lower nose bridge

Install Prescription Lenses (If Needed)

After installation, make sure the lenses are securely fixed and check the image alignment again.



Note

If you are not sure how to install the prescription lenses, we recommend contacting e-commerce customer service for assistance.

3. Test the Button Functions

Before regular use, make sure all buttons work properly.

- Test the 「X」 button: Click the 「X」 button to turn 「Stabilization」 on/off, and double-click the 「X」 button to open the OSD menu.
- Test the 「+/-」 buttons: Click the 「+/-」 buttons to adjust screen brightness, and press and hold to adjust brightness.

4. Start Using

After completing the adjustments above:

- Make sure the image is stable and clear
- Make sure the glasses fit comfortably and securely



Lightweight Wearing Tip

For a lighter, more comfortable fit, you can remove the front frame. With the front frame removed, the glasses weigh approximately 56g, making them easier to wear for extended periods.

Note

The left temple area of the glasses may become slightly warm during use. This is normal. This area does not come into direct contact with the skin and is safe to use.

Accessory

This chapter introduces all accessories included in the glasses package and explains how to use them.

Accessory List

Please make sure all accessories are included in the glasses package:

- Detachable Front Frame
- Light Blocker (only for **xbx a01+**)
- Glasses Case
- USB-C Cable
- 3 nose pads (S/M/L; size M is pre-installed on the glasses)

Portable Case

The portable case is designed specifically for the glasses and helps protect them from pressure and scratches during carrying.

Store the Glasses Properly

1. Fold the glasses temples inward
2. Place the USB-C cable separately in the storage compartment
3. Place the glasses in the storage compartment, making sure the lenses face outward and the folded temples face inward.
4. Close the portable case



Recommendation

When storing the glasses, make sure the USB-C cable and the glasses are placed separately to prevent the cable from pressing against or scratching the optical lenses.

USB-C Cable

The glasses come with a 1.2 m full-featured USB-C cable that supports DP video output and charging. Connect the angled connector to the glasses temple, and connect the straight connector to a device that supports DP video output.

Connection Steps

1. Connect the angled end of the cable to the glasses port
2. Connect the other end of the cable (straight connector) to a device that supports DP video output
3. After confirming that the connection is secure, put on the glasses to start using them

Replaceable Nose Pads

The glasses come with 3 sizes of replaceable nose pads, allowing users with different face shapes to choose the most suitable size.

Nose Pad Sizes

Size	Suitable For
S (Small)	Higher nose bridge
M (Medium) (pre-installed on the glasses by default)	Medium nose bridge height
L (Large)	Lower nose bridge

Replacement Method

1. Remove the original nose pads from the glasses
2. Choose a new nose pad in the appropriate size
3. Align the nose pad with the mounting slot and gently press it until it is fixed in place



Recommendation

Size S nose pads position the glasses relatively higher, while size L nose pads position the glasses relatively lower. If the image appears too high, try size L. If the image appears too low, try size S.

Prescription Lenses

The glasses support the installation of prescription lenses for myopia and astigmatism, helping users with vision correction needs get a clear visual experience.

Installation Notes

- The temple bend should not press against the lenses
- After installation, make sure the lenses are securely fixed
- Check the image alignment again



Note

If you are not sure how to install the prescription lenses, we recommend contacting e-commerce customer service for assistance. If you install them yourself, handle them carefully to avoid damaging the lenses or the glasses.

Detachable Front Frame

This chapter explains how to remove and install the detachable front frame, along with usage recommendations.

The detachable front frame gives the glasses greater flexibility in different scenarios. When installed, it helps reduce external light interference and improves immersion and image performance. When removed, the glasses become lighter and more breathable, making them suitable for long-term wear. The front frame also makes cleaning, maintenance, appearance replacement, and accessory expansion easier, while helping protect the glasses and enhance customization possibilities.

Remove the Front Frame

Removal Steps

1. Gently hold both side edges of the front frame with both hands
2. Along the lens edges, gently push outward from both sides of the glasses with even force to gradually loosen both sides, then remove the middle clip last.
3. After the front frame is released from the clips, carefully remove it



Note

Apply even force during removal. Avoid applying too much force on one side, as this may damage the front frame or clips.

We do not recommend repeatedly removing the front frame, as this may wear or loosen the clips and affect installation stability.

Install the Front Frame

Installation Steps

1. Align the clips on the front frame with the corresponding positions on the glasses frame
2. Start from one side and gently press the front frame into the clips
3. Press along the edge of the front frame step by step to make sure all sides are securely fixed
4. Check whether the edges are flat and whether any part is lifted



Recommendation

When installing the front frame, we recommend starting from the center of the nose bridge area, then pressing toward both sides. This helps ensure the front frame is installed evenly.

Storage Recommendations for the Detachable Front Frame

- Store the removed front frame in the portable case
- Avoid placing the front frame directly in a bag where it may be squeezed by other items
- We recommend wrapping the front frame with the cleaning cloth during storage to prevent scratches

Notes

1. Avoid scratches: The surface of the front frame has a coating. Use the dedicated cleaning cloth when cleaning it, and avoid using rough fabrics
2. Store properly: After removal, place the front frame in a safe location to avoid loss or damage
3. Check regularly: After installation, check whether the front frame is securely fixed. If it is loose, reinstall it
4. Handle with care: The front frame is made of plastic. Avoid impacts or drops

Device Connection

xbx a01 supports connection to various devices, including phones, tablets, personal computers, handheld consoles, and game consoles.

To use the glasses as a spatial large screen, the connected device must support DP video output and 5V/1A power supply.

DisplayPort (DP) is a digital interface standard used to transmit video and audio data. Devices with DP video output can output audio and video signals that comply with this protocol through their own ports, usually USB-C ports, allowing an external display device to show images and play sound. If you are not sure whether your device supports DP video output, we recommend contacting the device manufacturer's customer service for confirmation.

Supported Devices

1. Devices equipped with a USB-C port and supporting DP output can be directly connected to **xbx a01** using the cable included in the package.
- Steam Deck / Steam Deck OLED
 - ROG handheld consoles (for example: ROG Ally)

- Phones (for example: iPhone 15/16/17, Galaxy S series, and some Android phones)
 - Tablets (for example: iPad Pro 4th generation, and some Android tablets that support DP output)
 - Laptops (for example: Windows laptops with USB-C ports, MacBook Pro)
 - Some desktop computers (for example: Mac mini)
2. Devices equipped with a USB-C port but requiring an adapter to connect to xbx a01
- Switch / Switch 2 / Switch OLED
3. Devices equipped with an HDMI port can be connected to xbx a01 through an HDMI to USB-C adapter.
- PlayStation
 - Xbox

Feature Support Table

Feature	iPhone	Android	iPad	Windows	macOS	Handheld Console	Switch
2D Mode	✓	✓	✓	✓	✓	✓	✓
3D Mode	✓	✓	✓	✓	✓	✓	✗
Display Mode Switching	✓	✓	✓	✓	✓	✓	✓
Brightness Adjustment	✓	✓	✓	✓	✓	✓	✓
Volume Adjustment	✓	✓	✓	✓	✓	✓	✓
Dynamic Range Adjustment	✓	✓	✓	✓	✓	✓	✓
Stabilization	✓	✓	✓	✓	✓	✓	✗



Tip

Stabilization requires the connected device to support 60/90/120Hz.

Feature support may vary by device. Please refer to the corresponding instructions based on your device type.

Devices That Support Direct Connection

- Handheld consoles: Steam Deck / Steam Deck OLED, ROG handheld consoles such as ROG Ally, etc.
- Phones: iPhone 15 series and later, Galaxy S series, and Xiaomi/OPPO/vivo/Huawei models that support DP output

- Tablets: iPad Pro 2018 and later, iPad Air 4 and later, iPad mini 6 and later, iPad 10 and later, Xiaomi Pad 6 and later, Huawei MatePad Pro (2023) and later, etc.
- Computers: MacBook Air / Pro 2019 and later, Windows laptops that support DP output, Mac mini, etc.

Devices That Require an Adapter

- Switch / Switch OLED: Requires the official XREAL Hub for connection
- PlayStation / Xbox / computers with HDMI ports: Can be connected using an HDMI-C adapter

Notes

1. The glasses do not have a built-in battery. When connected to a device, the glasses are powered by the device. After the cable is unplugged, the device stops supplying power and the glasses automatically turn off.
2. We recommend using the 1.2 m cable included in the package. If you need to replace the cable, make sure to use a full-featured USB-C cable that supports DP video transmission.

Button Functions

Get familiar with all button functions to ensure smooth operation while using the glasses.

Button Layout

The xbx a01 glasses are equipped with three buttons on the underside of the right temple: the 「X」 button and the 「+/-」 buttons.

「X」 Button

Operations in 2D Mode

Operation	Function	Feedback
Single Click/ Double Click	Open the OSD menu	The OSD menu is displayed
Press and hold	Enter 3D Mode	The 3D Mode operation prompt is displayed

Operations in 3D Mode

Operation	Function	Feedback
Single Click	Switch 3D Mode: Full → Half SBS → Full	No OSD prompt. Confirm the change through the displayed image.
Press and hold for about 1 second	Exit 3D Mode and return to 2D Mode	No OSD prompt. Confirm the change through the displayed image.

Operations in the OSD Menu

Operation	Function	Feedback
Single Click	Confirm the current option or enter the next-level menu	The menu switches
Double Click	Return to the previous menu; close the entire OSD menu when on the main menu	The menu switches or closes
Press and hold	The menu disappears and the glasses enter 3D Mode	The 3D Mode operation prompt is displayed

「+/-」 Buttons

Operations in 「2D」 Mode

Operation	Function	Feedback
Single Click	Adjust brightness. After the OSD brightness bar appears, continue clicking or press and hold to adjust it.	The brightness adjustment progress bar is displayed
Press and hold	Adjust volume. After the OSD volume bar appears, continue pressing and holding to adjust it.	The volume adjustment progress bar is displayed

Operations in 「3D」 Mode

Operation	Function	Feedback
Single Click	Adjust brightness	No OSD prompt. Confirm the change through brightness changes.
Press and hold	Adjust volume	No OSD prompt. Confirm the change through volume changes.

Operations in the OSD Menu

Operation	Function	Feedback
Click +	Move the selection up in the menu	The highlighted menu item changes
Click -	Move the selection down in the menu	The highlighted menu item changes

Prescription Lens

This section introduces how to install prescription lenses on the Oakley x XREAL A01 glasses.

Preparation

Before installing prescription lenses, please ensure:

- The prescription lenses are made by a professional optician
- The lens dimensions match the A01 frame specifications
- The prescription information is accurate

Installation Steps

1. Remove the original lens from the A01 frame
2. Carefully clean the frame mounting area
3. Align the prescription lens with the frame
4. Gently press the lens into the frame until it snaps into place
5. Verify the lens is securely installed

Important Notes

- Only use prescription lenses that are specifically designed for the A01 frame
- Consult a professional optician for proper lens fitting
- Do not force the lens into the frame to avoid damage
- Regular maintenance and cleaning are recommended

Lens Specifications

Item	Specification
Lens Material	High-quality optical resin
Coating	Anti-reflective coating recommended
UV Protection	UV400 protection recommended
Prescription Range	Subject to optician assessment



Tips

For best results, consult a professional optician who is familiar with AR glasses prescription lens installation.

OSD

Explore OSD menu features, including display effects, sound settings, and stabilization modes, for the best viewing experience.

Display Effect

Learn about the display modes of xbx a01 series glasses: 「Standard」 , 「Cinema」 , and 「Eye Comfort」 . Switch modes based on your needs for the best visual experience.

Display Mode

xbx a01 series glasses provide three 「Display Mode」 options. You can choose the mode that best suits your usage scenario.

Display Mode	Features	Suitable Scenarios	Recommended Use
Standard	Accurate colors and natural image reproduction	Gaming, office work, daily use	Scenarios that require accurate color reproduction
Cinema	Richer colors and higher contrast	Movies and video content	Watching movies, TV shows, videos, and other entertainment content
Eye Comfort	Reduces blue light with a warmer color temperature	Long-time use, reading	Long-time office work, reading documents, night-time use

How to Switch Display Mode

1. OSD menu: Double-click the 「X」 button to enter the OSD menu, then select 「Display」 → 「Display Mode」 to switch modes.

Dynamic Range

xbx a01 series glasses support three 「Dynamic Range」 modes, which affect screen brightness and color performance.

Dynamic Range	Features	Color Depth	Supported Refresh Rate	Suitable Scenarios
SDR (Standard Dynamic Range)	Fast response and low power consumption	8-bit	120Hz / 90Hz / 60Hz	Gaming, office work, quick operations
AI-HDR	Smart HDR with automatic enhancement	8-bit	120Hz / 90Hz / 60Hz	Watching videos, browsing photos
HDR10	Standard HDR10 format with richer colors	10-bit	90Hz / 60Hz	HDR10-supported video content

Special HDR Rules

- When switching from a scenario that supports 「HDR 10」 to a scenario that does not support 「HDR 10」, the mode will automatically downgrade to 「AI-HDR」.
- When returning to a scenario that supports 「HDR 10」, the mode will remain 「AI-HDR」.

In 「2D」 mode, both 「AI-HDR」 and 「HDR 10」 will change to 「AI-HDR」 when entering 「3D」 mode.
In 「3D」 mode, 「AI-HDR」 will remain 「AI-HDR」 when returning to 「2D」 mode.

Brightness Adjustment

xbx a01 series glasses support multiple brightness levels to adapt to different ambient lighting conditions.

Brightness Levels

- When 「Stabilization」 is off: 14 levels in total, with level 7 as the default.
- When 「Stabilization」 is on: 10 levels in total, with level 7 as the default.
- Memory function: The glasses support power-off memory for the last brightness level setting.

How to Adjust Brightness

1. 「2D」 mode: Click the 「+/-」 button to adjust brightness. A brightness adjustment progress bar will appear on the screen.

2. 「3D」 mode: Click the 「+/-」 button to adjust brightness. There is no OSD prompt, and you can perceive the change through the actual brightness difference.

Brightness Recommendations

Environment	Recommended Brightness Level
Dark environment	Levels 1-5
Normal indoor lighting	Levels 6-8
Bright indoor environment	Levels 9-11
Outdoor sunlight	Levels 12-14

「3D」 Mode

xbx a01 series glasses support 「3D」 mode, allowing you to experience immersive 3D content.

「3D」 Mode Types

- 「Half SBS」: Resolution 1920×1080, stretched horizontally by the device for display.
- 「Full SBS」: Resolution 3840×1080.

How to Use

- Enter 「3D」 mode: In 「2D」 mode, press and hold the 「X」 button.
- In 「3D」 mode, click the 「X」 button to turn 「Stabilization」 on or off.
- Exit 「3D」 mode: In 「3D」 mode, press and hold the 「X」 button to return to 「2D」 mode.

Notes

- In 「3D」 mode, no UI prompts will appear for any operation. You need to confirm the operation result through actual changes in the image and sound.
- 「3D」 mode does not support power-off memory. After the device restarts, it will return to 「2D」 mode by default.

「Stabilization」

When xbx a01 series glasses are connected to a device with an output refresh rate of 60/90/120Hz, 「Stabilization」 is available to reduce image shake caused by head movement.

When connected to a device with an output refresh rate other than 60/90/120Hz, this option will be grayed out.

Turn Stabilization On/Off

Method 1: Click the 「X」 button to turn 「Stabilization」 on or off.

Method 2: Double-click the 「X」 button to enter the OSD menu, then go to 「Display」 → 「Stabilization」 to switch it on or off.

Power-Off Memory

- Supports power-off memory for the on/off status.
- If the last connected device was a 60/90/120Hz device and 「Stabilization」 was on, it will remain on the next time you connect.
- If the last connected device was a 60/90/120Hz device and 「Stabilization」 was off, it will remain off the next time you connect.
- If the last connected device was not a 60/90/120Hz device, 「Stabilization」 will be off the next time you connect.

HDR Feature Guide

Learn about the HDR feature of the xbx a01 glasses for a more realistic visual experience.

What is HDR

HDR (High Dynamic Range) is a display technology that can present a wider range of brightness and richer color details. Compared to traditional SDR (Standard Dynamic Range), HDR can:

- Display brighter highlight areas with clearer details
- Present deeper dark details with richer layers
- Provide more accurate and vivid color performance
- Create a more immersive visual experience

Why Use HDR

The xbx a01 glasses support HDR feature, providing you with the following advantages when watching movies, playing games, or viewing photos:

- More realistic colors: HDR can reproduce the true colors that content creators intended to express, making the picture more vivid and natural
- Richer details: Whether it's bright skies or dark scenes, more details can be presented
- More immersive: High contrast and rich colors make you feel as if you're inside the picture
- Professional-level experience: Supports mainstream HDR standards, bringing you visual effects close to professional displays

How to Enable HDR

The HDR feature requires the external device, system settings, and playback content to all support HDR to take effect. When a device that supports HDR output (computer, phone, tablet,

or game console) has HDR enabled and is playing HDR content, it can display HDR effects; if the device only supports SDR output, does not support USB-C video output, or does not support DisplayPort Alt Mode, it cannot output HDR images.

1. Double-click the 「X」 button below the right temple to open the OSD menu
2. Click the 「X」 button to enter 「Display」
3. Find 「Dynamic Range」, use the 「+/-」 buttons to switch to 「HDR 10」 and confirm to enable
4. Enable High Dynamic Range on your computer (using Windows / macOS as examples)

- **Windows:**

- a. Open Windows 「Settings」 → 「System」 → 「Display」
- b. Select the display corresponding to the glasses under 「Select a display to view or change its settings」 (if there are multiple displays)
- c. Enable HDR under 「HDR」 related options (such as 「Use HDR」)

- **macOS:**

- a. Open 「System Settings」 → 「Displays」 (older versions: 「System Preferences」 → 「Displays」)
- b. Select the display corresponding to the glasses (if there are multiple displays)
- c. Enable 「High Dynamic Range」



Tips

If you don't see the HDR option in system settings, please confirm that the connected device and display output itself support HDR output, and try changing the interface/cable or reconnecting.

Play HDR10 Content to Start Experience

After enabling HDR on the device, please play video or game content that supports 「HDR 10」 to experience the 「HDR 10」 effect.



Tips

Most games require entering the game settings to enable 「HDR 10」 again.

Important Notes

1. Content Support: HDR effects only take effect when playing HDR content. Normal SDR content will not display HDR effects.

2. **Device Support:** Ensure your device supports HDR output and has HDR enabled on the device.
3. **Power Consumption:** Enabling HDR may increase power consumption. It is recommended to ensure sufficient device battery when using HDR.
4. **Visual Adaptation:** When switching from SDR to HDR, it may take a few minutes for your eyes to adapt to the brighter picture.
5. **Brightness Adjustment:** In HDR mode, it is recommended to appropriately adjust the brightness settings of the glasses for the best visual experience.
6. **Content Source:** For the best HDR effect, it is recommended to choose high-quality HDR content sources, such as 4K HDR movies, games that support HDR, etc.

Audio Effects

This chapter will detail the audio effect settings of the xbx a01 series glasses to help you get the best listening experience.

The xbx a01 series glasses support DP audio output and provide multiple audio effect modes. You can choose the appropriate audio effect for different usage scenarios to get a better listening experience. The xbx a01 series glasses adopt reverse acoustic field sound leakage reduction design, effectively reducing sound leakage through phase cancellation technology to minimize the impact on the surrounding environment. Among them, the 「Whisper」 mode has the best sound leakage control effect, making it more suitable for quiet environments, night use, or scenarios requiring high privacy.

Audio Modes

Audio Mode	Features	Usage Scenarios	Audio Characteristics	Recommended For
Standard	Balanced audio performance, suitable for most scenarios	Daily use, gaming, movie viewing	Balanced, with good low-frequency performance	General scenarios, suitable for most content
Cinema	Enhances mid-frequency range for clearer voice	Video conferencing, voice content, podcasts	Highlights voices, improves dialogue clarity	Scenarios requiring clear voice hearing
Whisper	Reduces sound leakage, suitable for public places	Libraries, offices, public transportation	Through reverse acoustic field design, reduces sound leakage	Environments requiring quietness
Surround (xbx a01+ only)	Strong spatial sense, good immersion	Movie viewing, gaming	Provides virtual surround sound effect, enhances immersion	Entertainment content requiring immersive experience

How to Switch Audio Modes

Double-click the 「X」 button to enter the OSD menu, select 「Sound」, use the 「+/-」 buttons to switch on the menu page, and click the 「X」 button to confirm.

Volume Adjustment

The xbx a01 series glasses support DP audio and can only adjust the output volume of the glasses themselves:

「2D」 mode: Long press the 「+/-」 button to adjust volume, the screen will display a volume adjustment progress bar 「3D」 mode: Long press the 「+/-」 button to adjust volume, no OSD prompt, perceive through volume change

- Total levels: 16 levels, default is level 13
- Adjustment range: 0-100%, approximately 6.25% per level
- Power-off memory: Supports remembering the last set volume level after power-off

Volume Recommendations

Scenario	Recommended Volume Level
Quiet environment	Level 6-8
Normal indoor	Level 9-11
Noisy environment	Level 12-14
Personal use	Level 10-13

Stabilization

This chapter will detail the 「Stabilization」 feature of the xbx a01 series glasses to help you understand and use this feature correctly.

What is 「Stabilization」

「Stabilization」 is an important feature of the xbx a01 series glasses. Through the built-in IMU sensor, it monitors head movement in real-time and compensates the display image in real-time to reduce image jitter during head movement, providing a more stable and comfortable visual experience. 「Stabilization」 is only available when the connected device's output refresh rate is 60/90/120Hz.

Device Type	Support	Notes
Mobile Phones	Partially Supported	Requires 60/90/120Hz refresh rate output support
Tablets	Partially Supported	Requires 60/90/120Hz refresh rate output support
Computers	Partially Supported	Requires 60/90/120Hz refresh rate output support
Handheld Gaming Devices	Partially Supported	Requires 60/90/120Hz refresh rate output support
Game Consoles	Not Supported	Currently not supported

If the connected device does not support 60/90/120Hz refresh rate output, the 「Stabilization」 feature will be grayed out and cannot be enabled.

Benefits of Stabilization

- Enhance Movie Viewing Experience
 - Reduce dizziness: Reduce image jitter during head movement, reduce dizziness during long viewing sessions
 - Enhance immersion: Image follows natural head movement, providing a more realistic immersive experience

- Improve mobile viewing: Still get stable images in mobile scenarios such as walking or riding transportation

2. Enhance Gaming Experience

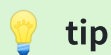
- Reduce operation interference: Slight head movement will not affect game operation
- Enhance spatial awareness: 3D scenes in games are more stable, improving spatial perception
- Extend gaming time: Reduce visual fatigue, support longer gaming experiences

3. Enhance Office Experience

- Stable reading: Documents, web pages, and other content remain stable during slight head movement
- Reduce eye fatigue: Stable images reduce eye adjustment burden
- Improve focus: Reduce attention distraction caused by image jitter

How to Enable 「Stabilization」

1. Modify the Refresh Rate of the Connected Device



tip

When connecting a computer or gaming device, it is recommended to set the glasses to "Extended Display" mode. On some devices in "Mirror" mode, the system may limit the refresh rate of the external display, preventing normal activation of high refresh rates.

macOS

「System Settings」 → 「Displays」 → Select display 「xbx a01」 as 「Extended Display」 → Select 「Refresh Rate」

iPhone/iPad

iPhone and iPad usually manage the refresh rate of external displays automatically. There is no separate refresh rate setting option for external displays in the system. If 「Stabilization」 cannot be enabled, the current device output refresh rate may not meet the feature requirements.

Windows Computer / Windows Handheld (ROG Ally, Legion Go, etc.)

「Settings」 → 「System」 → 「Screen」 → 「Advanced Display Settings」 → 「Select Refresh Rate」

Steam Deck

「Settings」 → 「Display」 → 「Refresh Rate」

PlayStation 5

1. Enter 「Settings」 → 「Screen and Video」 : Adjust system supported 「Resolution」 to 1080P, switch 「120Hz Output」 to Auto;
2. Enter 「Settings」 → 「Saved Data and Game/App Settings」 , adjust 「Performance Mode/Resolution Mode」 game preset to 「Performance Mode」 ;
3. Open the game, in game 「Settings」 - 「Options」 - 「Display」 , switch to 「Performance/Performance Plus」 high frame rate mode;



tip

If steps 1 and 2 were performed while the game was already open, you need to close the game before proceeding to step 3.

2. Enable 「Stabilization」 on the Glasses

1. Click the 「X」 button to enable the OSD menu.
2. In the OSD menu, select the 「Display」 .
3. Use 「+/-」 buttons navigate to 「Stabilization」 and click 「X」 button to enable/disable 「Stabilization」 .

Impact of Enabling 「Stabilization」

1. Stabilization processing requires additional computing resources. To ensure system stability, brightness levels are reduced from 14 levels to 10 levels.
2. Enabling 「Stabilization」 makes the image more stable, but there may be slight image delay during rapid head movement.

Power-Off Memory

「Stabilization」 supports power-off memory. The system will remember the last 「Stabilization」 setting:

- Last connected to 60/90/120Hz device and enabled: Remains enabled on next connection
- Last connected to 60/90/120Hz device but disabled: Remains disabled on next connection
- Last connected to non-60/90/120Hz device: Disabled on next connection

Recommended Usage Scenarios

1. Movie viewing: Especially when watching long videos, stabilization can reduce fatigue
2. Gaming: Especially first-person perspective games, enhancing immersion
3. Mobile use: When walking or riding transportation

4. Long-term use: Reduce eye fatigue and dizziness

Not Recommended Usage Scenarios

1. Static use: When keeping head still, stabilization effect is not obvious
2. Requiring precise image: Such as precision operations, reading small text

Important Notes

- Refresh rate requirement: 「Stabilization」 is available at 60/90/120Hz refresh rates
- Sensor accuracy: Excessively violent head movement may exceed sensor detection range

Troubleshooting

- Stabilization not working: Check if device output refresh rate is 60/90/120Hz
- Image unstable: Try restarting device or reconnecting data cable
- Brightness change: Reduced brightness levels after enabling stabilization is normal

Frequently Asked Questions

This chapter summarizes common questions and solutions during the use of xbx a01 series glasses to help you quickly resolve any issues.

Wearing & Comfort

What if the glasses are uncomfortable to wear?

Discomfort may be caused by improper adjustment of nose pads or temples. You can adjust the angle of the nose pads or replace them with different sizes according to your nose bridge height; at the same time, ensure the temples are securely hung behind your ears to avoid excessive pressure.

What if my eyes feel fatigued after prolonged use?

If you experience eye fatigue after prolonged use, you can switch to 「Eye Care」 display mode and appropriately reduce brightness to levels 6-8. It is recommended to take a break every 1-2 hours, look into the distance to relax your eyes, and ensure the ambient lighting is moderate, avoiding direct strong light.

Connection & Devices

What if there is no display after connecting the glasses?

If there is no display after connecting, please first check if the data cable connection is secure and confirm whether the device supports DP video output. Also check if the device has sufficient power, try reconnecting or replacing the data cable, or restart the device and try connecting again.

Can I charge the device and connect the glasses at the same time?

You can use a USB-C hub that supports PD charging to charge the device and connect the glasses simultaneously. When using, please ensure the hub supports DP video transmission function.

Can I connect multiple devices at the same time?

The glasses can only connect to one device at a time. To switch devices, please disconnect the current connection first.

Why are some features limited after connecting to certain devices?

Some features, such as 「Stabilization」, are only available on devices that support 60/90/120Hz refresh rate output. Please check the device specifications to confirm if it supports the required features.

Display & Sound

How to get the best 3D effect?

To get the best 3D effect, please ensure the content source is in 3D format and select the appropriate 「3D」 mode, such as 「Half Width」 or 「Full Width」. Also adjust the wearing position of the glasses to ensure the image is centered, and appropriately adjust brightness for a clear 3D effect.

Why does the 「Dynamic Range」 sometimes switch automatically?

When switching from a scenario that supports 「HDR 10」 to one that does not support 「HDR 10」, the system will automatically downgrade to 「AI-HDR」. When entering 「3D」 mode, the system will also automatically switch to 「AI-HDR」.

Why is the 「Stabilization」 feature unavailable?

「Stabilization」 is only available when connecting to devices with 60/90/120Hz refresh rate output. Please check the device output refresh rate settings.

Why do I feel slight image trailing when turning my head after enabling 「Stabilization」?

The 「Stabilization」 feature on xbx a01 series glasses supports 60Hz, 90Hz, and 120Hz refresh rates. To support more devices while maintaining good brightness performance and visual stability across different refresh rates, slight motion blur may occur when you turn your head quickly or make large head movements after enabling 「Stabilization」.

This is the result of balancing refresh rate compatibility, screen brightness, flicker control, and stabilization performance in the current display solution. It does not indicate a device malfunction. To keep screen brightness as consistent as possible whether 「Stabilization」 is turned on or off, the system uses a display strategy that balances brightness and stability. As a result, slight motion blur may be noticeable in dynamic scenarios, such as quickly turning your head.

「Stabilization」 is more suitable for use in vehicles or other moving environments. If you are using the glasses at home or in another relatively stationary environment, and the image is already stable, you usually do not need to enable this feature.

We will continue to monitor users' experience across different refresh rates and usage scenarios, and keep optimizing the display performance of 「Stabilization」 in future versions.

What if there is no sound after connecting?

If there is no sound after connecting, please first check the device volume settings and long press the 「+/-」 button to adjust the glasses volume. Also ensure the device audio output settings are correct, try reconnecting the data cable, and confirm you are using a data cable that supports audio transmission.

What should I do if audio does not play through the glasses after connecting to my phone?

The xbx a01 series glasses use DP audio output by default. On some phones, audio may still play through the phone speaker or another audio device after the glasses are connected. If this happens, open the audio output settings on your phone and manually switch the 「Media output」 or 「Audio output」 channel to 「Display device」 or the currently connected external display device. After switching the output device, media audio should play through the glasses.

What if sound leakage is severe?

If sound leakage is severe, you can switch to 「Whisper」 mode and reduce the volume level. Also check if the wearing position is correct. 「Whisper」 mode has the best sound leakage control effect.

Operation & Settings

Why is there no response when long pressing the 「+/-」 button?

Please ensure the long press time reaches about 1 second. The volume adjustment will only be triggered after the first long press of about 1 second. Also check if the glasses are properly connected.

How to know if I am in 「Half Width」 or 「Full Width」 mode in 「3D」 mode?

You can judge the current mode by the display effect. In 「Half Width」 mode, the image will be horizontally stretched, while in 「Full Width」 mode, the image ratio is normal. There is no OSD prompt in 「3D」 mode; you need to perceive the change through the image.

How to restore factory settings?

You can select 「Settings」 → 「Reset」 in the OSD menu, and follow the prompts to restore factory settings.

Hardware & Maintenance

Is it normal for the front frame to heat up?

During prolonged use, there may be slight heating in the left temple area, which is normal. This part does not directly contact the skin, so it is safe to use. If the heating is severe, it is recommended to pause use and contact customer service.

How to clean the glasses?

Please use a dedicated glasses cloth to clean the lenses and regularly disinfect the nose pads with alcohol wipes. Also keep the data cable interface clean to avoid dust accumulation, and avoid using organic solvents or rough cloths for cleaning.

How to store the glasses?

When not in use, please put the glasses in the portable case. Avoid placing the glasses in high-temperature or humid environments. The data cable should be stored separately to avoid bending damage, and also avoid placing with hard objects to prevent scratching.

Can the nose pads be replaced?

Yes, the xbx a01 series glasses come with replaceable nose pads. The package includes S and L size nose pads, with M size pre-installed by default. You can choose the appropriate size according to personal comfort.

Can the front windshield lens be removed?

Yes, the front windshield lens supports removal. When removing, please follow the instructions to avoid using excessive force. It is recommended to install the front windshield lens when not in

use to protect the optical engine.

Firmware & Updates

How to update the glasses firmware?

You can visit www.xreal.com/ota and follow the page prompts to download and install the latest firmware. Do not disconnect or turn off the device during the update process.

What to note when updating firmware?

Before updating firmware, please ensure the device has sufficient power and maintain a stable network connection. Do not operate the glasses or disconnect during the update process. If the update fails, you can try updating again.

Other Questions

Do the glasses support prescription lenses?

Yes, users can install myopia/astigmatism lenses themselves. It is recommended to go to a professional optical shop to customize suitable lenses. Pay attention not to damage the glasses structure during installation.

How to determine if a device supports DP video output?

You can check the device manual or official website, or consult the device manufacturer's customer service. You can also check if the device interface is marked with a DP logo, or try connecting to see if there is a display.

xbx a01 Specifications

Package Contents



Accessory	xbox a01	xbox a01+
xbox a01 / xbox a01+ Glasses	✓	✓
Detachable Front Lens (pre-installed)	✓	✓
Light Shield	✗	✓
Glasses Case	✓	✓
USB-C Cable	✓	✓
Nose Pads (3 sizes: S/M/L, M pre-installed)	✓	✓
Cleaning Cloth	✓	✓
Quick Start Guide	✓	✓
Disclaimer (Warranty Card)	✓	✓

Product Specifications

Item	Specification
Dimensions	168 x 52 x 145 mm
Weight	62g with detachable front frame, 56g without detachable front frame
Material	High-performance ultra-light nylon, soft skin-friendly material and coating
Color	Black
Power Requirement	5V/1A
Battery	No built-in battery (powered by external device)
Interface	USB-C
Video Output	DisplayPort Alt Mode
Display Model	Latest generation SeeYa 0.6-inch Micro OLED
Resolution	2D mode: 19201080; 3D mode: 38401080
Dimming Method (Frequency)	High-frequency PWM dimming (up to 3840Hz)
Refresh Rate	Up to 120Hz
Field of View	50°
Eye Brightness & Screen Brightness	1600 nits & 6000 nits
Contrast Ratio	2000000:1
Color Gamut	sRGB 145%
Color Bit Depth	8bits/10bits
Color Accuracy	$\Delta E < 2$
HDR Support	HDR10, AI-HDR
IPD Coverage Range	54.5-74.5mm
Myopia Correction	Custom prescription lenses
Sound Leakage Prevention	Phase cancellation technology
Audio Protocol	Supports DP
Sensor	IMU

Certification

Certification Name	Certificate Image
TÜV Rheinland Eye Comfort 5-Star Certification	 The logo for TÜV Rheinland Eye Comfort 5-Star Certification. It features a square frame containing a stylized 'A' logo with 'TÜVRheinland' and 'CERTIFIED' below it. To the right of the frame, the text 'Eye Comfort' is at the top, followed by five stars, and the website 'www.tuv.com' and ID 'ID 0217010244' at the bottom.
TÜV Rheinland Low Blue Light & Flicker-Free	 The logo for TÜV Rheinland Low Blue Light & Flicker-Free certification. It features a square frame containing a stylized 'A' logo with 'TÜVRheinland' and 'CERTIFIED' below it. To the right of the frame, the text 'Low Blue Light (Hardware Solution)' and 'Flicker Free' are at the top, and the website 'www.tuv.com' and ID 'ID 0217008981' are at the bottom.