



**Small**  
**Mixed Reality**  
**Glasses**

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## Welcome to Mixed Reality

**Congratulations** on getting your Escher X1 Mixed Reality (MR) Glasses — a powerful, stereoscopic 3D, see-through mixed reality technology. The X1 MR Glasses allow you to merge the real world with virtual worlds.

This user guide will take you through the basic set-up of the X1. While the X1 possibilities are infinite, thankfully its setup is not.

This user guide is also available online: [www.escherinnovations.com](http://www.escherinnovations.com).

Specifications and instructions included in this document are subject to be updated or modified at Escher's discretion. Contact Escher or ask any support questions using the support email, [support@escher-innovations.com](mailto:support@escher-innovations.com).

Additional instructional information or videos can also be found on the Escher website, social media, and at [www.escherinnovations.com/forums](http://www.escherinnovations.com/forums).

### Customer Support

For questions and additional support information not found within this guide, contact [support@escher-innovations.com](mailto:support@escher-innovations.com).

### Developer Support

For developer support, documentation, please visit <https://www.escherinnovations.com/documentation/> or contact [developers@escher-innovations.com](mailto:developers@escher-innovations.com).

**Important:** *Please read this entire guide thoroughly before using your X1MR Glasses.*



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## What comes with your X1 MR Glasses?

1. X1 MR Glasses



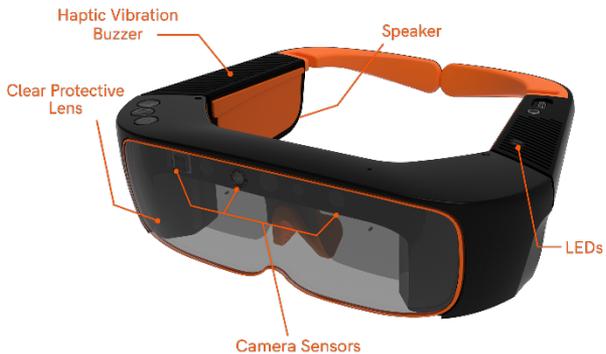
2. USB Type A-C Power Adapter
3. USB Type A-C Cable (for charging and data transfer)
4. Head-strap
5. X1 Portable Carrying Case
6. Microfiber Cleaning Cloth
7. Earphones
8. User Guide

## Overview of the X2 MR Glasses:

### Top View



### Front Angle View



## Direct Front View



## Main Buttons Controls:

The Three Buttons are “Power,” “Home/Back,” and “Select”

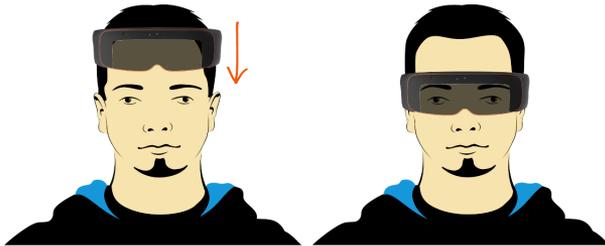
- 1. Power On:** Short press (click) the power button to turn on. You will see the white LED light turn on immediately and will hear the haptic buzzer make a noise. The X1 displays will turn on a few seconds later. If the white LED or displays do not turn on that means battery is low. Connect to your provided charger and you will see the orange LED light up to indicate the X1 is charging.
- 2. Enter Sleep Mode:** While your X1 displays are on, short press the power button to enter sleep mode. The displays turn off in sleep mode. In sleep mode, the device is not off only the displays are.
- 3. Exit Sleep Mode:** Short press the power button again to exit sleep mode.
- 4. Power off:** While your X1 is on, long press (click and hold for 3 seconds) power button to turn the system off. You will see a pop-up with the message “shutting down” indicating the X1 is shutting down automatically.
- 5. Power Reset:** Press and hold the power button for 30 seconds to force a power reset. During a hard power reset, the device can't be plugged in to a charger or computer.
- 6. Home/Back:** Press the home/back button to return to the previous screen or home screen.

## Turning on the X1 MR Glasses for the first time:

The first time you turn on the X1 MR Glasses, you will be taken through a brief setup process. Please follow the below steps.

1. Put on the X1 from top down (see below picture). Attach the head strap to the head strap notch if necessary.

Place from **Top** to **Bottom** as shown below,  
and not **Sideways**



2. Turn on the X1 by pressing and holding the power button. You will see the white LED light turn on automatically and will hear the haptic buzzer make a noise. It takes a few seconds after pressing the power button for the displays to turn on with the Escher logo. If the white LED or displays do not turn on that means battery is low. Connect to your provided charger and press the power button. You will see a battery charge icon if battery is low. After charging for some time, press and hold the power button and the Escher logos will display for the normal power up process.
3. Once the displays are on, you will be taken to the home screen. If the screen or icons seem blurry, this may be because the X1 is not positioned properly on your face. Adjust it up or down on your nose, modify the flexibility of the nosepiece

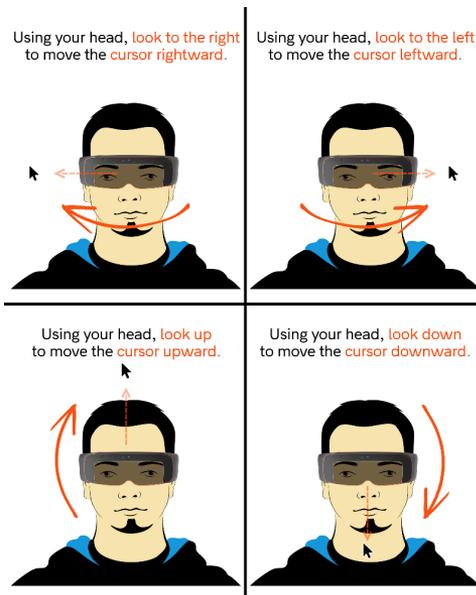
if needed, and use the head strap if necessary, to position properly on your face until you can view the full screen properly.

4. On the home screen you will see tutorial apps for the gaze/audio/gesture controls. Look at the tutorial with your head to move the cursor and click by pressing the physical “select” button or via the automatic head motion gaze click. The tutorial will go through how to use the different user interface methods and control/activate/deactivate them.

## Head Motion “Gaze” UI Controls

There are multiple methods of user interface (UI) controls on the X1 MR Glasses.

- 1. Move/Click/Drag and Drop/Long Press:** Using your head look up, down, left, and right to move the cursor along with your head motion. Upon looking at an icon, the Gaze UI cursor automatically “clicks” by just staring at the icon for a couple seconds. You can drag and drop an icon by looking at an icon and pressing/holding the “select” button. To “long press,” press and hold the “select” button.



- 2. Gaze UI Tab:** The Gaze UI controls tab is located at the top left. Each UI button corresponds to a different function. You can move this UI controls

tab anywhere else on the home screen by looking at the UI tab and pressing and holding the “select” button to drag and drop the UI Controls tab to a different section of the screen.

3. **Settings:** The “settings” gear on the UI tab allows you to customize the user interface per your individual preference. Below are some of the customizations available:



- i. **Enable/Disable Auto-Click:** To enable auto-click, click on the icon displayed on the right which can be found on the Gaze UI tab. If you want the automatic clicking to stop, scroll down to the “disable auto-click.” After disabling this, to click on something you have to look at the icon and press the “select” button.
- ii. **Change Color/Size of UI Tab and Cursor:** To change the color, scroll to the UI controls color and drag and drop it to whichever color you prefer. There is also an option to change the size of the UI tab from small, medium and large per your preference.



- iii. **Change Speed of Cursor Auto-Click:** Increase or decrease the speed of how fast the cursor automatically clicks when above an icon.

- iv. **Change Speed of Cursor Movement:** You can increase or decrease how fast the cursor moves with your head motion speed.
  - v. **Enable/Disable Gaze UI Controls:** You can disable the head motion gaze UI controls in settings if you want to use audio, gestures or a wireless controller instead. Note: If you disable the head motion gaze UI controls, you will need to use some other form of UI control (audio, gestures, a Bluetooth controller device, or Vysor app on a computer.) To re-enable the head motion gaze UI controls, click on the Gaze UI app or enable in settings.
  - vi. **Restart Gaze UI Tutorial:** You can always redo the initial tutorial via the Gaze UI tutorial button in settings.
4. **Hide UI Tab from Top:** To minimize the UI tab, click on the “Escher” logo next to the “settings” icon in the UI tab.  This will minimize the UI tab. To reopen the UI tab, look at the “Escher” logo on the bottom right and click on it. You can move the minimized UI tab anywhere on the screen via the same “drag and drop” method. Remember where you moved it so you can reopen it later.
5. **Previous Screen (Back/Home) Functionality While Gaze UI Is On:** If the gaze controls are enabled, to go back to the previous screen, you can click on the “back” icon on the gaze UI controls or press the physical “back” button. 

## Audio UI Controls

The X1 MR Glasses support audio commands in English using a custom speech recognizer. The device uses the latest technology for advanced noise cancellation. Speech recognition works in various environments.

- The wake-up word to enter audio command mode is "**Okay Escher.**"
- You can say "**Stop listening**" to go back to turn off audio commands.

Upon saying the wake-up word, the X1 MR Glasses will make an audible “ring” sound and display text on screen to let you know the X1 MR Glasses are listening for audio commands. You can say multiple audio commands in a row; however, if you are going to be talking in the meantime that could trigger commands unintentionally.

You can say “show commands list” to get a scrolling list displayed of all the audio commands in case you forget any.

When you say, “stop listening,” the X1 MR Glasses will make an audio “ring” sound to let you know it has turned off audio commands.

### Escher Global Audio Commands:

The below audio commands are global commands meaning that they can be used on any screen after saying the wake-up word. They will work on the home screen and in any third-party app, unless the third-party app developer specifically deactivated a global command.

| <b>Global Audio Commands</b> | <b>Meaning</b>   |
|------------------------------|--|
| Sleep Mode                   | X1 sleep mode  |
| Show Commands List           | Provides user a list of currently active voice commands in its own activity screen   |
| Wake Up                      | Return from sleep mode to the previous screen  |
| Shutdown Escher              | Android turn off – X1 shuts down   |
| Back Button                  | Mimics the Android back button<br>Navigates to the previous or home screen   |
| Home Screen                  | Navigates to home screen of X1   |
| Open Camera                  | Opens built-in Android camera app  |
| Take Picture                 | Takes a picture and saves it to gallery<br>Can be used at any time   |
| Start/Stop Recording         | Starts recording a video, displays a preview window on the top left corner of the screen<br>Stops recording a video, hides the preview window<br>Saves the video to the media gallery<br>Can be used at any time |
| Open Store                   | Opens Escher App Store app   |
| Open Workspace               | Open Escher Mixed Reality Workspace application  |
| Gallery                      | Opens media gallery application  |
| Files App                    | Opens file manager application   |

|                           |   |
|---------------------------|---|
| Open/Close Thermal        | Opens and closes the thermal sensor feed application  |
| Take Thermal Picture      | Takes thermal feed picture and saves it into media gallery  |
| Flashlight On/Off         | Turns on/off flashlight (Android torch functionality)   |
| Screenshot                | Takes screenshot of Android screen and saves it into gallery  |
| Volume Up/Down            | Increases/decreases the volume one step   |
| Brightness Up/Down        | Increase/decrease the display brightness level by 10%   |
| Brightness High/Max       | Sets display brightness level to high   |
| Brightness Medium         | Sets display brightness level to medium   |
| Brightness Low            | Sets display brightness level to low  |
| Rotation On/Off           | Turn on/off sensor-based screen rotation  |
| Mute Sound/Off            | Mute on/off   |
| Cursor Up/Down/Left/Right | Moves the system cursor/highlight   |
| Cursor Select             | Selects the currently highlighted object  |
| Head Motion On/Off        | Head motion UI controls appear/turn off   |
| Gaze Click On/Off         | The automatic stare clicking starts / the automatic stare clicking stops. Only physical clicking via select button will click |

|                                   |   |
|-----------------------------------|---|
| Motion Select                     | “Clicks” whatever the head motion pointer is over   |
| Voice Commands Off                | Turns the audio command off completely<br>To turn them back on, click on the “VUI on” icon on the home screen |
| System Settings                   | Goes to Android settings  |
| Wireless Settings                 | Goes to Android Wi-Fi settings  |
| Bluetooth Settings                | Goes to Android Bluetooth settings  |
| Recent Apps                       | Open applications running in the background   |
| Close App                         | Closes the highlighted application in recent apps screen  |
| Internet                          | Opens up system level internet browser (Firefox app)  |
| Android Debugging On/Off          | Turns debug mode on/off   |
| Launcher Dark Mode                | Makes background home screen black “transparent”  |
| Launcher Light Mode               | Makes background home screen light  |
| My Applications   Open App Drawer | Opens up “my applications” folder on the home screen  |
| Show Desktop   Close App Drawer   | Returns to the simplified applications desktop screen   |
| About Escher Device               | Opens “about device” in Android settings  |
| Check Escher Update               | Automatically checks for updates  |

|                                     |   |
|-------------------------------------|---|
| Download Escher Update<br>Now/Later | If update exists and if device battery is 50% or more or connected to charger, OTA update will commence. If less than 50%, text box comes up saying “connect to charger – battery percent for OTA must be at least 50%” |
| Install Escher Update<br>Now/Later  | Will install the OTA update now or at a later time  |
| Scroll Up/Down/Left/Right           | Scrolls the screen up/down/left/right   |
| Voice Typing                        | Activates the voice keyboard<br>(Note: The soft keyboard must be visible on-screen to accept voice typing commands)   |

### Opening User-Installed Apps:

User-installed apps are automatically added to the global command list when they are installed. Say “open” and the app’s label to open it. For example, to open an app called “Strike Force,” simply say “open Strike Force.”

### Voice Typing:

When the voice keyboard is activated, the following commands are made available.

|                     |   |
|---------------------|---|
| <b>Voice Typing</b> | <b>Activates the Voice Keyboard (Note: The soft keyboard must be visible on-screen to accept voice typing commands)</b> |
| <b>Commands</b>     | <b>Meaning</b>  |

|                                   |  |
|-----------------------------------|--|
| Spacebar                          | Adds a single space  |
| Enter                             | Presses the enter key  |
| Backspace/Delete                  | Deletes the last character   |
| Clear Text                        | Clear the text   |
| Caps On                           | Uses capital letters   |
| Caps Off                          | Switches to lowercase letters  |
| Clear Text                        | Clears text in the active text edit box  |
| Cursor Left                       | Moves the text cursor one character to the left  |
| Cursor Right                      | Moves the text cursor one character to the right   |
| Cursor Home                       | Moves the text cursor to the beginning of the text box   |
| Cursor End                        | Moves the text cursor to then end of the text box  |
| Typing<br>Letters/Numbers/Symbols | <p>To type a letter, you can either use the NATO alphabet (“Alpha” for A, “Bravo” for B, etc.) or say “Letter A/B/C...” for letters or use a combination of both</p> <p>For numbers, you can say “Number 1/2/3”</p> <p>For symbols, you can say the name of the symbol</p> <p>For example: To type “hello :-) 123,” (1) say "Okay Escher" to wake up system, (2) say "voice typing" to activate system, (3) next say: "hotel, letter e, lima, letter l, letter o, space, colon, minus, closed parenthesis, space, number</p> |

|             |   |
|-------------|---|
|             | one, number two, number three." This will result in: "hello :-) 123."   |
| Stop Typing | Disables voice typing (says "system commands available") and returns to voice command mode looking for the "voice typing" activation word |
| Next Field  | Move cursor to the next available text field  |

### Escher App Commands:

The following commands are available to use in each app as defined below. To use them in third party apps, third party app developers will have to integrate them into their app using the audio SDK.

| Commands       |                           |                    |
|----------------|---------------------------|--------------------|
| Camera App     | Camera Zoom In            | Camera zoom in     |
|                | Camera Zoom Out           | Camera zoom out    |
|                | Take Photo/Picture        | Take photo/picture |
| PDF Viewer App | Scroll Up/Down/Left/Right | Scroll the PDF     |

### Other Audio Information:

1. During over-the-air (OTA) firmware updates of the X1 MR Glasses, the database of audio commands may increase. The update will inform you if there are any changes in the text update of the OTA. Future changes may include more audio commands, changes to the SDK, speech to text recognition and other features.
2. The voice accuracy success rate depends on many factors such as surrounding noise and accent. For greater accuracy, you can attach an external mic (see the Escher forum website page for some mic

recommendations). On some screens, certain audio commands will not work for increased accuracy. For example, if you are on a web browser, “take thermal picture” audio command will not function.

3. Currently English is the only supported language. You will receive an update if other languages are available.
4. **Disabling Audio:** Note if you turn off the audio commands, any app that uses the audio SDK will also be off so audio commands will not work throughout the device until they are reactivated. If you say an audio command that is already enabled, i.e. saying "head motion on" when the head motion gaze controls are already on, nothing will take place. To re-enable audio, click on the “VUIon” app on home screen.
5. **Disabling Wake Up:** The way the system is currently set up, you only have to say the wakeup word once, then can follow up with as many commands as you like. User can then say "stop listening" to turn off audio commands.
6. **Developers:** To create your own custom voice commands using the audio SDK, please refer to the Developer section.

## Gesture Controls:

Escher also has hand gestures for system controls. To learn about gesture controls, click on the Gestures tutorial located on the home screen of the glasses.

- A “pinch” gesture will show the cursor.
- A “pinch” gesture going from open to closed will function as a “click.”
- Closed to open “pinch” gesture will be a touch release.
- “Back” will be triggered by open hand followed by closed hand gesture.

A user can use: (1) gesture and audio controls; or (2) gaze and audio controls simultaneously, but not (3) gesture and gaze controls at the same time.

If gestures are deactivated, any app that uses the gestures will also not be able to use them.

Third party app developers may also activate or deactivate gestures in individual apps.

## The Home Screen:

After completing the tutorial, you can enter the X1 MR Glasses' home screen. The X1 MR Glasses has a custom launcher home screen so that the background is transparent and only a few apps are shown for easy accessibility.

The default home screen has the following apps:

1. **Escher App Store:** This is the official Escher App Store. You can create an account and download any free or paid app available. If you are interested in submitting your own app, please refer to the Developer section of the user guide.
2. **Escher MR Workspace App:** The Escher enterprise software application. For more information refer to the Escher MR Workspace section of the user guide.
3. **Settings:** This is the main Android settings tab. You can choose your Wi-Fi, Bluetooth settings and other settings features.
4. **Camera:** This is the built-in standard RGB camera feed. More info about the RGB camera is listed later on in the guide.
5. **UI Tutorial apps:** This is the tutorial app that allows the user to learn how to use the gaze/audio/gestures. There are 3 UI tutorial apps for audio, gaze and gestures.
6. **My Applications:** This is the folder on the home screen that hosts the all the below listed apps, as well as, any other new app that is downloaded unless you move the app onto the home screen.
7. **Thermal Sensor:** This lets you click on the thermal sensor and view the thermal feed view from the thermal sensor integrated. If you want more info

on how to develop software using the thermal sense, please refer to the Developer section.

8. **Flashlight:** This lets you click on the flashlight and turn on or off the built-in flashlight. If you want more information on how to develop software using this, please refer to the Developer section.
9. **Gallery:** This is the gallery where pictures and videos are stored.
10. **File Manager:** This is where you can view downloaded files.
11. **VisionEye SLAM Apps:** Apps that showcase the Escher VisionEye SLAM capabilities.
  - a. “VisionEye SLAM:” The VisionEye SLAM system app should not be deleted.
  - b. “Escher SLAM demo:” A SLAM demo app that showcases various SLAM features.
  - c. For more info on VisionEye SLAM, visit the VisionEye SLAM section.
12. **Audio and Gaze and Gesture UI Controls:** The system level UI apps allow for the user to deactivate audio commands by clicking on the app. You may do this via the apps labeled VUIon and VUIoff and the appropriate gaze UI and gesture UI control apps.
13. **Over-the-Air (OTA) Updates:** For wireless over-the-air updates.
14. **Internet Browser:** This allows user to access the internet.
15. **PDF/Document Reader:** User can view PDFs and other document formats in this app.
16. **Mobile Device Management App:** User can register their device using this app.
17. **Third party applications:** These are any other pre-installed or new downloaded apps.

## Download Apps from the Escher App Store:

1. Go to the home screen and click on the icon for the Escher App Store.
2. You will be taken to the App Store login page.
3. The first time you visit the App Store you will need to create a Escher user account if you don't already have one. Click on "sign up." Complete the required fields. You can also create an account on the Escher website, App Store, or Workspace app with the same login info.
4. Once you have created your Escher user account, you can login.
5. Now you have access to all of Escher App Store apps.
6. The following custom Escher audio commands work within the App Store.
  - a. "Move up/down/left/right" moves the highlighted icon. Highlight refers to what is selected, not what the cursor is over.
  - b. "Show <category>," i.e. "show games" for games apps to appear.
  - c. "Select <app>" selects the app that is highlighted.
  - d. "Scroll up/down" scrolls screen up or down.
  - e. "Download app," when on an app install page, starts the download.
  - f. "Complete login" logs user in after typing username and password.
  - g. "Forgot password" opens the forgot password window.
  - h. "Show <categories/my apps/account>" to see available categories, my applications window, or my account window, respectively.

*Some apps may not be free. Before you can download, you will have to enter your payment details in the App Store.*

*Interested in developing apps for the Escher App Store? Turn to the Developer section.*

## Escher MR Workspace

The Escher MR Workspace app is a powerful AR/MR software platform that comes with your X1 MR Glasses.

The Workspace has many AR/MR features for you to use. Create an account to get started. You can also create an account in the Escher App Store or Escher website and use the same login info to create a free Workspace account with single sign-on (SSO).

For more detailed information on using the Workspace, please visit [www.escherinnovations.com](http://www.escherinnovations.com) to learn more.

## Escher Remote Configuration from Web Browser (Mobile Device Management)

If you require your device to be registered using the Escher MDM platform, please follow the below steps:

1. Open a web browser in your computer to <http://www.escherinnovations.com/configure>.
2. Click the “configuration” button on the page and then “first time setup.” Note: you can also click the “configuration” link on the top navigation bar.
3. Select the desired language and click “next.” You will need to select the world region first, then the time zone.
4. The “set automatically” checkbox will default to checked with the values from your computer or phone. If you desire different settings, uncheck the box and change any values necessary.
5. When the date and time values are set, click “next.”
  - a. Optional: Enter the Wi-Fi access point name (or SSID) and password to setup the Wi-Fi network for your Escher device.
  - b. Note: Most simple Wi-Fi networks use WPA/WPA2 PSK security.
6. Click “generate code.” A QR code will display on the computer screen.
7. On the ThirdEye device open the MDM app. Say or click on “navigate home” then “my applications” then “configuration.” The device will display “scan code.”

8. Scan the QR code by pointing the Escher camera so the QR code is within the target outline on the display.
9. When the QR code is scanned a notification will be displayed and you will be returned to the previous screen.
10. Once the Wi-Fi setup is done, you will need to register the device to the MDM platform.
11. Login to the MDM web interface at [mdm.escherinnovations.com/](https://mdm.escherinnovations.com/) login. You will get the QR code on the dashboard.
12. Click “register device” button on the MDM app. Scan the QR code by pointing the Escher camera so the QR code is within the target outline on the display. It will verify and register the device to the MDM platform.
13. Go to device section on the MDM web interface to view the registered devices.

*Congratulations! Your Escher device is now registered into the device management platform.*

*For more info, contact your company admin or refer to the MDM page on the Escher website.*

## VisionEye SLAM SDK

The Escher X1 MR Glasses has its own proprietary VisionEye SLAM (Simultaneous Localization and Mapping) SDK (Software Development Kit) integrated into the glasses.

The VisionEye SLAM allows for the X1 MR Glasses to understand its environment and create powerful MR apps. Furthermore, the VisionEye SLAM SDK offers developers a platform to create immersive AR/MR applications.

There are examples of VisionEye SLAM apps that showcase SLAM features such as inside-out 6-DoF, plane detection, and other SLAM features.

For more info, visit the Developer section of [www.escherinnovations.com](http://www.escherinnovations.com).

## Developers and Resellers: ThirdEye Partner Program

Escher has a vibrant developer ecosystem around the X1 MR Glasses and a generate program for software developers.

**Escher App Store:** Escher has an app store where developers can submit apps. This allows anyone with Escher MR Glasses to download their app. Apps can be free or paid. More information can be found at <https://developers.escherinnovations.com/login>.

**Developer SDKs:** Developers of apps on the Escher MR Glasses are also able to access the Escher SDKs. SDKs are available for the UI and for the VisionEye SLAM SDK (Unity and Unreal Engine plugins) as well as other development info. The SDKs and samples/documentation for developers are available at [www.escherinnovations.com/documentation](http://www.escherinnovations.com/documentation).

**Escher Partner Program:** If you are interested in reselling or distributing, Escher has an official partner program. If you are interested in becoming an official Escher reseller, please visit the Escher website.

## Escher for Enterprise

**Escher X1 and Workspace App:** The Escher X1 MR Glasses and built-in Workspace app allow for frictionless and end-to-end hardware and software solutions for your enterprise needs. Visit the Escher website to read more about its many features or contact your Escher representative by emailing [sales@escher-innovations.com](mailto:sales@escher-innovations.com) for more info.

**Escher Software Partners:** Escher has many software developer partners who create all types of applications on the Escher X1 MR Glasses. Escher can help deploy the software partner's solutions onto your glasses. Visit <https://www.escherinnovations.com/enterprise/> to learn more.

**Escher Industrial Certifications:** Escher has industrial certifications for its X1 MR Glasses ranging from hardhat attachments to higher certifications. Visit <https://www.escherinnovations.com/enterprise/> to learn more.

**Escher Custom Software Development:** Escher's team can develop whatever application you are looking to have developed. Email [sales@escher-innovations.com](mailto:sales@escher-innovations.com) for more info.

Whatever your business needs are, Escher can work with you to help achieve them. Contact us to learn more.

## Other X1 Hardware Features

### 1. Thermal Sensor

The X1 MR Glasses have a built-in thermal sensor. It is low-resolution 64-pixels and can be activated by clicking on its app or using audio commands. The sensor feed can be resampled for presentation on a screen, but it is primarily for detecting objects. For more details, please visit the Developer section of our website.

### 2. LEDs

There are two LED lights on the top right side (see overview picture). LEDs allow you to understand the status of the X1 MR Glasses without needing to put them on.

- a. The orange LED shows when the X1 MR Glasses are charging (i.e. connected to an outlet or laptop or other power source).
- b. The orange LED starts blinking when battery is low (less than 25% battery).
- c. The white LED shows whenever the X1 MR Glasses is turned on.

For more details, please visit the Developer section of our website.

### 3. Flashlight

The X1 MR Glasses have a built-in flashlight. This can be turned on by clicking on its app or by using audio commands. The flashlight can be used in low lighting situations to brighten your surroundings. For more details, please visit the Developer section of our website.

#### 4. Ambient Light Sensor (ALS)

The X1 MR Glasses have an ALS sensor to detect the lighting/brightness of its surroundings. The screen brightness of the X1 automatically adjusts based on the brightness of the surrounding environment. You can turn this feature on or off. For more details, please visit the Developer section of our website.

#### 5. RGB Camera

The X1 MR Glasses have a high resolution 13-megapixel RGB camera. This camera is accessible using Camera\_ID: 0. For more details, please visit the Developer section of our website.

#### 6. Two Wide-Angle Cameras

The X1 MR Glasses have two other wide-angle global shutter cameras that capture the raw image feed. For more details, please visit the Developer section of our website.

#### 7. Audio

The X1 MR Glasses have: (a) an auxiliary audio jack to plug in a standard wired earphone, (b) an internal 91 dB loudspeaker speaker, (c) audio via Bluetooth so you can connect your wireless earphones, and d) 3 built-in microphones with active noise cancellation.

#### 8. Battery and Charger

The X1 MR Glasses utilize USB type C power delivery for more efficient quick-charge capability.

- a. Plug the charger into a wall socket and connect it to the USB type A-C port shown. Make sure you hear the “click” of the

- USB Type A-C cable into the port. The X1 MR Glasses also support type C-C cables.
- b. While the X1 MR Glasses are charging, you can see the battery percentage (%) charging status displayed on the home screen (top right) and in “settings.”
  - c. Unplug the charger from the electrical plug and device when not in use.

## 9. **Charger Warnings**

- a. Keep out of reach of children. Your device and its accessories may contain small parts, which could be detached and create a choking hazard. They could hurt themselves, others, or could accidentally damage the device/accessories.
- b. There is a risk of explosion while charging if other than the specified model is used.
- c. Make sure that the cable plug is properly connected.
- d. Keep the charger away from liquids.
- e. In the case of any strange smell or noise from the charger, disconnect it and contact support.
- f. Before cleaning cable or charger, disconnect from power supply.
- g. When using an extension cable, check the integrity of the ground conductor.
- h. Disconnect charger from the X1 MR Glasses, once the battery is fully charged.
- i. Do not use charger in wet areas this charger is for indoor use only.
- j. Do not insert or remove plug with wet hands.

- k. Do not open charger. For any issues, contact support.
- l. Do not cut, break, or bend the cable into a knot.
- m. Do not put any objects on the cable that may let it overheat. It may damage the cable and cause fire or electrocution.
- n. Do not use any cable other than the original cable as it may cause short circuit or electrocution.

If an error is indicated, contact Escher or your Escher partner authorized reseller/distributor immediately for servicing. Do not attempt access the batteries or disassemble the device.

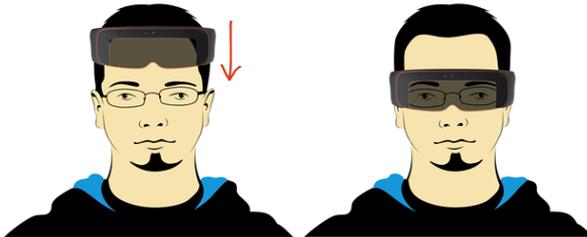
## 10. Head Strap

The X1 MR Glasses are designed to fit on the majority of head sizes; however, if you feel that the glasses are slipping off, you can wear your head strap by slipping it into the notch (see overview picture). For different types of straps that can be used, visit the forum section of the website or contact support.

## 11. Using the X1 MR Glasses with Eyeglasses: Corrective Lenses

In many cases, the X1 MR Glasses can be worn over the top of your glasses. However, this depends on your individual head shape and size of glasses. If you are unable to wear the X1 MR Glasses over your glasses, please visit our website to order our easy-to-use attachable corrective lenses. You can clip them on the inside of the glasses.

Place from **Top** to **Bottom** as shown below,  
and not **Sideways**



## 12. Headphone and Earphone Use

To prevent possible hearing damage, do not listen at high volume levels for long periods. A pleine puissance, l'écoute prolongée du baladeur peut endommager l'oreille de l'utilisateur.

## 13. Model Number and Serial Number

You can find the model number and serial number on the X1 MR Glasses.

## 14. Operating Frequency Bands

Operating frequency bands Wi-Fi operating frequency band(s) details are as follows:

- 802.11a
- 802.11b
- 802.11g
- 802.11n HT20 (2.4GHz)
- 802.11n HT40 (2.4GHz)
- 802.11n HT20 (5GHz)
- 802.11n HT40 (5GHz)
- 802.11ac Bluetooth: 10.55 dBm 5G Wi-Fi

## 15. Hard Hat / Cap Mounting

You can use the X1 with a hardhat via an attachable accessory clip that allows you to easily attach the X1 to a hardhat. You can also wear the X1 while wearing a ball cap. (Check Escher website to purchase hardhat or cap accessory and how to clip it on). Use the below images or watch the hardhat attachment support video.



## 16. X1 Nose Piece

The X1 MR Glasses' nosepiece is made of flexible material that is designed for maximum user comfort and can be adjusted inward and outward depending on your nose size. It is currently not interchangeable.

## 17. Haptic Buzzer

While turning your X1 MR Glasses on and off, the buzzer will activate. For documentation on how to access the buzzer, please visit the developer section.

## 18. GPS

The X1 MR Glasses have a built-in passive GPS antenna that is accessible by software developers.

## 19. Industrial Certifications

- PPE compatible
- Passes basic impact protection requirements of ANSI/ISEA Z87.1 (Class E, Type 1), and CSA Z94.3 (Class E, Type 1) and EN 166
- Connector available for 4- & 6-point hardhats and ball caps
- IP40 rated
- Shockproof: resistant to 2 M drops on concrete from any angle
- UL 62368-1
- Temperature proof (can be stored in -20C to 60C)
- Sweatproof
- Outdoor display: viewable in bright sunlight
- High Brightness
- NRTL Listed (UL, CSA, ETL, etc.) IEC/EN 60950-1 compliant (CE Marked). FCC Part 15 Class B, Canadian ICES-003 & applicable RSS standards

## Other X1 Software Features

### Stereo 3D Display vs Cloning Display Options

The Escher X1 MR Glasses displays have two modes of operation, cloning, and stereo to switch between 2D and 3D content.

#### Cloning Mode

Cloning mode is the default mode. In cloning mode, the left and right display show the same 720p HD display (1280x720). When you look through the glasses, it will seem like a single display to your brain. This mode is useful for running standard applications that may have already been developed. For example, in Android studio, a developer would design for a display size of 1280x720. This is the most common view of the displays.

#### Stereo 3D Mode

In stereo mode, the left and right display contents are different. There is a single unified display buffer at the Android level that is 2560x720. If a developer draws content on the first 0px – 1280px section, it will show up in the left eye, and if they draw on the second 1280px – 2560px section it will appear in the right eye. This feature enables a developer to draw completely different content to the left and right eye. For example, an application that wanted to render stereoscopic 3D content could use this to display the left and right views.

To switch between cloning and stereo mode go to “settings,” then into “display,” and you will be able to switch there. If an app is already developed for stereo on the X1 MR Glasses, then you may not have to switch modes and the app automatically come up in stereo 3D (i.e. a 3D movie).

**Over the Air (OTA) Update:** Ensure that there is at least 50% charge or that the X1 MR Glasses are connected to a power source before starting the OTA update process.

The X1 MR Glasses have built-in OTA updates for wireless updates of the OS. Occasionally, you may receive a notification on your X1 MR Glasses asking to update. The notification will indicate what is being updated via a text box. It is recommended that you update when you receive an OTA notification. You can ignore the OTA update and the update pop-up will come back later. You can also use the audio commands for OTA.

### **Adding/Removing Icons**

You can remove non-system level apps via “long press” upon which you will see the “uninstall” option.

### **X1 MR Glasses Passcode/Security**

You can set an X1 MR Glasses passcode for increased security via the Android settings application. Setting a passcode means anytime you turn the glasses on/off or exit sleep mode, you will be required to re-enter your passcode.

If you are an enterprise user, your organization may have a custom MDM solution for device security. Please follow your organization's security protocols.

*Note: Do not set up a pattern lock screen as there is currently no UI method to enable a pattern lock.*

## How to Transfer Content to/from the X1 MR Glasses

Simply connect via the provided USB type C cable. Once you successfully connect, you can transfer any files from the X1 MR Glasses onto your computer and vice versa.

If you use a Mac, you need to download Android file transfer for your computer to see the X1 MR Glasses: <https://www.android.com/filetransfer>

## Vysor

Vysor enables you to view the Android Screen if connected to your computer.

Download Vysor here: <https://www.vysor.io/>

## Safety and Care:

Your Escher X1 MR Glasses have been designed and manufactured to stringent quality and safety standards. You should, however, be aware of the following important precautions for the safe use of the X1 MR Glasses and accessories:

1. You should store the X1 MR Glasses in the portable case that it is shipped in.
2. Do not keep the X1 MR Glasses in areas of excessive heat or freezing temperatures.
3. Do not store the X1 MR Glasses near any heat sources such as radiators, registers, stoves, vehicle interiors, amplifiers, or other items that produce excessive heat.
4. Do not allow dust, water, sand or other materials into the X1 MR Glasses.
5. This device contains lithium ion batteries, which can explode or cause burns if disassembled or exposed to fire or high heat.
6. Batteries must be disposed of and recycled safely and properly.
7. If battery swelling or deformation occurs, immediately stop using the device.
8. Clean only with the dry microfiber cloth provided.
9. Do not use a wet cloth on any part of the smart glasses.
10. Do not apply forceful pressure when cleaning the lenses as this may cause harm to the equipment.
11. **Attachments:** Only use attachments and accessories specified by Escher.
12. Do not use the X1 MR Glasses while driving.

13. This device is rated as a commercial product for operation at +50°F (+10°C) to +80°F (+27°C).
14. This product contains multiple lithium-ion battery packs.
15. This device is not intended for use in machinery, medical or industrial applications.
16. Any changes or modifications not expressly approved by ThirdEye could void the user's authority to operate this device.
17. This product is for use with NRTL Listed (UL, CSA, ETL, etc.), and/or IEC/EN 60950-1 compliant (CE marked) information technology equipment. No serviceable parts included.

## Disposal of Battery, Old Electrical, and Electronic Equipment:

The symbol of the crossed-out wheeled bin below indicates that within the countries in the European Union, this product, and any enhancements marked with this symbol, cannot be disposed of as unsorted waste but must be taken to separate collection at their end-of-life.



Do not remove the battery from the X1 MR Glasses. The battery should never be placed in municipal waste. This symbol on the product or its batteries or its packaging means that this product and any batteries it contains must not be disposed of with your household waste. Instead, it is your responsibility to hand this over to an applicable collection point for the recycling of electrical and electronic equipment. This separate collection and recycling will

help to conserve natural resources and prevent potential negative consequences for human health and the environment due to the possible presence of hazardous substances in batteries and electrical and electronic equipment, which could be caused by inappropriate disposal. For more information about where to drop off your batteries and electrical and electronic waste, please contact your local city/municipality office, your household waste disposal service, or the shop where you purchased this product.

Contact [support@escher-innovations.com](mailto:support@escher-innovations.com) for additional information on WEEE and waste batteries.

## **For Customers in the United States and Canada**

This Class B digital apparatus complies with, as applicable, Part 15 of the U.S. Federal Communications Commission (FCC) rules, Canadian ICES-003, and applicable RSS standards. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this equipment not expressly approved by the manufacturer may void the FCC authorization to operate this equipment.

This product is restricted to indoor use only to reduce any potential for harmful interference with licensed operation in the 5.15-5.25 GHz frequency range.

Additional information about RF safety can be found on the FCC website at <https://www.fcc.gov/general/radio-frequency-safety-0> and the Industry Canada website at [www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01904.html](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01904.html).

## Radio and TV Interference Regulations

The product can radiate radio frequency (RF) energy. If not installed and used in strict accordance with the instructions given in the printed documentation and/or online help files, the device may cause harmful interference with other radiocommunications devices (for example AM/FM radios, televisions, baby monitors, cordless phones, etc...). There is, however, no guarantee that RF interference will not occur in a particular installation. To determine if your hardware device is causing interference to other radio-communications devices, turn off and unplug the device from any external power source. If the interference stops, it was probably caused by the device. If this hardware device does cause interference, try the following measures to correct it:

1. Relocate the antenna of the other radio-communications device (for example AM/FM Radios, televisions, baby monitors, cordless phones, etc...) until the interference stops.
2. Move the hardware device farther away from the radio or TV or move it to one side or the other of the radio or TV.
3. Plug the device into a different power outlet so that the hardware device and radio or TV are on different circuits controlled by different circuit breakers or fuses.
4. If necessary, ask your device dealer or an experienced radio-TV technician for more suggestions.

For more information about interference issues, go to the FCC website at: <https://www.fcc.gov/cgb/consumerfacts/interference.html>. You can also call the FCC at 1-888-CALL FCC to request interference and telephone interference fact sheets.

## **Exposure to Radio Frequency (RF) Energy**

This device contains radio transmitters and has been designed, manufactured and tested to meet the Federal Communications Commission (FCC), Industry Canada and European guidelines for RF exposure and specific absorption rate (SAR).

To ensure that your exposure to RF energy generated by the Wi-Fi and Bluetooth radios does not exceed the exposure limits set forth by these guidelines, orient the device according to the instructions given in the printed documentation and/or on-screen help files.

## **EU Energy Consumption**

This device complies with commission regulation (EC) No 1275/2008 of December, 17 2008 implementing Directive 2009/125/EC of the European Parliament and of the council with regards to eco-design requirements for standby and off mode, and networked standby, electric power consumption of electrical and electronic household and office equipment.

Stop using the Escher X1 MR Glasses immediately if you experience headache, vertigo, dizziness, or nausea. Do not use the X1 MR Glasses while operating any vehicle. Maintain situational awareness of your surroundings while using the X1 MR Glasses.

## **Specific Absorption Rate (SAR) Information:**

**SAR Information Radiation Exposure Statement** — The United States and Canada This device meets the government’s requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. The exposure standard for wireless devices employs a unit of measurement known as the specific absorption rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. No minimum separation distance needs to be maintained between the user’s body and the device, including the antenna, during body-worn operation to comply with the RF exposure requirements in the United States and Canada. The limit recommended by FCC and IC is 1.6 W/kg averaged over one (1) gram of tissue.

**Radiation Exposure Statement — Europe** - No minimum separation distance needs to be maintained between the user’s body and the device, including the antenna, during body-worn operation to comply with the RF exposure

requirements in Europe. The limit recommended by RED is 2 W/kg averaged over ten (10) gram of tissue.

**Radiation Exposure Statement — Canada** - The product complies with the Canada portable RF exposure limit set forth for an uncontrolled environment and is safe for intended operation as described in this manual. Déclaration d'exposition aux radiations Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les EtatsUnis et le Canada établies pour un environnement non contrôlé. Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel.

## Notices

### Product Terms and Limited Warranty

All sales of goods by Escher Innovations LLC (“*Escher*”, “*we*” or “*us*”) to you (“*Buyer*” or “*You*”) are made pursuant to these terms and conditions (these “*Terms*”, and together with the “Website Terms of Use” set forth at <https://www.escherinnovations.com/> (as may be updated from collectively, the “*Agreement*,” which terms shall supersede any and all terms that might appear on any purchase order, order form or other documentation supplied by Buyer. No other or additional terms or conditions are or will be accepted and are expressly rejected. Any variations made to the terms and conditions set forth herein by Buyer are void and of no effect. “*Hardware*” means the Escher X1 MR Glasses and accessories (excluding software). “*Software*” means software, library, utility, tool, or other computer or program code, in object (binary) form embedded in or pre-installed on the Hardware, including any updates made available to you by Escher. “*Documentation*” means the Product related media, printed materials, online and electronic documentation provided by Escher, including copies. “*Products*” means Hardware, Software, and Documentation collectively. The Products are solely for your internal use and not for resale unless you are an Approved Escher Partner. The intended for professional use and are not marketed or promoted for consumer, non-professional, or leisure use. These Terms are the only agreement between Escher and You regarding your use of the Products and they supersede any other terms, agreements, or documents.

- 1. Offer and Acceptance.** By clicking “I accept” and/or completing a purchase of goods offered by Escher, you agree to the terms and conditions contained in

the Agreement and agree to purchase the products selected by you (collectively, the “*Products*.”) Notwithstanding the foregoing, all Buyer purchase orders, whether placed directly by you or through an agent, are subject to final approval and acceptance by Escher and Escher may, at its sole discretion, accept or reject such purchase orders with no further obligations to Buyer.

- 2. Refunds/Returns.** All sales are final and non-refundable except for what is covered under the Warranty section. Escher products purchased through other agents, retailers, or Escher partners must be returned in accordance with their policies.
- 3. Terms of Payment.** Unless otherwise expressly agreed to in writing by Escher, if the Products were not paid at the moment of ordering and are subject to invoices, payment of each invoice is required within thirty (30) days after the date of invoice. Any balance unpaid after the required payment date shall be subject to a late fee of 1.5% per month, compounded monthly from such date. Buyer agrees to pay all costs and expenses (including, without limitation, reasonable attorneys’ fees) incurred by Escher in connection with the collection of amounts not paid by Buyer to Escher.
- 4.** Any sales, use, excise and other taxes applicable to this transaction (other than income and gross receipts taxes of Escher) and the goods furnished by Escher are not included in the purchase price and shall be paid by Buyer when due. If Escher pays any such taxes, Buyer shall reimburse Escher upon demand.
- 5. Delivery and Delays.** Unless otherwise specified herein, deliveries shall be FOB Escher’s point of shipment, and title to the goods and risk of loss shall pass to

Buyer upon Escher's delivery to the carrier. All shipping costs, including any increase in transportation rates, insurance or taxes prior to date of shipment, shall be paid by Buyer in addition to the purchase price. All shipping dates are approximate and Escher does not guarantee a particular day of Escher shall not be liable for loss or damage because of delays occasioned by labor disputes, damage to facilities, failure of suppliers or subcontractors to meet scheduled deliveries, fire, flood, riots, car shortages, embargoes on freight by any government, accidents, insurrections, lockouts, acts of civil or military authorities, loss or damage of goods in transit, acts of God or any other cause beyond Escher's reasonable control or making its performance commercially impracticable. Time is not of the essence unless otherwise agreed to in a writing signed by Escher. Notwithstanding other provisions hereof, if shipment is delayed at Buyer's request, the goods shall be deemed to be stored at Buyer's risk and expense and Escher may thereupon bill Buyer for the full price of the goods and storage costs. Buyer shall pay such bill within thirty (30) days after receipt of invoice.

**6. Security Interest and Repossession.** Until full payment has been made therefore and as security for full payment, Buyer grants Escher a purchase money security interest in the Products shipped to Buyer and the Products shall remain personal property. Upon request Buyer shall execute and deliver to Escher security agreements and other documents further evidencing Escher's security interest. Buyer authorizes Escher to file a financing statement or statements relating to the goods, as Escher may deem appropriate, and appoints Escher as Buyer's attorney-in-fact for the limited purpose of executing (without requiring Escher to do so) documents in Buyer's name and performing other acts that Escher deems appropriate to grant, perfect and continue its security interest and to protect and preserve the Products. In the event

Buyer defaults in making any payment due Escher, Escher, in addition to any other rights or remedies provided by law, shall have the right, with or without legal process, to enter the place where said Products are located and to repossess the Products in accordance with the Uniform Commercial Code.

7. Shipment by Escher shall at all times be subject to the prior approval of Escher's credit personnel and Escher may, at any time, decline to make shipment except upon receipt of prior payment or upon other terms and conditions or security satisfactory to Escher.
8. **Updates and Maintenance.** Notwithstanding any other provision of these Terms, Escher shall have the right, upon notice to Buyer, to inspect, repair or update the Products for purposes of safety, performance or compliance with the warranty set forth in Exhibit A hereto. Buyer agrees to provide Escher with all necessary access to the Products in the event of such notice from Escher. Failure to provide such access shall void the warranty set forth herein.
9. **Limited Warranty.** Other than with respect to the limited warranty set forth in exhibit a hereto, Escher makes no representations or warranties with respect to the products or performance thereof, whether expressed or implied, including any warranties of merchantability, non-infringement or fitness for a particular purpose, all of which are hereby expressly disclaimed. any other oral or written statement, information or advice given or made by Escher or any of its employees, agents, representatives or distributors shall not constitute a Escher representation or warranty and shall not be relied upon by buyer or any other.
10. In no event shall Escher, its affiliates or any of their shareholders, directors, officers, personnel, or agents be liable to buyer or any third party for

consequential, indirect, incidental, special, exemplary, punitive or enhanced damages, lost profits or revenues or diminution in value, regardless of: (a) whether the damages were foreseeable; (b) whether or not Escher was advised of the possibility of the damages; (c) the legal or equitable theory (contract, tort or otherwise) on which the claim is based and/or (d) the failure of any agreed or other remedy of its essential purpose, or (e) for any damage, injury or loss arising out of the use of the goods if, prior to such damage, injury or loss, such goods: (i) have been subjected to abuse, misuse, neglect, negligence, accident, improper testing, improper installation, improper storage, improper handling, abnormal physical stress, abnormal environmental conditions, or use contrary to any instructions issued by Escher; (ii) have been disassembled, reinstalled or dismantled by a person other than Escher or its authorized representative; or (iii) have been used with any third party product that has not been previously approved in writing by Escher.

- 11. Maximum Liability.** Escher's maximum liability to buyer with respect to products shall in no event exceed the price paid by buyer for products that are the subject of the applicable claim. The foregoing limitations apply even if buyer's remedies under the agreement fail of their essential.
  
- 12. Safe Operation.** Buyer acknowledges and agrees that the use of the Products other than in accordance with Escher's operating instructions can involve substantial risk of property damage or personal injury, up to and including death of the user or of third parties. The Product is designed to fit most users and utilizes an English-language interface, but may not fit everyone's needs, so please confirm the sizing and other information described on our website prior to purchase and use. Buyer acknowledges that the Product has been developed for U.S. standard power wall outlet/socket standards and Buyer is responsible for

purchasing any needed adapters to use Products with Buyer's power wall outlet/socket standards. Buyer acknowledges and follows the user guide guidelines provided on the Escher website and in this user guide. Buyer acknowledges the inherent risks in the use of this product and shall avoid using this product while driving motor vehicles or operating heavy machinery unless specifically and exclusively using software designed for these applications. Do not wear the Products while they are wet or underwater. Do not wear the Products when unobstructed view is necessary for safety. Buyer assumes all liability for all such property damage or personal injury.

**13. Federal Communications Commission (FCC) Notices.** The Product complies with Part 15 Class B of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions: (1) the equipment may not cause harmful interference; and (2) the equipment must accept any interference received, including interference that may cause undesired operation. There is no guarantee, however, that interference will not occur in a particular installation. If the Product does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1) reorient or relocate the receiving antenna; (2) increase the separation between the equipment and receiver; (3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; and (4) consult the dealer or an experienced radio or TV technician for help. Modifications not expressly approved by ThirdEye could void the user's authority to operate the equipment. This device contains lithium-ion batteries, which may explode, catch fire or cause burns if disassembled or exposed to fire or high temperatures. Batteries must be disposed of and recycled safely. If you notice any swelling or deformation of the battery, stop using the device

immediately and contact our help desk. The Product solely adheres to the above FCC standard and may or may not adhere to other country harmful interference or electronic standards. It is solely the responsibility of the buyer to research and use or not use the product per their country standards. Operations in the 5.15-5.25GHz band are restricted to indoor use only.

### **IC Statement – English**

1. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
  - a. This device may not cause interference.
  - b. This device must accept any interference, including interference that may cause undesired operation of the device.
2. This Class B digital apparatus complies with Canadian ICES-003.
3. This device complies with RSS-310 of Industry Canada. Operation is subject to the condition that this device does not cause harmful interference.
4. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter, except tested built-in radios.
5. The Country Code Selection feature is disabled for products marketed in the US or Canada.

### **IC Statement – Français**

1. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
  - a. l'appareil ne doit pas produire de brouillage.
  - b. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada. Cet appareil est conforme à la norme RSS-310 d'Industrie Canada.
3. L'opération est soumise à la condition que cet appareil ne provoque aucune interférence nuisible.
4. Cet appareil et son antenne ne doivent pas être situés ou fonctionner en conjonction avec une autre antenne ou un autre émetteur, exception faites des radios intégrées qui ont été testées.
5. La fonction de sélection de l'indicatif du pays est désactivée pour les produits commercialisés aux États-Unis et au Canada.

#### **IC Statement — FOR WLAN 5GHZ DEVICE**

1. Operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
2. The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall comply with the EIRP limit.
3. The maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the EIRP limits specified for point-to-point and nonpoint-to-point operation as appropriate.
4. The worst-case tilt angle(s) necessary to remain compliant with the EIRP elevation mask requirements set forth in Section 6.2.2(3) shall be clearly indicated.
5. Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement 1. les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux. 2. le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5250-5350 MHz et 5470-5725 MHz doit se conformer à la limite de p.i.r.e. 3. le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5725-5825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas. 4. les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, et énoncée à la section 6.2.2 3), doivent être clairement indiqués. 5. De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Declaration of Conformity EU Regulatory Conformance Hereby, we Escher Innovations LLC declare that the radio equipment type T1100G is in compliance Directive 2014/53/EU.

**1. Ownership.** Escher alone (and its licensors, where applicable) shall own all right, title and interest, including all related patented and unpatented inventions, patent applications, copyrights, trademarks, trade names, know-how, and other trade secret rights, and all other intellectual property rights, derivatives thereof, and forms of protection of a similar nature anywhere in the world (collectively, "Intellectual Property Rights"), in and to the Product and any software, firmware and source or object code contained therein, including to any and all enhancements, suggestions, modifications, extensions and/or derivative works

thereof. Nothing herein shall convey to customer any rights of ownership in the Intellectual Property Rights. Escher hereby grants Buyer a limited, non-exclusive license to use the software and firmware contained in the Product solely in connection with Buyer's use of the Product as permitted hereunder. All data generated by the Product as a result of Buyer's usage hereunder shall remain the property of Escher and Escher has a perpetual, irrevocable, nonexclusive, royalty-free, worldwide, fully-paid, transferable, sub-licensable license to use, reproduce, modify, adapt, publish, translate, creative derivative works from, distribute, publicly perform and display this data, and any name, username or likeness provided in connection with this data and channels now known or later developed, without compensation to Buyer. Escher hereby grants Buyer a limited, perpetual, non-exclusive right and license to use such data strictly for purposes of Customer's own internal use of the Product.

- 2. Limitations on Use.** Buyer shall not: (1) license, sublicense, sell, resell, transfer, assign, distribute or otherwise commercially exploit or make available to any third party the Product in any way without the prior consent of Escher; (2) modify or make derivative works based upon the Product or any portion thereof; (3) reverse engineer the Product or any portion thereof; (4) access the Product in order to build a competitive product or service; or (5) remove or obstruct the Escher name or logo or any other proprietary labels or notices contained on the Product.
- 3.** Buyer agrees that it will hold in strict confidence and not disclose Confidential Information (as defined below) to any third party and to use the Confidential Information only to fulfill its obligations hereunder. Buyer shall only permit access to the party's Confidential Information to those of its employees having a

legitimate need to know and who have signed confidentiality agreements containing terms at least as restrictive as those contained herein. No other use of the Confidential Information is granted without the written consent of Escher.

Buyer shall not use the Confidential Information for purposes of unfair or improper competition or as a basis for or to assist in creating a competing product or service. Buyer agrees to advise Escher in writing of any misappropriation or misuse by any person of the Confidential Information. “Confidential Information” shall mean all non-public information about Escher (or its affiliates, customers, or suppliers’) business, activities or products that is proprietary or confidential, which shall include, but not be limited to, all business, financial, technical and other information, trade secrets, patents, patent applications, copyrights, know-how, processes, ideas, inventions (whether patentable or not), formulas, computer programs, software and software code, databases, technical drawings, designs, algorithms, technology, interfaces, materials, any other technical, business, financial, customer and product development plans, customer lists, customer and supplier information, forecasts, strategies and other confidential information, whether disclosed on, before or after the date these Terms were provided to Buyer. Buyer’s confidentiality obligations shall not apply to information which: (i) is in the public domain through no fault of Buyer; (ii) was known to Buyer at the time of disclosure by Escher or becomes known to Buyer without breach of any confidentiality agreement; or (iii) is disclosed pursuant to judicial order, requirement of a governmental agency or by operation of law, provided that Buyer gives Escher written notice of any such requirement within ten (10) days after learning of any such requirement, and takes all reasonable measures to avoid disclosure under such requirements.

4. Buyer shall indemnify, defend and hold Escher, its affiliates or any of their shareholders, directors, officers, personnel or agents harmless from and against any and all losses, damages, liabilities, claims, actions, suits, judgments, costs and/or expenses of whatever kind (including, without limitation, reasonable attorney's fees), relating to, arising out of or resulting from Buyer's use of the Products or breach of the Agreement; provided, however, that Buyer shall not be obligated to indemnify, defend or hold Escher harmless with respect to any gross negligence or willful misconduct by Escher.
- 5. Limitations on Actions.** Any action against Escher arising in any way out of the Agreement or the Products must be commenced by Buyer within one (1) year after the earlier of: (i) the date any alleged claim accrues; or (ii) the date of delivery of the Products to.
6. The Agreement constitutes the entire agreement between Escher and Buyer, superseding all previous understandings and writings regarding this transaction. Any amendment or modification of these Terms shall be void unless in writing and signed by Escher. In the event of a conflict between these Terms and the Website Terms of Use, these Terms shall control to the extent of the conflict. This Agreement shall be governed by the laws of the State of California and controlling United States federal law, without regard to the choice or conflicts of law provisions of any jurisdiction, and any disputes, actions, claims or causes of action arising out of or in connection with this Agreement shall be subject to the exclusive jurisdiction of the state and federal courts located in the State of California in each case located in the City of San Francisco and County of San Francisco. If any provision of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, then such provision(s) shall be construed, as nearly as possible, to reflect the intentions of the invalid or unenforceable provision(s),

with all other provisions remaining in full force and effect. No delay or omission by Escher in exercising any right or remedy hereunder shall be a thereof or of any other right or remedy, and no single or partial exercise thereof shall preclude any other or further exercise thereof or the exercise of any other right or remedy. All rights and remedies of Escher are cumulative.

**7. No Resale.** Buyer shall not resell any of the Product made available pursuant to this Agreement as a stand-alone product, or otherwise in any form other than connected to without the signed and active Escher Partner Agreement between Escher and Buyer. Without a signed and active Escher Partner Agreement between Escher and Buyer, Buyer will be held liable with penalties for any resale of Escher Product and anyone to whom Buyer gives Product will not be eligible for the protection stated in this agreement. Contact Escher for information regarding the Escher Partner Agreement.

## Copyright

Information and views expressed in this document, including URL and other internet web site references, may change without notice.

This document does not provide you with any legal rights to any intellectual property in any Escher product. You may copy and use this document for your internal, reference purposes. © 2019 Escher innovations LLC.

## Exhibit A

### Limited Warranty Terms

- 1. Warranty Period.** The following warranty shall apply for twelve (12) months from the date on which title to each Product passes from Escher to Buyer as set forth in the Terms (such period, the “*Warranty Period*”). Warranty claims submitted after the Warranty Period shall not be subject to warranty contemplated hereunder. The Warranty Period applicable to replace Products will be thirty (30) days from the date Buyer receives the replacement Product or the remainder of the original Warranty Period, whichever is longer.
- 2. Limited Warranty.** Subject in all respects to Section 9 of the Terms, Escher warrants that each Product will be free from material defects in materials and workmanship during the Warranty Period. This Warranty does not cover damage caused by (i) defects in the Products that are the result of improper storage or use by Buyer or its personnel (including, without limitation, operation of the Products outside the environmental, hardware or software parameters defined in the Documentation, and failure to install properly all releases made available by Escher with respect to the Software and all updates recommended by Escher and/or any other manufacturer, as applicable, with respect to any third-party software or hardware products (including but not limited to operating system software) that materially affect the performance of the Product); (ii) defects resulting from other hardware or software (including but not limited to operating systems, servers, networks, and third-party software) not supplied by Escher;  
(iii) Products that, due to no fault of Escher, have been subjected to any other kind of misuse or detrimental exposure not attributable to Escher; or (iv) Products modified, altered or repaired by any party other than Escher or

Escher's agents in accordance with the instructions provided by Escher or without Escher's prior written consent. V) Products are designed to fit on the majority of head sizes but no guarantees it can fit on all head sizes. Notwithstanding anything to the contrary herein, Escher does not warrant uninterrupted or error free use of the Products or that the Products will operate with any hardware or software not specified in the specifications available on Escher's website or third-party equipment, hardware or software. This limited warranty is provided only to the original purchaser of the Product that was purchased from an authorized Buyer or sales channel and manufactured by or for Escher that can be identified by an authorized "Escher" trademark, trade name, or logo affixed to it. Without limiting the foregoing, this warranty does not apply to any: (A) Escher products and services other than the Products (including products with the "Made for Escher" or "Works with Escher" logos or non- authorized accessories), (B) non-Escher products, even if included or sold with a Product, including, without limitation, any counterfeit products, (C) products that are, or Escher reasonably believes to be, stolen, (D) consumables (such as batteries), or (E) software, even if packaged or sold with the Product or embedded in the Product.

3. **Waiver of Warranty Claim.** Except for the express warranties stated herein, ThirdEye makes no additional warranty, express or implied, and ThirdEye disclaims all other warranties, including, but not limited to, warranties of merchantability, non-infringement and fitness for a particular purpose.
4. **Replacement as Sole Remedy; Replacement Product; Shipping and Payment Responsibilities.** Replacement of a defective Product (each a "*Replacement Product*") is Buyer's sole remedy for any breach of this Warranty. Immediately upon Buyer's submission of a Warranty claim, Buyer shall cause

all Product subject to such Warranty claim (each a “*Claimed Defective Product*”) to be returned to Escher at Buyer’s sole expense.

Before starting the warranty process, please use the trouble-shooting tips at <http://www.escherinnovations.com>. If the troubleshooting tips do not resolve your problem, then follow the online help at <http://www.escherinnovations.com/forum>. If you do not have internet access, you can phone +1 (800) 423-1660 and dial for support. Before sending your Hardware to Escher for service, be sure to keep a copy of any data you want to save, and delete anything you consider confidential. Escher is not responsible for your data and may erase it.

In order to complete a return of a claimed defective product, contact [support@escher-innovations.com](mailto:support@escher-innovations.com) to receive a return authorization number and mailing information. If you’re shipping multiple boxes, print your shipping label on each box (Escher may supply a return shipping label for certain partners but is not obligated to provide a shipping label.) Please ensure that every component shipped to you is re-packaged in its original packaging. Upon receipt by Escher, a Escher support representative will check your package, that every component is returned and match it with your return authorization number. Escher shall have, in its sole discretion, thirty (30) business days after receipt of the Claimed Defective Product to accept or reject such Warranty claim and ship the Replacement Product ninety (90) business days after approving a Warranty claim.

If Escher, in its sole discretion, determines that: (a) a defect in materials or workmanship caused the Hardware to malfunction during the Warranty Period under Normal Use Conditions, and (b) none of the following exclusions apply: intentionally abused or used in other than Normal Use Conditions (as determined

by Escher in its sole judgment); (i) damaged by use with products or accessories not sold or licensed by Escher (including, for example, software not provided by Escher, chargers, memory cards, or other accessories not manufactured by Escher, etc...); (ii) opened, modified, disassembled, or tampered with (including circumvention of any security system); (iii) repaired by anyone other than Escher or a Escher authorized repair center; (iv) its serial number or any proprietary marking is altered or removed; (v) damaged by any external cause (including, for example, by being dropped, intrusion of water or other liquid, etc.; (vi) or failure to follow the instructions in the instruction manual for the Hardware, for example, failure to tightly affix port covers in wet conditions, etc...), then Escher will (at its option) repair or replace the Hardware or refund the purchase price to you. Unless restricted by applicable law, repair may use new or refurbished parts and replacement may be with a new or refurbished unit. Escher's responsibility to repair or replace your Hardware, or to refund the purchase price, is your exclusive remedy. Where required by applicable law, the original Warranty Period will be extended for a period of time equal to the time that your Hardware was in ThirdEye's possession. If your Hardware malfunctions after the Warranty Period expires, Escher provides no warranty of any kind. After the Warranty Period expires, Escher may charge you a fee for its efforts to diagnose and service any problems with your Hardware. If the Warranty claim is rejected, Escher will contact Buyer about why the claim was rejected after which there is a sixty (60) day period to resolve the claim issue. If the claim issue is not resolved within that time frame, Escher is not obligated to the Buyer to replace the product. Escher and Buyer agree that Escher will ship any and all Replacement Products to Buyer under the same terms and subject to the same conditions as otherwise set forth in the Terms including, without limitation.

- 5. No Repair by Buyer.** Buyer is not authorized to attempt to repair any part of any Product. Any attempt by Buyer to repair any part of any Product will void this warranty and release Escher from any and all of its obligations under this warranty.
- 6. Conformance of Warranty to Law.** This warranty gives Buyer specific legal rights. Buyer may have other rights which vary between jurisdictions. To the extent that provisions of this warranty are inconsistent with the laws of any jurisdiction, such provision shall be deemed modified to be consistent with such laws. Any such modification of this warranty shall be limited to only as much modification as is necessary to comply with the laws of any such jurisdiction.
- 7. Arbitration:** Any dispute relating to this Agreement (“Dispute”) will be resolved by binding arbitration according to the then-current Commercial Arbitration Rules of the American Arbitration Association (the “AAA Rules”). The existence, content (including all documents and materials submitted to the arbitrator), and the results of any arbitration are Confidential Information. The arbitrator will be a neutral practicing attorney or retired judge with experience in similar cases and appointed in accordance with the AAA Rules. The arbitrator must agree in writing to maintain the confidentiality of the arbitration. The arbitration will be governed by the Federal Arbitration Act, 9 U.S.C. §§1 et seq. The prevailing party will be entitled to recovery of arbitration expenses (including reasonable attorney’s fees). The arbitrator’s award will include provisions for this recovery. The arbitrator’s award will be binding and final. Any court having jurisdiction may enter judgment upon the award. The arbitration will be in conducted in English and held in Princeton, NJ.

- 8. Governing Law:** This Agreement is governed by, and the arbitrator will apply, the substantive laws of the State of California excluding its conflicts of law provisions. The United Nations Convention on Contracts for the International Sale of Goods does not apply to this Agreement. Claims must be brought within 1 year of the date the claim arose, otherwise the claim will be permanently barred.
  
- 9. Class Action Waiver:** All proceedings will be conducted solely on an individual basis. No arbitration will be combined with another without the prior written consent of all parties to all affected arbitrations or proceedings. You will not seek to have any dispute heard as a class action, private attorney general action, or in any other proceeding in which you act or propose to act in a representative capacity.

## Sales Support

For any Sales questions, please contact:

[sales@escher-innovations.com](mailto:sales@escher-innovations.com)

## Customer Support

For any product or warranty questions, please contact:

[support@escher-innovations.com](mailto:support@escher-innovations.com)

## Developer Support

For any Developer questions,  
please visit the Developer's Forum at:

[developers.escherinnovations.com](https://developers.escherinnovations.com) or contact [developers@escher-innovations.com](mailto:developers@escher-innovations.com)

Escher Mixed Reality Glasses and AR/MR Software  
are designed and engineered in San Francisco, California, USA