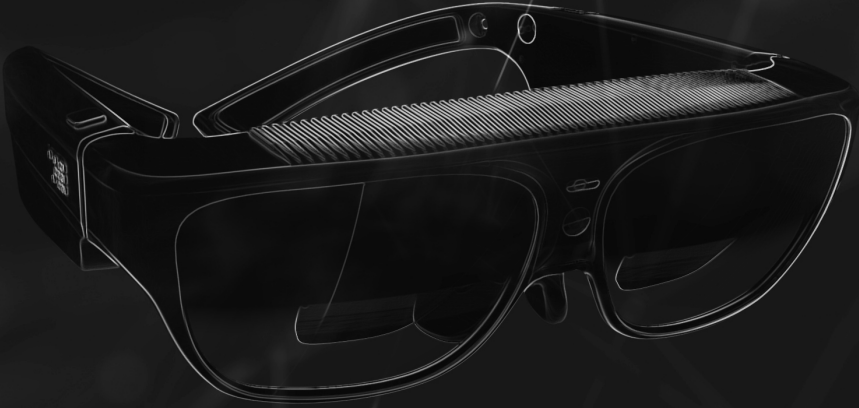


ODG 

SMARTGLASSES
7



R-7
USER GUIDE

Welcome

Thank you for purchasing the world's first fully integrated, 3D, see-through, smartglasses. This User Guide is available for download on the ODG Support website.



Customer Support

For questions, additional information not found within this guide, or to open a support ticket visit our Support site:

support.osterhoutgroup.com








Developer Support

Documentation and development guidance can be accessed through the ReticleOS Developer Center:

developer.osterhoutgroup.com

Safety & Care

Your ODG R-7 device has 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 smartglasses and accessories.

-  Read and heed all of these instructions and warnings carefully.
-  Keep these instructions for future reference.
-  Clean only with dry microfiber cloth, supplied.
-  Only use attachments/accessories specified by ODG.
-  Do not store smartglasses near any heat sources such as radiators, registers, stoves, vehicle interiors, amplifiers or other items that produce heat.



This device contains lithium ion batteries, which can explode or cause burns if disassembled or exposed to fire or high heat. Batteries must be disposed and recycled safely and properly. If battery swelling or deformation occurs immediately stop using the device.



Warning: This device contains magnets and should be kept at a distance from persons with any metallic, electronic, or magnetic device implants in the body.

Table of Contents

Welcome.....	3
Safety & Care	4
Table of Contents	5
Included in the Kit.....	6
Features Overview	7
Main Controls.....	8-9
Track Pad.....	10
Input Modes	10
System Menu	11
Status Bar	11
Launcher.....	12-13
Reticle Speed Mouse	14-16
Head Strap.....	17
Removeable Ear Horns.....	18-19
Earbuds	20
Cleaning	20
Charging	21
Interchangeable Nose Bridges.....	22
Corrective Lenses.....	22
Technical Specifications	23
Important Notices	24

INCLUDED IN THE KIT



R-7 Smartglasses



Storage Case



Reticle Speed Mouse™
(RSM)



Magnetic USB
Data & Power Cable



2 Ear Buds



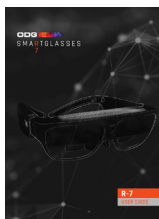
Interchangeable
Nose Bridges



Head Strap



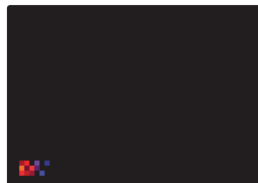
USB Power Adapter



User Guide



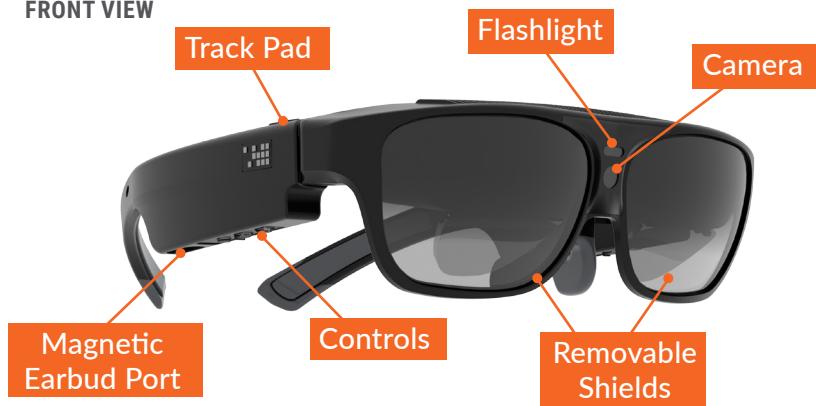
USB To Micro-USB
Reticle Speed Mouse
Charging Cable



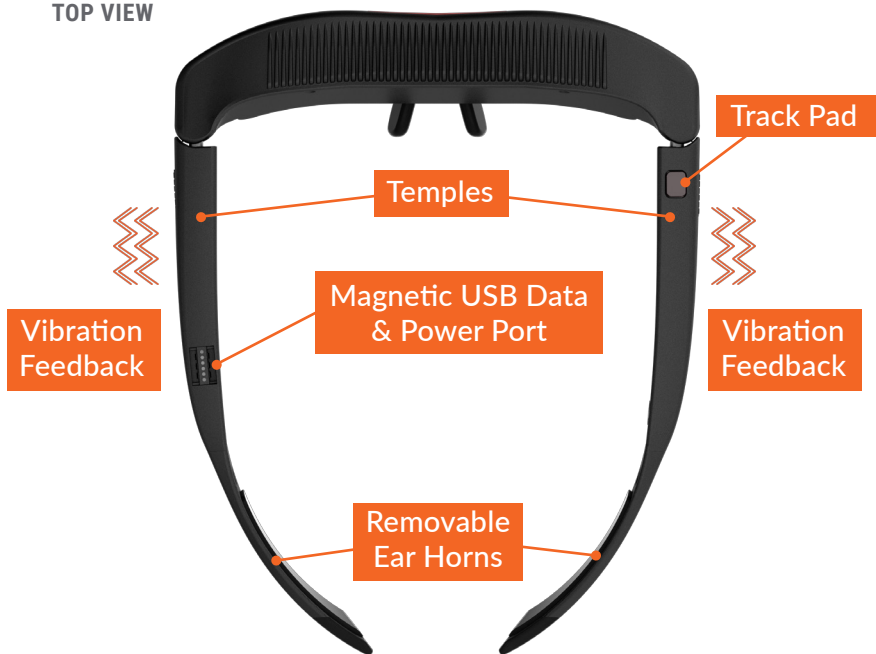
Lens Cleaning Cloth

FEATURES OVERVIEW

FRONT VIEW



TOP VIEW



MAIN CONTROLS

POWER



Power On
(When device is off)
Displays On/Off
(When device is on)



Display
Shutdown
Menu



Force
Shutdown

VOLUME DOWN



Decrease Volume
One Step



Continually
Decrease Volume

VOLUME UP



Increase Volume
One Step



Continually
Increase Volume

LEFT TEMPLE

BOTTOM VIEW

MULTI-FUNCTION



Toggle Input Mode:
Cursor/Selector
(Default Setting)

You can program the multi-function button to perform various commands.
To customize this button, go to **Settings > Reticle > Temple Buttons**

MENU



Display
System Menu

BACK



Previous
Screen



Go to
Launcher

RIGHT TEMPLE

TRACK PAD



The Track Pad is located on top of the right temple of the smartglasses, and there is another located on the Reticle Speed Mouse (See Diagram, Page 14). The Track Pad is an input device that allows the user to control the software interface by swiping with a fingertip. It is a device that functions equally with gloved or gloveless fingers.

Pressing down on a Track Pad represents a click or selects an item. Pressing down for 3 seconds displays contextual menu on Launcher items (See Launcher, Page 12).

INPUT MODES

There are two modes of the Track Pad input. To switch modes, either press the multi-function button to toggle modes (See Main Controls, Page 8-9). If the multi-function button has been re-assigned press Menu once to display the System Menu, then select Input Mode.



SELECTOR MODE

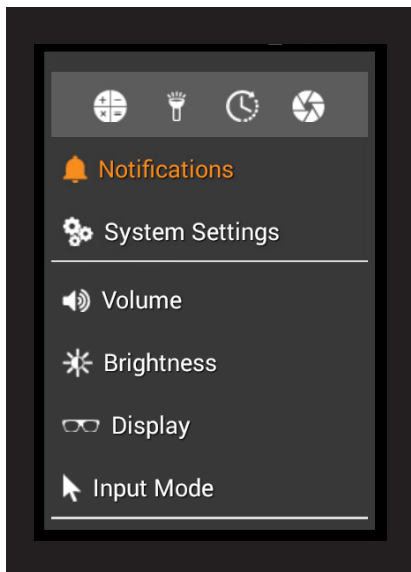
Swiping the Track Pad up, down, left, or right functions in the same manner as standard 4-way arrow keys on a keyboard, allowing the user to select items, navigate through the interface, or scroll.



CURSOR MODE

Swiping the Track Pad allows free movement of the cursor in any direction in the same manner as a computer mouse.

SYSTEM MENU



Pressing the Menu button once will display the System Menu, providing access to frequently used features and settings.

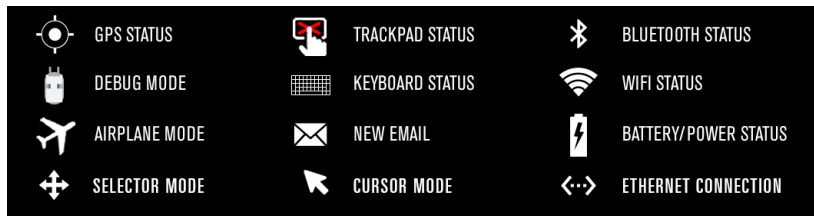
Icons at the top of the menu will launch the Calculator, Flashlight, Clock/Timer, or Camera apps.

Notifications displays a list of any current system notifications.

System Settings takes the user to the full Android Settings.

Volume, Brightness, Display and Input Mode will display quick controls to adjust these settings.

STATUS BAR



Located at the top of the screen, the Status Bar indicates the status of a variety of elements such as date & time, battery strength, connectivity, and notifications.

LAUNCHER



The Launcher is the home screen of ReticleOS™ and will appear when the glasses power up. To return to the Launcher at any time either press the Back button repeatedly or press and hold the Back button for 3 seconds then release.

Note: While in Launcher, only the Selector Mode (*Pages 10*) is available.

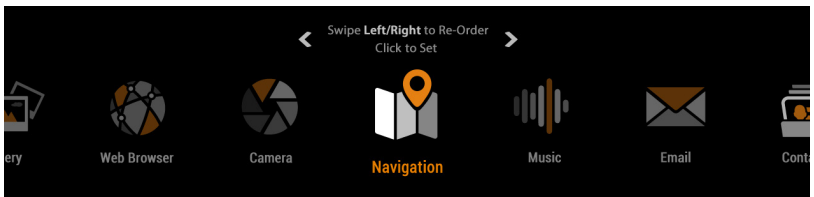
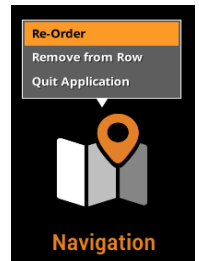
The Launcher contains a horizontal row of application icons that appear mid-screen. Swiping left or right across the track pad, pressing a left or right arrow key, or hovering using the 3D mouse will “slide” the row to the left or right. The center icon represents the selected application. Pressing the Track Pad, or selecting enter on another input device, will launch the selection.

MANAGING ICONS

Clicking and holding the Track Pad while highlighting an icon will display a menu for re-ordering an icon within the row, removing an icon from the row (but not the system itself), or quitting any active applications.

Selecting “Re-Order” allows the user to swipe left or right to move the icon. Clicking the Track Pad sets the order.

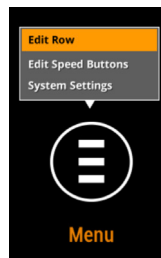
“Remove from Row” removes the icon from the row. The application remains on the system and can be re-added or launched via All Apps.



LAUNCHER

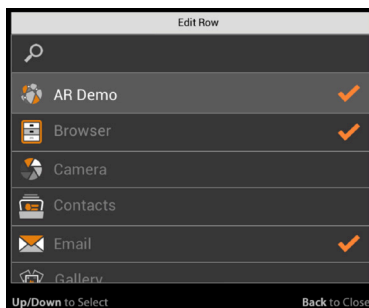
LAUNCHER MENU

Selecting the Menu icon, located near far-right in the Launcher row, displays a menu of options. “Edit Row” allows the user to add or remove icons (see below), and “Edit Speed Buttons” or “System Settings” provide quick access to these related settings.



ADDING & REMOVING ICONS

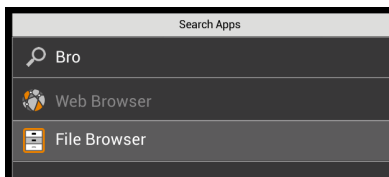
Selecting “Edit Row” displays a list of applications currently installed on the system. Checkmarks indicate which applications are included in the Launcher. Swipe up or down to highlight an app and press the track pad to toggle the checkmark on or off. Applications with checkmarks will be included in the row when the menu is closed.



APPLICATION SEARCH

Selecting the Search Apps icon, located at far-right in the Launcher row, displays a search field.

Entering search terms displays a list of applications that match the terms. Swipe up and down highlights the item and pressing the Track Pad launches the app.



RETICLE SPEED MOUSE



The Reticle Speed Mouse (RSM) is a 3D input device for the system that is worn on the user's index or middle finger and controlled with their thumb. The Track Pad, Menu, Back, and Volume buttons function in the same manner as the buttons on the glasses. (See *Main Controls*, Pages 8-9).

To wake up the RSM, press any of the buttons or simply put the device around your finger. A contact pin on the underside of the device will allow it to detect when you are holding it. Once the device powers on, the status light will pulsate slowly and begin glowing blue indicating it is ready to be paired. If the status light does not illuminate then the battery needs to be charged (See *Charging*, Page 16). When the status light turns off the pairing is complete.

Bluetooth Pairing

The RSM is in pairing mode while the status light is blinking blue. On the smartglasses, press the Menu button once to display the System Menu (see *Page 11*) then select Settings. Under the Bluetooth settings, select the RSM from the list of available devices (it will appear as "ODG Speed Mouse" in the list of devices). You can reset the RSM and make it forget any previous pairing by pressing and holding the Back and Menu buttons simultaneously for longer than 8 seconds.

RETICLE SPEED MOUSE

2D Mode

In 2D mode, you control the cursor by swiping your thumb on the Track Pad. 2D mode is ideal for situations requiring fine-grained control of the cursor, or in situations where you might be in motion, such as inside of a moving vehicle.

3D Mode

In 3D mode, sensors detect the position of the mouse and the cursor is controlled using simple hand movements much like a laser pointer. In 3D mode you also can scroll up and down through some content such as a web page or PDF file by swiping your thumb on the trackpad much like a scroll wheel on a desktop mouse.

Note: 3D mode requires more power to operate, and the battery life may be reduced with frequent 3D use. To switch from 3D to 2D mode, press and hold both the Volume Down and Volume Up buttons at the same time for longer than 3 seconds.

Switching Modes

To toggle between 2D and 3D mode, press and hold both the Volume Down and Volume Up buttons at the same time for 3 seconds. The status light will illuminate green when 3D mode is active.

Standby/Hibernate Modes

When the RSM is not in contact with the user's finger and no buttons are pressed it will enter Standby mode, increasing battery life, after 5 minutes. If no contact or button presses are detected after 15 minutes it will enter Hibernate mode. Placing the RSM on the user's finger or pressing any button will wake the device and cause it to re-connect with the glasses. In Standby mode this happens instantly, while in Hibernate mode there will be a slight delay of 2-3 seconds while the device awakes and re-connects.

Note: While in 3D mode (when status light is green), the RSM will not enter Standby or Hibernate while in motion. Press Volume Up and Down simultaneously to enter 2D mode (status light is off) before storing the device if motion is expected.

RETICLE SPEED MOUSE

Speed Buttons

The four speed buttons at the top of the RSM provide one-button access to applications. Pressing a button launches the appropriate application that has been configured to that button.

To configure the speed buttons, go to System Settings via the icon in the Launcher or by pressing and holding the Menu button. Set up the applications you wish to launch in System Settings > Reticle > Reticle Speed Mouse.



Charging

To charge the RSM, plug the included micro-USB cable into the charging port on the bottom of the unit. Plug the other end of the micro-USB cable into any USB power source, such as a personal computer or the included USB charger. The charging light on the bottom of the RSM will glow red to indicate the battery is recharging. When charging is complete, the charging light will glow green.

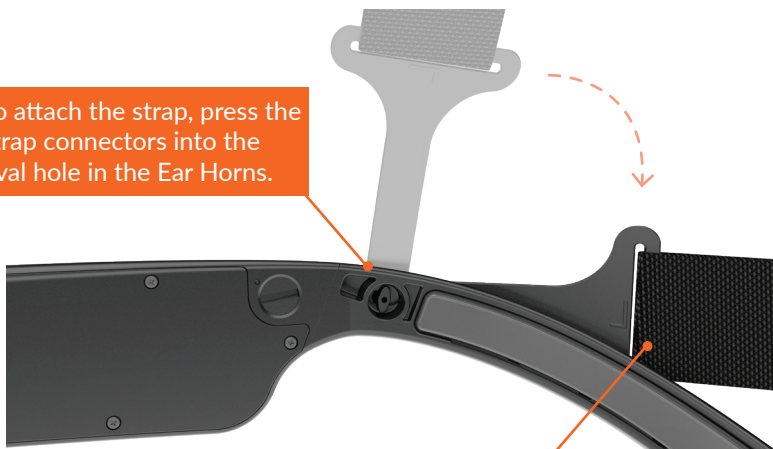
HEAD STRAP

The included Head Strap can be attached to secure the glasses to the wearer's head. Follow instructions below to securely attach Head Straps.



Head Strap Attachment

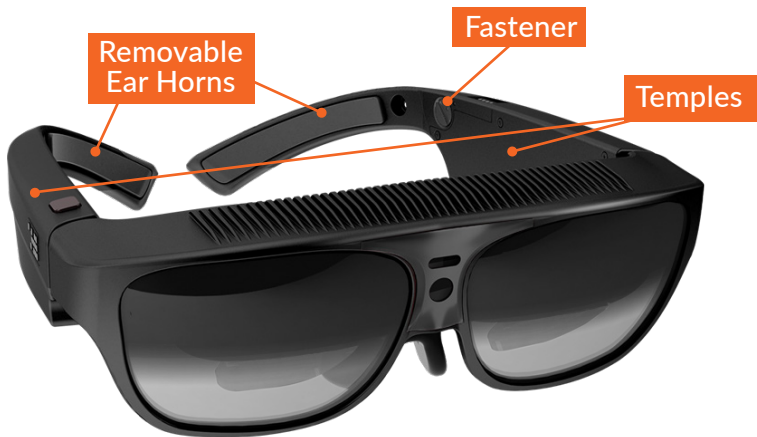
To attach the strap, press the strap connectors into the oval hole in the Ear Horns.



Then rotate the strap connectors 90° to lock into place.

REMOVABLE EAR HORNS

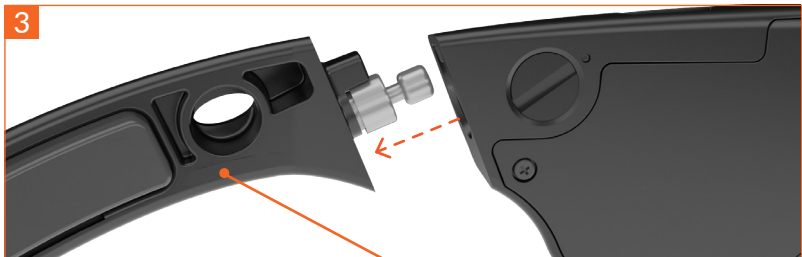
The Ear Horns are removable. Please follow the below instructions to safely remove and re-attach the Ear Horns. The only tool you will need is a flat-head screwdriver.



REMOVABLE EAR HORNS



Move fastener left and turn 180° to re-align with the circle indent and unlock Ear Horns.



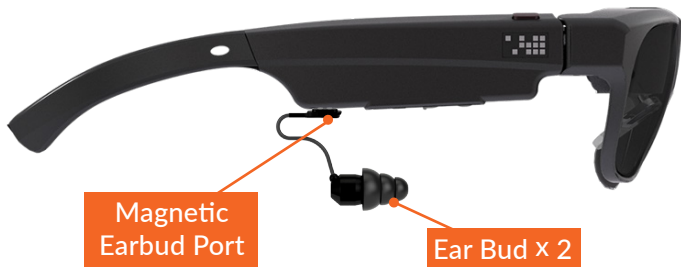
Gently pull Ear Horn out of socket to remove fully. Then replace the new Ear Horn into the socket.



Move fastener right and re-align with the circle indent to lock Ear Horn in place.

EARBUDS

SIDE VIEW



To listen to audio, attach each of the supplied earbuds to the magnetic earbud ports located on the bottom of each temple.

To adjust the volume, press the Volume Up or Volume Down buttons on the Reticle Speed Mouse or the bottom of the left temple on the glasses.

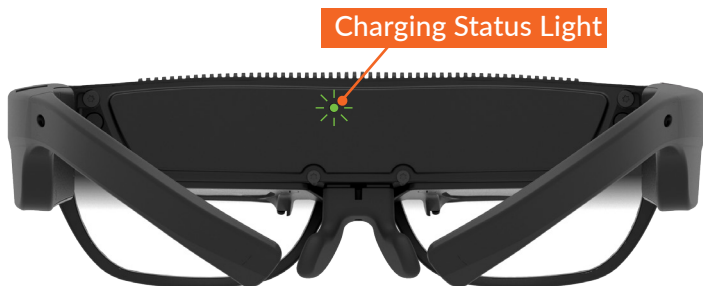
CLEANING

Over time and with normal use the Front Shields and lenses may become soiled with fingerprints, dirt, and dust. To clean these surfaces first use a compressed air duster, then gently wipe them with the supplied Microfiber Cleaning Cloth.

For more detailed cleaning instructions, please see our Support Page: support.osterhoutgroup.com

- !** Use **ONLY** the supplied microfiber cloth to clean optical surfaces. Other materials can scratch surfaces and degrade optical quality.
- !** Do not use force when cleaning the lenses as this may cause harm to the equipment.

CHARGING



To charge the smartglasses, attach the Magnetic USB Data & Power Cable to the charging port on top of the left temple and plug the cable into the supplied power adapter. A charging status light located on the inside front of the glasses illuminates when the charging cable is plugged in.

Note: Using supplied ODG power adapter ensures optimal charging efficiency.

STATUS LIGHT COLORS



CHARGING

SOLID WHITE, BLUE, OR YELLOW



CHARGED

SOLID GREEN



BATTERY ERROR

BLINKING BLUE, RED OR YELLOW



If an error is indicated, contact ODG or your ReticleConnect™ authorized reseller immediately for servicing.

Do not attempt to access the batteries or disassemble the device.

INTERCHANGEABLE NOSE BRIDGES

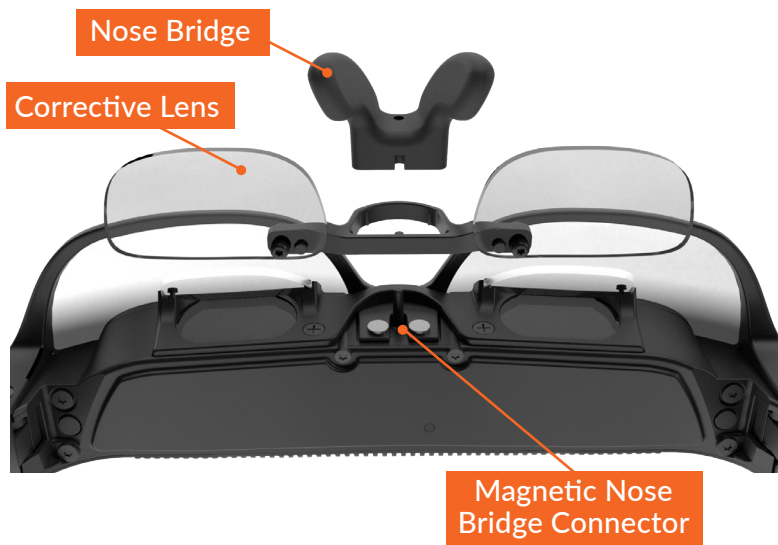
There are three interchangeable nose bridges included in the kit. The nose bridges vary in sizes and attach magnetically. When removing the nose bridge place glasses down and pull the nose bridge up and away from the glasses. Do not move left and right as this can cause damage.

! Remove the nose bridge by pulling it up only. Pulling it in any other direction could cause damage.

CORRECTIVE LENSES

(SOLD SEPARATELY)

Corrective Lenses are available to correct vision of users who wear prescription glasses or contact lenses. Visit shop.osterhoutgroup.com for purchase options.



To install, remove the nose bridge from the glasses then slide the corrective lenses over the nose bridge connector. Re-install the nose bridge in the reverse manner to install.

For more details please see our Support Page: support.osterhoutgroup.com

TECHNICAL SPECIFICATIONS

HARDWARE

Qualcomm® Snapdragon™ 805
2.7GHz quad-core Processor
3GB Pop LP-DDR3 RAM
64GB Storage
GPU Adreno 420
GPU APIs: Open GL ES 1.x, 2.0, 3.0, 3.1,
TS & GS; Open CL 1.2full; RenderScript;
DX11.2
1300mAh Lithium-Ion Batteries
(2 x 650mAh)
3 Replaceable Magnetic Nose Bridges
Removable Ear Horns
Dual Haptic Feedback in Temples

OPTICS

Dual 720p Stereoscopic
See-Thru Displays at 80fps
60% See-Thru Transmission
(Up to 80%)
Magnetic Removable
Photochromic Shields

COMMUNICATIONS

Bluetooth® 4.1 (Basic rate, EDR, BLE)
WiFi® Dual Band 802.11ac (a, b, g, n, ac)
GNSS-based Location
(includes GPS and GLONASS)

SENSORS

Two Integrated Inertial Measuring Units
with 3-Axis Accelerometer, 3-Axis
Gyroscope, 3-Axis Magnetometer
Altitude Sensor
Humidity Sensor
Ambient Light Sensor
Autofocus Camera
(1080p @ 60fps, 720p @ 120fps)

INPUT/OUTPUT

2 Digital Microphones
(User & Environment)
Magnetic Charging Port
with USB On-The-Go
Magnetic Stereo Audio Ports
with Ear Buds

SOFTWARE

ReticleOS™, Android Marshmallow
Framework Optimized for
ODG Smartglasses
Compatible with a Number of SDKs
(See ODG Website)
ReticleOS™ Developer Program

INCLUDED ACCESSORIES

*All accessories can be reordered
at shop.osterhoutgroup.com*

Reticle Speed Mouse
Protective Case
Magnetic Ear Buds
Magnetic Removable
Photochromic Shields
Magnetic USB Data & Power Cable
Power Adapter
Removeable Headstrap
Microfiber Cleaning Cloth
Interchangeable Nose Bridges
Replaceable Ear Horns

OPTIONAL ACCESSORIES

Wireless Keyboard
Power Hub System
Corrective Lenses
Blackout & Clear Shields

Important Notice

Osterhout Design Group reserves all rights to the product and grants no other licenses, rights, or data of any kind. ODG prohibits the reverse engineering or deconstruction of the item for any purpose.

Hereby, Osterhout Group, Inc. declares that the radio equipment type [designation of type of radio equipment] is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: osterhoutgroup.com.

Assumption of Risk; Indemnification Respecting Use

Buyer acknowledges and agrees that the use of the products other than in accordance with Seller'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. Buyer assumes all liability for all such property damage or personal injury. Buyer agrees to and does hereby indemnify and hold harmless Seller from and against any and all claims, loss, cost and liability, including without limitation attorneys' fees, arising from any such property damage or personal injury or from any third party claim respecting any such property damage or personal injury.

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 PRODUCTS WHEN UNOBSTRUCTED VIEW IS NECESSARY FOR SAFETY.

FCC Part 15 Class B

This device complies with Part 15 Class B of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device 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 this equipment 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or TV technician for help.

FCC Part 15.19 Warning Statement

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

FCC Part 15.21 Warning Statement

The user manual for an intentional or unintentional radiator shall caution the user that causes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Important Notice

The device for 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.

Les dispositifs fonctionnant dans la bande de 5 150 à 5 250 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.

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

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 : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



R-7 GLASSES: FCC ID 2ADCMR7

RETICLE SPEED MOUSE: FCC ID 2ADCMRSM1

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153 Townsend Street, Suite 570 ■ San Francisco, CA 94107

(415)644-4000 ■ osterhoutgroup.com

SUPPORT: support.osterhoutgroup.com

DEVELOPERS: developer.osterhoutgroup.com

ODG Smartglasses are designed
and engineered in California.

