

ODG The logo consists of the letters 'ODG' in a bold, black, sans-serif font. To the right of the letters is a horizontal bar composed of a grid of small squares in various colors, including red, orange, yellow, green, blue, and purple, creating a digital or pixelated effect.



**R-7 SMART GLASSES
USER GUIDE**

Welcome

Thank you for purchasing the world's first fully integrated, 3D, see-through, mobile computing eye wear. This User Guide is available for download on the ODG Support website below. It can also be found on the glasses within the Gallery application under PDF Documents .



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 glasses 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 glasses 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.

The design and manufacture of ODG R-7 Glasses is in accordance with the requirements set out in Article 4 of RoHS2 Directive 2011/65/EU.

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INCLUDED IN THE KIT



R-7 SMART GLASSES



STORAGE CASE



RETICLE SPEED MOUSE



**MAGNETIC USB
DATA & POWER CABLE**



2 EAR BUDS



**USB TO MICRO-USB
RETICLE SPEED MOUSE
CHARGING CABLE**



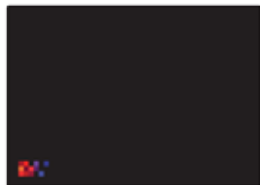
USER GUIDE



HEAD STRAP

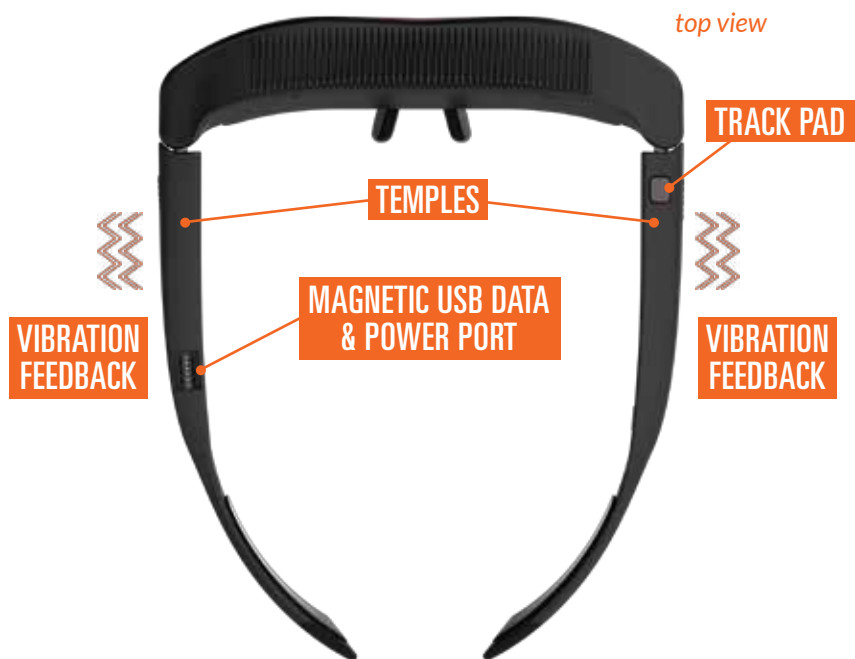
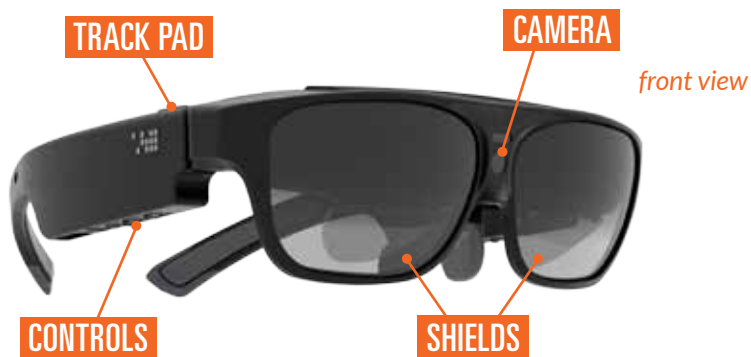


**USB POWER
ADAPTER**



LENS CLEANING CLOTH

FEATURES OVERVIEW



MAIN CONTROLS

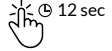
POWER



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

● MULTI-FUNCTION



Toggle Input Mode:
Cursor/Selector
(Default Setting)

The multi-function button can be set to perform various commands.
To customize this button, go to **Settings > Reticle > Temple Buttons**

☰ MENU



Display
System Menu



Switch/Select
Open Apps

↶ BACK



Previous
Screen



Go to
Launcher

right temple

bottom view

TRACK PAD



The track pad is located on top of the right temple of the glasses as well as the Reticle Speed Mouse are input devices that allow the user to control the software interface by swiping with a fingertip. It is an optical device that functions equally with gloved or gloveless fingers.

Pressing down on a track pad represents a click or selects an item.

INPUT MODES

There are two modes of Track Pad input to allow optimized control for each application. 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

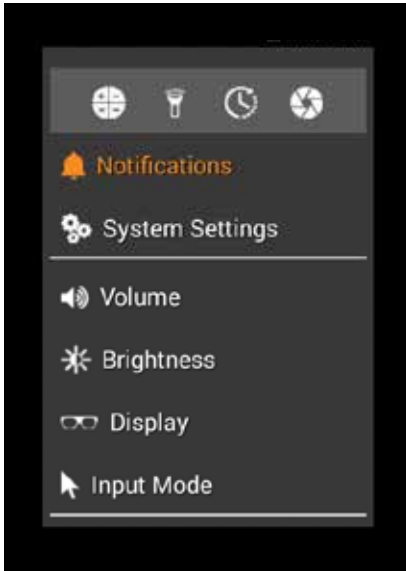
Swiping the Track Pad up, down, left, or right selects the next button, item, or element in the same manner as 4-way arrow keys.



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.

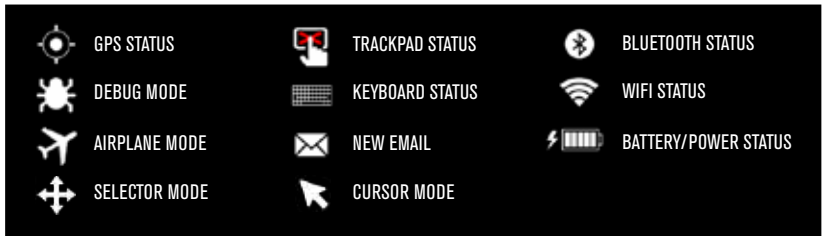
Icons at the top of the menu will launch the Calculator, Flashlight, Clock/Timer, or Camera apps.

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 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 entering a click 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. Pressing 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 Search 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.



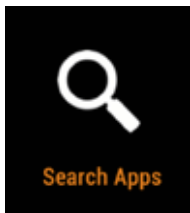
ADDING & REMOVING ICONS

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. Swiping up and down highlights the item and pressing the track pad launches the app.



RETICLE SPEED MOUSE



The Reticle Speed Mouse (RSM) is an 3D input device for the system that is worn on the user's index 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 power 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 flash 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*). When the status light turns off the pairing is complete.

Bluetooth Pairing

The RSM is in pairing mode while the status light is glowing blue. On the glasses, press the Menu button once to display the System Menu (see *Page 71*) 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 trackpad. 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, a 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 heavy 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.

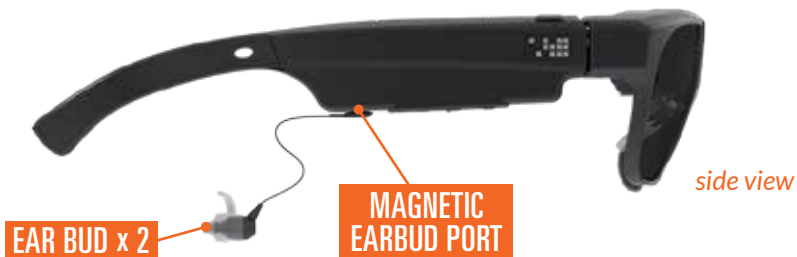
To configure the speed buttons, go to System Settings via the icon in the Launcher or by pressing and holding the Menu button. Set up the applications you wish to launch in System Settings > Reticle > Reticle Speed Mouse.



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.

EARBUDS



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 the Reticle Speed Mouse or the bottom of the left temple on the glasses.

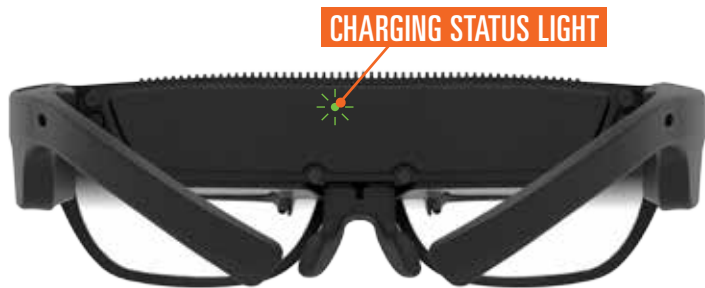
HEAD STRAP

HEAD STRAP ATTACHMENT



The included Head Strap can be attached to secure the glasses to the wearer's head. To attach the strap, press the strap connectors into the oval hole in the Ear Horns, then rotate them 90° to lock into place.

CHARGING



To charge the glasses, 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 supply. A charging status light located on the inside front of the glasses illuminates when the charging cable is plugged in.

STATUS LIGHT COLORS



CHARGING
SOLID WHITE



CHARGED
SOLID GREEN



BATTERY ERROR
BLINKING BLUE OR RED



If an error is indicated, contact ODG immediately for servicing.
Do not attempt to access the batteries or disassemble the device.

CLEANING

Over time and with normal use the Front Shields and lens may become soiled with fingerprints, dirt, and dust. To clean these surfaces gently wipe them with the supplied Microfiber Cleaning Cloth.

- ! Use **ONLY** the supplied microfiber cloth to clean optical surfaces. Other materials can scratch surfaces and degrade optical quality.

CORRECTIVE LENSES

(OPTIONAL)



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.

TECHNICAL SPECIFICATIONS

HARDWARE

Qualcomm® Snapdragon™ 805
2.7GHz quad-core Processor
3GB Pop LP-DDR3 RAM
64GB Storage
GPU Adreno420, 600 MHz turbo,
500 MHz nominal
GPU APIs: OpenGL ES 1.1/2.0/3.0, 3.0+,
OpenCL1.2 Full Profile, DX11.1
Dual 650mAh Lithium-Ion Batteries
(1300mAh total)
Replaceable Magnetic Nose Bridges
Removable ear horns
Dual Haptic Feedback in Temples

OPTICS

Dual 720p Stereoscopic See-thru displays at 80fps
80% See-thru Transmission
Magnetic Removable Photochromic Lenses

COMMUNICATIONS

Bluetooth 4.0
802.11ac
GNSS (GPS/GLONASS)

SENSORS

Multiple Integrated Inertial Measuring Units with 3-axis accelerometer, 3-axis gyroscope, 3-axis magnetometer
Barometric Pressure 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, a see-thru optimized Android framework for head-worn computing atop Android 4.4.4 (Kit Kat)
Qualcomm® Vuforia™ SDK for Digital Eyewear (VDE)
Developer Website
Developer Program
Reticle App Center

INCLUDED ACCESSORIES

Protective Case
Magnetic Ear Buds
Reticle Speed Mouse
Swappable Photochromatic Lenses

OPTIONAL ACCESSORIES

Wireless Keyboard
Power Hub System
Corrective Lenses
Nose Pads & Ear Horns
Clear & Tinted Outer Lenses

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.

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.

R-7 GLASSES: FCC ID 2ADCMR7
RETICLE SPEED MOUSE: FCC ID 2ADCMRSM1



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