



# R-7 SMART GLASSES USER GUIDE

*R-7 User Guide*  
*Rev 1.1.1 Nov 2015*  
*ODG Part #: 580-00016*

# 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](https://support.osterhoutgroup.com)



## Developer Support

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

[developer.osterhoutgroup.com](https://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.*

This is a Class B product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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.

*See Page 21 for additional important notices and disclaimers.*

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# INCLUDED IN THE KIT

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**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**



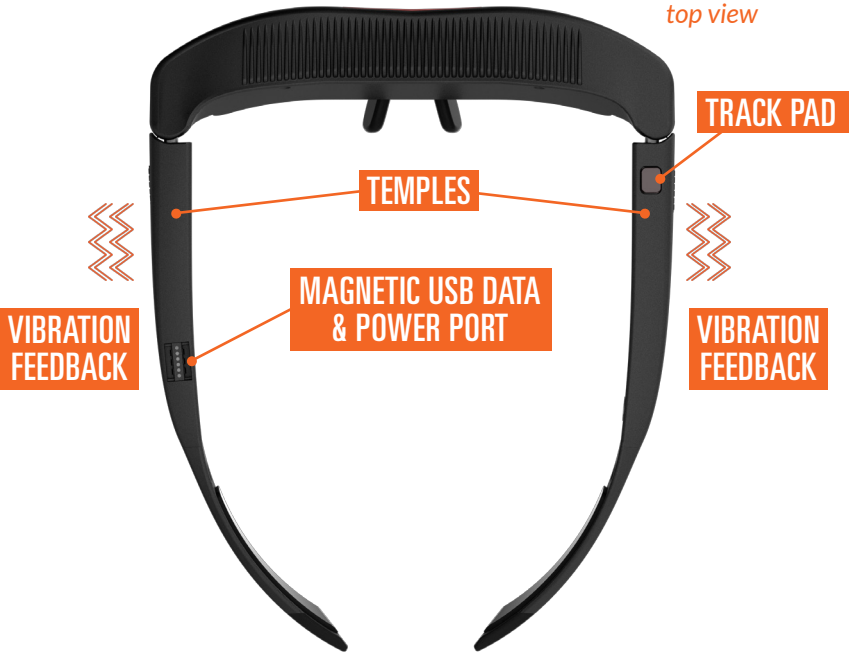
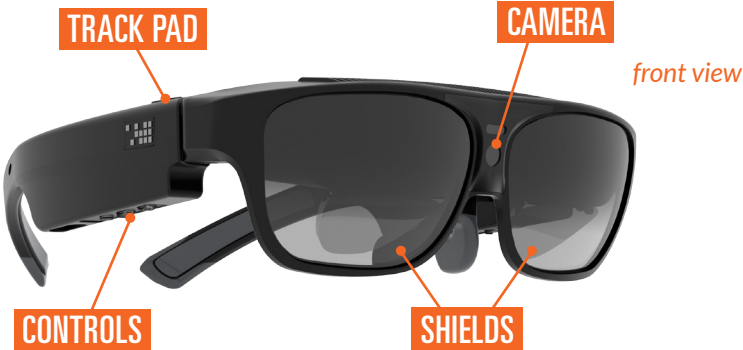
**USB POWER  
ADAPTER**



**LENS CLEANING CLOTH**

# FEATURES OVERVIEW

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# MAIN CONTROLS

## POWER



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



**Display  
Shutdown  
Menu**

2 sec



**Force  
Shutdown**

12 sec

## VOLUME DOWN



**Decrease Volume  
One Step**



**Continually  
Decrease Volume**

Hold

## VOLUME UP



**Increase Volume  
One Step**



**Continually  
Increase Volume**

Hold

*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

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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

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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.

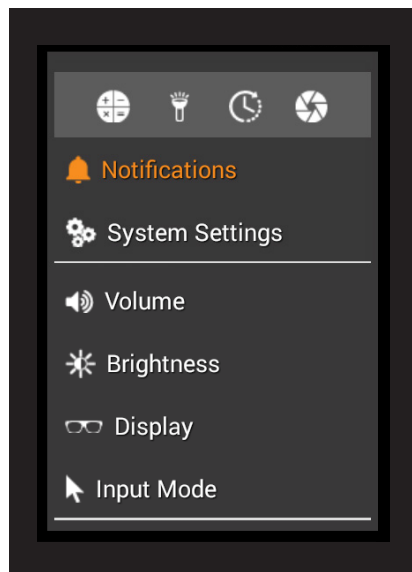


### CURSOR MODE

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

# SYSTEM MENU

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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.

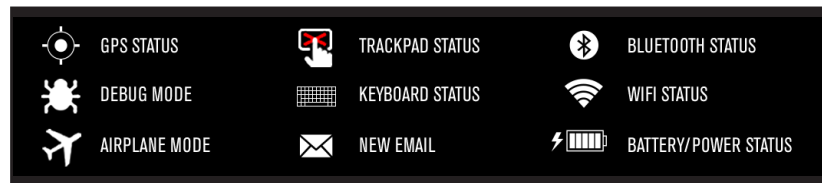
Notifications displays a list of any current system Notifications.

System Settings takes the user to the full Android Settings.

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

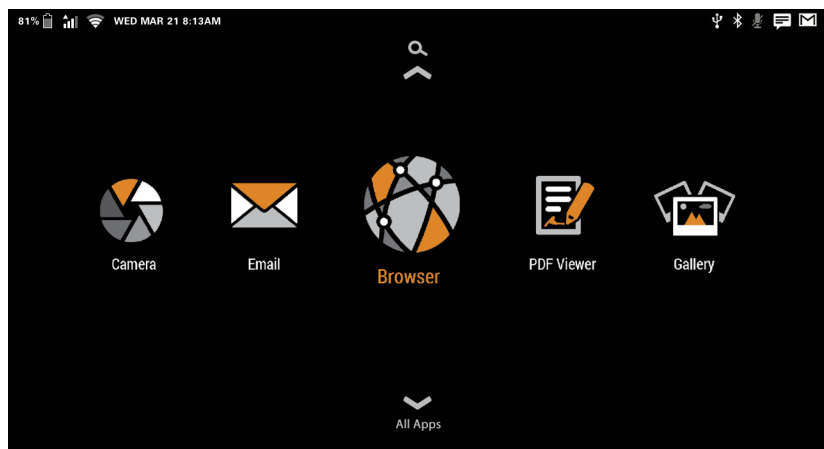
# STATUS BAR

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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

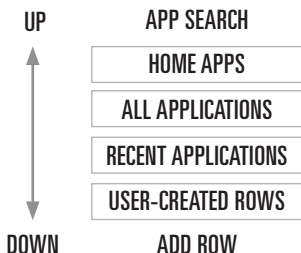


The Launcher is the home screen of ReticleOS and will appear when the glasses power up. To return to the Launcher from an application, press the Back button repeatedly until the Launcher is reached. Press and hold the Back button for 3 seconds then release to go to the Launcher at any time.

The Launcher contains horizontal rows 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.

## ROW ORDER

There are multiple rows in the Launcher that the user can access by swiping up or down. . Also, users can create and re-order custom rows to suit their needs.



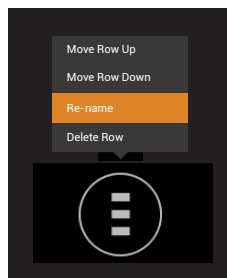
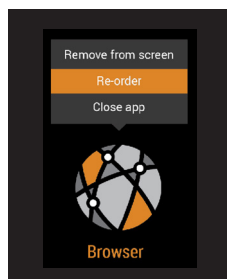
# LAUNCHER

## MANAGING ICONS & ROWS

Clicking and holding on an existing application icon will display a menu for removing or re-ordering an icon within the row, as well as a command to Kill Application which forcibly quits a running app.

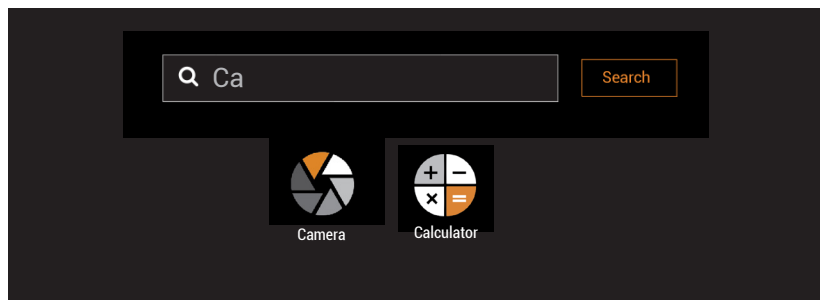
Swiping down to the bottom of the rows displays the “Add Row” feature to create custom rows based on the user's preference or usage. Clicking “Edit Row” at the far right of a row allows the user to re-move, rename or reorder the rows. Some rows such as All Applications and Recent Applications and are automatically generated and cannot be deleted.

Clicking the “Add App” icon on a row displays a list of all available installed applications that the user can add to the current row.



## APPLICATION SEARCH

Swiping up to the top of the rows will display the Application Search feature. When an application name is typed into the field, any matching titles will display dynamically. To launch, swipe down and left or right to highlight the desired app, and then click to launch.



# RETICLE SPEED MOUSE

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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 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

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## 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

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## 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.

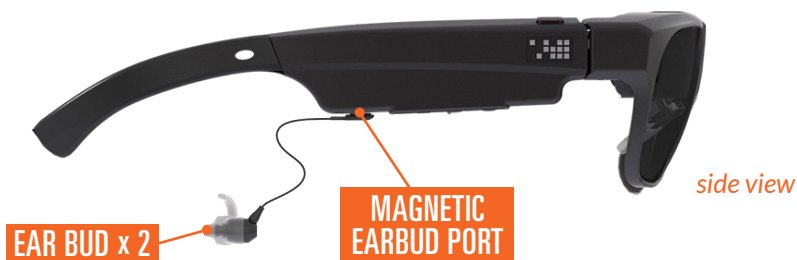


## Charging

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

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

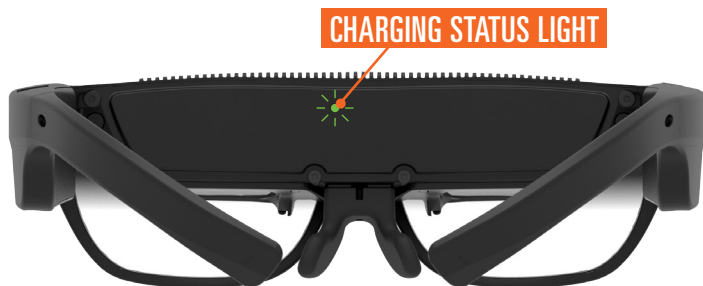
## HEAD STRAP

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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

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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

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(OPTIONAL)



Corrective Lenses are available to correct vision of users who wear prescription glasses or contact lenses. Visit [shop.osterhoutgroup.com](http://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

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## 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  
BLE Reticle Speed Mouse  
Swappable Photochromatic Lenses  
Focus Shift Element

## OPTIONAL ACCESSORIES

Wireless Keyboard  
Portable Back-up Power Supply  
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 Class B Part 15

This device complies with Part 15 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.



R-7 GLASSES: FCC ID 2ADCMR7

RETICLE SPEED MOUSE: FCC ID 2ADCMRSM1







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