



# Virtual Reality Setup Instructions and Troubleshooting Guide

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# What is the Oculus Rift?

Invented by a VR enthusiast named Palmer Luckey, the Oculus Rift is a set of virtual-reality goggles that will work with your computer or mobile device. After he showed a prototype at the E3 gaming convention in 2012, Luckey founded Irvine, Calif.-based Oculus VR with Brendan Iribe, who became CEO. The two launched a Kickstarter project in August 2012 to sell prototype developer versions of the Oculus Rift, raising \$2.4 million. Since selling out of the original Oculus Rift development kit, the company has launched a revamped \$350 Development Kit 2 (DK2) model while continuing to work on its eventual consumer version.

On Mar. 25, 2014, Oculus VR was purchased by social networking giant Facebook for a combined \$2 billion dollars. Facebook CEO Mark Zuckerberg said that the headset "has the chance to create the most social platform ever," though we don't know how exactly the website will utilize the Oculus Rift. In an interview with Polygon, Luckey said that Oculus VR will continue to operate in its Irvine headquarters, and will use Facebook's backing to create a better, more affordable product.



# How does the Oculus Rift work?

Picture a set of ski goggles in which a large cellphone screen replaces the glass. The screen displays two images side by side, one for each eye. A set of lenses is placed on top of the screen, focusing and reshaping the picture for each eye, and creating a stereoscopic 3D image. The goggles have embedded sensors that monitor the wearer's head motions and adjust the image accordingly. The latest version of the Oculus Rift is bolstered by an external positional-tracking accessory, which helps track head movements more accurately. The result is the sensation that you are looking around a 3D world.



# What about augmented reality?

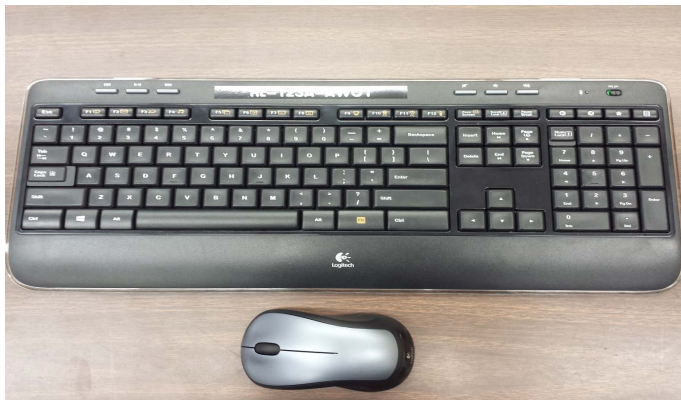
Augmented reality (AR) involves superimposing graphics over a view of the real world, such as a cellphone's camera or the prism display of Google Glass. Since Oculus Rift lets you see only a 3D world, and not the real world, it can't do AR. However, the execs at Oculus VR have said that maybe one day, they will add cameras to the goggles, allowing you to see the real world when you're not in a game. Such a setup would let you add three-dimensional graphics on top of the camera feed and allow for augmented reality. Considering what Rift creators have indicated in the past, this is not likely to happen with the first consumer version.



# Item Check List

- Before Starting, check that all of the following items have been included with the cart. If anything is missing, immediately contact circulation.

**Logitech Wireless Keyboard and Mouse**



**C2G Display Port to HDMI Adapter**



**Oculus Rift Headset**



**Oculus Rift Tracking Camera**





# Item Check List Cont.

**Oculus Rift Tracking Camera –  
Micro-USB Cable**



**Oculus Rift Tracking Camera –  
Sync Cable**



**Sony Wireless Headphones  
Charging Dock**



**Sony Wireless Headphones**



**Microsoft Xbox – Wireless Adapter**



**Microsoft Xbox – Wireless Controller**



# Item Check List Cont.

Alienware Performance Computer



(Optional) Oculus Rift Tracking Camera – Tri-Pod Mount



DVI to DVI Coupler



DVI to HDMI Coupler



- If you are looking to use the Optional Tri-Pod Mount please notify a Librarian at the Front Desk for more information.



# Cable Setup

- **Step 1:**

- Decide on your presentation screen
  - (Projector, Flatscreen Television Cart, etc.)

- **Step 2:**

- Identify supported connector types on your presentation screen
  - Supported Connector Types include DVI and HDMI

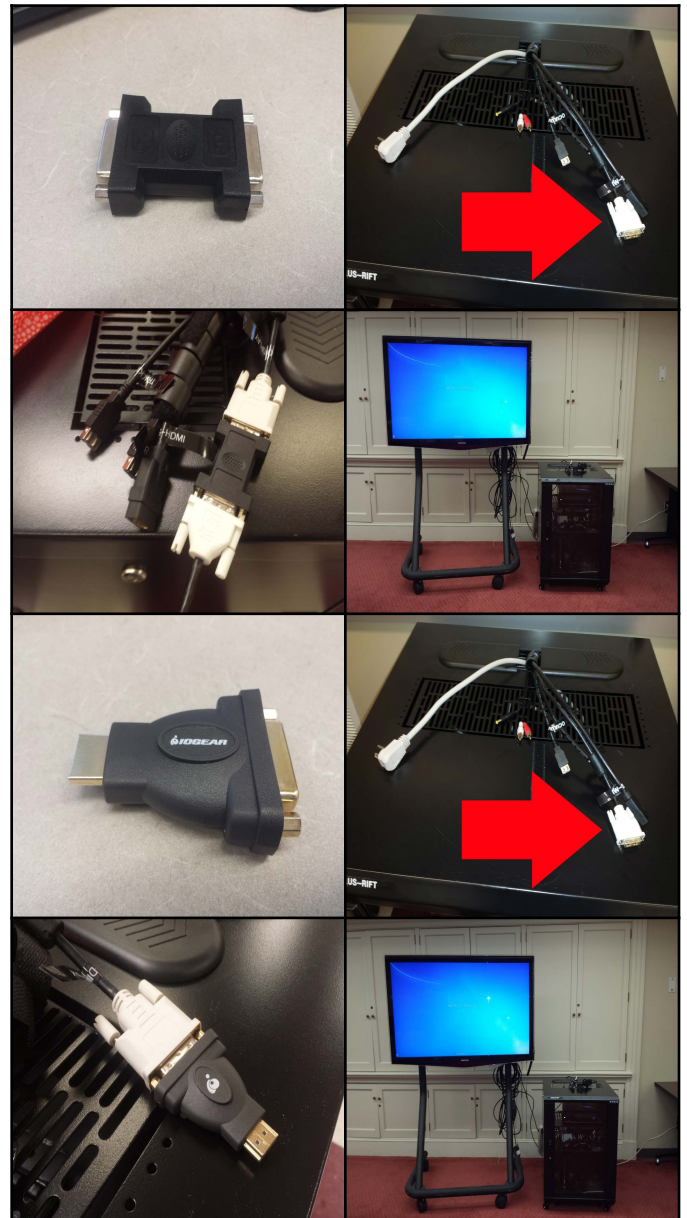


- If your screen supports DVI (the first cable in the picture) move on to Step 3A, otherwise proceed to Step 3B if you will be using HDMI

# Cable Setup Cont.

- **Step 3A:**

- Locate the DVI to DVI Coupler in the Cart
- Connect DVI Coupler to the DVI cable coming out of the cart
- Next, connect the coupled cable to the DVI cable coming from the Presentation Screen
- Verify that the Presentation Screen is on the right input and you are done



- **Step 3B:**

- Locate the DVI to HDMI Coupler in the Cart
- Connect HDMI Coupler to the DVI cable coming out of the cart
- Next, connect the coupled cable to the DVI cable coming from the Presentation Screen
- Verify that the Presentation Screen is on the right input and you are done

# VR Headset Setup

- **Step 1:**

- Identify the location of the Audio Headset and Dock
- Remove Headset and Dock and place on Top of the Cart
- Connect the Power Adapter Cables shown to the right with the Audio Dock
- Make sure that the Headset and the Dock are on the same audio channels and also that the Headset is turned on
- Verify that sound is coming from the computer using a Video or an Audio file



- **Step 2:**

- Identify the location of the Oculus Rift Tracking Camera
- This step is where we will decide whether or not to use a Tripod or the Presentation Screen
- Depending on the limitations of the Presentation Screen usage without a Tripod may or may not be possible
- If you are using the Tripod move on to Step 3B



# VR Headset Setup Cont.

- **Step 3A:**

- Remove Camera from Cart and place directly on top of the Presentation Screen
- In doing this you will want to open the rubber mounts that are collapsed on the Camera's arm so that the mount will be stable

- **Step 3B:**

- Identify the location of the Tripod
  - **Note:** Circulation will have the Tripod and you will have to request it in addition to the cart as we do not include it unless asked
- Remove Camera from Cart making sure to note the circular indentation on the bottom that will match up with the top of the Tripod
- Gently begin to screw the camera onto the Tripod and stop once you have reached the point where it is snug in place making sure not to screw it on too tight
  - **Note:** Depending on your height you will want to adjust the Tripod height so that it is at or above eye level so that the Headset will be able to detect the Camera





# VR Headset Setup Cont.

- **Step 4:**

- Identify the location of the Sync Out and Tracking Camera Cables
- Connect the ends of the cables to the Tracking Camera where it is mounted
- Identify the location of the Tracking Camera USB Input on the top of the cart
- Connect the Tracking Camera USB cable to the USB Input



# VR Headset Setup Cont.

- **Step 5:**
  - Identify the location of the Oculus Rift VR Headset
  - Connect the Sync Out Cable from Step 4 into the Oculus on the Top
  - Take the HDMI and USB Connection Cables from the end of the Oculus Rift VR Headset and connect them to the remaining cable ends on the top of the cart



# VR Headset Setup Cont.

- **Step 6:**

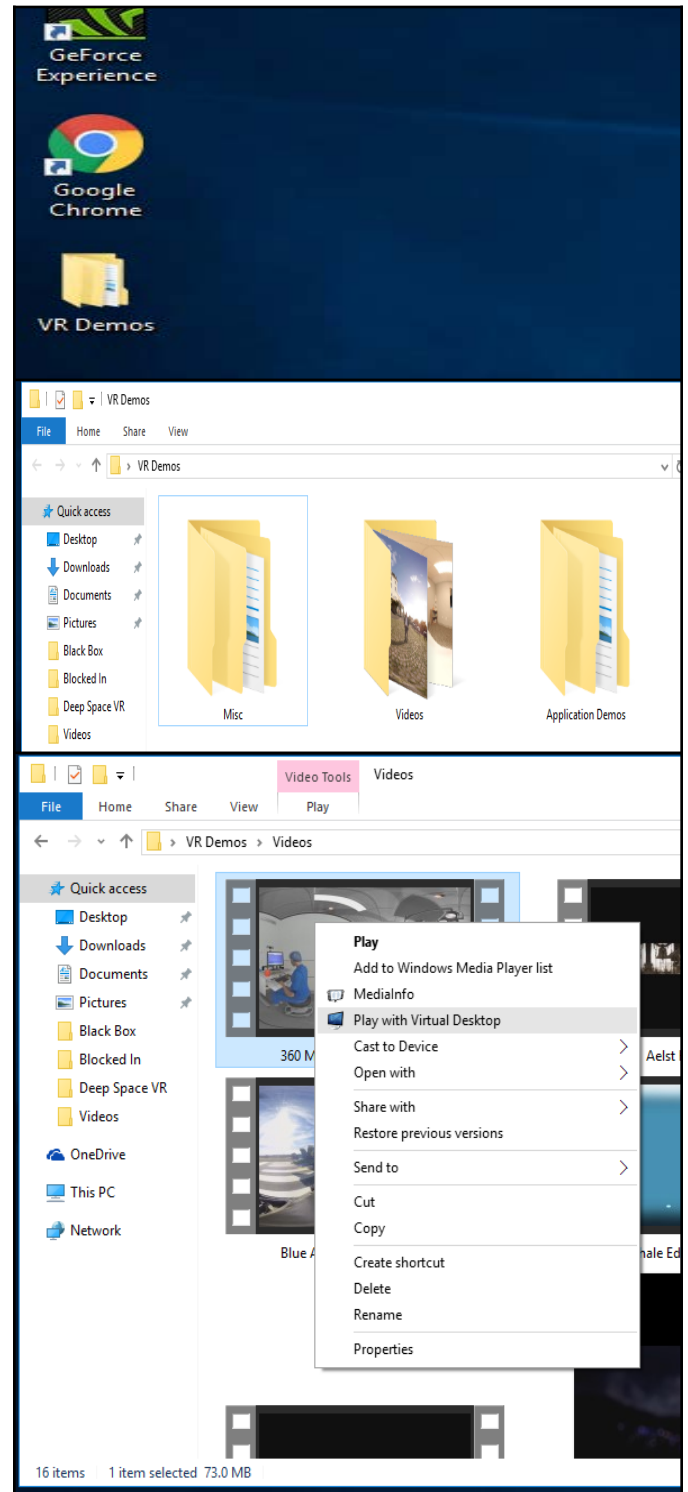
- Before beginning to use the VR Setup verify that you have arms length space between you and any obstructions
- After doing this and setting up whatever demo you have turned on (covered in a different section) you are clear to put the VR Headset on
- For additional setup and troubleshooting please view the configuration section of this guide





# VR Application Configuration

- All demos have been pre-tested on the Oculus Rift o.8 SDK Version and are assured to work upon opening the applications
- In order to use the demos please follow the next set of instructions to execute them correctly:
  - On the Desktop there will be a folder called VR Demos where there will be two folders named "Application Demos" and "Videos"
  - Depending on the folder chosen there will be a different set of instructions for each, but both are relatively the same in terms of troubleshooting and configuration
  - For Application Demos:
    - Chose your selected demo within the folder and launch the executable within the directory
  - For Video Demos:
    - Chose your selected video within the folder, right click the video, and click "Play With Virtual Desktop"





# VR Demo List:

- Included, the following demonstrations that have been preloaded for your convenience:
- As a user of the Oculus, you are permitted to load your own software as well keeping in mind that the cart is a public utility

Application Demos:	360 Video Demos:
Apollo Experience	360 Medical Operating Room
Black Box	Aelst Historic City
Blocked In	Atmosphaeres - Real Estate Presentation
Deep Space VR	Blue Angels Flight Experience
Google Streetview	Blue Whale Educational Experience
Gravitas VR	Coral Reef - West Hawaii Island
Henry VR Trailer	Custom Patio Build VR How Its Made
Mythos of the World Axis	GoPro Spherical - Drifting Jump VR
The Eyeland	Journey to the Centre of the Milky Way
Titans of Space	Kids Clinic of Tampa Bay
Van Gogh - The Night Cafe	Kuroshio Sea
Welcome to Oculus	NASAs Goddard Space Flight Center
	Natural Selection Trailer
	Patton Veterinary Hospital
	Space Freefall
	Subway Flash Concerts

# Troubleshooting

- If for any reason you are having issues working with the Oculus feel free to either let Circulation know or you may follow these included steps:
- Hardware Error – Oculus Rift Not Attached
  - Ensure that all cables are connected by following the setup at the beginning of this guide
- Software Error – Virtual Desktop is either frozen/has stopped responding
  - Open Task Manager and Close the Virtual Desktop Application
  - Re-Open Virtual Desktop from the shortcut on the Desktop
- Software Error – “Application Demo” is either frozen/has stopped responding
  - Press CTRL-ALT-DEL and close the “Application Demo” that is open
- Hardware Error – Computer is completely frozen or is going extremely slow
  - Press CTRL-ALT-DEL and attempt to close the application or video that was running on the Oculus
  - If this does not work and the computer is completely frozen induce a Forced Shutdown

# Credits

- This Guide was designed and written by Cody Garrett
- Additional Credits Include the Following:
  - Kurt Anderson
    - Stand In Model for VR Presentation
  - Oculus Rift Background Information
    - Tom's Guide
      - <http://www.tomsguide.com/us/what-is-oculus-rift,news-18026.html>