



**Cyber Eyez on  
Samsung Gear VR  
User Guide  
Version 1.0**

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# Introduction

Welcome to the Cyber Eyez family! We are thrilled that you have chosen the best head mounted device and software in the world and want to make sure your experience is excellent. This guide will help provide information for Cyber Eyez compatible hardware along with general hints for the Cyber Eyez application. Please remember that Cyber Timez believes strongly that we should always be “In the Service of Others,” so at any time you feel frustrated or overwhelmed we strongly suggest using our [Product Support Page](#).

## We Want Your Feedback

Cyber Eyez is developed in cooperation with the low vision and blind community with constant feedback from our Cyber Eyez family. At any time, please feel free to reach out to us via email at [support@cybertimez.com](mailto:support@cybertimez.com) to offer insights, suggestions or requests for improvements or new features. Remember, if it would help you, it will help someone else too!

## Getting Help

Every Cyber Eyez license includes free support and free updates for life! Use it!

### Email Support

The Help Desk can be reached by email at [support@cybertimez.com](mailto:support@cybertimez.com).

### Online

Please be sure to check the [Product Support](#) page on our website for all the latest updates, support articles and user guides.

## Manuals from Samsung

Cyber Eyez is an app. Just like apps on your phone, Cyber Eyez relies on the hardware provided by Samsung to operate. That means basic functions like powering it on and off, using the buttons and many system settings aren't necessarily covered by this guide about Cyber Eyez. To make sure you get the most out of your device, please download and review the respective device manuals. We highly recommend that you familiarize yourself with the Samsung device before diving headlong into Cyber Eyez. Cyber Eyez relies on some features of the phone that need to be set up, such as WiFi, for Microsoft Online Reading Assistant, color identification, online object recognition and mood ring mode to work.

### Samsung User Guides

[Samsung Gear VR Headset \(2017\)](#) -- If you bought the headset from us, this is the one you have :).

Guides for other models are available on the same website. There is VERY useful information here including: how to attach your phone to the headset, how to adjust the brightness in VR, how to pair/use the controller, etc. You need to complete the Samsung setup on your device before proceeding with the Cyber Eyez First Time Setup.

### Samsung Accessibility Guide

We know most of you carry an iPhone :). Talk Back is available on your Samsung phone, but works a little differently.

[Voice Assistant Initial Setup](#)

[How to Use Voice Assistant on the Galaxy S7](#)

[Enable or Disable Talk Back on the Galaxy S8 or S9](#)

## First Time Setup

Cyber Eyez requires some permissions from your phone to run including access to your camera and the storage to save images for processing. There are two ways to set this up:

## Headset On

This method requires fairly good sight, scanning and targeting skills. The first time Cyber Eyez is launched inside the headset it will ask for permissions to the Camera and Storage. Look around to find the white dot that projects from the center of your forward in the virtual screen. Line that white dot up on the "Allow" button and "click" by tapping the swipe pad.

## Headset Off -- Recommended

Swipe down from the top of the screen and tap the Settings icon (it's shaped like a gear in the upper right hand corner). Scroll down to Apps and tap to select it. Scroll down to Cyber Eyez and tap to select it. Scroll down to Permissions and tap to select it. Tap on the toggle for both camera and storage to turn it on. The toggle will move to the right and turn blue when it is on.

# Cyber Eyez Basics

Cyber Eyez has several modes to enable different types of functionality and new features and functions are being added all the time!

## Starting Cyber Eyez

When Cyber Eyez is installed, it creates a service that runs in the background on your phone listening for it to be attached to the headset. When the service is listening and ready to be mounted, you will hear, "Cyber Eyez ready for headset docking." Put your phone in the headset and Cyber Eyez will automatically start.

If Cyber Eyez does not automatically start with your phone, open your apps by swiping up from the bottom and launch Cyber Eyez manually by tapping it. Your phone screen will display a white background with a picture of the phone being inserted into the headset.

## Navigating Cyber Eyez

Cyber Eyez on Samsung Gear VR is controlled mainly through the swipe pad on the right hand side of the headset. There are two buttons above the pad and the pad itself is inset into the plastic slightly, shaped like a square with rounded corners and has a small raised dot in the middle.

DO NOT USE THE BUTTONS! Pressing the buttons will take you to the Oculus home screen which is a living room in virtual reality. Unfortunately, there is no Talk Back or magnification support in this mode. If you do get stuck in a virtual living room, take the glasses off, remove the phone from the headset and wait to hear "Cyber Eyez is ready for headset docking." Replace the phone in the headset and put the headset back on to continue.

## Changing Modes

To select from the different modes in Cyber Eyez, swipe up or down to scroll through the list of modes. When the mode you want to use is highlighted, stop swiping.

The modes available in Cyber Eyez 1.0 are:

- Google Offline Text Reader
- Microsoft Online Text Reader
- Barcode Mode
- Google Online Object Recognition
- Color Assistant
- Mood Ring Mode
- Adjust Brightness
- Adjust White Balance
- Move Display Left or Right
- Move Display Up or Down
- Move Display Close or Far

## Zooming In

When Cyber Eyez is running, swipe forward (from your ear toward your eye) on the swipe pad to zoom in. By default you can swipe forward multiple times to magnify at up to a 20X resolution in real

time. When you have reached the maximum zoom level you will hear a prompt saying “Maximum Zoom.”

You can zoom in while in the following modes:

- Google Offline Text Reader
- Microsoft Online Text Reader
- Barcode Mode
- Google Online Object Recognition
- Color Assistant
- Mood Ring Mode

## Zooming Out

When Cyber Eyez is running, swipe backward (from your eye toward your ear) to zoom out. By default you swipe backward multiple times to decrease magnification from 20X to normal resolution in real time. When you have reached the minimum zoom level you will hear a prompt saying “Minimum Zoom.”

You can zoom out while in the following modes:

- Google Offline Text Reader
- Microsoft Online Text Reader
- Barcode Mode
- Google Online Object Recognition
- Color Assistant
- Mood Ring Mode

## Snapping Pictures

The following modes require you to take a picture to get results:

- Google Offline Text Reader
- Microsoft Online Text Reader
- Barcode Mode
- Google Online Object Recognition
- Color Assistant
- Mood Ring Mode

To take a picture, long press on the pad. Think of it as a long “click,” just done with your finger. When the device takes a picture, you will hear a “shutter click” sound effect.

If you're having trouble getting the device to snap a picture, first make sure you're touching the pad itself when tapping. Second, lift your finger off the pad for a second or so and then lightly place it back on the pad. No need to mash it, a long tap will do :).

Some new users will get strange results for object recognition and reading assistant even after many tries in different environments. When snapping a picture with a camera on your head, it's just like any other camera and motion matters. While there is image stabilization enabled, if the whole device is moving it won't help much. When you are using Cyber Eyez (especially in the beginning) be deliberate when taking your pictures. By deliberate, we mean be patient, line up the frame and tap your finger and try not to shake the device. It takes a little practice, but you will get the hang of it!

## **Exit Cyber Eyez**

To exit Cyber Eyez take the headset off and remove the Samsung phone from the headset.

# **Cyber Eyez Modes**

## **Reading Assistant**

Cyber Eyez 1.0 has the most advanced OCR engines in the world! We support hundreds of fonts and many languages! We also know that OCR with your head is the hardest thing Cyber Eyez family members have to learn and the thing they usually want to do most (after magnification).

To read text, simply line up the text you would like to have read and long tap on the swipe pad to snap a picture.

## **Google Offline Text Reader**

With Google Offline Text Reader, once you snap the picture there may be some silence while the image is being processed. Once the text is found and identified, Cyber Eyez will start reading it back to you.

## **Microsoft Online Text Reader**

\*Note – This mode requires an Internet connection using either WiFi (home, public, hotspot, etc.) or a cell/data connection on your smartphone.

We are proud to support the same OCR technology used by Microsoft's Seeing AI app! When using Microsoft Online Text Reader after you snap a picture you will hear "Uploading image, please wait." This process usually only takes seconds, but is dependant on your connection and speed. Our partnership with Microsoft to access the same OCR technology used by Seeing AI is truly life changing! Happy reading!

## **Troubleshooting OCR**

If you're having trouble with the OCR function we first and foremost apologize that you didn't have an excellent experience out of the box. Cyber Eyez is pre-configured to support most lighting and contrast scenarios, but it is impossible to predict every environment. To this end, here are several steps you can try to get better OCR results. If you still get strange results, please see Getting Help above.

## **Necks and Elbows**

When we do training with people, we usually find that by about week two or so they are working on what we call "necks and elbows" week. What we mean by this is that most new users end up taking a lot of pictures that include portions of a ceiling, walls and other artifacts that are much higher or lower than in a normal image. This is because the camera is mounted on your head and a lot of times the screen has been adjusted up by a few degrees to bring the screen in focus. You may need to look a little further down or hold the document you are working to read a little higher.

## **No Internet Connection Error**

\* This issue only applies to Microsoft Online Mode

There is very little processing going on using the device directly for the Microsoft Online Reading Assistant. The only real issue we have experience is trying to use Microsoft Online Mode with no Internet connection. If this happens, you will hear a prompt saying "Network Error" or something similarly vague and annoying when trying to upload the image. To correct this, please connect your

device to either WiFi or a cell/data plan on your phone and try to upload the image again.

## Send It To Us

Last, but certainly not least, if you just can't seem to get a good result we are happy to look and see what is going on. You can plug the device into a pc via the USB cable and it will show up as another drive (a lot like thumb drives). If you navigate through Internal Storage to Pictures you will find the images the OCR engine is working from. Please feel free to send any of those images that you're struggling with to [support@cybertimez.com](mailto:support@cybertimez.com) and we'll take a look to see if we can offer some advice or make updates to Cyber Eyez.

## Barcode Mode

\*Note – This mode requires an Internet connection using either WiFi (home, public, hotspot, etc.) or a cell/data connection on your smartphone.

Cyber Eyez identifies millions and millions of products! Why so many? We use Google Shopping as our product lookup engine :). If you can find it on Google, you can find it with Cyber Eyez!

To recognize barcodes, put Cyber Eyez in Barcode Mode, point the camera in the direction of the object(s) you would like processed and long tap the swipe pad. You will hear a camera click sound.

Your internet connection speed will affect how quickly the result is returned. If no barcode is found in the image, Cyber Eyez will say, "No barcode found." In this case, try turning the object so a different side is facing the camera and try again.

## Object Recognition

### Google Online Object Recognition

\*Note – This mode requires an Internet connection using either WiFi (home, public, hotspot, etc.) or a cell/data connection on your smartphone.

To identify objects look in the direction you want to know about and long tap the swipe pad. You will hear a voice prompt saying "Uploading Image...Please Wait." Depending on your Internet Connection

speed this may take as little as a few seconds or much longer. Once the result comes back, the system will begin reading the results to you with confidence scores. For example, if taking a picture of a computer monitor you may hear a result similar to “I found the following objects: 98% Computer Monitor, 90% Display Device, 77% Screen” and more. We encourage you to take as many object pictures as possible as the system that does this recognition is a learning system and will continuously improve with usage.

## **Troubleshooting Recognize Object Mode**

### **Google Online Object Recognition**

There is very little processing going on using the device directly for object recognition with the Google online mode. The only real issue we have experienced is trying to use Recognize Object Mode with no Internet connection. If this happens, you will hear a prompt saying “Network Error” when trying to upload the image. To correct this, please connect your device to either WiFi or a cell/data connection for your smartphone and try to upload the image again.

## **Color Assistant**

\*Note – This mode requires an Internet connection using either WiFi (home, public, hotspot, etc.) or a cell/data connection on your smartphone.

Cyber Eyez identifies over 1,600 unique colors! Don't worry, we're not going to read them all to you ☺. To recognize colors, put Cyber Eyez in Color Assistant Mode, point the camera in the direction of the object(s) you would like processed and long tap the swipe pad. You will hear a voice prompt saying “Uploading Image...Please Wait.” Depending on your Internet Connection speed this may take as little as a few seconds or much longer. Once the result comes back, the system will begin reading the results to you including the unique color name and the color family based on how much of the image each color takes up. For example, if taking a picture of a bright blue shirt you may hear a result similar to “60% Cool Blue Color Family Blue, 25% Sapphire Color Family Blue, 15% Ice Color Family Gray”.

## Troubleshooting Detect Color Mode

There is very little processing going on using the device directly for color detection. The only real issue we have experienced is trying to use Color Assistant Mode with no Internet connection. If this happens, you will hear a prompt saying “Network Error” when trying to upload the image. To correct this, please connect your device to either WiFi or a cell/data connection on your phone and try to upload the image again.

## Mood Ring

\*Note – This mode requires an Internet connection using either WiFi (home, public, hotspot, etc.) or a cell/data connection on your smartphone.

Cyber Eyez supports mood sensing on faces! We can tell you if the faces in the room are Joyful, Angry, Sorrowful or Surprised. We always say we are either saving or destroying marriages all over the planet with this one! But all kidding aside, as hokey as it sounds, this mode is used by visually impaired lawyers in court to determine how their presentations are being received by the judge, witness, jury, etc. Cool, huh?

To identify moods, put Cyber Eyez in Mood Ring Mode, point the camera in the direction of the person(s) you would like processed and long tap the swipe pad. You will hear a voice prompt saying “Uploading Image...Please Wait.” Depending on your Internet Connection speed this may take as little as a few seconds or much longer. Once the result comes back, the system will begin reading the results to you with confidence scores for the faces and results for the different moods. For example, if taking a picture of a happy friend you may hear a result similar to “1 Face Detected with 99% confidence, Joyful Very Likely, Angry Very Unlikely, Sorrowful Very Unlikely, Surprised Very Unlikely”. If there are more faces in the image it will read the results and confidence score for each face from left to right.

## Troubleshooting Mood Ring Mode

There is very little processing going on using the device directly for mood recognition. The only real issue we have experienced is trying to use Mood Ring Mode with no Internet connection. If this happens, you will hear a prompt saying “Network Error” when trying to upload the image. To correct

this, please connect your device to either WiFi or a cell/data connection for your smartphone and try to upload the image again.

## Screen Adjustments

There are many ways to control the screen, image and brightness in Cyber Eyez. You can change adjust the brightness on it's own, or change the entire camera profile to different modes to suit your environment and your eyes. You can even move the screen you see in any direction to find your "sweet spot."

### Adjust Brightness

You can adjust the screen brightness to a setting that works best for you and your eyes. Best of all, this option is always available to you so you can adjust it if you need to as your eyes change throughout the day.

To adjust the screen brightness, put Cyber Eyez in Adjust Brightness Mode. Swipe forward on the pad to increase the brightness. Swipe backward on the swipe pad to decrease the brightness.

### Adjust White Balance

You can adjust the white balance to a setting that works best for you and your eyes. White balance has several different options to choose from including:

- Off
- Auto
- Incandescent
- Fluorescent
- Daylight
- Cloudy Daylight
- Twilight
- Shade

Don't let the names hang you up. If Daylight mode works best for you at midnight, go for it! Best of all, this option is always available to you so you can adjust it if you need to as your eyes change throughout the day.

To adjust the white balance, put Cyber Eyez in Adjust White Balance Mode. Swipe forward or backward on the pad to cycle through the available modes.

## **Move Display Left or Right**

You can move the location of the virtual movie screen in front of you to a location that works best for you and your sweet spot. This option is always available to you so you can adjust it if you need to as your eyes change throughout the day.

To move the display left or right, put Cyber Eyez in Move Display Left or Right Mode. Swipe forward on the pad to move the display to the right. Swipe backward on the swipe pad to move the display to the left.

## **Reset the Display Position for Left or Right Mode**

If the screen is in a wonky spot and you just need to start over, just tap on the swipe pad. You will hear "Display resetting along X axis" and the screen will be back in the center.

## **Move Display Up or Down**

You can move the location of the virtual movie screen in front of you to a location that works best for you and your sweet spot. This option is always available to you so you can adjust it if you need to as your eyes change throughout the day.

To move the display up or down, put Cyber Eyez in Move Display Up or Down Mode. Swipe forward on the pad to move the display up. Swipe backward on the swipe pad to move the display down.

## **Reset the Display Position for Up or Down Mode**

If the screen is in a wonky spot and you just need to start over, just tap on the swipe pad. You will hear "Display resetting along Y axis" and the screen will be back in the center.

# Move Display Close or Far

You can move the location of the virtual movie screen in front of you to a location that works best for you and your sweet spot. Moving the screen closer does not affect your zoom! You can put the screen as close as possible and still zoom in up to 20X! Or, if you have minimal central vision, you can “push” the screen farther away to see all four corners with a 72 degree field of view! This option is always available to you so you can adjust it if you need to as your eyes change throughout the day.

To move the display close or far, put Cyber Eyez in Move Display Close or Far Mode. Swipe forward on the pad to move the display farther away. Swipe backward on the swipe pad to move the display closer to your eyes.

## Reset the Display Position for Close or Far Mode

If the screen is in a wonky spot and you just need to start over, just tap on the swipe pad. You will hear “Display resetting along Y axis” and the screen will be back in the center.

# Troubleshooting PC/Mac Connections

## Can't Find your Android

If you plug your device in via the USB cable to your device doesn't appear there are several common remedies you can try when you plug in your device and it's not found including:

- Restart your device and restart your computer. You'd be surprised how often this fixes things.
- Set Your USB Modeto File Transfer (it is usually MTP or Charge Only)
- Make sure you are using a USB DATA cable! Accidentally using a charge cable will not allow data transfer with the computer.
- Enable USB Debugging

## Set Your USB Mode

One of the most common causes of failure for Vysor to be able to find the glasses is related to Android security and the USB mode. Most of the time, everything works fine in Charging mode, but from time to time you may need to change it to File Transfer.

1. With the USB cable plugged in, swipe down from the top on your phone
2. Find the notification that says "Android System USB for charging" and tap on it to expand it
3. Click on "Tap for other USB options"
4. Click on Transfer Files

Your workstation should now recognize your device. If not, please continue with the following steps.

## Enable USB Debugging

Some applications (like Vysor) may require access to a special mode called "USB Debugging." This is not dangerous, it is just a way to access things on the glasses in real time using a USB cable. To enable USB Debugging:

1. With the USB cable plugged in, swipe down from the top on the your phone
2. Swipe down from the top of the screen and tap the Settings icon (it's shaped like a gear in the upper right hand corner)
3. Scroll down the list until you get to About Phone and tap on it
4. Scroll down to Software Information and tap on it
5. Tap on Build number 8 times. A message will pop up telling you that you are now a developer :).
6. Press back until you get back to the main settings screen (or repeat steps 1 and 2)
7. A new option will be available called "Developer Options". Scroll to and tap it
8. [Make sure the USB cable is plugged in] Scroll down to USB Debugging and tap it to turn it on. If it is already on, turn it off and then back on again

## USB Debugging Authorization

If you've taken all these steps and still can't locate your device, it may be related to that original

pop-up and allowing USB debugging. To fix it, we can revoke all “allowed” devices and then plug it back into our workstation to get the pop-up again.

1. With the USB cable plugged in, swipe down from the top on the your phone
2. Swipe down from the top of the screen and tap the Settings icon (it’s shaped like a gear in the upper right hand corner)
3. Scroll down the list until you get to Developer Options and tap on it
4. Scroll down the list until you get to Revoke USB Debugging Authorizations and tap it. A pop-up will appear asking to confirm. Tap on the OK button