Bridging Voice

iOS Mirroring 3.0

INSTALLATION GUIDE

www.bridgingvoice.org/ios-mirroring

Introduction

Overview: What is iOS Mirroring?

iOS Mirroring is custom software created by Bridging Voice that allows someone to **control their iPhone or iPad from a Windows device**, including an eye tracker or other assistive device.

Once connected, the iPhone or iPad screen appears on the Windows computer and can be fully controlled using eye gaze, a mouse or trackpad, switches, or alternative keyboards. This means a person who cannot physically touch their phone or tablet can still:

- Send texts, iMessages, and emails
- Make phone calls and FaceTime
- Use apps, social media, Apple Photos, and shared albums
- Control smart home tools
- Stay connected to family, friends, and care teams

For many people with ALS, iOS Mirroring restores independent access to their personal device—something that has **never been possible before** with Windows-based eye-trackers!

Our Innovation Access Program

iOS Mirroring is advanced, high-value software that requires ongoing development, training, and support. Our goal is to ensure continued free access for the people who need this technology most, while also sustaining the infrastructure to support it.

To make this possible, we've established the **Innovation Access Program (IAP)**, which is funded by generous donors and grants**.** Through the IAP, nonprofit partners, practitioners, and individuals with ALS or other diagnoses can apply for free iOS Mirroring licenses, which comes with an installer code required for any new installation of the software.

The number of licenses available is limited by our current funding. We will continue to actively seek additional funding to expand this program to more nonprofit partners and individuals.

The Process

How iOS Mirroring Works

iOS Mirroring uses two connected apps. Neither app will work alone, they must be used together.

1 **BV Mirror**
(on the iPhone or iPad)

This is a free app created by Bridging Voice that must be downloaded from the Apple App Store and installed on the user's iOS Device.

2 **iOS Control Software**
(on the Windows computer)

This software is only available through Bridging Voice's Innovation Access Program. It will be shared via email once application is approved. The software must then be installed on the Windows device (such as an eye tracker).

Installation Process

iOS Mirroring is powerful software, and most people will need help from a trained provider to get it set up. In some cases, a very tech-savvy user may complete the process on their own, but most users will benefit from having a separate installer to help. There are two roles involved in getting iOS Mirroring up and running:

1. The Installer *(often a caregiver, clinician, or vendor)*

The person who sets up and activates the software (requires some technical ability)

- Applies for an iOS Mirroring license through our Innovation Access Program (see Applying for a License, page 3)
- Once approved, receives the software download, installer code, and step-by-step instructions
- Installs the Windows software and completes the installer activation steps
- Guides the user through final setup

2. The User *(a person living with ALS or other diagnosis)*

The person who will use iOS Mirroring to control their iPhone or iPad from a Windows device

- Must have the required hardware and devices (see Purchase & Prep Guide, page 4)
- Must complete an email activation during the installation process
- Can then use iOS Mirroring independently day-to-day

Note: *Anyone with ALS can receive direct installation and troubleshooting support from Bridging Voice. Users with other diagnoses may request a free license and access training materials, but Bridging Voice is not able to provide direct support.*

Applying for & Activating a License

The Application

Nonprofit partners, practitioners, clinicians, and individuals with accessibility needs can apply for a free iOS Mirroring license through Bridging Voice's Innovation Access Program (IAP), made possible by generous donor and grant funding.

The application can be completed online at:
https://bridgingvoice.org/airtable-forms/ios-mirroring-iap-application.

Using an Installer Code

If your application is approved, Bridging Voice will email you:

- The Windows software download
- Your unique installer code

Practitioners and other partners serving multiple clients may receive multiple installation activations on their licenses.

The Double Activation Process

1. Each time an installer activates a license for a user, they will receive an email asking to confirm the activation for that specific user.
2. Once confirmed, the user will also receive an email with a confirmation link.
3. After the process is finalized, the installer will get a final email confirming the activation and showing how many activations remain on their license.

Purchase & Prep Guide for User

There are a few items the user will *need* to purchase and a few items the user *may need* to purchase (depending on their setup) in order to prepare for iOS mirroring on their device.

REQUIRED

1 Apple ID and Password and access to email account

2 Special USB Dongle

- **One USB dongle is needed.** There are several compatible options, each costing around $20. You may choose **any one** of these options, based on availability and shipping times:
  - nRF52840 USB Key – from Adafruit or Digikey
  - T-Dongle S3 – from Amazon or LilyGo
  - ESP-S3-GEEK – from Amazon or WaveShare

  *Note: please **only** purchase one of the listed dongles. Others may not be fully compatible.*
- Confirm there is a matching available USB port on the speech generating device for the dongle you purchase. If not, you will need a USB hub (see below).

3 iPhone Data Cable

- An iPhone data cable is required to use the iPhone with a speech generating device.
- Charging-only cables **will not work**, so make sure the cable supports data.
- Confirm you have a second available USB port on your speech generating device that matches your iPhone data cable. If not, you will need a USB hub (see below).

OPTIONAL

1 Phone Mount (Optional)

- If the iPhone will be used for FaceTime or Zoom calls, the phone needs to be mounted next to the speech generating device for the iPhone camera to face the user. One option via Amazon.

2 USB Hub (Optional)

- The iPhone mirroring solution requires 2 available USB ports on your speech-generating device, computer, or tablet. If you do not have 2 free ports, or if the ports do not match the dongle and/or the iPhone data cable, you'll need a USB hub.
- ALS patients can reach out to Bridging Voice at info@bridgingvoice.org for guidance in selecting the appropriate USB hub.

Installation Instructions

The standard installation instructions require connecting the user's iOS device to the Windows device with a data cable. This ensures a more stable video connection and also allows the phone to charge while mirroring. If for some reason the user cannot plug their iOS device into their Windows computer, see page 7 for wireless installation instructions.

1 Download the free BV Mirror app from the App Store to the user's iPhone or iPad

2 Install iOS Control on user's computer

Install the BV iOS Control software. This software is only available through Bridging Voice's Innovation Access Program. **Apply here** and, if approved, it will be shared via email.

3 Run the Apple Mobile Device Support Installer

The Apple Mobile Device Support installer is required for a wired set up. This install is available at: **https://bridgingvoiceapps.org/ios/AppleMobileDeviceSupport64.msi**

4 Plug data cable into iPhone and computer

Click "Trust the Computer" on the iPhone pop-up

5 Plug the purchased USB stick into the computer

6 Open iOS Control using the shortcut on the user's desktop

A registration window will appear. Enter the user's email and your installer code.

- **Installer step**: You will receive an email asking to confirm activation for this user. Click the confirmation link.
- **User step:** The user will then receive a confirmation email. They must click their confirmation link.

Once both confirmations are complete, iOS Control will be activated.

7 In iOS Control, open Settings

Right-click anywhere in the toolbar to open Settings *(if on a touch screen, long press for right click)*. Be sure you're on the "Setup" tab and click the "Update" button under "Dongle update" *(takes ~30 sec)*

Note: If your iOS device is on iOS 27, you must check the "iOS 27 compatibility" box in the iOS Control settings window under the Calibrate button.

8 Open BV Mirror app on iPhone:

- Hit blue circle → **Start broadcast** / sharing
- Touch above or below the Screen Broadcast / Sharing pop-up to dismiss that screen

Instructions continue on next page →

Installation Instructions

(continued)

9 Setup iPhone Bluetooth Settings

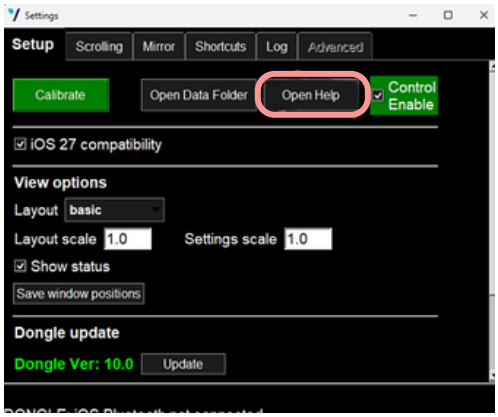
Important: if "Bridging Voice AT" is already showing under "My Devices" at this step (i.e. you had a previous version of iOS Mirroring installed), you will need to hit the blue "i" in a circle, tap "Forget this Device," and then toggle Bluetooth OFF before continuing:

- Open Settings on iPhone → Bluetooth → ON
- Look under "Other Devices" and tap on "Bridging Voice AT"
- Choose "Pair" when requested to do so
- "Bridging Voice AT" should now be under "My Devices" and show as "Connected"

10 Setup iOS Accessibility Settings

In iOS Control, click the "Open Help" button in the Settings window. This will open a window with several tabs. Look at the "iPhone Settings" tab and follow the steps to apply all of the settings on your iOS device.

Be sure to apply the settings in the order listed. iOS hides certain settings until the mouse/dongle is actively connected. Skipping missing settings will break pointer accuracy and function.



11 Return to BV Mirror app on the iPhone

12 Calibrate using iOS Control on computer:

In the Settings window, be sure you're on the "Setup" tab and then click the green "Calibrate" button

Alternative Wireless Installation Instructions

(not required for most users)

If a user is unable to connect their iOS device to their Windows computer for installation, wireless setup is possible. Follow the istructions below.

1 Download the free BV Mirror app from the App Store to the user's iPhone or iPad

2 Install iOS Control on user's computer

Install BV iOS Control software, available only through Bridging Voice's Innovation Access Program. **Apply here** and, if approved, it will be shared via email.

3 Plug the purchased USB stick into the computer

4 Open iOS Control using the shortcut on the user's Desktop

A registration window will appear. Enter the user's email and your installer code.

- **Installer step:** You will receive an email asking to confirm activation for this user. Click the confirmation link.
- **User step:** The user will then receive a confirmation email. They must click their confirmation link.

Once both confirmations are complete, iOS Control will be activated.

5 In iOS Control, open Settings

Right-click anywhere in the toolbar to open Settings *(if on a touch screen, long press for right click)*. Click on the "Mirror" tab and then click the "Scan" button.

- **Scan → wait for IP address to populate automatically or enter it manually and hit "enter"**

Important Information:

- iPhone and computer must be on same WiFi network
- Use in a facility or hospital may cause issues due to Wi-Fi setup. Reach out to iosmirroring@bridgingvoice.org for additional instructions.
- If scan doesn't find the IP address:
  - **On iPhone:** Go to Settings → Wi-Fi → Blue "i" next to name of network → IP Address
  - **On computer:** Enter that IP number into the address box in the Settings window and hit enter

6 In iOS Control, go back to Settings

Be sure you're on the "Setup" tab and click the "Update" button under "Dongle update" (takes ~30 sec)

Note: If your iOS device is on iOS 27, you must check the "iOS 27 compatibility" box in the iOS Control settings window under the Calibrate button.

Instructions continue on next page →

Alternative Wireless Installation Instructions

(continued)

7 Open BV Mirror app on iPhone

Hit blue circle → **Start broadcast / sharing**

Touch above or below the Screen Broadcast / Sharing pop-up to dismiss that screen

8 Setup iPhone Bluetooth Settings

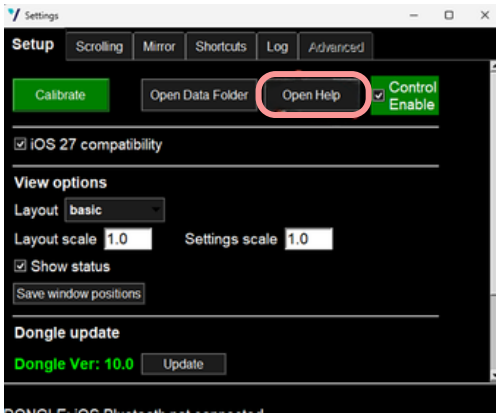
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10 Return to BV Mirror app on the iPhone

11 Calibrate using iOS Control:

In the Settings window, be sure you're on the "Setup" tab and then click the green "Calibrate" button.

Then return to BV Mirror app on the phone.

iOS Mirroring for Multiple Devices

If a user has multiple iOS devices (e.g. an iPhone and an iPad) that they want to be able to mirror, they will need to have separate iOS Control profiles for each device. This is because the profile stores things like the calibration, wireless mirror IP address, window layout, and unique dongle BLE address for one iOS device.

Follow the instructions below to add a second device profile. By the end, you will have two shortcuts on your desktop—one for each device you want to mirror and control. Each shortcut opens the same iOS Control program, just pointed to a different device profile.

This guide assumes you have already set up and confirmed that one iOS device is working.

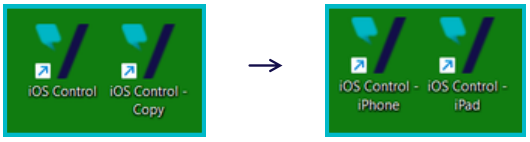
1 Step One: Create Profile for Second Device



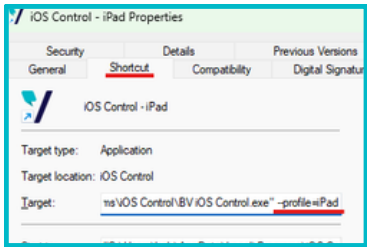
- Open the iOS Control Settings window and go to the “Setup” tab
- Enter a new profile name for the second device (e.g. iPad).
- Then click the “Create” button.
- Fully close iOS Control

2 Step Two: Set Up Shortcut for Second Device

- Create a copy of the “iOS Control” shortcut on your desktop using copy & paste. Rename the shortcuts as desired.



- Right click the ***new*** shortcut and go to Properties.
- At the end of the double quote mark in the “target” box, add a space and then this: --profile=*YourProfileName*, swapping in the exact profile name you created above. So if your profile name was “iPad”, the full target field would read:
  "C:\Users\bob\AppData\Local\Programs\iOS Control\BV iOS Control.exe" --profile=iPad



- Click OK

3 Step Three: Finish Profile Setup for Second Device

- Open iOS Control again using the ***new*** shortcut.
- Now pair the dongle to the second device.
- Proceed with all other setup as usual, including the iOS settings, calibration, etc.
- If doing wireless mirroring, make sure that the first device is not mirroring and that BV Mirror is closed out before you do a Scan for the second device’s mirror IP address.