



# Makers Making Change

A Neil Squire Program



## LipSync Wireless

### STARTUP GUIDE

# Table of Contents

---

Table of Contents	2
About the LipSync Wireless	3
What Do You Get?	3
Types of LipSync	3
Getting Started	4
Mounting	4
Mobile Phone and Tablet Compatibility	5
Wireless Mode	5
Connection Overview	5
Powering the LipSync	6
Pairing the LipSync to Your Electronic Device	6
Plugging into a Computer, Laptop or Android & Windows Device	6
Plugging into an iOS Device	6
LipSync Function	7
Speed Control	8
Supporting Applications	9
Feedback	10
Troubleshooting	10
Joystick Calibration	11

PROGRAM OF:

FUNDING PROVIDED BY:



Foundation



## About the LipSync Wireless

---

The LipSync Wireless is a mouth operated joystick that allows a person who has limited or no control of their hands and arms to control a cursor on a device. Users can sync their LipSync to their mobile phone, tablet, or computer using **Bluetooth®** technology. It is an open source assistive technology design by Makers Making Change, a program of the Neil Squire Society that connects people with disabilities to volunteer makers who can create affordable assistive devices.

Open source designs are freely released by their creators for people to make for themselves, modify or incorporate in their own designs for free. Join the Makers Making Change to help people in your community: <http://www.makersmakingchange.com>

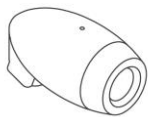
**Need a build – join us.**

**Want to make a build – join us.**

**Want to fund a build for a person with a disability – join us.**

## What Do You Get?

---



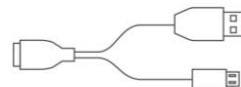
LipSync



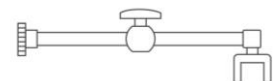
Filter x 3



Mouthpiece x 3



USB adapter



Mounting

## Types of LipSync

---

	Description	Connection Type
LipSync	Works like a mouse	USB
<b>LipSync Wireless</b>	<b>Works like a mouse</b>	<b>USB &amp; wireless</b>
LipSync Macro	Works like a keyboard	USB & wireless
LipSync Gaming	Works like a gaming joystick	USB

## Getting Started

---

The LipSync Wireless requires the following items to get started:

- A LipSync Wireless
- Computing device (mobile phone, tablet, or laptop)
- External power bank (optional but recommended)
- Mounting solution for securing the LipSync to a surface

Before plugging the LipSync Wireless, make sure of the following:

1. Computing device is fully charged and/or uses an external power source (e.g. power bank).
2. Computing device and LipSync Wireless are securely mounted to a stable surface.

## Mounting

---

**Wheelchair:** Every wheelchair has different points available for mounting. Common mounting points available on power wheelchairs are the headrest rail, back of wheelchair, armrest rail, under chair cushion, chair rail, and footplate. Try out different areas and see what works best. If you are not familiar with mounts, consult with a local assistive technology professional.

**Desk:** Find a clear space on the front edge of your desk or table. Orient the mount bracket toward the user being careful not to move the LipSync. Secure the bracket and adjust the mounting arm so the LipSync is within easy reach. Tighten the knob when the arm is in the desired position.

### Checklist for after mounting:

- ☐ Are the clamp and mount secure and do not move?
- ☐ Is there clearance around the wheels, wires, and chair frame with the mount attached?
- ☐ Does the wheelchair fit through doorways?
- ☐ Is the driving view of the user clear with no obstructions?
- ☐ Is the mobile device within viewing angle of the LipSync?
- ☐ Can the user easily reach the LipSync to use it?

## Mobile Phone and Tablet Compatibility

	Operating System	Compatibility
Phone / Tablet	Android	✓
	iOS <sup>1</sup>	✓
	Windows	✓
Desktop	Windows	✓
	macOS	✓
	Linux	✓

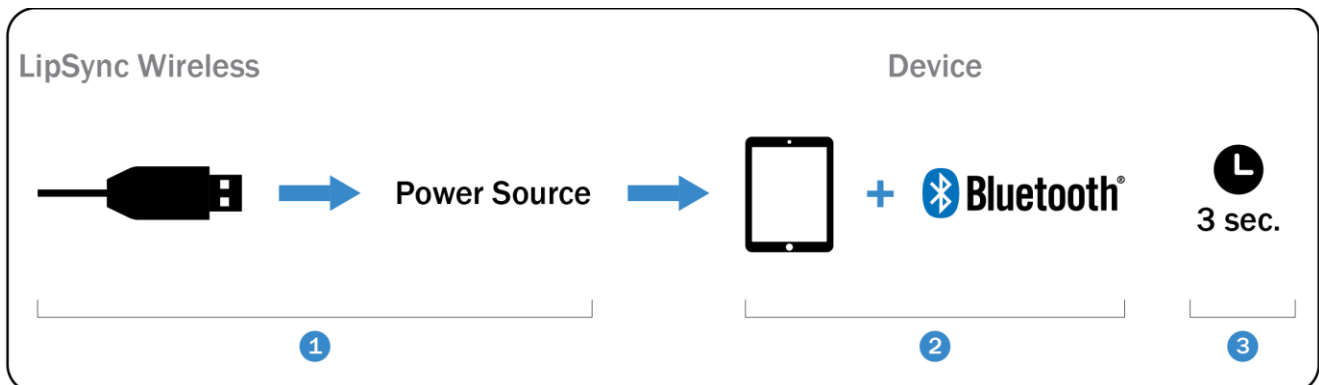
<sup>1</sup> Only for iOS13+ and iPadOS. For older iOS versions, please use the *LipSync Macro*

Not all mobile phones and tablets support external pointing devices like the LipSync or other mouse replacements. Apple iOS phones and tablets with iOS13 and iPadOS or higher, and only some Android mobile phones and tablets support the LipSync. Check with the manufacturer before purchasing.

## Wireless Mode

The LipSync Wireless can only pair with electronic devices using Bluetooth connection. The attached USB can only be used for powering in this Wireless version. If you want to connect the LipSync to a device using USB, please refer to the [regular LipSync version](#).

## Connection Overview



1. Connect the USB cable on the LipSync Wireless to a power source (e.g. power bank)
2. Pair your LipSync with your electronic device via Bluetooth.
3. Wait 3 seconds for the LipSync to initialize. Initialization is complete when the LED blinks red and green four times.

## Powering the LipSync

---

The LipSync doesn't have an internal battery and needs to be powered using an external power supply. Users can draw power off of the connected device (except iOS devices) or use a power bank of at least 5000mAH or higher.

## Pairing the LipSync to Your Electronic Device

---

### Plugging into a Computer, Laptop or Android & Windows Device

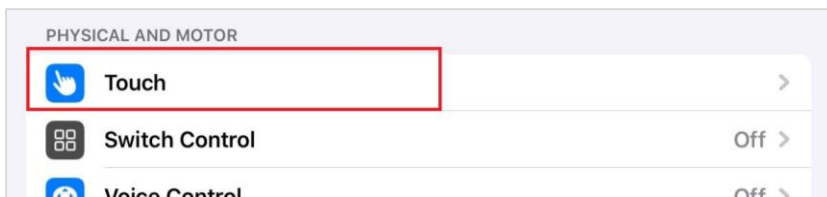
1. Open your device's **Settings** > **Bluetooth** > Turn it on.
2. Tap on **LipSyncWireless** to connect.
3. A **Connected** message will show beside the device name when it successfully connects.
4. Wait 3 seconds for the initialization. During this time, do not touch the mouthpiece and let the LED light will blink red and green 3 times before using.

### Plugging into an iOS Device

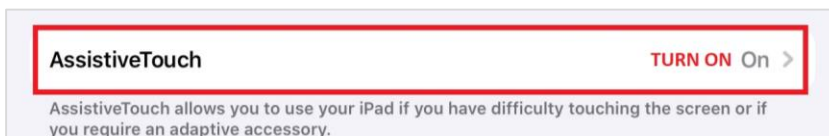
1. Open your device's **Settings** > **Accessibility**



2. Tap on **Touch**



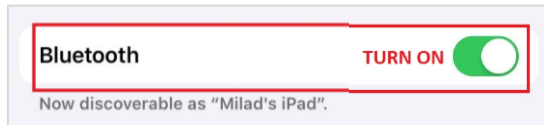
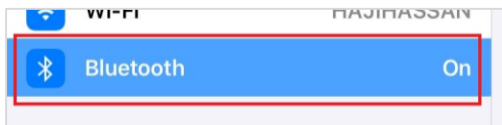
3. Turn on **AssistiveTouch**



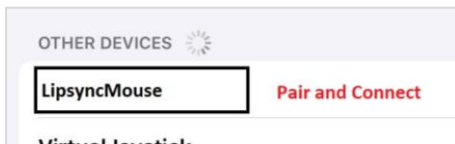
4. Turn off **Always Show Menu**



- Go to **Bluetooth** and turn it on



- Tap on **LipSyncMouse** to connect.



## LipSync Function

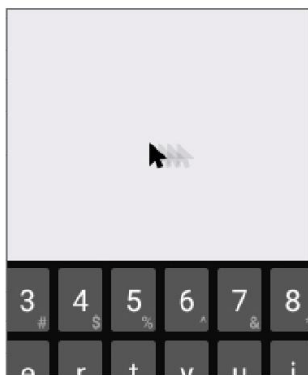
FOR MOBILE DEVICES AND TABLETS		
Function	Action	Time (seconds)
Tap	Puff	1
Back button <sup>1</sup>	Sip	1
Drag <sup>2</sup>	Puff	3
Scrolling <sup>3</sup>	Sip	3
Cursor drift reset	Puff	5
Home button <sup>1</sup>	Sip	5

<sup>1</sup> The back/home functions may not work if the device uses on-screen icons. In this case, move the cursor over the icon to tap.

<sup>2</sup> The red LED will stay on at all times in this mode

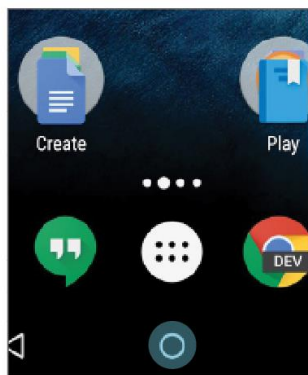
<sup>3</sup> The green LED will stay on at all times in this mode

### Useful function examples:



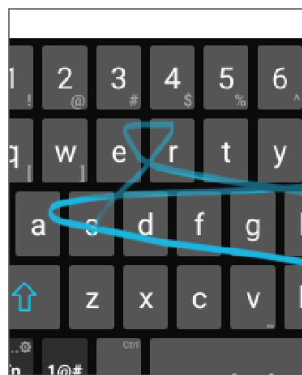
Drift reset / PUFF 5 SEC

- Resolve cursor drift



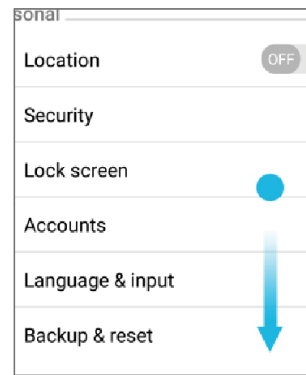
Home button / SIP 5 SEC

- Access home screen



Drag / PUFF 3 SEC

- Unlocking pattern lock
- Keyboard swipe typing

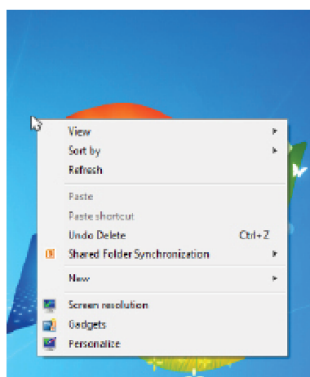


Scrolling / SIP 3 SEC

- Scrollable apps
- Pan through home page

FOR PCs AND LAPTOPS		
Function	Action	Time (seconds)
Left click	Puff	1
Right click	Sip	1
Double-click	Puff	1 each
Drag	Puff	3
Scrolling ( ↑ ↓ )	Sip	3
Cursor drift reset	Puff	5
Scrolling ( ↑ ↓ ← → )	Sip	5

### Useful function examples:



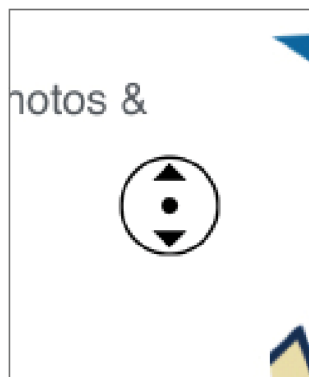
**Right click** / SIP 1 SEC

- Secondary menu for cut, paste, select all, etc.



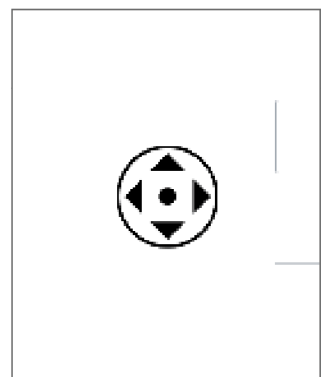
**Drag** / PUFF 3 SEC

- Rearrange icons
- Highlight text



**Scroll ↑ ↓** / SIP 3 SEC

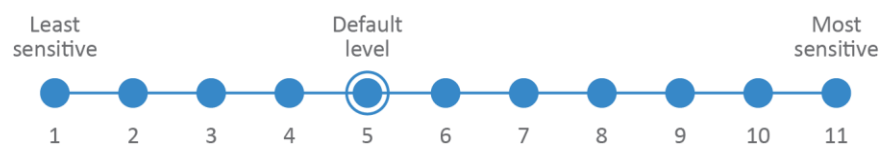
- Up and down scroll on a webpage/ document



**Scroll ↑ ↓ ← →** / SIP 5 SEC

- All direction scrolling for large documents

## Speed Control



The LipSync has 11 speed control levels with the default level set to 5 when first initialized. The number of LED flashes reflect the speed level.

To increase the cursor speed, press the ▲ button on the back of the LipSync.


To decrease the cursor speed, press the ▼ button on the back of the LipSync.



## Supporting Applications

---

Some Samsung mobile devices and tablets have an application called **Assistant Menu**, which puts a small menu on the screen that allows quick access to important functions that cannot be accessed without physically touching the device, such as the **Home** button, the **Back** button, **Zoom In and Out**, **Screen Capture**, **Volume**, and **Restart**.

To turn on the Assistant Menu go the **SETTING** application → **MY DEVICE** → **ACCESSIBILITY** → **DEXTERITY AND INTERACTION** → **ASSISTANT MENU**. A little square icon will appear 

The icon will always appear on the screen and can be moved by clicking and dragging on it.

If your phone doesn't have **Assistant Menu**, apps like **Assistive Touch For Android**, **Back Button**, **Handy Soft Keys**, **Simple Control** or **Floating Toucher** can be downloaded.

A swiping action is required on some mobile device to unlock it. This can be avoided by setting the phone so that the **SCREEN LOCK** in the Settings Menu is set to **NONE**.

## Feedback

---

**Your feedback is very important to us.** It helps to support the engineers and designers of the LipSync by learning what is working and what can be improved. It will help inform future development of the LipSync. None of your feedback will be shared publicly without your consent.

Our feedback form can be found at the following link: <https://tinyurl.com/yc57vkpr>

## Troubleshooting

---

**Q: Why doesn't the cursor appear on the screen when I plug in the LipSync?**

**Solution 1:** Make a 5 second long puff to trigger the home position reset.

**Solution 2:** Wait 3 seconds for the LipSync to initialize. Moving the mouthpiece before the 3 seconds is complete will affect the calibration.

**Solution 3:** If the cursor does not appear after 3 seconds, disconnect the cable from the computing device, reconnect again, and let the LipSync initialize for 3 seconds.

**Solution 4:** Perform the joystick calibration found on the follow page.

**Q: Why does my cursor drift across the screen when I am not moving the LipSync?**


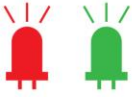


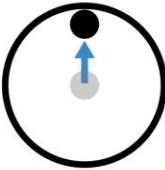


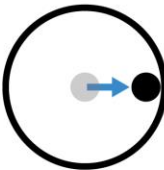





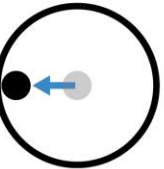


**Solution 1:** Make a 5 second long puff to trigger the home position reset.

**Solution 2:** Wait 3 seconds for the LipSync to initialize. Moving the mouthpiece before the 3 seconds is complete will affect the calibration.

**Solution 3:** If the cursor does not appear after 3 seconds, disconnect the cable from the computing device, reconnect again, and let the LipSync initialize for 3 seconds.

**Solution 4:** Perform the joystick calibration found on the follow page.

## Joystick Calibration

	 x 5	 3 sec. pause	 x 6		 x 1
<p>1</p> <p>Press both speed adjustment buttons on the back of the LipSync simultaneously for a few seconds</p>	<p>2</p> <p>LED slowly blinks red &amp; green 5 times</p>		<p>3</p> <p>When LED blinks green 6 times, move the mouthpiece to the 12 o'clock position (up direction)</p>	<p>4</p> <p>LED blinks red 1 time when position is measured</p>	
 x 6		 x 1	 x 6		 x 1
<p>5</p> <p>When LED blinks green 6 times, move the mouthpiece to the 3 o'clock position (right direction)</p>	<p>6</p> <p>LED blinks red 1 time when position is measured</p>		<p>7</p> <p>When LED blinks green 6 times, move the mouthpiece to the 6 o'clock position (down direction)</p>	<p>8</p> <p>LED blinks red 1 time when position is measured</p>	
 x 6		 x 1	 x 6		
<p>9</p> <p>When LED blinks green 6 times, move the mouthpiece to the 9 o'clock position (left direction)</p>	<p>10</p> <p>LED blinks red 1 time when position is measured</p>		<p>11</p> <p>LED will rapidly blink red and green 6 times when calibration is complete</p>		

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Neil Squire Society is under license. Other trademarks and trade names are those of their respective owners.