

The QuadLife Computer Mouse Simulator

Formerly QuadJoy



What is the QuadLife?

The QuadLife™ is a device that allows quadriplegics to interact with their hospital or home environments through slight head movements, combined with simple sip and puff air gestures.

Simplicity

The QuadLife™:

- Is easy to use
 - Plug and play
- Is easy to mount
- Does not require routine calibration for daily usage

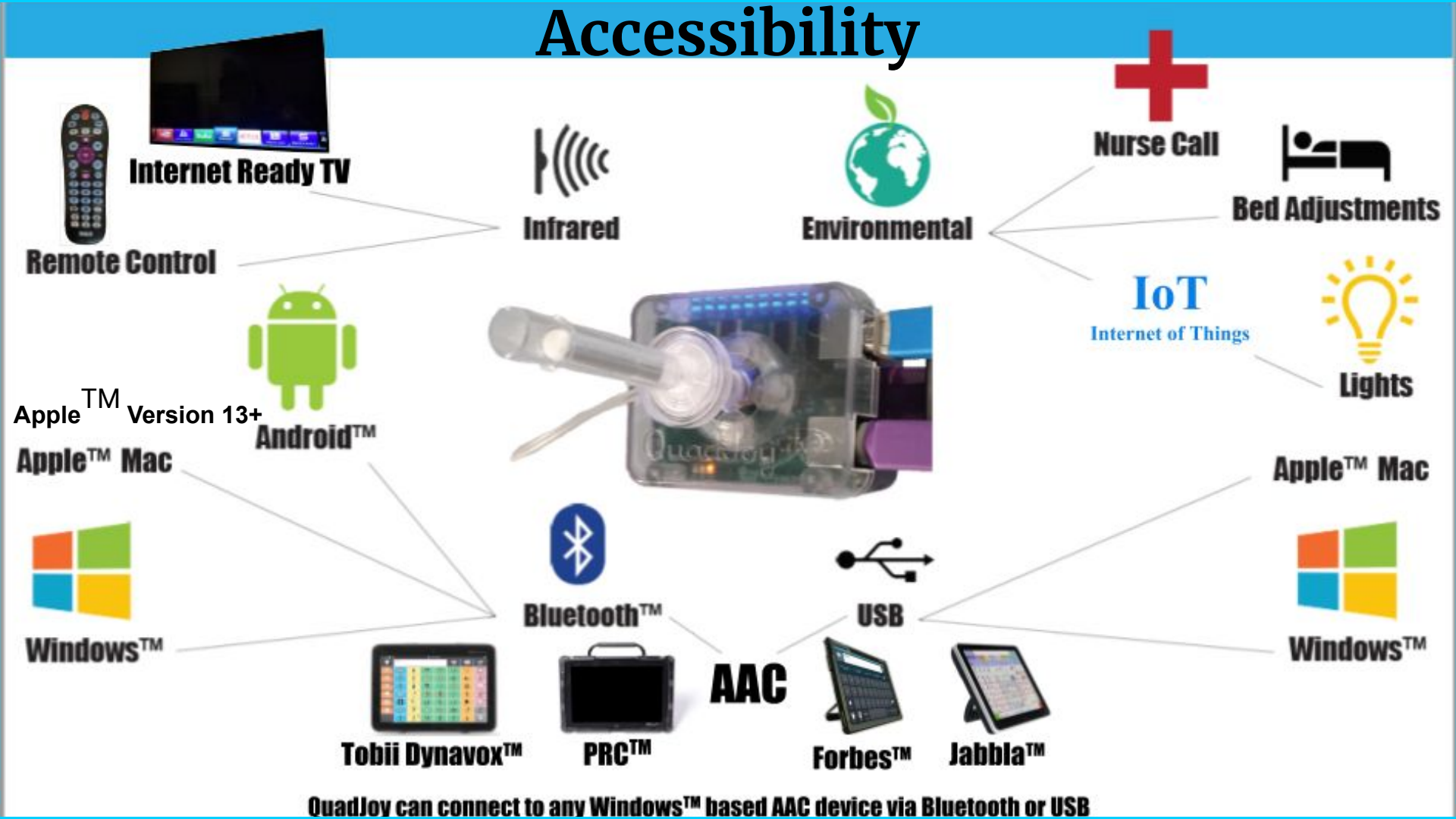


Efficiency

- Operates without delays that inhibit the user
 - Dissimilar to products like the Eyegaze™
- Avoids multiple steps to perform common functions
- Tom Street could consistently get over 5000 points on Solitaire using the QuadLife™



Accessibility



Accessibility Connection Options

- Bluetooth™
- USB
- Infrared
- Environmental

Connection Options

Bluetooth™

Through Bluetooth™, the QuadLife™ can connect to:

- Android™ devices
- Windows™ devices
 - Including any Windows™ based AAC device
- Apple™ Mac
- Apple™ Version 13+

Connection Options

USB

Through USB, the QuadLife™ can connect to:

- Windows™ devices
 - Including any Windows™ based AAC device
- Apple™ Mac

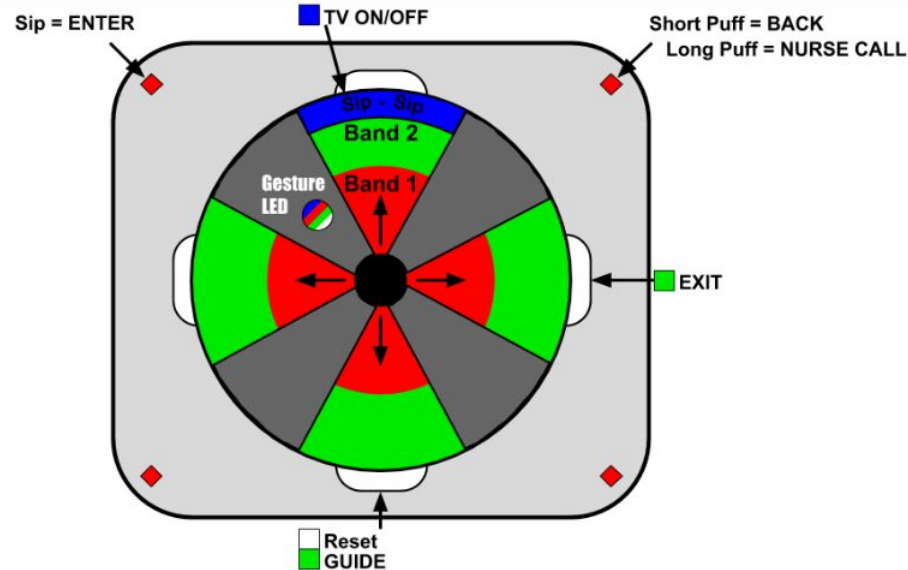
Connection Options





Infrared

Through infrared communication, the QuadLife™ can control:

- Internet ready TVs
- Any device that can be controlled by an IR remote

Internet Ready TV



-  Quickly move stick to outer edge and hold until LED turns white (default 3 seconds)
 -  Quickly move stick to band 2 and release.
 -  Quickly move stick to band 2 and sip twice.
 -  Move stick in band 1. Once the indicator LED turns red, the stick can be moved into band 2 as well.
- NOTE - The requested action will repeat

Connection Options Environmental

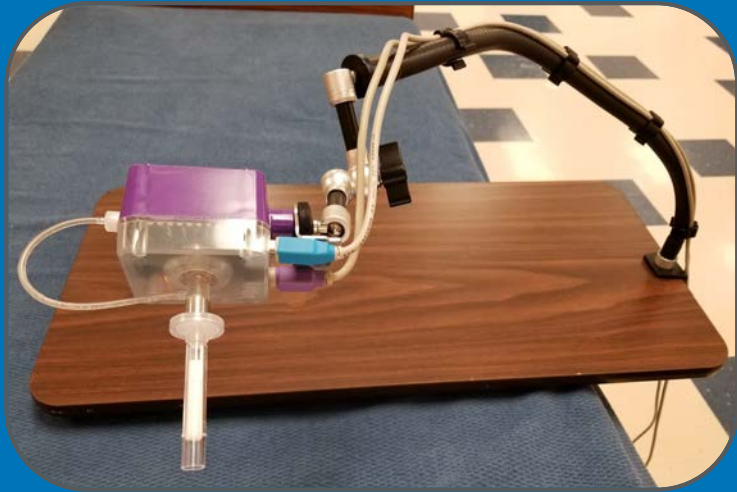
Through environmental control, the QuadLife™ can:

- Perform nurse call
- Adjust beds
 - Head and foot adjustments
- Control lights
 - Reading and room lights

Mounting Options

- Table Mounted
- Wheelchair Mounted
- Bed Mounted

Mounting Options Table Mounted



The portable system is ideal for short term patients or patients in ICU or receiving drug infusions.

Mounting Options Wheelchair Mounted



The QuadLife can be mounted and powered by a wheelchair. The adaptor enables the IR option and provides three external jacks for additional input options.

Wheelchair Powered System
Q-WCP

Mounting Options Bed Mounted



The bed mounted system was designed for longer term patients and has the following features:

- Accommodate quick and complete patient access in case of emergency or simplify routine patient access as needed.
- Avoid breakage of the QuadLife when patient access is needed.
- The ability to quickly return the QuadLife back in place with little or no adjustment.
- Eliminate the need for other carts, tables, or attachments to the bed rails.

Gestures

What is a gesture?

- A gesture is how the user interacts with the QuadLife™
- A gesture is an action performed by the user that causes the QuadLife™ to do an action.

Gestures

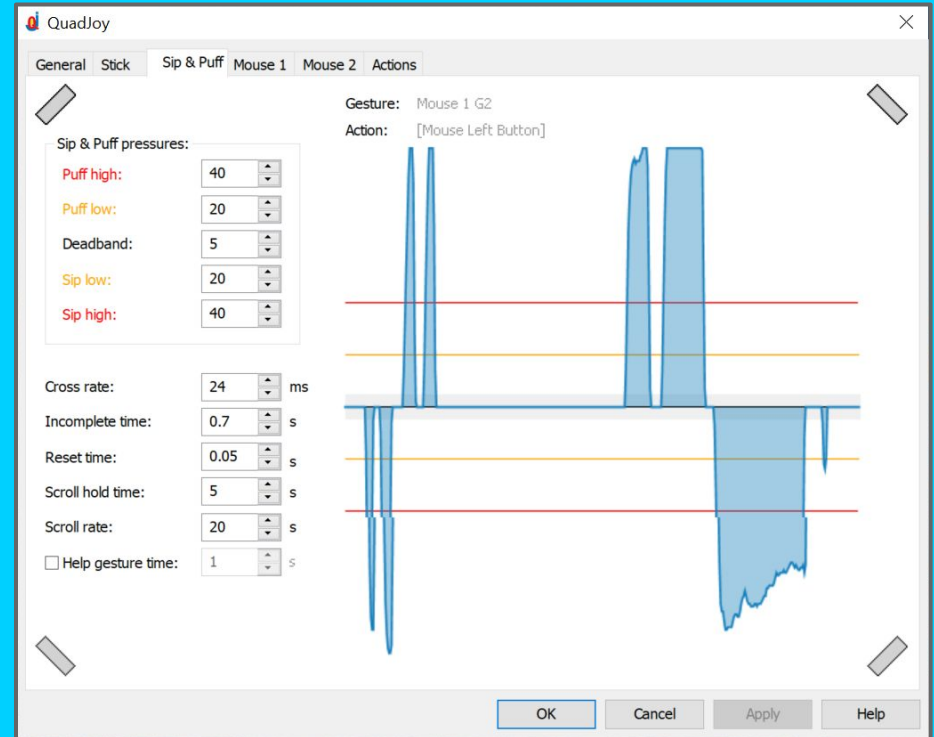
Gesture types:

- Sip and puff gestures
- Edge gestures
- Independent gestures
- External gestures

Gestures

Sip and Puff Gestures

What is a sip and puff gesture?



Gestures

Gesture Chart

Gesture	Actions
Up Edge	[USB]
Down Edge	[Reset]
Left Edge	[Bluetooth 1]
Right Edge	[Bluetooth 2]
Mouse 1 G1	[Mouse Right Button]
Mouse 1 G2	[Mouse Left Button]
Mouse 1 G3	[Mouse Wheel]
Mouse 1 G4	[Mouse 2 Mode]
Mouse 1 Blue	[TV]
Mouse 1 Red	
Mouse 1 Green	
Mouse 2 G1	
Mouse 2 G2	
Mouse 2 G3	
Mouse 2 G4	
Mouse 2 Blue	
Mouse 2 Red	
Mouse 2 Green	
Joystick G1	[Joystick Button 1]

Gesture	Actions
Joystick G2	[Joystick Button 2]
Joystick G3	[Joystick Button 3]
Joystick G4	[Joystick Button 4]
Joystick Blue	[USB][Mouse 1 Mode]
Joystick Red	
Joystick Green	
TV G1	[Keyboard p and P]
TV G2	[Keyboard q and Q]
TV G3	
TV G4	
TV Blue	[USB][Joystick Mode]
TV Red	
TV Green	
TV Up Band 1	[Keyboard w and W]
TV Up Band 2	
TV Down Band 1	[Keyboard s and S]
TV Down Band 2	
TV Left Band 1	[Keyboard a and A]
TV Left Band 2	

Gesture	Actions
TV Right Band 1	[Keyboard d and D]
TV Right Band 2	
Up Sip G1	
Up Sip G2	
Up Sip G3	
Up Sip G4	
Up Puff G1	
Up Puff G2	
Up Puff G3	
Up Puff G4	
Down Sip G1	
Down Sip G2	
Down Sip G3	
Down Sip G4	
Down Puff G1	
Down Puff G2	
Down Puff G3	
Down Puff G4	
Left Sip G1	

Gesture	Actions
Left Sip G2	[Bed Head Height]
Left Sip G3	
Left Sip G4	
Left Puff G1	
Left Puff G2	
Left Puff G3	
Left Puff G4	
Right Sip G1	
Right Sip G2	[Bed Foot Height]
Right Sip G3	
Right Sip G4	
Right Puff G1	
Right Puff G2	
Right Puff G3	
Right Puff G4	

Gestures

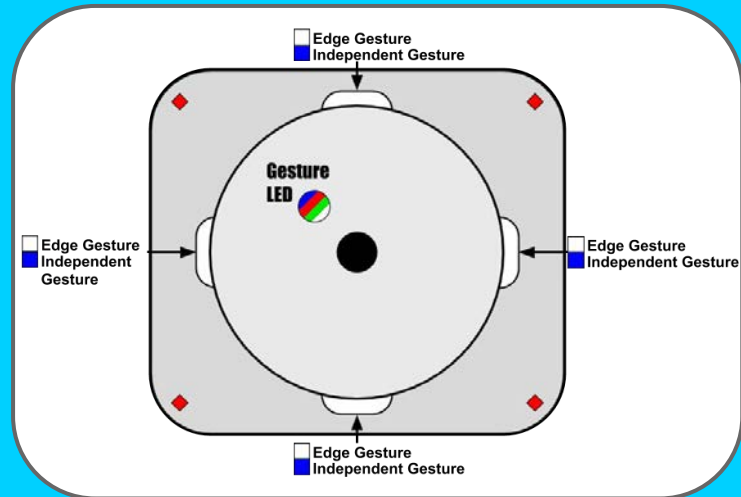
Edge Gestures and Independent Gestures

Edge Gesture:

- Move the stick to the upper, lower, left, or right edge and hold it there until the Gesture LED turns from green to white.
 - Typically hold it for 3 seconds
- When you release the stick, the edge gesture will occur.

Independent Gesture:

- Quickly move the stick up, down, left, or right until the Gesture LED turns green and sip/puff.



Gestures

External Gestures

What is an external gesture?

- A gesture performed when triggered by an external device
- (Q-JACK) can accept up to 3 devices ($\frac{1}{8}$ " plug)
- Gestures are unique to each mode
- Gestures can be assigned to any action

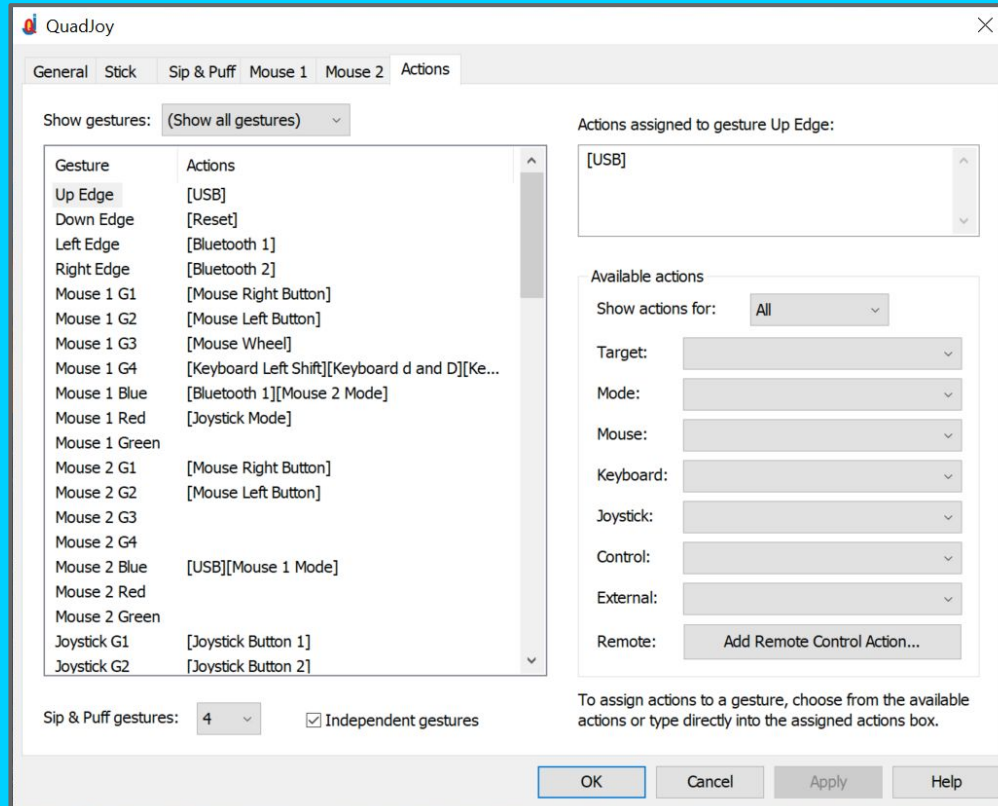


QK-JACK Includes QC-Din8 cable

Circular Queue with External Gestures

- A single switch input can quickly step through a circular queue (e.g. Scroll Mode or Mouse 1 & Mouse 2)
- Every press of the switch would step through the different input configurations
 - Mouse 1 could be a USB mouse input to a game
 - Joystick could be a second input to the same game
 - TV could be a keyboard input to the same game

Actions Overview



Actions

Target, Mode, and Mouse

Target:	<input type="text"/>
Mode:	USB
Mouse:	USB Aux
Keyboard:	Bluetooth 1 (Galaxy S8)
	Bluetooth 2
	Bluetooth Aux
	TV

Mode:	<input type="text"/>
Mouse:	Mouse 1 Mode
	Mouse 2 Mode
Keyboard:	Joystick Mode
	Scroll Mode

Mouse:	<input type="text"/>
Keyboard:	Mouse Left Button
	Mouse Right Button
Joystick:	Mouse Center Button
	Mouse Button 4
Control:	Mouse Button 5
	Mouse Wheel

Scroll Mode

- Designed for customers using CAD programs
- Switches the wheel function between an up-down scroll, a left-right scroll, and an in-out scroll
- Each time the action is requested, the scroll type is changed in a circular queue
- Indicator LEDs indicate which scroll function is active

Mouse 1 vs. Mouse 2

- Two different mouse modes allow for a quick change between 2 different mouse settings
 - Writing a letter vs gaming
- Incremental movement is the normal cursor response
- Absolute movement allows for intimate cursor movement
 - Photoshop® or close detail work

Actions

Keyboard and Joystick

	Keyboard a and A		Joystick Button 1
	Keyboard b and B		Joystick Button 2
	Keyboard c and C		Joystick Button 3
	Keyboard d and D		Joystick Button 4
	Keyboard e and E		Joystick Button 5
	Keyboard f and F		Joystick Button 6
	Keyboard g and G		Joystick Button 7
	Keyboard h and H		Joystick Button 8
	Keyboard i and I		Joystick Button 9
	Keyboard j and J		Joystick Button 10
	Keyboard k and K		Joystick Button 11
	Keyboard l and L		Joystick Button 12
	Keyboard m and M		Joystick Button 13
	Keyboard n and N		Joystick Button 14
	Keyboard o and O		Joystick Button 15
	Keyboard p and P		Aileron
	Keyboard q and Q		Aileron Trim
	Keyboard r and R		Anti-torque Control
	Keyboard s and S		Autopilot Enable
	Keyboard t and T		Chaff Release
	Keyboard u and U		Collective Control
	Keyboard v and V		Dive Brake
	Keyboard w and W		Electronic Countermeasures
	Keyboard x and X		Elevator
	Keyboard y and Y		Elevator Trim
	Keyboard z and Z		Rudder
	Keyboard 1 and !		Throttle
Keyboard:	Keyboard 2 and @		Flight Communications
	Keyboard 3 and #		Flare Release
Joystick:	Keyboard 4 and \$		Landing Gear

Actions

Control and External

The image shows a screenshot of the Windows Action Center interface. It features two main sections: 'Control' and 'External'. The 'Control' section is a large list of system actions, and the 'External' section is a smaller list of actions from external devices. Both sections have a scroll bar on the right side.

Control:

- Back
- Bass Boost
- Bass Down
- Bass Up
- Brightness Down
- Brightness Up
- Calculator
- Calendar
- Camera snapshot
- Cancel
- Channel Down
- Channel Up
- Chat
- Close
- Contacts
- Copy
- Cortana Search
- Cut
- Documents
- Exit
- Explorer
- Favorites
- Finance
- Find
- Forward
- Forward Message
- Game Bar
- Go To
- Headset Hook
- Help

External:

- Bed Foot Height
- Bed Head Height
- LED Brightness
- Reading Light
- Remove Device
- Request Assistance
- Reset
- Room Light
- Zero Stick and Pressure

Configuration

- We will configure the QuadLife™ for users
- Determine devices to connect to
- Determine mode of device connection
- Determine IR control functions if needed
- Individual device functions
- Are keyboard or control functions needed?
- Are environmental control functions needed?

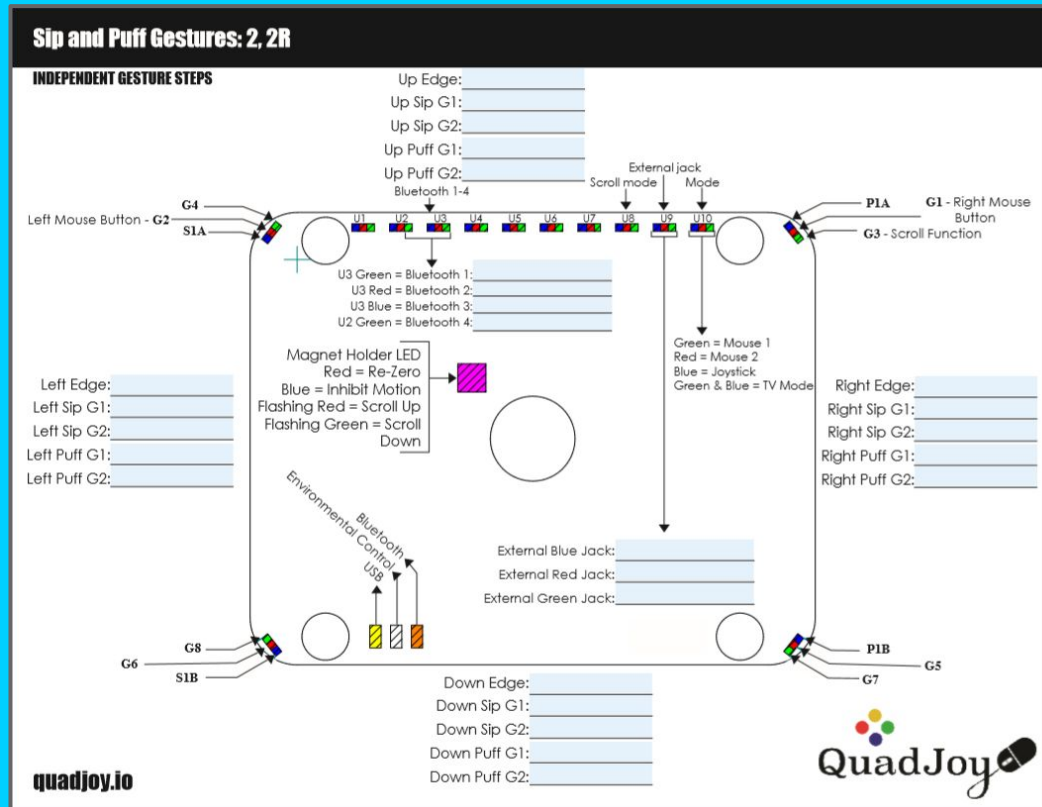
If IR-Remote Setup is Needed

1. Buy a universal remote control (RCR414BHZ from Walmart™)
2. Find the 5 digit code of the device (TV, VCR, DVD, etc.), specific to each brand, that you want to control
 - a. The list of codes comes with the universal remote, or you can find it on our website
3. Decide what functions you want the QuadLife™ to control and with what gestures you want to control them
4. Fill out the PDF with your decided functions and gestures

Assigning Gestures to Actions

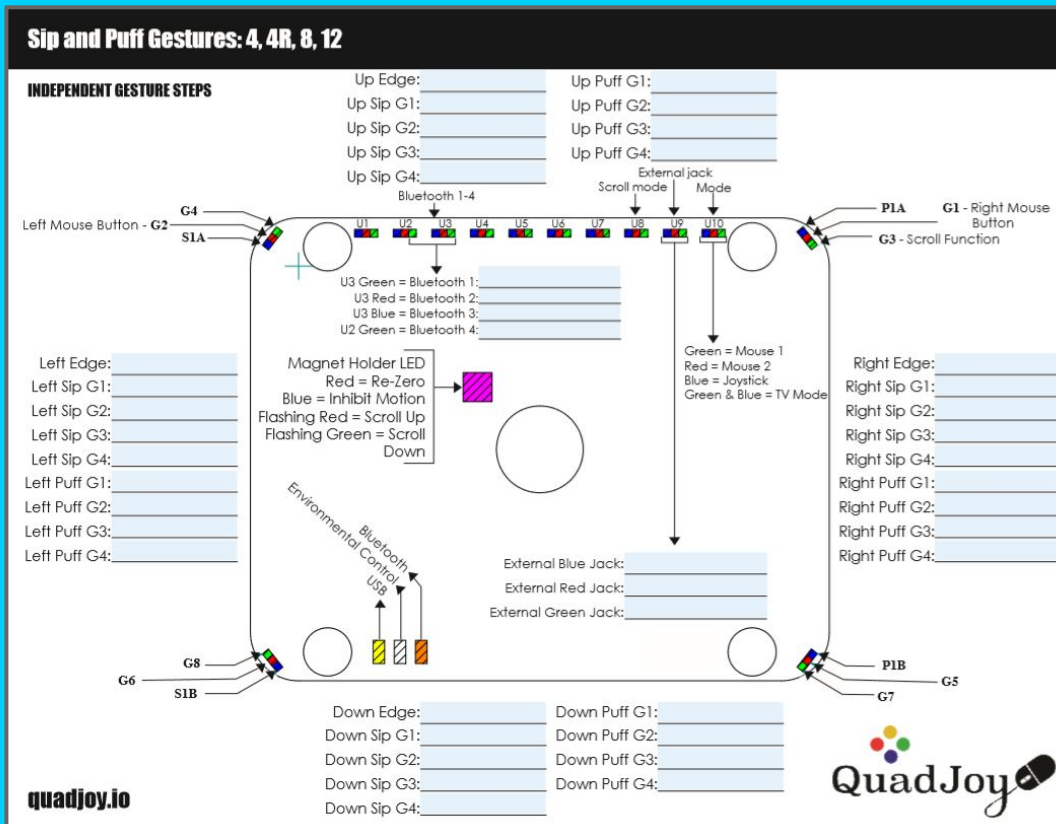
Simple Sip & Puff (2 Gestures)

- Use independent gestures to control items
- Use edge gestures to connect to devices



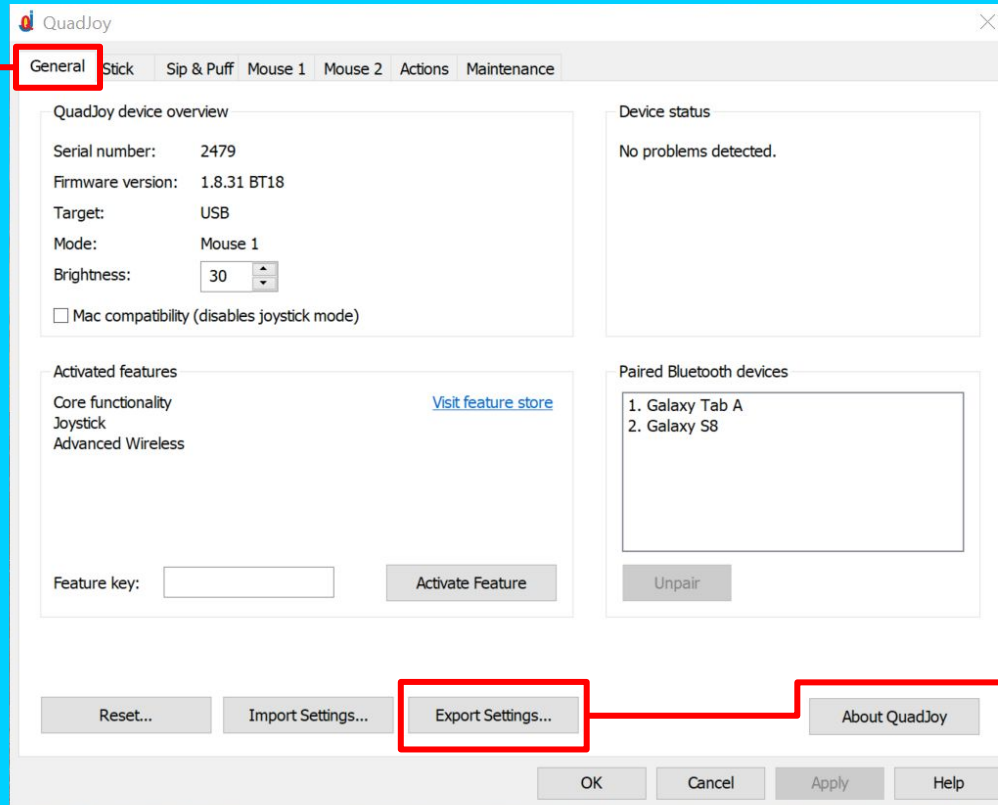
Assigning Gestures to Actions

Advanced Sip & Puff (4, 8 Gestures)



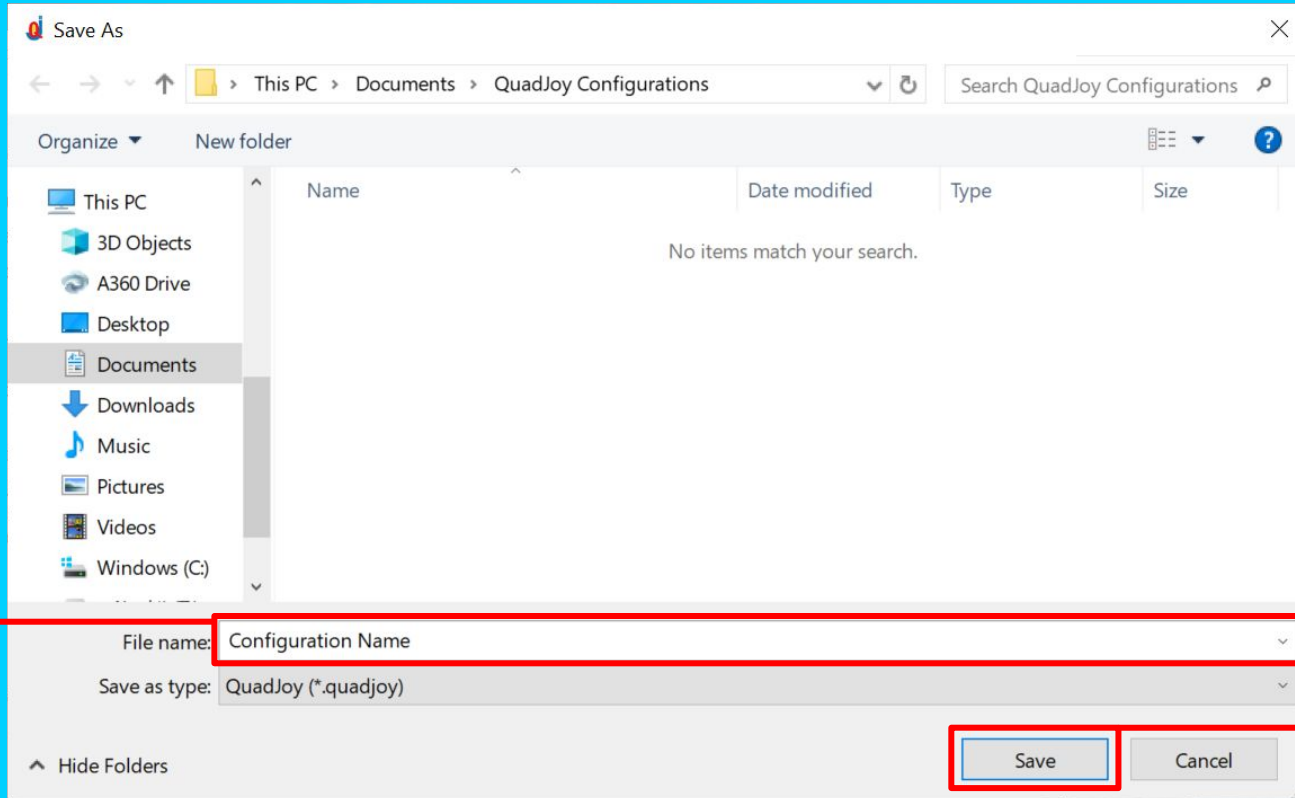
Exporting Your Current Configuration

1 Go to the
General tab



2 Click on the
Export Settings...
box

Naming Your Current Configuration



3 Name the configuration file

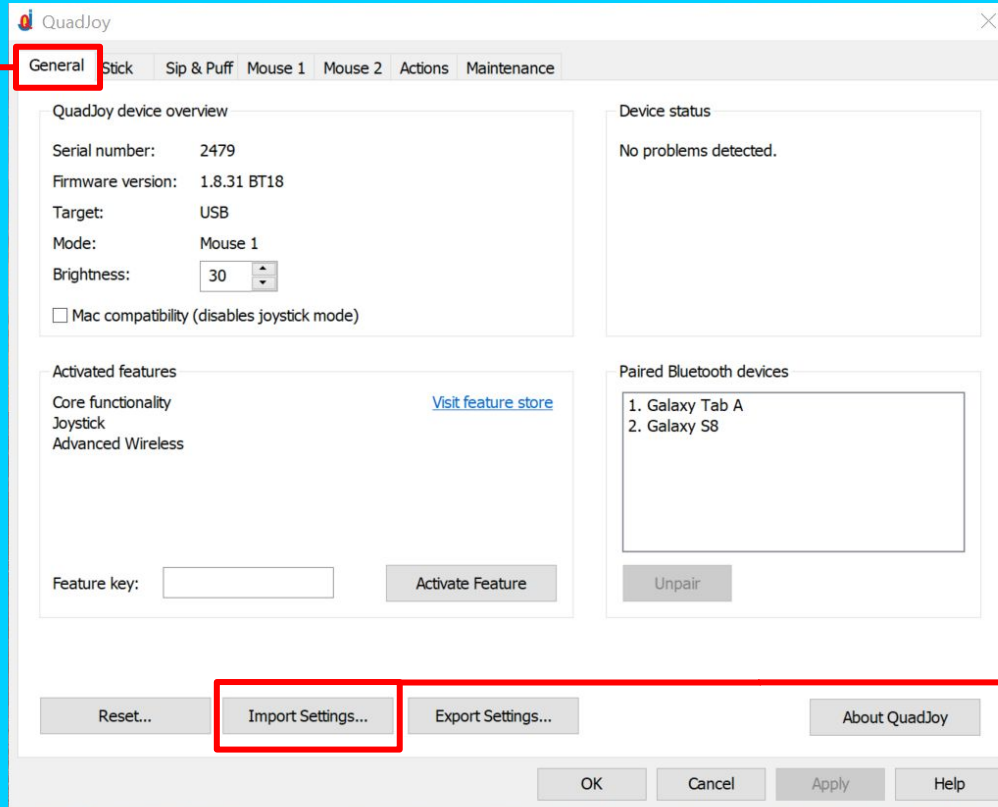
4 Save the configuration file

Sending and Receiving a Configuration

1. Send the filled out PDF (from the “Assigning Gestures to Actions” slide) to QuadLife (quadjoy@gmail.com) along with the configuration file that you exported
2. Receive configuration from QuadLife

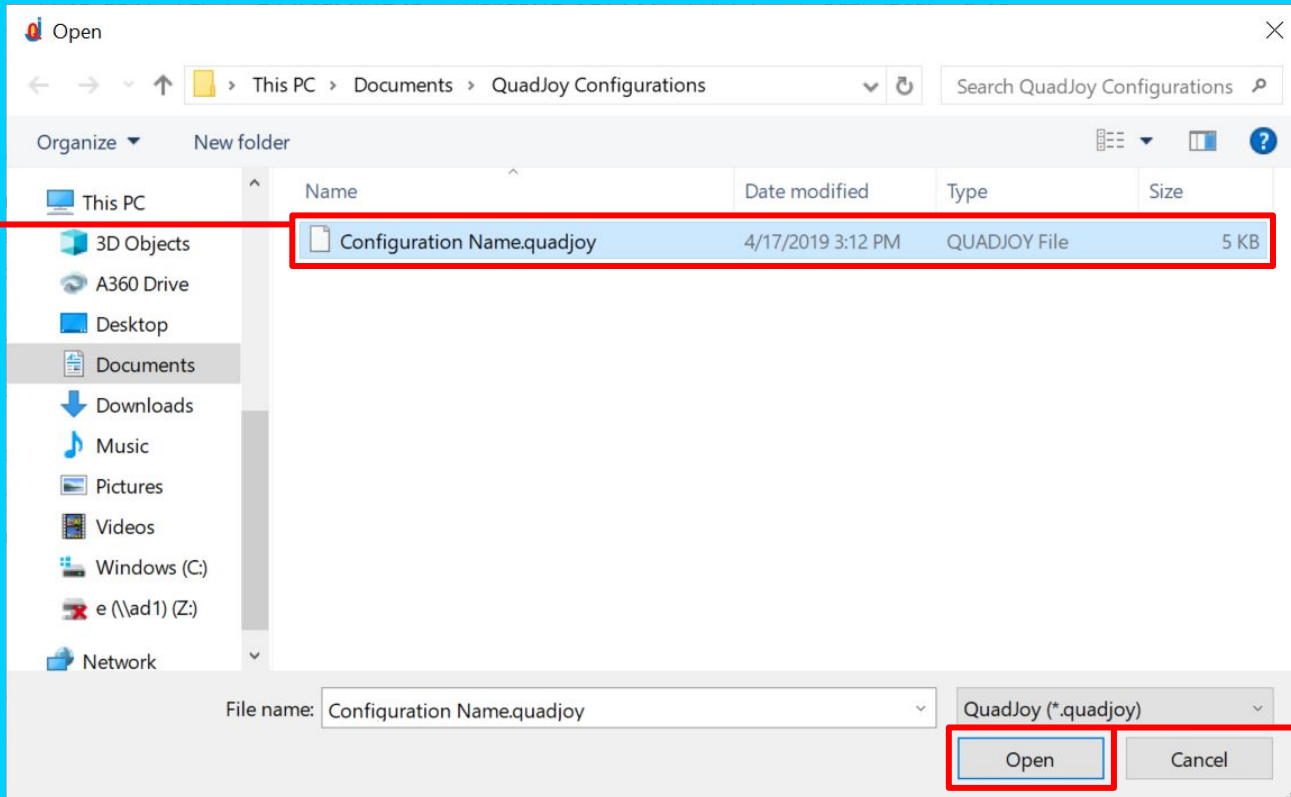
Loading a Configuration

1 Go to the
General tab



2 Click on the
Import Settings...
box

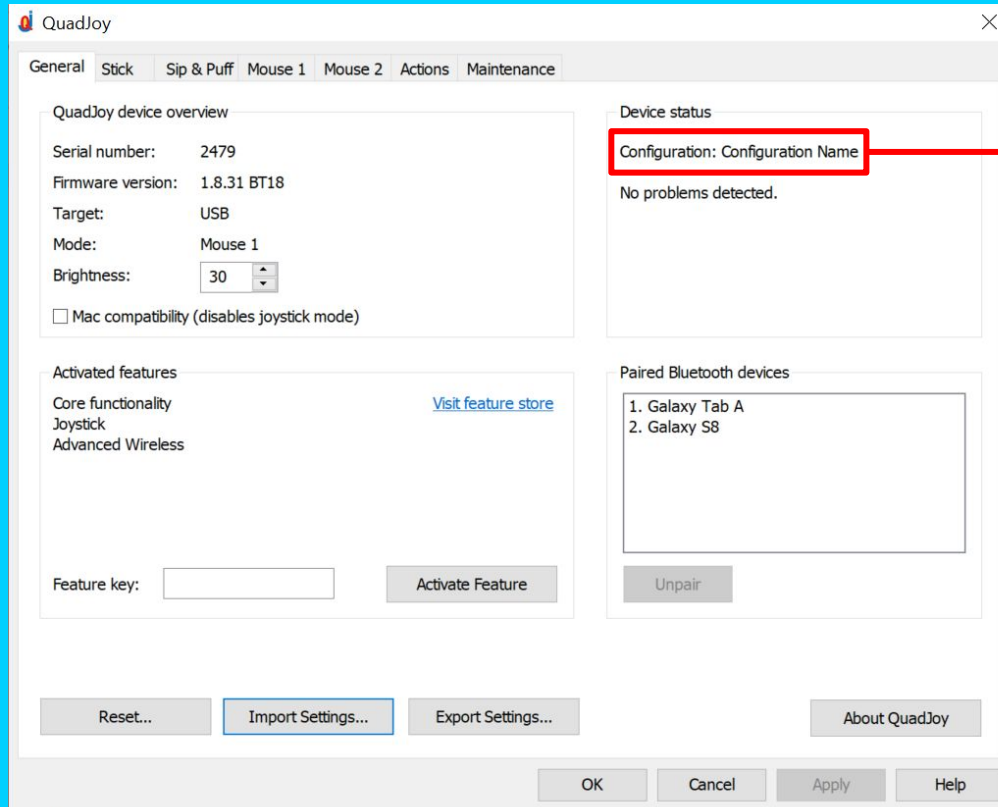
Loading a Configuration



3 Choose the configuration file

4 Open the configuration file

Loading a Configuration



5 It should display the configuration name under **Device Status**