

Jouse+

User's Guide

Revision 1.0

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1.0 WHAT IS THE Jouse+?

The Jouse+ is the fourth generation of a modified joystick. It acts as a standard USB mouse for computers, tablets, and other electronic devices. The mouthpiece and sip/puff tube are attached to a joystick, which, in turn, is attached to an arm and desk mount. By deflecting the joystick you can navigate the cursor on the screen. By sipping and/or puffing, you can make selections from menus and drag objects from one place to another on the display screen. See examples below:

- Sip for a right mouse click.
- Puff for a left mouse click.
- Double sip for a middle mouse click.
- Double puff for a double left mouse click.



Figure 1-1: The Jouse+

The Jouse+ also provides other specialized features that can be enabled if desired, such as a dwell cursor, a game mode, an alternative mouse movement mode, and the ability to control external switch-enabled devices. These features can be configured according to an individual user's preferences, or they can be turned off to prevent inadvertent activation.

The Jouse+ consists of a high-quality mounting arm with a sturdy desk mount, a joystick with a

mouthpiece and sip/puff tube attached, a variable friction arm and a control unit, which houses all the Jouse+ electronics. The unit is USB-based and requires no external power or installation of any software and/or custom drivers on the host device. Simply connect the Jouse+ device to a computer, tablet or phone using the USB cable to activate it. The Jouse+ emulates as a standard USB mouse to control computers running Microsoft Windows, MacOS, Linux or Unix, tablets running iOS or Android OS, and augmentative devices that support a USB mouse.

Note: Some phones and tablets require a USB adapter.

Summary of Jouse+ features include:

- provides 100% compatible, full mouse emulation;
- Jouse+ has been fully tested for USB compatibility on Windows, MacOS, Linux, Unix, Android, and iOS. It will work with any operating system that supports USB-based devices;
- self-calibrating for center position at start-up;
- allows adjustment of the sip/puff sensitivity;
- provides a dedicated dwell cursor mode;
- provides sip and puff shortcuts for ENTER and ESCAPE keystrokes;
- provides three dedicated game modes;
- provides an automatic mouse movement mode to allow the user to simply nudge the joystick to start the cursor, moving rather than having to constantly deflect it;
- provides two standard 1/8 inch connectors for switch inputs, which can be used as alternatives to sip/puff input and provides the capability to turn sip and/or puff inputs off completely. These inputs can also be configured to perform other functions such as TAB, SHIFT+TAB, and mouse click latching; and
- provides two standard 1/8 inch connectors for External Switch Control, which can be used to control external switch-enabled devices.

In addition to the above features, Jouse+ provides a stable platform for computer access. Unlike some systems, which must be physically attached to the operator, Jouse+ is mounted to the desktop. The control unit is placed on the desktop near the Jouse+. Cables connect the control unit to the computer and to the Jouse+. The person operating the Jouse+ has the freedom to come and go at will. Alternatively, the Jouse+ can be mounted to a wheelchair using an optional Super Clamp mount.

The mounting arm allows the joystick to be positioned exactly where it is needed and to be fixed in place. The variable friction mounting arm is standard equipment with the Jouse+.

Note: The Jouse+ is not intended for use in critical control applications where failure might cause physical injury or harm.

Note: Many different electronic devices can produce radio frequency (RF) interference which could potentially cause the Jouse+ to operate incorrectly. Although the Jouse+ is fully CE certified and shielded to reduce the possibility of this occurring, devices that produce RF energy, such as mobile phones, should be kept out of direct contact with the Jouse+.

2.0 GETTING STARTED

Setting up the Jouse+ only takes a couple of minutes and requires no tools. There is no software to install on the host device and no power supply is required. Simply clamp the mounting arm to an appropriate surface, adjust settings as required, and plug in to activate. The following sections describe these procedures in more detail.

2.1 Unpacking the Jouse+

Remove the Jouse+ components from the carton. These include:

- electronics unit;
- arm assembly with attached joystick; and,
- accessory pack which includes:
 - USB cable;
 - bag of assorted puff tubes;
 - spare air filter assembly;
 - allen key;
 - set screw; and
 - two spare air tube fittings.

The Jouse+ arm is folded over on itself. To unfold it, loosen the large knob on the side of the arm and lift up on the upper part of the arm until it's approximately 90 degrees. Tighten the large knob to make the arm rigid.

Remove the plastic that is covering the joystick assembly. This is attached with a warning tag.



To protect during shipping, the air filter assembly has been disconnected from the joystick module. Reconnect the air filter by screwing it onto the white connector on the bottom of the joystick module.

2.2 Attach the Jouse+ Arm to Your Desktop

There is a desk mount clamp at the bottom of the Jouse+ arm. Place this over the edge of the work surface as seen in Figure 2-1. Tighten the clamp by turning the swivel screw clockwise.

Optionally, the Jouse+ can be ordered with a Super Clamp base instead of the desk mount. When equipped with a super clamp, the Jouse+ can be attached to a desk, the frame of a wheelchair, or bed rail.



Figure 2-1: Jouse+ Desk Mount

2.3 Adjust the Jouse+ Arm

Adjust the arm to position it correctly for the person using it by doing the following:

1. Loosen the knob on the side of the arm by turning counter-clockwise. This loosens all three joints of the arm at once.
2. Position the joystick, mouthpiece and sip/puff tube in a position that allows the user to move their lips slightly to enclose the puff tube.
3. When correctly positioned, tighten the knob by turning it clockwise.
4. Optionally, there is a six-inch extension arm available to optimally position the puff tube for the user. Information about adding an extension is provided in Appendix B - ADDING AN EXTENSION TO THE JOYSTICK MOUNTING ARM.

2.4 Insert a Puff Tube into the Mouthpiece

There are two styles of puff tubes included with the Jouse+, white disposable puff tubes and black cigarette style puff tubes, as shown in Figure 2-3. There are two lengths of each style. The choice of mouthpiece is dependent on the user's preference. The longer puff tubes give more leverage, which reduces the amount of force required to move the joystick. On the other hand, the shorter puff tubes allows the cursor to be moved with a smaller head movement.

Screw in one of the cigarette style threaded puff tubes or insert one of the disposable puff tubes into the end of the mouthpiece of the Jouse+. If the puff tube does not fit tightly into the mouthpiece, discard it and replace it with a new one. Please note that the threads on the puff tubes are fine and susceptible to cross-threading. Make sure they are properly aligned before screwing them into the mouthpiece.

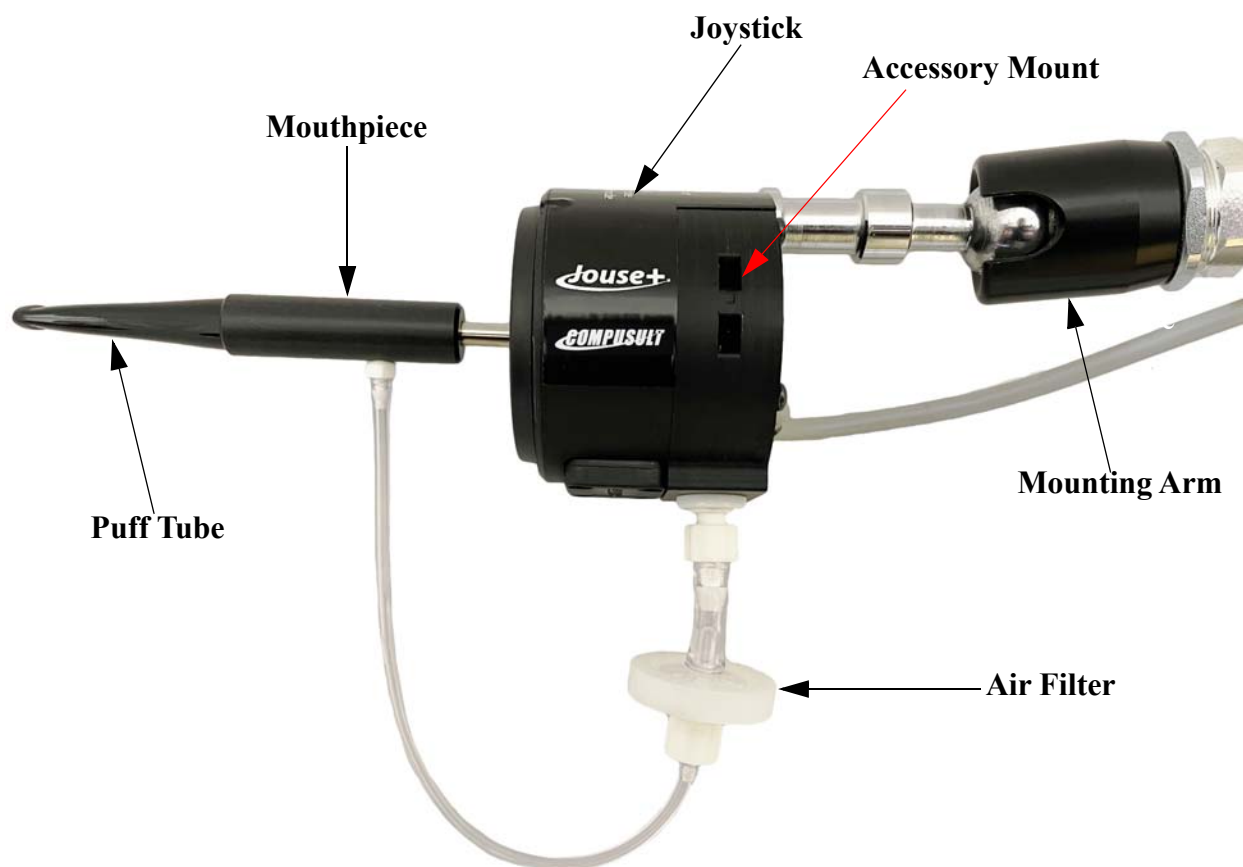


Figure 2-2: Joystick Assembly

There are connection points on both sides of the joystick mount that are there to provide an easy way for a user to attach accessories to the Jouse+. A common accessory used is a microphone. This can be used in conjunction with speech-to-text software for text entry.

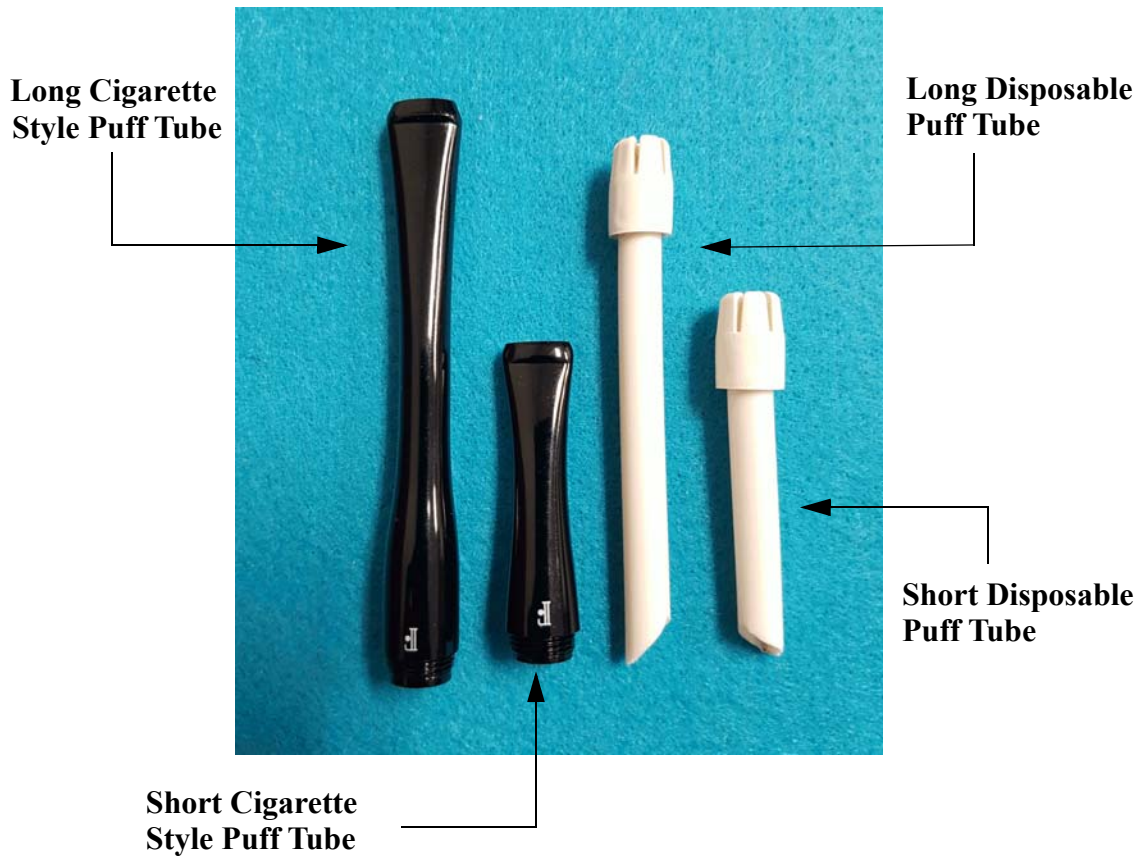


Figure 2-3: Puff Tubes

2.5 Connecting the Cables

There are two cables that must be connected on the Jouse+. One cable connects the joystick assembly to the Jouse+ control unit and the second cable, the USB cable, connects the Jouse+ control unit to the host device.

Note: There is no ON/OFF switch on the Jouse+. It receives its power from the USB cable when this cable is plugged into the host device. Connecting this cable activates the Jouse+.

Both cables connect to the back of the Jouse+ control unit. These connections are labeled as shown in Figure 2-4



Figure 2-4: Jouse+ Connector Endplate

1. Connect the beige cable from the joystick assembly to the connector labeled **Joystick**.
2. Connect one end of the USB cable to the host device and connect the other end to the connector labeled **USB**.

When making the cable connections, a number of points should be noted.

1. When the USB cable connection is made, the Jouse+ unit will turn on because it receives its power from the USB port on the host device. At this time, the two indicator LEDs on the front of the control unit will flash **amber** in sequence with a combination of tones (see Section 4.1). This indicates that the Jouse+ is enumerating with the host device. If both LEDs turn off, the Jouse+ is ready to use. If one or both illuminate **red**, unplug USB connection and try again. If the problem persists, refer to Section 8.0.
2. Before connecting the Jouse+ controller to the host device via the USB cable, ensure that the joystick is not deflected away from the center position. Ensure that the joystick is not being moved and that the air filter tube is not pulling on the joystick downward during the enumeration process. The Jouse+ will calibrate itself based on the position of the joystick when it enumerates. If the joystick is NOT in the center position, the unit may not operate properly.
3. After connecting the cables, you may want to anchor them to the swing-away arm so they are out of the way. Adjust the velcro straps that are on the Jouse+ arm to do so. Ensure that the cables have enough “play”, so that the Jouse+ mounting arm can be adjusted into any position without straining the cables. The cables should be neatly strapped to the arm, but not pulled tight. Straining the cables may damage the system.

3.0 CONFIGURING THE Jouse+

The Jouse+ uses a bank of DIP switches to enable or disable certain features, as well as configure parameters for different modes. The unit ships with all the switches in the OFF (down) position. In this configuration, the Jouse+ enumerates as a standard USB mouse without any special modes enabled. Changing the position of these switches allows the user to:

- enable alternate switch input mode;
- alternate switch input set select;
- enable external switch mode;
- enable automatic mouse movement mode;
- enable game mode;
- enable dwell cursor mode;
- disable the sip input; and
- disable the puff input.

These switches are shown in Figure 3-2. Details on configuring these switches is outlined in Section 3.1.



Figure 3-1: Jouse+ DIP Switch Settings

Note: These switches are only read by the Jouse+ on enumeration. Changes to the DIP switches will not take effect until the unit is powered off and back on again by disconnecting and reconnecting the USB cable.

The Jouse+ also provides the ability to change the following operating parameters without having to restart:

- **Sip/puff sensitivity (SEN)** - the amount of air pressure required to activate a sip or puff (located on the front of the Control Unit).
- **Speed (SPD)** - length of time required between sips and puffs while in Game Mode (located on the front of the Control Unit).
- **Volume (VOL)** - sound level of audible tones (located on the back of the Control Unit).

These parameters are changed using three small potentiometers that can be accessed on the front and back of the Jouse+ control unit. Changes made to these parameters are recognized immediately. These potentiometers are shown in Figure 4-5. See Section 4.3 for more information on their operation.

3.1 DIP Switch Configuration

The bank of eight DIP switches can be found on the back of the Jouse+ next to the USB connector, as shown in Figure 3-2 and Figure 3-3. These switches control the configuration and features of the Jouse+. When the unit is connected to the host device, the position of these switches is read and the unit is configured accordingly.



Figure 3-2: Jouse+ DIP Switches

The position of the switch can be adjusted using a small jeweler's screwdriver or with the tip of a pen. There is an ON indication on the DIP switch.

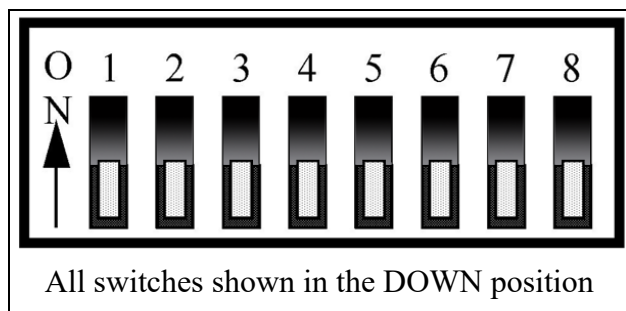


Figure 3-3: DIP Switch Positions

3.1.1 DIP Switch Control Modes

DIP switch control modes are described below. Changes in DIP switch settings are only recognized upon enumeration/start-up.

3.1.1.1 DIP Switch 1: Alternate Switch Input Mode

DIP 1 = ON (up): Alternate Switch Input Mode enabled. Refer to Section 4.2.11 for more information on Alternate Switch Input Mode.

DIP 1 = OFF (down): Alternate Switch Input Mode disabled.

When DIP 1 is in the ON (up) position, a very long sip (approximately five seconds) performed on the Jouse+ will cycle the Alternative Switch Input modes between:

Mode 1 - Normal Jouse Input mode. (Default mode)

Mode 2 - Latch Mode (Useful in various drag and drop scenarios)

Mode 3 - Navigation Mode (Useful in web browsers for selecting form fields, and menu items)

3.1.1.2 DIP Switch 2: Alternate Switch Input Set Select

DIP switch 2 allows you to control the order of the Alternate Switch Input Modes.

DIP 2 = ON (up): Mode Order Reversed - When a very long sip is performed by the Jouse+ (approximately five seconds), the Alternate Switch Input Mode will cycle in the following order: 1-3-2-1...etc.

DIP 2 = OFF (down): Mode Order Normal - When a very long sip is performed by the Jouse (approximately five seconds), the Alternate Switch Input Mode will cycle in the following order: 1-2-3-1...etc.

3.1.1.3 DIP Switch 3: External Switch Outputs Control

DIP switch 3 allows you to control switch-enabled devices via the Output jacks. More details on controlling devices connected to the External Switch Outputs can be found in Section 4.2.12.

DIP 3 = ON (up): Output Switch Mode enabled.

DIP 3 = OFF (down): Output Switch Mode disabled.

3.1.1.4 DIP Switch 4: Automatic Mouse Movement Mode

When this mode is enabled, nudging the joystick in any direction causes the cursor to start moving in that direction. The cursor will continue to move in that direction until the joystick is nudged again.

DIP 4 = ON (up): Automatic Mouse Movement Mode enabled.

DIP 4 = OFF (down): Automatic Mouse Movement Mode disabled.

3.1.1.5 DIP Switch 5: Game Mode

DIP switch 5 allows you to activate Game Mode. Game Mode includes three sub modes to allow the selection of different pre-configured outputs corresponding to each direction that the joystick is deflected. More details on game mode can be found in Section 4.2.13.

DIP 5 = ON (up): Game Mode enabled

DIP 5 = OFF (down): Game Mode disabled

3.1.1.6 DIP Switch 6: Dwell Cursor Mode

DIP switch 6 is used to enable or disable dwell cursor mode. As an alternative to sip or puff input, a dwell cursor can be used. When enabled, simply position the cursor over an on-screen item and after it has been stationary for one second, a left mouse click will be sent without having to sip or puff.

DIP 6 = ON (up): Dwell Cursor Mode enabled.

DIP 6 = OFF (down): Dwell Cursor Mode disabled.

3.1.1.7 DIP Switch 7 and 8: Sip/Puff Input Control

DIP switches 7 and 8 can be used to disable the sip and/or puff capability of the Jouse+. This is often used in conjunction with external switches connected to the switch inputs on the front panel of the Jouse+, which can be used to provide an alternative to sip/puff inputs. More details can be found in Section 4.2.14.

DIP 7 = ON (up): Sip disabled.

DIP 7 = OFF (down): Sip enabled (default).

DIP 8 = ON (up): Puff disabled.

DIP 8 = OFF (down): Puff enabled (default).

4.0 OPERATING THE Jouse+

The following sections describe all aspects of operating the Jouse+.

4.1 Jouse+ Front LED Indicators

There are two LED indicators on the front of the Jouse+ which indicate the status and activity at all times. Figure 4-1 shows these indicators. These LEDs are tri-color and the different colors have different meanings depending on the mode the Jouse+ is currently in.



Figure 4-1: Jouse+ Indicator/Status LEDs

4.1.1 At Startup

At startup, if everything initializes correctly, the Jouse+ plays a series of tones (if the volume is up) and the two LED indicators flash **AMBER**, back and forth, for about two seconds. They then change to **GREEN**, momentarily, before going off completely. The unit is now ready to be used. However, the LEDs are used to indicate a number of other status conditions that may occur at startup. These are listed in Table 4-1.

Table 4-1: LED Indicator Behavior at Start-Up

Behavior of LEDs	Condition
Both LEDs flash AMBER off and on for about 2 seconds. Both LEDs then turn GREEN momentarily and finally both LEDs turn off completely.	The unit initialized correctly and is now ready for use.
Both LEDs are AMBER .	The unit is in External Switch Control Mode.
One or both LEDs are GREEN . If only one, the other will be ORANGE .	The unit is in External Switch Control Mode and the Output, which is green, has been enabled.
The left (Data) is solid RED and nothing else happens.	A severe problem with the sip/puff input calibration was encountered and the unit cannot be operated. Contact Tech Support
The right (Drag) is solid RED and nothing else happens.	A severe problem with the joystick calibration was encountered and the unit cannot be operated. Contact Tech Support
Both the left (Data) and the right (Drag) are solid RED and nothing else happens.	A severe problem with both the sip/puff input calibration and the joystick calibration was encountered and the unit cannot be operated. Contact Tech Support
The left (Data) LED flashes RED while the right (Drag) LED flashes AMBER , then both turn GREEN and then go off completely.	A problem with the sip/puff input calibration was encountered, however, the problem allows the unit to be operated at a reduced level of performance. Contact Tech Support
The left (Data) LED flashes AMBER while the right (Drag) LED flashes RED , then both turn GREEN and then go off completely.	A problem with the joystick calibration was encountered, however, the problem allows the unit to be operated at a reduced level of performance. Contact Tech Support
Both the left (Data) LED and the right (Drag) LED flash RED , then both turn GREEN and then go off completely	A problem with the sip/puff input calibration and the joystick calibration was encountered, however, the problem allows the unit to be operated at a reduced level of performance. Contact Tech Support

Behavior of LEDs	Condition
After the LEDs have flashed back and forth (no matter what color), the LEDs turn GREEN and remain lit (i.e., they do not go off).	A severe problem with USB enumeration has occurred and the unit cannot be operated. Contact Tech Support

4.1.2 LED Operation in Mouse Emulation Mode (Normal Operation)

During normal mouse emulation mode, the left, or Data LED will flash **GREEN** to indicate data activity on the USB communications interface resulting from cursor movement and/or sip/puff inputs.

During normal mouse emulation mode, a long puff (about one second) will place the unit in Drag mode and the right, or Drag LED will light solid **AMBER** and remain lit as long as this mode is active.

During normal mouse emulation mode, a long sip (about one second) will place the unit in External Switch Control mode. In this mode, both LEDs will light solid **AMBER**.

While in External Switch Control Mode, short sips and puffs toggle the outputs on and off.

- A short puff will activate left output and the left LED will light solid **GREEN** and turn on any device connected to that output. Another puff will turn off the device and the LED will change back to **AMBER**. Repeat the process as many times as necessary to turn the device on and off.
- A short sip will activate right output and the right LED will light solid **GREEN** and turn on any device connected to that output. Another sip will turn off the device and the LED will change back to **AMBER**. Repeat the process as many times as necessary to turn the device on and off.

4.2 Operating the Jouse+

By default, when the Jouse+ unit powers up after connecting the USB cable, the unit immediately begins to emulate a computer mouse.

Configurable Jouse+ features that are associated with the mouse emulation mode are:

- sip/puff sensitivity setting (see Section 4.3.1); and
- enabling/disabling sip/puff inputs (see Section 3.1.1.7).

To help illustrate what functions the various joystick movements and sip/puff sequence perform when Alternate Switch Mode is enabled on the Jouse+, refer to the flow chart in Figure 4-2.

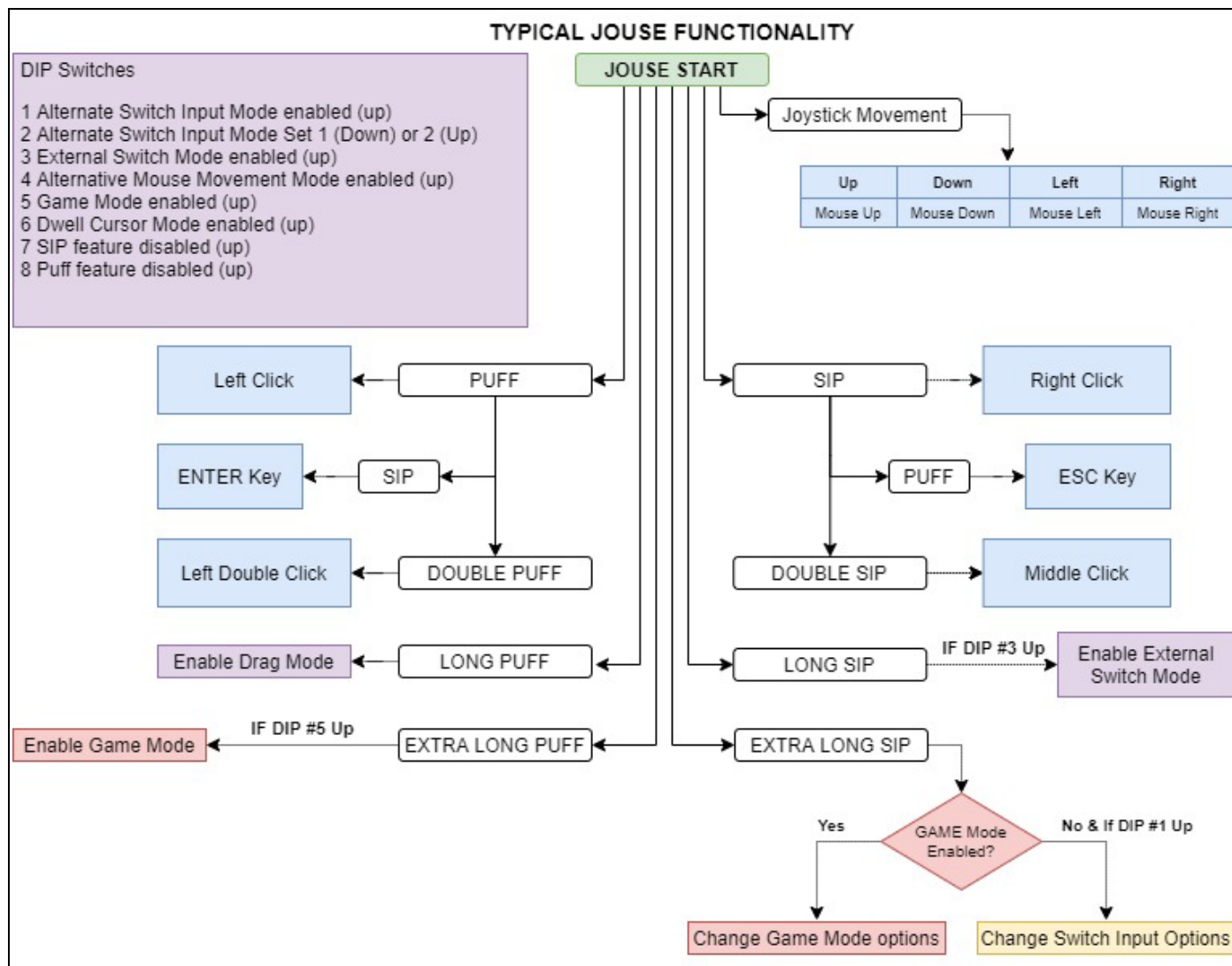


Figure 4-2: Jouse+ Flow Chart - Normal Mode

4.2.1 Moving the Cursor

To move the cursor, hold the sip/puff tube lightly in your mouth and deflect the mouthpiece in the direction in which you want the cursor to move. The more you deflect the mouthpiece, the faster the cursor will move. Releasing the mouthpiece will return it to the center position and the cursor will stop moving. While the joystick is moving, you will notice the left Data LED flashing **green**.

When you are moving the cursor, do not sip or puff. Sipping or puffing will cause items to be selected or released on the screen.

4.2.2 Left Clicking (Puff)

To perform a left-click, e.g., select an item from a pull-down menu, position the cursor over the item and lightly puff into the sip/puff tube. Move the cursor down through the menu by deflecting the mouthpiece. When you reach the desired item, puff lightly into the sip/puff tube again. You will notice that every time you puff, the left Data LED will flash **green**.

4.2.3 Right Clicking (Sip)

To perform a right-click, e.g., activate a pull-down menu on the desktop (in Windows), position the cursor over the item and sip lightly. The Jouse+ sends a right-click and the menu is displayed. You will notice that every time you sip, the left Data LED will flash **green**.

4.2.4 Double Clicking (Double-Puff)

To perform a double-click, e.g., launch a program from an icon, position the cursor over the desired program icon and perform two short, sharp puffs. The Jouse+ sends two left clicks back-to-back, which the system then registers as a double-click.

4.2.5 Middle Mouse Button (Double-Sip)

To activate the middle mouse button, e.g. scroll on a web page, position the cursor in the desired location and perform two short, sharp sips. The Jouse+ sends a middle mouse button click and the scroll icon is displayed on the web page.

4.2.6 ENTER Keystroke (Puff-Sip)

The Jouse+ has a shortcut sequence built in to allow you to generate an ENTER keystroke. Position the cursor in the desired location and perform a quick puff followed immediately by a quick sip. The Jouse+ will send a ENTER keystroke and insert it at the cursors location.

4.2.7 ESCAPE Keystroke (Sip-Puff)

The Jouse+ has a shortcut sequence built in to allow you to generate an ESCAPE keystroke. Position the cursor in the desired location and perform a quick sip followed immediately by a quick puff. The Jouse+ will send an ESCAPE keystroke and perform it at the cursors location.

4.2.8 Adjust Cursor Speed

The cursor may be moving too fast or too slow for you. You can adjust the speed of the cursor in the System Settings on your computer since the Jouse+ appears to the system as a mouse. The process for adjusting this will vary with the operating system, so refer to your operating system help files for specific instructions.

4.2.9 Adjust Double-Click Rate

You may not be able to puff fast enough to produce a double-click. You can adjust the double-click rate in the system settings on your computer. The process for adjusting this will vary with the operating system, please refer to your user's manual and/or help files for specific instructions.

4.2.10 Dragging Items

To drag an item, e.g., move a file, position the cursor over the item and puff with consistent pressure until the right Drag LED on the front of the Control Unit lights **amber** (approximately one second). When the right Drag LED is lit, you do not have to maintain air pressure to drag an item, just move the item where you want it to go by using the joystick. Puff lightly again to release the item. The right Drag LED will turn off.

4.2.11 Alternate Switch Input Mode

Alternate Switch Input Mode is intended to give a user the option of getting additional functionality from the two switch input jacks on the front of the Jouse+ electronics unit. By default they perform the same functionality as the sip and puff. This can be beneficial if a user has difficulty performing a sip or puff. They can augment that functionality by adding a switch such as a Buddy button to these inputs. If that capability isn't required, this mode gives the user the opportunity to do more by using switches. There are three Switch Input Modes available for external input switches. In order they are:

- **Mode 1 - Normal Jouse+ Input mode (Default mode)**

Left and Right switches function the same as Puff and Sip, respectively. On the front of the Jouse+ are two external switch inputs (refer to Figure 4-5), which allow you to connect switches that have a standard 1/8 inch jack. These switches can then be used as a right or left-click. A switch connected to the left external switch input will represent a left-click. A switch connected to the right external switch input will represent a right click. These switch inputs can be used with DIP switches 7 and 8 (disable sip inputs and/or puff inputs) to provide an alternative method of providing these inputs. Internally to the Jouse+, the switch inputs will do the same thing as the sip/puff inputs in this mode.

- **Mode 2 - Latch Mode (Useful in various drag and drop scenarios)**

When the LEFT switch is pressed, it toggles the left mouse button.
Press once to engage the left mouse button and hold.
Press again to release the left mouse button.
Subsequent presses will engage/release mouse button accordingly.

When the RIGHT switch is pressed, it toggles the right mouse button.
Press once to engage the right mouse button and hold.
Press again to release the right mouse button.
Subsequent presses will engage/release mouse button accordingly.

- **Mode 3 - Navigation Mode (Useful in web browsers for selecting form fields and menu items)**

When the LEFT switch is pressed, it presses the keyboard key: TAB
When the RIGHT switch is pressed, it presses the keyboard combination: SHIFT + TAB

Mode 1 is the default, and the only mode available when DIP 1 is in OFF position. When DIP 1 is in the ON position, the Alternative Switch Input modes can be cycled by performing a very long sip (approximately four seconds). With DIP 2 in the OFF (down) position, the Alternative Switch Input modes will cycle 1-2-3-1-2... etc. With DIP 2 in the ON (up) position, the Alternative Switch Input modes will cycle 1-3-2-1-3... etc.

If DIP switch 1 is in the ON (up) position, you can switch between Alternate Switch Input Modes by performing an extended sip (approximately five seconds). Please note that around the one second mark you will hear a single beep and see the right LED illuminate **amber**, do not stop sipping. You will know you are switch modes when you see the LEDs flash in a sequence and you will hear a short jingle. This will be followed immediately by followed by a beep or beeps combined with the right LED flashing **amber**. The number of beeps and flashes at the end of the sequence is determined by the mode you are selecting. Alternatively, you can hold down on the right switch for approximately five seconds to switch modes.

When Alternate Switch Input Mode is enabled, switch clicks produce the following actions:

Table 4-2: Alternate Switch Input Mode 1 Commands

Jouse+ Action	Game Mode Output
Left Switch Click	Mouse Action: Left Click
Right Switch Click	Mouse Action: Right Click
Two Left Switch Clicks	Mouse Action: Left Double Click
Two Right Switch Clicks	Mouse Action: Middle Click
Left Switch, then Right Switch Click	Keyboard character: ENTER key
Right Switch, then Left Switch Click	Keyboard character: ESCAPE key

Table 4-3: Alternate Switch Input Mode 2 Commands

Jouse+ Action	Game Mode Output
Left Switch Click	Mouse Action: Toggle Left Click Latch Note: The left LED will illuminate red when it is latched on
Right Switch Click	Mouse Action: Toggle Right Click Latch Note: The right LED will illuminate red when it is latched on

Table 4-4: Alternate Switch Input Mode 3 Commands

Jouse+ Action	Game Mode Output
Left Switch Click	Keyboard character: TAB key
Right Switch Click	Keyboard character: SHIFT + TAB keys
Two Left Switch Clicks	Keyboard character: ENTER key
Two Right Switch Clicks	Keyboard character: SPACE key
Three Left Switch Clicks	Keyboard character: ESCAPE key

To help illustrate what functions the various input switch sequences perform when Alternate Switch Mode is enabled on the Jouse+, refer to the flow chart in Figure 4-3.

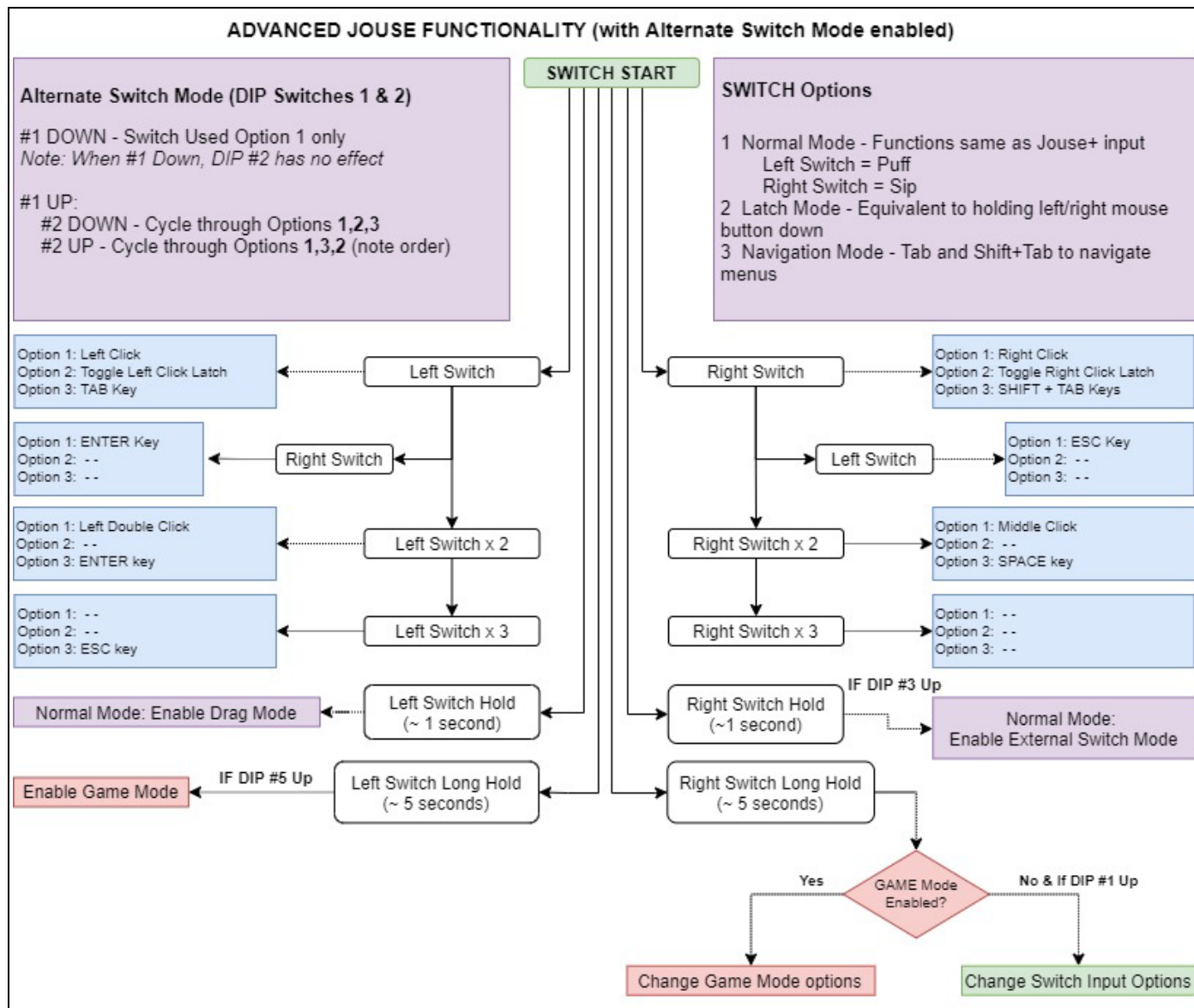


Figure 4-3: Jouse+ Flow Chart - Alternate Switch Mode

4.2.12 External Switch Control Mode

The Jouse+ supports external switch-enabled devices. To enable this feature, you must place DIP switch 3 in the UP position. This will enable External Switch Control Mode. You will then be able to use the sip and puff action to enable and control this feature.

To enable External Switch Control mode, perform the following steps:

1. Connect your switch-enabled device to one of the two **Outputs** on the front of the Jouse+.

Note: If the switch connection for the external device is directly wired into the device's power supply, you will need to use an alternative Jouse+ Control Unit which has been adapted for this purpose.

2. Perform a long sip (approximately one second) to activate External Switch Control Mode. You will hear a single tone and both LEDs will be **amber** when this mode is enabled.
3. Perform a short sip to enable and disable the **Output** on the right. The **Output** is enabled when the LED is **green** and disabled when the LED is **amber**.
4. Perform a short puff to enable and disable the **Output** on the left. The **Output** is enabled when the LED is **green** and disabled when the LED is **amber**.

Note that both **Outputs** are independent of each other and you can have two separate switch-enabled devices enabled at the same time.

5. Perform a long sip (approximately one second) to deactivate External Switch Control Mode.

4.2.13 Game Mode

Game Mode is intended to allow you to play games that traditionally require access to a keyboard. Your sips and puffs, as well as your joystick movements are mapped to common keyboard and/or mouse actions. Game Mode includes three sub modes to allow you to select different pre-configured outputs corresponding to each direction that the joystick is deflected:

- **Game Mode 1:** Joystick deflections generate “w”, “a”, “s”, “d” keystrokes
- **Game Mode 2:** Joystick deflections generate “up”, “down”, “left” and “right” arrow keystrokes
- **Game Mode 3:** Joystick deflections generate “w”, “s”, keystrokes and left and right mouse movements.

If DIP switch 5 is in the ON (up) position, you can enter Game Mode by performing an extended puff (approximately five seconds). Please note that around the one second mark you will hear a single beep and see the right LED illuminate **amber**, do not stop puffing or you will enter Drag Mode (see Section 4.2.10). You will know you are in Game Mode when you see the LEDs flash in

a sequence and you will hear a short jingle. This will be followed immediately by followed by a beep or beeps combined with the right LED flashing **amber**. The number of beeps and flashes at the end of the sequence is determined by the sub mode you are entering. If it is the first time you have entered Game Mode since the Jouse+ was powered on, it will start in Game Mode 1. However, if you have already used Game Mode, it will remember the Game Mode that you were using last and enter in that mode. For instance, if you were using Game Mode 3 and needed to exit and go back to using the Jouse as a traditional mouse. Later you decided to return to Game Mode, it would remember the previous mode and resume in Game Mode 3.

When Game Mode is enabled, sip and puff sequences and joystick actions produce the following actions:

Table 4-5: Game Mode Basic Commands (all sub-modes)

Jouse+ Action	Game Mode Output
Puff	Keyboard character: SPACE
Sip	Keyboard character: e
Double Sip	Keyboard action: Shift key latched on Note: Right LED will illuminate amber .
Sip, then Puff	Keyboard action: Control key latched on Note: Right LED will illuminate green . If both the Shift and Control keys are latched on, the right LED will illuminate red .
Extra Long Puff	Exits Game Mode
Extra Long Sip	Switches to next game mode. Each extra long sip switches to the next game mode, from 1 to 2, 2 to 3, and then from 3 back to 1 and so on.

Table 4-6: Game Mode 1 Commands

Jouse+ Action	Game Mode Output
Deflect Joystick Up	Keyboard character: w
Deflect Joystick Down	Keyboard character: s
Deflect Joystick Right	Keyboard character: d
Deflect Joystick Left	Keyboard character: a

Table 4-7: Game Mode 2 Commands

Jouse+ Action	Game Mode Output
Deflect Joystick Up	Keyboard character: UP Arrow
Deflect Joystick Down	Keyboard character: DOWN Arrow
Deflect Joystick Right	Keyboard character: RIGHT Arrow
Deflect Joystick Left	Keyboard character: LEFT Arrow

Table 4-8: Game Mode 3 Commands

Jouse+ Action	Game Mode Output
Deflect Joystick Up	Keyboard character: w
Deflect Joystick Down	Keyboard character: s
Deflect Joystick Right	Mouse Action: Move RIGHT
Deflect Joystick Left	Mouse Action: Move LEFT

You can always identify which Game Mode you are in by observing the LEDs. The left LED will only illuminate when there is activity, either joystick deflection or sips or puffs are detected. The right LED will flash **amber** a number of times every five seconds to identify the mode number, one flash for Game Mode 1, two flashes for Game Mode 2 and three flashes for Game Mode 3.

When you want to return to normal mouse operations, you can exit Game Mode by performing an very long puff (approximately five seconds). Please note that around the one second mark you will hear a single beep and see the right LED illuminate **amber**, do not stop puffing or you will enter Drag Mode (see Section 4.2.10). You will know that you are out of Game Mode when you hear see both LEDs flash and hear the Jouse+ startup jingle followed by no beeps. At this point, if there's no activity on the joystick or sip and puff tube, no LED activity will be observed.

To help illustrate what functions the various joystick movements and sip/puff sequences perform when Game Mode is enabled on the Jouse+, refer to the flow chart in Figure 4-4.

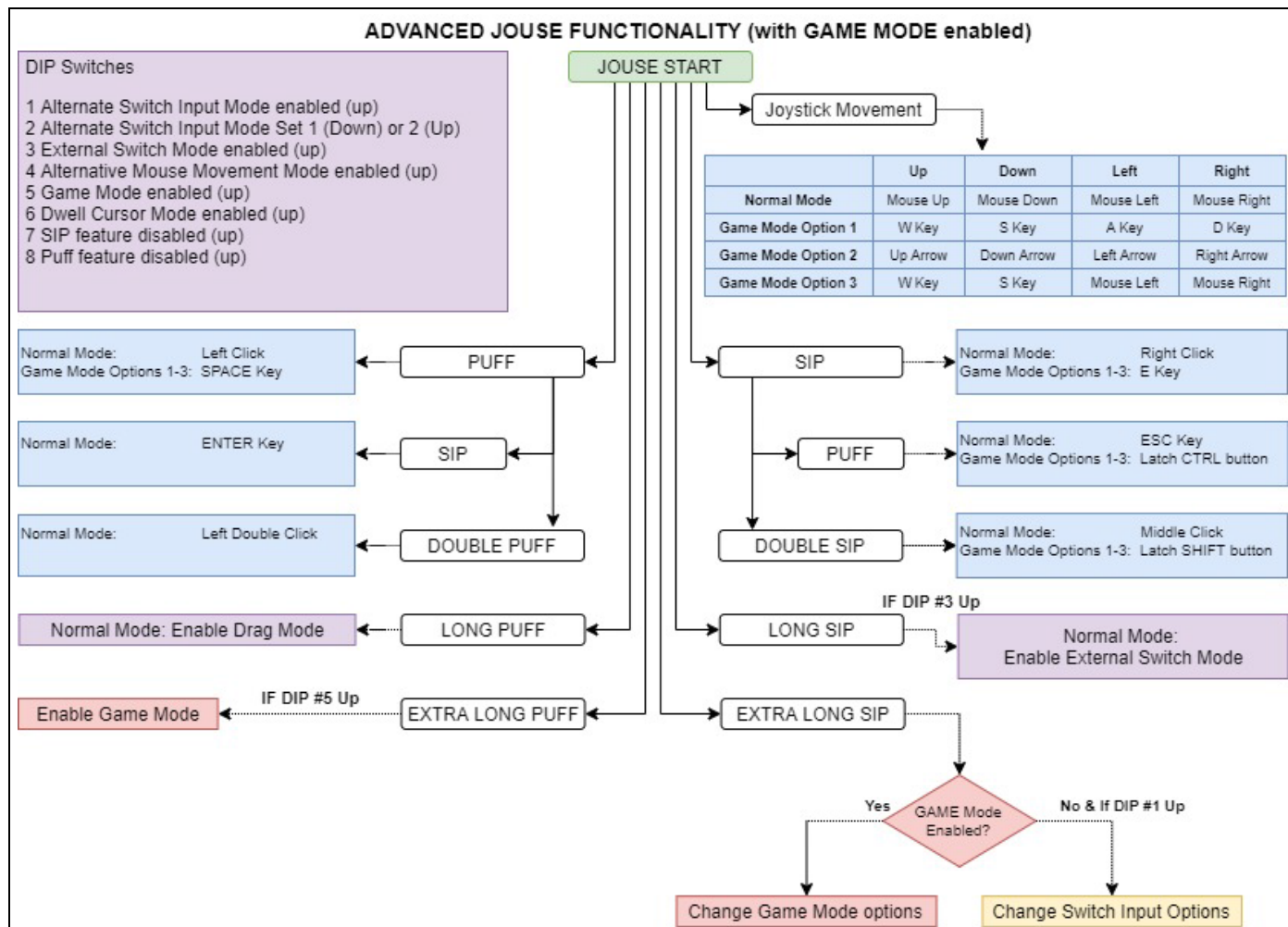






Figure 4-4: Jouse+ Flow Chart - Game Mode

4.2.14 Disabling the Sip and/or Puff Input(s)

DIP switches 7 and 8 can be used to disable the sip and/or puff capability of the Jouse+. This is often used in conjunction with external switches connected to the switch inputs on the front panel of the Jouse+, which can be used to provide an equivalent alternative to sip/puff inputs. DIP switches 7 and 8 work exactly the same way regardless of the positions of the other DIP switches. The available switch selections are described in Table 4-9.

Table 4-9: DIP Switch Settings for Enabling/Disabling Sip/Puff Inputs

Switch Position and Setting	Sip/Puff Enabled/Disabled
7 = down, 8 = down  0 0	Both sip and puff inputs are enabled. (Default)
7 = down, 8 = up  0 1	Sip inputs are enabled / puff inputs are disabled.
7 = up 8 = down  1 0	Sip inputs are disabled / puff inputs are enabled.
7 = up, 8 = up  1 1	Both sip and puff inputs are disabled.

4.3 Jouse+ Front Potentiometers

There are two small potentiometers (pots) that can be accessed on the front of the unit. The potentiometers function like a dial or knob that can be turned and, although the potentiometers themselves are hidden behind the front end plate of the Jouse+, there is a small hole in front of each potentiometer so that a small screwdriver can be inserted to adjust it. Be cautious not to over turn the potentiometer, it is only intended to be rotated approximately 300 degrees. Rotating it past this limit will damage the potentiometer. Note that you will hear a beep when the potentiometer reaches the halfway or center position.

Generally, these pots are intended to be set up once and then left alone; however, one difference between these adjustments and those made with the DIP switches are that the changes are recognized by the Jouse+ immediately and there is no need to disconnect and connect the USB cable as there is with the DIP switches.

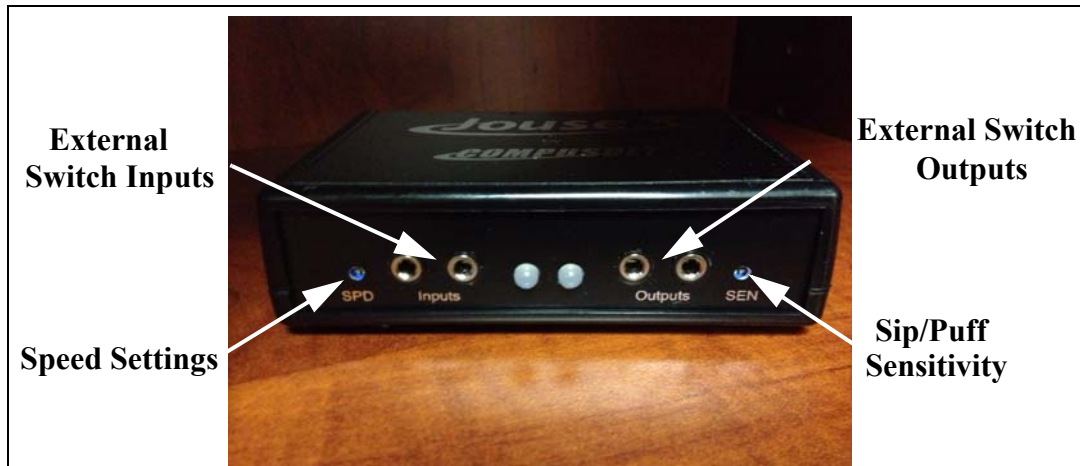


Figure 4-5: Jouse+ Front Potentiometers

The external potentiometers control the following parameters, as listed below:

1. The left potentiometer, labeled **SPD** and located left of the **Inputs**, sets speed settings (required pause between characters entered) and the sip repeat/puff repeat times. At low speeds, a delay may be noticed after some sip/puff inputs.
2. The right potentiometer, labeled **SEN** and located right of the **Outputs**, sets sip/puff sensitivity (see Section 4.3.1).

When the Jouse+ is connected by USB cable to the host computer, a series of tones is played consisting of a combination of high and low pitches. The volume of these tones can be adjusted.

To adjust the volume:

- Adjust the left potentiometer labeled **VOL** on the back of the Jouse+ unit (refer to Figure 4-5), using a small flat-head screwdriver.
 - Turn clockwise to increase the volume.
 - Turn counter-clockwise to decrease the volume.

4.3.1 Adjust Sip/Puff Sensitivity

Sip/puff sensitivity refers to the amount of air pressure required to produce sips and puffs. When the Jouse+ is manufactured, it is configured with a default sensitivity that we have found to be optimal for most users. However, some users prefer increased sensitivity to allow them to operate the Jouse+ with very little air pressure, or decreased sensitivity so that normal breathing doesn't

cause false sips or puffs.

To adjust the sip/puff sensitivity:

- Adjust the center potentiometer on the front of the Jouse+ unit (refer to Figure 4-5), using a small flat-head screwdriver.
 - Turn clockwise to increase the sip/puff sensitivity, requiring less air pressure to produce sips and puffs.
 - Turn counter-clockwise to decrease sensitivity, requiring more air pressure to produce sips/puffs.
 - Note that you will hear a beep when the potentiometer reaches the halfway or center position.

4.3.2 Speed Settings

The speed settings refer to the required pause between the sip repeat/puff repeat time and the length of the sip required to enter External Switch Control mode.

To adjust the speed settings:

- Adjust the right potentiometer on the front of the Jouse+ unit (refer to Figure 4-5), using a small flat-head screwdriver.
 - Turn clockwise to increase the speed settings for the sip repeat/puff repeat.
 - Turn counter-clockwise to decrease speed settings.
 - Note that you will hear a beep when the potentiometer reaches the halfway or center position.

5.0 CONTROLLING SWITCH-ENABLED DEVICES WITH THE Jouse+

5.1 Using the Optional USBox Accessory and Software

The Jouse+ has a new accessory, the USBox. With this USB-powered external switch box, Jouse+ users can expand how many switch-enabled devices they can control in their environment. The USBox is powered by USB and is controlled through the on-screen USB Relay Board software, which can be installed on any Microsoft Windows based computer you wish to use.



Figure 5-1: USBox and USB Relay Board

5.1.1 Using the Jouse+ with the USBox Accessory

Each USBox accessory supports up to four switch-enabled devices. You can use as many USBoxes as the number of free USB ports on your computer. The USBox will treat the Jouse+ as a mouse so you can use the Jouse+ to activate these switch-enabled ports, as well as the Jouse+'s two external Switch control ports.



Figure 5-2: Jouse+ User Controlling a Switch-Enabled Toy Using the USBox Accessory

To configure the USBox to work with the Jouse+, perform the following actions:

1. Determine if Java is installed on the computer that you will be using with the Jouse+ and USBox. If Java is not installed, download the latest copy by visiting <http://java.com> and follow the on-screen instructions.

Note: If prompted, you do not have to install any third-party toolbars.

2. After Java is successfully installed, you must install the USBox drivers and the USB Relay Board software included in the USBox software package.
3. Once the USBox drivers and Relay Board software are installed, you can connect the provided USB cable to the USBox and computer you wish to interact with.
4. Once the USBox is connected to the computer, you can plug any switch-enabled device into one of the four switch control ports on the front of the USBox and use the USB Relay Board to control the switch enabled device.
5. The Jouse+ is treated the same way as a mouse so you can use it to turn off/on any switch enabled device connected to the USBox. The USBox has four dedicated control ports and the USB Relay Board has the four corresponding toggle controls.

6. You can use as many USBBoxes as your system allows (determined by the number of free USB ports).

Note: An Internet connection is required for the first use of each USBBox.

6.0 INSTALLING THE Jouse+ ON YOUR COMPUTER OR MOBILE DEVICE

The Jouse+ works with many different operating systems. The set-up instructions for the more common ones are provided below.

Note: You may want to adjust the mouse double-click rate and cursor speed for any of these operating systems once the Jouse+ has been installed. Please refer to your operating system user's manual and/or help files for information on how to do this.

6.1 Installing Under Microsoft Windows

The Jouse+ will work with Windows 10, Windows 8, Windows 7 and Windows Vista. The installation process for Windows operating systems has been designed to be plug and play so you don't need to install any additional software. When you connect the USB cable from the Jouse+ to the computer, the Jouse+ will be detected automatically by Windows and the proper Windows drivers will be installed automatically.

6.2 Installing Under Macintosh

The Jouse+ is compatible with MacOS 9.X and MacOS X or later versions. In most cases, plug the Jouse+ into a USB port and it will work. In some cases, you may need to follow this set-up procedure:

1. Before you connect the Jouse+ to your Macintosh computer, remove any other USB pointing device that you may have connected.
2. Connect the Jouse+ USB cable to your Macintosh computer and it will be installed automatically. Move the joystick to verify that the Jouse+ is working.
3. Reconnect any USB pointing device that you may have removed in Step 1.

6.3 Installing Under Linux

There are several versions of Linux operating systems and associated graphical user interfaces available. Jouse+ should operate in any of them that supports USB. It has been tested with some common configurations. If you are using CentOS or Ubuntu, plug the Jouse+ into a USB port and it should work without the need for any additional configuration.

6.4 Configuring the Jouse+ for Android Devices

The Jouse+ will work with any Android Device without the need for additional software since they fully support USB peripherals such as USB keyboards and mouse. Some Android Tablets have Standard USB inputs that you can plug the Jouse+ directly into without the need of an adapter. In the event your Android device doesn't have a standard USB input, you will have to purchase an adapter for standard USB compatibility and should consult your manufacturer for more details.

6.5 Configuring the Jouse+ for iOS Devices

The Jouse+ can operate with iOS devices. A Lightning to USB Camera Adapter is required to physically connect the Jouse+ to the iOS device. The iOS device once connected will provide power to the Jouse+.

If you are using an iOS device with iOS 13 or later, or iPadOS, there is a **Smart Touch** feature available in the **Accessibility** section of the **Settings** menu. When enabled you can connect the Jouse+ using the USB camera adapter and a cursor will appear. Please refer to iOS documentation for further details.

Note: If your iPhone or iPad is low on battery, the Jouse+ may not power on. These devices enter a low power mode that limits the power to the ports and therefore doesn't provide sufficient power to turn on the Jouse+.

6.6 Other Operating Systems

The Jouse+ will work with any operating system that supports USB. If you have any questions regarding a specific operating system, please contact Compusult Limited by telephone at 1-888-388-8180 (US and Canada) or (709) 745-7914 (outside US and Canada). You may also send an e-mail to info@jouse.com.

6.7 Test the Jouse+

Once the Jouse+ has been connected to the computer and configured for the appropriate operating system, it needs to be tested. Deflect the joystick in all directions and confirm that the cursor moves in the corresponding direction. The data indicator light (left LED) on the front of the control unit should also flash **green**.

6.8 Using Another Mouse with the Jouse+

The Jouse+ can be used in conjunction with any other mouse and pointing device without conflict. You can connect another USB or bluetooth mouse to the computer at the same time without conflict. The computer will respond to the mouse that is in use.

7.0 EXTERNAL OPTIONS / ADD-ONS

7.1 On-Screen Keyboard

On-screen keyboards replace standard keyboards. There are many different on-screen keyboards available for various operating systems. Microsoft Windows offers its own on-screen keyboard. Another example that works with Windows versions from Vista, prior to Windows 8, is Reach Interface Author™. For Macintosh systems, there is a series of products called Keystrokes by Assistive Ware. For Linux users, there is an Onboard Virtual Keyboard. CentOS and Ubuntu operating systems also have their own built-in on-screen keyboards.

7.2 Voice Recognition Software

Voice Recognition Software is another way of entering text without the use of a standard keyboard. Dragon Naturally Speaking has versions that work with Windows Vista, 7 and Windows 8. The Macintosh version of this software is Dragon Dictate.

7.3 Add-On 2-Switch Option

The 2-Switch shown in Figure 7-1 is an option for the Jouse+ that allows you to enter two different keyboard characters via switches (e.g., mouth-controlled switches) that may be mounted on the base of the Jouse+ joystick. This can improve the way in which you use applications, on-screen keyboards, etc. The 2-Switch can be preprogrammed by Compusult Limited for any two keyboard inputs. Various switches and switch mounting hardware can also be provided to suit almost any specified need. An available USB port on your computer is required for each 2-Switch device you use.

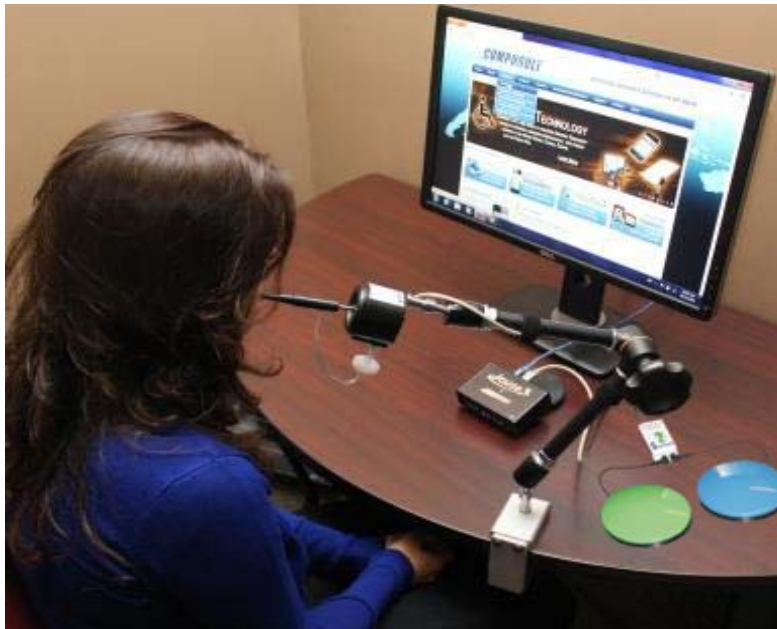


Figure 7-1: 2-Switch Add-On With the Jouse+

7.4 Add-On Mounting Options

The Jouse+'s joystick base can also be used to mount optional equipment such as a microphone (e.g., for speech recognition input and computer control) or a Webcam. For more information on these options, please contact Compusult Limited.

8.0 TROUBLESHOOTING

These are some typical problems that a Jouse+ user could encounter. If this resource doesn't solve your problem, please contact Compusult technical support (See Section 9.0).

Problem	The mouse cursor is not visible on the computer screen or it is visible but won't move.
Solution	The Jouse+ is not connected properly. The cable from the joystick must be connected to the connector labeled Joystick on the Jouse+ control unit. Also, the USB cable must be connected between the Jouse+ control unit and your computer, refer to Section 2.5 for details.
Solution	Your computer may not be set up to support USB. It may be disabled in BIOS or the proper drivers may not be installed.
Problem	The cursor will not move in the direction you want it to go.
Solution	The joystick must be oriented correctly. That is, the instruction label on the joystick must be on the top.
Problem	Cursor movement is too slow or too fast.
Solution	Adjust the computer's cursor speed. Please note that this is an operating system setting, not the SPEED setting on the Jouse+. Refer to Section 4.2.8 for details.
Problem	You cannot puff fast enough to produce a double-click.
Solution	Adjust your computer's double-click rate. Refer to Section 4.2.9 for details.
Problem	Producing sips and puffs requires too much or too little air pressure.
Solution	Sip/puff sensitivity refers to the amount of air pressure required to produce sips and puffs. Adjust the center potentiometer on the front of the Jouse+ unit (refer to Figure 4-5), using a small flat-head screwdriver. Turn clockwise to increase the sip/puff sensitivity, requiring less air pressure to produce sips and puffs. Turn counter-clockwise to decrease sensitivity, requiring more air pressure to produce sips/puffs.

- Problem** Jouse+ does not turn on when using an iPhone or iPad.
- Solution** The iPhone or iPad may be low have a low battery level. In this case, the device may have entered a low power mode where it limits the amount of power going to the ports and therefore the Jouse+ cannot turn on. Charge the iPhone or iPad.
- Problem** When you sip & puff to click, it does not operate properly.
- Solution** Try changing the air filter, refer to Appendix B - CLEANING THE JOUSE+. If the air filter has been in use for a very long time or a lot of moisture is used during the sip and puff process, it is possible that it could be clogged.
- Solution** Check the dip switches to ensure they are in the correct position (refer to Section). DIP switches 7 and 8 can be used to enable/disable the sip and/or puff capability of the Jouse+.
- Problem** The pointer sometimes drifts down slowly.
- Solution** It is possible that the drift issue is related to the cabling arrangement connecting the Jouse+ joystick to the electronics. Sometimes, if there is not enough slack in the cabling, especially where the air tubing is connected to the mouthpiece, the mouse cursor action can be adversely affected. Please check this and ensure that the air tubing is not pulling on the joystick mouthpiece and that the tubing is slack at that location.
- Solution** Ensure nothing is pressing down on the joystick.
- Solution** Ensure that any other connected mouse is not in use.
- Problem** The Jouse+ did not start up properly.
- Solution** At startup, if everything initializes correctly, the Jouse+ plays a series of tones (if the volume is up) and the two LED indicators flash amber off and on for about two seconds, then change to green momentarily and then go off completely. The unit is now ready to be used. If this does not happen, check Table 4-1 for the other status conditions that may have occurred at startup.
- Solution** Try disconnecting and reconnecting the USB cable on the Jouse+ to reset the device.

- Solution** Ensure that the beige joystick cable is connected before the USB cable is plugged into the computer. The Jouse+ gets power from the USB cable and all other connections need to be in place before it is powered on.
- Solution** Test the Jouse+ in another USB port that you know is working correctly. It is sometimes possible that a USB port may be defective or problematic and you should verify this using another device to eliminate that possibility.
- Problem** The cursor is moving around the screen after I've stop deflecting the joystick.
- Solution** You may have Alternative Mouse Movement Mode enabled. Check the position of DIP switch 4. It should be in the down position if you do not want this feature enabled.

9.0 TECHNICAL SUPPORT

Please feel free to contact Compusult Limited at any time regarding problems installing or using your Jouse+. Please ensure that you indicate you are calling regarding the Jouse+. Our contact information is as follows:

Compusult Limited
40 Bannister Street
P.O. Box 1000
Mount Pearl, NL, Canada
A1N 3C9

Toll-free (U.S. and Canada): 1-888-745-7914
Telephone: +1 709-745-7914
Fax: +1 709-745-7927

E-mail: info@jouse.com
WWW: <http://www.jouse.com> OR <http://www.compusult.com>

Appendix A

Jouse+ Instruction Sheet

Appendix A: Jouse Instructions

	User			On/Off		w Key
	Jouse			Exit Mode		a Key
	Sip			Control Key		s Key
	Puff			Shift Key		d Key
	Right-Click			Joystick Up		e Key
	Left-Click			Joystick Down		LED Output
	Scroll Wheel			Joystick Right		Left Movement
	Enter Key			Joystick Left		Right Movement
	Spacebar Key			Jouse Control Unit		Mouse Movement
	Esc Key			Switch Enabled Device		Left Mouse Movement
	Extended Time			Switch Enabled Device		Automatic Mouse Movement Mode
	Unavailable			Keyboard		Game Mode
	Dwell Cursor			On-Screen Icon for Scroll Wheel		Drag Cursor Mode
	Left Switch Click			Tab Key		Alternate Switch Input Mode
	Right Switch Click			Latch		External Switch Output Mode

Jouse Instructions

When all DIP switches are in DOWN position.

= (Buttons 1, 2, 3)
 = (Buttons 1, 3, 2)
 = (Buttons 1, 2, 3)
 = (Buttons 1, 3, 2)
 = (Buttons 1, 2, 3)
 = (Buttons 1, 3, 2)

<p>External Switch Output Mode Instructions</p>		User	On/Off			
<p>Drag Mode Instructions</p>		Jouse	Exit Mode			
<p>Alternate Switch Input Mode Instructions</p>		Sip	Control Key			
<p>Game Mode Instructions</p> <p>All Game Modes (1-3)</p>		Puff	Shift Key			
		Right-Click	Joystick Up			
		Left-Click	Joystick Down			
		Scroll Wheel	Joystick Right			
		Enter Key	Joystick Left			
		Spacebar Key	Jouse Control Unit			
		Esc Key	Switch Enabled Device			
		Extended Time (1 second)	Switch Enabled Device			
		Unavailable	Keyboard			
		Dwell Cursor	On-Screen Icon for Scroll Wheel			
		Left Switch Click	Tab Key			
		Right Switch Click	Latch			
				w		w Key
				a		a Key
				s		s Key
				d		d Key
				e		e Key
						LED Output
						Left Movement
						Right Movement
						Mouse Movement
						Left Mouse Movement
						Automatic Mouse Movement Mode
						Game Mode
						Drag Cursor Mode
						Alternate Switch Input Mode
						External Switch Output Mode

Appendix B

Adding an Extension to the Joystick Mounting Arm

Appendix B: ADDING AN EXTENSION TO THE JOYSTICK MOUNTING ARM

If the mouthpiece and sip/puff tube are not easily accessible to the user, you may want to add an optional six-inch extension between the arm and joystick. Before adding the extension, disconnect the USB cable to power-off the Jouse+.

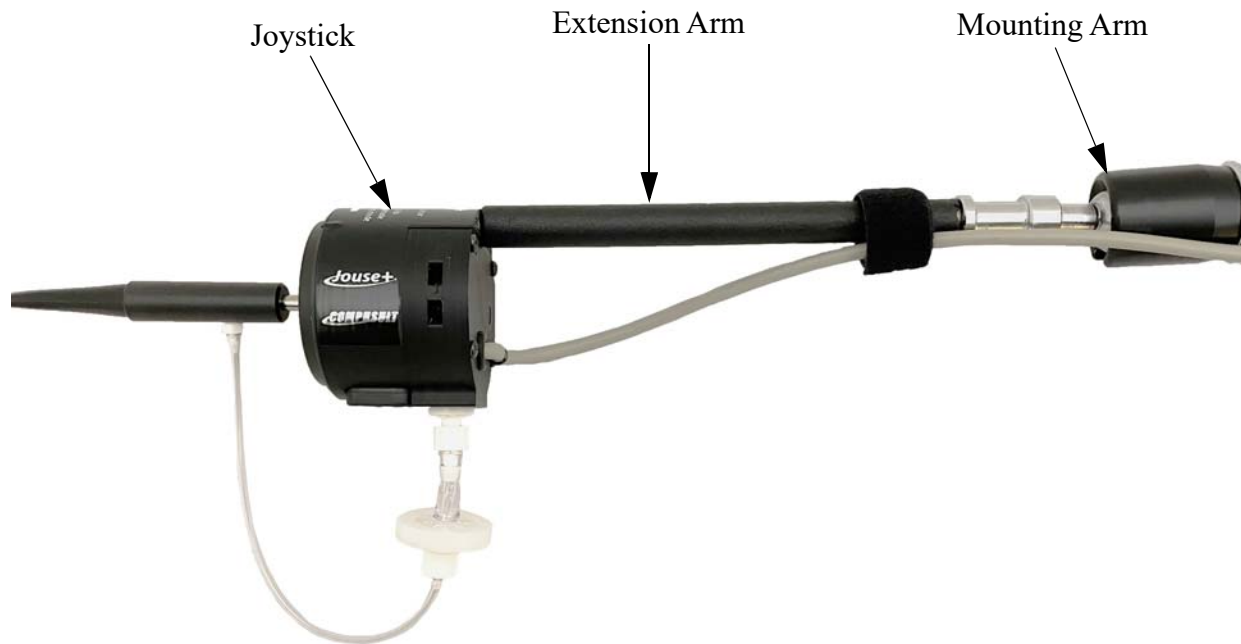


Figure A-1: Adding the Mounting Arm/Joystick Extension

Disconnect the **Joystick** cable from the back of the Control Unit.

Hold the Joystick and turn it counter-clockwise until it is completely detached from the swing-away arm.

When you purchase the optional extension arm, it comes with two washers. Place the regular round washer on the threaded end of the extension. Place the spring washer (the split washer) over the regular washer. Place this end of the extension rod into the silver mounting that is attached to the swing-away arm. Screw the extension into the arm. Place the joystick/mouthpiece on the other end of the extension and screw it onto the extension rod.

Re-connect the cable to the Control Unit.

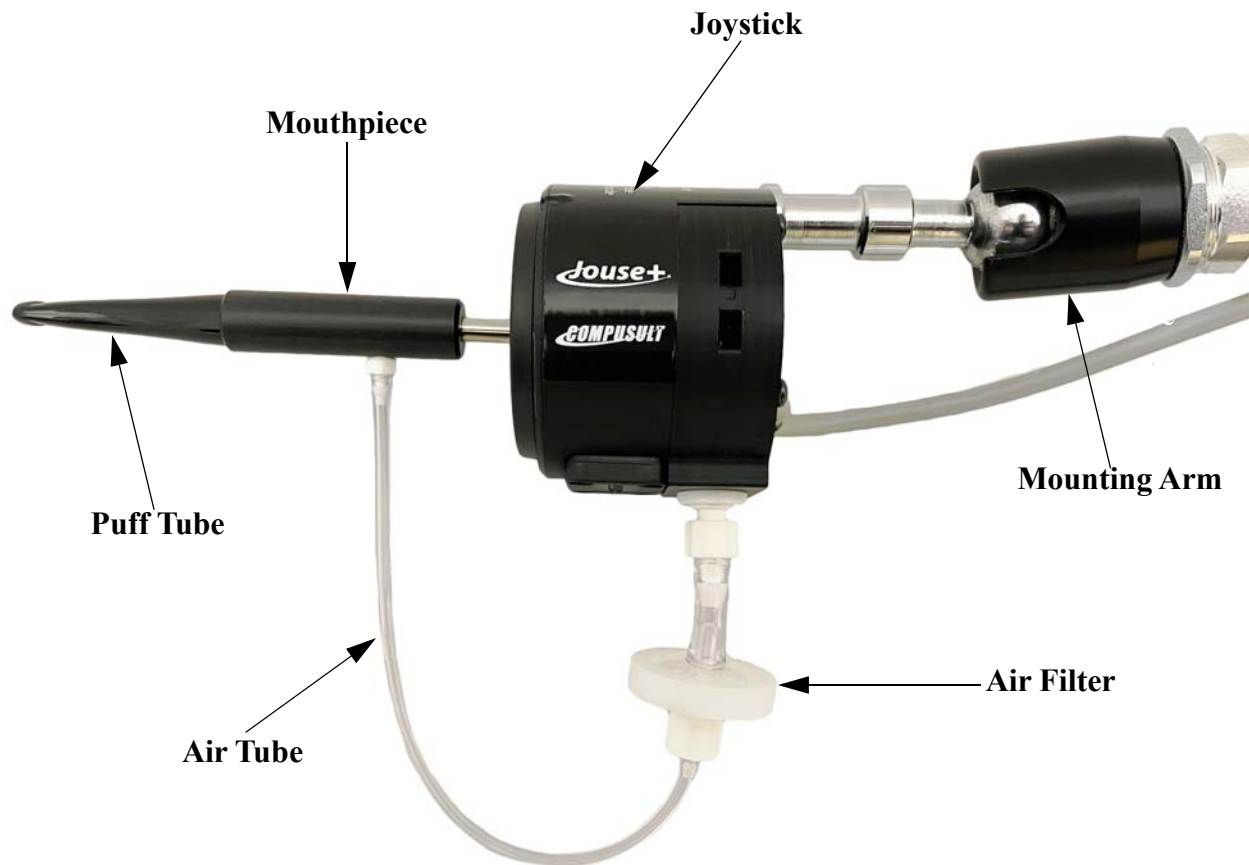
Now adjust the arm and joystick/mouthpiece to suit the person using the Jouse+.

Appendix C

Cleaning the Jouse+

Appendix C: CLEANING THE JOUSE+

The Jouse+ should be cleaned frequently. If more than one person is using the Jouse+, always change the air filter, sip/puff tube and the mouthpiece between users. An additional air filter and several spare sip/puff tubes are included with the accessory pack shipped with the Jouse+. Any air filters you receive from Compusult will always consist of the actual air filter along with an air tube. The multi-user package, which can be purchased at Compusult, contains additional air filters, sip/puff tubes and a mouthpiece.



Follow this procedure to clean the Jouse+:

1. Unscrew the sip/puff tube from the mouthpiece. Either discard it or clean it thoroughly, in warm soapy water.
2. Unscrew the air tube from the mouthpiece.
3. Hold the joystick in one hand and firmly pull the entire mouthpiece off the joystick with your other hand. A twisting motion may help.

4. Wash the mouthpiece in warm soapy water. It can also be autoclaved, pasteurized or disinfected in a solution. Ensure that all parts are dried completely before putting them back on the Jouse+ arm.

If you are replacing the mouthpiece with a new one, all you have to do is push the new mouthpiece onto the joystick shaft, connect the air-tube cable and insert the sip/puff tube, as described below.

1. When the mouthpiece is clean and dry, push it back on the joystick shaft as far as it will go. Ensure that the short air tube connector is lined up on the mouthpiece so that it is pointing down.
2. Place a new or thoroughly cleaned sip/puff tube into the mouthpiece. If using the threaded mouthpieces, screw it into the mouthpiece. If using one of the disposable tubes, push it firmly all the way into the mouthpiece until it will not go in any farther. If you cannot make the disposable tube fit tightly into the mouthpiece, discard it and use another one.
3. Connect the air tube to the mouthpiece.

To replace the air filter: Note: The air filter will always consist of the air filter and the air tube.

1. Unscrew the short air tube from the mouthpiece.
2. Unscrew the air filter from the joystick.
3. Screw the new air filter into the joystick.
4. Screw the air tube into the mouthpiece.

There is no set time that the air filter should be replaced. It depends on the duration of use and how much moisture is going into the air tube.