

Beam™



(Button switch not included)

Wireless Transmitter
For HeadMouse® Extreme and Swifty™

ORIGIN INSTRUMENTS CORP.



ELECTROMAGNETIC INTERFERENCE CONSIDERATIONS

Products bearing the CE marking have been tested and are declared by Origin Instruments Corporation of 854 Greenview Drive, Grand Prairie, Texas 75050, USA to be in conformity with the following standards or other normative documents and following the provisions of the Electromagnetic Compatibility Directive, 89/336/EEC:

- EN 55022 Class B Emissions (Radiated Emission)
- EN 61000-4-2, Electrostatic Discharge Immunity
- EN 61000-4-3, Radiated Immunity
- EN 61000-4-4, Fast Transient

Origin Instruments Corporation has tested the Beam and found that it complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

If this product is suspected of causing interference to a radio or television receiver, remove and apply power to the equipment and determine whether it is the cause of the disturbance. If a problem exists, the user is encouraged to try and correct the problem by one of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and the receiver.
3. Reorient the equipment cables.
4. Consult the dealer or Origin Instruments for additional suggestions.

Origin Instruments is not responsible for any problems caused by unauthorized modification of this equipment. Information in this document is subject to change without notice and does not represent a commitment on the part of Origin Instruments Corporation.

APPLICATION DISCLAIMER

The Beam is designed to provide excellent performance in most environments. However, it should not be used in an application where personal injury or property loss could occur if the product fails. **Origin Instruments products are *not* authorized for use as surgical aids or as part of a system intended to support or sustain life.** The user assumes full responsibility for determining the suitability of Beam for the intended application. **Origin Instruments will not be responsible for direct or consequential damages associated with any use of Beam.**

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Beam™

The battery powered Beam transfers the state of up to three normally-open switches directly to the HeadMouse® Extreme or Swifty™. The Beam is an infrared device, but it doesn't require a clear optical path to the HeadMouse or Swifty. The light can bounce off the ceiling, walls and even the user. However, as the batteries discharge Beam may require a more direct and clear line of sight. Always replace the Alkaline AA-cells as a set. With typical use the batteries should last for several months.

When used with the HeadMouse Extreme, adaptive switches emulate the “LEFT”, “RIGHT”, and “MIDDLE” buttons of a standard desktop mouse. When used with an Apple Macintosh, the HeadMouse Extreme uses the “LEFT” input for the primary mouse button and the “RIGHT” input to generate a Control-Click. When used with Swifty the buttons are defined by Swifty or by the software using Swifty.

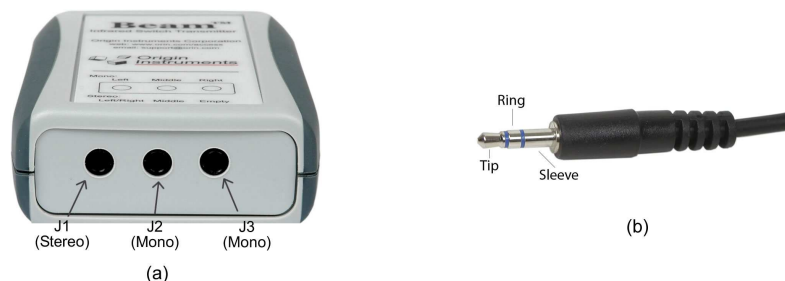


Figure 1. (a) Beam connector panel. (b) 1/8-inch (3.5-mm) Stereo microphone plug. A Mono plug looks the same except it does not have a Ring contact – Sleeve contact extends to the insulator separating it from the Tip.

Beam has three 1/8-inch (3.5-mm) microphone jacks and accepts commonly available adaptive switches. A photograph of the Beam rear panel and a stereo microphone plug are shown in the Figure 1. Mono and stereo plugs can be used in any jack; however, only the J1 socket has the capability to monitor the second button of a dual switch. If a dual button switch is plugged into J2 or J3 only one button will be seen, the other will be ignored.

Beam Questions and Answers

Can I use a dual position (stereo) switch with Beam?

Absolutely. Switch combinations such as Sip/Puff or Left/Right can directly connect using a single stereo cable. Simply plug the stereo cable into J1. This greatly reduces the complexity of cabling. Similarly, if you are integrating two switches into an adaptive mount, we recommend the use of stereo cabling for connection to Beam.

Can I use Beam with HeadMouse and Swifty?

Yes. However, in general you cannot use two Beams with different HeadMouse systems or Swiftys in the same room at the same time.

Must I point the Beam directly at the receiver?

In general light from the receiver will bounce off the walls, ceiling and other things in the immediate vicinity of the Beam and make it to the receiver. Certainly if Swifty is plugged into the back of a computer under a desk a more direct path may be necessary. In this situation one should purchase a Swifty Cable Kit and use the USB extender to remote mount Swifty.

How do I get joystick buttons when using Beam with Swifty?

Even though the label indicates Beam sends mouse buttons it actually just tells Swifty that one or more of the buttons have been switched. Swifty in conjunction with its mode setting determines which buttons it will emulate – mouse, joystick, or keyboard.

How long will the batteries last?

With typical use the batteries should last for several months. However, if you notice intermittent behavior or that a more direct line-of-sight is needed between Beam and the receiver a fresh set of batteries may improve the situation.

Beam Jumper Configuration

By default Beam has the capability to determine if a mono or stereo plug is inserted into J1. If a stereo plug is used, see Figure 1(b), both “Left” and “Right” mouse buttons will be derived from this connector. The “Left” button will come from the Tip and the “Right” button will come from the Ring. If a plug is inserted into J3 the Beam will now use the Tip of J3 as the “Right” button. In all cases the “Middle” button will use the Tip of J2. For all jacks switch common is the Sleeve.

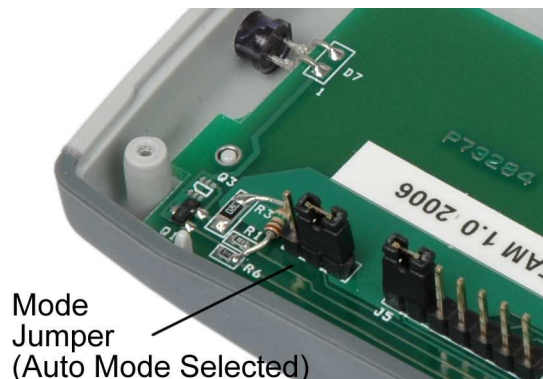


Figure 2. The mode switch or jumper is used to instruct the Beam to automatically determine whether a stereo or mono switch is plugged into J1.

If the mode jumper is positioned as shown in the Figure 2 (factory default) then Beam will automatically determine if a stereo plug is used. If the jumper is in the opposite position shown Beam will work with stereo plugs, but ignore the J1-Ring contact, illustrated in Figure 1(b). This jumper is accessed by removing the four enclosure screws – two are under the battery compartment door.

Please note, by default the Beam automatically determines whether a stereo or mono plug has been inserted in J1. However, there may be times after moving plugs between jacks and changing between mono and stereo plugs that the Beam will temporarily be confused. During these times the Beam may transmit a continuous right button for up to 30-seconds. If this is a problem the internal jumper may be used to configure J1 as a mono jack.

HeadMouse[®] Extreme



The optional HeadMouse Extreme is a precise and efficient head-controlled access device for computers and augmentative communication devices. It mounts on the computer and tracks head position in order to wirelessly control the mouse pointer. Adaptive switches can be connected to HeadMouse directly or wirelessly using Beam.

HeadMouse Features

- Wireless Head-Controlled Mouse Emulator
- Fast and Responsive Cursor Control
- USB Mouse Interface
- Very Low Power
- Light Weight
- Pocket Size
- Built-in Receiver for Beam™

Swifty™



Swifty, the optional adaptive switch interface contains a wireless receiver and can be used with Beam. It accepts industry standard 3.5 mm stereo or mono plugs and directly interfaces up to two adaptive switches to a computer. Swifty is powered from the USB host and does not require external power. Swifty uses standard USB Human Interface Device (HID) drivers and works with Windows, Macintosh and Linux computers, and many AAC devices. When used with Beam up to three switches may be wirelessly interfaced to a computer.

Swifty Features:

- Extremely Low Latency
- 3.5-mm (1/8-inch) Stereo Jack
- Mouse Button Emulation
- Joystick Button Emulation
- Keyboard Emulation
- Full Speed USB Device
- USB Powered
- Weighs ½ – ounce (14 – grams)
- 2– by 0.2– by 0.5–inches (51– by 20– by 13–mm)
- Wireless Switch Input with Beam™
- Works with Windows, Mac and Linux
- Origin Instruments Quality, Reliability and Support



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