LAZEE TEK

Computer Access Technologies

eeZee Mouse™ SWITCH

Operating Instructions

1.0 System Requirements

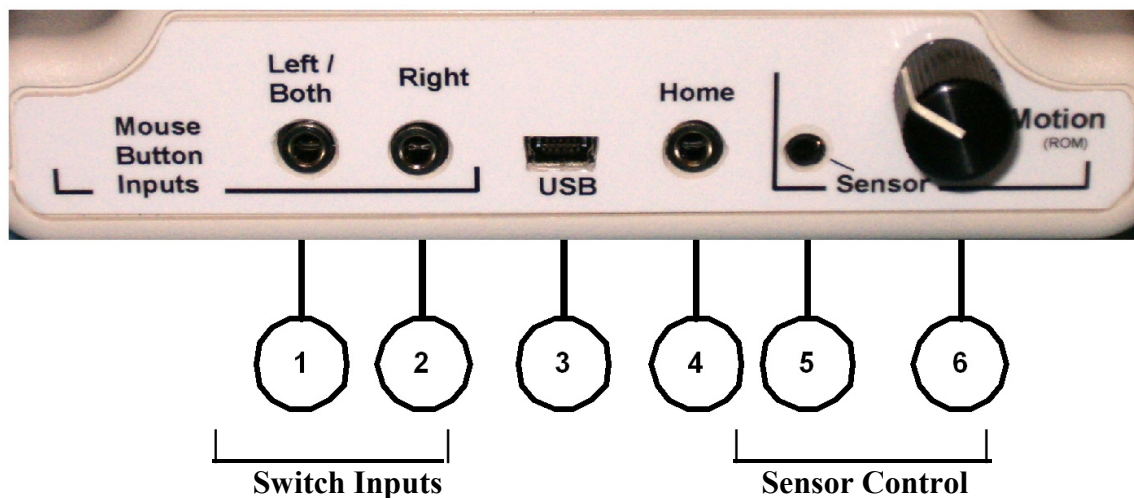**Hardware**: Host computer or other device with powered USB connector & HID Driver

Software: - Microsoft Windows TM: **XP thru 10 & RT**
 - OSX TM 8.0 or above
 - Unix TM / Linux / Other utilizing standardized HID drivers

Compatibility: Can be used at the same time with all other hardware, or click/drag software.
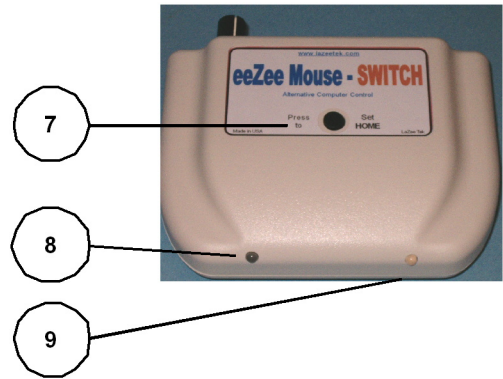
2.0 Controls

Rear Panel

1. **Left/Both** – Left switch input jack. Accepts switch from most manufacturers using standard 3.5 mm plugs. Switch closure to ground activates left mouse button function or both left & right button functions as selected by Click/Drag Option . (see #11)
2. **Right** – Right switch input jack. Accepts switch from most manufacturers using standard 3.5 mm plugs. Switch closure to ground activates left mouse button function.
3. **USB** – USB input connector. Accepts standard USB mini-B cable from the host computer or other device.
4. **Home** – External Home input jack. Accepts switch from most manufacturers using standard 3.5 mm plugs. Switch closure to ground activates Home command. Same functionality as Home button on top of unit.
5. **Sensor** – Body Sensor input jack. Accepts LaZee Tek's Body Sensor cable. This proprietary interface is not compatible with other equipment.
6. **Motion** – Range of Motion (**ROM**) adjustment. The higher the motion setting (CW), the more movement is required of the Body Sensor to achieve the same result.
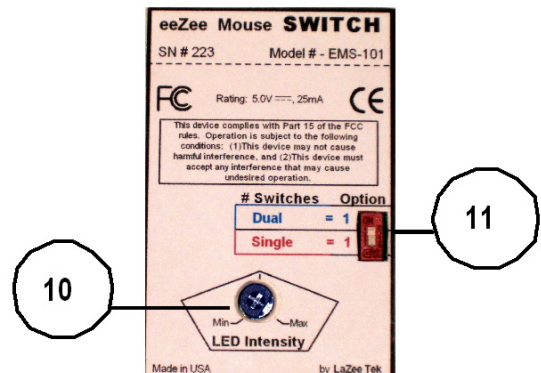
2.0 Controls   -   continued

Front

7. **Home** – Home button sets a new home position for the sensor when activated.

8. **Left Click** – User feedback LED illuminates when left click occurs.

9. **Right Click** – User feedback LED illuminates when right click occurs

As a left or right click is detected, the appropriate LED will blink, indicating that click has been recognized and sent to the host computer. The **LED Intensity** can be adjusted if necessary.

Bottom

10. **LED Intensity** – Controls intensity of the feedback LEDs. Maximum brightness is full clockwise.

11. **Click / Drag Option** – DIP switch selects between two clicking options, allowing the user to select the best clicking function for their use.
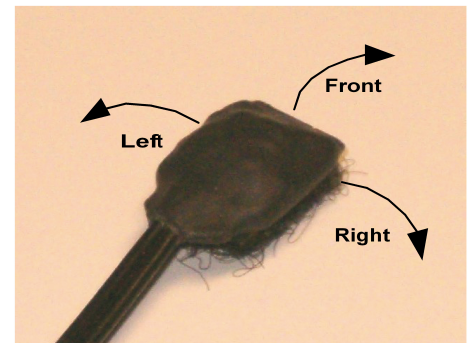
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3.0 Basic Functionality

Body Sensor

The body sensor is used to control the computer cursor. The Body sensor utilizes tilt sensor technology, and provides highly precise signals to control the cursor. It is operated by tilting slightly: forward/backward to control the up/down cursor movements and right/left respectively. A virtual joystick in space. . Because of its tiny size and extremely low weight, it can literally be worn anywhere the user needs it! Any part of the user's body or external fixture can become a joystick.

Most importantly is to <u>attach the sensor firmly</u> to the activating surface
and to <u>support the cable</u> so that it doesn't interfere with sensor travel during operation.

As a starting point, the user selects the "HOME" position. Cursor movement will not occur when the sensor is in this position. The HOME command performs electronic leveling, calibrating the sensor to its present position. This eliminates the need to level the sensor befor use. The HOME position is updated each time the "HOME" button or external home switch is activated.

As the sensor is tilted, it sends signals to move the cursor. Tilting the front of the sensor up moves the cursor up, while tilting the front downward moves the cursor down. Returning it to the home position stops the cursor. Tilting the left side of the sensor downward moves cursor left. Tilting two directions at same time move the cursor diagonally. This provides smooth accurate cursor movements in any direction

Cursor <u>speed</u> is proportional to the degree of sensor tilt. Tilt the sensor very slightly to move the cursor very slowly. Tilting the sensor farther increases the cursor speed until the maximum Motion setting is reached. Moving beyond this will not increase cursor speed any faster.

The "Motion" adjustment sets the Range of Motion (ROM) required for full cursor speed. The ROM is <u>how far the sensor needs to be tilted</u> to move the cursor at full speed. A minimum Motion setting will require the user to move very little in order to achieve full speed. While the "Motion" control selects <u>how far</u> a user must tilt the sensor to reach full speed, the maximum <u>speed setting</u> is set in the mouse properties menu. (4.0 Setup – Step 1)

The tilt sensor is reported to be the most reliable and accurate positioning system ever used in assistive technology computer control. One of its characteristics is that the sensor detects all movements, intentional and not so. When this is understood, the sensor can be installed and operated properly, thus providing the user the best computer control system available.

Refer to our Operational Notes section on the website for detailed explanations of various topics.

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<u>3.0 Basic Functionality</u>   - continued

Button Functions

The eeZee Mouse™ Switch accepts input from one or two external switch(es) to perform click and drag functions. There are two clicking options available to users, controlled by the **Click/Drag Option** DIP switch, located on bottom of unit. Switches can be from any manufacturer using a 3.5mm plug with a normally open configuration. Different styles or types can be used as needed. A dual switch can be utilized with the appropriate adapter cable.

Option 0 provides the user ability to control left and right mouse button functions from a single switch. In this mode, the Left switch input is monitored by the eeZee Mouse™ circuitry. The Right switch input is ignored. The eeZee Mouse™ generates and sends left or right button commands when the left switch is activated. The length of switch closure determines when a left or right button function is generated.
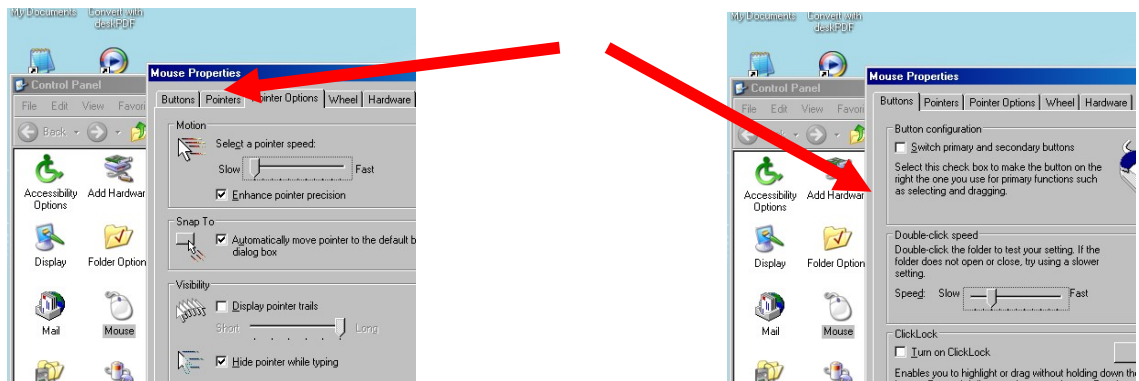   A short closure is defined as less than 1/2 second. A long closure is greater than ¾ of a second.

    i.   One short closure   = single **left** click
    ii. Two short closures = double left click
    iii. One long closure   = **right** click
    iv. Extended closure   = right drag

Option 1 provides the user direct control of both left and right button functions, from the external switches. The eeZee Mouse™ does no processing or decoding of the inputs, and routes both left & right switch inputs directly to the host computer. If controlling only the left button functions is desired, a switch would not be necessary for the right input.

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4.0 Setup

1. On host computer **reduce mouse speed settings to slightly above minimum**. Adjust as needed to match user's proficiency. Good starting point: maximum speed of 5 seconds for cursor to travel from Left to Right side of monitor. Menu located: *Start Menu / Settings / Control Panel / Mouse / Mouse Properties / Pointer Options* . Similar menus are available in other operating systems.

2. **Reduce double-click speed to slow** setting. Menu is located :
   Start Menu / Settings / Control Panel / Mouse / Mouse Properties / Pointer Options .

3. **Enable** "**Click Lock**" function. Same menu as double-click speed. This is very useful when dragging often or for long moves. There are also other options in these menus that can be of great help when using alternative mouse devices. Please take a moment to look them over.

4. Set **LED Intensity** to midpoint. (on bottom of unit)

5. Set the **Click / Drag Option** DIP switch to desired position. (on bottom of unit)

6. Determine appropriate placement of eeZee Mouse™. (New users may prefer to have it in front of them so as to be able to see the feedback LEDs)

7. Position button switches where they are to be used, and connect to appropriate left and right switch inputs. Extension cables may be used if desired.

8. Set Range of Motion (ROM) adjustment to mid point or above, depending on users abilities.

9. Connect the Body Sensor connector to the **Body Sensor** input jack. Position Body Sensor in desired operating position on user's head, foot, or **anywhere in between**!
   a. Body Sensor must be oriented so as the cable exits toward the rear.
   b. Body Sensor must be attached firmly to activating surface.
   c. Attach Body Sensor cable clip to support cable.

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4.0 Setup   - continued

10. If desired, connect switch to external **HOME** input jack.

11. Connect small end of **USB** cable to eeZee Mouse™.

12. Using standard ESD precautions connect large end of USB to host computer.
    a. First time eeZee Mouse™ is connected to computer, it may be recognized as New Hardware. If so, wait several seconds for the "New Device Ready for Use" message.
    b. Ignore cursor movements until Step 2 below.

5.0 Operation

1. With user in normal computer operating position:
   a. Look at the center of the computer screen and keep Body Sensor motionless for ~ 1 second.
   b. Set the HOME position by momentarily activating the HOME function either via external switch or pressing the button on top of eeZee Mouse™.
   c. Tilting the Body Sensor in any direction will now begin cursor movement.
2. Locate cursor and begin operation!
   a. If cursor is off screen, moving in a circular pattern can aid in finding it.
        (Activating the CTRL key can aid in finding a lost cursor, if that option is enabled   in mouse properties menu.)
3. Setting Range of Motion (ROM)   A minimum setting of ROM will generate cursor movement with very little movement of the Body sensor. An ROM setting of maximum will require greater movement of the body sensor to move the cursor. Try different ROM settings until the desired body sensor movement is found. Adjusting the ROM control changes the HOME position. After any ROM adjustment, the HOME position may need to be set again.

4. Mouse maximum speed settings are adjusted by the Mouse menus (Setup step 1) This is the speed the cursor travels at full movement of the body sensor. The body sensor controls are proportional, this setting also indirectly affects the slower speeds as well. It is usually best for new users to begin with the menu settings at or near minimum. Adjust as skill level improves. The Speed settings **Rule of Thumb**: (Walk before Running!)
   a. Reduce Speed If Frustrated or having difficulty controlling the cursor
   b. Increase Speed – Bored and desire faster response
   c. Increase speeds if desired as skill develops.

5. For technical support:
   a. Web: www.lazeetek.com
   b. Email: support@lazeetek.com
   c. Phone: 260 705-0071

6. WEEE Take Back Program

   a. To support the environment, LaZee Tek takes our products back directly from customers. Contact us for details or visit: www.lazeetek.com/html/weee/html

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