

SWITCHES



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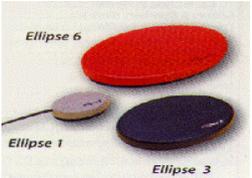
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ABLE Tech

Commonly Used Switches

Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Plate Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated with downward pressure. ▪ Responds to very little pressure w/click (auditory) feedback. 	<ul style="list-style-type: none"> ▪ Most commonly used switch. ▪ Can be used with any body part- feet, head. ▪ Can be covered with different textures. ▪ Available in numerous sizes. ▪ Some available with textures, mirrors, and sound capabilities. ▪ Suction cups provided. 	<p>Don Johnston ABLENET TASH Enabling Devices</p>	<p>\$5 - \$95</p>
<p><u>Vibrating Plate</u></p> 	<ul style="list-style-type: none"> ▪ Activated with downward pressure. ▪ Switch vibrates with pressure. 	<ul style="list-style-type: none"> ▪ Provides tactile feedback when touched. ▪ Can be used alone or as a switch. ▪ Try with very young children or children who have a hearing or visual impairment. ▪ Most models have suction cups. 	<p>Enabling Devices</p>	<p>\$40-55</p>
<p><u>Vertical Plate Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by midline or sideswiping body movements. 	<ul style="list-style-type: none"> ▪ Can be positioned at a 45 or 90 degree angle. ▪ Try with children who use gross body movements - such as athetoid movements. ▪ Try in a side-lying position. ▪ Comes with suction cups. 	<p>Enabling Devices</p>	<p>\$36</p>
<p><u>Rocking Plate Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by light downward pressure on one of the 2 sides. ▪ 2 plate switches attached together – one side operates one toy and the other side operates another toy. 	<ul style="list-style-type: none"> ▪ Try when encouraging choice making. ▪ Try when encouraging cooperative play with 2 children. ▪ Various sizes: 4" x 12" and 1 1/2" x 5". 	<p>Don Johnston TASH Enabling Devices</p>	<p>\$27-\$110</p>

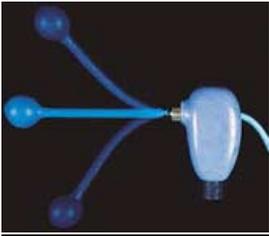
Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Tread Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by depressing the treadle. ▪ Audible “click” & physical feel of spring action provides essential sensory feedback. ▪ Phone plug is used for connection. 	<ul style="list-style-type: none"> ▪ Can be positioned to be used with any part of the body, e.g., head, chin, elbow, hand, knee, foot. 	Zygo	\$60
<p><u>LT Plate/Bass Switch</u></p> 	<ul style="list-style-type: none"> ▪ Large, colorful switches are easy to target. ▪ Activated by downward pressure on the plate. ▪ Provides a “click” for auditory feedback. 	<ul style="list-style-type: none"> ▪ Use with computers or adapted toys. ▪ Stable and extremely durable with a non-skid bottom. ▪ Operation is similar to other plate switches. ▪ Try with children who can touch a plate switch, but do not have the strength to activate one. ▪ Can be used on the floor or a tabletop or mounted. ▪ Meet the visual perception needs of some students. 	Don Johnston	\$48
<p><u>String Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated when string is pulled very lightly. ▪ Provides a “click” for auditory feedback. ▪ For optimal use, switch should be mounted. 	<ul style="list-style-type: none"> ▪ Try with people who have minimal strength and minimal movement. ▪ To use switch, attach another string or cord to the pull cord. ▪ Some have suction cups for easy mounting. 	ABLENET Enabling Devices	\$19-\$26
<p><u>BIGmack</u></p> 	<ul style="list-style-type: none"> ▪ You can create a message in seconds. ▪ A pre-recorded voice message is played at the touch of the switch. 	<ul style="list-style-type: none"> ▪ Perfect for individual with speech difficulties. ▪ Device can greatly enhance an individual’s ability to participate in a group. ▪ Adjustable volume and durable construction. 	ABLENET	\$86

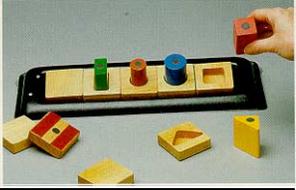
Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Big Red Switch/Jelly Bean Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by light touch anywhere on its surface. ▪ A “click” sounds when activated. ▪ Comes in a variety of bright colors. ▪ Comes with 3 different bases and 3 different sizes. ▪ Round mounting plate available. 	<ul style="list-style-type: none"> ▪ Try with young children with limited motor control. ▪ Try with children who have difficulty grading movements. ▪ No suction cups but can be easily mounted due to pre-drilled holes in base. ▪ Cordless available. 	<p>ABLENET Don Johnston</p>	<p>\$42</p>
<p><u>Petite Pillow Switch</u></p> 	<ul style="list-style-type: none"> ▪ Limited head & limb movement. ▪ Impact is cushioned by foam. ▪ Activated by downward pressure on soft-covered switch. 	<ul style="list-style-type: none"> ▪ Try with children who have difficulty grading their movements. ▪ Cover can be removed for easy washing. 	<p>TASH Enabling Devices</p>	<p>\$28</p>
<p><u>Ellipse Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by light touch anywhere on its surface. ▪ Minimal pressure required. ▪ Provides a “click” for feedback. 	<ul style="list-style-type: none"> ▪ Try with young children with limited motor control or poor movement grading. ▪ Comes in 3 sizes: 2”, 4” and 6” ovals. 	<p>Don Johnston</p>	<p>\$65-\$70</p>
<p><u>Saucer Switch</u></p> 	<ul style="list-style-type: none"> ▪ Ideal for those with limited motor abilities; activated with a light touch. 	<ul style="list-style-type: none"> ▪ Designed especially for individuals who are unable to control or sustain the hand or wrist movements necessary to operate traditional plate switches. ▪ Wireless available. 	<p>Enabling Devices</p>	<p>\$26-\$55</p>

Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Air Cushion Switch/Latch/Timer</u></p> 	<ul style="list-style-type: none"> ▪ Activated by slight pressure at any point on the switch. ▪ Pneumatic switch. 	<ul style="list-style-type: none"> ▪ Pressure required is adjustable. ▪ Try with children who have difficulty grading their movements. 	Enabling Devices	\$41-\$60
<p><u>Oval Texture Switch/Latch/Timer</u></p> 	<ul style="list-style-type: none"> ▪ Provides sonatosensory stimulation. 	<ul style="list-style-type: none"> ▪ Wonderful texture encourages activation. ▪ Can be used as capability switch, music box, and buzzer box. 	Enabling Devices	\$30-\$40
<p><u>Lighted Signal Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by slight pressure. 	<ul style="list-style-type: none"> ▪ Low profile sensitive ▪ Nice texture ▪ Captivating bright light ▪ Popular switch 	Enabling Devices	\$32
<p><u>Photocell Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by any body movement that creates a shadow over electronic photocell. 	<ul style="list-style-type: none"> ▪ Try with young children with limited motor control. 	Crestwood Enabling Devices	\$41-\$75

Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Roller Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by moving wooden roller. ▪ Plays music when operating independently. 	<ul style="list-style-type: none"> ▪ Try with children who use gross body movements. ▪ Can be used alone or as a switch. ▪ Provides auditory feedback (music). ▪ Comes with suction cups. 	Enabling Devices	\$38
<p><u>Pull Switch</u></p> 	<ul style="list-style-type: none"> ▪ Durable switch is activated when ball is pulled or tugged. 	<ul style="list-style-type: none"> ▪ Will stimulate child's ability to grasp objects. 	Enabling Devices	\$29-\$35
<p><u>Vertical Wobble Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by swiping or mid-line motion, then returns to original position when released. ▪ Switch comes on a base in a vertical position. 	<ul style="list-style-type: none"> ▪ Try with children who use random or athetoid-like movements. ▪ Small target area – can build up activation area. 	Enabling Devices	\$57-\$76
<p><u>Wobble Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by swiping or gross body movements touching the switch. ▪ Switch comes on a flexible gooseneck. 	<ul style="list-style-type: none"> ▪ Try with children who use random or athetoid-like movements. ▪ Small target area – can build up activation area. 	Enabling Devices	\$76

Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Pinch Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by light pinching or squeezing motion. 	<ul style="list-style-type: none"> ▪ Try with children with good fine motor control. ▪ Two-finger operation reinforces prehension skills. ▪ Surface mount for one finger operation. 	Enabling Devices	\$36-\$95
<p><u>Grip and Puff Switch/Latch/Timer</u></p> 	<ul style="list-style-type: none"> ▪ Pneumatic switch is activated with slight grasp on the grip. ▪ Becomes puff switch when grip removed. 	<ul style="list-style-type: none"> ▪ Needed pressure can be adjusted minimally. 	TASH Enabling Devices	\$65-\$100
<p><u>Sip 'N Puff Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by sipping or puffing on flexible vinyl straw. ▪ Needs to be mounted to work well. 	<ul style="list-style-type: none"> ▪ Amount of air pressure required can be minimally adjusted. ▪ Use sterile mouthpieces from dentist. ▪ Useful when other switches are exhausted. ▪ Excellent for post-operative patients, or with severe physical impairments. 	TASH Enabling Devices	\$43-\$235

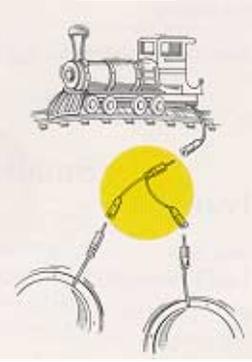
Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Tilt Switch</u></p> 	<ul style="list-style-type: none"> ▪ Gravity sensitive switch. ▪ Activated when tilted beyond a certain point/angle. 	<ul style="list-style-type: none"> ▪ Attaches easily with velcro to barrettes, sweat bands, and baseball caps. ▪ Can be attached to body parts other than the head. ▪ Can be adjusted for tilt sensitivity. ▪ Can be used for posture training. 	TASH Crestwood	\$22-\$60
<p><u>Leaf Switch</u></p> 	<ul style="list-style-type: none"> ▪ Flexible switch that is activated when bent in either direction and will activate any adapted toys or devices. ▪ Activated by low force body movements. 	<ul style="list-style-type: none"> ▪ Requires mounting – either homemade or commercial. ▪ Switch can be built-up to increase activation area. Some have tactile/auditory feedback. ▪ Try with children who have limited motor control or poor movement grading. ▪ Comes in different lengths. ▪ Ideal for grasping skills. 	TASH Enabling Devices	\$30-\$100
<p><u>Voice or Sound Activated Switch</u></p> 	<ul style="list-style-type: none"> ▪ Activated by voice or sounds (1-2 seconds). ▪ Sensitivity control allows adjustment of needed loudness. ▪ Can be set in “latch” mode. 	<ul style="list-style-type: none"> ▪ Try when eliciting vocalizations. ▪ Try when working to improve breath control. ▪ Extraneous sound can interfere. ▪ Can respond to whisper or loud clap. 	Enabling Devices	\$98
<p><u>Ultimate Switch</u></p> 	<ul style="list-style-type: none"> ▪ Can be used by profoundly challenged or neuro-logically impaired individual. ▪ Requires light touch for activation. ▪ Can withstand abuse of gross body movements or severe blows. 	<ul style="list-style-type: none"> ▪ Comes with gooseneck and universal clamp to mount on wheelchairs, tables, etc. 	Enabling Devices	\$49-\$75

Name	Movement Required	Suggestions/Comments	Vendors	Price
<p><u>Foot Switch</u></p> 	<ul style="list-style-type: none"> ▪ Easy to operate switch activates with light touch of foot. 	<ul style="list-style-type: none"> ▪ Durable. 	Enabling Devices	\$35
<p><u>Finger Isolation Button</u></p> 	<ul style="list-style-type: none"> ▪ Recessed button encourages isolated touch. 	<ul style="list-style-type: none"> ▪ Designed to help individuals gain the motor skills necessary for computer keyboarding. 	Enabling Devices	\$32
<p><u>Interchangeable Music Puzzle Switch - 1</u></p> 	<ul style="list-style-type: none"> ▪ Puzzle has removable blocks, which allows user to progressively increase skills required to complete task. ▪ Start with one shape and any four blank blocks and build up to five distinct shapes. When task is completed, music plays. 	<ul style="list-style-type: none"> ▪ Shift or rotate blocks to teach spatial relations, form constancy and mental imagery. ▪ Ideal for developing cognitive skills in children and adults. 	Enabling Devices	\$69
<p><u>Interchangeable Music Puzzle Butterfly Switch -2</u></p> 	<ul style="list-style-type: none"> ▪ This butterfly puzzle is equipped with removable blocks that accommodate four differently shaped and colored pegs. ▪ As each peg is correctly inserted into its corresponding block, a string of lights on the butterfly's wings start flashing. When all the pegs are successfully put in place, music plays and the butterfly's eyes light up. 	<ul style="list-style-type: none"> ▪ Shift or rotate blocks to teach spatial relations, form constancy and mental imagery. ▪ Ideal for developing cognitive skills in children and adults. 	Enabling Devices	\$69

Name	Movement Required	Suggestions/Comments	Vendors	Price
<p>Multisensory Motivational Center</p> 	<ul style="list-style-type: none"> ▪ Cause and effect center with 3 different toys and switch pads. ▪ Pads give visual and tactile cues and toys provide auditory, visual, and somatosensory stimulation. 	<ul style="list-style-type: none"> ▪ Enhances self-esteem and confidence as the individual learns to effect his environment. 	<p>Enabling Devices</p>	<p>\$161</p>
<p>Switch Mounting Systems</p> 	<ul style="list-style-type: none"> ▪ Places switch in virtually any position. ▪ Ball joints provide flexibility and adaptability. 	<ul style="list-style-type: none"> ▪ Attaches to wheelchairs, tables, etc. ▪ Strong and stable. ▪ A switch is not useful if it is not placed correctly. 	<p>Enabling Devices ABLENET Don Johnston</p>	<p>\$88-\$200</p>

Overview of Commonly Used Switch Interfaces

Name	What Action It Modified	Suggestions	Vendors	Price
<p><u>Switch Latch and/or Timer</u></p> 	<ul style="list-style-type: none"> ▪ When connected between a device and a switch, this module turns device/toy first on with a switch activation and off with the second. 	<ul style="list-style-type: none"> ▪ Try with children who have difficulty maintaining switch closure indefinitely or who have difficulty deactivating switch closure. ▪ Try with devices with a slow start-up (i.e. radio). ▪ Makes the device as a reinforcer more powerful. ▪ Provides greater independence. ▪ More accurately imitates real life. 	<p> ABLENET Don Johnston TASH Crestwood Enabling Devices </p>	<p>\$25-\$150</p>
<p><u>Remote Control Unit Multi Appliance Unit with Remote Control</u></p> 	<ul style="list-style-type: none"> ▪ Enables an electrical device to be activated without being directly near object. 	<ul style="list-style-type: none"> ▪ Can operate devices without being near them. ▪ Turns devices on and off like the on/off module. 	<p> Enabling Devices Radio Shack TASH </p>	<p>\$25-\$200</p>

Name	What Action It Modified	Suggestions	Vendors	Price
<p><u>Environmental Control Unit</u></p> 	<ul style="list-style-type: none"> ▪ Enables A/C electrical devices to be activated by a switch. ▪ Plugs into wall socket and then connects between switch and A/C device. 	<ul style="list-style-type: none"> ▪ Allows children to participate in age-appropriate and functional activities. ▪ Allows child to have control over devices in their world. ▪ Some units have timers or on/off modules built-in. 	<p>ABLENET Don Johnston Reach Enabling Devices</p>	<p>\$100-\$200</p>
<p><u>Series Adapter or “Y” Adapter</u></p> 	<ul style="list-style-type: none"> ▪ Connects 2 switches to 1 device. Both switches must be activated to operate device. 	<ul style="list-style-type: none"> ▪ Encourages problem –solving and cooperative interaction between 2 children. ▪ 2 different switches can be used so children with varying abilities can play together. 	<p>Enabling Devices ABLENET TASH</p>	<p>\$12-\$35</p>
<p><u>Battery Interrupter or Battery Adapter</u></p> 	<ul style="list-style-type: none"> ▪ Enables a battery-operated device to be activated by a switch. ▪ Copper head fits snugly into battery compartment. 	<ul style="list-style-type: none"> ▪ Non-permanent way to adapt a battery-operated device. ▪ Sometimes difficult to use- often slips out of moving devices or the battery compartment is too tight to fit one in. ▪ Available in “AA” or “C/D” size. 	<p>Enabling Devices ABLENET Don Johnston</p>	<p>\$6-\$12</p>
<p><u>All Adapters or Pigtail Adapters</u></p> 	<ul style="list-style-type: none"> ▪ Easily converts switch plugs. 	<ul style="list-style-type: none"> ▪ Adapters connect incompatible plug and sock sizes. 	<p>Enabling Devices ABLENET</p>	<p>\$5-\$10</p>

Electronic & Mechanical Switches

Electronic switches do not require pressure for activation. Instead, users activate the switch by moving an object or body part within the set range of the switch. No fine motor skills are required. In contrast to electronic switch components, mechanical switches rely upon a moving part for switch activation. Direct pressure is also required to activate a mechanical switch. Adaptive Switch Labs has coined the term "NEAR SWITCHES" for electronic switches since you just need to get near the switch to activate it. Many times a person with a disability will not be able to consistently operate a mechanical switch, but will be able to operate an electronic switch for this very reason.

Electronic switches require either a 12 or 24 volt power supply. Users can obtain power from the powerchair batteries, smaller rechargeable battery packs or from 110 volt/12 or 24 volt wall plug adapters. They can be used individually or combined with various other switches, both mechanical and electronic, to meet the user's specific switch access requirements.

Name	What Action It Modified	Suggestions	Vendors	Price
<p><u>SCATIR Switch</u></p> 	<ul style="list-style-type: none"> ▪ Detecting a beam of reflected pulsed infrared light. ▪ Suitable for use with a variety of control gestures, including eye-blink, eyebrow movement, finger movement, head movement, and facial muscle movement. ▪ Can be activated at a distance as it works on an optical principal. 	<ul style="list-style-type: none"> ▪ The Self-Calibrating Auditory Tone Infrared (SCATIR) Switch is an experimental multipurpose momentary-contact optical switch w/auditory feedback designed for those who experience difficulty in activating mechanical switches. ▪ The controlling body part need not be in physical contact with the switch sensor. ▪ Dimensions are 2.5 cm x 6 cm x 9.5 cm. 	<p>Artificial Language Laboratory, Michigan State University</p>	<p>\$285</p>
<p><u>Infrared Sensor and Sound Sensor</u></p> 	<ul style="list-style-type: none"> ▪ Infrared Sensor operates by emitting a very low-powered infrared beam. When a surface in front of the beam reflects enough of the light back to the receiver, the IST closes a relay, which acts as a switch. 	<ul style="list-style-type: none"> ▪ A sound sensor (inset) detects a slight vocalization of breath. 	<p>Words+</p>	<p>\$100</p>

Name	What Action It Modified	Suggestions	Vendors	Price
<p><u>InfraredSound/Touch (IST) Switch</u></p> 	<ul style="list-style-type: none"> Sensors allow the user to operate a variety of communication devices and software with virtually any kind of body motion. 	<ul style="list-style-type: none"> Can be used with any kind of body motion, such as: eye movement, eye blink, chin, finger, toe, head, eyebrow, arm, shoulder, or foot movement or even a slight vocalization of breath. 	Words+	\$195
<p><u>Touch Sensor</u></p> 	<ul style="list-style-type: none"> The Touch Sensor uses a small metal button to detect skin contact. The slightest touch using any part of the body can be detected, so no force is required to activate the switch. 	<ul style="list-style-type: none"> Place these on or under a tray for a wheelchair user. 	Words+	\$100

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