

## **BASIC ELECTRONIC AIDS TO DAILY LIVING**

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Electronic Aids to Daily Living (EADLs) control devices in the environment using an alternative method to provide independent control for persons with physical, sensory and/or cognitive impairments. Basic EADLs provide limited control of battery operated or simple electrical devices (on/off or limited infrared control) through switch access. Multifunction EADLs provide control of multiple electrical devices (i.e. Television) and functions (i.e. Volume Up) through a variety of access methods (i.e. Direct, Switch, or Voice).

#### How does this technology work?

To operate a battery powered device, such as a toy, a switch is connected to the device which essentially completes the battery connection upon activation. Some battery devices are pre-adapted and include a switch jack, others require a battery device adaptor (not all devices can be activated with a battery device adaptor, for example toys that are activated by pressing the “paw”, rather than turning on a switch by the battery). Activating the switch completes the connection and power is provided to the device. Switch activation must be sustained to continue device operation. This can help to develop Cause and Effect concepts, however many clients have difficulty sustaining switch activation.

Some battery powered devices are controlled through infrared (IR) using a remote control. Some basic EADLs can learn and send these IR signals. The device does not have to be adapted.






These Basic EADLs provide Intermittent switch control of battery operated devices. Depending on the Basic EADL used, various control modes are available. Direct (or Momentary) Mode requires a sustained switch activation. In Latch mode, the first switch activation turns the device on and the second activation turns the device off. In Timed Mode, a switch activation turns the device on for a programmed amount of time, generally 1-60 seconds or 1-60 minutes. The device then turns off and another switch activation is required to start up the device again. Any type of switch placed in any location which provides independent control for an individual client can be used.

#### Why is this technology important?

Many people with cognitive, sensory and/or motor limitations have difficulty manipulating toys and other objects for play. Play is more than just recreation; play provides independence as well as participation and socialization with others. Object manipulation develops critical developmental concepts such as Cause and Effect, Object Permanence, and Stop and Go. Object manipulation is also important for development of vision and visual perception. Finally, use of this technology can help to prepare a client to use more sophisticated assistive technology in the future. For example, use of a Switch Latch and Timer or PowerLink develops scanning concepts and skills: switch activation, waiting, anticipation, timing and accuracy (using Timed Mode).

AbleNet, Inc.	800-322-0956	<a href="http://www.ablenetinc.com">www.ablenetinc.com</a>
Adaptivation	800-723-2783	<a href="http://www.adaptivation.com">www.adaptivation.com</a>
Enabling Devices	800-832-8697	<a href="http://www.enablingdevices.com">www.enablingdevices.com</a>
RJ Cooper	800-752-6673	<a href="http://www.rjcooper.com">www.rjcooper.com</a>






## BASIC ELECTRONIC AIDS TO DAILY LIVING – Battery Operated Devices

NAME	PHOTO	CONTROL MODE				SWITCH INPUT	SWITCH OUTPUT	COST	PROD. #	DIMENSIONS	COMMENTS
		Direct	Latch	TimeSec	TimeMin						
Jelly Beamer with SLAT Big Beamer with SLAT AbleNet		X	X	0-60	0-60	1	1	\$219	100-34000 100-33700		Wireless switch. Has external switch jack, as well, if switch surface is not the ideal switch for an individual.
LinkSwitch Adaptivation		X	X	1-60	1-60	1-2	1-2	\$99	DLT-202	3 x 4.5 x 2.5	Can use with 1-2 switches to control 1-2 devices to develop discriminated Cause and Effect or allow parallel play. Switches not included.  Media Mode can be used through a “Swiftly” for switch access to digital book players and computer media
Switch Modifier Enabling Devices		X	X	0-120	n/a	1	1	\$78.95	605	4.5 x 2.5 x 1	Intention mode (adjusts activation time 0-15 seconds to accommodate for tremor).
Digital Switch Timer RJ Cooper		X	n/a	X	n/a	1	1	\$129	H-70		Hold Down Timed mode for mechanical battery operated devices. Other modes allow control of digital devices – devices that have an electronic power button (i.e. CD player). Switch not included.
Scan-5 RJ Cooper		X				1-2	5	\$199	H-68		Visual and auditory scan (recorded voice), Auto and Step Scan

### Control of simple electrical devices

Basic EADLs can also provide switch control of simple electrical devices. The advantages of doing so are similar to the advantages of controlling battery devices. Electrical devices do not require batteries which can be an additional advantage – no unused technology simply because the batteries died! Also, a wide array of electrical devices can be controlled, making it easier to make tasks more age appropriate for teens and adults. The electrical device must turn on and off when plugged into a standard outlet. For example, if a fan is turned on at the control knob and then plugged into the wall, it will begin spinning. However, if a CD player is turned on and then plugged in, it will not begin to play. Why? Because the power button is electronic and requires power to be activated. This type of technology must be adapted a different way. RJ Cooper and Enabling Devices have a variety of electrical devices that have been adapted for direct switch control, including DVD Players, CD Players and more.

### **BASIC ELECTRONIC AIDS TO DAILY LIVING – Simple Electrical Devices**

NAME	PHOTO	CONTROL MODE				SWITCH INPUT	SWITCH OUTPUT	COST	PROD. #	DIMENSIONS	COMMENTS
		Direct	Latch	TimeSec	TimeMin						
PowerLink 4 Control Unit AbleNet		X	X	0-60	0-60	2	4	\$239	100-10701	9 x 5.5 x 2.25	up to 1700 watts total remote switch access with Jelly Beamer (optional)
FreeHand Adaptation		X	X	1-60	1-60	1	1	\$155	FH-ME	3.5 x 3.5 x 2.25	Includes X10 radio transceiver module and battery
1-Switch Single-Appliance Unit Enabling Devices		X	X			1	1	\$133.95	1490	3 x 2.5 x 2	Remote, 20 foot range. Includes 1 X-10 radio transreceiver. up to 600 watts
Light & Appliance Controls & Accessory Enabling Devices			X			1	4	\$179.95	591	4.5 x 2.5 x 1	Includes 2 X-10 receivers. 2 more \$89.95. Inverse Scan
Basic Appliance Controls Enabling Devices			X			8 buttons	4	\$307.95	592	12.5x8x3	Includes 4 remote AC wall mounted X-10 receivers





### Control of simple infrared controlled devices

Typically control of devices that receive Infrared (IR) signals is done through a Multifunction EADL system. This provides more complete control and through a wider array of access methods. However, some clients do not require this level of control and benefit from a simpler and less costly option. Some of these Basic EADLs are controlled directly through large buttons and some by switch. Control has been simplified on most of these EADLs to accommodate cognitive limitations.

Home audiovisual systems can be quite complex these days. More than one remote control may be required to control the TV (often Power and Volume controls are on the TV remote, but Channel controls are on the Cable remote). Also, some audiovisual equipment remote controls send both IR and Radio Frequency (RF) signals. These Basic EADLs cannot learn or send RF signals and so will not be able to execute those functions controlled by RF.

Some individual devices are switch adapted, including CD Players, MP3 Players and DVD Players. Many of these can be found at Enabling Devices and RJ Cooper.

### **BASIC ELECTRONIC AIDS TO DAILY LIVING – Simple Infrared Control**

NAME	PHOTO	SWITCH INPUT	SWITCH OUTPUT	COST	PROD. #	DIMENSIONS	COMMENTS
Relax AbleNet		Direct or 1 switch	None  IR output	\$400.00	10000020	7.36 x 2.91 x 1.06	8 programmable IR commands, adjustable scanning speed
TV Remote Control Enabling Devices		direct or 5 switches	None  IR output	\$210.95	1521	15.75 x 10.5 x 3.5	2" buttons or any 5 switches to control power, channels, volume  Several versions available  IR commands are pre-stored. This device may not be able to control all functions if TV and Cable signals are required.
TV Remote Module Enabling Devices		1-5 switches	None  IR output	\$128.95	5150	10 x 4 x 2.5	switch for each desired function: power, volume up, volume down, channel up, channel down.  IR commands are pre-stored. This device may not be able to control all functions if TV and Cable signals are required.
TV Remote RJ Cooper		1 switch	None  IR output	\$99.00	H-68-TV		Requires Scan-5 \$199 (H-68). Controls power, volume up, volume down, channel up, channel down.  Power and Volume buttons control the TV, Channel buttons control cable/satellite box channels.