

Guide to Smart Homes and Environmental Controls

Environmental Controls

For some individuals accessing devices around the home can be difficult or even impossible. However there are technologies available that enable wider access to many of the activities which we undertake within the home. This can include anything from opening doors and windows to controlling our home entertainment systems or using the telephone.

Making devices or activities within the home more accessible does not necessary mean a large expense for the user. Some minor adjustments can be easily undertaken at relatively low cost. For example, light switches can be replaced with infra-red controlled switches and then turned on/off using a remote control; a wireless door intercom and camera can easily be installed to assist in answering a door remotely.

Low tech options can also be considered such as an extended handle for a window to bring it within reach.

Where more significant user needs are required solutions need to be thought out more carefully as time spent looking at all the requirements and possible solutions can avoid unnecessary mistakes in purchasing unsuitable technologies.

Environmental Control Devices



Door openers

These openers can be installed on most doors up to 36 inches wide and weighing up to 90 pounds. The unit works on doors that swing in or out to

the right or to the left. The user can remotely open/close the door using a fob or switch. Basic features include fail safe operation to allow the door to be opened and closed during a power outage



Window openers

Window openers can fit most windows, aluminium, wood, etc. They can be controlled in the same way that a door opener can.



Curtain opener

Small motor attached to the curtain rail that opens and closes the curtains.

TV and Music

Alternative remote controls can be used to interact with appliances for leisure time such as watching the TV, listening to music or playing on a games console.

Security and Safety

Security is an important consideration in that it increases an individual's feeling of comfort and confidence within their own home. Automatic openers can be fitted to external doors or gates, which can then be controlled remotely, using a fob or switch.

Heating and Lighting

Heating can be regulated and timed to suit the users activities. Lighting can be remotely control without the need to use a light switch.

Telephone

Infra Red telephones allow the user to make and receive calls using an infra red transmitter. This is similar to the way in which a TV remote control allows viewers to control a TV.

Mobile Phones: With the arrival of smart phones and associated apps, it is possible for an individual to make/receive calls using voice control and/or touch screen. Many have built-in screen readers and screen magnifiers, making telephone access much easier for many.

Wheelchair Controllers

Powered mobility controls such as joysticks controllers can be used for both controlling the power wheelchair itself and other technologies, such as TVs, computers and communication devices. The majority of power wheelchairs can be adapted to allow for this control. This may require changing the joystick or adding an additional module.

Dynamic DX2 Rem55

The DX2 is a new generation of DX Modules made by Dynamic controls. The joystick can drive the chair, activate seat and light functions or control an external device such as an environmental control system or communication device.

Genie (Unique Perspectives)

The Genie joystick can be fitted to any wheelchair that is fitted with a Dynamic Controls DX system. It replaces the existing wheelchair joystick, and allows the user to control driving, seat positioning and other activities such as: using a computer mobile phone and an environmental or communication device.

Genie Plus (Unique Perspectives)

The Genie+ also can be fitted to any wheelchair that is fitted with a Dynamic Controls DX system. The difference between itself and the Genie is that it is used in combination with an alternative input device such as the Finger Steering Control, Head Array, Five Switch Interface or Sip and Puff switch. It is typically used when an individual finds it difficult to use a standard joystick. Like the Genie it will enable integrated control of wheelchair driving, PC access and control of connected devices such as a mobile phone, environmental control or communication device.

Omni Specialty Control Interface

The Omni is a wheelchair controller with a large colour display. It can be used with various inputs devices such as switches or a joystick. Like the other wheelchair controllers as well as being able to drive, the Omni enables a user to have access to PC control, environmental controls or control of an AAC device. The main difference between this wheelchair controller and the others is that it connects into the PG Drives Technology R-net system and the environmental transmitter is built into it. The content and order of the menus are all customizable.

Environmental Control Transmitters

The controller or transmitter is the most important part of any environmental control setup as this is the interface or the method that the user will control all their appliances from. They vary in complexity, portability, access method

of control (touch screen, switch selection, voice) and their features. A sample of controllers is shown below.

Control Omni

This device can be accessed directly by the touch screen or by a scanning menu via switches. Can be customised around the user and their home devices.



Housemate Lite

The Housemate Lite is a more basic device with button controls rather than a touchscreen. An overlay can slide between the cover to display custom symbols. Can also be used with switches. Has auditory feedback feature.



L5 Remote for iPad iPhone and iPod Touch

The L5 is an accessory that can be used with Apple's portable devices to provide infra-red control of appliances. Like the other remote control options IR signals can be copied from other remotes and menus customised.



Power wheelchair controllers and Environmental Controls

Wheelchair Controllers

Powered mobility controls such as joysticks controllers can be used for both controlling the power wheelchair itself and other technologies, such as TVs, computers and communication devices. The majority of power wheelchairs can be adapted to allow for this control. This may require changing the joystick or adding an additional module. Below are details of a number of popular wheelchair controllers.

Dynamic DX2 Rem55

The DX2 is a new generation of DX Modules made by Dynamic controls. The joystick can drive the chair, activate seat and light functions or control an external device such as an environmental control system or communication device.

Genie (Unique Perspectives)

The Genie joystick can be fitted to any wheelchair that is fitted with a Dynamic Controls DX system. It replaces the existing wheelchair joystick, and allows the user to control driving, seat positioning and other activities such as: using a computer mobile phone and an environmental or communication device.

Genie Plus (Unique Perspectives)

The Genie+ also can be fitted to any wheelchair that is fitted with a Dynamic Controls DX system. The difference between Genie+ and the Genie is that it is used in combination with an alternative input device such as the Finger Steering Control, Head Array, Five Switch Interface or Sip and Puff switch. It is typically used when an individual finds it difficult to use a standard joystick. Like the Genie it will enable integrated control of wheelchair driving, PC access and control of connected devices such as a mobile phone, environmental control or communication device.

You can find out more about integrated wheelchair controllers by visiting our e learning site - www.enableirelandat.com.

Omni Specialty Control Interface

The Omni is a wheelchair controller with a large colour display. It can be used with various inputs devices such as switches or a joystick. Like the other wheelchair controllers as well as being able to drive, the Omni enables a user to have access to PC control, environmental controls or control of an AAC device. The main difference between this wheelchair controller and the others is that it connects into the PG Drives Technology R-net system and the environmental transmitter is built into it. The content and order of the menus are all customizable.

Further information for Smart Homes and Environmental Controls

Videos/slides

<http://www.youtube.com/watch?v=6KemTUwrplg>

http://www.slideshare.net/BrianDillon/environmental-control-2487173?from=ss_embed

<http://www.environmentalcontrols.ie/take-the-tour/>

Exhibitions and Conferences

<http://www.rehacare.de/>

<http://www.naidex.co.uk/>

<http://www.communicationmatters.org.uk>

<http://www.aaate.net/>

<http://www.raate.org.uk/>

Other useful websites

<http://www.crc.ie/pdfs/ecuguide.pdf>

<http://www.smarthomes.ie/>

<http://www.abledata.com/>

Suppliers and Installers

Ideal Technology

Unit 9 Block A

Redleaf Business Park,

Turvey Avenue,

Donabate,

Co. Dublin

Tel +353-1-8403345

<http://www.davecarthy.com/>

Odel (Ireland)

1 Hillview Terrace,

Dromore St

Banbridge

Co Down

N.Ireland,

BT32 4DH

p: (028) 40 628349

<http://www.odel.co.uk>

EnvironmentalControls.ie

Sean O Donnell
P.J. O Donnell & Son Electrical Ltd
29 Park Lawn
Clontarf
Dublin 3
Tel: 01 8334513
or

Brain Dillon, Unique Perspectives Ltd.
Callan
Kilkenny
Ireland
Tel: 056 7725913

Environmental Controls supplier websites

<http://www.possum.co.uk/products.htm>
<http://assistive.technology.proteor.com>
<http://www.gewa.se/english/english.html>
<http://www.ablenetinc.com/>
<http://www.qedonline.co.uk>

Contact Details

National Assistive Technology Training Centre, Enable Ireland, Sandymount Avenue, Sandymount, Dublin 4.

Tel: 01 2184100 E-mail: at@enableireland.ie

[Visit our e learning portal www.enableirelandat.com](http://www.enableirelandat.com)