

TechnoTalk

The TASC Newsletter

Volume 12 Number 2

February 2004

Editorial

Hello and welcome to this month's edition of TechnoTalk. This month we focus on the Wise:DX system. Margot gives an overview of this innovative system that allows a person to drive their powered chair with a joystick, switches or other types of controllers.

TASC was fortunate enough to have Collin Clayton, inventor of the Wise:DX, from Great Ormond St, London visit The Spastic Centre. Collin took the Wise:DX system through it's paces with the TASC team.

This is my last editorial as Jo Ford returns to the helm in a few weeks. So until next time, happy reading.

Colin Slattery.



by Margot Lilley

Wise:DX

A system for customized powered mobility options and integrating assistive technology options

In 2003 TASC was delighted to have Collin Clayton from Great Ormond Street, London to come and explain, demonstrate, and train us in the use of the Wise:DX system that he designed.

The Wise:DX is a system that can be added to a powered wheelchair with a "Dynamics" electronic system to enable a person to drive with a joystick, switches or alternative specialty controller, and also control over devices such as a computer or household appliances using the same access method (eg. joystick, switches).



A standard "Dynamics" joystick controller



A variety of joysticks are available that can be used that act as a 4 or 5-way switch



"Secondary" controllers can be added that enable alternative access methods. For example using a single finger

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A single switch



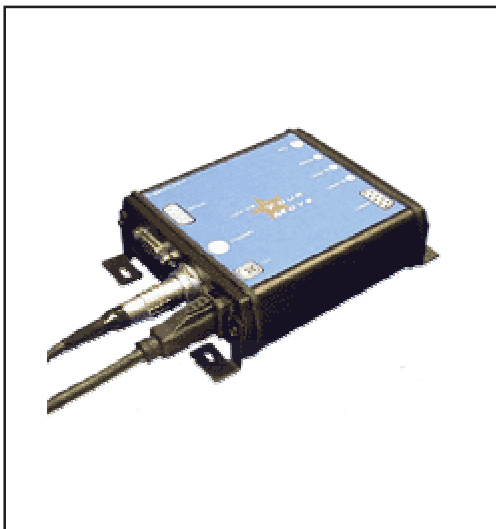
Up to a maximum of 6 switches

The Wise:DX system is extremely adaptable and can be altered over time to meet a person's changing needs, often without any need to change the electronic set-up. The large degree of flexibility within the Wise:DX system is a dream come true for anyone working with assistive technology. The system was designed to be operated jointly by rehabilitation/health professionals and their clients.

The Wise:DX system comprises two parts:

1. The Wise:DX hardware

- o Main Unit –
 - can be attached anywhere on the wheelchair that is safe and secure
- o Display box -
 - Has directional lights and also a small display (up to 8 characters) to provide a visual prompt of where the system is at any moment in time
 - Needs to be placed where the individual can see it for day-to-day use
 - Encompasses a 'trainable' infrared environmental control system (GEWA Prog III), which can be programmed with up to 161 appliance control commands



Main Unit



Display Box

2. 'wiseUP' software

The 'wiseUP' software can be installed on a PC Computer and the set-up viewed using an onscreen simulator. It can be designed from scratch by an individual or by using the step-by-step guide for assistance. This is a great feature as it gives the individual, and their assistive technology professionals involved, an idea of the set-up prior to downloading the file into the Wise:DX hardware attached to the wheelchair.

Features that can be designed through the software include:

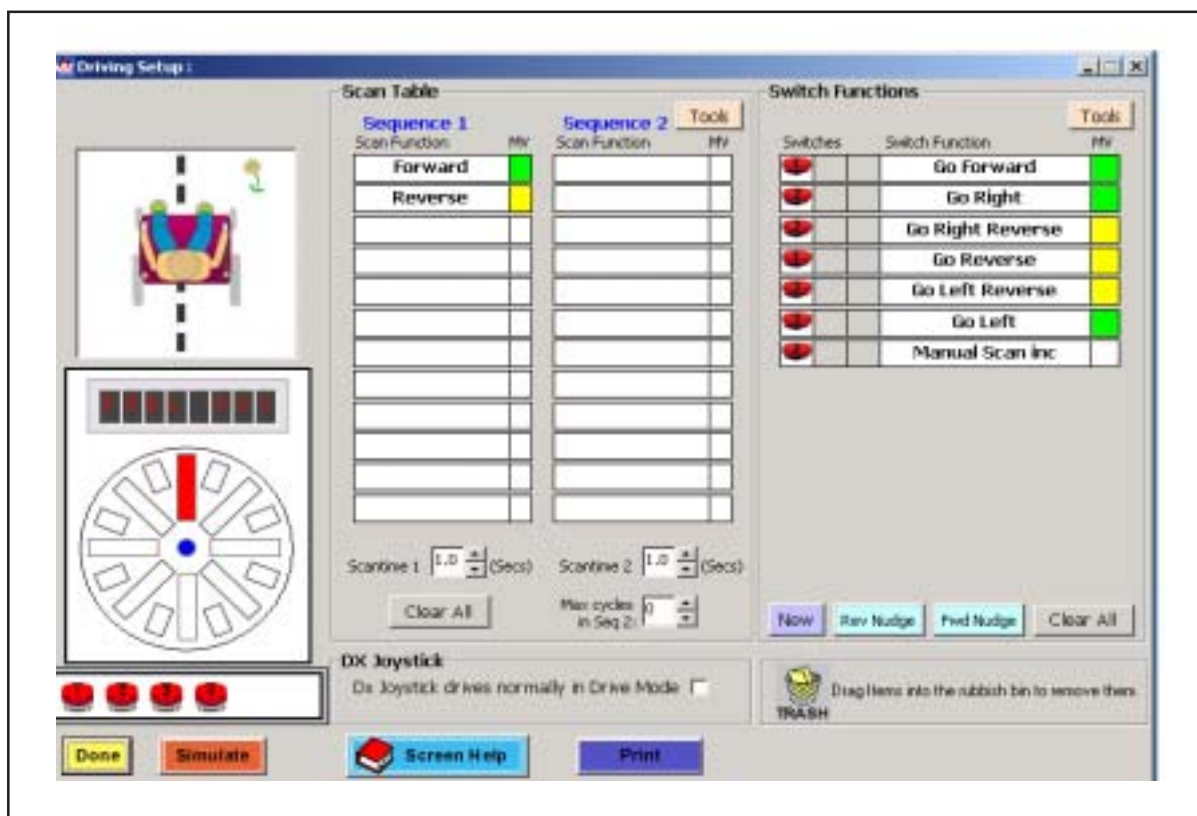
- **The manner in which an individual controls his/her powered mobility**

For example: If a person is using a single switch to drive their power wheelchair they could set the Wise:DX display box to scan through in a preset cycle of directions (by the display lights). The cycle could begin with the directions frequently used, followed by the directions they use less frequently, such as:

Forward, right veer, left veer, right left, forward, right veer, left veer, right left, reverse.

This cycle is repeated until a direction is selected by hitting the switch. Once the switch is released the wheelchair stops, and the preset scanning cycle begins again, and so on.

The system allows the user to customise their driving sequence and scanning speed, in order to optimize the efficiency of their power mobility driving. This example is only one of many almost infinite options of sequences that can be designed. The picture shown below is taken from the driving set-up mode on the wiseUP software package. It is a set-up often utilized by a 3-switch head array system user.



Pictures sourced from www.wisedx.com

- **What other devices will be accessed**

Common devices that can be accessed through the Wise:DX system include a communication device, remote control of a computer and environmental control system.

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Directional lights on the display box are used to indicate when a person can move from their “drive” mode into their “non-drive” mode. The non-drive mode can be customized to include options to change the speed, access an environmental control system, a communication device and/or the computer depending on what they wish to select.

How other devices will be accessed

The software enables you to individualise the system to match the person’s needs and abilities, which may vary due to changing physical abilities and/or skill development.

For example, an individual may access their communication device with a single switch, their environmental control using 2-switch step scanning and the computer using a joystick.

Various beep noises are available with the software that can be added to a sequence to assist the user to distinguish between different directions or functions of devices. This can assist individuals who prefer to use auditory, rather than a visual, prompt whilst driving.

Who is the system not recommended for:

The Wise:DX system is not suitable for everyone and is not recommended for:

- Individuals who do not use powered mobility
- Individuals who use a standard joystick, but do not want to access other equipment using the same joystick

Things to consider before launching into an integrated system:

There are a lot of things to think about when assessing the appropriateness of an individual for an integrated system. It is essential to discuss with an individual their preference on how they would like their system set-up before even considering trialling an integrated system. Integration is only one possible solution NOT the ONLY solution.

An individual may choose not to integrate their system because they:

- Have concerns that control of all devices would be eliminated if the integrated system failed
- Need to access their devices from a number of different locations (eg. manual wheelchair indoors, power wheelchair for outdoor mobility and when lying in bed)
- May have concerns regarding the cognitive load of learning and using an integrated system
- May not feel that the cost is justifiable

Summary

The Wise:Dx system is very flexible and adaptable in dealing with the specific needs of an extensive range of individuals with a variety of needs. The configuration can be altered to be used with a variety of powered mobility controller and specialty controller / access options. These controllers can also be utilized to access other devices, such as an environmental control system, communication device and/or computer.

Further information can be viewed on the wise:DX website at www.wisedx.com; Spectronics Website at www.spectronicsinoz.com or contact TASC Consultants on (02) 9972 8183.

We welcome any feedback, good or bad, that you have on our service.

Please feel free to contact us by phone on

02 9972 8183, email at <tasc@tscnsw.org.au> or in writing at the address on the front page.

TechnoTalk is published monthly and costs \$27.50 (GST \$2.50 incl) for the 11 issues per year.