



 Spectronics *Expertly supporting your choice*

## The Big W"Eye"d World of Eye Gaze Technology

 Spectronics *Expertly supporting your choice*


**Katie Lyon**  
Speech Language Pathologist and AAC Consultant  
Spectronics Inclusive Learning Technologies

**Charlene Cullen**  
Speech Language Pathologist and AAC Consultant  
Spectronics Inclusive Learning Technologies

 Spectronics *Expertly supporting your choice*

### How does it work?

- Reflecting invisible infrared light into the eye
- Recording the reflection pattern with a sensor system
- This is then shown on a computer monitor

 Spectronics *Expertly supporting your choice*

### A brief History of Eye Gaze

- Last 5 years has seen BIG improvements
- No longer need a specific type of tracking for different eyes
- Can be used in more environments
- Without the need to recalibrate constantly
- Can now be used with:
  - Glasses, contact lenses
  - Head movements
  - One eye


Spectronics *Expertly supporting your choice*

## Who is it suitable for?

- People with significant physical disabilities
  - Cerebral Palsy
  - Motor Neurone Disease
  - Multiple Sclerosis
  - Quadriplegic

Spectronics *Expertly supporting your choice*

## Dynavox Vmax with Eyemax

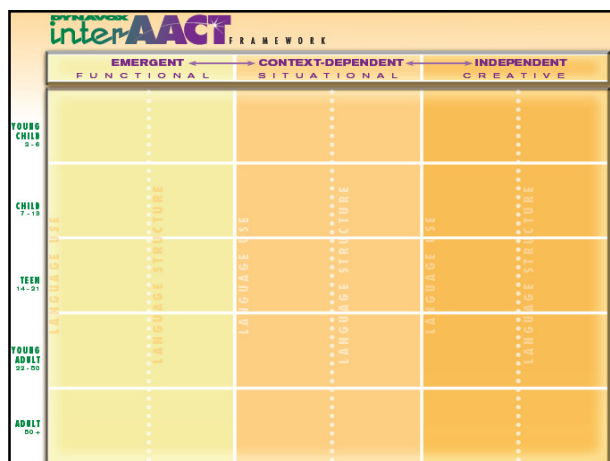


Spectronics *Expertly supporting your choice*



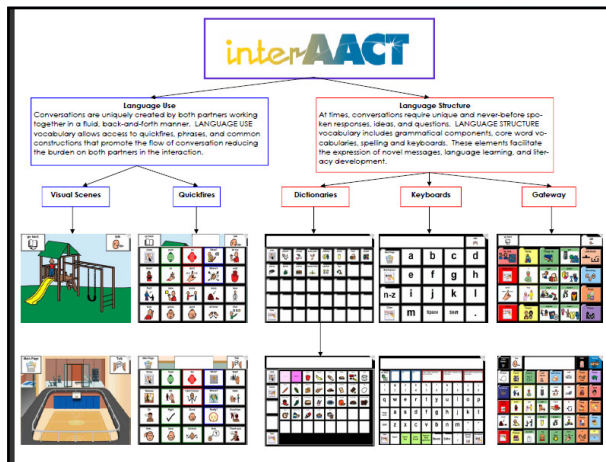
## Connections to our world

- **Email** -free DynaVox account with every device plus a variety of pre-programmed email pages
- **Computer access** –integrated or with Access IT
- Control of your environment - ECU
- **Text messaging** via Bluetooth



**Spectronics** *Expertly supporting your choice*

- **Language Use**
  - Relies on conversational messages that are designed to **encourage interaction**
  - It focuses on interaction, conversation, quick messages and messages that are based on pre-programmed phrases and sentences
  - Allows the ability to maintain and manage the flow of a conversation
- **Language Structure**
  - **Building blocks** for developing higher level language skills
  - Includes **grammatical components** that are designed for **language and literacy learning**
  - Allows **composition of novel messages** for either spoken or written communication
  - Keyboards, core word vocabularies and dictionaries



**Spectronics** *Expertly supporting your choice*

### My Tobii P10

- Size of screen
- No internal battery
- Web Browser/Music and video player

The image shows the Tobii P10, a large-format monitor with a silver stand. The screen displays a user interface with a green abstract background, a search bar, and several icons for navigation and application control.

**Spectronics** *Expertly supporting your choice*

### Tobii C12 with Ceye


### Tobii C15 with Ceye

The image shows the Tobii C12 or C15, a smaller monitor with a silver stand. The screen displays a user interface with a grid of icons and a search bar, similar to the P10 but with a different layout.

Spectronics *Expertly supporting your choice*

## Tobii (VS) Communicator 4

- Included on the C12 and C15 with CEye



Spectronics *Expertly supporting your choice*

## Sono Suite



Spectronics *Expertly supporting your choice*

## What to consider when choosing an eye-gaze system

- Does the system track one or both eyes?
- How sensitive is the system to head movement?
- The calibration process
- Is the eye-gaze system integrated into the device or is it an add on to a standard computer?
- What communication packages can you use with the device?
- Can the device be mounted onto a wheelchair?
- How portable is the device?
- How is the device charged/battery/plug?
- How well does the system cope with glasses or contacts
- Cost

Najafi, Friday & Robertson, 2008

Spectronics *Expertly supporting your choice*

## Comparison Chart


- Available from our website

[www.spectronicsinoz.com/article/eyegaze-system-comparison-chart](http://www.spectronicsinoz.com/article/eyegaze-system-comparison-chart)

Spectronics *Expertly supporting your choice*


## Harry

- Single head switch
- Row/column scanning
- Slow!!!
- Tiring!



Spectronics *Expertly supporting your choice*


- Received an Eyemax in January 2010



Spectronics *Expertly supporting your choice*

## Outcomes


- “At his cousin’s birthday on the weekend I looked over and saw him chatting and laughing away. I walked across and heard that he was really involved in conversation with the group about an AFL footballer – and he had started the conversation! People were amazed as it’s the first time we have seen Harry initiate a conversation.”

 Spectronics *Expertly supporting your choice*

---

## Outcomes

- Easier to talk with his mates in real time
- Increased efficiency at completing school work and answering his teachers in class
- More motivated to use his device

 Spectronics *Expertly supporting your choice*

---

## Additional Resources and Support

- [www.pagesetcentral.com](http://www.pagesetcentral.com)
- [www.dynavoxtech.com](http://www.dynavoxtech.com)