

What's New in Low Vision Technology

Robert McGillivray
Certified Low Vision Therapist
The Carroll Center f/t Blind
Mass Commission f/t Blind

Traditional CCTV Video Magnifiers



- Increased reading speed
- Increased duration
- Reduced visual effort
- Comfortable working position

- Desktop systems
- Variable Magnification
- Color, W/B, B/W
- Large Field of View
- Options



Desktop Video Magnifiers Integrated LCD Displays

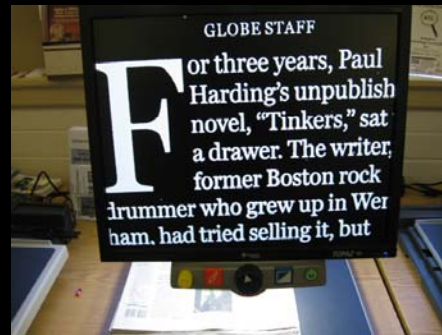
- Available from all major vendors
- Sizes: 17" to 24" + with WS
- Adjustable height screens
- High contrast
- Flicker free
- Improved response rates
- Well received by consumers

Integrated LCD Systems

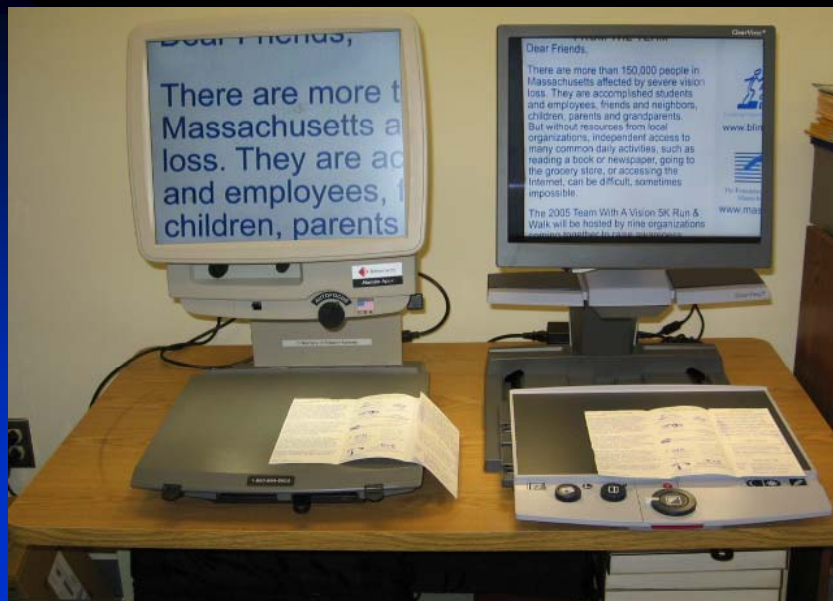


Video Magnification Systems

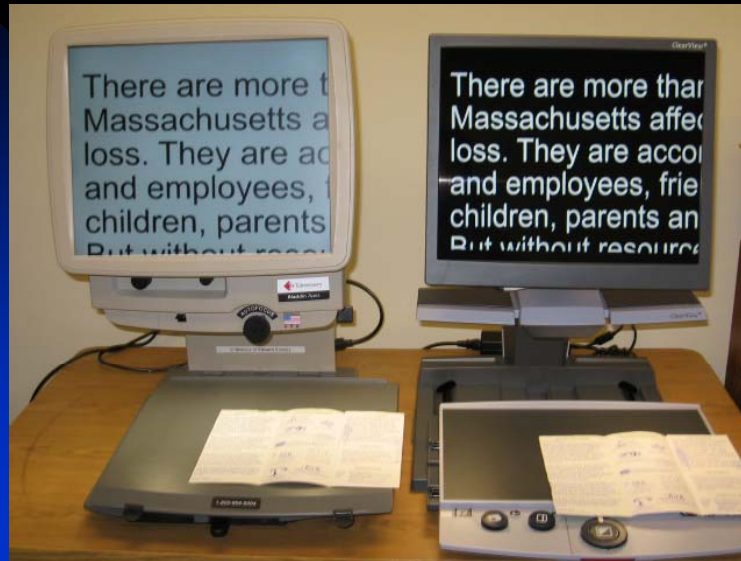
- Variable Magnification
- Adjustable brightness
- Selectable contrast setting
- Wide field of view for better viewing abilities



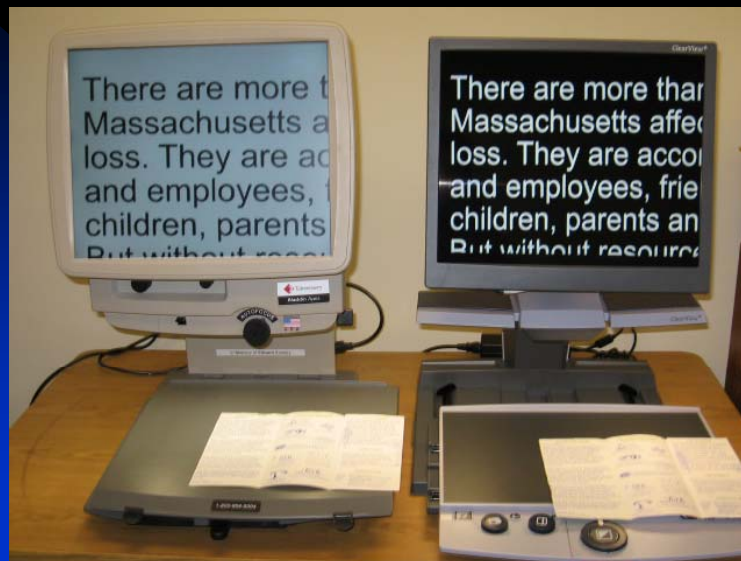
Magnification



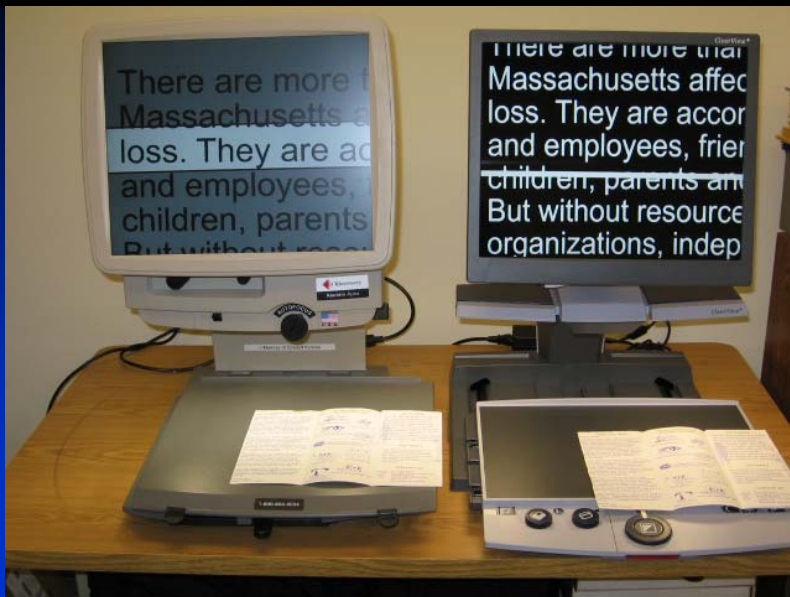
Brightness



Contrast



Windowing and underlining



Portable Video Magnifiers

- More Compact, 7-inch screens
- Extensive reading tasks
- Two handed use

- Optelec Traveller
- FS Sapphire
- EV Amigo

Compact Video Magnifiers:

- Variable Magnification
- Replaceable Batteries
- Longer battery life
- Image Freeze
- Color Select
- Light off mode: for reading cell phones, other displays
- Writing Cameras
- Distance Viewing
- Smaller Designs

Compact/Pocket Video Magnifiers

- Advantages
 - ◆ Wide field of view
 - ◆ Image at display level
 - ◆ Use at arms-length
 - ◆ Reverse contrast available
 - ◆ Cell phone, PDA displays!
 - ◆ Short-term writing tasks
 - ◆ Kids reading comic books under the blanket



Compact systems with distance capabilities

- Near and distance capabilities
- Read mail, products on a shelf and get a better view of distance object.
- Allows users to see an object that is at distance close up on the screen
- Limited clarity and magnification at a distance

GW Micro SenseView Duo



- Two cameras
- Stores up to 20 images
- 3X to 13X magnification
- Lights off mode
- Image panning
- 7 Viewing modes, 4 Brightness levels
- 4.5 hour battery life, integrated, rechargeable
- Cost: \$1299.00

Ash Technology Quicklook Focus



“Classroom” Desktop Video Magnifiers

Features

- Full Size screen
- Full Features
- Remote Controllable
- Near and Distance Viewing
- For Classroom, Conference or In-Service Training Activities
- Transportable “Luggable”
- AC or optional battery

Vision Technology: VIEW



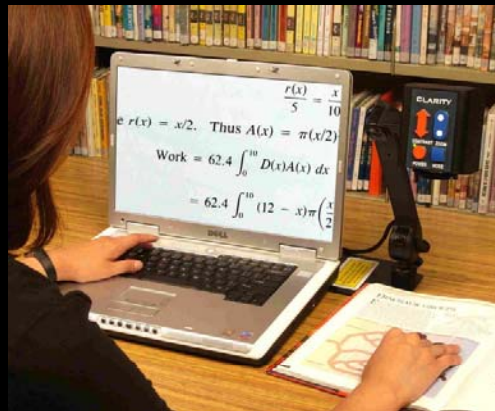
Enhanced Vision Acrobat LCD



Onyx Deskset

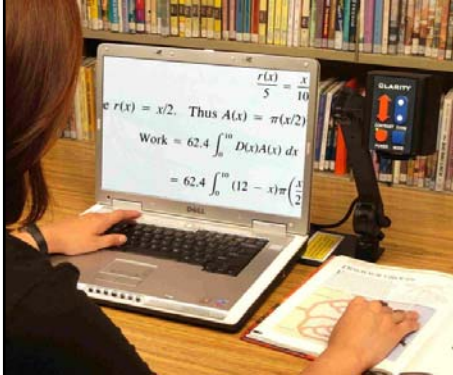


Laptop Compatible Video Magnifiers



- Most students use laptop computers
- Video magnification could be helpful
- Portable camera using notebook display

Clarity PCMate



- Powered by USB
- Requires 2 USB 2 ports
 - ◆ Sequence, setup
- Remote control camera
- Keyboard controlled software

Optelec ClearNote



- Ease of camera aiming
- Built in Light source
- Camera control positioning
- Keyboard controlled software
- Keyboard controlled camera
- Dolphin, ZoomText compatible

Freedom Scientific Onyx PC Edition



- Swing arm and flex arm models
- Remote control
- MAGic with EyeMerge software included
- Camera can be powered by USB port
- Distance, desktop, self view modes
- Cost: \$2895.00

Specialty Video Magnifiers

- Flipper
- Shoppa

Headborne Low Vision System



- Eyetonomy SightMate LV920
- www.vuzix.com/medical/lv920.html
- Zoom at near: 3X optical, 4X digital
- Zoom at distance: 0.5X to 6X
- Edge contrasting, Inverse mode
- Sleek design, 8 ounces
- \$3499.00
- Not yet available for purchase or review



Vision and Speech Output

Scan and Read Devices

- Kurzweil 1000 (software)
- ABiSee Zoom-Ex, EyePal Vision (portable, Solo)
- FS Pearl (laptop compatible)
- KNFB Reader (smartphone)
- AI Squared ZoomReader (app)

Assessment Factors

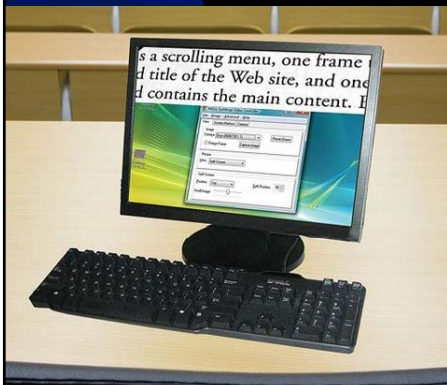
- Evaluation of visual functioning
- Response to low vision approaches
- Analysis of tasks, task specific
- Required performance level
- Integration of systems
- Training
- Trial of system; speed, duration, productivity
- Modifications
- Provision

Screen Magnification Software

Zoomtext Magnifier/Reader Software

- ZT V9.1
- CCTV USB compatibility
- Split view allows simultaneous view of CCTV image and ZT
- Vendors have implemented
 - ◆ Optelec ClearNote
 - ◆ LVI Student
 - ◆ Ash
 - ◆ Clarity
 - ◆ HumanWare Graduate

MAGic Screen Magnification Software



- MAGic Eye-Merge
- Available for Freedom Scientific Onyx cameras
- Allows split screen features

Dolphin Screen Magnification Software

- Lunar, Lunar Plus, SuperNova
- Compatible with a range of digital CCTVs
 - ◆ Optelec ClearNote
 - ◆ LVI Student
 - ◆ Ash Tech OPTi
- May need upgrades

iOS systems

- VoiceOver
- Zoom
- iOS Apps
 - ◆ ZoomReader

Low Vision Technology

- Improved abilities
- Limitations
- Adaptability
- Training
- Cost

Vendors

Clarity Solutions	www.clarityusa.com
Enhanced Vision	www.enhancedvision.com
Freedom Scientific	www.freedomscientific.com
Freedom Vision	www.freedomvision.net
Humanware	www.humanware.com
Magnisight	www.magnisight.com
Optelec	www.optelec.com
Telesensory	www.telesensory.com
Vision Technology	www.visiontechnology.com

Vendors

ABISee Inc.	www.abisee.com
Bierley Associates	www.bierley.com
Eschenbach	www.eschenbach.com
Independent Living Aids	www.independentliving.com
Innoventions Inc.	www.magnicam.com
Optron	www.optronusa.com
OVAC	www.ovac.com
LS&S, LLC	www.LSSproducts.com
Lowvision.com	www.lowvision.com
Tagarno	www.tagarno.com
Video Eye Corp.	www.videoeye.com

Resources: Reviews

Access World
American Foundation for the Blind
www.afb.org/aw

Extensive Equipment and Technology Reviews
Including CCTV Video Magnifier Reviews by:

Lee Huffman
Carol Farrenkopf
Bryan Gerritsen

Resources: Web Sites

Texas School for the Blind:
Adaptive Technology Links
<http://www.tsbvi.edu/technology/index.htm>

New York Institute for Special Education:
Blindness Resource Center
www.nyise.org/blind.htm

Screen Magnifiers Homepage
www.magnifiers.org

LowVision.com

Bob McGillivray

- robert.mcgillivray@carroll.org
- bobmac@carroll.org
- www.carroll.org
- 617-969-6200 X229