



## Closed Circuit Television (CCTV)

Most simply described, a closed circuit television (CCTV) unit combines a powerful magnifying camera with a video monitor. This combination allows the user to view material at a variety of magnification levels from very low to extremely high, enabling the user to read even the finest of print far more quickly and efficiently than a traditional hand held magnifier.

With practice, they can also facilitate writing, and even handiwork, such as sewing or drawing. Over the years, CCTVs have proven to be a powerful tool for many people with low vision.

### CCTVs have several advantages:

- » The zoom lens allows for rapid, significant changes in magnification.
- » A variety of contrast options are available, such as reverse contrast (white letters on black background) or black letters on yellow, that sometimes make reading easier and less fatiguing on the eyes.
- » Not having to hold on to a magnifier makes handwriting far more practical.
- » Much higher levels of magnification are possible than with traditional hand-held magnifiers, with a much larger field of view.
- » A moveable viewing tray, known as an X/Y table, allows the user to easily move the image without changing head or eye position.

### CCTVs now come in several basic designs:

#### Desktop, or 'in-line' CCTVs

These all-in-one units have large LCD flat screens, ranging from 19" to 24" and provide the highest levels of magnification with the greatest field of view. Most come with a built in X/Y table. Other more compact units provide easier portability for travelers, business people or students.

Desktop units are strongly preferred for reading longer materials, such as newspapers or books. They are also far more effective for handwriting, filling out checks and forms, viewing photographs, or doing handiwork.



### **Camera-only CCTV**

A variation on the desktop design, these allow the user to plug the CCTV camera into a desktop or laptop computer, or sometimes a television screen.

### **Handheld portable CCTV**

Portable CCTV operates similarly to a desktop unit however it is much smaller and allows the user to take it anywhere they need to go. These units also tend to have several contrast options, three or four levels of magnification, and the ability to temporarily freeze the image in place. People most typically use portable CCTVs for activities such as reading grocery store labels, menus, prescription bottles, or for scanning their mail.

### **CCTV with OCR**

The newest type of CCTV is one which combines all the modern features of video magnifiers with OCR (Optical Character Recognition), which is also known as 'text to speech'. With this feature, if the text is still difficult to read after enlarging and enhancing contrast, the text can be highlighted and then read to the user by the machine. Modern CCTVs with OCR capabilities read in 'natural' sounding speech allowing individuals with low vision to read text that they wouldn't otherwise be able to read.

Lighthouse Low Vision Store has a variety of CCTVs available for demonstration and purchase.

**For more information on living with vision loss, contact  
Lighthouse Low Vision Services at: (206) 436-2154  
OR  
[bit.ly/LighthouseLVS](https://bit.ly/LighthouseLVS)**