

## **EZReader Camera Application**

The camera application's primary function is to allow users to magnify printed materials placed under any attached USB camera. The user simply clicks on the image to zoom in and right-clicks to zoom out. The escape button exits from EZCamera.

Cameras must be plugged in before the Camera application is started. Books, newspapers, mail and product labels are common items that low vision users might want to magnify.

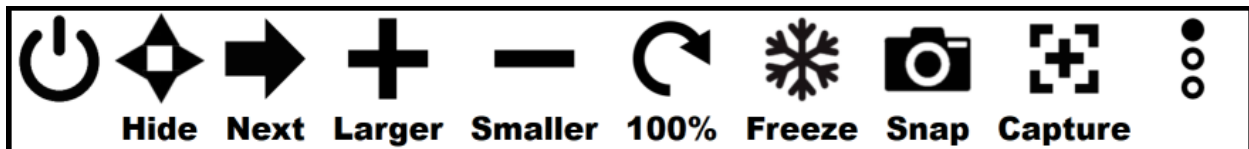
EZCamera can magnify above 12X but typically low vision users use magnification levels of 4X-8. Keeping the camera head about 5" above the paper is recommended. However, the camera head can be moved higher to get more of the paper in view.

Click the image to zoom in. Right-click the image to zoom out. The Toolbar also has buttons to zoom in or out, including a button to display the image at 100%.



### Toolbar Commands:

Camera has 3 rows of rows of command icons:



**Hide:** Hide the Toolbar

**Next:** Show next camera

**Larger:** Zoom In

**Smallerr:** Zoom Out

**100%:** No Zoom

**Freeze:** Freeze video frame

**Snap:** Save snapshot of current video frame

**Capture:** Extract text from an area of the image



**View:** View video frame in Image Viewer

**View+R:** View rotated video frame in Image Viewer

**Page:** Extract text from entire video frame

**Page+R:** Extract text from entire video frame, rotated

**Capture:** Capture image area and extract text

**Capture+R:** Capture image area, rotate and extract text



**Copy:** Copy video frame to clipboard

**Print:** Print video frame to default printer

**Print2:** Print video frame to default printer, spread over 2 pages

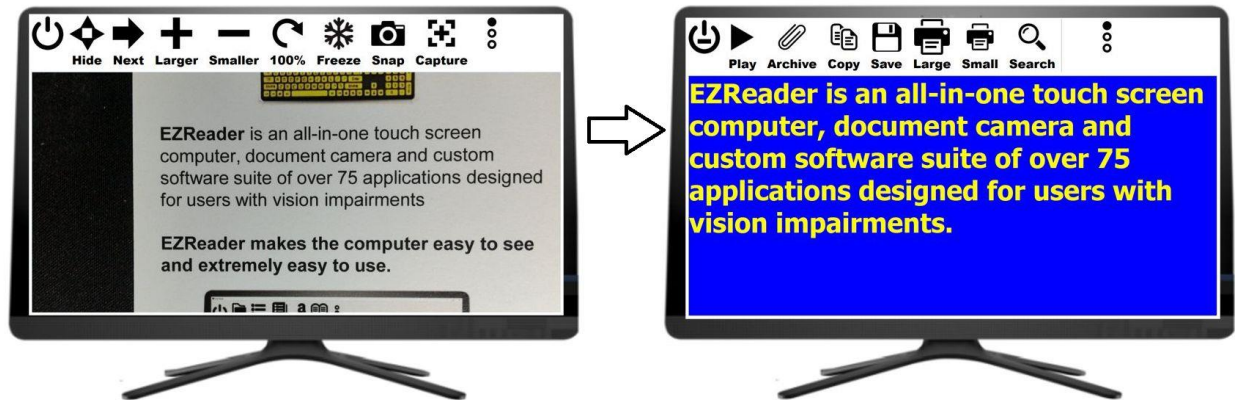
**Snap:** Save snapshot of video frame

**History:** Open snapshot history

**Binary:** Display video frame as just 2 colors

## OCR Text Extraction

EZCamera can extract the text from a video image and display the text in the font and colors selected by the user. Not only is the result easier to see, but it can be read out loud to the user as well.



OCR is started by pressing the Capture+ icon on the toolbar. That displays the video image full screen. The user then selects an area of text to capture by clicking to the upper left of the text and then to the lower right of the text.

EZReader will draw an outline around the text to indicate the selected area, then extract the text found within the outline.

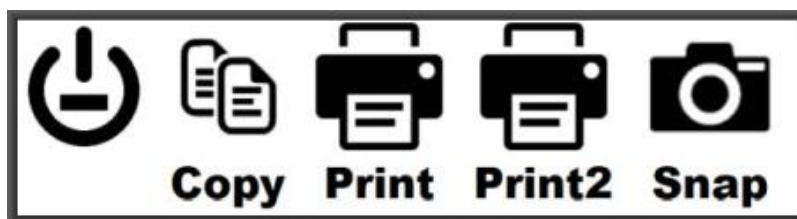
The capture text is placed on the clipboard and then displayed in the EZReader Text Viewer, as seen in the image above.

The extracted text can be formatted as can any text in other EZReader application, such as changing the font size and colors.

The extracted text can also be read out loud.

## Freeze Screen

When the Freeze command is issued, EZCamera locks the video and present the following command options:



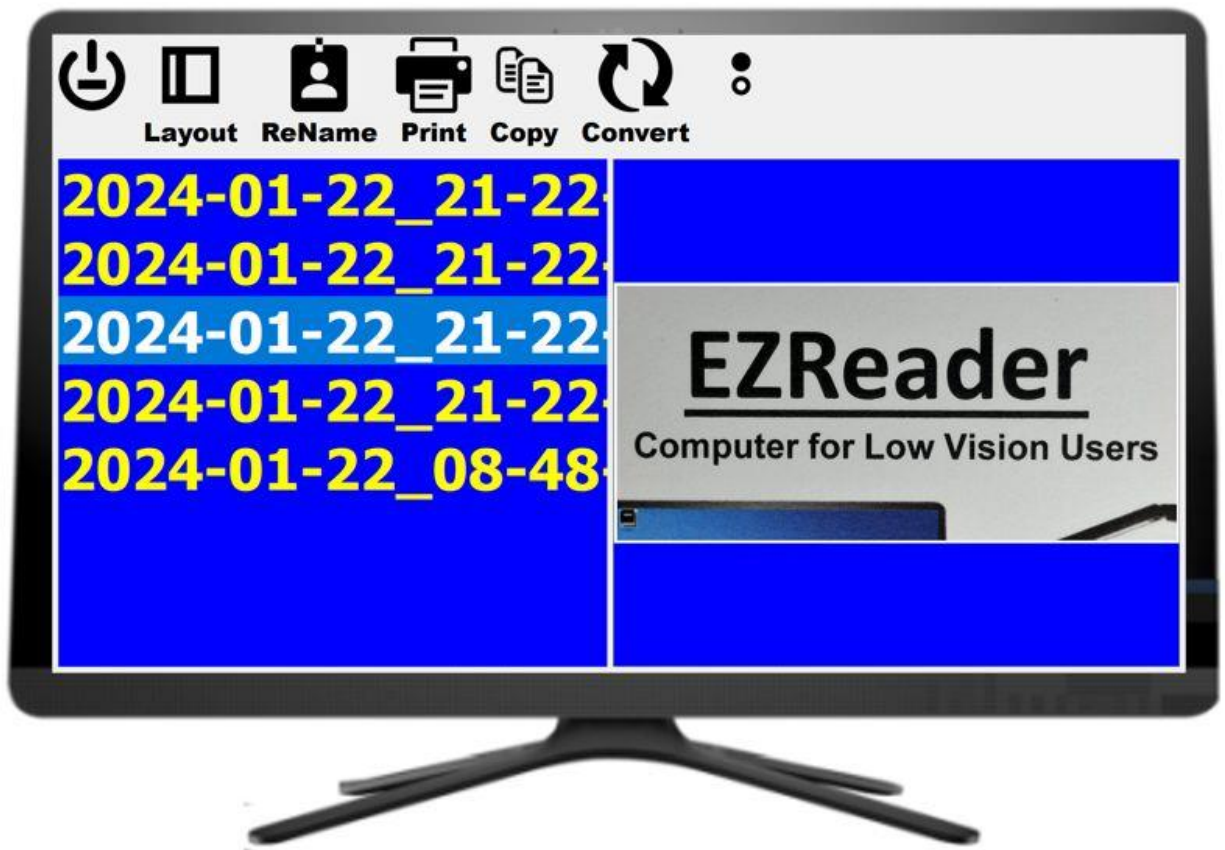
- **Copy** - copy image to clipboard
- **Print** - print image
- **Print2** - split image into left-right halves, then print both images
- **Snap** - save image (snapshot)

The freeze option is useful for locking the video into a document that might otherwise require the user's hands to keep the document in place.

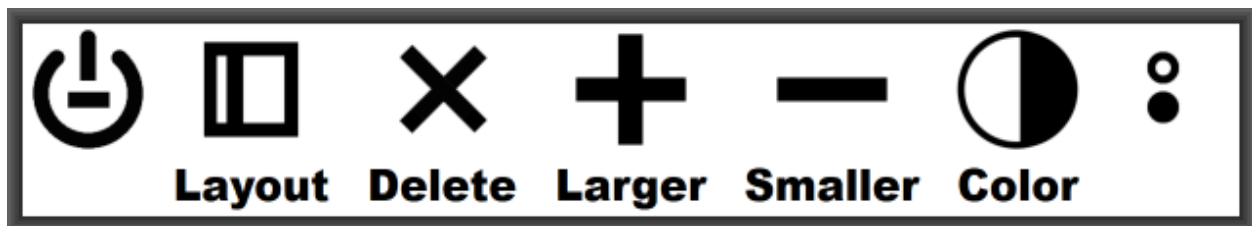
Exit from this screen to restore the video to live operation.

### Snapshot History Screen

When a snapshot is taken, its name is set to the date and time. Users can change the name to something more memorable.



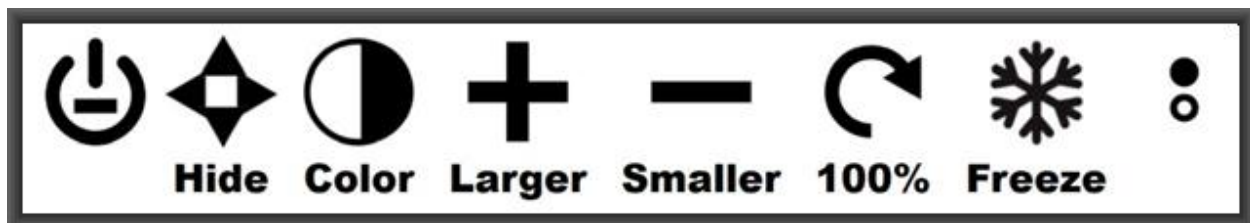
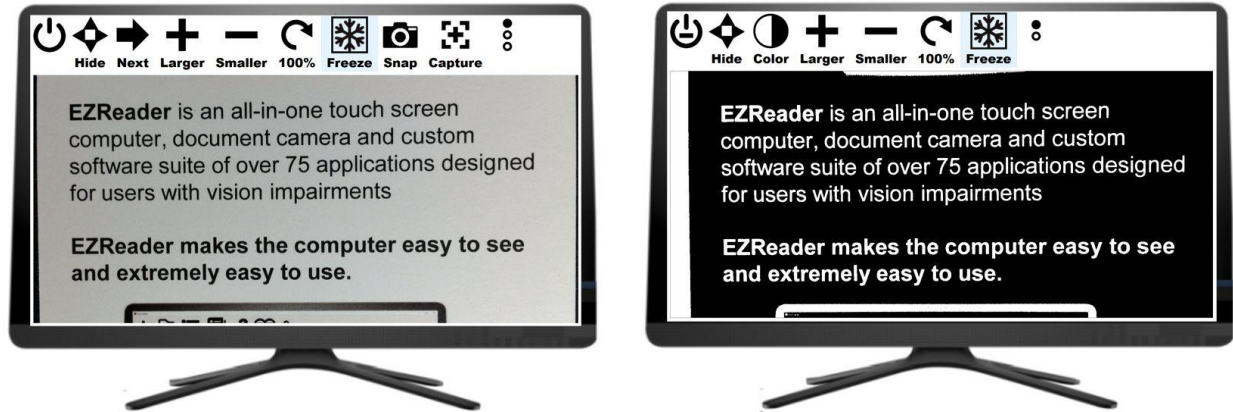
- **Exit** - exit the application
- **Layout** - toggle text/image widths
- **Rename** - rename the selected snapshot
- **Print** - print the snapshot
- **Copy** - copy selected snapshot to clipboard
- **Convert** - extract the text from the image and open in Editor as a file names "converted\_text.txt"



- **Exit** - exit the application
- **Layout - toggle text/image widths**
- **Delete** - delete the selected snapshots
- **Larger** - increase font size
- **Smaller** - decrease font size
- **Color** - change colors

## Binary Screen

The live video can be converted to any of the 4 binary color pairs. This can make it much easier to see and read text when the text and its background do not have a high contrast.



- **Hide** - hide the toolbar
- **Color** - cycle through the 4 default colors
- **Larger** - increase font size
- **Smaller** - decrease font size
- **100%** - magnify at 1X
- **Freeze** - toggle live video On/Off



- **Copy** - copy selected snapshot to clipboard
- **Print** - print image
- **Print2** - split image into left-right halves, then print both images
- **Snap** - save image (snapshot)
- **FG** - increase the amount of FG color
- **BG** - increase the amount of BG color
- **Reset** - restore the default balance of FG/BG color

### **Information Display**

EZCamera can display various camera settings - current camera name, current image resolution, a list of all attached cameras and various Zoom settings. Just press "I" to display the information.



To close the Window, press ESC, right-click the window or press the "X" in the upper right corner of the window.

### **Keyboard Shortcuts:**

Right-click on the Exit button to see a list of available shortcuts for this application.