



# SCIENSCOPE

Versa Cam Model CC-HDMI-CD2

## User Manual



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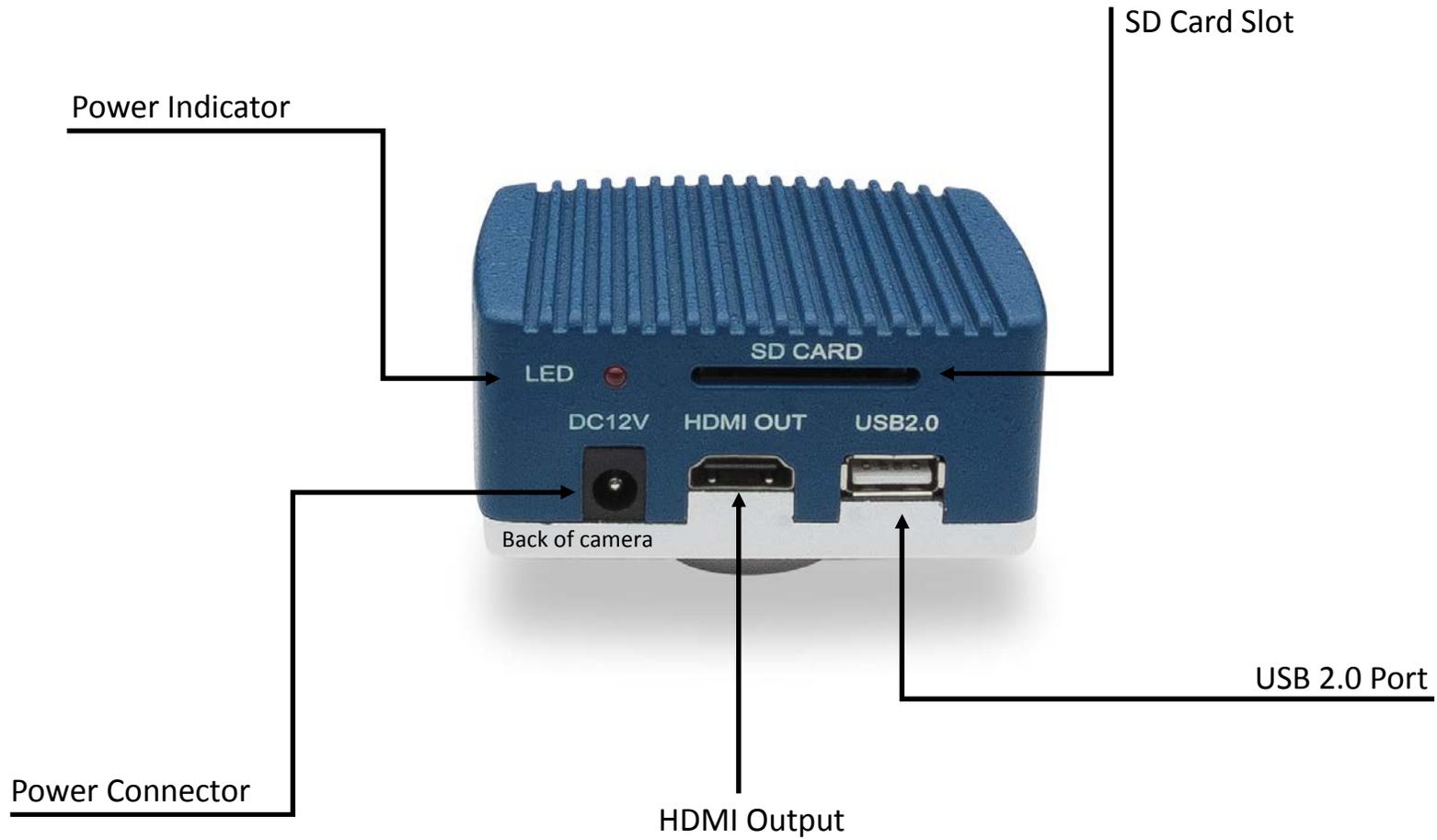
## In the Box



1. Versa-Cam (CC-HDMI-CD2)
2. USB Mouse
3. Power supply (12VDC, 1000MA)
4. HDMI and USB Cables (1 each)

The inside of your box should look like this. If you are missing any of the parts above please contact us.

# Overview of Camera



# Installation

1. Thread your camera onto the C-Mount coupler or Macro zoom lens. **If connecting to a Macro zoom lens you are done.**
2. Connect your coupler to your Microscope or Micro zoom lens.



Microscope and Micro Zoom Lens C-Mount couplers



Macro Zoom Lens

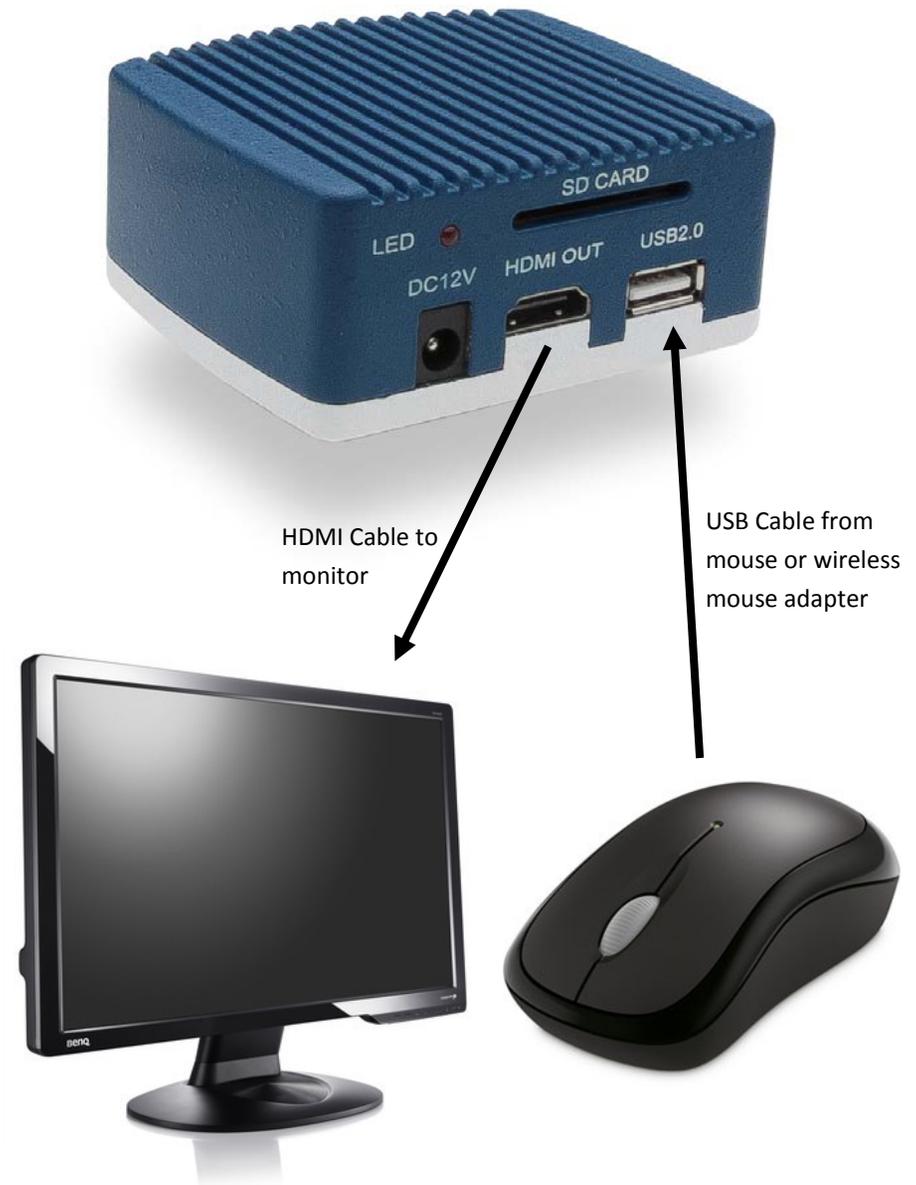
# Connecting your Camera in HDMI Mode

Your Versa-Cam can connect directly to an HDMI input 1080p (1920x1080) monitor or to a computer using a USB cable.

This page will cover the connection to a monitor. The USB connection will be covered on the next page. If you are not connecting directly to a monitor and would like to connect to a computer please skip to page 7.

1. Connect the 12v power supply to the wall and then the camera.
2. Power the monitor that you received with your system or a monitor of your choosing that meets the required specifications (1920x1080 resolution and HDMI input).
2. Connect the HDMI cable to HDMI port on the back of the camera and then connect to the HDMI port on the monitor.
3. Connect the mouse to the USB port on the back of the camera. When using only the HDMI mode the USB port is used for the mouse to control the camera.
4. The camera is now ready to use in HDMI mode. You should see an image on the screen.

**HDMI functionality is covered on pages 7 through 11.**



# HDMI Mode Functionality

When using camera in HDMI mode you can connect the provided mouse to the camera via the USB port on the back of the camera. Move the mouse cursor to the bottom of the screen to make the HDMI Mode control bar appear. When you move the mouse away from the control bar it will disappear.

To capture images in HDMI mode insert your provided SD card at this time.

## Control bar options

### 1. Zoom In

Digitally increases magnification

### 2. Zoom out

Digitally decreases magnification

### 3. Flip vertically

Flips the image on the X axis

### 4. Mirror Horizontally

Flips the image on the Y axis

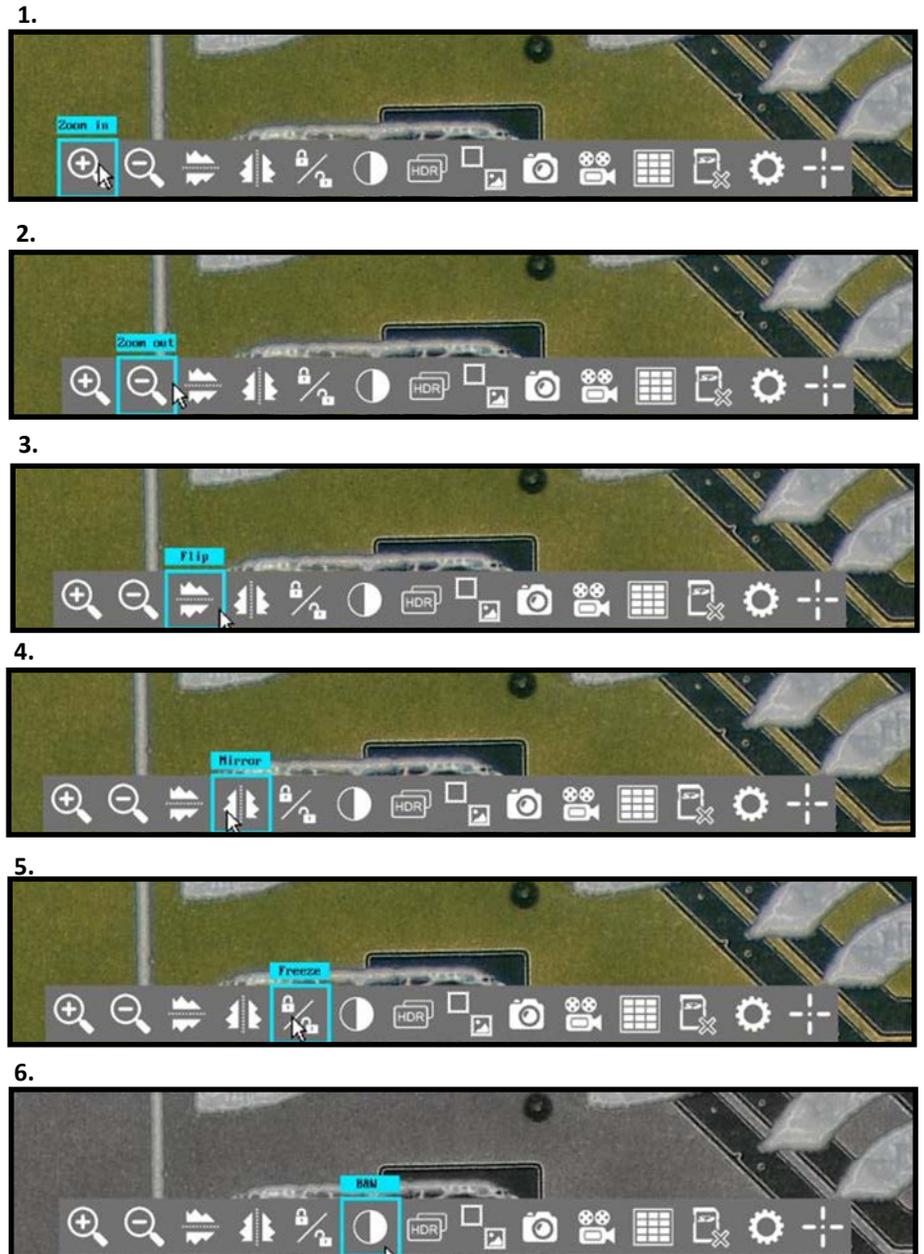
### 5. Freeze image

Freezes the image on the screen but does not capture

### 6. Black and White mode

Changes the colors to black and white

Continued on next page.



# HDMI Mode Functionality

HDMI Mode control bar options continued from page 7.

## Control bar options

### 7. HDR

Toggles between High Dynamic Range off or on.

### 8. Picture in Picture

This menu allows you to compare captured images to live images. See page “blank” for PIP menu instructions.

### 9. Capture Still Images

Captures a still image to the SD card.

### 10. Capture Video

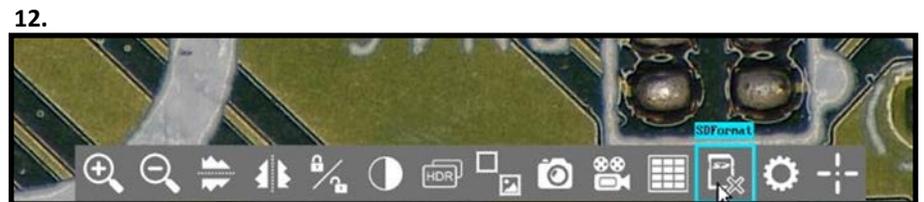
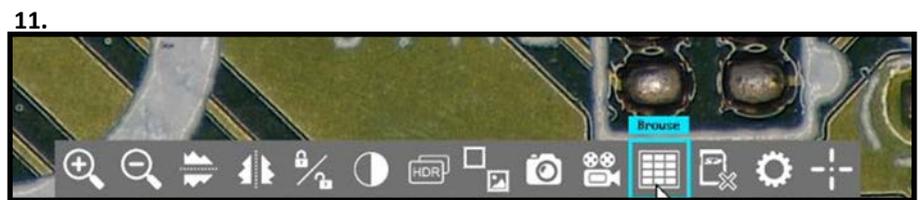
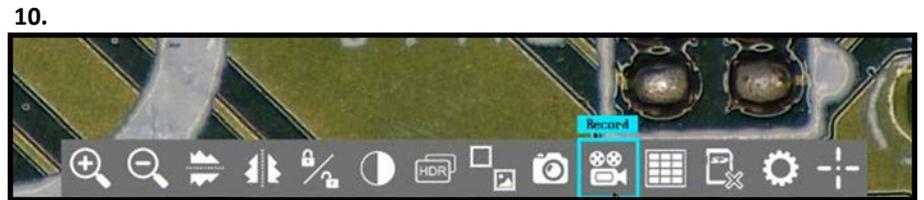
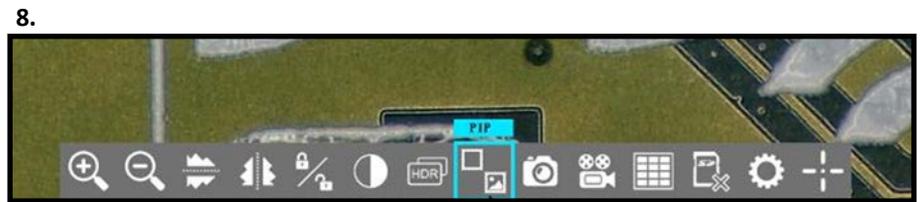
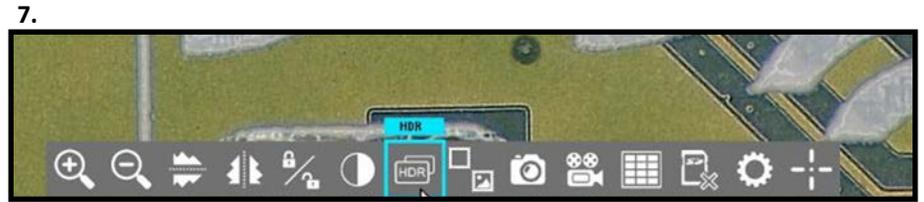
Captures AVI video to the SD card.

### 11. Image gallery

Allows you to review and delete images captured to the SD card.

### 12. Format SD Card

Formats the SD card if it has been corrupted. Formatting the SD will also reset the image count back to 1.



# HDMI Mode Functionality

HDMI Mode control bar options continued from page 8.

## Control bar options

### 13. Settings

Opens settings menu. See page 10 for menu functions.

### 14. Line Generator

Opens line generator menu and creates lines on screen. See page 11 for menu functions.

13.



14.



# HDMI Mode Functionality

## Settings Menu Functions

The following information covers the settings menu which is located on the HDMI mode control bar. See page 9 for its location.

1. This menu line has two available options. You can check the box to turn on auto exposure or press the reset button to return all video settings to factory default.
2. This menu line allows you to check the box for a continuous auto white balance or press the “One push” button for a onetime auto white balance (When performing a onetime white balance place a white or grey sheet of paper under your scope).
3. This menu line gives you the option to switch between 50HZ or 60HZ depending on the type of lighting that you are using. If the image appears to “flicker” or produce rolling lines check the other box and it will disappear.
4. Contrast slider adjusts level of contrast.
5. Saturation slider adjusts the amount of color in the image.
6. Brightness slider adjusts level of gain in the image.
7. Sharpness slider digitally sharpens contrasted edges.
8. De-noise slider adds frame averaging to the image to remove noise or “snow” caused by the addition of sharpness or for low light conditions.
9. Red slider adds red color to image.
10. Blue slider adds blue color to image.



# HDMI Mode Functionality

## Line generator menu functions

Using the HDMI mode of the Versa-Cam you can access the video calipers by pressing the flag button on the control bar. You can use the menu bar to the right to control the lines. You can also grab and drag the lines into the position that you require.

	Changes line generator preset and displays current preset.
	Selects line or cross hair to be changed.
	Turns line on or off (Shows or hides selected line).
	Changes thickness of selected line.
	Changes color of selected line.
	Moves selected line Up (horizontal line) or Right (vertical line)
	Moves selected line Down (horizontal line) or Left (vertical line)
	Turns all lines on or off (show or hides all lines)
	Saves changes to current preset.

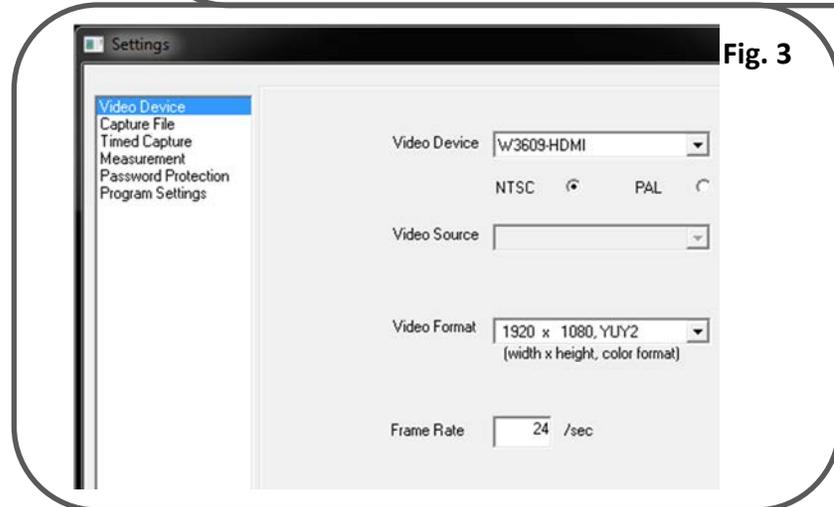
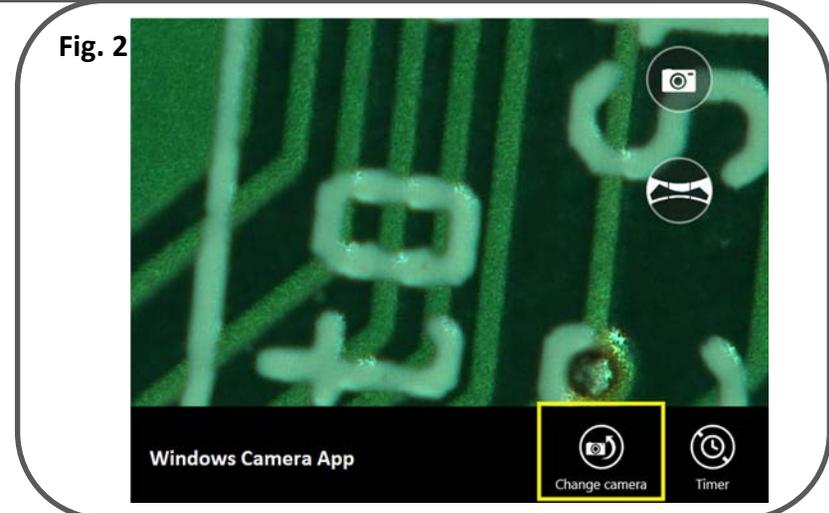
# Connecting your Camera in USB Mode

Your Versa-Cam can connect to a computer using a USB cable or directly to an HDMI input 1080p (1920x1080) monitor.

This page will cover the connection to a computer using The USB cable. The connection to a monitor is covered on the previous page. If you would like to connect to a monitor later or do not want to connect to a computer please go back to page.

1. Connect the 12v power supply to the wall and then the camera.
2. Connect the USB cable to the back of the camera and then to a USB 2.0 or 3.0 port on your computer. **Wait for the computer to detect and install the drivers automatically.**
3. If you are using Windows 8 or 10 and would like to capture images using the Windows Camera App you can do so. Simply press the Camera icon from your Windows Start menu (Fig. 1) and select the camera from the menu at the bottom of the application (Fig 2).
4. If you are using Windows 7 or XP you can install and use VIE Essentials to do you capture\*. First download and install VIE Essentials.  
**Refer to your software download card for the web address.**
5. When you start the VIE software you may not see an image. To select your camera go to the settings menu and select **W3609-HDMI** from the Video Device drop down menu (Fig 3.).

\*You can use VIE in Windows 8 or 10 as well.



# USB Mode Functionality using VIE

## Capture Control Buttons

**To Capture Images in VIE you must first select a Capture Control Button.**



**Image file:** Capture the image seen on the screen, and store it in bitmap (.bmp) or JPEG (.jpg) format. Use the Settings button to set the name of the file and directory.



**Movie file:** Create a movie of the video as seen on the screen. The movie file is stored in the AVI (.avi) format; a standard windows file format which can be played back using the Windows Media Player®. Use the Settings button to configure the movie file. Press the Stop button to end the movie.



**Time lapse movie:** Create a time lapse movie of the video as seen on the screen. A time lapse movie consists of a movie created by capturing a single movie frame periodically. The time delay between movie frames can be set to one second or longer. The software will continue to capture frames until the Stop button is pressed or until the time limit is reached.



**Image file opened in an image editor:** Capture the image seen on the screen, store it and then open it in an image editor program. Use the Settings button to select a image editor. The icon on the status bar will change to indicate the program which will be used when the image is captured.

# USB Mode Functionality using VIE

## Capture Control



After selecting a capture mode the Video Controls buttons are used to capture, freeze, and view a live image.



**Freeze:** Stop the current display or capture function. If the display is currently in preview mode, preview is disabled and the current image is frozen on the screen. If the display is currently in capture mode, then the capture is terminated, the capture file is closed and the last visible image is frozen on the screen.



**Preview/Play:** Display the live video image on the screen.



**Capture:** Start the capture of the image. The image will be captured in the format set by the capture mode controls (still image, movie, time lapse movie or still image opened in an image editor program).

*Information about the current video control settings can be found on the status bar at the bottom of the Video Image Express window.*

# USB Mode Functionality using VIE

## Image Viewer -- Preview images and movies



Video Image Express includes a separate window for previewing the images and movies captured using Video Image Express. The ImageViewer window will display any image or movie in the current capture folder. The name of the current capture folder is displayed at the top of the ImageViewer window.

The images and movies are displayed as a series of thumbnail pictures within the ImageViewer window. Use the scrollbar along the bottom of the window to scan through the images. Click the mouse on a thumbnail to get information about that image in the Image Info section. Double-click on the thumbnail to open the image file. Right-click on a thumbnail to access the utility menu. The options on the utility menu are:

**Rename:** Rename the image.

**Delete:** Delete the image.

**Open folder:** Open the folder which contains the image

**Display picture-in-picture:** Copies the image into the freeze frame buffer and displays the image in a picture-in-picture window on the top-left corner of the live image. Double-click the Freeze button to clear the buffer and remove the image.

Video Image Express will open an image with the program it uses for the "open file in another program" feature which is enabled by **Image File Editor** the button.

Movie files are opened using the default multimedia program (usually Microsoft Media Player).

The Image Viewer window can be moved behind the main Video Image Express window, but it cannot be closed. At any time you can use the F2 key to bring it to the front.

# USB Mode Functionality using VIE

## Label/Annotation Control

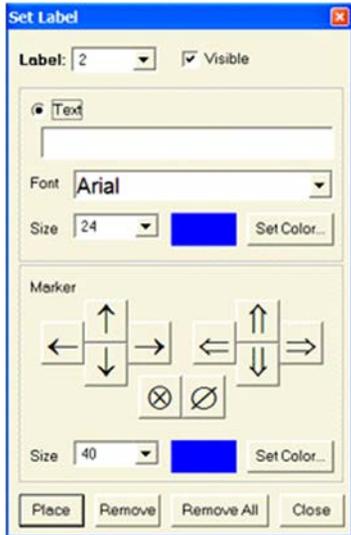


### Create a Label

Click on the label button to open the Set Label window. This window will allow you to set up to 6 labels or markers and place them on the live image. After a label or marker is placed on the screen you can drag it into position.

Select the label number (1-6) from the label menu. The program will automatically select the next unused label number when the window opens.

To set a text label click the mouse on the Text option and then type the text in the edit area below. Set the font, font size and font color for the label. Make sure the visible box at the top is checked so that the label will be visible. To place the label on the screen press the Place button. To remove a label from the screen press the Remove button.



### Create a Marker

Ten pre-designed markers are also available. To select a marker press the button which the chosen marker shape. Set the marker size and marker color. Finally press the Place button to place the marker on the screen.

### Reposition a Label or Marker

Once a label has been placed on the screen it can be repositioned by "click-and-drag."

### Edit a Label

The Set Label window can also change a label already on the screen. To edit a current label you can 1) press the Label Control button and select a label number from the menu at the top or 2) making sure the Measure and Draw functions are off, double-click the mouse on the label to open the Set Label window. Make any changes to the label and then press the Place button to update the on-screen label.

### Delete a Label

To delete a label select the label number from the Label Number menu and press the Remove button. Use the Remove All button to remove all labels from the screen.

### Make a Label Invisible

A label can be temporarily hidden by unchecking the Visible box at the top of the Label Window.

# USB Mode Functionality using VIE

## Draw Control

With Video Image Express you can directly on the live video image. Press the Draw button to enable the drawing mode. Now hold down the left mouse button and begin drawing. Whatever you draw is part of any image or movie you create -- the Capture button will record your free-hand annotations.

Right-click the mouse button to access the Draw menu. Press the Draw button again to hide the drawing.

Right-Click the Image for  
the Draw Menu

Draw Functions:



<b>No function selected</b>	When no function is selected the freehand drawing tool is active. Hold down the mouse button to draw anywhere on the live image.
<b>Line</b>	Click and drag the mouse to draw a straight line
<b>Rectangle</b>	Click and drag the mouse to draw a rectangle
<b>Oval</b>	Click and drag the mouse to draw an oval
<b>Close Freehand</b>	Closes the last freehand shape drawn
<b>Undo Last</b>	Erase the last shape or line segment. Repeat to remove additional segments
<b>Erase All</b>	Erase all drawings.
<b>Set Pen...</b>	Display the following window to adjust the pen color and line width settings