Optimizing the VALCam 8500-630 for image quality and efficiency.

This guide is intended to provide concise instructions for obtaining best photo-image quality and operational efficiency. It's highly recommended that new operators review all steps while becoming familiar with the camera and the listed procedures.

The 8500-630 is very easy to use but procedures differ from other cameras. Adherence to these procedures will result in consistent high quality captures with minimal operator effort.

Using Auto-Centering

The VALCam offers immediate "double click" auto centering and auto cropping. If these features are not used operational efficiency is reduced and image quality will suffer.

Figure 1

- Position the mouse cursor on the tip of the subject nose.
  See Figure 1.
- Double Click the left mouse button. The subject will be immediately centered
  See Figure 2.
- Do not use the Up, Down, Left, Right buttons. These are slow and inefficient.
- If the subject is too tall or short and the nose is not visible click on the top or bottom of the screen. When the subject is in view click on the nose.

Figure 2

Note: Whatever is "double clicked" on will be centered. It is not necessary to click on the nose. Any feature can be used and centered.
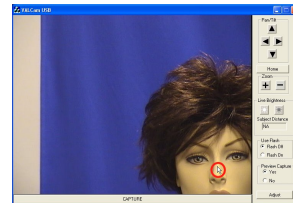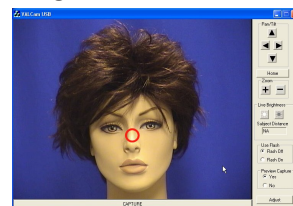
Using Manual Centering:

- Position cursor on a feature to reposition. Typically this will be the tip of the nose
- Hold down the left mouse button. See Figure 3
- While holding down the left mouse button, move cursor to desired position. See Figure 4
- Release left mouse button and camera will move to position the image correctly. See Figure 5
  Note: in some installations the horizontal axis may be reversed in manual centering (right and left) in this case the double click method is recommended
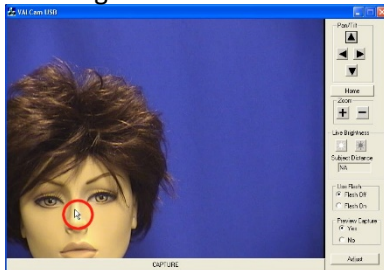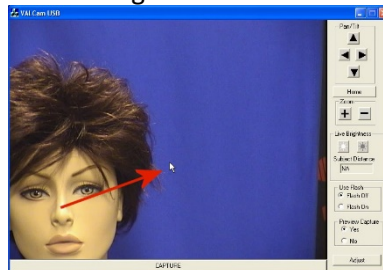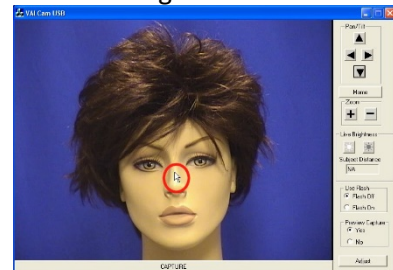
Figure 3	Figure 4	Figure 5

Using Auto Cropping:

Auto Cropping is optional but is highly recommended.
Auto Cropping offers a number of advantages:

- Eliminates the need to crop the image in software.
- Previews image exactly as it will appear on the ID badge.

Implemented Auto Cropping

- Click the "Adjust" button on the VALCam window.
  Select the Crop tab. See figure 6.
- Select the Aspect Ration that corresponds to the photo
  box on your card design
  Note: This is usually 3/4 or 4/5. Do not use the Custom
  selection unless you have a non-typical need.
- When the crop selection is made the live preview will
  conform to the selection. See Figures 7 & 8.

Figure 7: No Cropping   Figure 8: ¾ Crop
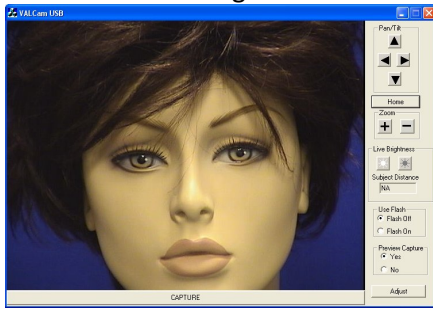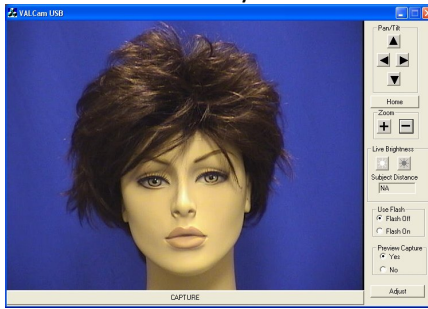
Zoom Setting

Proper Zoom setting is crucial for photo print quality. If the zoom is not set properly capture quality on the monitor may look good but the print quality will suffer. Most cases of poor print quality are caused by an improper zoom setting.

- The Zoom setting should be set for a very tight Head and Shoulders shot.
- Setting the Zoom too wide and cropping in software will degrade print image quality.
- Once Zoom is set it should not be changed.
  Note: If a new subject comes in that is taller or shorter than the previous the VALCam double click centering procedure should be used. **Zoom control should Never be used to compensate for subject height.**
- Once the zoom is set it can be locked to prevent changes from the main capture window.
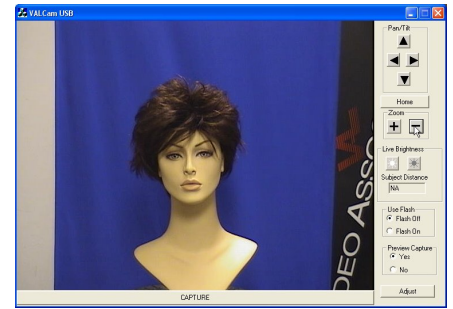 See section on locking settings later in this document.

Zoom Set Too Tight	Zoom Set Correctly	Zoom Set Too Wide

Setting Zoom with the Mouse:

- Place mouse cursor on the "+" button and depress and the camera will zoom in, release the left mouse button and the zoom will stop
- Place the mouse cursor on the "-"button and depress and the camera will zoom out, release the left mouse button and the zoom will stop
- To slow down zoom speed depress and hold down the "Shift" key while simultaneously depressing the "+" or "-"buttons
- **Slowing down the zoom speed can be very helpful for accurately setting zoom position.**
- To increase zoom speed depress and hold down the "Ctrl" key while simultaneously depressing the "+" or "-"buttons

Setting Zoom with the Keyboard:

- Press the "+" button next to the numeric keypad on your keyboard and the camera will zoom in, release the "+" button and the zoom will stop
- Press the "-" button next to the numeric keypad on your keyboard and the camera will zoom out, release the "-" button and the zoom will stop
- To slow down zoom speed depress and hold down the "Shift" key while simultaneously depressing the "+" or "-"buttons
- **Slowing down the zoom speed can be very helpful for accurately setting zoom position.**
- To increase zoom speed depress and hold down the "Ctrl" key while simultaneously depressing the "+" or "-"buttons

Taking a Live, non-flash Capture

In many environments the "Live Capture" (No Flash) will deliver high quality results. Always try live capture mode when evaluating a new capture location.
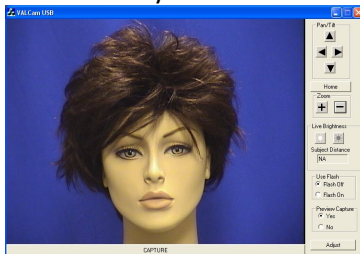
Advantages of Live Capture Mode:
- Preview image will be exactly the same as the captured image (What You See Is What You Get)
- Color Balance and Brightness changes will be viewable immediately in the Live Display
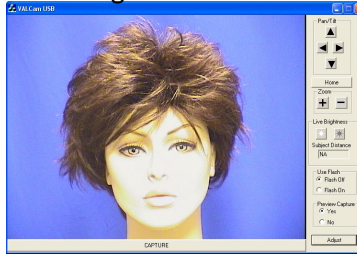
Set the Live Brightness Settings

- Verify that zoom is set properly and the subject is centered
- Verify that the "Flash Off" radio button is selected.
- Adjust the "Brighter" and "Darker" buttons for optimal image illumination
  Note: Each click of these buttons will make the image slightly brighter or darker. Click as many times as needed. See examples below.
- If the "Brighter" and "Darker" buttons are not working verify that the "Flash Off" radio button is selected in the Use Flash box
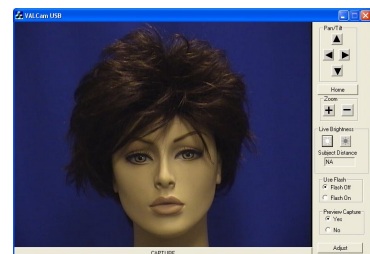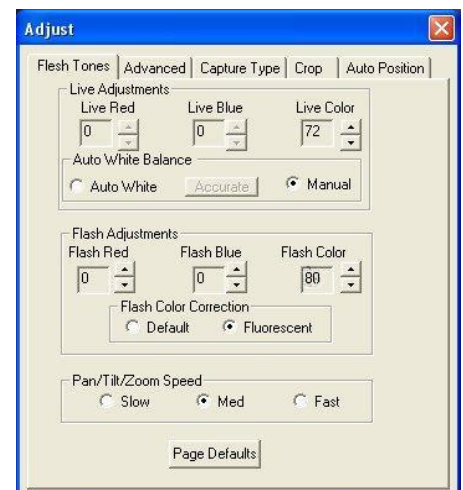
Set Correctly   Too Bright   Too Dark

Optimizing Live Color Balance

The live preview/capture color balance can be fine-tuned for a very accurate color balance. When these changes are made the setting are locked and will not change even when the system is power down.

- Do not use the Red and Blue scroll bars that appear in the main dialogue box after a live capture. These should be kept in the default positions and preferably locked.
  See section on locking settings later in this document.
- Click the Adjust button.
- Click the Manual radio button
- Adjust the Red control up until the image is too red.
- Adjust the Red control down until the image doesn't have enough red.
- Set Red control mid-way between these settings.
- Repeat these setting with the Blue control.
- Iterate between the Blue and Red controls until the color balance is optimized
- Live Color will adjust the color intensity or saturation of the image. Use of this control might be helpful to compensate for Printer irregularities.
- To reset factory defaults for these settings click the "**Page Default**" button
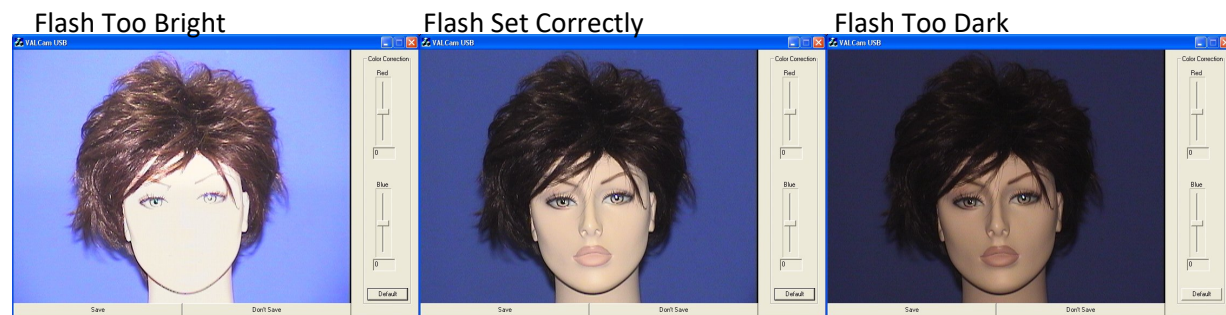
Taking a Flash Capture

"Flash Capture" Mode might be useful in demanding low-light environments. Unlike "Live Capture" Mode the results are not "What You See Is What You Get". The Live Preview and the captured image might differ in color balance and brightness.

The flash capture intensity must be set when the camera is being used for the first time in a new environment.

Setting up the Flash

- The flash settings must be adjusted the first time that the flash is used in a new environment, generally this feature will not need to be changed once set
- Click the Flash On radio button in the Use Flash box of the application
- Make sure that the subject is centered and the Zoom is properly set
- Estimate the distance between the subject and the camera
- Use the "Brighter and "Darker" buttons in the Flash Brightness box to set the distance
- Click the "Capture" button
- The captured image might be either too bright or too dark

Flash Too Bright   Flash Set Correctly   Flash Too Dark

- Click the "Don't Save" button
- Use the Flash Brightness buttons to adjust the intensity of the flash, if the image is too dark click the "Brighter" button and vice-versa. Then click the "Capture" button again
- Note: You should leave at least 5 seconds in between taking flash captures for the flash to fully recharge
- Repeat until flash brightness is optimized
- Once the flash is set no adjustments are required between uses as the settings are saved and stored locally

Fine tuning the color balance of a Flash Captured Image

The color balance of the captured image can be easily adjusted in real time if needed. Any color changes will be applied to additional captures without further adjustment. These changes are remembered between sessions and applied after the PC is rebooted.

Immediate Color Adjustment

- Quick color adjustments are available to easily control the color balance of the captured image
- After the capture, the image is displayed with the "Save" and "Don't Save" buttons
- Red and Blue sliders appears next to the captured image
- To adjust the image increase the "Red" slider until the image appears too Red. Then decrease "Red" until the image appears to be lacking in Red, then place the slider in the middle of that range
- Repeat this procedure with the "Blue" slider
- Iterate this procedure between both color bars until you have optimized the image

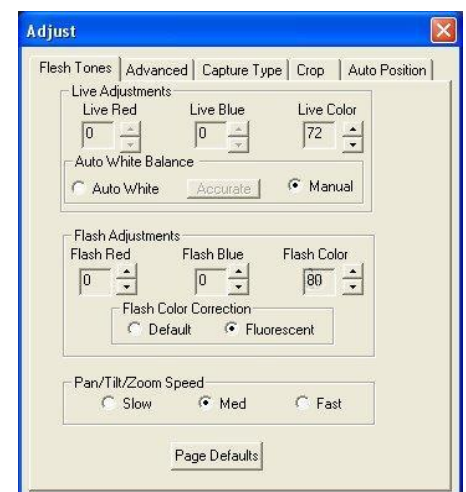| Too Much Red	Too Little Red	Too Much Blue	Too Little Blue

- Note: Yellow skin tones indicates too little blue, so add blue to correct
- When finished, click the "Save" button
- Color adjustment is complete and the settings will be saved and remembered in between captures and sessions

Pre-Capture Color Adjustments

Additional flash color adjustments are available from the "Flesh Tone" tab of the "Adjust" dialogue box. Generally these will not need to be used as the adjustments described above are sufficient.
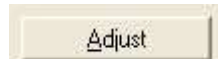
Keep in mind that these adjustments are not visible in the live preview window and will only be seen after the capture is taken and displayed.

- Click the Adjust button.
- Flash Color up and down buttons will adjust the color intensity or color saturation of the image. Often times card printers might have issues if color intensity is too great. This control is useful for lowering color intensity to compensate for printer irregularities.
  Note: A new capture must be taken to view changes made.
- The Flash Red and Flash Blue controls can be adjusted in the same way if desired, but it is highly recommended to use the red and blue sliders discussed in the previous section
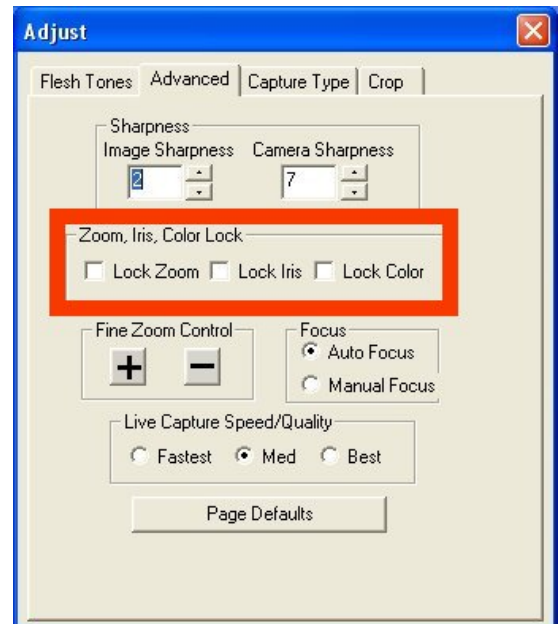
Locking Settings

The Brightness, Zoom, and Color settings can be locked to prevent operators from changing these values from the main user interface. This can prevent operators from changing settings that have previously been optimized by an administrator.

- Click the "Adjust" button
- Once the Adjust box pop up appears click on the "Advance" tab
- Locate the "Lock Zoom", "Lock Iris", and "Lock Color" check boxes
- If desired, a password can be set in the registry to force a security check when trying to open the "Adjust" dialog box
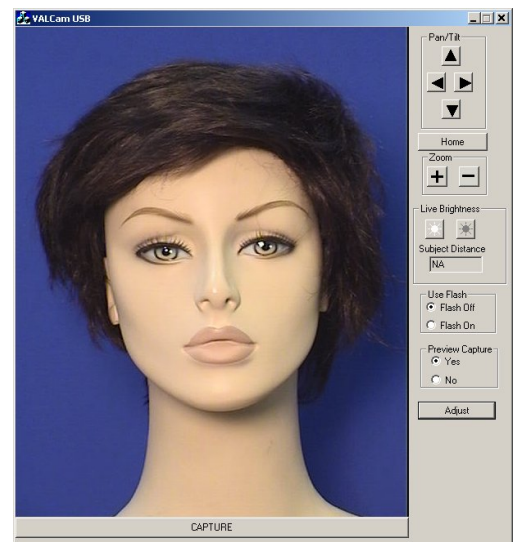
User Interface

The VALCam professional offers special features that increase capture efficiency and enhance image quality. By following the procedures outlined below you will be able to access the Law Enforcement User Interface and use its added beneficial features.

The VALCam Professional supports two user interfaces.
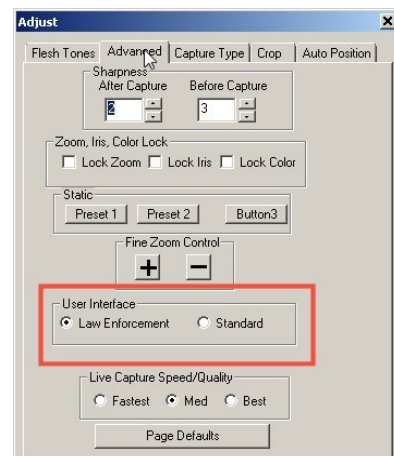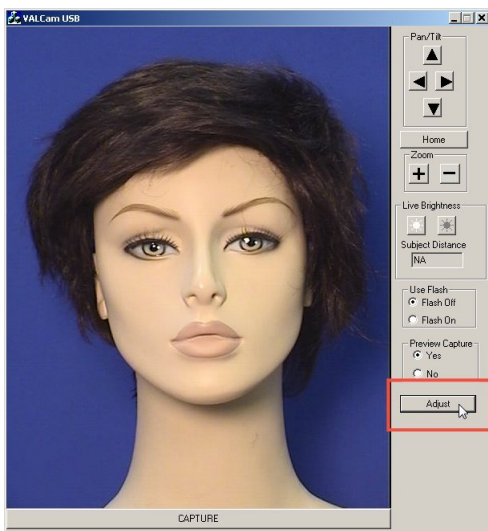
<table>
<tr><th>The Law Enforcement User Interface</th><th>The Standard User Interface</th></tr>
<tr><td></td><td></td></tr>
</table>

To switch between the two interfaces.

- Click on the "Adjust" button on the bottom right side of the program
- Click on the "Advanced" Tab
- Locate the section labeled User Interface and click the radio button of the interface you wish to use.

Law Enforcement Zoom Presets

The Law Enforcement UI allows for up to three preset Zoom settings to be saved, allowing any operator to have instant access to these settings.

1. Click on the "Adjust" Button on the bottom right of the program window
2. Click on the "Advanced" tab
3. In the Main User Interface window use the "+" and "-" keys to adjust the zoom to the needed specifications
4. Once the Zoom has been properly set simply press the "Preset 1" button in the "Static" section of the "Adjust" window, the setting has now been saved.
5. To check that the setting was saved use the "+" and "-" keys to adjust the Zoom
6. Click the "Preset 1" radio button in the Main User Interface window to check that the program returns the camera to the specified Zoom setting
7. Repeat 3-6 for Preset 2 and Preset 3 if needed