

VALCam Pro with Flash VALCam Zoom with Flash

Introduction

Thank you for purchasing the **VALCam ID**, the first image acquisition system designed specifically for photo-ID and visual database applications. All camera controls (pan, tilt, zoom and exposure level) are available from the mouse or keyboard. Manual positioning of the camera is eliminated for increased operator efficiency.

In addition to hands off control, the **VALCam ID** provides a synchronized photoflash for consistent high quality image acquisition in any environment. Software controls are provided for flash intensity and flesh tone adjustments making the acquisition of top quality images a snap. High quality captures with perfect skin tones and exposure can be obtained effortlessly in any environment, even dark rooms!



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Features Include:

- **Mouse control of pan, tilt, zoom and exposure in Pan/Tilt/Zoom version and zoom in the Zoom version.**
- **Uses optical pan, tilt, zoom for highest resolution.**
- **Synchronized photoflash with software control of flash exposure and flesh tones. Perfect captures even in dark rooms.**
- **Hassle free integration of photoflash.**
- **Includes 32 Bit Twain Driver. Optional Software Developers Kit available.**
- **Will work in all major Windows photo ID and imaging applications.**
- **High-resolution single chip CCD array (796x494).**
- **Auto Focus, S-video output.**
- **Available in both NTSC and PAL video standards.**
- **Kits include VALCam Pro or Zoom camera, VideoVue PCI capture card, Flash, software drivers and cables.**

Quick start instructions for hardware and software installation are provided. A trouble-shooting guide will help resolve any installation and operational problems. The **Imaging Hints and Tips** section will help the end user achieve high quality captures.

If technical support is needed please contact:

Video Associates Labs
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Email: support@val.com

Parts List for available VALCam products:

6500-630 VALCam Pro with Flash

High resolution S-video camera with pan/tilt/zoom

VideoVue PCI capture card with software

Flash internal card

Flash jumper wire

Flash with trigger cable

Multi-cable

Universal mounting bracket for flash

Brick power supply for camera

Instruction Manual

6500-628 VALCam Zoom with Flash

High resolution S-video zoom camera

VideoVue PCI capture card with software

Flash internal card

Flash jumper wire

Flash with trigger cable

Multi-cable

Instruction Manual

Quick Start hardware installation

NOTE: All cable connectors and matching receptacles have been color coded for easy installation

1. Install the VideoVue PCI capture card in an available PCI slot. You must use the VideoVue PCI image capture card that was shipped with the VALCam ID system. Secure the back plate of the card with a screw to the computer chassis.
2. Install the small **flash accessory** card on an available back plate slot in the computer. Note that this card does not have any slot fingers and can be installed in any available slot. Secure the back plate of the card with a screw to the computer chassis.
Connect the male end of the split power cable on the flash card to an available female connector on from the computer power supply. This connector can only be attached in the correct orientation.
Verify that the Photo-Flash switch is in the **Yes** position.
3. Locate the **flash jumper** cable. This cable will have **violet** and **blue** marks on the ends. Plug the **violet** connector into the matching **violet** receptacle on the VideoVue PCI image capture card.
Plug the **blue** end of the cable to the matching **blue** receptacle on the **flash** card.

Pan/Tilt/Zoom Pro Camera connections

1. Attach the **flash-mounting bracket** to the bottom of the camera.
2. Attach your tripod-mounting block to the bottom of the **flash-mounting bracket**.
3. Attach the complete unit to the tripod.
4. Attach the **flash unit** to the hot shoe connector on the **flash-mounting bracket**.
5. Locate the camera **multi-cable**.
6. Connect the **brown** S-video connector on the **multi-cable** to the matching S-video connector on the **Pro Camera**. Verify the cable connector is properly oriented and gently insert connector. **DO NOT FORCE THE CONNECTION.**
7. Connect the **red** Visca connector to the matching Visca connector on the **Pro Camera**.
8. Locate the **110V** or **220V** external power supply. Connect the **DC connector** on the power supply to the **DC receptacle** on the camera. Attach the brick power supply to an AC power source.
9. Connect the **ZKWM flash unit** cable connector to the matching connector on the **multi-cable**.

Zoom Camera connections

1. Attach your tripod mounting block to the bottom of the **camera** and attach to tripod.
2. Attach the **flash unit** to the hot shoe connector on the top of the **Zoom Camera**.

3. Attach the **Z KLM** connector on the **flash unit** to the matching connector on the **Zoom Camera**.
4. Locate the **multi-cable** and attach the **brown/black** 25 pin D-sub connector to the matching connector on the **Zoom Camera**.

Computer connections

1. Attach the **gray** S-video connector on the **multi-cable** to the matching S-video connector on the **VideoVue PCI** image capture card installed in the computer. Use caution to verify that the connector is properly oriented before inserting. **DO NOT FORCE THE CONNECTION.**
2. Attach the **orange** connector on the **multi-cable** to the matching connector on the **flash** card.
3. Attach the female DB-9 connector on the **multi-cable** to an available serial port connector on your computer.

The **VALCam ID** hardware is now installed.

Software Installation

Win 2000 – Win 98SE - Win Me

1. Before turning on the computer, verify that all hardware (camera, cables and capture card) has been installed according to the directions.
2. Locate the installation diskette for your operating system. Start the computer.
Win 95 or **Win 98 First Edition** is not compatible.

3. **Immediately after booting, a dialog box indicates that new hardware has been found.** Insert the installation diskette for your operating system in the floppy drive and select the **Next** button. Verify that the **A: drive** is in the search path and follows the prompts.
4. Run the **Setup***.exe Program** on the installation diskette.
5. Reboot the computer.

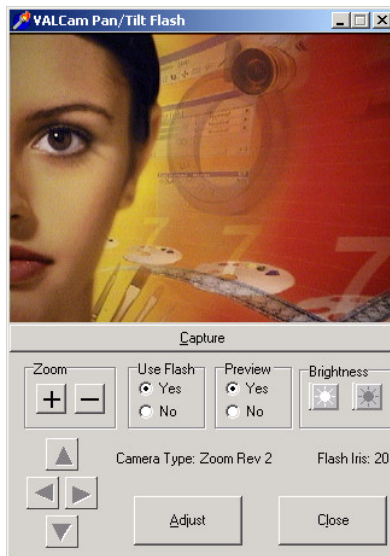
NT 4.0

1. Before turning on the computer, verify that all hardware (camera, cables and capture card) has been installed according to the directions.
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Basic Operation







0. Before proceeding, verify that all hardware is properly connected. Verify that the camera is powered on. Note the power LED located in the front of the **PTZ Camera**. The **Zoom Camera** has a power LED on the back of the unit. Verify that the **flash unit** is switched on and the charge indicator LED is illuminated.

2. Confirm that the display settings of your computer are set to a high color mode (16,24 or 32 bit).
3. Click on **START->PROGRAMS->VALCam Flash** and start the application.
4. The **VALCAM ID** capture control box will appear. **If you receive an error message or the capture control box does not appear displaying live video, consult the trouble shooting guide.**



Camera motion controls

1. Press the **+** key next to the numeric key pad, the camera will zoom in. Release the **+** key and the camera will stop zooming. To zoom out press the **-** key next to the numeric keypad. Release the **-** key to stop the action.

- Place the mouse over the  button and hold down the left mouse button. The camera will zoom in. When the mouse button is released, zooming will stop. The  button works the same way to zoom out.
- Use the \uparrow , \downarrow , \leftarrow , \rightarrow keys to control pan/tilt operation. Hold down keys to initiate action and release keys to stop action. (**Pan/Tilt/Zoom Camera only**)
- Place the mouse over the  button and hold down the left mouse button. The camera will tilt up. When the mouse button is released, camera motion will stop. The , ,  buttons works in a similar fashion. (**Pan/Tilt/Zoom Camera only**)

Adjust Live Preview Parameters

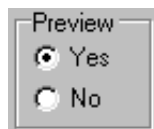
- Click the **Use Flash No** button.
- Adjust the **Iris** control buttons for proper image illumination.



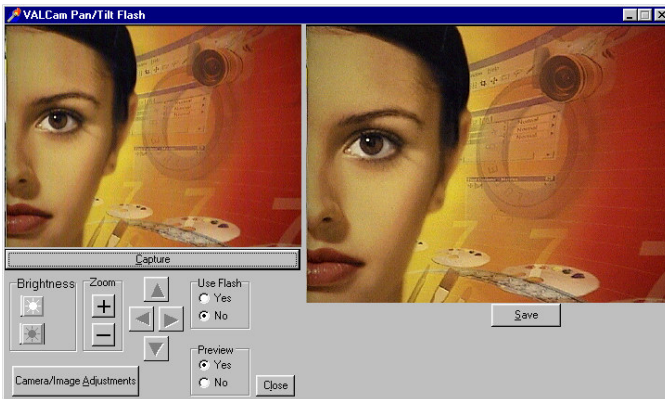
Capturing Images



Testing Image Capture with Flash

- Select the **Use Flash Yes** and **Preview Yes** radio buttons.



2. Adjust the Camera motion controls to frame the live image.
3. Use the **Zoom** controls to zoom in to the subject. **It is always recommended to zoom in as tight as your image composition will allow for the highest image quality.**
4. Click the **Capture** button. The live preview will become dark and the **flash unit** will trigger. The captured image will appear in the **VALCam** window. If the Flash does not fire, verify that the flash is turned on and connected properly.



5. The image will probably be too bright or too dark depending on the subject distance from the camera. Click the  or  buttons to increase or decrease the flash Iris level setting. The values range from 2 to 30. In most cases a value between 12 and 24 will suffice. The closer the subject is to the camera the lower the value.

Take as many captures as necessary to find an optimal value. This setting will not need to be adjusted unless the subject distance to the

camera is changed. The setting is saved to an **INI** file (**VALPCIZOOM.INI**) and is saved between sessions.

NOTE: When the Use Flash Yes radio button is enabled, the parameter changes take place only when the image is captured. The live preview image will not change. To adjust the live preview, select the Use Flash No radio button.

Testing Image Capture Without Flash

1. Click the **Use Flash No** radio button box.
2. Adjust the **Brightness** buttons for proper illumination.



Note: All image parameter changes are immediately viewable in the live display window with the flash off.

3. Hit the **Capture** button to acquire an image.
4. When you are satisfied with the image quality, click the **Save** button and the image will be sent to your application or put on the Window's clipboard.
5. When you are satisfied with the image quality, click the **Save** button and the image will be sent to your application or put on the Window's clipboard.

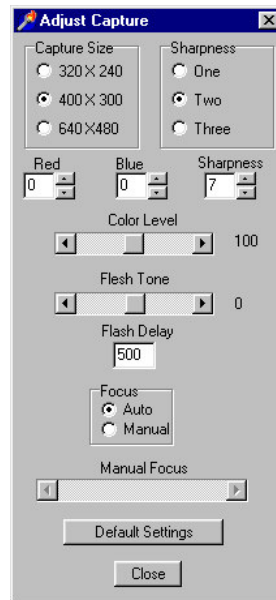
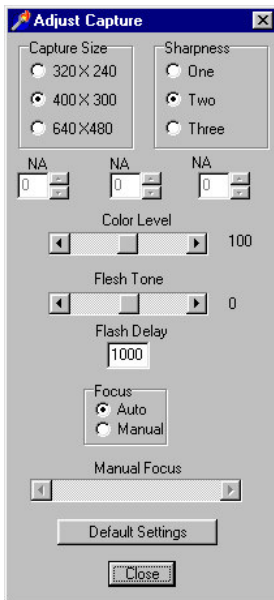
Adjusting Camera and Capture Parameters

All camera and capture adjustments are applied through the **Adjust** dialog box. Separate settings can be applied for both **flash** and **non-flash** captures. All settings are stored in an **INI** file and are remembered between sessions.

The **Adjust** dialog box can be **password** protected, if desired. This allows only managers and administrators access to the **Adjust** dialog box.

Opening the Adjustment dialog box

Click the **Adjustment** button on the main dialog box.



Note: All current and previous hardware versions of *Video Associates Labs* are supported. If you are using an earlier version of our camera, the dialog box on the left will appear. The dialog box on the right supports all current cameras.

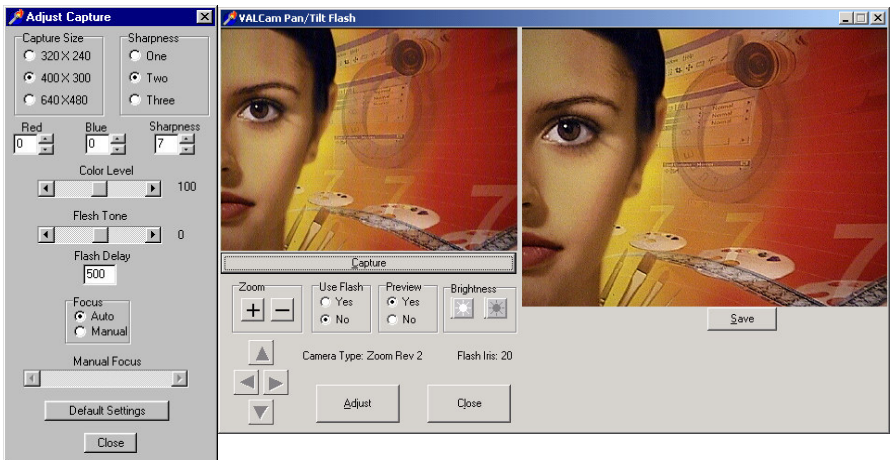
Note: The NA designator indicates all unsupported camera functions.



Adjusting Captured Image Size and Sharpness

1. Use the **Capture Size** radio buttons to select the capture image size. The default is **640x480**.
2. Use the **Sharpness** radio buttons to select post image sharpness processing. The default is **2**.
NOTE: If this value is too high the image may look over enhanced and noisy

Adjusting Camera Color Controls for Non-Flash Captures

1. Click the **Use Flash Off** radio button.
2. Click the **Preview On** radio button.
3. Click the **Adjust** button.



4. Click the  or  buttons on the main screen to adjust the live preview brightness level.
5. Adjust the **Red** and **Blue** controls.
If the image is yellow increase **Blue** and decrease **Red**.
If the image is green increase **Red** and increase **Blue**.

Note: These controls are only available on the latest versions of the VALCam hardware.

6. Adjust the **Cam Sharp** control for optimal image sharpness. Usually a value between **6** and **15** will result in the best results. Its recommended to print cards at different Cam Sharp levels to determine the best value.
A value of **7** is default.

Note: A higher value might be needed for the best print results as opposed to the best image on the monitor.

Note: This control is only available on the latest versions of the VALCam hardware.

7. Adjust the **Color Level** control for optimal color intensity. If this value is too low, images will appear pale. If this value is too high colors will appear too intense.
The default value is **100** for non-flash captures.

Note: This control should be adjusted for best print results.

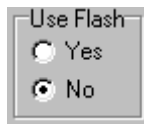
8. Adjust the **Flesh Tone** control for optimal color hue. The extreme ranges of this control will change the image from green to red. The default value is **0**, but may need to be changed depending on the ambient room light.

- Click the **Capture** button on the main screen to acquire an image.
- Click the **Restore Defaults** button to reset all controls to their default settings.

Adjusting Camera Color Controls for Flash Captures

Use of the **Flash** is almost always recommended. Image clarity, resolution, and consistency are generally much greater. Ambient lighting conditions are irrelevant. In fact, the same image quality can be used in a completely dark or illuminated room when using the flash.

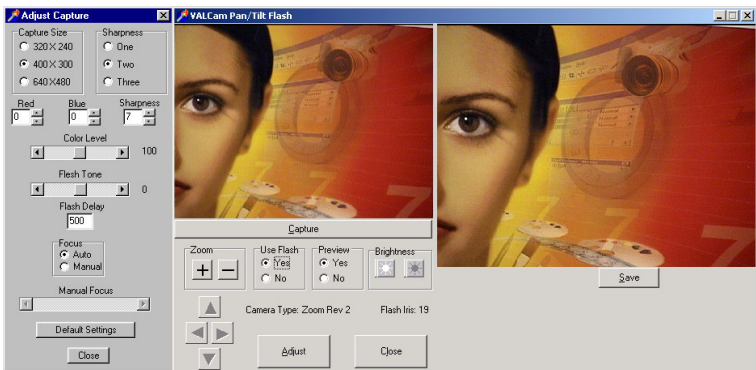
All adjustments operate similar to non-flash operations except that result is not seen until a capture is acquired.





All flash and non-flash settings are saved independently of each other. To switch between the flash and non-flash settings, toggle the **Use Flash Yes No** radio buttons.

Setting Flash Controls

- Click the **Use Flash Yes** radio button.
- Click the **Preview Yes** radio button.
- Click the **Adjust** button.



Note: It is always recommended to zoom in as tight as your image composition will allow for the highest image quality.

1. Click the **Capture** button on the main dialog. The camera will momentarily go dark and the flash will fire.
2. If the capture is too light click the  button one or more times.
If the capture is too dark click the  button one or more times.
3. Click the **Capture** button again and repeat the above process until the image brightness is optimal. Usually a **Flash Iris** setting between **15** and **24** will be used. The higher the number the brighter the captured image.
This value will not change unless the distance between the camera and subject is increased or decreased

Remember: When using the Flash these changes are only viewed after the capture is taken. No change will be visible in the preview window.

4. Adjust the **Red** and **Blue** controls.
If the image is yellow increase **Blue** and decrease **Red**.
If the image is green increase **Red** and increase **Blue**.
The default is **0** for both **Red** and **Blue**.

Note: These changes are only seen after the capture is taken. No change will be visible in the preview window.

Note: These controls are only available on the latest versions of the VALCam hardware.

5. Adjust the **Color Level** control for optimal color intensity. If this value is too low, images will appear pale. If this value is too high colors will appear too intense.
Some printers can distort color reproduction if the color intensity too high.
The default value is **110** for **flash** captures and is recommended in most cases.

Note: These changes are only seen after the capture is taken. No change will be visible in the preview window.

6. The extreme ranges of this control will change the image from Green to Red. The default value for flash captures is **40** and is recommended in most cases.

Note: These changes are only seen after the capture is taken. No change will be visible in the preview window.

7. Adjust the **Cam Sharp** control for optimal image sharpness. Usually a value between **6** and **15** will result in the best image. Its recommended to print cards at different Cam Sharp levels to determine the best value.
A value of **7** is default.

Note: A higher value might be needed for the best print results as opposed to the best image on the monitor.

Note: This control is only available on the latest versions of the VALCam hardware

8. Click the **Restore Defaults** button to reset all controls to their default settings.

Setting an Administrators Password

1. Locate and double click on the **VALPCZoom.INI** file located in the Windows folder or sub folder.
2. The file will open in Notepad. Scroll down and locate the **Password=None** entry.
3. Modify this entry with a password of your choice
Example: **Password=007**.
4. Restart the **VALCam** application and click the **Adjust** button.
5. You will be prompted to enter your password
Enter **007** to open the Adjust Dialog box.



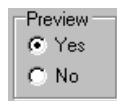
Using the VALCam with Photo-ID Applications

Twain drivers for the **VALCam** are loaded during the software installation procedure. Using your application, select the **VALCam** system as your Twain source.

Alternatively you can run the **VALCam** executable as a standalone application and capture images directly to the Window's clipboard. You can then paste these images into any applications that will support the Window's clipboard.

Quick Tips for Quality Capture

1. Adjust camera controls to frame subject.
2. **Zoom** in as tight as your image composition will allow, for highest resolution.
3. Enable the **Flash** and **Preview YES** check boxes.



4. Take a number of captures adjusting the **Iris buttons** for optimal image exposure. Usually a setting between 12 (close up) and 24 (far away) will work.
5. Fine tune image capture with the **Red, Blue,** and **Cam Sharp** controls.

Note: When using the Flash, image parameter changes only occur when the image is captured and will not be displayed on the live preview. When not using the Flash, image parameter changes are displayed immediately in the preview window.

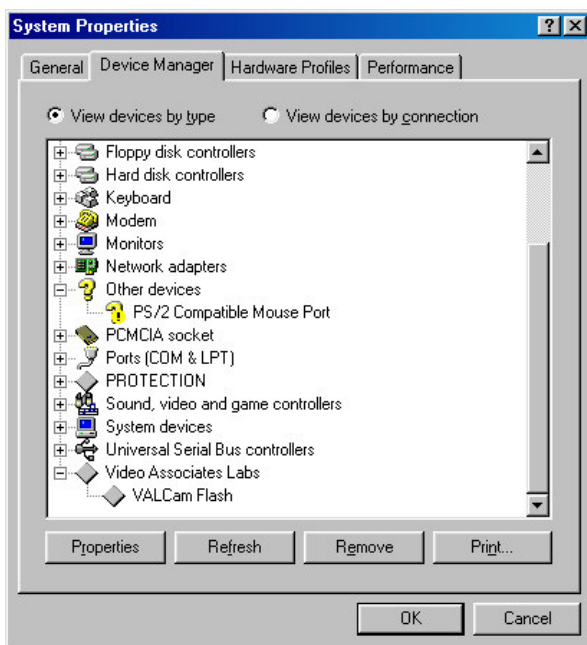
6. Set the **Sharpness** and **Image Size** in the **adjust dialog** box for best use.
7. Click the **Send to Twain** button to send the image to your application or to the clipboard.
8. **For highest speed through put,** select the Preview No radio button, and captures will immediately be sent to your application.

Trouble Shooting

1. **“Camera Not Found” dialog box displayed when trying to start the application.**
 - a. Verify that all cable and camera connections conform to the instructions in the **Hardware installation** section.
 - b. Verify that the software has been installed according to directions.
 - c. Verify that the camera has its power LED illuminated.
 - d. Verify that the COM port is enabled in the BIOS and that another application is not using the COM port. Some applications can grab the COM port during boot up. In this case an available COM port may not be available for the **VALCam** application. In most cases these application can be disabled from starting during boot up releasing the COM port for the VALCam.

2. **I receive a slew of error messages when trying to start the application.**

Check **Device Manager** to verify that the hardware is properly installed. There should be an entry for Video Associates Labs with a sub-listing for **VALCam Flash**. Verify that there are no error indicators next to the VALCam entry.



3. **The application runs fine when started on it's own, but I cannot make it run from my application.**
 - a. Verify that you have selected the **VALCam** as the twain source for your application. Consult the your application instructions for selecting a Twain source if you do not know how this is done.
 - b. Verify that the file **Twain_32.dll** is in your Windows directory.

4. **How do I set up the unit to take the best captures?**

Review the steps outlined in **Tips for Quality Captures** section.

5. **The Photo-Flash is not triggered.**
 - a. Verify that the Photo-Flash is turned on.
 - b. Verify that the power supply connection is properly connected to the flash card.
 - c. Verify that the external jumper cable is properly connected to the flash card **(blue)** and the frame grabber card **(violet)**.