

**3D VuCAM™
User Manual, Rev 1.11
Firmware Version 0.98b**



StereoVision Imaging, Inc.



We are the Eyes of the World

Introduction

Thank you for purchasing the 3D VuCAM™.

3D VuCAM™ is the world's first 3D/2D synchronized image capturing digital binocular that can be easily handheld, portable and has HDTV resolution. Equipped with high performance optics, it features 8X magnification, separate left and right eye focusing adjustment and adjustable inter-ocular eyepieces for different face sizes.

The 3D VUCAM™ incorporates automatic image focusing and exposure – making it easy for new photographers to consistently capture great 3D images. Professionals can also take advantage of the fact that the two internal cameras are controlled by one shutter button. Furthermore, the 3D VUCAM™ is capable of saving RAW as well as JPEGs.

The 3D images are now just a button click away. Check the quick start and quick operational guide to begin.

*Add another dimension to your photographs
with the 3D VuCAM™.*



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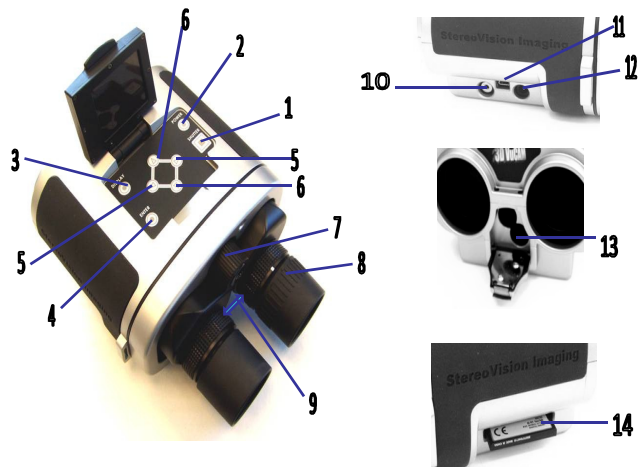
Check List

Before starting please check that all of the items listed below have been included in your shipment.

- 3D VuCAM™
- Compact Flash Card
- 4 NiMH AA Batteries
- USB Cable*
- Battery Charger
- Power Supply
- RCA Cable
- Neck Strap
- Carrying Case
- User Manual
- Brochure
- CD ROM
- Anaglyph Glasses

* NOTE: Please use the USB cable provided only.

Nomenclature



Nomenclature

1	Capture stereo images.
2	<ul style="list-style-type: none">- Turn ON: Press to turn on.- Turn OFF: Press for 3 seconds.- Go to startup screen from anywhere within the menu.
3	View images on flash card.
4	To enter LCD menu or used whenever requested by the interface.
5	<ul style="list-style-type: none">a. Left and right arrows to navigate in and out of the menu interface.b. Navigate between different images present on the flash card in Display mode.
6	<ul style="list-style-type: none">a. Up and down arrows to navigate up and down of the menu interface.b. Navigate between left/center reticule/right image of the one single image in Display mode.
7	Manual Focus Knob: Manually focus left eye to object of interest.

Nomenclature

8	Correct for any discrepancy between left and right eye using right eye correction, by rotating the rims on the right eye.
9	Push both the eye-pieces from this position to adjust for inter-ocular distance (distance between the eye) .
10	Video Port. (optional)
11	High Speed USB 2.0.
12	3Vdc power input port.
13	2 AA batteries to be inserted as indicated on the panel inside the battery holder.
14	Compact flash card slot. Goes in upside down, like shown in the picture on page 5.

IMPORTANT: CALIBRATE BEFORE USE

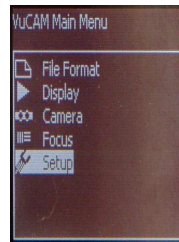
Quick Start



- Put 2 charged AA batteries in the battery cage.
- Adjust the eye pieces to compensate for the distance between the eyes.
- Place the object of interest within the reticule looking through the 3D VuCAM™ and use the round focusing knob to focus to the left eye.
- Adjust the right eye focus using rims on the right eye piece.
- Turn ON the 3D VuCAM™ by pressing POWER button.
- Set CALIBRATION by going to Focus->Calibrate AF ->press ENTER->press POWER to come to main screen->press SHUTTER.
- **It will take ~ 10 seconds for the system to calibrate. Hold the 3D VuCAM™ steady, pointing at what you are focusing till you hear first beep. If there is a problem, simply repeat calibration**
- After second beep, the 3D VuCAM™ is ready for the next shot.
- All the shots after this will be faster to process.
- You can use up and down arrows to view the left, center and right image of the shot captured.
- Thank you for purchasing the 3D VuCAM™.

Quick Operational Guide

- Push/pull along the bottom of both the eye pieces to adjust for inter-ocular distance (distance between the eyes). [See #9 on the diagram on page 5 and 7.](#)
- Use round focusing knob to focus to left eye.
- Use rims on the right eye piece to correct the focus for the right eye.
- Use ENTER to see MENU options.
- Use POWER as an Escape key, to come out of MENU any time.
- Hold steady after shutter press: After pressing SHUTTER button hold the 3D VuCAM™ steady till the first beep sounds. 3D VuCAM™ will be ready for the next shot after the second beep.
- CALIBRATION: Every user needs to calibrate the Auto Focus mechanism to their eyes each time the 3D VuCAM™ change hands. [See page 8 on how to do that.](#)
- Too Dark/AE Failed/Too Bright: 3D VuCAM™ will not capture an image if the scene is too dark or too bright (rarely occurs). [See page 13 on how to capture in those conditions.](#)
- Triple Beep will sound on SHUTTER press if no compact flash card is present.

Menu Operations



- Press ENTER button to view the Main menu.
- Use  to navigate through the menu.
- Press POWER button to come out the menu anytime.
- Press DISPLAY button to view images on the card.
 - Use  to navigate through images and to view left, center and right images of the same shot.
 - Press ENTER to delete any image.
 - Press POWER to come out of display mode.

File Format



Format	0: Captures only Jpeg. 1: Captures only Raw. VUR format. Needs DCRAW program with the patch for VUR conversion to convert to Adobe RAW standard or TIFF format. A link to the copy of DCRAW can be found in the HELP tab of SVI's PC based download utility. 2: Captures both Raw and Jpeg.
Quality	Set the quality parameter for Jpeg. Default = 85. Higher quality factor would mean lower compression and larger file size.
Small Crop	0: 2048 by 1536 image size captured. 1: 640 by 480 image size captured, centered at the center of the image.

Display



LCD timeout	Number of seconds after which the LCD will become dim to save power.
Contrast	Change the contrast of the LCD.
Beep	Turn ON/OFF the beep sound on pressing menu buttons.

Camera



AE ON	Auto Exposure. 1: ON 0: OFF, manual exposure takes into effect.
AE Offset	Increase or decrease brightness/shutter speed in the image.
Sensor Gain	<ul style="list-style-type: none"> ● Increase or decrease brightness/shutter speed in the image. 1 step is equivalent to 0.5EV steps. (EV=Exposure Value) ● Optimal is "4" when too cloudy/stadium and if the 3D VUCAM™ says "Too Dark". ● If Gain set too high(7-10) then noise will come in. ● See AE offset for another option.
Hand held	<ul style="list-style-type: none"> ● 3D VUCAM™ will not take picture if "Too Dark". Use a Tripod and set handheld = 0. ● See Sensor Gain and AE Offset, if do not want to use Tripod.
Manual Exp	Set AE ON = 0, to use manual exposure. 1 step is equivalent to 0.5EV steps.

Focus



AF Track	Auto focusing range. Can be increased or decreased depending upon how good the user is at manual focus. Optimal is 5. Increasing the range would mean longer time to capture. See below for more info.
AF start pos	Start of the range of AF travel. $AF\ start\ pos = User\ calibrated\ position - AF\ track\ (after\ calibration).$
AF end pos	End of the range of AF travel. $AF\ end\ pos = User\ calibrated\ position + AF\ track\ (after\ calibration).$
Calibrate AF	Calibrates auto focus for individual user's eye. One time setup, necessary to do whenever 3D VUCAM™ is used by a new user. In Calibration mode, the first shot will take a long Auto Focus cycle. Hold the VuCAM steady till you hear the first beep. If images are not in focus, repeat CALIBRATION procedure.

Setup



Set Defaults	All the user settings will be replaced by factory defaults.
Update Firmware	To change to a new software upgrade.



Tips on Stereo Photography



- The whole object should be captured in the image, without clipping an object at the any side.
- For greater 3D effect, the images can be captured along the longer seam of the object.
- Try to capture more than one object in an image, thus providing visual relativity of distance.
- The farther the object, the more distance between objects is better.
- To have pop-out effect from the screen, align the farthest objects in the two images using the software.
- To have a better pop-out effect, the closest object should be in focus.
- Better color and contrast also increases 3D effect.

3D VuCAM™ Specifications

• Magnification (Fixed)	8x
• Objective Lens Size	40 mm
• Optics	BAK-4
• Design	Roof Prism
• Focus System	Auto & Manual
• Field of View	6.5 ° (340 feet at 1000 yards)
• Close Focus	15 Feet
• Exit Pupil	4.5 mm
• Eye Relief	16 mm
• Interocular Distance	3 inches
• 3-D Image Resolution	3.1 MegaPixel (2048x1536) per image
• Shutter Response Time	12 seconds/stereo pair
• Digital Outputs	Flash Memory Card, USB
• Video Outputs (optional)	RCA Connector (Analog)
• Software Application	PC based download utility
• Image	JPEG and RAW
• Memory Card	Removable Compact Flash Type II
• Battery Type	2 AA NiMH rechargeable or 2 AA Alkaline
• Batteries Life	40 Stereo Images (typical)
• Temperature Range	0 ° to 40° C
• Dimensions (L x W x H)	6.2 x 6.4 x 2.8 inches
• Weight	< 2 lbs.

Software Specifications

StereoVision Imaging's software utility is provided in the CD ROM that can be used to download the images from the 3D VuCAM™. It will save the left/right/log/thumbail to the specific folder provided by the user. Please review VuCAMDownloadUtilityReadme.txt file included in the CD for further instructions and installation information.

Minimum System requirements for the software utility are:

- 800 MHz Pentium III
- 512 MB RAM
- Windows OS:
 - XP SP2
 - Windows Vista
- Screen Resolution: 1024x768
- 64-bit operating systems are not supported.

Stereo Viewing Software

StereoVision Imaging recommends the Stereo Photo Maker for viewing 3D images. Latest version can be downloaded from :

<http://stereo.jp.org/eng/stphmkr/index.html>

Warranty Information

TWO-YEAR LIMITED WARRANTY

Congratulations on purchasing your new StereoVision Imaging 3D VuCAM™. This product is warranted to be free of defects in materials and workmanship for two years after the date of purchase. This warranty does not cover damages caused by misuse, improper handling, installation, or maintenance provided by someone other than StereoVision Imaging's Technical Support Department. This warranty applies only to product purchased in the United States and is valid only to the original purchaser. This warranty is non-transferable.

In the event of a defect under this warranty, we will, at our option, repair or replace the product, provided that you return the product postage prepaid to StereoVision Imaging, Inc. 2400 N. Lincoln Avenue, Altadena, CA 91001. A check/money order in the amount of \$15.00 to cover the cost of inspection and handling must be included. Please be sure to include your name, telephone number and mailing address along with an explanation of the defect found. Note that product should be well packed in a sturdy outside shipping carton, to prevent damage in transit with return postage prepaid. This warranty gives you specific legal rights, and you may have other rights which vary from state to state. If you require non-warranty repairs these will be provided at a reasonable cost.



Revision Log



- Revision version 1.11, Dated, 7th August 2008.
 - Added information regarding DCRAW conversion tool to convert SVI's VUR file format to readable RAW on page 11 (File Format).
- Revision version 1.1, Dated, 7th August 2008.
 - Corrected page numbering error on page 7 (Nomenclature) and 9 (Quick Operational Guide).
 - Correction made to page 8 (Quick Start) related to AF Calibration.
 - Correction made to page 9 (Quick Operational Guide) related to AF Calibration.

Contact

StereoVision Imaging Inc.

Los Angeles Business Technology Center

2400 N. Lincoln Avenue

Altadena, CA, 91001

Office : 626-296-6292

FAX : 213-330-0259

Email : info@stereovisioninc.com

techsupport@stereovisioninc.com



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