

INSTRUCTION MANUAL

Orion® Video Capture Device

#52181



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The Orion Video Capture Device enables any NTSC or PAL analogue video signal output from CCTV camera, DVD, DVR, VCR, Cablebox, Game Console or Camcorder to be displayed and recorded on any computer or Laptop with Windows or Mac OS X operating system installed.



Figure 1. USB Device

Video input can be from any Composite or SVideo signal.

The Video Capture Device can be used for many purposes including:

- Live Viewing and recording of astronomy subjects via CCTV camera such as the Orion Starshoot Deep Space Video Camera or the Orion Starshoot Video Eyepiece.
- Live internet broadcasting. Search the web for "free online video streaming and broadcasting".
- Capturing and editing home movies from tape to digital formats such as DVD, Web and mobile devices.
- Automated tracking and recording of meteors using HandyAVI or UFO capture software.

Please read this instruction manual before attempting to use the video capture device or install the software.

Parts List

- Orion Video Capture Device (USB)
- Manual

System Requirements

The following hardware is required:

- Recommended minimum memory size is 512 MB.
- Disk Space – 1GB or more recommended for saving Movies.
- Video Display – 800 X 600, 16-bit color or higher. 1024x768 or higher is recommended.

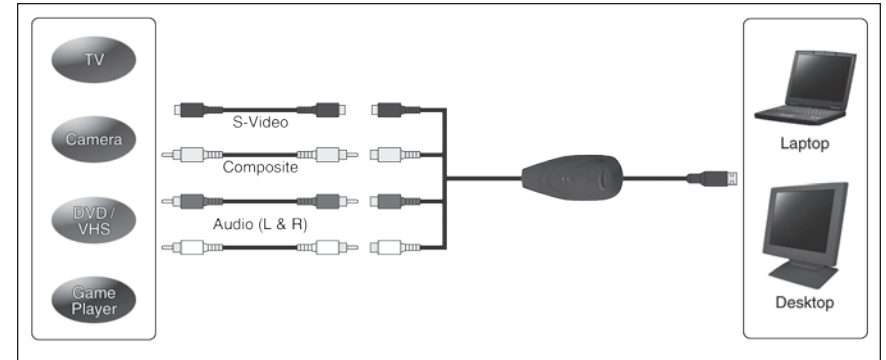


Figure 2. Examples of supported Input devices.

- Mouse (external or built-in)
- Internet connection required to display on-line help and download additional software
- High Speed USB 2.0 port

Windows



The Orion Video Capture device, device driver and Orion Capture software requires Windows running on a Pentium III™ or equivalent, or higher.

Mac OSX



The Orion Video Capture device, device driver and Orion Capture software requires Mac OS X 10.3 or above running on a Power PC G3/G4/G5 or Intel-Based Macintosh computers.

Input Devices

A wide variety of Input devices are supported (**Figure 2**).

Software and Driver Installation

Before the video capture device can be used the USB device driver and image capture software must be installed onto your computer.

Note: If you have any antivirus software enabled, please disable it during the installation of the software.

Note: Do not connect the Video Capture Device to your computer yet.

Windows Users

Download Windows device driver and Orion AmCap capture software from the following link:

www.telescope.com/vidcap

Please turn to the section titled “Windows installation and operation”.

Macintosh Users

Download Macintosh device driver and EasyCap capture software from the following link:

www.telescope.com/vidcap

Please turn to the section titled “Macintosh installation and operation”.

Windows Installation and Operation

Video Capture Device Driver Installation

1. Download and run the driver that is compatible with your operating system.
2. The **USB-TV Device Driver Software Installation** will start.
3. Follow on screen Installation instructions.
4. When installation is complete click the **Finish** button.
5. Restart computer.

Once the driver is installed, the computer will now recognize the Orion Video Capture Device whenever it is plugged in.

Please connect the Video Capture Device to your computer, you should see a window, select “Yes, this time only”, and then select “Install the software automatically (Recommended)”, select “Continue Anyway”. Wait for a moment until the system displays “Your new hardware is installed and ready to use”.

Verify Device Driver Installation

You will now need to check that the drivers are installed correctly.

1. Right Click on My Computer

2. Left Click on properties.
3. Click on Hardware tab and then Device Manager.

In the Device Manager click on the “Sound, video and game controllers”. You should see the “**USB 2861 Device**” listed. (Figure 3).

If it has a Yellow mark next to it then this means that the driver is not installed correctly. You will need to remove the driver and disconnect the Orion Video Capture device from the computer and reconnect to install the driver again.

Capture Software Installation & Guide

Now that the Video Capture Device driver software is installed, the capture software must also be installed.

1. Download, unzip and run the Orion AmCap capture software installer.
2. The **Orion AmCap Setup Wizard** appears. Click **Next**.
3. Select a destination folder and Click **Next**.
4. Click **Next** again to start the installation.
5. When the wizard is complete, click **close**. This has installed the capture software.
6. Open Orion AmCap from the icon on your desktop. The **Live Video Window** should appear (Figure 4). The software will recognize many cameras so check that **USB 2861 Device** is selected from the device menu.

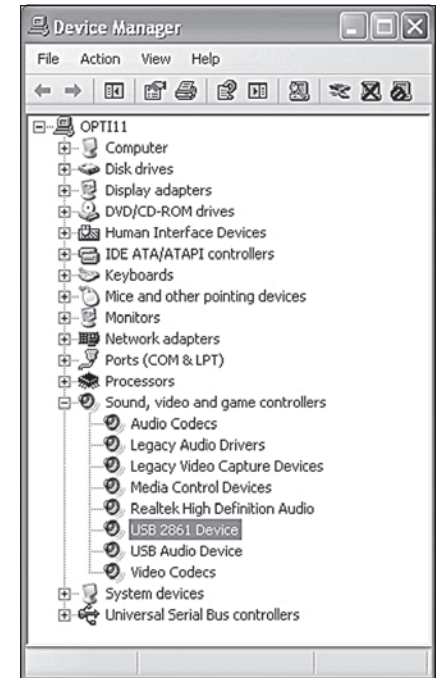


Figure 3. Device manager screen.

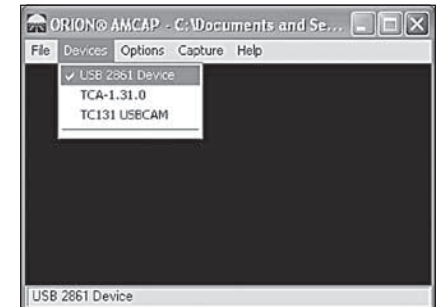


Figure 4. The live video window.

7. Under Options menu select Video Capture Filter and select Video Decoder Tab to modify settings such as PAL/NTSC/SECAM country video standard settings. Select the Video Proc Amp Tab to modify image settings such as Brightness, Contrast, Hue, Saturation and Sharpness (Figure 5).

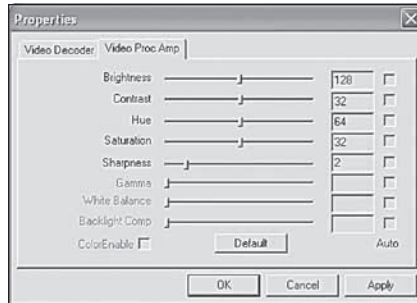


Figure 5. Video Capture Filter.

8. Under options menu select Video Capture Pin to modify settings such as Output Size (Figure 6). The maximum output size is 720 x 480.

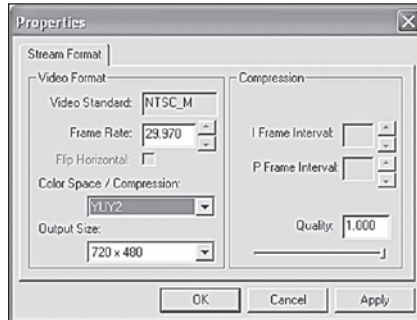


Figure 6. Video Capture Pin.

9. Under options menu select Video Crossbar to modify video input settings based upon the video device attached to the Video Capture Device IE (Figure 7). The majority of devices will output standard Video Composite video signal. Higher quality can be achieved using SVideo input.

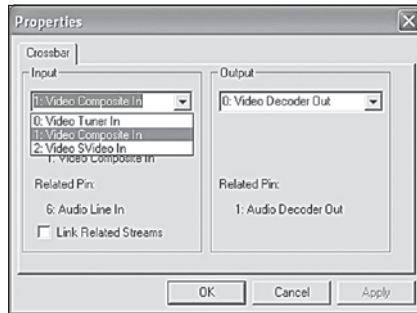


Figure 7. Video Crossbar.

10. Select **Capture File** from the **File** menu and name your file including the AVI extension name. IE MyMovie.avi. Click Open.

11. Enter the amount of disk space to allocate as a Capture buffer for this data. Movie files need a large amount of disk space. Enter a value such as 50 Megabytes or higher. Press ok. The size of the captured data may be much higher than this value depending upon number and size of frames captured.

12. Select Set Frame Rate under the Capture menu. Check the box Use Frame Rate and type 15. Press ok.

13. Select Set Time Limit under the Capture menu. Check the box Use Time Limit and type 20. Press ok.

14. Select Start Capture under the Capture menu.

15. Press ok when you are ready to capture Images.

An AVI movie sequence of 300 frames (15 frames per second x 20 seconds) will now be recorded.

The total number of captured frames is displayed on the bottom bar. If frames are being dropped this will be displayed also. To remedy this, try increasing the capture buffer size. If this does not resolve dropping frames then the frame rate or resolution should be set to a lower value to prevent dropping of frames.

Macintosh Installation and Operation

Check your Mac OS X version

Orion Capture software requires Mac OS X 10.3 or later.

Please go to → **About this Mac**.

There you will find your Mac OS version (Figure 8).



Figure 8. Mac OS X Version window.

Install Driver and Application

Note: If you have any anti-virus software enabled, please disable it during the installation of the software.

Download and run the installer “EzCAP1.0.1R.pkg”.

Follow the onscreen instructions. You may need to enter your Mac password.

Once installation has completed please restart your computer (Figure 9).

Connect the Capture Device to a USB port on your Mac, after a short while, the hardware will be installed in your computer. You now need to check that the drivers are installed correctly.

Please go to → **About this Mac** → **More info** → **Hardware** → **USB**.

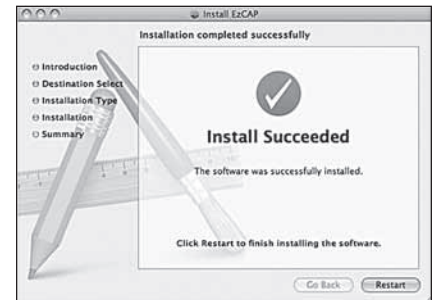


Figure 9. EzCAP successful installation.

If the driver is installed correctly you should see the device listed as in **Figure 10**. (Vendor ID: Empia Technology, Inc)

If not then it means that the driver is not installed correctly. You need to remove the driver and disconnect the USB Video Capture from the Mac, uninstall them first and then re-install the driver and application again.

EzCap Application Guide

Click **Go** → **Applications** → **EzCAP**, then double click **EzCAP Capture** icon.

Select **"Digitizers"** and **"EzCAP"** to select device. Next Click "Record" and select "Video Settings" on the application window. Click **Source** and select Composite or S-Video to match your video source (**Figure 11**). Select "OK". You should now see the video in the video window.

Click **Record** → **Sound Settings** → **Source** → **Unknown USB Audio Device**, and set **Speaker** to "On", then click "OK" (**Figure 12**). You should now hear the audio as your inputted audio source.

You can also click **Record** icon, and select **"Record Setup"** to set items for recording, and select **"Record"** to record the video programs.

Uninstall the Application

Go to **Macintosh HD** → **Applications** → **EzCAP**, and delete the "EzCAP" folder (**Figure 13**).

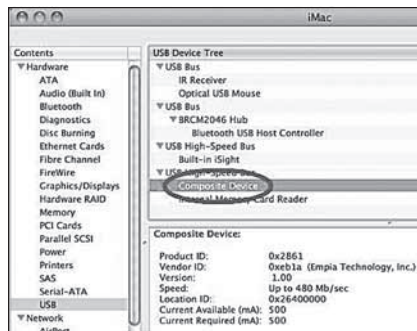


Figure 10. Checking Driver installation.

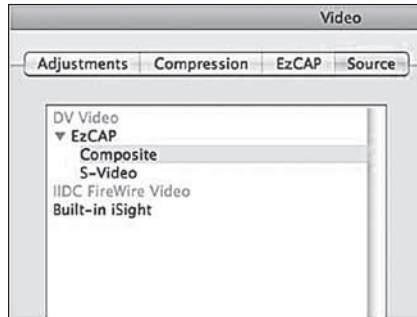


Figure 11. Video Settings.

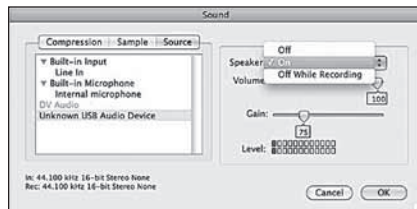


Figure 12. Sound settings.



Figure 13. Uninstall Application.

Go to **Macintosh HD** → **Library** → **QuickTime** → **EzCAP.component** and delete the "EzCAP.component" (**Figure 14**).

Go to **Macintosh HD** → **System** → **Library** → **Extensions** → **EzCAP.kext** and delete the "EzCAP.kext" (**Figure 15**).

Now you finished the uninstallation application.

Additional Software

The following software is compatible with the Orion Video Capture device.

Follow the provided links to download the latest software.

For detailed information on installation and usage of additional software consult the websites of each software provider. Tutorials and user groups can also be found online.

Registax (Windows) – Free image processing software

A popular free image processing suite of tools includes features such as alignment, stacking, optimizing and wavelet filters,

Registax can analyze, align, and stack thousands of images in just minutes.

<http://www.astronomie.be/registax/>

AviStack (Windows) – Free image processing software

AviStack is a freeware tool that registers, stacks and processes AVI's and image sequences of astronomical objects..

AviStack was primarily developed to process lunar images, but, it also works well with solar and planetary images.

<http://www.avistack.de/>

MaximDL (Windows) – Trial/Paid CCD imaging and image processing software

MaxIm DL is the fastest and easiest way to image the night sky. Whether you want to produce stunning portraits, collect science data, or hunt for new objects, MaxIm DL has the tools you need.

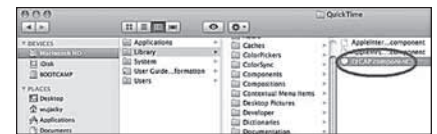


Figure 14. Uninstall Component.

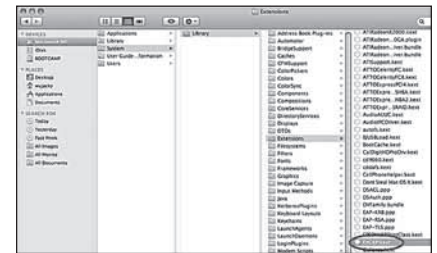


Figure 15. Uninstall extensions.

Complete observatory integration. Controls your camera, autoguider, filter wheels, focusers, camera rotator, telescope mount, and dome. ASCOM compliant.

Includes a complete image processing toolkit, including a large variety of filters, deblooming, curves, deconvolution, color tools, and much more

http://www.cyanogen.com/maxim_main.php



HandyAVI (Windows) – Trial/Paid Suite of tools for AVI files.

Features include time lapse, motion detection, surveillance, planetary imaging, meteor trail imaging and stop motion animation.

HandyAvi automatically captures a specified number of frames (pre-frames) immediately preceding the “trigger event” so that the (possibly) dim beginning of the meteor trail is captured.

HandyAvi continues recording data while additional motion is detected.

HandyAvi continues recording an additional number of “post-frames” after the last motion is detected.

The AVI file will contain COMPLETE meteor trails, airplane trails or lightning events.

Automatically email images of detected motion.

Automatically FTP upload captured video to a website.

<http://www.azcendant.com/>



UFO Capture (Windows) – Trial/Paid time shifted motion capture software

Automated detection, recording and analyzer software for Meteors, Atmospheric phenomena and security.

Automatically email images of detected motion.

Automatically FTP upload captured video to a website.

http://sonotaco.com/e_index.html



Lynkeos (Macintosh) – Free image processing software

Lynkeos is a Cocoa (Mac OS X) application dedicated to the processing of astronomical (mainly planetary) images taken with a webcam through a telescope.

<http://lynkeos.sourceforge.net/>

Internet Broadcasting

Share your views of the night sky by broadcasting live over the internet. Includes video, voice and text chat. Search the web for “free online video streaming and broadcasting”.

See members from all parts of the globe broadcasting the night skies from their home built observatories, back yards, and just about any other place where they can set up a telescope.

Tips

Loss of Capture Device Connection

If the computer connection to the Video Capture Device is interrupted, you will need to re-establish connection. This can happen due to several reasons; if a cable becomes unplugged, the computer “freezes”, or the software/hardware otherwise temporarily loses the data coming from the device.

To re-establish camera connection, first close all capture software on your computer. Then, unplug and re-plug the Video Capture Device into the computer’s USB port. Now, re open the capture software and the **Live Video Window** should appear indicating re-established connection between camera and computer.

Recommended Reading

(Books available through Orion, check the catalog or www.OrionTelescopes.com for more information).

Specifications

Interface	USB 2.0
TV System	PAL, NTSC
Resolution	NTSC 720 x 480; PAL 720 x 576
Recording Format	DVD, VCD, SVCD, AVI, MPEG
Frame Rate	NTSC 30fps, PAL 25fps
Input	RCA Composite + Audio L/R or S-Video +Audio L/R

One-Year Limited Warranty

This Orion product is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid. Proof of purchase (such as a copy of the original receipt) is required. This warranty is only valid in the country of purchase.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights. It is not intended to remove or restrict your other legal rights under applicable local consumer law; your state or national statutory consumer rights governing the sale of consumer goods remain fully applicable.

For further warranty information, please visit www.OrionTelescopes.com/warranty.

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