# POV.1 User Manual

Copyright © 2007, V.I.O., Inc. All rights reserved.

POV.1, POV Manager, V.I.O. and the V.I.O. logo are trademarks of V.I.O., Inc. All other product and brand names may be trademarks or registered trademarks of their respective owners.

# Contents


**Introduction to the POV.1** . . . . . 7

What's in the Box . . . . . 9

Overview of the User Manual . . . . . 11

Overview of Shoot, Tag, Edit, and Share . . . . . 11

**POV.1 Recorder** . . . . . 13

Setting up the POV.1 . . . . . 13

Protecting the POV.1 Recorder Display . . . . . 13

Connecting the Camera Head to the POV.1 Recorder . . . . . 14

Installing the Batteries . . . . . 15

Installing the SD Card . . . . . 17

Powering the POV.1 . . . . . 20

Powering the Remote Control . . . . . 21

Using the POV.1 . . . . . 22

Recording Video with the POV.1 . . . . . 23

Clip Recording vs. Loop Recording . . . . . 24

Recording Quality and Resolution . . . . . 24

The Video Recording Display Screen . . . . . 25

Recording in Clip Mode . . . . . 26

Recording in Loop Mode . . . . . 27

Working with SD Memory Cards . . . . . 28

Playing Video . . . . . 30

Connecting the POV.1 to a TV or Other Video Device . . . . . 31

Settings . . . . . 33

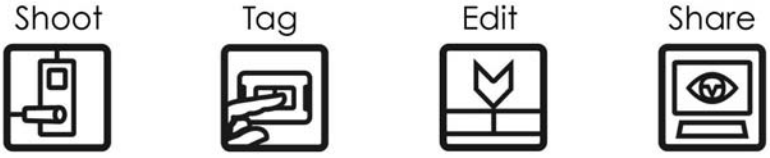
Mounting the Camera Head . . . . . 35

C-clamp mount . . . . . 35

Base mounts . . . . . 36
Tips for Mounting the POV.1 . . . . . 39
Optional Mounting Accessories . . . . . 41
Mounting the POV.1 Recorder . . . . . 43
Mounting the Wireless Remote Control . . . . . 44
Changing the Remote I.D. Channel . . . . . 44
Connecting the POV.1 to a Computer . . . . . 47
Connecting to a PC . . . . . 47
Connecting to a Mac . . . . . 48
**POV Manager . . . . . 49**
Getting Started . . . . . 49
System Requirements . . . . . 49
Software Overview . . . . . 50
Installing the POV Manager Software . . . . . 50
Connecting the POV.1 to the Computer . . . . . 51
Creating a User Profile . . . . . 52
Understanding the POV Manager Interface . . . . . 54
About the Buttons . . . . . 54
About the Panes . . . . . 54
List Pane . . . . . 55
View Pane . . . . . 55
Storyboard Pane . . . . . 56
Using the POV Manager . . . . . 56
Managing your Videos . . . . . 57
POV.1 . . . . . 57
Copying Videos to the POV.1 . . . . . 57
Copying Videos to the POV Library . . . . . 58
Deleting Videos . . . . . 58
Playing Videos . . . . . 58
Editing Videos . . . . . 59
Extracting Clips . . . . . 59
Arranging Clip Sequence . . . . . 61
Deleting Clips . . . . . 61
Previewing Videos . . . . . 62
Saving Videos . . . . . 62

Sharing Videos . . . . . 63
FCC Compliance . . . . . 65
Limited Warranty and Disclaimer . . . . . 65
Return Policy . . . . . 66
Obtaining Service and Technical Assistance . . . . . 67
**Specifications . . . . . 68**
POV.1 Hardware Specifications . . . . . 68
**Index . . . . . 71**

# Introduction to the POV.1




Shoot, Tag, Edit, and Share. The POV.1 makes it easy to shoot great video, tag interesting shots while you are recording, edit your video, and then share videos online using the POV Manager software that is included with the POV.1.

The new POV.1 is a flexible and durable video recording and playback system designed for the hands-free capture of video on land, sea, or in the air, under almost any weather conditions. POV means Point Of View, and this system is built from the ground up to allow you to record video from almost any point of view imaginable.

POV.1 is designed to be rugged and withstand a wide range of environmental conditions such as dust, water, and shock. The camera lens can be mounted almost anywhere including a vehicle, boat, helmet, headgear, headset, sports equipment, or firearm. Anywhere you need it to be to catch the action.

The waterproof, shock-resistant recording unit can be attached to your vehicle, worn on your belt or vest, or stored in a backpack or hydration pack. The wireless remote control unit can be strapped to your wrist like a watch, or mounted anywhere within reach.

Using the wireless remote you can tag events in the recording so that you can quickly find them when editing the video. You can use the POV.1's special loop recording mode to save individual clips of a pre-set length to maximize the amount of video you can save on each SD card.

The POV.1 sets a new standard for Point Of View video recording. It can record DVD-quality video under the most demanding environmental conditions, it includes Windows-based editing software, and despite its advanced features and capabilities it is easy to operate and use.

## What's in the Box

The POV.1 consists of four main components:

- POV.1 Recorder
- Camera head (and rubber lens cap)
- Digital A/V cable
- Wireless remote control

*The POV.1 Recorder, Camera Head, Digital A/V Cable, and Wireless Remote*

In addition the POV.1 is shipped with the following items:

- Software CD containing the software and documentation
- Quick-Start Guide that is printed on the case of the software CD
- Carrying case
- SD card (1GB)
- Four AA batteries used to power the POV.1

- USB cable for attaching the POV.1 to a computer
- Analog A/V cable for attaching the POV.1 to a TV, VCR, or other video device
- Mounting accessories for the camera head
  - C-clamp mount
    - C-clamp O ring (1), size #9
  - Wide flange rail base
    - Wide flange Hook and Loop pad
    - Wide flange adhesive pad
  - Tubular rail mount
- Hook and Loop remote control wrist band
- Cable guide clip
- Cable guide Hook and Loop strip
- LCD protective cover

*Accessories included with the POV.1*

## Overview of the User Manual

The POV.1 User manual is divided into two main sections:

- **POV.1 Hardware Guide** - This section shows you how to **Shoot** and **Tag**. Learn about setting up the POV.1, the user interface, recording and playing video, mounting the camera head and working with the remote control
- **POV Manager User Guide** - This section shows you how to **Edit** and **Share**. Learn about installing the POV Manager software, understanding the interface, managing your videos, playing videos, editing videos, and sharing your videos online.

## Overview of Shoot, Tag, Edit, and Share

The POV.1 is intuitive and easy to use. Although this manual provides detailed information about using the hardware and software, here are the basic steps you'll take to Shoot, Tag, Edit and Share video with the POV.1:

- **Set-up the POV.1 Recorder**
  - Connect the camera head to the POV.1 Recorder using the digital A/V cable
  - Install the 4 AA batteries into the compartment on the back of the POV.1
  - Install the SD Card into the compartment on the bottom of the POV.1
- **Mount the camera head**
  - Use one of the mounting accessories included with the POV.1
  - Or be creative -- you can just hold onto the camera head, wedge it somewhere, strap it down with zip ties, or even hold it in place with duct tape.

- **Shoot video from your point of view**
  - Hit the **POWER** button
  - Press the **RECORD** button on the POV.1 or the **REC/TAG** button on the remote control to shoot some video in Clip mode
  - Tag scenes you like using the **TAG** soft key on the POV.1 or the **REC/TAG** button on the remote control

- **Edit your video with the POV Manager**
  - Install the Windows POV Manager software on your PC
  - Hook the POV.1 up to your PC with the USB cable
  - Organize your clips and edit your video with the easy-to-use POV Manager software
- **Share your video online**
  - Just click **Share** to email video clips or edited video projects to anyone you want
  - Get your videos posted to the VIO Gallery

# POV.1 Recorder

The POV.1 Recorder section explains the details of using the POV.1 Recorder to Shoot and Tag your video. To find out how to Edit and Share your video, refer to the POV Manager User Guide that appears later in this manual.

## Setting up the POV.1

Setting up the POV.1 is very straightforward. Just connect the camera head to the POV.1 Recorder, install the batteries and SD Card, and you're ready to start creating video from your Point Of View.

### Protecting the POV.1 Recorder Display

In order to protect the POV.1 Recorder's LCD screen from scratches the POV.1 comes with an LCD protective cover, which is a small plastic sheet that is used to cover the screen.

To install the LCD protective cover:

1. The POV.1 is shipped with a plastic sheet covering the display. If this is still on the unit remove it.
2. Make sure the LCD screen is clean and free of any dust, smudges, fingerprints, etc.
3. Peel the paper off the back of the sheet and position the plastic sheet over the LCD and press it down to secure it.
4. Use your finger to smooth out any air bubbles that may be trapped.

Replacement screen covers are available on our website at www.vio-pov.com.

## Connecting the Camera Head to the POV.1 Recorder

To start setting up the POV.1, connect the camera head to the POV.1 using the digital A/V cable. You need to make sure to connect the camera head to the camera end of the cable. Note that the camera end of the cable is marked with the V.I.O. logo.

*The camera end of the cable is marked with the V.I.O. logo*

The digital A/V cable connector has a small notch in it so that it will only plug in when aligned properly. Do not force the connector since doing that may damage the connector pins. Once you plug the cable into the camera head you then need to turn the metal ring to screw the cable in place and secure the connection.

Now connect the other end of the cable to the connector on the top of the POV.1. As with the camera head connection, be sure to align the notches, plug in the connector, and then screw the connector in place.

## Installing the Batteries

To install the batteries start by turning the POV.1 unit over and place it face down on a flat clean surface to avoid scratching the screen.

*Back of the POV.1*

Pull the tabs on each side of the unit out until they stop. Do not force them down any further than necessary, the tabs only need to be opened as far as is shown in the photo below.

*Back of the POV.1 with the battery compartment tabs opened*

Now, remove the battery compartment cover from between the tabs. You can lift the cover by grasping it at the top and bottom and pulling straight up, or you can pry it gently using your fingernail or a small screwdriver. Note that the tabs remain attached to the POV.1 when you lift the cover off.

*Back of the POV.1 with the battery compartment cover removed*

Install 4 AA batteries according to the diagram embossed into the bottom of the battery compartment. Replace battery cover and push the tabs back into place.

## Installing the SD Card

To install the SD card you need to remove the Input/Output Port cover located at the bottom of the POV.1.

*The Input/Output Port cover is located on the bottom of the POV.1*

The Input/Output Port cover is attached to the bottom of the POV.1 with a retaining screw. When the unit is shipped this screw will be loose so that the Input/Output Port cover will be easier to remove.

Note that when the retaining screw is fully unscrewed it will be loose, but will not come completely out of its socket.

In order to keep the POV.1 water-resistant the Input/Output Port cover fits very tightly and you may need to use a small coin to pry it open. Be careful to pry the cover open gently so as not to damage the cover or its water-resistant seal.

*The bottom of the POV.1 with the Input/Output Port cover removed*

Once the Input/Output Port cover is removed, insert the SD memory card in the slot. You should insert the SD card oriented so that the label is facing towards you and the small notch is in the right top corner - the notched end of the SD card is the one you insert into the slot. When the card is fully inserted it will click into place.

*The bottom of the POV.1 with the SD card inserted*

Replace the Input/Output Port cover and screw the retaining screw clockwise until it is tight.

Your POV.1 is now ready for use.

## Powering the POV.1

Press the **POWER** button to start the POV.1. The button only needs to be pressed briefly, holding it down too long will cause the POV.1 to turn off again.

The POV.1 is normally powered by 4 AA batteries. The POV.1 can also be powered by the USB cable when it is connected to a computer. However, when the POV.1 is being powered by the USB cable it is in USB mode and can only be accessed from the computer - the controls on the unit itself are disabled with the exception of the **POWER** button. Please note that batteries can not be recharged from the USB power source.

AA batteries were chosen because they are the most common battery type, and are readily available almost anywhere in the world.

The amount of recording time you can get from a set of batteries depends on several factors:

- the type of batteries you use
- the internal settings of the POV.1 (such as video resolution)
- the external environment (operating temperature can affect battery life)

On average a set of standard alkaline batteries should last about 4-5 hours and lithium ion batteries can last up to 10 hours.

If you want to have a lower-cost and more environmentally friendly solution you can use rechargeable batteries.

**WARNING**: Do not mix old and new batteries. Do not mix alkaline, standard (carbon zinc), lithium ion or rechargeable (nickel cadmium) batteries. Dispose of used batteries responsibly.

## Powering the Remote Control

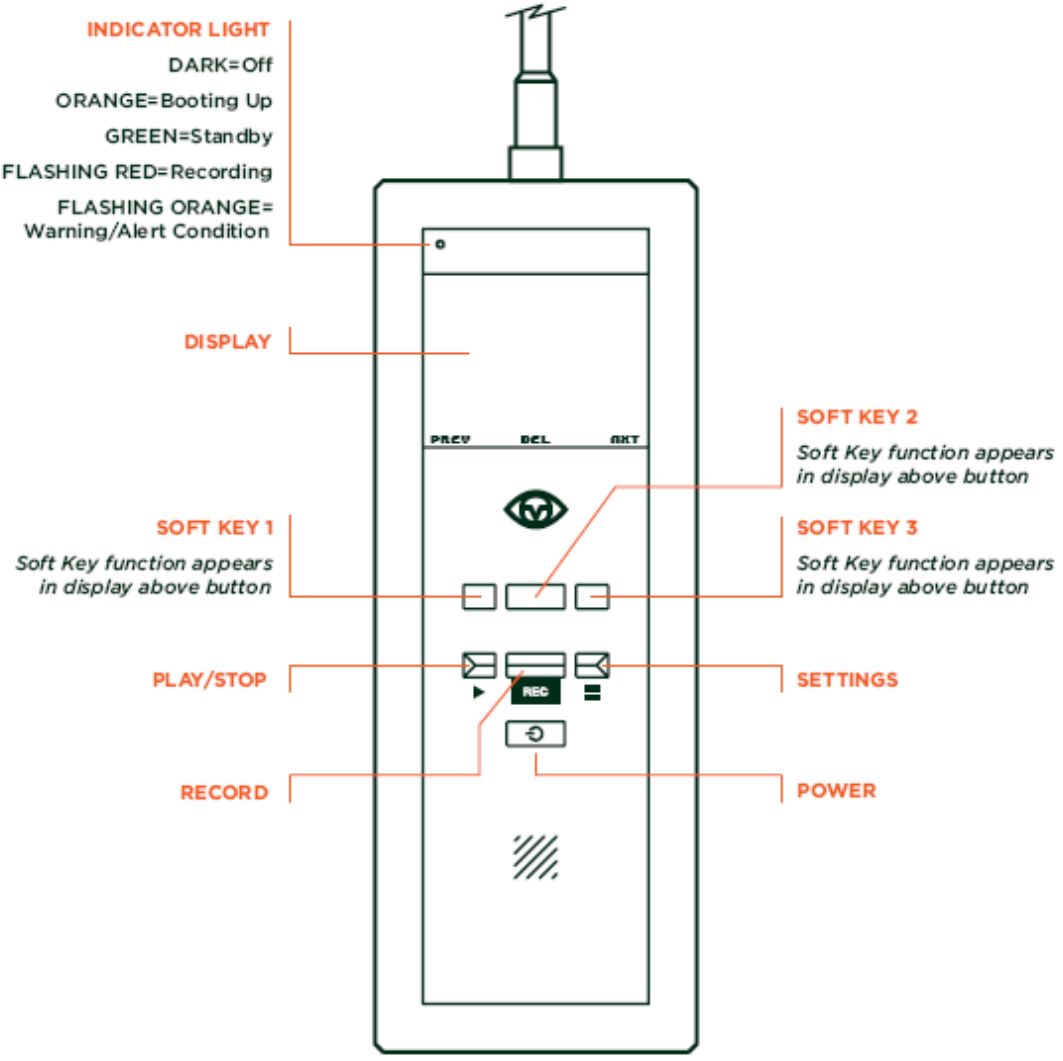
The wireless remote control unit uses an A27 12 volt battery, which is included with the unit and pre-installed.

If you need to replace the battery in the wireless remote control:

1. Place the remote unit on a flat surface with the buttons facing up.
2. Unscrew the four small Phillips screws in each corner and lift the cover from the remote. Take care to protect the inside of the remote control unit from dust and moisture while the cover is removed.
3. After changing the battery, replace the cover, tightening the four screws uniformly to create even pressure against the seal.

## Using the POV.1

Before using the POV.1 to record or play back video, you should familiarize yourself with the layout and controls of the POV.1 main unit.



In the upper left-hand corner of the POV.1 is the **INDICATOR LIGHT** which lets you know the current status of the unit:

- **DARK** = Off
- **ORANGE** = Booting Up
- **GREEN** = Standby
- **FLASHING RED** = Recording
- **FLASHING ORANGE** = Warning/Alert Condition

At the top of the POV.1 is the LCD display. The information on the display changes depending on the current operating mode of the POV.1.

Below the display are three **SOFT KEYS**. The function of each **SOFT KEY** changes depending on the current mode of the POV.1. The current function of each key is displayed above that key at the bottom of the display area.

Below the row of **SOFT KEYS** are the three control buttons:

- **PLAY/STOP -** In Play mode starts playing the currently selected video. If a video is currently playing, pressing this button stops playback.
- **RECORD** - Starts recording of video. Pressing this button while recording stops the recording and places the unit in Standby mode.
- **SETTINGS** - Brings up the Settings menu where you can view and change the various settings of the POV.1

Below the control buttons is the **POWER** button. Pressing this turns the unit on and off.

## Recording Video with the POV.1

The POV.1 offers a number of different recording options to suit a wide variety of applications. You should familiarize yourself with the basic recording modes and settings so that you can choose the recording method that is best suited for your needs.

## Clip Recording vs. Loop Recording

The POV.1 Recorder offers two different recording options, Clip mode and Loop mode.

- **Clip recording** - this works like a traditional video camera. When you press the RECORD button video is recorded continuously on the SD card until the card is full or until you stop recording.
- **Loop recording** - this special recording mode helps save space on the SD card by allowing you to save individual video clips of a pre-set length. This way the SD card retains only your best footage.

You need to choose which of these recording modes you want to use before you begin recording.

## Recording Quality and Resolution

The POV.1 records video with a number of different options for resolution and video quality. You may want to adjust these settings prior to recording since they will affect the quality of the video you create and determine how much video you can save on each SD memory card. The three settings to consider are:

- **Frame Rate** - this is the number of frames that are recorded per second. This setting affects how smooth the playback will be. The options are 30, 25, 24, or 15.
- **Video Resolution** - this setting controls the number of pixels recorded in each frame. Your choices are 720x480, 720x400, 640x480, 360x240, 360x200, or 320x240.
- **Video Quality** - this affects the amount of compression used when saving the video. The options are High, Medium, and Low. A high setting produces a sharper more accurate image, but takes more space on the memory card. A low setting saves space but sacrifices color accuracy and detail.

The default setting is 640x480 video resolution, 30 frames per second, high quality. You can change these settings using the Settings menu that is described later in this manual.

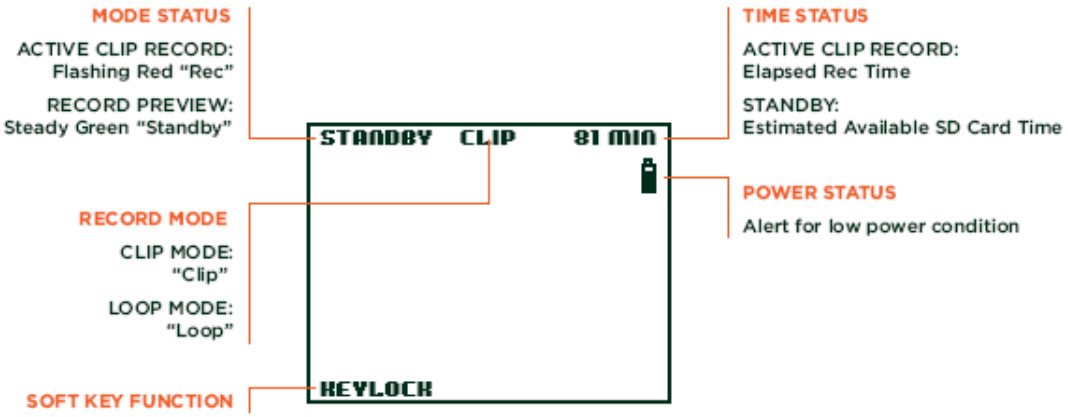
Here are some examples of how much video you can save on each SD memory card depending on which settings you choose:

| Overall Quality | Settings | 1GB SD Card | 2 GB SD Card |
|---|---|---|---|
| highest settings | 720x480, 30fps, high quality | 43 minutes | 1 hour 26 minutes |
| default settings | 640x480, 30fps, high quality | 48 minutes | 1 hour 36 minutes |
| lowest settings | 320x240, 15fps, low quality | 7 hours 52 minutes | 15 hours 44 minutes |

As you can see from the above table, your choice of settings can dramatically affect the amount of video you can save on each SD card. You will need to decide what resolution you need for your application and then experiment with the various settings.

## The Video Recording Display Screen

When you turn on the POV.1 it is placed in Standby mode, and ready for you to record video. The display of the POV.1 Recorder provides you with some basic information about the status of the unit.



The status light at the top of the display is green when the unit is in standby mode. Once you press the **RECORD** button it will turn to red and start flashing to indicate that video is being recorded.

At the top of the display in the center you can see whether you are in Clip recording mode or Loop recording mode.

In the upper right hand corner of the display you can see the **Time Status** indicator.

- When the unit is in Standby mode this displays the amount of recording time remaining on the SD card based on the current resolution, frame rate, and video quality settings.
- When the unit is in Record mode the Time Status will change to show you the time that has elapsed since you started recording.

Below the Time Status is an icon that shows approximately how much power is left in the battery.

- If your battery power is low the icon will start flashing as a warning and reminder to change the batteries.

## Recording in Clip Mode

To record in Clip mode simply press the **RECORD** button on the main unit or the **REC/TAG** button on the wireless remote control to begin recording.

During recording you can **Tag** important points in the video to make them easier to locate when viewing or editing the video with the POV Manager software.

- To place a tag in the video press the **TAG** soft key (SOFT KEY 2) on the main unit or the **REC/TAG** button on the wireless remote control.

To stop recording press the **RECORD** button on the POV.1 Recorder or the **STOP** button on the remote control.

## Recording in Loop Mode

Loop mode allows you to save a video segment of a pre-defined duration by hitting the **TAG** soft key on the POV.1 Recorder or the **REC/TAG** button on the remote control. Loop mode makes it easy to leave the POV.1 in recording mode all day, and just save the best hour or two's worth of video on the SD card.

In Loop record mode the POV.1 records a continuous loop of video clips that are all of the same duration. For example, if the POV.1 is set to record 3 minute loops, it will record a series of 3 minute loops for as long as the unit is in Loop record mode. Then, when something happens that you want to save you simply press **TAG** or **REC/TAG** to save that loop.

In order to make sure you don't miss any of the action, Loop mode will also grab more than one loop if you Tag a loop near the beginning or end of a loop. Here's how it works:

- If you press the **TAG** soft key on the POV.1 Recorder or the **REC/TAG** button on the remote control during the first third of a loop the previous loop and the current loop will be saved
- If you press **TAG** soft key or the **REC/TAG** button during the middle third of a loop only the current loop will be saved
- If you press the **TAG** soft key or the **REC/TAG** button during the last third of a loop the next loop and the current loop will be saved

For example, if you have the POV.1 set to record 3 minute loops and press **TAG** or **REC/TAG** during the first minute of the loop, the previous 3 minute loop will be saved in addition to the current loop for a total of six minutes of video. Similarly, if you press **TAG** or **REC/TAG** during the last minute of the loop both the current loop and the next loop will be saved.

If you don't Tag anything the old loops are discarded to make room for new video loops.

The default mode for the POV.1 Recorder is Clip mode. To switch from Clip mode to Loop mode:

1. Press the **SETTINGS** button on the main unit and then press the **NXT** soft key (SOFT KEY 3) until **Record Mode** appears in the display.
2. Press the **SELECT** soft key and then the **NXT** soft key until **Loop** appears in the display.

3. Now press the **SELECT** soft key to choose Loop mode.

Once you have selected Loop mode you need to choose the duration you would like for each Loop that you save.

1. Press the **NXT** soft key until **Loop Record Time** appears in the display and then press the **SELECT** soft key.
2. Now press the **NXT** soft key repeatedly until the length of time you want to choose appears. Your choices are: 20 seconds, 30 seconds, 1 minute, 2 minutes, 3 minutes, 5 minutes, 10 minutes, 15 minutes, or 30 minutes.
3. Once the desired value is shown in the display press the **SELECT** soft key to choose that duration.

Next press the **RECORD** button on the main unit to place it in Standby mode.

To begin recording in Loop mode press the **RECORD** button on the POV.1 Recorder or the **REC/TAG** button on the wireless remote control.

When you want to save a video segment press the **TAG** soft key on the POV.1 or the **REC/TAG** button on the remote control. To record another video segment press the **TAG** soft key or the **REC/TAG** button again.

**IMPORTANT**: When recording in Loop mode video clips are only saved if you press **TAG** or **REC/TAG**.

Press the **RECORD** button to stop recording and switch the unit to Standby mode.

If you want to switch back to Clip recording mode you will need to go back to the Settings menu.

## Working with SD Memory Cards

The POV.1 records video to standard 1GB or 2GB SD memory cards. However, before you can record video to an SD card it must be formatted by the POV.1.

To format an SD card:

1. Remove the Input/Output Port cover at the bottom of the POV.1

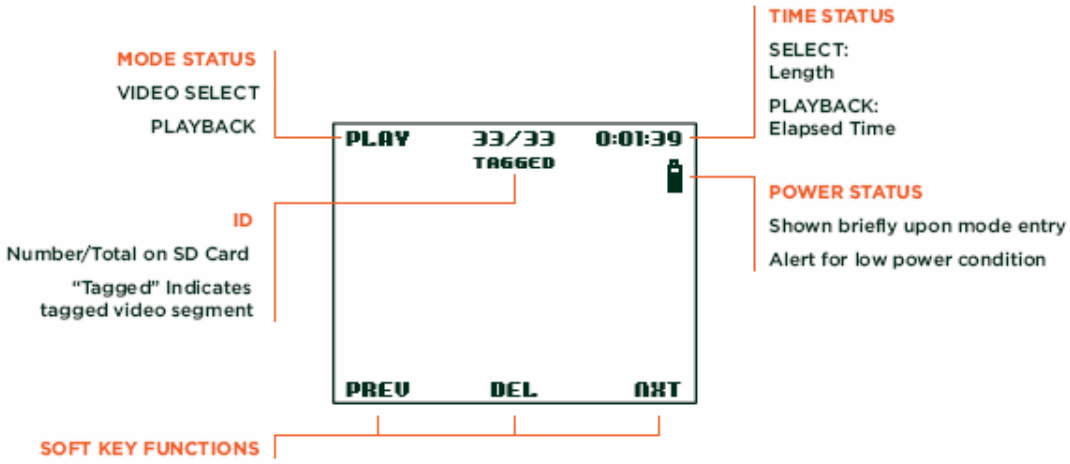
2. Insert the card into the SD slot face up; the end of the SD card with the small notch should be inserted into the slot
3. Press the **SETTINGS** button, and repeatedly press the **NXT** soft key until **Format SD Card** is shown in the display
4. Press the **SELECT** soft key to highlight the default choice, which is **NO**. Press the **NXT** soft key until **YES** is shown in the display, then press **SELECT** again to format the card

**IMPORTANT**: Formatting an SD card erases everything on the SD card.

**Tip** If you are doing a lot of recording you will probably want to have several SD cards already formatted and ready to use. You may also want to consider using a memory card reader that attaches to your PC or Mac to back-up files from your SD cards. You can then take the cards out of the POV.1 and place them in the memory card reader where they will appear as storage devices (disk drives).

## Playing Video

When the POV.1 is first turned on it is placed in **Standby** mode. To play video on the POV.1, press the **PLAY** button to switch it into **Play** mode. The display will change to show the opening frame of the most recently saved video.




The upper left hand corner of the display will show **PLAY** and the top center of the display will indicate the number of the current clip and total number of saved clips. For example, **33/33** means you are looking at clip number 33 out of a total of 33 clips, and **1/33** would mean that you are looking at clip number 1 of 33.

Press the **PREV** or **NXT** soft keys to step through the video clips that are saved on the SD card.

- Each time you step through the clips the first frame of that clip will be shown in the display.
- The Time Status indicator in the upper right hand corner of the display will show the length of each clip.

When the desired video clip appears, press the **PLAY** button to play the clip.

- When the clip is playing the Time Status indicator will change to show the elapsed time since the beginning of that clip.
- If you marked a video segment with a tag, the word **TAGGED** will appear underneath the counter while that segment is being played.

To erase an individual clip press the **DEL** soft key while that clip is selected. Prss **YES** to confirm that you want to delete the clip.

During playback, the three soft keys allow you to fast-forward, reverse play, pause and resume play.

- Pressing the << soft key reverses play at 1X speed. Pressing << again speeds reverse play up to 2X normal speed. After pressing <<, normal play is resumed by pressing >>.
- Pressing the >> soft key speeds up forward play to 2X speed. Pressing << slows down playback speed from 2X to 1X

Pressing the **PLAY** button during playback stops the playback and returns to the main Play mode display.

## Connecting the POV.1 to a TV or Other Video Device

You can output video from the POV.1 to a TV or any standard video device that accepts a composite video-in signal such as a VCR or DVD recorder. Video can be played on both the POV.1's built-in display and an external video device simultaneously.

A color-coded analog video cable is included with the POV.1 for connecting the unit to a television monitor or other video device.

One end of the cable has a 1/8th inch mini phono jack and plugs into the bottom of the POV.1 in the Input/Output Port area (you will need to remove the Input/Output Port cover to access this connector).

The other end of the video output cable is color coded with a yellow RCA connector for video out and a white RCA connector for audio out. These can be plugged into a composite input jack on a TV or other video device. See your TV or video device manual for details about selecting the input as the video source.

**NOTE**: The POV.1 outputs video in both the NTSC and PAL video formats. In the U.S. the format standard is NTSC and in Europe the standard is PAL. To change from one format to the other:

1. Press the **SETTINGS** button on the POV.1
2. Press the **NXT** soft key until **VIDEO OUTPUT** is shown in the display, and press **SELECT**
3. Use **PREV** or **NXT** to choose the appropriate setting, and then press **SELECT**

If you set the format to PAL you should also change the **FRAME RATE** setting to 25 frames per second to optimize PAL video playback.

1. Press the **SETTINGS** button on the POV.1
2. Press the **NXT** soft key until **FRME RATE** is shown in the display, and press **SELECT**
3. Use **PREV** or **NXT** to choose **25**, and then press **SELECT**

# Settings

The POV.1 offers an array of different settings, some of which have been discussed earlier in this manual.

To access the Settings menu Press the **SETTINGS** button once. Use the **PREV** and **NXT** soft keys to navigate to the desired setting and the **SELECT** soft key to choose the item that you would like to change. After changing a setting you can press the **PLAY** button to return to Standby mode.

Settings change from white to red during adjustment. Pressing the **SELECT** soft key to choose a setting changes it to white again to confirm that the change has been made.

The following settings can be adjusted using the Settings menu:

| Setting | Options |
|---|---|
| ENABLE REMOTE: | Yes or No |
| REMOTE I.D.: | 0-9, (Matching Remote Control I.D. setting) |
| SPEAKER VOLUME: | 0-9 |
| MIC LEVEL: | 0-9 |
| TIME AND DATE: | hh:mm & mm/dd/yyyy |
| FRAME RATE: | 30, 25, 24, 15 (frames per second) |
| VIDEO RESOLUTION: | 720x480, 720x400, 640x480, 360x240, 360x200, 320x240 |
| VIDEO QUALITY: | High, Medium, Low |
| RECORD MODE: | Clip, Loop, Still |
| LOOP RECORD TIME: | 20, 30 sec., 1, 2, 3, 5, 10, 15, 30 min. |
| LCD SLEEP TIMEOUT: | Never, after 15 sec., 1, 2, 3, 5, 10, 15, 30 min. |

| Setting | Options |
|---|---|
| POWER OFF TIMEOUT: | 20 sec., 1, 2, 3, 5, 10, 15, 30 min. |
| DISPLAY BRIGHTNESS: | 1-10 |
| FORMAT SD CARD? | Yes or No. (WARNING: formatting erases SD card) |
| VIDEO OUTPUT: | NTSC, PAL |
| CAMERA INFORMATION: | HW: hardware version<br>FW: firmware version<br>MAIN: POV.1 hardware ID<br>HEAD: camera head hardware ID |

# Mounting the Camera Head

The POV.1 comes with a C-clamp mount, two base mounts, and a number of accessories to assist you in mounting the camera head.

## C-clamp mount

*The C-clamp mount for the camera head with O-ring removed*

To use the C-clamp:

- Remove the O-ring from the top of the C-clamp
- Slide the camera head into the C-clamp mount
  - slide the cable end of the camera head into the front of the mount first, gently pushing it into the mount towards the lens of the camera head
  - make sure the white line that marks to the top of the camera head is facing up (the top refers to the top of the video frame that is captured by the camera)

- replace the O-ring on the top of the C-clamp to secure the camera head in the clamp

*The camera head mounted in C-clamp with O-ring in place*

## Base mounts

The C-clamp fixture is designed to work with a base mount. The base mount is a small section of rail with a groove in the middle of it. This rail conforms to the Picatinny rail system that is commonly used in the firearms industry.

Two base mounts are provided with the POV.1:

- a wide flange base mount
- a tubular rail base mount

*The wide flange rail mount*

*The tubular base mount*

The C-clamp fixture has a large screw-pin in the bottom that is used for holding the fixture in place on the base mount. This system allows you to remove the C-clamp fixture and camera head from the base mount while leaving the base mount in place, which is handy if the base mount is permanently attached to something.

This is also useful in cases where you use several base mounts aligned for different video shots and wish to move the camera head from one mounting location to another for each different shot.

To mount the C-clamp on one of the base mounts you need to remove the screw-pin from the C-clamp, slide the fixture over the base mount rail so the screw-pin will be aligned with the groove in the rail, and then insert the screw-pin and tighten it to hold the C-clamp in place.

To mount the wide flange base mount you have several options. The plate has screw holes in each corner so that it can be screwed down to hold it in place. It also has grooves along all four sides to provide more flexibility in mounting the base. You can also use these grooves to feed straps through, and then strap the base mount down to a flat surface.

The wide flange base mount can also be used with one of the included adhesive patches:

- a wide flange adhesive patch with a foam pad
- a wide flange Hook and Loop patch with an adhesive backing

The wide flange adhesive patch is useful for places where you want to permanently mount the flat plate base mount, and the wide flange Hook and Loop patch is useful for applications where you want to be able to remove and replace the base mount from a certain location.

The tubular rail base mount is designed to be held in place with either a zip tie (included with the POV.1) or a strap (not supplied with the POV.1).

The zip tie or strap can be fed through the slots located at the bottom of the base mount. This mount can be attached to the handlebars of a bicycle, motorcycle, snowmobile, jetski, etc. using straps or zip ties.

If you need to mount the POV.1 to a weapon, the C-clamp can be attached directly to a Picatinny Rail, which is found on many firearms and is used for applications such as attaching scopes and other accessories. Just remove the screw-pin from the bottom of the C-clamp, slide the clamp onto the Picatinny rail, and secure it with the screw-pin.

## Tips for Mounting the POV.1

The POV.1 camera head can be mounted almost anywhere allowing you to capture video from a wide range of different perspectives. Where you choose to place the camera head will depend on your specific application.

The flexibility of the POV.1 allows you to shoot video from perspectives that would normally be hard to capture, so it's worth trying a variety of different shots to see what the action looks like from that angle.

In order to help give you some ideas, here are some tips that cover a variety of applications.

When possible, keep the sun (or other bright light source) at your back. This helps provide consistent exposure for your video.

For many action shots mounting the camera onto your head, helmet, headgear, or body provides smoother video, since your body absorbs some of the shocks.

Keep in mind that rapid movement of the camera head will often create blurry images. If you are creating video where clarity is important and you mount the camera on your head or headgear try to keep your head steady and not turn your head too rapidly from side to side. If you do want to turn your head to capture something turn it as slowly and smoothly as possible to help make the video easier to watch.

It is often helpful to use a frame of reference in your shot that allows someone watching the video to relate more easily to what they are seeing. Examples of things you might include in your video to provide a frame of reference are:

- another person

- your helmet visor
- the handlebars or wheel of a bike or motorcycle
- your skis or ski boots
- your snowboard or surfboard
- the front of a vehicle, boat, snowmobile or jet ski
- the barrel of a rifle

If you are in a race you might want to consider mounting the camera so that it faces behind you. This lets you capture the other competitors actions and emotions as they try to catch up with you or pass you. Be careful to check the video on the POV.1 screen when setting up the shot to double-check the point of view.

Another good shot is one that lets viewers see you in the frame and captures your reaction to all the action. To set up this type of shot mount the camera head about 18 to 24 inches in front of you so that it points back at your face.

For a shot that gives viewers a greater sense of speed, try mounting the camera head closer to the ground (or water).

For smooth helmets, such as snowmobile, motorcycle or non-vented biking helmets, try the flat plate base mount with either the foam or Hook and Loop adhesive patch.

For attaching to a deep vented helmet try using the rounded handlebar mount secured by some straps or zip ties.

Here are some mounting suggestions for specific uses of the POV.1:

- **Bike/motorcycle** - try mounting the camera head to your helmet, handlebars, seat post, or wheel guard.
- **Car/Truck** - Four-wheelers often have many racks and bars to provide a variety of mounting options. If you are driving off-road or in wet weather check your lens for mud and debris. Rinse any dirt off before wiping the lens to avoid scratching it.
- **Skiing** - You can mount the camera on your helmet, use the headstrap mount, or even mount it on your boot. Keep a lens cloth handy to wipe the lens in case snow or water sprays onto the lens.

- **Snowmobile** - Mounting the camera head on the handlebars provides a good vantage point. The windshield helps keep ice from forming on the lens.
- **Hunting** - If you are using a scope on your rifle try to mount the camera head under the gun barrel. If you mount the camera on your hat or head practice keeping the camera parallel to the gun barrel, and then turn your head slowly if you want to capture your surroundings. Smoother panning will make it easier for viewers to see what is happening in the video.
- **Tactical** - Be cognizant of capturing the details of an event. Fixing your view on objects longer than usual helps viewers see them clearly during review of the video. Protect yourself by using the display on the POV.1 to peer around corners with the camera.

**Tip** If you need to keep the camera cable out of the way when you are mounting the camera on your head or body you can use the clip with snaps that is included with your unit. Just snap the strip around the cable and clip it to your clothing in a position that keeps the cable in place.

## Optional Mounting Accessories

If the accessories provided with the POV.1 don't work for your particular application there are a number of additional mounting accessories available:

- **Universal Mount** - A flexible rubber sleeve that keeps your camera head secure with an adhesive-backed Hook and Loop pad to attach it to a helmet or other smooth surface.
- **Goggle Mount** - Designed to work in conjunction with goggles and the Universal Mount - the Goggle Mount is a great way to secure your cam with or without a helmet.
- **Headstrap Mount** - An adjustable headband that allows you to wear the camera on your head when you are not wearing a helmet or other headgear.
- **Double Hook & Loop Mount** - A simple but flexible strap mount that easily secures the camera head to most vented helmets using a hook and loop fastening system. Also good for creative mounting on bikes, autos and recreational vehicles.

- **Right Angle Hook & Loop Mount** - The Double Hook & Loop mount with a right angle twist when the mounting location or specific application requires the mount to be rotated 90 degrees. This mount is useful for mounting on handle bars, paddles, or anything under a 1 1/2 inch circumference.
- **Adhesive Mount Kit** - This mount kit provides a lightweight plastic base with adhesive backing and zip ties to secure the camera wherever you need it. This mount is for semi-permanent solutions. Kit includes 4 adhesive bases and 10 zip ties.
- **6-inch or 12-inch Flex Mount** - A flexible steel rod that can hold the camera in almost any position. The flex mounts have a 1/4-20 threaded male connector on one end and a 1/4-20 threaded female receptacle on the other. Available in either a 6-inch or 12-inch version.
- **Ultra Clamp** - This can be used to mount the camera to items that are 1/8" to 1 5/8" thick, such as a car window or bike seat post. Works great in conjunction with the flex mounts or as a stand-alone mount for shooting hard to get angles.
- **Vacuum Suction Mount** - Safely secure the camera head to any smooth surface - including your car, boat, jump ramp, or any other smooth surface. The ball & socket mount allows you to angle the camera in almost any direction. It has a 1/4-20 thread bolt and the suction base is 3.75" in diameter.
- **Mounting Kit** - A wide selection of mounting options to help you get the best shot possible. Kit includes: 2-Universal, 1-6" Flex, 1-12" Flex, 3-Adhesive, 1-Goggle, 1-Double Hook & Loop, 1-RT Angle Hook & Loop, and 1-Headstrap.

*The Mounting Kit provides a wide variety of mounting accessories*

For a complete list of optional accessories and prices visit the website at www.vio-pov.com.

## Mounting the POV.1 Recorder

The POV.1 main unit can be mounted anywhere that provides enough cable length for the camera head to be placed where you want it. If you have the camera attached to your head or body a typical application would be to attach the POV.1 unit to your belt, vest, or place it in a backpack.

Keep in mind that the built-in microphone on the POV.1 is located on the digital A/V cable, in the small square block that is located roughly halfway down the cable from the camera head. If you want to capture your voice on the audio you should place the mic part of the cable away from any wind noise and as near to your head as possible.

You can adjust the sensitivity of the mic using the Settings menu.

1. Press the **SETTINGS** button on the POV.1
2. Press the **NXT** soft key until **MIC LEVEL** is shown in the display
3. Press **SELECT**
4. Use the **PREV** and **NXT** soft keys to choose the appropriate setting (0-9)
5. Press **SELECT** to choose that setting

For some applications you may find it helpful to use an external microphone. The mic input connector is located at the bottom of the POV.1 unit, and to access it the Input/Output Port cover must be removed (as described earlier in this manual).

If you are using an external mic while recording in the field, make sure to protect the bottom of the unit since this is where the SD memory card is also located. The unit is not waterproof when the Input/Output Port cover is removed.

**Tip** If you frequently use an external mic and want to keep the integrity of the water-resistant seal of the POV.1 you may want to consider making a modification to the unit.

- Get a 1/8th inch mini phono jack extension cord, and place the male end into the connector on the bottom of the POV.1.
- Carefully drill a small hole in the bottom of the Input/Output port connector directly over the mic input that is big enough to accommodate the mini phono plug.

- To increase water-resistance you can use silicon caulk or some other sealant to seal around the hole you drilled once the extension cable is in place.
- You can the plug your mic into the female end of the mini phono extension cable without the need to remove the Input/Output port cover.

Keep in mind that custom modifications to the POV.1 fall outside of warranty coverage.

## Mounting the Wireless Remote Control

The wireless remote control unit allows you to start and stop recording, as well as tag segments of video that you want to locate later on. It is designed to be worn on your body or mounted within easy reach.

One common way to mount the wireless remote control is to use the long Hook and Loop strip included with the unit to strap the remote to your wrist. Another common method is to use zip ties to secure the remote control to the handlebars of a bicycle, motorcycle, snowmobile, etc.

If you are wearing gear (such as a heavy parka) that makes it difficult or uncomfortable to get to your wrist, you can also use the clip with snaps that is included with the unit to clip the remote to your clothing in a place that is easy to reach.

Keep in mind that the remote control is designed for close range use and will work best if it is kept within easy reach of the POV.1 Recorder.

## Changing the Remote I.D. Channel

If you are using more than one POV.1 system at the same time you will need to adjust the REMOTE I.D. channel that the wireless remote control uses to communicate with the POV.1. The remote control and POV.1 must be set to the same REMOTE I.D. in order to operate.

The POV.1 and wireless remote control are shipped with both of their REMOTE I.D.'s set to channel 0. There are a total of 10 available REMOTE I.D. channels that you can use to allow multiple POV.1's and their remote controls to be used in close proximity without interference.

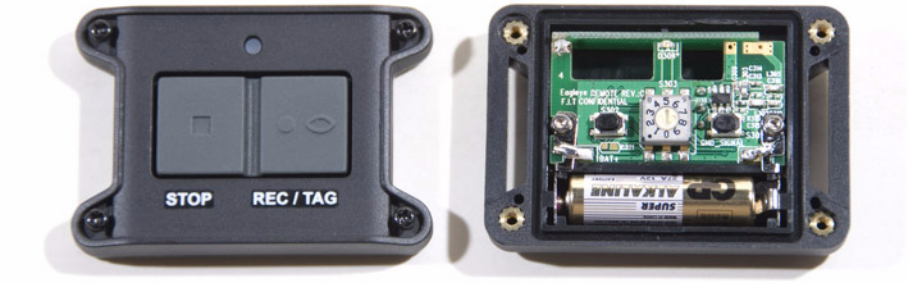
To change the REMOTE I.D. channel of the POV.1 Recorder:

1. Press the **SETTINGS** button
2. Press the **PREV** or **NXT** soft keys until **REMOTE I.D.** is shown in the display and press **SELECT**
3. Press **PREV** or **NXT** until the desired channel is displayed and press the **SELECT** soft key to choose that channel.

The REMOTE I.D. channel of the wireless remote control is set using a small rotary dial located inside the remote control. To adjust the channel you will need to open the remote control unit.

To open the remote control and adjust its I.D. setting:

4. Place the remote on a flat surface with the buttons up
5. Unscrew the four small Phillips screws and lift the cover from the remote
6. Use a small flat blade screwdriver to carefully rotate the pointer to the desired setting. Take care to protect the inner workings of the remote from dust and moisture while the cover is removed
7. Replace the cover, tightening the four screws uniformly to create even pressure against the seal




*Remote with cover removed. I.D. set to 0*

# Connecting the POV.1 to a Computer

You can connect the POV.1 to either a PC or a Macintosh computer. When connecting to a PC the POV.1 integrates with the POV Manager software. When connecting to a Mac, the POV.1 appears as a removable storage device, and you can access the video that you recorded the same way you would access any other storage device.

## Connecting to a PC

The included USB cable allows connection between the POV.1 and a PC. Before making the connection, install the POV Manager software from the included software CD. When the USB cable is connected, the POV.1 automatically changes to USB mode and the controls on the POV.1 unit are disabled. Follow the instruction in the POV Manager User Guide section that appears later in this manual.

If you don't have the software available for the POV.1 you can still connect the POV.1 to a PC. It will appear as a USB storage device that can be accessed like a standard disk drive from the PC. This can be handy if you are in the field or at a location and want to copy files from the POV.1 to a PC to back them up.

Files can be backed up onto a PC with or without the POV Manager software. When the POV.1 Recorder is connected to a PC the SD card in the POV.1 will appear on the PC as a removable storage device. You can access and back-up videos by opening the POV.1 folder, then the DCIM folder, and finally the 100_POV1 folder.

After you have backed up your video files to a PC you can then delete the stored video files from the POV.1 Recorder. This will allow you to free up more space for recording your videos. If you have previously backed up files from a POV.1 onto your computer be sure to copy your new files to a new folder so that you will not overwrite your original video files.

## Connecting to a Mac

You can connect the POV.1 to a Macintosh (version 10.3.9 or higher) using the USB cable included with the unit.

Before connecting the POV.1 to the Mac, V.I.O. recommends that you install Quicktime components enabling MPEG4 playback that you can download from Perian at http://www.perian.org.

When the USB cable is connected, the POV.1 automatically changes to USB mode. The SD card installed in the POV.1 Recorder will appear as a storage device (disk drive) on the Macintosh.

You can also remove the SD card from the POV.1 Recorder and place the card directly into an SD card reader attached to the Mac.

You can access and download clips by opening the POV.1 folder, then the DCIM folder, and finally the 100_POV1 folder.

Video segments can then be edited with any Macintosh video editing software such as iMovie or Final Cut Pro.

NOTE: Editing software on the Mac does not recognize the TAG marks that you may have placed on your video during Clip recording.

# POV Manager

This section of the POV.1 User Manual is designed to help you get started using the POV Manager software. It contains an overview of the software and instructions on how to perform common tasks such as editing and sharing your videos.

This documentation is divided into the following sections:

- **Getting Started**: Provides introductory information about the POV Manager software. This section includes an overview of important concepts, system requirements, and supported file types
- **Installing the POV Manager Software**: Provides step-by-step instruction on how to install the software
- **Understanding the POV Manager Interface**: Describes the different elements in the POV Manager user interface
- **Using the POV Manager**: Provides overview information and procedures to accomplish common tasks by using the POV Manager

## Getting Started

POV Manager allows you to create your own video by combining and editing clips from various video segments.

This section explains how to install the software, connect the POV.1 to a computer via USB, view and manage your videos, and create custom videos.

**Note** Video files are encoded with the DivX Codec as .AVI files. You can save the recorded video clips only in .avi format.

### System Requirements

The POV Manager requires the following minimum system configuration:

- Microsoft Windows XP or Windows Vista
- Microsoft .Net 2.0 Runtime Environment
- At least 256 MB of RAM
- 10 MB of available hard disk space

- The DivX codec (supplied on the POV.1 CD-ROM)
- CD-ROM drive
- An Internet connection if you want to share videos online

### Software Overview

This section introduces you to the main features of the POV Manager for Windows.

- POV.1
- Viewing videos from the POV.1
- Organizing Video Clips in your POV Library
- Playing Videos
- Creating New Videos
- Sharing Videos

## Installing the POV Manager Software

Insert the CD-ROM into the CD-ROM drive. The install program should start automatically. If the install program does not start, run the Setup.exe program found on the CD-ROM.

**Note** The POV Manager installation program will check to make sure the the following software is already installed on your system:

- Microsoft .NET2.0 Runtime
- DivX Codec

If either of these are not found, the POV Manager install program will automatically start the respective installation programs for these components.

The POV Manager takes you through a step-by-step installation wizard. Once the software is installed, you will be notified of recent software updates whenever you start the program (provided that you have a working Internet connection).

**To install POV Manager Software:**

1. Click the **Setup.exe** file that can be found on the CD-ROM
2. Select the default install location or select **Browse** to install to a specific directory
3. Select the option to install shortcut and/or desktop icon
4. Select **Install**
5. Select **Finish**
6. POV Manager launches automatically

**Note** If your POV.1 is connected to your computer, the POV.1 column in the List pane will be automatically populated with the videos stored on the SD card that is installed in the POV.1 Recorder.

**Check for software updates**

Each time it starts, the POV Manager checks for updates and notifies you if a software update is found, oprovided that your computer has a working Internet connection.The POV Manager will download and automatically install the updates.

## Connecting the POV.1 to the Computer

**Important** Be sure to do the following:

- Install the POV Manager software prior to connecting the POV.1 to your computer
- Connect the POV.1 to the computer via USB
- Connect only one POV.1 unit to the computer at a time

**To connect POV.1 to the computer:**

1. Connect the POV.1 to the computer using the supplied USB cable

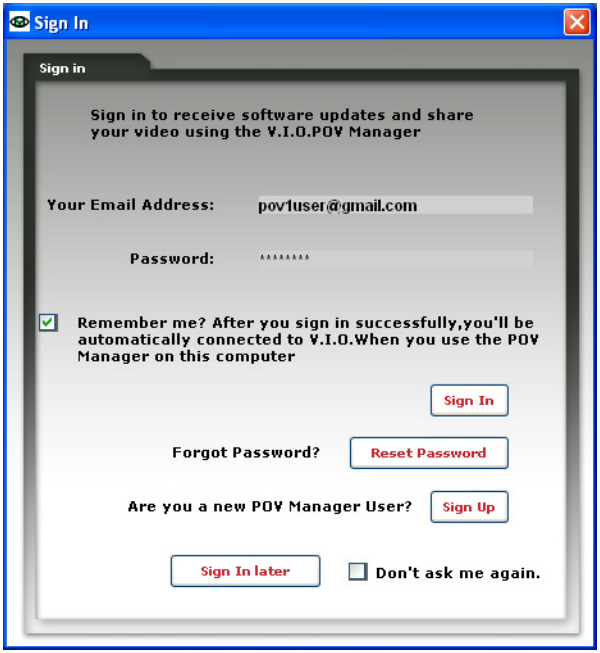
   The POV Recorder column in the List pane will be populated with any video clips that are currently stored on the unit.

## Creating a User Profile

You need to create a user profile to be able to receive software updates or share videos with others.

You can change your login information at any time by selecting the Reset Password button that allows you to edit your user name and password information.

When the POV Manager launches, it displays the following **Sign In** screen.




**To create a new user:**

1. Select **Sign Up** to create a profile
2. Enter **Email** address
   - Use a valid email address as you will receive important notifications and an initial V.I.O. verification. This information is used for signing into the V.I.O. website
3. Enter **Password**

   Password Rules:

- Password must be between 5 and 12 characters long
- Password must contain at least an alpha character [a-z, A-Z] or a numeric character [0-9]
- Password must not contain spaces, single or double quotes, begin with '!' or '?', or contain your login ID
- Password is case sensitive

4. Confirm your Password
5. Select **Remember Me** checkbox
   - This will allow you to sign into your user profile without entering your name and password manually each time you use this profile to upload your videos
   - If you share this computer with other users, it is strongly recommended that you uncheck the check box
6. Click **Sign Up**
   - You will receive an email welcoming you to POV Manager
7. To complete the sign up process, click on the verification link sent in the Welcome email

## Understanding the POV Manager Interface

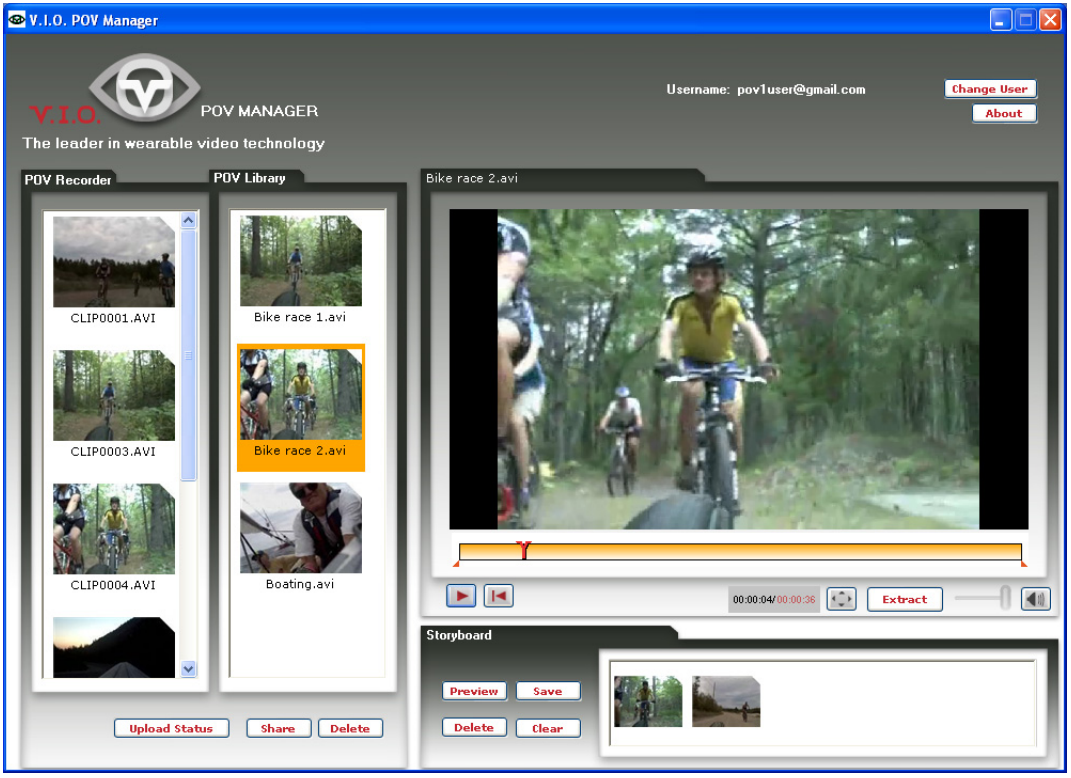
The POV Manager user interface is divided into three main panes: the List pane, View pane, and the Storyboard pane.

### About the Buttons

You can use the buttons in the interface to perform common tasks in POV Manager. The procedures for completing tasks are described in this section of the User Manual.

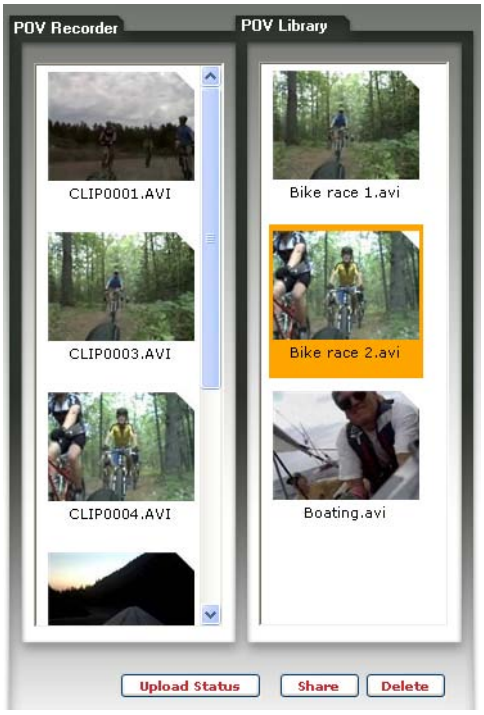
### About the Panes

The main features of the POV Manager user interface appear in separate panes. There are three panes - List pane, View pane, and Storyboard pane.



## List Pane

List pane displays a collection of videos from the POV.1 Recorder and the POV Library. You can use videos from your collection to view, create, and customize a new video clip using the View pane.

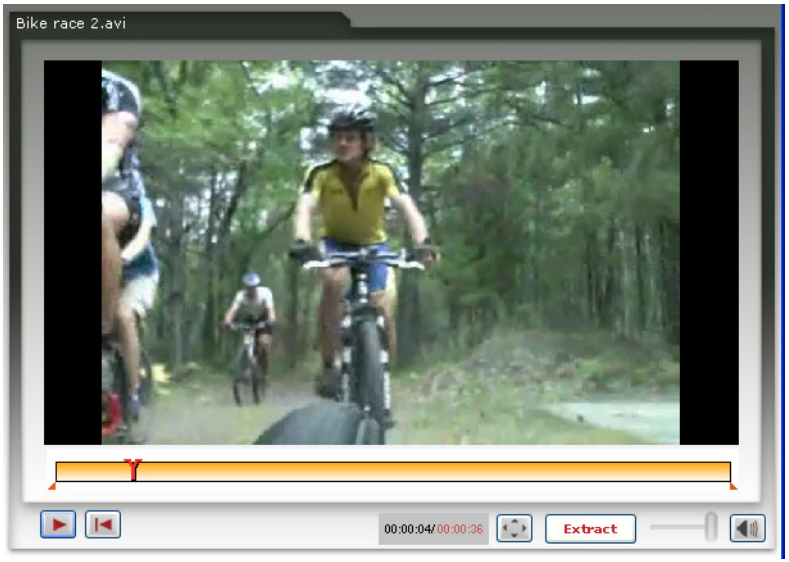



## View Pane

The View pane is the area in which you will be able to play existing videos and extract content from selected videos to create new videos.

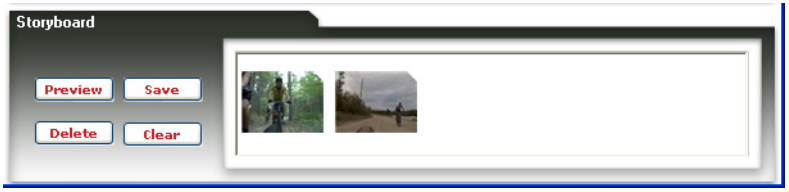
The Timeline Indicator in the View pane displays the Video Extraction Handles that allow you to set the extractable video area.

You will be able to set the screen display to full screen mode by selecting the **Full Size** button.




### Storyboard Pane

The Storyboard pane allows you to create custom videos using clips extracted from other videos.




## Using the POV Manager

This section covers:

- Managing your Videos
- Playing Videos
- Editing Videos
- Sharing Videos

# Managing your Videos

You can manage your videos in the List pane using the **POV Recorder** panel and the **POV Library** panel.

## POV.1

The **POV Recorder** panel shows the video clips stored on the SD card that is currently installed in the POV.1 Recorder. The videos stored on the device are displayed in the **POV Recorder** panel when the POV.1 is connected to the computer.

You will not be able to rename the videos stored on the POV.1 Recorder. The POV.1 assigns default file names based on a strict naming convention.

## POV Library

The path to the POV Library is configured by default during the installation (My Documents/My Videos/POV Library).

You can copy files stored from your hard disk, a shared network location, or on removable media to the POV Library directory. The video files can be renamed to reflect the contents of each video clip.

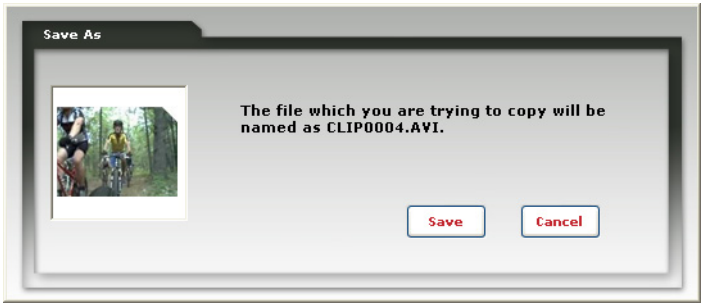
To rename the videos, right click the file name and select **Rename**. You can then rename your video to something more meaningful. After it is renamed the the video is automatically saved in the library with its new name.

**Note** POV Manager supports the use of .avi files only.

## Copying Videos to the POV.1

You can copy your customized videos in the POV Library to the POV.1 by clicking and dragging the video from the **POV Library** panel to **POV Recorder** panel. This provides you with an easy way to view your edited videos on the go.

**Note** Since the POV.1 Recorder follows a strict naming convention, the videos you copy will be renamed by the POV.1. The POV Manger will automatically specify a new name by which the video will be saved on the recorder.




## Copying Videos to the POV Library

Click and drag the video that you want to copy from the **POV Recorder** panel to the **POV Library** panel. The POV Library will notify you if the file exists in the library.

## Deleting Videos

To delete video clips from either the **POV Recorder** or the **POV Library**:

1. Select one or more videos from the **POV Recorder** or the **POV Library** panels. You can hold down the **CTRL** key on your computer keyboard while clicking on clips to select more than one clip
2. When the clips you want to delete are selected click the **Delete** button at the bottom of the View pane
3. You will be prompted to confirm your file deletion

**Note** File deletion cannot be undone. Files are physically deleted from the POV.1 and the POV Library.

# Playing Videos

You can play the video clips by:

- Dragging a clip from the List pane to the View pane. This will automatically play the selected video clip
- Double clicking the selected file in the List Pane will play the clip in the View pane

When a video is loaded into the View Pane:

- Click the **Play/Pause** button in the View pane to play and pause the playing video
- Click the **Full Size** button . to play the video in full-screen mode
- Drag the **Play** head on the Timeline Indicator to play the video clip beginning at the marked area

**Note** You can view the duration of the video clip on the Timeline Indicator.

## Editing Videos

You can create a new video by adding clips from your video collection in the POV.1 or the POV library.

You can create custom videos by editing the content of existing clips, extracting and using specific video clips, and arranging the video clip sequence.

The custom videos can be created and edited in the Storyboard pane. The Storyboard displays your work in progress including your video clip sequence. You can switch between the storyboard and the View pane as you work on creating a custom video.

### Extracting Clips

You can create new videos by extracting clips from other videos. The new customized video can be saved and added to your video collection.

### Using the Video Extract Handles

The extract handles can be found in the View pane and allows you to mark a start and end extraction area of the video.

There are two handles on the Timeline indicator on the right-hand side and left-hand side (RHS and LHS) respectively.

### To extract a clip:

1. Drag the video to the View pane

   The video clip plays automatically

2. Mark the area for extraction using the handles

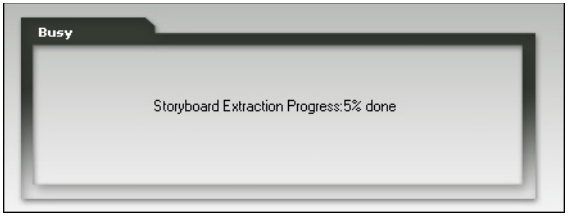
   Drag the LHS of the Timeline indicator to select the start of the clip that you want to extract

   Drag the RHS of the Timeline indicator to select the end of the clip that you want to extract

   The area marked for extraction is highlighted in orange and flagged by the extraction handles

3. Click **Extract**

   The Extraction in progress message is displayed




The newly extracted video clip is displayed in the Storyboard pane. There could be one or more video clips in the Storyboard pane. Use the Preview button to view the newly created video in the pane.

## Arranging Clip Sequence

You can arrange the clips in your Storyboard pane by dragging the clip to the desired position. The clips will play using the left to right sequence.

## Deleting Clips

**To delete a clip from your storyboard:**

1. In the Storyboard pane, select one or more clips that you want to delete. You can hold down the **CTRL** key on your computer keyboard while clicking on clips to select more than one clip
2. When the clips you want to delete are selected click the **Delete** button at the bottom of the Storyboard pane

If you delete a clip from the storyboard, the actual source file remains in the original location from which you copied it.

**Note** Deleting extracted video clips cannot be undone.

## Previewing Videos

You can preview the custom videos created in the Storyboard pane. Clicking the **Preview** button displays the custom video with the selected play sequence. You can edit the videos in the storyboard pane at any time and preview it in the View pane to get an idea of your end result video.

## Saving Videos

Your Storyboard pane displays all the video clips that you can select to create a new customized video. You can save your customized video by clicking **Save** and can further edit the storyboard view at anytime.

**To save videos:**

1. Click **Save**.

   The Save Dialog displays.
2. Enter the filename for the customized video.
3. Click **Save**.

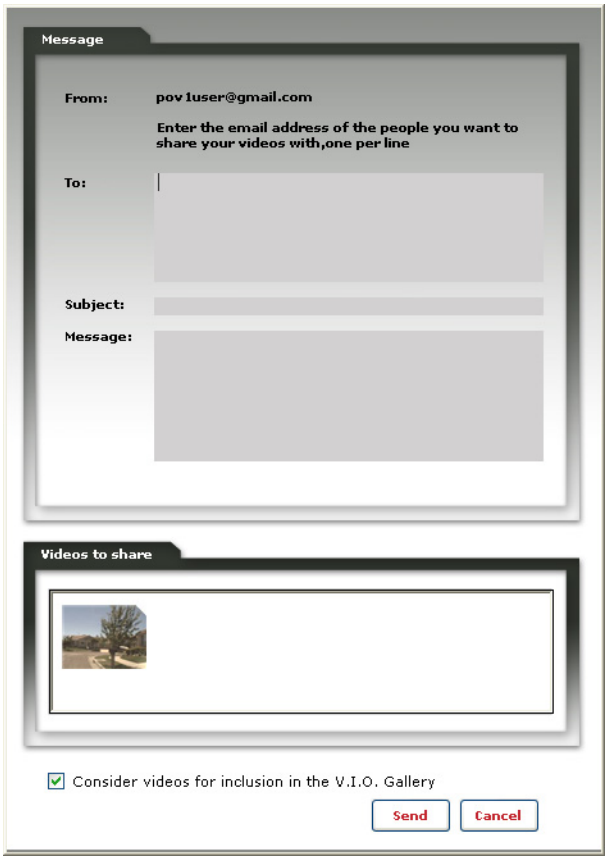
   A dialog displays the save progress.

## Sharing Videos

POV Manager allows you to share your videos with friends.

**To share your video:**

1. Select the video(s) to be shared in the List pane
2. Click the **Share** button at the bottom of the List pane
   The Share Screen dialog is displayed




**Note** If you had not signed in you will be prompted to sign in. You must sign in to share your videos.

3. Enter the recipient's **email** information.

You can send your video to multiple people via a single email. Enter a single email address per line or add a semicolon (;) between each email address

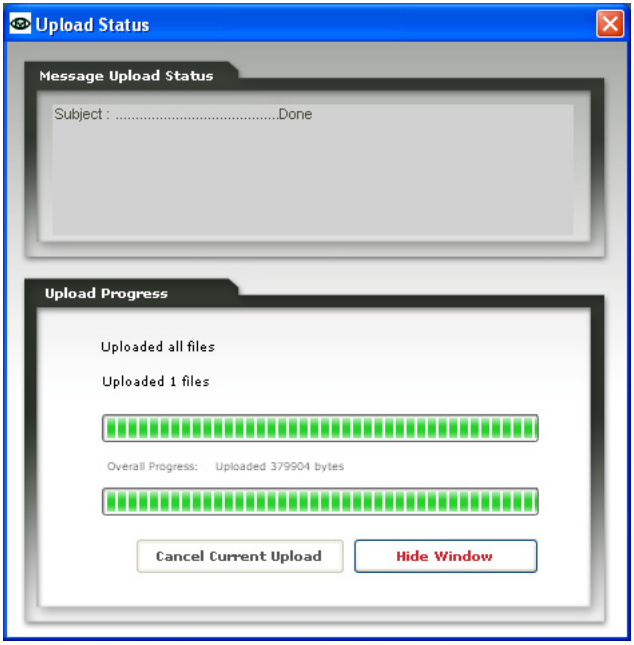
4. (optional) Enter a **Subject** and **Message** for the email
5. (optional) If you want to add videos to the gallery, select **Consider videos for inclusion in the VIO Gallery**

   The email recipients will receive a message with link(s) to the videos that you have shared

**Important** the V.I.O. Gallery is a public website that can be viewed by anyone.

6. Click **Send**
7. Confirm that you want to send the email message

   The **Upload Status** dialog box will appear
8. You can cancel the video upload by clicking **Cancel**



## FCC Compliance

The POV.1 has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the POV.1 Recorder.
- Increase the separation between the POV.1 Recorder and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

## Limited Warranty and Disclaimer

V.I.O. warrants its Product against defects in material or workmanship for 1 year from date of purchase unless otherwise specified. V.I.O.'s Product warranty is limited to the replacement or repair of the defective item at no charge if we determine such item to be defective. If the Product unit is replaced, it will be replaced with a new or, at our option, refurbished Product unit. This limited warranty shall not apply to any Product item subject to misuse, including static discharge, failure by Buyer to follow instructions, product modification, ordinary wear and tear, negligent or improper operation, or which have been installed or soldered or altered during assembly or use and are not capable of being tested or resold. Modification, repair, or attempted repair of Product by anyone other than V.I.O. without the written permission of V.I.O. will void this limited warranty. V.I.O.'s

limited warranty is also voided on any Product that is found to have an altered or tampered with serial number. Defective items must be shipped by Buyer to V.I.O. prepaid. V.I.O. will ship the return or replacement or refurbished Product item to the Buyer using UPS Ground services. If the Buyer shipped the item to V.I.O. using express services, V.I.O. will match the service level for the return. If Buyer wishes to have the item express shipped to them, V.I.O. will charge the Buyer for the upgraded shipping charges.

EXCEPT AS PROVIDED ABOVE, V.I.O. MAKES NO OTHER WARRANTY TO BUYER, EITHER EXPRESS OR IMPLIED. ANY IMPLIED WARRANTIES AGAINST INFRINGEMENT, OR WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED, EVEN IF V.I.O. HAS BEEN ADVISED OF SUCH A PURPOSE.

## Return Policy

Any Product item, other than Special or Custom Orders, purchased from V.I.O. may be returned within thirty days of purchase for any reason for a refund, exchange, or credit towards another V.I.O. purchase. The returned items must be in original condition and packaging. All original warranties, instructions, and accessories must be accompanied by the original sales receipt. Return freight must be prepaid. No C.O.D. returns will be accepted. V.I.O. may refuse a refund or exchange or assess a charge for used or incomplete merchandise that is returned or exchanged. Items showing use or abuse will be returned by V.I.O. to Buyer. Returns or exchanges will not be made for items marked "as is" or "clearance." Refunds will be made by the same method as used to purchase the item. Refund checks may take up to 14 working days to process.

Return Merchandise Authorization ("RMA") policies are subject to revisions. Contact the RMA Department regarding policies and returns. All returned merchandise requires an RMA number. To obtain an RMA number, contact V.I.O. Customer Service (10am - 5pm EST Monday-Friday) at 906.226.9393. Your RMA number must be clearly marked on the OUTSIDE of the returned package. Packages returned without this RMA number will be refused. Once the RMA number has been assigned, it is important to return the Product within two weeks, otherwise the RMA number will become void and the parcel will be refused. You must obtain a new RMA if you are unable to make delivery to our address within two weeks.

## Obtaining Service and Technical Assistance

We want to make sure you have the best possible experience with the POV.1; if you have any questions or need assistance feel free to contact us.

Our web site is: www.vio-pov.com

For live online assistance you can click the **Live Help** link at the top of the page.

Contact us by phone at: 888.579.CAMS (2267)

Our email is: customer.care@vio-inc.com

# Specifications

## POV.1 Hardware Specifications

| | |
|---|---|
| **VIDEO** | |
| Frame Rates | 30fps, 25fps, 24fps, 15fps |
| Resolutions | 720x480, 720x400, 640x480, 360x240, 360x200, 320x240 |
| Formats | MPEG4 AVI (digital),<br>NTSC/PAL (analog) |
| Exposure Control | Automatic exposure control and white balance |
| | |
| **IMAGING HARDWARE** | |
| Processor | 32-bit MIPS microprocessor, 12-bit image |
| Sensor | advanced CMOS sensor with electronic global shutter |
| Type | 1/3” CMOS |
| Pixel size | 6um (H) x 6um(V) |
| Diagonal | 5.35 mm |
| Resolution | Total pixel count: VGA (752x480),<br>active pixel count: VGA (720x480) |
| Dynamic Range | 75-110 dB |
| Sensitivity | 5 lux color sensor |
| Image Capture Mode | Video |
| Exposure | Auto control |
| AE Metering Setting | Auto (center-weighted) |
| White Balance | Auto control |
| ISO Speed Setting | Auto (default) |
| Color Setting | Full color (default) |
| | |
| **OPTICS** | |
| Sensitivity | F/2.0, relative illumination @ full field 74% |
| Optical Filter | With IR glass |
| Aperture | F/2.0 |

| | |
|---|---|
| Effective Focal length | 4.5 mm |
| Focusing range | 40cm ~ |
| Diagonal Field of View | $68^{o}$ |
| View Finder | No |
| | |
| **IMAGE DISPLAY** | **AUO** |
| Size | 2 inch |
| Type | LTPS LCD |
| Resolution | 640 x 240 dots (153k) |
| Color arrangement | RGB Delta |
| Color Number | Full color |
| Brightness | 360 $cd/m^2$ |
| Image Rotate Sensor | No |
| | |
| **AUDIO** | |
| Mic Type | Monaural omni-directional cable-mounted -40 dB sensitivity at 1 kHz |
| Resolution | 16-bit half-duplex |
| Sampling Rate | 32 kHz |
| SNR (Signal to Noise Ratio) | 80 dB |
| Speaker | Monaural 8 ohm Mylar, 0.7W max |
| | |
| **MEMORY** | |
| RAM | 64MB |
| Internal Memory | 16MB NAND Flash |
| External Picture Storage | Secure Digital (SD) Card, supports up to 2G |
| Image storage priority | SD Card |
| | |
| **DATA HANDLING** | |
| Recording Capacity | 2 gigabytes maximum on SD Card |
| File Functions | Record, Playback, Delete |

| | |
|---|---|
| I/O Ports | SD card slot,<br>USB 2.0 high-speed (mini-b),<br>Mic In,<br>NTSC/PAL Analog,<br>TV/Audio Out (live stream capable) |
| | |
| **USER INTERFACE** | |
| Navigation Controls | All on recording unit including click mode select keys for Recording, Playback, and Setup modes |
| Auxiliary Controls | Unidirectional RF remote control with Record, Tag, and Stop controls |
| Functionality | Record, Tagging, file navigation (including Select, Playback, and Delete); recording configurable for Standard, Clip Capture, or Loop mode. User-configurable camera settings via Settings menu screens |
| | |
| **SIZE & MASS** | |
| Recording Unit | 40mm x 60mm x 167mm,<br>328 grams (with 4 AA batteries) |
| Imaging Head | 58 grams |
| Remote Control | 24 grams with A27 battery |
| LVDS Tether Cable | Approx. 1.5 meters long |
| | |
| **POWER** | |
| Battery Type | 4 x AA Batteries (alkaline, Ni-MH, or photo lithium) |
| Battery Life | 4-5 hours with alkaline batteries, up to 10 hours with lithium batteries. Battery life depends on POV settings and operating conditions. |
| Recharge Circuit | No |
| DC-in | No |
| | |
| **REGULATORY** | |
| Safety | CE/FCC |
| EMC | CE, BSMI |
| Green Environment | RoHS compliant |

# Index


## A

Adhesive Mount Kit 42
adjusting the sensitivity of the mic 43
analog video cable 31
Arranging Clip Sequence 61

## B

Backing up files 47
Base mounts 36
Batteries 15
built-in microphone 43

## C

CAMERA INFORMATION 34
C-clamp mount 35
Changing the Remote I.D. Channel 44
Clip recording 24
Configure
    Extraction 60
Connecting the Camera Head 14
Connecting the POV.1 to a Computer 47
Connecting the POV.1 to a TV 31
Connecting the V.I.O. Recorder to the Computer 51
Connecting to a Mac 48
Connecting to a PC 47
Creating a User Profile 52

## D

Deleting Clips 61
Deleting Videos 58
DISPLAY BRIGHTNESS 34
Double Hook & Loop Mount 41

## E

erase a clip 31
external microphone 43

## F

fast-forward 31
Flex Mount 42
FORMAT SD CARD 34
FRAME RATE 33
Frame Rate 24

## G

Getting Started 7, 13, 49
Goggle Mount 41

## H

Headstrap Mount 41

## I

Indicator Light 23
Installing POV Software 50
Installing the Batteries 15
Installing the SD Card 17
Interface
    Buttons 54
    List pane 54
    Panes 54, 55, 56
    Storyboard pane 54
    View pane 54
Introduction to the POV.1 7

## L

LCD SLEEP TIMEOUT 33

Login 52
long Hook and Loop strip 44
LOOP RECORD TIME 33
Loop recording 24

## M

MIC LEVEL 33
Mounting Kit 42
Mounting the Camera Head 35
Mounting the POV.1 Recorder 43
Mounting the Wireless Remote Control 44

## N

NTSC 32

## O

Optional Mounting Accessories 41
Overview of Shoot, Tag, Edit, and Share 11
Overview of the User Manual 11

## P

PAL 32
Panes
- List 55
- Storyboard 56
- View 55

Play mode 30
POV
- Password 52
- Sign In 52
- Software Installation 50
- User Profile 52

POV Manager
- Configuration 51
- Getting Started 49
- System Requirements 49

POV.1 Recorder 13
POWER OFF TIMEOUT 34
Powering the POV.1 20
Powering the Remote Control 21
Previewing Videos 62
Protecting the POV.1 Recorder Display 13

## R

RECORD MODE 33
Recorder
- Connection 51

Recording Quality 24
Recording Video 23
- Clip Recording vs. Loop Recording 24

Remote Control
- Powering 21

REMOTE I.D. 33
Resolution 24
reverse play 31
Right Angle Hook & Loop Mount 42

## S

Saving Videos 62
SD Card 17
Setting up the POV.1 13
Settings 33
- ENABLE REMOTE 33
- VIDEO RESOLUTION 33

Sharing Videos 63
Soft Keys 23
SPEAKER VOLUME 33
Specifications 68
Standby mode 30

## T

TIME AND DATE 33
Tips for Mounting the POV.1 39
tubular rail base mount 36

## U

Ultra Clamp 42
Understanding the V.I.O. User Interface 54
Universal Mount 41
USB mode 20
Using the POV.1 22

## V

Vacuum Suction Mount 42
Video

Clip Sequence 61
Copy 57
Delete 58, 61
Distribute 63
Extract 60
Extract handles 60
Preview 62
Save 62, 63
Share 63
Upload 63
VIDEO OUTPUT 34
VIDEO QUALITY 33
Video Quality 24
Video Resolution 24

## W

What's in the Box 9
wide flange adhesive patch 38
wide flange base mount 36
wide flange Hook and Loop patch 38
Wireless remote control
batteries 21