

PixTM CONTROLLER

Trail Cameras and Remote Surveillance Systems



DVREyeTM Instruction Manual

PixController, Inc.
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Export, PA 15632

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Introduction

The PixController DVREye™ (Digital Video Recorder) is a complete *all-in-one* (PIR) motion triggered video recording system packaged in a water-proof housing for recording wildlife movements. The motion detection range is over 90 feet. Video recordings are saved on standard Compact Flash (CF) or Sony Memory Stick DUO memory cards in a MPEG4 video recording format. Simply turn the internal power switch to the "on" position, close the case, and wait the 1.5 minute motion control warm up time and the DVREye™ will be ready for motion event video recording. Captures more than 1 hour of footage at 640 X 480 @ 30 Frames per second in high resolution with Sound on a 1Gb memory card. Connects to your TV for play back, PC with memory card reader, or carry your Personal Video Player (PVP) in the woods to view your video clips. Email your video clips to friends without needing expensive video capture equipment like you do with camcorder system.

The advantages the DVREye™ has over traditional camcorder motion event recording systems are that the video camera switches to full color during daylight hours and stealth IR mode for night recording automatically with IR illumination out to 60+ feet. Sound is also recorded with your video, which is a very important feature when recording wildlife especially. Being that there are no mechanical parts for running camcorder tape recording the DVREye™ can be used in much lower temperature conditions where a camcorder will often freeze, and it can be used in much more humid weather conditions where a camcorder can be damaged by moisture, and will power up much faster than camcorders will. The DVR and Video Camera are powered by a rechargeable 12V SLA 3.4 AH battery, which under normal use can last up to 3 weeks of unattended use. 4 AA batteries are used to power the motion control electronics and can last up to a year under normal use. A solar panel can be added as an accessory item to charge the 12V SLA battery an unlimited unattended use time.

Note: If the DVREye™ is powered down while recording a video clip, the current video clip will not be stored on the CF or Sony Memory Stick DUO card.

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What's included with your DVREye™ System

Your DVREye™ system contains the following items:

- DVREye™ system case with motion control electronic and video camera
- 12V SLA rechargeable battery
- 12V battery charging unit
- Neuros Recorder2 DVR (memory cards are not included)
- PixController DVREye™ CD with manuals and media player

Inspection/Acceptance of received products

The buyer shall be responsible for inspecting all products shipped prior to acceptance; provided, however, that if Buyer shall not have given PixController, Inc. written notice via email of rejection or shorted items to support@pixcontroller.com within ten (10) days following receipt by Buyer, the products shall be deemed to have been accepted by Buyer.

Contact Information

Address:

PixController, Inc.
1056 Corporate Lane
Export, PA 15632

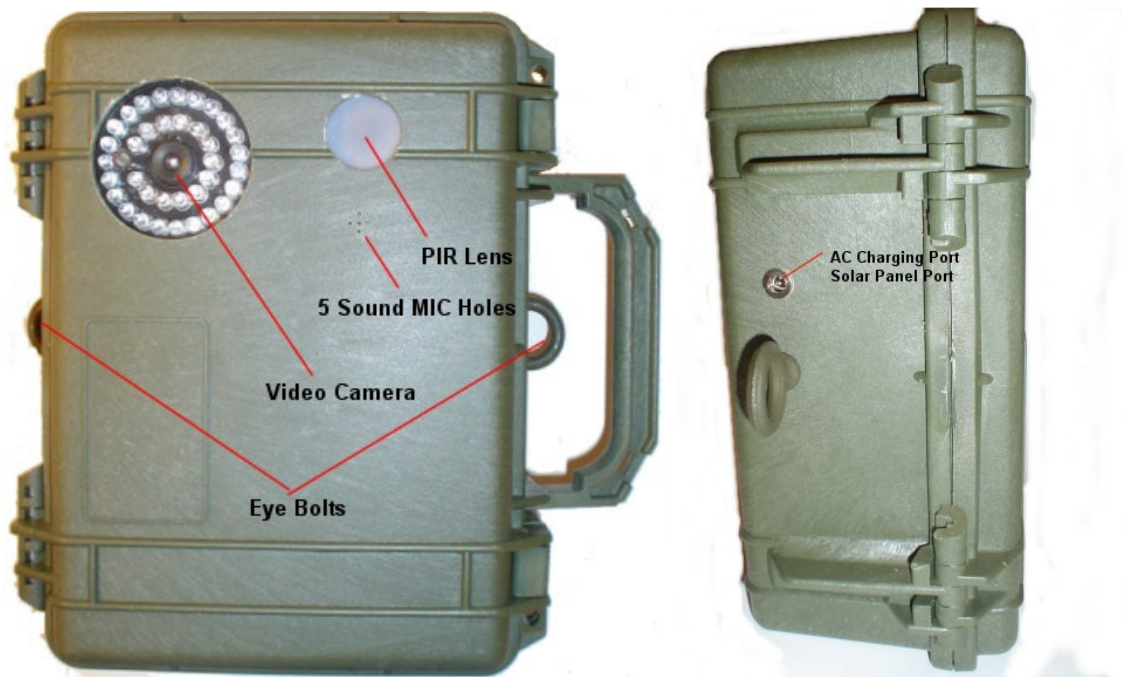
Phone: 724-733-0970

Email: support@pixcontroller.com

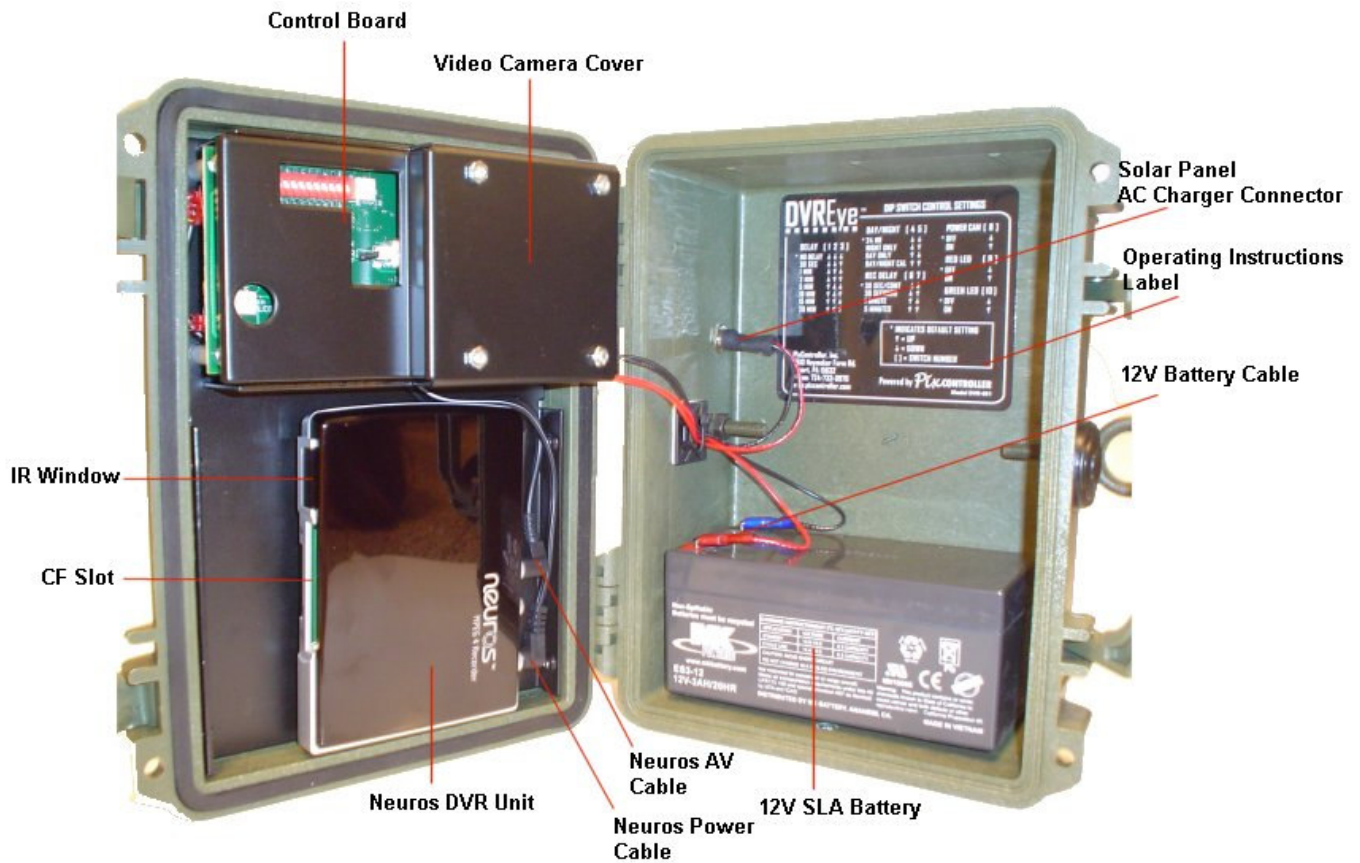
Web: <http://www.pixcontroller.com>

Internet Help Forums: <http://www.pixcontroller.com/forums>

DVREye™ System Components

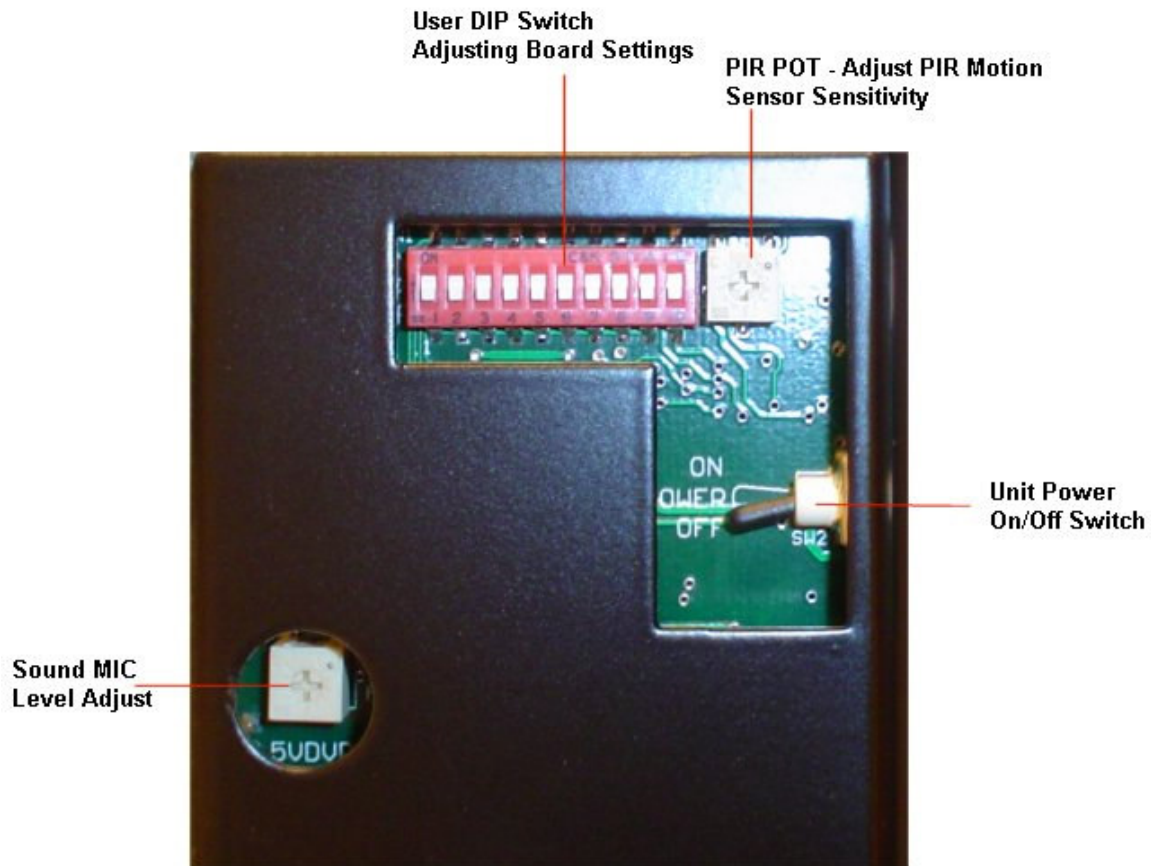


DVREye™ Exterior Components



DVREye™ Interior Components

DVREye™ Controller Board Overview



Powering up the DVR Controller Board

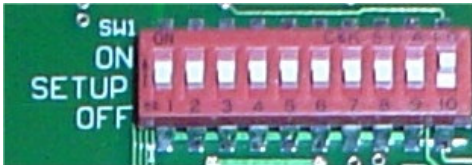
To power up the DVREye™ turn the Board Powers switch to the “On” position. When turning power on the DVR Controller board both the red and green LED will light up. They will both stay on for 30 seconds. This time will allow the PIR circuit to warm up. After this time expires the green LED will turn off and the red LED will blink 5 times letting you know that the board is entering a 1 minute **automatic walk-test phase**. At this point you can move around the camera setup and check out the PIR area. Both the green and red LED’s will light when motion is detected. After the 1 minute automatic walk-test phase expires the red LED will blink 5 times letting you know the camera system will now become active.

USER DIP Switch

The User Control Switch will let you customize how the motion control board will trigger the DVR recorder. Here you can adjust the time delay between pictures, operating only at day, night, or 24 hours, setting up a walk-test mode for testing PIR range/area, set how long the camcorder will record, and turning the control board LED’s on or off.

Note: When turning power on to your control board both the red and green LED will light up. They will both stay on for 30 seconds. This time will allow the PIR circuit to warm up. After this time expires the green LED will turn off and the red LED will blink 5 times letting you know that the board is entering a 1 minute automatic walk-test phase. At this point you can move around the camera setup and check out the PIR area. Both the green and red LED’s will light when motion is detected. After the 1 minute automatic walk-test phase expires the red LED will blink 5 times letting you know the camera system will now become active.

Default DIP Switch Setting



Switches 1-9 “Down”, 10 “Up” - No Delay between pictures, 24 Hour Recording, 30 Seconds/Continuous recording time, Control LED Off, PIR LED On.

PIR Delay	Switch 1	Switch 2	Switch 3
No Delay	Down	Down	Down
30 Seconds	Down	Down	Up
1 Minute	Down	Up	Down
2 Minutes	Down	Up	Up
5 Minutes	Up	Down	Down
10 Minutes	Up	Down	Up
15 Minutes	Up	Up	Down
20 Minutes	Up	Up	Up

Mode	Switch 4	Switch 5
24-Hour	Down	Down
Night Only	Down	Up
Day Only	Up	Down
Day/Night Cal.	Up	Up

Record Delay	Switch 6	Switch 7
30 Sec./Cont.	Down	Down
30 Seconds	Down	Up
1 Minute	Up	Down
5 Minutes	Up	Up

Red LED	Switch 9
Off	Down
On	Up

Power Cam/DVR	Switch 8
Off	Down
On	Up

Green LED	Switch 10
Off	Down
On	Up

PIR Delay - Delays Between Video Shots Setting

Switches 1, 2, and 3 control the delays between video shots.

Day/Night Operation Settings

Switches 4 and 5 control Daylight, Night Time, and 24 Hour recording or pictures.

PIR Walk-Test Mode

On boot up of the Universal board this setting will put the unit into a PIR Walk-Test mode. Here you can check out the PIR detection area without having the unit take photos. When booting the Universal board into this mode the RED Control LED and Green PIR LED will stay on for about 30 seconds. This is when the PIR is warming up. After this period of time has expired you are free to walk and test the PIR area.

Note: To put the DVR Eye back into “Photo Taking Mode” change the switch settings of switch 4 and 5 to one of the three options above under the Day/Night Operation Setting, and power the DVR Eye unit Off and On from the external power switch.

DVR Recording Time

Switch 6 and 7 sets the recording time of the DVREye™ on a PIR event.

Power Control – DVR & Video Camera

Switch 8 controls powers up the video camera and DVREye™ for reviewing video in the field with a hand held video monitor, viewing video at home on your TV, or making changes to the DVR settings with the DVR remote control.

Control LED On/Off Setting

Switch 9 sets if the Control LED (**Red LED**) is to be used or not. Note, the control LED will always be on during the Power-Up Phase, or when in Walk-Test Mode.

PIR LED On/Off Setting

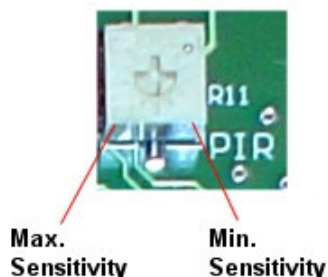
Switch 10 sets if the PIR LED (**Green LED**) is to be used or not.

Note:

When changing switch setting you must re-boot your DVREye. When re-booting you must wait approximately 30 seconds before turning power on again. Not doing so can result in the controller not working properly. Symptoms of this are a dim red LED or blinking green LED, or both.

Adjusting the PIR motion sensitivity

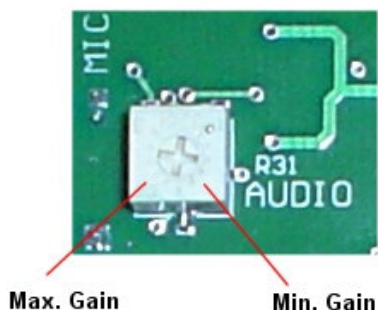
To adjust the PIR detection range on your DVREye™ simply turn the single turn POT shown to the left to your desired range. The default setting is in the middle, as shown. The two "dots" on the Philips head screw show the actual location.



The default setting is desirable for almost all weather conditions. In very hot summer months, or setups over fields with no shading cover you should reduce the PIR sensitivity.

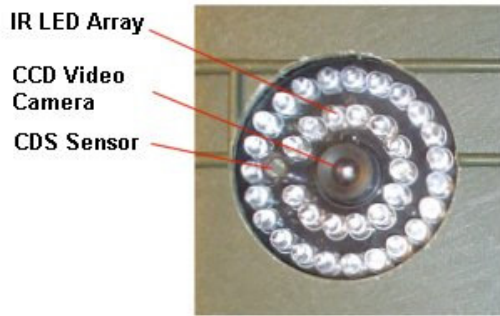
The detecting distance adjustment allows you to easily set the PIR detecting distance (range). Passive infrared is more sensitive in winter than in summer, be sure to reduce the sensitivity in summer by adjusting the sensitivity knob away from the silver dot to avoid false triggering. Reducing the range for night photography will help the problems of your subject being out of the flash range.

Adjusting the Audio MIC Gain



To adjust the MIC sound level of your DVREye™ simply turn the single turn POT shown to the left to your desired range. The default setting is in the middle, as shown. The two "dots" on the Philips head screw show the actual location. The default setting is desirable for conditions.

DvREye™ Video Camera



Day Color- Night IR Video Camera

Video Camera Overview

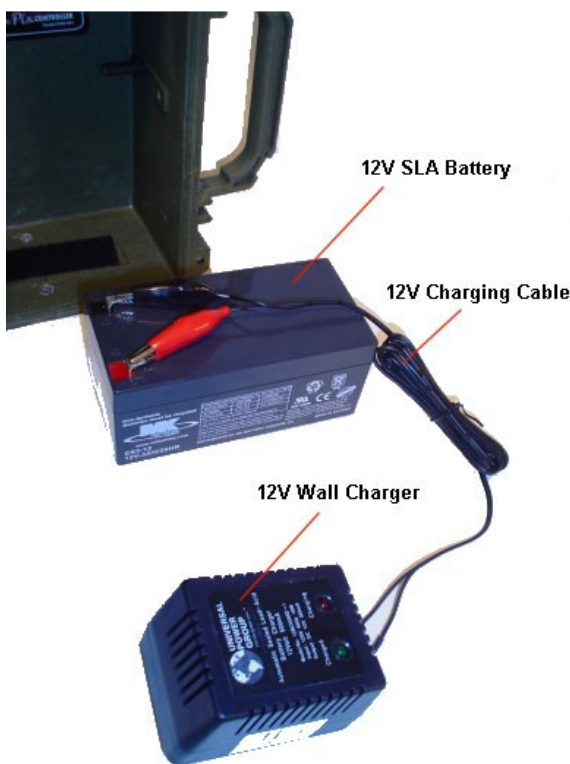
The DvREye™ unit contains a high resolution Sony CCD video camera which will automatically switch from color at day to IR mode at night. The CDS photo sensor within the video camera will detect light levels and switch the video camera from day/night modes. It will turn on the IR LED array and adjust the level of the IR light at night automatically. There is a small red glow emitted from the IR LED array at night.

Note: *When setting up the DvREye in the field be sure to clear any close brush next to the video camera so the IR LED's can illuminate to their full potential.*

Video Camera Specs

- Indoor/Outdoor Application – Switches from color to night IR automatically
- System: 1/3" Sony Super HAD CCD video camera: NTSC or PAL
- Resolution: 520 TV Lines
- Input Voltage: DC12V
- Lens: S= 6.0mm, W= 3.6mm
- Minimum Illumination: 0.5 Lux, 0 Lux(IR ON)
- Synchronization: Internal
- Adopts "Special Optical Low Pass Filter" No Day & Night Focus Shift
- High Efficiency Infrared LED, Radiant IR Distance - 60 Feet
- CDS Automatically Activate LED, When Light Drops Below 20 Lux
- High Sensitivity Sensor, Excellent Picture Quality

DVREye™ 12V Battery & Charger

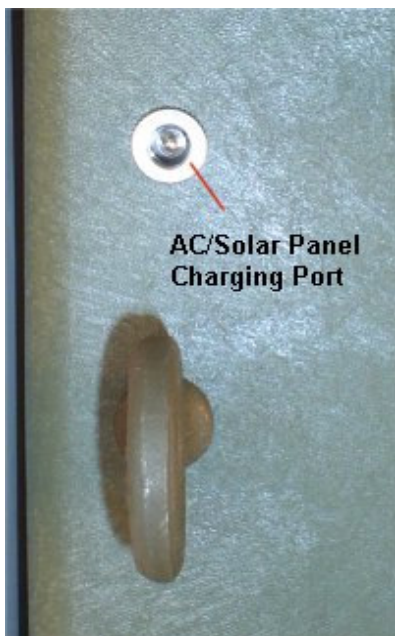


Included with your DVREye unit is a rechargeable 12V SLA (Sealed Lead Acid) battery and 12V charger. The 12V battery is completely removable from the DVREye unit for replacing or recharging. To recharge the 12V battery simply connect the red alligator clip from the 12V wall charger to the positive terminal on the 12V SLA battery, and the black alligator clip to the negative terminal on the 12V SLA battery.

When charging the red LED on the wall charger will be lit and will change to green when the 12V SLA battery is fully charged.

Replacement 12V SLA batteries can be purchased from www.pixcontroller.com, or you can use the UB1234, 12V 3.4AH or similar battery.

DVREye™ AC Charging/Solar Pane Port



On your DVREye case is a standard 2.1mm DC port, which is used for external charging of the 12V battery. The 2.1mm connector is configured such that the center pin is 12V and the connector barrel is the ground.

You can connect charging accessories such as a 12V power supply, 12V charging unit, or 12V solar panel to the port.

The advanced DVREye circuit will keep the 12V battery from becoming over charged. There is also a built in blocking diode which will prevent accessories such as a solar panel from draining the 12V battery at night.

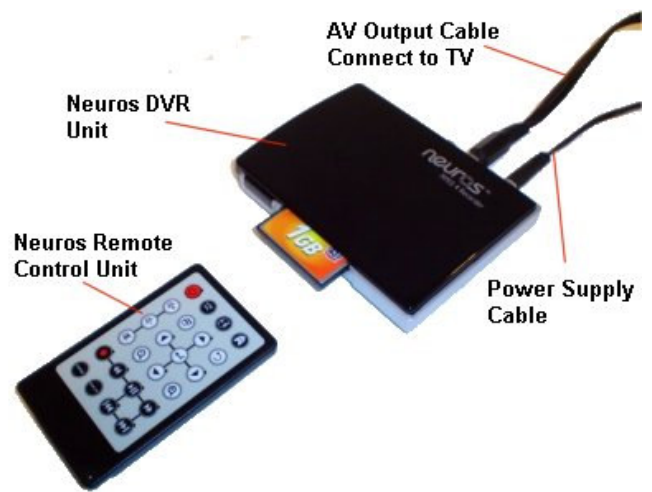
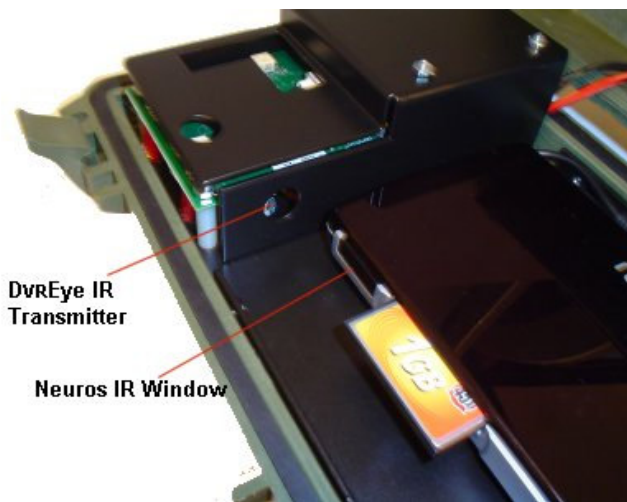
12V Solar panels can be purchased separately from www.pixcontroller.com

DVR Overview

The video content is saved as MPEG-4 video files, eliminating the hassle of proprietary file formats. Utilizing standard Compact Flash (CF) or Sony Memory Stick DUO memory cards as the storage medium, you can record content on a card for viewing on your TV, or transfer that content onto your PC, Laptop, PDA, SmartPhone or portable video player (PVP). Roughly the size of a PDA device, the DVR MPEG-4 Recorder hooks up to your home TV, and allows you to view still photos on your TV or listen to MP3 audio files through your stereo. No PC Required. *CF or Memory Stick DUO Storage card required but not included.*

The Neuros DVR is completely removable from your DVREye™ unit. To setup functions such as the DVR time/date, recording quality, and installing DVR Firmware simply remove the DVR unit from the DVREye box and connect it to your TV. Use the Neuros Remote control unit to adjust any of these settings. Please see the Neuros DVR manual for further information.

Caution: Please note when you replace the DVR unit in the DVREye you need to make sure the DVREye IR Transmitter is pointed towards the Neuros IR Window. This is how the DVREye “communicates” to the DVR for sending recording commands. If this is not aligned your DVR will not record video. Also be sure to press the AV cable all the way into the AV Input port.



When replacing the DVR unit in your DVREye be sure to align the DVREye IR transmitter and Neuros IR Window.

Set DVR time/date & Recording quality connect DVR to your TV as shown above.

DVR (Digital Video Recorder) Specs

Real Time MPEG-4 Video Recording

ISO Standard MPEG4 SP encoding with AAC-LC audio:
30fps@320x240 resolution (QVGA setting)recommended for handhelds

30fps@368x208 resolution (16:9, WQVGA setting)wide screen format for PSP

30fps@640x480 resolution (VGA setting)Best quality for TV playback

Video

Economic=384kbps
Normal=768kbps
Fine=1 mbps
Super Fine=2mbps

Features

5 programmable recording schedules(once,daily,weekly or monthly)
Transfer files between cards

Storage Card Compatibility:

Memory Sticks:
Memory Stick Duo
Memory Stick Pro
Memory Stick Pro Duo

Compact Flash:
Type I and Type II
Hitachi Microdrives with CF type II interface

Recording Time for 1GB card:

AAC Audio
all modes=128kbps

Economic=250min
Normal=143min
Fine=111min
Super Fine=60min

Video Player

MPEG-4 SP with MPEG-1 Layer 3 (MP3) audio,30fps up to D1 resolution
DivX 3.11@ CIF Resolution; DivX 4.x,5.x,30fps up to D1 resolution
Quicktime 6; MPEG-4 AAC-LC stereo, MP4 format

Note:
CF and/or Memory Stick Storage card required but not included

Recording times based on a 1Gb memory card

Mode	Economic	Normal	Fine	Super Fine
320 x 200	250 Minutes	143 Minutes	N/A	N/A
368 x 208	250 Minutes	143 Minutes	N/A	N/A
640 X 440	250 Minutes	143 Minutes	111 Minutes	60 Minutes

Notes on memory cards (CF cards and Memory Stick DUO cards)

If you are not getting any recordings on your CF or Memory Stick DUO card please be sure that the memory card is properly formatted. This can be done from the Neuros DVR unit via the Remote Control and connecting it to your TV. Please be sure that the memory card is compatible with the Neuros DVR. For a list of compatible memory cards please see the Neuros web site, <http://www.neurosaudio.com>

Notes on setting the DVR Time & Date

To set the time & date on the Neuros DVR unit connect the DVR to your TV and use Neuros DVR Remote Control to set the date. Please see the Neuros DVR manual for more information. There is no battery back up inside the Neuros DVR, however, if you connect the DVR unit to your DVREye and power the DVREye up it will keep the date. You have about 4 – 6 hours after setting the date/time to install and power the DVREye before losing the time/date on the DVR. **The time/date will not be superimposed on top of the recorded video.** To see the time/date that your video clips were taken you will need to install your CF card into a PC or PVP and read the file time/date.

Using Personal Video Players (PVP)



**SmartDisk FlashTrax XT
PVP**

Personal Video Players or PVP's are a great tool for your DVREye. Many PVP's today come with a large internal memory or hard disk, which means you can download your videos from the DVREye CF/DUO memory to the PVP when checking your camera system. This means you no longer have to purchase 2 memory cards per system, which will save you money in the long run too.

Simply plug in your CF or DUO card into the PVP and watch the movie clips your DVREye has captured. Most PVP's also have a TV input, so you can plug the TV output cable from your DVREye into the TV input of the PVP and change DVR settings in the field.

Once you return from the field simply plug your PVP into your Home PC via the USB port (found on almost every PVP) and download the photos to your PC.

DVREye™ Special Mounting Options

The DVREye™ has standard cast steel eye bolts for mounting to a tree in the field via bungee chords or the MasterLock® Python™ locking cable. Besides these mounting options the DVREye™ has a special base mounting plate for attaching a standard video security camera mount and tripod. This option can allow the DVREye™ to be setup as a security camera as well as many other applications.



DVREye™ with MasterLock® Python™ locking cable



*DVREye™ Mounting Plate
(3) Standard 1/4-20 screw mounting holes*

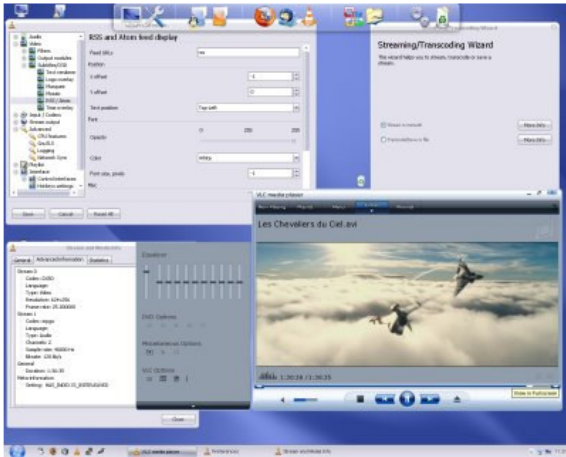


DVREye™ setup using a standard security camera mount



DVREye™ setup using a standard camera tripod

Playing the DVREye™ MPEG4 Video Files



VCL Media Player
<http://www.videolan.org/vlc/>

The MPEG-4 files produced by the Neuros DVR can be played back directly on virtually any portable device accepting memory stick or CF memory cards. You can also use it to view recorded video on your TV. Just plug it into the Video-In jacks on the TV and hit 'Play'. And with your PVP USB connection or an inexpensive USB adaptor/Card reader (not included), you can easily drag and drop content from the memory card onto your computer to play it on your laptop or home PC.

We suggest the following media players for your PC to view the MPEG-4 files:

Apple QuickTime Player

Download: <http://www.apple.com/quicktime/download/>

VCL Media Player (Included on your CD)

Download: <http://www.videolan.org/vlc/>

DVREye™ System Specs

Unit Specs:

- **Size:** 9-1/4"L x 7-3/4"W x 4-1/2"D
- **Camera:** 1/3" Sony Super HAD CCD video camera: NTSC or PAL
- **Media Type:** CompactFlash (CF), Secure Digital (SD), Sony Memory Stick PRO
- **PIR Motion Detection Range:** 80+ Feet (heat and motion trigger) with adjustable sensitivity.
- **IR Flash Range:** 70 Feet
- **Enclosure:** rugged and waterproof case
- **Trigger Time:** ~4-6 seconds
- **12V Battery:** 3.4AH 12V SLA Rechargeable/Removable battery with A/C charger (included) - Lasting approx. 3 weeks on a single charge.
- **12V Solar Panel/AC Charging port** with over charging protection and blocking diode. Standard 2.1mm center positive connector.
- **User adjustable Settings**
- **Unit lockable** with a Masterlock® Python™ Cable
- **Temperature range:** 0°F to 120°F
- **Power up auto walk-test mode** (testing out PIR unit detection area/range)

Operation Spec:

- **On board Power On/Off switch**
- **10-position DIP switch** for setting unit operations
- **8 PIR delay settings:** no delay, 30 seconds, 1 minute, 2 minute, 5 minute, 10 minute, 15 minute, 20 minute
- **24 hour, day only, night only operation**
- **Recording Times:** 30 seconds or Continuous motion recording, 30 seconds only, 1 minute, 5 minute
- **Special setting to power camera/DVR** on for TV DVR setup/review
- **Dual LED** - Red Control LED/Green PIR LED (adjustments to turn LED's on/off)
- **Day/Night Sensor** for setting operation modes

- **On board MIC and MIC Gain POT** to adjust input sound levels
- **On board PIR sensitivity POT** to adjust motion detection range/sensitivity
- **On board IR Remote Tx control LED** - Allows a wide range of DVR devices to be controlled
- **Upgradeable board firmware:** Allows custom programming options/device control options
- **External Trigger Port:** Custom port to allow other sensors to trigger the DVR other than the on-board PIR sensor.
- **Adjustable DVR recording quality** from 640 X 480 @ 30 frames/second down to 320 X 200.

Video Camera Specs:

- **Switches from color to night IR automatically**
- **Day Color-** Night IR 6mm Video Camera
- **System:** 1/3" Sony ExView **HAD** CCD video camera: NTSC or PAL
- **Resolution:** 520 TV Lines
- **Input Voltage:** 12V DC
- **Lens:** S= 6.0mm, W= 3.6mm
- **Minimum Illumination:** 0.05 Lux, 0 Lux(IR ON)
- **Synchronization:** Internal
- **Adopts "Special Optical Low Pass Filter"** No Day & Night Focus Shift
- **High Efficiency Infrared LED,** Radiant IR Distance - 70 Feet
- **CDS Automatically Activate LED,** When Light Drops Below 20 Lux
- **High Sensitivity Sensor,** Excellent Picture Quality

Trouble Shooting

Q: I see no red or green LED's when I turn power on to my DVREye

A: Be sure you have the 12V Battery connected and it is fully charged.

Q: The green LED on my DVREye is blinking all the time.

A: Turn power off to the DVREye unit and let it sit off before turning it back on. If the green LED is still blinking then you need to charge the 12V battery. Turning the DVREye system on/off/on too quickly will cause the green LED to blink and not detect motion.

Q: I can see the unit is triggering but I get no MPEG4 video files on my memory card.

A: There can be a few items that may cause this:

1. Be sure the A/V Input cable is plugged all the way into the connector.
2. Be sure the DVREye IR Transmitter is pointed towards the Neuros IR Window
3. Be sure your media card is properly formatted and is compatible with the Neuros DVR unit.

Q: My DVREye is loosing the system time/date.

A: You must set the time/date of your Neuros DVR unit by connecting the DVR to a TV and using the Remote Control to set the time/date. After you do this you must place the Neuros DVR into the DVREye and set the unit up within 4-6 hours otherwise the time/date will be lost internally on the Neuros DVR. There is no internal battery backup inside the Neuros DVR unit to save the time/date settings.