CellularEye

The world's first cellular scouting camera

www.pixcontroller.com
724-733-0970

Getting Started

Thank you for your purchase of PixController's Cellular Eye™ scouting/security camera. This cellular digital scouting/security camera operates 24 hours a day, seven days a week, continually scouting game even when you're not in the woods.

This revolutionary scouting/security camera features a Passive Infrared (PIR) triggering system. The PIR will trigger the camera based on "body heat and motion," and will detect game up to 80 feet from the camera.

PixController's Cellular Eye™ incorporates the most advanced control board electronics with the only auto-adjusting PIR on the market.

Once your Cellular Eye is setup it will email you a photo upon a motion trigger. You can enter as many email address as you would like to send the photos to. No longer will you need to run out and check your scouting/security camera. Photos can be sent to you in the comfort of your own home. Just let the Cellular Eye do the watching for you.

To stay on top of our product developments please visit: **www.pixcontroller.com**

How the system works

The Cellular Eye system combines a powerful motion detection system with either the Treo 600, Treo 650, or Treo 700p (Palm version – Not Windows version) smart phones by PalmOne, Given the choice, we recommend using the Treo 700p smart phone because of its better photo quality. **Before placing your Treo phone into the Cellular Eye system you must make sure your Treo phone is fully charged**. You must install the PixController.prc software application on your Treo phone before using. Please follow the instructions in the "**PixController software manual for the PalmOne Treo 600, Treo 650, and Treo 700p Cellular Smart Phones**" for more information.

Your Treo phone will remain in a power down state, but connected in wireless mode inside your Cellular Eye unit. A built in battery charging circuit will keep your Treo phone fully charged. When your Cellular Eye detects motion it will send a signal to your Treo phone via the interface cable and will begin running the PixController.prc software. This software on your Treo phone will capture a digital photo, store it on the phone or SD card, and attach it to an email message and send to the list of email recipients. Once the email is sent, your Treo phone will automatically return to a power down mode.

Packing List - Cellular Eye unit includes the following items:

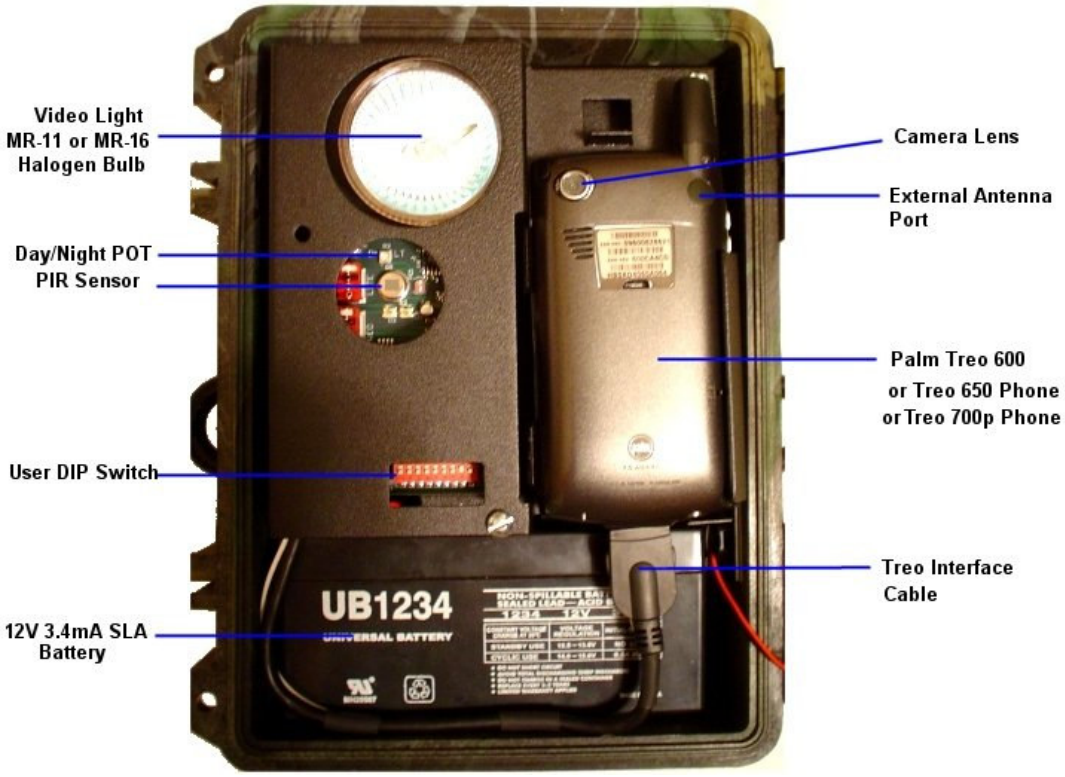
- Cellular Eye Unit in Black or Realtree Hardwoods® Green HD™ finish
- 12V 3.4 Amp Hour SLA Rechargeable Battery
- 12V AC Battery Charger
- 12V Charging cable with DC plug
- 12V Charging cable with Alligator clips
- Treo 600 or Treo 650/700p Interface cable
- Cellular Eye Unit Manual and Treo Phone Software Manual on CD
- Cellular Eye Installation CD including PixController.prc Treo photo email application software, and Visual Media Explorer™ image browsing software for Windows PC's.

Cellular Eye™ Unit Overview

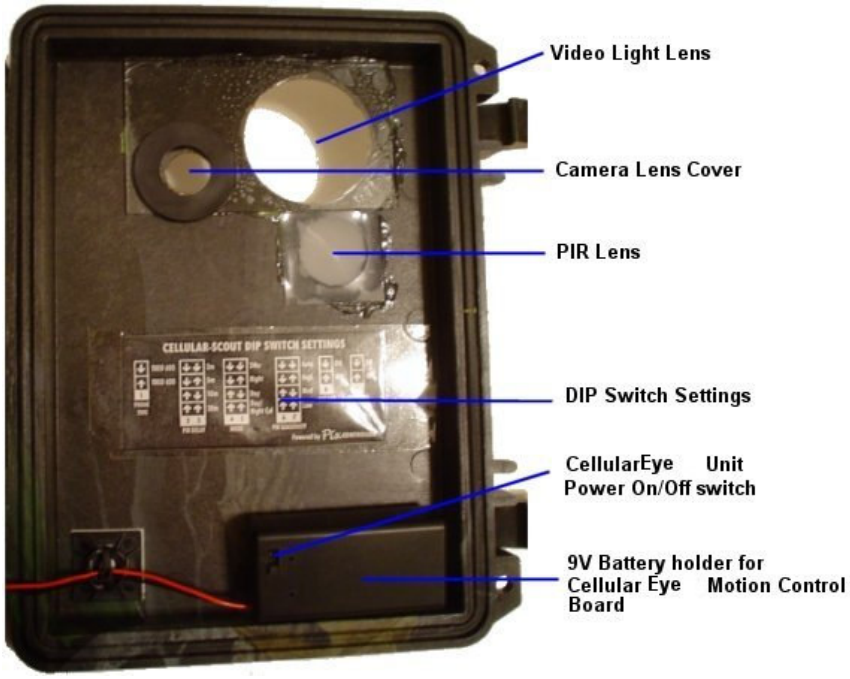
Listed below are the components of your Cellular Eye unit. These items will be referred to throughout this manual. Please become familiar with these items.

Cellular Eye™ Exterior

Cellular Eye™ Interior



Cellular Eye™ Case Lid



Cellular Eye™ Solar Panel/DC Charging Port

Cellular Eye™ 12V Battery and Charger

Included with your Cellular Eye unit is a 12V SLA battery, a 12V battery charger, and 2 charging cables. One cable is used to charge the 12V battery externally using the “12V Battery Cable,” and the other is to charge the Cellular Eye through the Solar Panel Port using the “12V DC Power Cable” shown in figure 1.

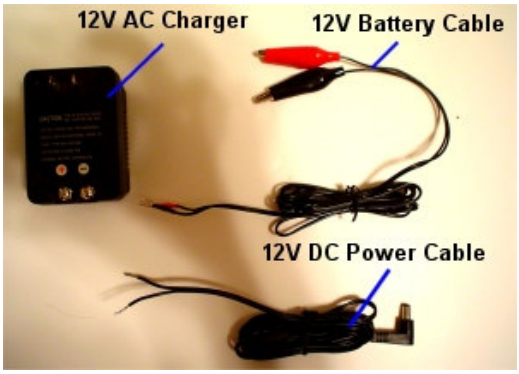


Figure 1

Charge your Cellular Eye before using!

Before using your Cellular Eye system you must charge your 12V SLA battery. To do so, connect your “12V DS Power Cable” to your 12V AC charger as shown in Figure 2. Connect the wire with the white stripe to the “+” terminal on your 12V AC Charger, and connect the solid black wire to the “-” terminal on your 12V AC charger.

Connect the DC power plug to the Solar Panel Port as shown in figure 3. Plug the 12V AC charger into a wall socket. The red LED on the charger will indicate the unit is charging, and when complete, the green LED will light up.

Figure 3

Removing the 12V SLA battery from your Cellular Eye

There may be times you’ll want to remove the 12V SLA battery from your Cellular Eye unit. When needing to remove the battery, slide the battery from the Cellular Eye case and remove the spade connectors on the 12V SLA battery terminals. Remember when you re-connect these spade connectors to connect the red wire to the red spade connector, and the black wire to the black spade connector as shown in figure 4.

Figure 4

Before charging your 12V battery externally you must connect the “12V Battery Cable” to your 12V AC charger. Simply connect the red wire to the “+” terminal on your 12V AC charger, and the black wire to the “-” terminal on your 12V AC charger as shown here in figure 5.

To charge your 12V SLA battery, connect the black alligator clip to the black terminal on the 12V SLA battery and the red alligator clip to the red terminal on the 12V SLA battery as shown in figure 6. Plug the 12V AC charger into a wall socket. The red LED on the charger will indicate the unit is charging, and when complete the green LED will light up.

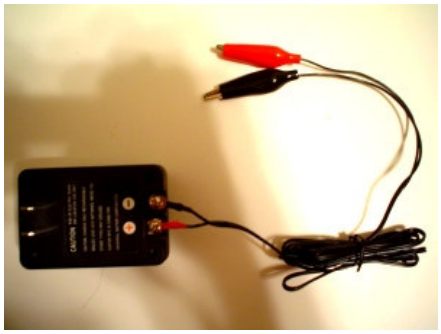
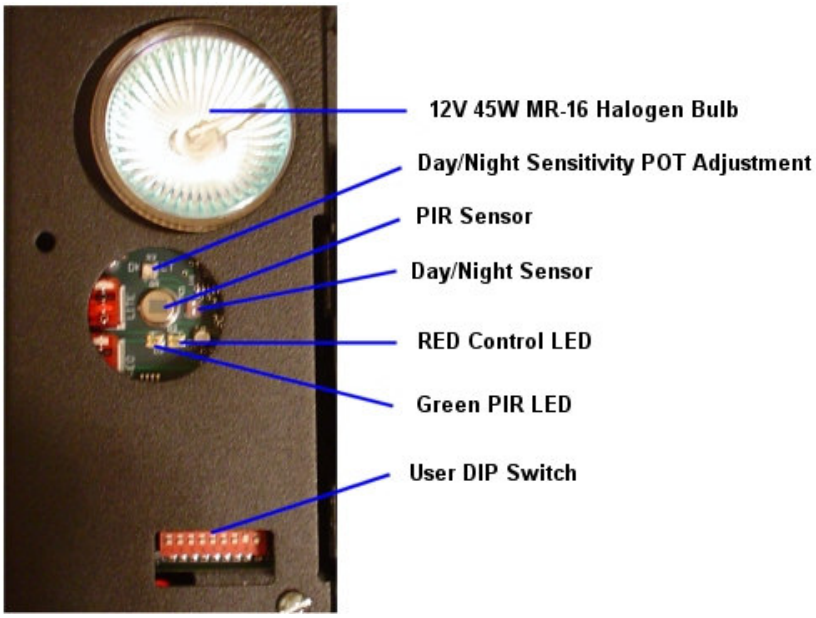


Figure 5

Figure 6

Cellular Eye™ Control Board



Cellular Eye™ Control Board Components

The Cellular Eye™ Control Board electronics are the heart of the system. The Cellular Eye uses a Passive Infrared (PIR) sensor to detect movement of warm-blooded animals and trigger the camera. This sensor is triggered by body heat and motion.

The PIR sensor detects the difference between the air temperature and the animal's body heat temperature. In colder temperatures the detection distance is much greater. However, in air temperatures above 85°F the detection distance can be cut by more than 20 feet. When air temperatures go below 65°F your PIR detection range should be about 80 feet.

In temperatures above 95°F the Cellular Eye unit will go into a shut down mode until the air temperature cools down below 95°F. This will prevent your Cellular Eye unit from taking "false photos".

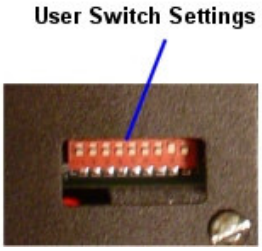
The Cellular Eye advanced electronics will adjust the PIR sensor detection range based on lighting conditions and temperature conditions. **PixController is the only control board manufacturer that can offer this advanced feature.**

The PIR detection area will be reduced in the dark hours to keep your subject within the camera's flash range. The PIR detection area will also be reduced in daylight conditions with air temperatures lower than 32°F to keep the subject within the camera's photo taking range.

Note: Even during cooler days, with air temperatures around 70°F, the Cellular Eye could go into a shut down mode if the sun is directly hitting the Cellular Eye case. This can cause internal temperatures to reach higher than 95°F. If possible, it's best to place your Cellular Eye unit in shaded areas.

How to Setup the "User Switch Settings"

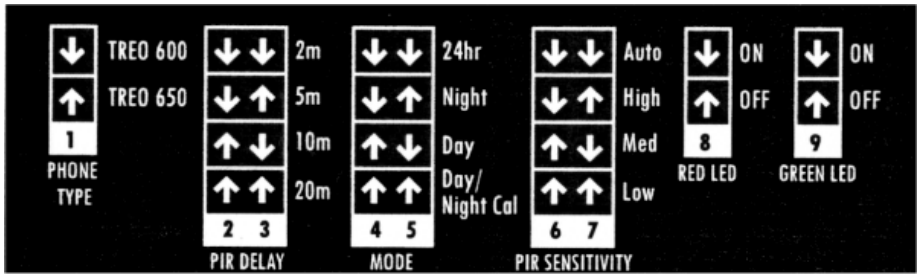
The User Switch will let you customize how the Camera Control Board will trigger the attached camera. Here you can adjust the time delay between pictures, operating only at day, night, or 24 hours, setting up a walk-test mode for testing PIR range/area, the type of Treo phone, and turning the control board LED's on or off.



The user switch setting can be found here on the control board.

Note: You must reboot the controller for the changes to take place.

DIP Switch Settings



Setting Phone Type

Switch 1 sets up the type of Treo phone you are using.

Switch 1	DOWN	Treo 600
Switch 1	UP	Treo 650/700p

Setting Delays Between Pictures

Switches 2 & 3 control the delay between pictures. This will let you control the number of photos taken, and how often, on a given setup. After a photo is taken, the Cellular Eye will wait the amount of time you set on the switch settings. Even if the person or animal stays in the detection range another photo will not be taken until this delay time has passed.

Suggested setting for various setups:

2 Minutes - *Trails*
5 Minutes - *Scrapes*
10 Minutes - *Food Plots*
20 Minutes - *Feeders*

PIR Delay	Switch 2	Switch 3
2 Minutes	DOWN	DOWN
5 Minutes	DOWN	UP
10 Minutes	UP	DOWN
20 Minutes	UP	UP

Day/Night Operation Settings

Switches 4 & 5 control Daylight, Night Time, and 24 Hour recording of pictures, and Day/Night sensor calibration.

Operation	Switch 4	Switch 5
24 Hour Mode	DOWN	DOWN
Night Only Mode	DOWN	UP
Day Only Mode	UP	DOWN
Day/Night Cal. Mode	UP	UP

PIR Motion Detector Sensitivity

Switch 6 & 7 will let you adjust the PIR detection sensitivity. In most cases you will want to run this in Auto mode and let the control board adjust the PIR sensitivity based on temperature and lighting conditions, but you may run this manually also.

Sensitivity	Switch 7	Switch 8
Auto	DOWN	DOWN
High	DOWN	UP
Med	UP	DOWN
Low	UP	UP

Control LED On/Off Setting

Switch 8 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**.

Red LED	Switch 8
Red Control LED On	DOWN
Red Control LED Off	UP

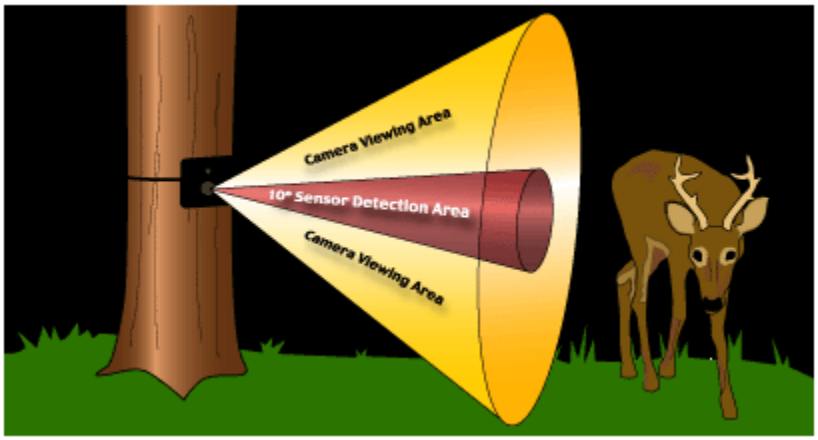
PIR LED On/Off Setting

Switch 9 sets if the PIR LED (**Green LED**) is to be used or not.

Green LED	Switch 9
Green PIR LED On	UP
Green PIR LED Off	DOWN

Auto Walk-Test mode on power up

When turning power on to your Cellular Eye 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.



PIR Sensor Detection Area View

The PIR sensor detection area is an invisible cone shaped area. See the photo above. If you walk slowly through this zone, the LED's will light. Using this simple technique you can determine the detection area.

Note: To put the Cellular Eye Unit back into "Photo Taking Mode," change the settings of switches 4 and 5 to one of the three options above under the Day/Night Operation Setting, and power the Cellular Eye Unit Off and On using the unit power switch.

Adjusting the Day/Night Cal. POT

When adjusting the Day/Night Sensor POT you must first set the DIP switches 4 & 5 "Up" when the board is powered down, and then turn the board on. The "Red Control LED" will light up when the detection level detects darkness. You may want to adjust this in the darkest setting you want to run your system at when adjusting this POT. When finished you will need to return DIP switches 4 & 5 back to their original setting.

Setting the Cellular Eye™ Up for use…

Before setting your Cellular Eye unit up for use, you must first read over the previous sections. Be sure to set up your User Switch Setting to the desired mode of operation.

Find a tree, post, or other secure object to mount your Cellular Eye unit to. See the “Setup Tips” for more information on setting the unit up for use.

Auto Walk-Test mode on power up

When turning power on to your Cellular Eye 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.

Note: When hanging your Cellular Eye, keep it at about 2.5 feet to 3 feet above the ground. This will give you the optimal detection range.

On the 9V battery holder, turn the unit power switch to “on.”

Close the lid and lock the unit securely in a stable location

Locking your Cellular Eye™ Unit

The Cellular Eye was designed so that it could be easily secured. We strongly recommend investing in a strong lock such as the Master Lock® Python™ Cable locking system to protect your investment.

Removing and Inserting the Treo Phone

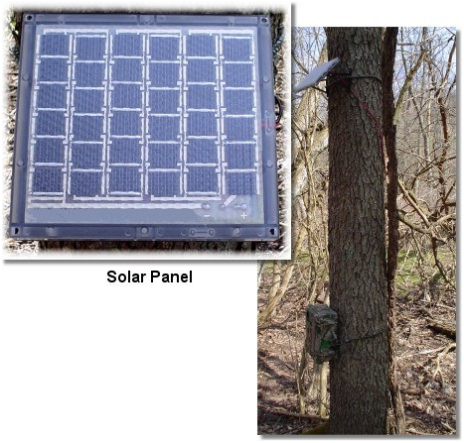
When removing the Treo phone from the Cellular Eye unit, remove the Treo interface cable first, then grab the Treo phone from the left side of the phone and pull up. The Cellular Eye's Treo phone holder is a tight fit and you will need to use a moderate amount of force to remove or insert the phone.

Adding a Solar Panel

An optional, but highly recommended accessory for your Cellular Eye unit is a solar panel. If you did not order a solar panel at the time of your Cellular Eye purchase, one can be purchased at www.pixcontroller.com. Simply connect your solar panel DC power connector to the solar panel port on your Cellular Eye unit. If your solar panel is placed in an area where it can receive direct sunlight for most of the day, it will keep your Cellular Eye 12V SLA battery fully charged at all times.

We recommend a 12V solar panel of at least 250mA power rating. The DC power connector is a standard 2.1mm with the center post being +12V.

The Cellular Eye control board contains all of the necessary battery charging circuits including overcharging protection and a solar panel blocking diode.



Solar Panel

Adding an Antenna Booster

There are a variety of cellular phone antenna boosters on the market today. Your Treo phone has an external antenna port which will accept most of these antennas. **Please contact PixController before connecting a booster antenna.**

Problem Solving Tips and FAQ's

Problem/Question	Answer
Why is there sometimes nothing in my photo?	Sometimes birds can fly past your camera setup and trigger the camera. A bird flying past can be too fast for the camera to catch. You may also have a "false photo." Sometimes on warmer days, objects can heat up to warm blooded body temperatures. Any movement of such items can fool the PIR into thinking a person or animal has walked by. See the "Cellular Eye Setup Tips".
Is there a way to increase the number of photos that I can store on my Treo phone?	There is limited internal storage on your Treo phone, however if you would like to be able to store a greater number of photos, you can purchase a SD media card in the size of your choice.
How do I get the photos stored on my phone onto my computer?	To transfer the photos stored on your camera's internal memory, you can remove the camera from the Cellular Eye unit and connect the supplied Hot Sync cable from the camera to your computer. Here you can copy any photos to your computer.
Is an SD media card reusable?	Yes, an SD media card is reusable. You can think of it as "digital film". Simply copy your photos to your computer and delete them from your media card before using again.
How many photos can I store on my media card?	Depending on the size of media card you are using you can potentially store hundreds of photos at a time.

The Cellular Eye™ Built-In Low Battery Indicator

When the batteries do not have sufficient charge, the Cellular Eye's Green PIR LED will start blinking about once every ½ second. When this occurs it is time to replace the 4 AA-Cell batteries. Turn the "Unit Power Switch" to the off position and replace the batteries.

Cellular Eye™ Setup Tips

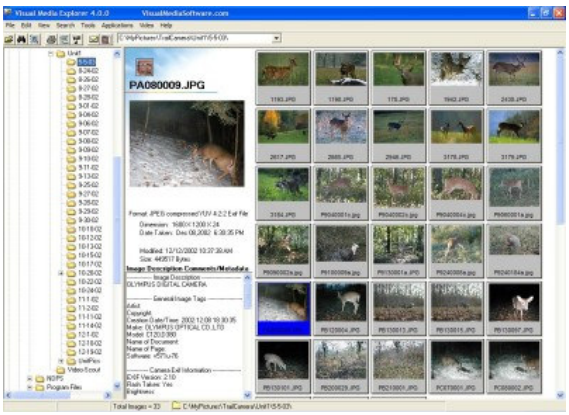
1. Remove any brush or tall grass within about 10 feet of the Cellular Eye unit. This may interfere with the Cellular Eye's PIR sensor and the ability to detect game. This will also help you see your subjects better in front of the camera. The flash will also wash out anything that is directly in front of the camera like a leaf or twig. If possible, take a second and stand back behind where you are going to mount the camera and look through the camera's viewfinder at the same level you are mounting it to see what the camera sees. This scene is what you are going to get on all your photos, so if something needs to be moved or trimmed, do it when you first set up the camera.
2. Never place your Cellular Eye pointing towards the sun rising or the sun setting (east or west). The sun can cause your camera system to take "false" photos. Try pointing the camera, north, northwest or northeast.
3. Attach your Cellular Eye to a firm tree or pole. Never attach it to a tree that can move in the wind, this can set off the camera system. If you don't have a lot of big thick trees to mount your cam to, you can improvise and use wooden stakes, barbed wire fence posts or rebar (reinforcing rod) to make a mount for your cam. Drive the stakes or rebar down a couple of feet, leaving about 3 or 4 feet above ground, then tie the rods or stakes together with some heavy solid electrical wire. If you are mounting your Cellular Eye to a tree, make sure you mount the camera to a tree that is at least 7 to 8 inches in diameter so that the wind will not sway the tree trunk and set off the camera.
4. The PIR sensor detects the difference between the air temperature and an animal's body heat temperature. In colder temperatures the detection distance is much greater. However, in air temperatures above 85 deg. F the detection distance can be cut by more than 20 feet. Air temperatures of 70 deg. F or below, your PIR detection range should be about 80 feet. During the summer months it is best to place your Cellular Eye in shaded areas.
5. Placing deer scent along the trail to get the deer to stop and investigate works well with trial camera systems. If you want better photos of the racks on bucks, put the scent up on a limb to get the buck to show off his rack better. If you're after varmints like bobcats or fox, tie a feather onto a limb with string so it will flutter in the breeze.
6. It is recommended that you use the Master Lock® Python™ Cable to lock your Cellular Eye unit every time you setup your system.

Visual Media Explorer™ Photo Browsing Software

Included on the Cellular Eye Installation CD is a copy of the powerful photo browsing software – Visual Media Explorer™. This software runs on any Win 95, 98, 2000, NT, and XP operating system.

Visual Media Explorer™ will let you view your photos in an easy to use browser. Here you can edit your photos, add time/date stamps, email photos to your family and friends, and much more!

Your Cellular Eye Installation CD includes an online manual and animated tutorials for Visual Media Explorer™.



Visual Media Explorer™

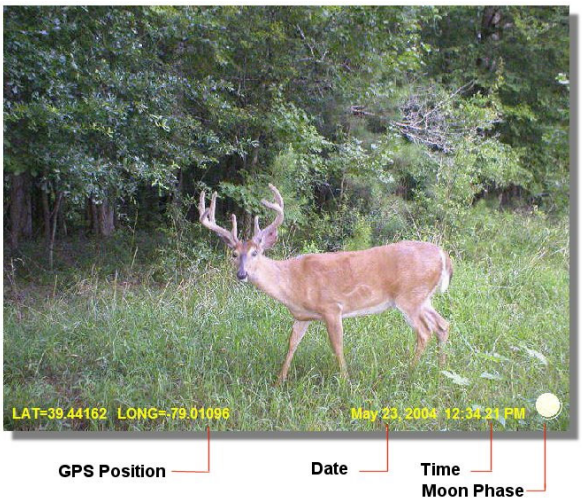
Using a GPS with your Cellular Eye

We recommend that you use a GPS unit to mark the location of your Cellular Eye unit. In the summer months especially you can easily lose your unit in the woods.

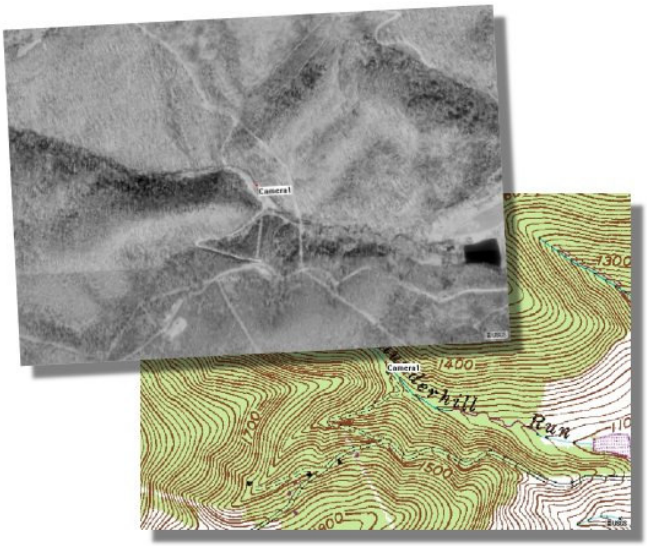
Secondly, if you do use a GPS unit along with your Cellular Eye you can embed the GPS position into the photos taken by the unit with your copy of Visual Media Explorer™. With the Visual Media Explorer™ upgrade you can stamp the GPS position on to your photos along with the time/date, and phase of the moon. You can even download aerial photos and topo maps from Microsoft's Terraserver. For Visual Media Explorer™ upgrades please visit:

http://www.VisualMediaSoftware.com

Save your Cellular Eye's GPS Position.



Stamp your photos with GPS, Date/Time and Moon Phase information!



Get Aerial photos and topo maps of your Cellular Eye's GPS position.

Unit Specifications

Size: 9-1/4"L x 7-3/4"W x 4-1/2"D.
Phone: Palm Treo 600 or Treo 650 Smart Phone
Media Type: SD (Secure Digital)
Flash Range: 40-60 Feet
Photo delay: ~2 seconds (Treo 650), ~5 seconds (Treo 600)
Weight: ~5 pounds
Battery: 12V 3.4 amp hour SLA battery (Cellular Eye Unit)
Video Light: Replaceable MR-11 or MR-16 Halogen bulb, 75W max. Includes super bright 45W MR-16 Halogen bulb
Temperature range: 5ºF to 110ºF

www.pixcontroller.com
724-733-0970