PlotWatcher™

GAME SURVEILLANCE SYSTEM

PRO

KNOW WHERE TO HUNT!

Introduction

Thank you for purchasing the Day6 PlotWatcher Pro Game Surveillance System. This camera continues the tradition of technological breakthrough started by the original PlotWatcher Time-Lapse HD video camera. Mounted at your potential hunting locations, it records HD video of all the activity that happens in the days before you hunt, so you will know precisely when and where to hunt. Images are captured and stored as video frames, typically every 5 or 10 seconds, from dawn until dusk, creating a time-compressed HD video of each day's activity. The video file for each day can then be reviewed in just a few minutes using the included GameFinder video player software.

The Game Surveillance innovation will dramatically increase your effectiveness as a hunter. Because you will know when and where to hunt, and have an accurate record of recent activity, your choices will enable you to see more animals, minimize wasted hunts, and better understand your chances for a true trophy.

The PlotWatcher Pro breaks through battery life limitations by recording up to 120 days of activity onto an SDHC memory card. This is 20 times more video frames than the original PlotWatcher, and 40 to 100 times more frames than trail cameras.

The PlotWatcher Pro includes a large, easy to read LCD status screen that tells you exactly what you need to know about the camera and allows you to take a preview picture for aiming. It also includes 3 slide switches for the main settings, making it quick and easy to setup.

The PlotWatcher Pro gives you more flexibility, with time intervals as short as 1 second or as long as 60 minutes. You also have the option of using interchangeable Day6 accessory lenses for greater zoom or wide angle capabilities. These are available at the www.day6outdoors.com website.

Thank you for putting your confidence in Day 6 Outdoors with your purchase of the PlotWatcher Pro. We're excited about what this time-lapse camera can do for you and we'd love to hear from you.   Please register your PlotWatcher Pro at www.day6outdoors.com, and as always, let us know what you think!

"Thank You" from your team at Day 6 Outdoors!

Package Contents

- PlotWatcher Pro Camera Unit
- User Manual
- Tree Strap
- Installation CD

What You Will Need

4 or 8 AA batteries

- PlotWatcher Pro supports two banks of four batteries. You can fill one or both. **Alkalines** are recommended if average daily temperatures are above freezing. **Lithiums** are recommended if average daily temperatures are below freezing.
- Rechargeable NiMh batteries (Low Self-Discharge type) can be used in the same temperature range as alkalines. However, we recommend gaining experience with alkalines first, as a benchmark, because of the wide variety of energy capacity, self-discharge behavior, and temperature sensitivity of rechargeable batteries. Visit www.day6outdoors.com for specific recommendations.

SD or SDHC Memory Card

- Supports from 1 Gb up to 32 Gb memory card. 8 Gb or larger recommended.

Memory Card Reader

- Note that memory cards of 4 GB or greater are SD-High Capacity (SDHC) and require readers that are SDHC compatible.

PC or MAC Computer

- For PC: Windows XP (Service Pack 3), Vista, or Windows 7.
- For Mac: 10.4.7 or later Operating System (Intel based versions)

Camera Quick Start

1. Unpack your PlotWatcher Pro and remove all protective film.

2. Insert 4 or 8 AA batteries into the upper, lower, or both compartments.
Do not mix battery types in a given compartment.

3. Insert your SDHC memory card into the memory card slot.

4. Put the setting switches into the upper positions as shown below.
        Start/Stop: Light Based
        Midday Skip: None
        Interval: 5 Seconds
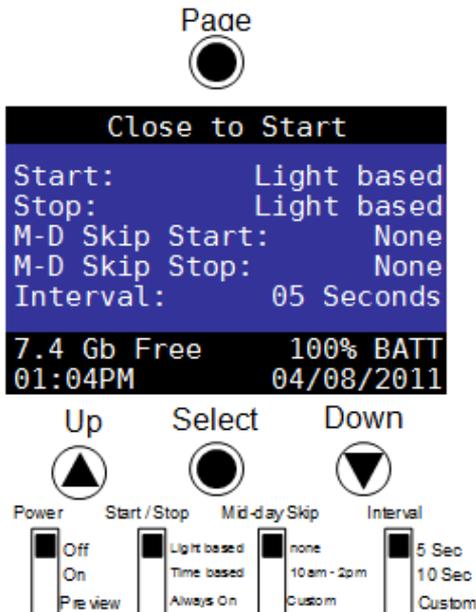
Page

```
      Close to Start
Start:            Light based
Stop:             Light based
M-D Skip Start:          None
M-D Skip Stop:           None
Interval:         05 Seconds

7.4 Gb Free       100% BATT
01:04PM           04/08/2011
```

Up   Select   Down

Power	Start / Stop	Mid-day Skip	Interval
Off	Light based	none	5 Sec
On	Time based	10am - 2pm	10 Sec
Preview	Always On	Custom	Custom

5. Power on the camera by sliding the Power switch to the center position.

6. Set the Time and Date.

> Press the PAGE button to step through the settings pages to "Set Time and Date."
> Press the SELECT button to step through the fields on the page.
> Use the UP and DOWN buttons to change values.
> After setting the Time and Date, press PAGE until you return to the status screen.

7. That's it! It's a good idea to take some test video before putting the camera in the field, to ensure everything is working correctly. With the camera ON, shut and latch the door and aim the camera at a well illuminated scene to collect some time-lapse video!

Checking Your First Video

1. Install the GameFinder software which is on the included CD. (See next section, **GameFinder Software,** for detailed install instructions.)

2. View the test video.

> A. Open the camera, wait for the status to display, and then power it off.

> B. Remove the memory card and place it into your PC or MAC computer.

> C. **View the files on the memory card:** If "Autoplay" opens in Windows, choose "Open folder to view files." Otherwise, use "My Computer" to click on the drive letter. On an Apple computer, you can use "Finder" to navigate to your memory card.

> D. Double click on the *DCIM* folder, and then the *100D6OPR* sub folder.

E. You should then see the file name of the sample video. Double click on this file. This will launch the GameFinder time-lapse video player software.

3. When you finish watching the test video, delete the test video files from the memory card and return it to the PlotWatcher camera.

Note: You generally will not want to copy your Time-Lapse Videos to your computer because they are so large.   They should play directly from the memory card.   You can save any individual pictures or short video snippets you wish to keep to your hard drive with the *Export* feature inside the *FILE* button.

Special note for Apple users: After deleting files on a memory card, you must then "empty the trash" folder to actually free the space on the memory card.

GameFinder Software

PC Installation

1. Insert the PlotWatcher TLV CD into your computer.

2. If Windows does not auto-open the CD to reveal the "GameFinder_Setup" icon, then browse to the CD drive using "My Computer."   Once you see "GameFinder_Setup" in the Explorer window, proceed to the next step.

3. Double Click on "GameFinder_Setup" to start the setup program.

4. Click NEXT for each of the steps of the GameFinder Installer Wizard.

5. Installation is complete. The GameFinder video player software is installed under "All Programs" in the "Day6" folder, and a shortcut is also placed on the desktop. You can now proceed to Setting the Time, Date, and Custom Settings.

Apple Computer Installation

1. Insert the PlotWatcher TLV CD into your Apple computer.

2. Double click on the GameFinderDisk file.

3. Drag the GameFinder program into the Applications folder.

4. Double-Click on the GameFinder program in the Applications folder to verify that it has been installed.

Using the GameFinder Software

The GameFinder player is an easy, fast, and fun way to view time-lapse video files.

To open a file, navigate to the *\DCIM\100D6OPR* folder on your memory card and double click on the file of interest.   You will see one file per day and note that files are named based on the camera date on which they were created.

The quickest and easiest way to get an overview of a time-lapse video file is to use your mouse to drag the "Position Arrow" across the play bar (this is the triangular indicator with the frame number displayed in it).   This will preview, in a very short time, what is contained in the file. You can drag to the right to move forward in time, or to the left to move backward in time.

When you see an interesting portion of the file, stop dragging the Position Arrow and use the scroll wheel on your mouse to move forward or backward one frame at a time.   If you don't have a scroll wheel on your mouse, you can use the arrow keys or just click on the back or forward STEP button.

To see every single picture, and ensure you do not miss any frames, you can play the file like a traditional video.   Just click on the back or forward PLAY button to begin. Clicking again will speed up the play, up to 5x by clicking several times.   (After 3x, some frames may be skipped). At any point if you see something of interest, click on the video screen or scroll the mouse wheel to pause the video and enter step/scroll mode.

SEARCH will cause GameFinder to search in the direction of interest (forward or backward) for motion and will move the "Position Arrow" to the frame in the video file where movement is detected.   A vertical line is drawn on the play bar at each point where movement is detected.   If the search feature is too sensitive, and you are finding shadows or trees that are moving, use the SETTINGS button to limit the region of the field of view that is searched, and/or limit the sensitivity. The settings for the motion search can be found under the SETTINGS button.

On the FILE button, you can choose to export a single video frame as a JPEG image, or a sequence of 50, 100, or 200 video frames as a short TLV file (best resolution) or a compressed WMV file (best for YouTube® uploads).

For additional tips, to check for the most recent updates, and to get the latest information on the GameFinder player, visit www.day6outdoors.com.

Mounting the PlotWatcher Pro

A tree strap is included for mounting your PlotWatcher Pro to a tree. The strap should be snug, but not too tight.   The larger the tree you choose, the less wind sway you will have in your time-lapse video.   It is sometimes helpful to use a small stick between the top of the camera and the tree to adjust the angle of the camera.   Many game camera mounting accessories that work with the PlotWatcher Pro are available, such as tripods, stakes, and adjustable tree-mount devices.   If you wish to use a mounting accessory, select one that uses ¼-20 thread to mount into the base of the camera.

If theft is a concern, note that you can place the PlotWatcher Pro high into a tree, generally out of sight, because it does not rely on motion triggering.   You can also use a padlock on the access door of your PlotWatcher, and/or a security cable such as the Masterlock Python brand can be passed through the housing to secure your camera to a tree. Check www.day6outdoors.com for these and other PlotWatcher Pro accessories.

Collecting Video

To start your camera, insert your memory card, slide the POWER switch to ON, and wait for the status screen to display.   Select your preferred settings with the slide switches, and/or the screen-based settings pages. (See "User Interface" section for more details.) When the camera says "Close to Start" in the top line of the status display, you can shut and latch the door to being capturing time-lapse video.

Preview Image for Aiming

To inspect the aim of the camera, slide the POWER switch from ON to PREVIEW.   You will see the following screen:
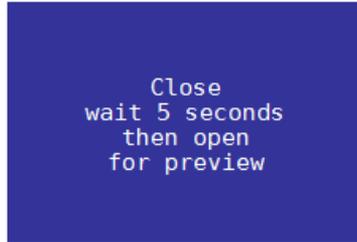
Close the door and hold it shut for 5 seconds while an image is taken.   Then open the door to preview your image on the screen.   Adjust the aim if necessary, and close the door again for 5 seconds to take another image. Repeat until you are satisfied with the aim. Then slide the POWER switch back to ON before proceeding to capture time-lapse video by closing and latching the door.

User Interface

When you power on your PlotWatcher Pro, you will notice the Day6 logo and a version number displays while the camera is starting.   The status page screen indicates the settings of the camera.


```
           Close to Start
Start:              Light based
Stop:               Light based
M-D Skip Start:           None
M-D Skip Stop:            None
Interval:          05 Seconds

7.4 Gb Free         100% BATT
01:04PM             04/08/2011
```

Status page screen

The top line of the status page indicates that the camera is ready to begin, ("Close to Start") and instructs you to close the camera to start operation.   A small door switch is located just below the "Interval" switch that automatically senses the door closing and begins the time-lapse video recording.   The camera will stop recording to the current file when the camera is opened, and will begin a new file when it is closed again.

If the camera is not ready to record, the status line will give one of the following messages:

Message	Condition
Start on MM/DD/YYYY	Camera is waiting on a user specified "start delay" to expire, and will begin recording on the date shown.
Skip until HH:MM AM/PM	Camera is in a Mid-day Skip period and indicates the time of day it will restart recording.
Start at Dawn	Camera is in "Light Based" mode and has detected that it is too dark to operate.
Start at HH:MM AM/PM	Camera is in "Time Based" mode and is not currently schedule to run.
Disk Full – Cannot Start	Shown when the camera initializes with less than 0.1 Gb of free space.

The bottom two lines of the status page show the amount of remaining storage (7.4 Gb Free in the example) on your memory card, the proportion of battery life remaining in the active battery bank, and the time and date. Note that when the storage space falls to 0.1 Gb, the oldest TLV file, (even if it is the only one), will be deleted, and a new file created.

Screen–Based Setting Pages

The screen-based setting pages are where you can set the time and date, special features, and custom setting values.

```
        Close to Start
Start:          Light based
Stop:           Light based
M-D Skip Start:        None
M-D Skip Stop:         None
Interval:        05 Seconds
7.4 Gb Free        100% BATT
01:04PM          04/08/2011
```

```
Start/Stop ->Time


     ON: 06 :00AM
     OFF: 09:00PM
```

```
Preferences


Time: AM/PM
Date: MM/DD/YYYY
      (04/08/2011)
Site: CAMERA 1
```

```
Custom Mid-day
skip Settings

    OFF: 10 :00 AM
     ON: 02:00 PM
```

```
Set Time and Date


Time: 05 :29PM


Date:  04/08/2011
```

```
Custom Interval
Settings

       Picture
       Interval
    03 Seconds
```

```
Start Delay


         0
   Camera Starts:
     4/8/2011
```

Press PAGE button to cycle to the next page.
Press SELECT button to cycle to the next field on a page.
Press UP or DOWN button to change values in a field.

Start / Stop Options
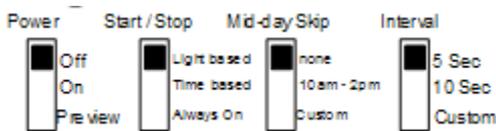
Light Based

In "Light based" start /stop mode, the camera will come on as soon as there is enough light for an image to be captured, and will cut off when there is no longer enough light to do so. During darkness, the camera is in "night mode" and takes a picture every 5 minutes to determine if it is bright enough to resume capturing time-lapse video.

Time Based

In "Time based" start/stop mode, you specify the specific time you want the camera to power on and power off. These are set on the screen-based settings page shown at right:

Start/Stop ->Time

ON: 06:00AM
OFF: 09:00PM
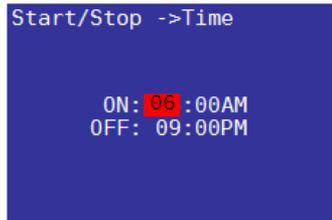
Always On

"Always On" mode is typically used in security situations where continuous monitoring is desired, and some external form of light will be available, such as parking lots, offices, etc. Note that operation at night will deplete the batteries slightly more quickly because of longer exposures during the image capture.

Mid-day Skip Options
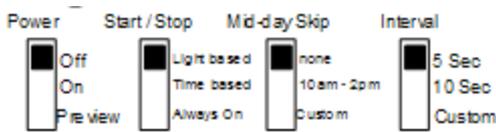
None

The camera will run for dawn until dusk (in Light based mode) or from Start Time until Stop Time (in Time based mode).

10am – 2pm

The camera will shut down from 10am until 2pm in the middle of the day to conserve batteries and storage space.

Custom

The camera will shut down from a user-specified OFF time until a user-specified ON time to conserve batteries and storage space.   These are set on the screen-based settings page shown below:
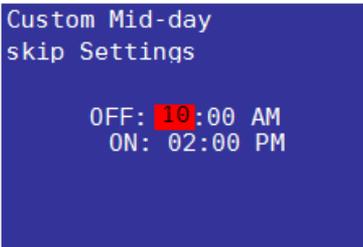
Interval Options
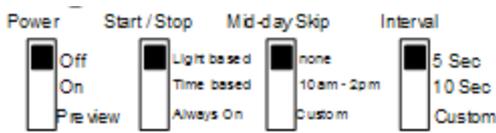
5 Sec

The interval between video frames will be 5 seconds.   This is a good setting for small areas where the game may pass through the field of view more quickly than in larger areas. This will consume more memory storage space and battery power than the 10 second setting, with a 12 hour video file using .8 to 1.2 Gb, depending on scene detail. See Specifications for more detail.

10 Sec

The interval between video frames will be 10 seconds.   This is a good setting for larger areas where the game will not pass through the field of view quickly. This will consume less storage space and battery power than 5 second interval, with a 12 hour video file using .4 to .6 Gb, depending on scene detail.   See Specifications for more detail.

Custom

The interval between frames can be selected from the following values:
1 sec, 2 sec, 3 sec, 5 sec, 10 sec, 20 sec, 30 sec,
1 min, 3 min, 5 min, 10 min, 20 min, 30 min, 60 min.
These are set on the screen-based
settings page shown at right:
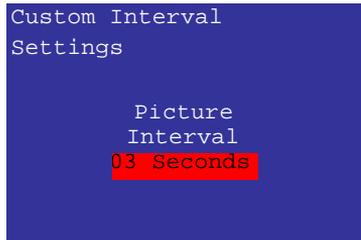
Start Delay

If you are departing from a hunting site for an extended period of time, you may want to schedule your PlotWatcher Pro to begin capturing video only 1 or 2 weeks before you return in order to conserve memory storage space and batteries. This can be easily done by specifying the # of days of Start Delay, up to 45 days into the future. The calculated start date will then be shown on the screen based settings page, as well as on the main status page.
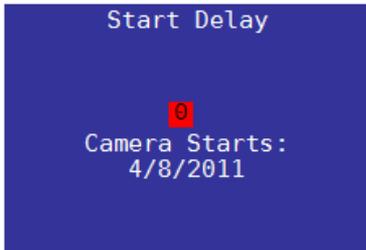
Display Preferences

The display preferences are selected on the following screen-based settings page:

```
Preferences


Time: AM/PM
Date: MM/DD/YYYY
     (04/08/2011)
Site: CAMERA 1
```
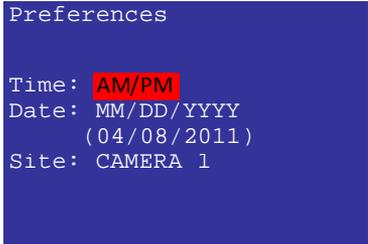
Time formats are: AM/PM
                                 24Hr
Date formats are: MM/DD/YYYY
                                 DD-Mmm-YY,
                                 DD/MM/YYYY
                                 YYYY/MM/DD

The "Site" field is an 8 character string that you can use to identify the site where you are placing your PlotWatcher Pro. You can change each letter by using the "Up" and "Down" buttons to scroll through the alphabet. Once you find the letter you are looking for, move to the next letter by pressing the "Select" button.

Setting Time and Date

Time and Date are set on the following screen-based settings page:

```
   Set Time and Date


Time: 05 :29PM


Date:  04/08/2011
```
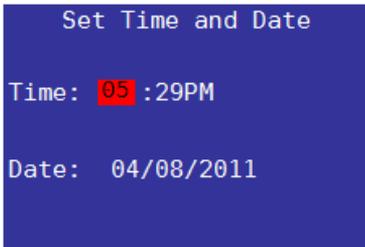
About TLV Files

The PlotWatcher Pro normally records one video file per day. Anytime the camera door is opened, the current file will be closed, and a new one will be created. The new file will have an incremented "letter code" (last two characters) as described in the naming convention below.

If the memory card runs low on storage space (0.1 Gb or less), the oldest file will be deleted and the current file will continue.

The files are stored on the memory card, in the "\DCIM\100D6OPR\" folder.

The files are named according to date: YYMMDDAA.TLV, where YY = Year, MM = Month, DD = Date, and AA is a "letter code" that is incremented in a sequence (AA, AB, AC, etc.) when multiple files are created on the same date. An example of an actual file name would be 110408AA.TLV.

TLV files utilize the industry standard AVI format. The TLV files can be played in Windows Media Player , Apple QuickTime player, and most video editors if opened manually. In some cases, it may be necessary to rename the file to end in *.AVI.

Batteries

We recommend that you begin with 8 AA alkaline batteries, unless the daily average temperatures are below freezing, or the night time lows are below 20° F / -6° C. In that case, you should use 8 lithium AA batteries, which work particularly well in cold weather.   You may wish to transition to rechargeable Low Self-Discharge NiMh batteries after you have benchmarked the operating life in your preferred mode, on regular alkaline batteries.

The PlotWatcher Pro utilizes two battery banks: an upper bank of 4 batteries, and a lower bank of 4 batteries.   You can populate one or both banks with batteries.   Battery types should not be mixed in a given bank.   The camera will always operate on the bank with the higher voltage.   In practice, this means they will fall off in voltage equally, as the camera automatically switches back and forth between the higher of the two banks.   However, if you load used batteries into one bank, and new batteries in another, then the new batteries will be used until they reach the level of the used batteries.

The Battery % indicator on the main status page registers 100% for anything above 6 volts, and 0% for anything below 4 volts, and a proportional percentage for any voltage in between.   This is based on the voltage characteristics of alkaline batteries, so keep this in mind if you are using a different type. Different types of batteries have different voltage characteristics.   Four new alkaline batteries are 4 x 1.6v = 6.4 volts. Four new lithium batteries are 4 x 1.8v = 7.2 volts.   Four new, fully charged NiMh batteries are 4 x 1.25v = 5 volts.   NiMh rechargeable batteries may show 50% battery when first installed, yet operate for many days at that level.   Lithium batteries may show 100% for most of their life, and then fall rapidly.

After you have used the camera a few times with alkaline or lithium batteries, you will have a good benchmark on battery life and might want to consider rechargeable NiMh batteries as an alternative.   Their tolerance for low temperature is similar to alkaline batteries (average temperature above freezing, lows above 20° F / -6° C) but they can save you money over time. Look for the newer "Low Self-Discharge" NiMh batteries, sometimes referred to as "pre-charged," because the ordinary NiMh batteries lose their charge over time, even when not being used. You can expect to get about 50% to 70% of the runtime you would get with alkaline batteries, but with the very long battery life of the PlotWatcher Pro, they can be an effective, economical choice.

Memory Cards

We recommend you start out with a new 8, 16, or 32 GB SDHC memory card. You might prefer to purchase two cards so that you can swap them in the field. Note that many older computers have SD card readers that will not read the higher capacity SDHC cards.   (Cards from 2Gb to 32Gb are typically SDHC.) If your computer will not read the SDHC cards, you can obtain an SDHC card reader that will enable you to read SDHC cards on any computer with a USB port. These SDHC card readers are typically available on the Accessories section of the www.day6outdoors.com website.

If you are not starting with a brand new SDHC card, we recommend that you ensure all other files have been deleted from the card. A large number of files, such as music collections or photo collections will take up space and also cause the PlotWatcher to take more time to read from and write to the disk, thus reducing battery life.

You may check the Frequently Asked Questions (FAQ) at www.day6outdoors.com to see if we have found particularly good or bad performance with any certain brand of card.

NOTE: Your SDHC must be formatted with FAT32, and all cards of 32Gb or less usually come with this format.

Using External Power

The PlotWatcher Pro has exceptionally long battery life - up to 120 days when using both battery banks and capturing 8 hours per day on a 10 second interval. Service time will be shorter with shorter time intervals or more hours of video per day.   If you wish to extend the operating time, or eliminate the reliance upon AA batteries, you may use the external power port.

The external power port in the PlotWatcher Pro is 12v, with the center pin positive and the outer shell negative polarity.   It uses a 5.5mm x 2.1mm connector DC power plug common to many trail cameras accessory devices, such as cables with clips, solar devices, battery packs, etc. Be sure the plug fits securely into the receptacle to avoid moisture entering the camera. If your plug is not large enough to fit securely, you may want to enlarge the diameter with tape.   See www.day6outdoors.com for compatible devices and accessory cables.

Note that although the PlotWatcher Pro internally operates on 6 volts, the external power port utilizes nominal 12 volts (10v – 15v) because this is the most widely available voltage for external power sources.   Examples include sealed lead-acid (SLA) batteries, deep cycle RV/Marine batteries, and solar panel accessories.

If you wish to use a solar panel accessory, be sure it is a 12v model. It is a good idea to select one that has an integrated battery or a battery charging circuit connected to an external battery which is connected to the PlotWatcher Pro. If your solar panel is not used in conjunction with an integrated or external battery, it can still prolong the life of your camera by providing the operating power during sunlight hours. The internal batteries will be automatically selected to power the camera when the output of the solar panel is not present.

Note that the Battery % indicator will show 100% as long as the external battery power is above 10v. It will not be an accurate indicator of the life remaining in the external power supply.

Specifications:

Image Detector:	720P HD Video (1280 x 720)
File Format:	AVI format with TLV extension
Per Frame Storage:	100k – 200k (depending on scene detail)
Batteries:	Dual banks of (4) AA each
Operating Temperature:	-20 F to 110 F (limited display below 15 F)
External Power Voltage:	10v – 13.7v
External Power Connector:	5.5mm x 2.1mm DC Power Plug
Storage Media:	SD or SDHC Memory Card (2 – 32 Gb)
Accessory Lenses:	Zoom and Wide Angle
Image Intervals:	1, 2, 3, 5, 10, 20, 30 seconds 1, 3, 5, 10, 20, 30, 60 minutes
Display:	2.7" TFT LCD
Start/Stop Modes:	Light-based, Time-based, Always On
Mounting Options:	¼-20 threads for tripod (not included), tree strap
Features:	Preview for Aim, Mid-day Skip, & Start Delay
Image Embedded Data:	Camera Name, Temperature, & Moon Phase

Typical Memory Card Capacity, expressed in DAYS

Daily Hrs of Video	8 Gb		16 Gb		32 Gb	
	5 Sec	10 Sec	5 Sec	10 Sec	5 Sec	10 Sec
8	6 - 13	13 - 27	13 - 27	27 - 55	27 - 55	55 - 111
12	4 - 9	9 - 18	9 - 18	18 - 37	18 - 37	37 - 74
16	3 - 6	6 - 13	6 - 13	13 - 27	13 - 27	27 - 55

- *The camera will not stop recording when the card is full, but will delete the oldest file and resume recording.*
- *The range of days expected varies with the per frame storage size, which is affected by scene detail.*
- *Actual experience could be above or below these guideline ranges.*

Typical battery life, expressed in DAYS

Daily Hrs of Video	5 Sec	10 Sec
8	52 - 104	69 - 173
12	34 - 69	46 - 115
16	26 - 52	34 - 86

- *For 8 Alkaline batteries in non-freezing conditions, or 8 Lithium batteries in freezing conditions.*
- *Actual experience could be above or below these guidelines, due to variables such as SDHC card efficiency, scene detail (larger file sizes consume more power), temperature, battery quality, average level of illumination, etc.*