



Camtraptions PIR Motion Sensor Manual

Firmware Version 2.1

What is a PIR Motion Sensor?	2
Controls	2
Dials	2
Switches	2
On-off Switch	2
Inserting Batteries	3
Red LED Indicator	3
Power-up Sequence	3
Alignment & Sensitivity Indicator	4
Connecting Camera	5
Controlling the Field of View	5
Mounting the Sensor	5
Sensitivity Dial	6
Minimizing False Triggers	6
Time Dial	6
Luminosity Threshold Dial	7
Program Selection	8
Program Quick Reference	9
Programs 1 to 12: Interval	10
Program 1 to 6: Interval with No Luminosity Cut-off	10
Program 7 to 9: Interval, Night	10
Program 10 to 12: Interval, Day	11
Programs 13 to 24: Video	11
Program 13 & 14: Fixed Duration with No Luminosity Cut-off	12
Program 14 & 15: Minimum Duration with No Luminosity Cut-off	12
Program 16 & 17: Fixed Duration, Night	13
Program 18 & 19: Minimum Duration, Night	13
Program 20 & 21: Fixed Duration, Day	14
Program 22 & 23: Minimum Duration, Day	14
Programs 25 to 28: Bulb	15
Programs 29 to 31: Wake	15
Program 29 & 30: Wake then Shoot	16
Program 31: Wake Only	16
Program 32: Shutter Hold Mode	17
Wireless Switch	17
Quick Start PIR & Camera Settings	18
Support	18

For **Quick Start Settings**, skip to Page 18 of this manual.

What is a PIR Motion Sensor?

All objects emit heat energy in the form of invisible infrared radiation. A passive infrared (PIR) motion sensor detects changes in the amount of infrared radiation in its field of view. This allows it to sense when an animal passes in front of it.

The term “passive” refers to the fact that the sensor does not emit radiation; instead it just detects infrared radiation landing on it. As a result, PIR sensors are extremely energy-efficient.

Controls

The PIR is configured via three dials and a bank of six switches on the front. There is also an On-off switch on the bottom of the device.

Dials

The dials control the following functions:

- ↗ Sensitivity – See Page 6
- 🕒 Time Variable – See Page 6
- ☀ Luminosity Threshold or Secondary Time Variable – See Page 7

Note that the behaviour of the Time and Luminosity Dial varies based on the program. The behaviour of the Sensitivity Dial is the same for all programs.

Switches

The switches control the following functions:

- ⚙ 1-5: Program select – See Page 8
- ⚙ 6: Wireless mode on-off – See Page 17

On-off Switch

The On-off switch is situated on the bottom of the device. Turn the switch to “I” to turn the sensor on. Turn the switch to “O” to turn the sensor off.

On power-up, the LED on the front of the device will flash to indicate the supply voltage and then there will be an 8 second delay while the sensor calibrates. Thereafter, the LED will flash three times and the sensor will commence normal operation. See Page 3 for further details.

Inserting Batteries

Use a screwdriver to remove the four screws on the back of the device and take off the back wall. Insert six AA batteries into the battery holder, taking care to follow the polarity direction indicated on the holder. Check the sensor turns on and then replace the back wall and the four screws. When replacing the back wall, ensure that the seal around the edge is clean and free of debris.

The sensor accepts either Alkaline or NiMH rechargeable batteries and will operate while the supply voltage is greater than 3.7 volts. Please note that if using a different type of battery or powering the sensor from an external power source, the supply voltage should not exceed 9.6 volts.

When the sensor is first turned on, the red LED on the front indicates the battery voltage.

Red LED Indicator

The red LED on the front of the PIR serves two functions:

- 1) Indicates the battery voltage on power-up
- 2) Helps sensor alignment and sensitivity testing during the first 5 minutes

Power-up Sequence

When the sensor is turned on, the LED will flash up to 5 times. There is then an 8 second delay before the sensor will flash quickly 3 times and start operating.

The number of flashes during the initial power-up phase provides a quick indication of the remaining battery level. This battery indicator has been calibrated to be most useful when the sensor is powered by six Alkaline batteries.

The battery life thresholds are as follows:

Number of flashes	Alkaline battery life remaining
5	More than 80%
4	60%-80%
3	40%-60%
2	20%-40%
1	Less than 20%

If you are using NiMH rechargeable batteries then the approximate thresholds are as follows:

Number of flashes	NiMH battery life remaining
4	More than 90%
3	20%-90%
2	10%-20%
1	Less than 10%

Alignment & Sensitivity Indicator

After the power-up phase, the LED will flash quickly three times and the sensor will commence normal operation.

The LED will light up whenever motion is detected. This can be used as a visual aid to help align the sensor so that it is only detecting motion in the desired trigger zone. When you are using the LED to set-up your sensor, you might want to leave your camera off to avoid taking unwanted images.

After 5 minutes the LED will be disabled in order to conserve battery power and avoid drawing attention to the PIR sensor. If you want to reactive the LED then you will need to turn the sensor off and then on again.

If the LED is illuminating in response to motion but the camera is not firing then please check the following:

- 1) Some programs do not fire the camera (for example, several video programs do not send full-press signals to the camera)
- 2) If in a “Night” program, then the camera will not fire if the ambient light level is above the luminosity threshold set by the Luminosity Dial
- 3) If in a “Day” program, then the camera will not fire if the ambient light level is below the luminosity threshold set by the Luminosity Dial
- 4) Some programs include long delays during which the camera will not fire (for example, in Program 1 to 6, it is possible to set a delay of up to 60 seconds after each burst)
- 5) Your camera may not be set-up correctly so double-check the settings in the “Quick Start” guide on Page 18.

Connecting Camera

Plug the camera connecting cable in to the socket on the bottom of the sensor. Connect the other end of the cable to your camera's shutter release socket. To connect the sensor to your camera wirelessly, see the "Wireless Switch" section on Page 17.

Controlling the Field of View

The detection zone is immediately in front of the white dome lens on the front of the sensor.

The detection range is around 5m in front of the device but the precise distance depends on the size of the subject, the sensitivity setting and the relative temperature differential between the subject and the background.

The detection field of view is around 120 to 150 degrees horizontally. The detector is most sensitive towards the centre of the detection zone.

It may be necessary to limit the detection area in order to have more control over the position of the subject relative to the camera. To do this, open out the flaps on either side of the sensor to limit the sensor's field of view. Tighten the knurled thumbscrews on the bottom of the device to secure the flaps in position.

Mounting the Sensor

There is a standard tripod socket on the bottom of the sensor that allows it to be mounted on a tripod or similar mounting accessory.

The device also has attachment points for a strap on either side so that it can be strapped to a post or tree trunk.

The sensor is sealed so that the electronics and batteries are protected from precipitation. However, it is possible for water to trickle inside via the camera connecting cable socket if the sensor is not mounted with this socket facing downwards. Therefore, it is important to mount the sensor the correct way up.

Sensitivity Dial

- ↻ Turn the dial clockwise to increase sensitivity.
- ↻ Turn the dial anticlockwise to decrease sensitivity.

Higher sensitivity results in faster response time and increased range. You will also need to increase the sensitivity when photographing small creatures or in hot conditions when the temperature differential between the subject and the background is lower.

Minimizing False Triggers

You can reduce the sensitivity by turning the dial anticlockwise if you are getting an unacceptable level of false triggers.

However, before reducing the sensitivity, you should try to manage the scene to avoid potential sources of unwanted motion. For example, position the sensor so that it has a minimal amount of vegetation in the foreground that could move in the wind.

In general, you should try to position the sensor so that the subject will be much closer than anything that could cause false detections.

Time Dial

- ⌚ Turn the dial clockwise to increase time duration.
- ⌚ Turn the dial anticlockwise to decrease time duration.

The Time Dial changes different durations depending on the program selected. For example, it is used to set the frequency of consecutive images in Programs 1 to 12, the video length in Programs 13 to 24 and the long exposure time or the wake time in Programs 25 to 31. Refer to the Program documentation below for further details.

Luminosity Threshold Dial

- ☀ Turn the dial clockwise to increase the luminosity threshold.
- ☀ Turn the dial anticlockwise to decrease the luminosity threshold.

An innovative feature of the Camtraptions PIR sensor is its ability to vary its behaviour based on the ambient light level. For example, the PIR can be configured to work only during daylight (Day Programs), only during darkness (Night Programs) or all of the time.

Some programs do not have a luminosity cut-off and will work all of the time. When one of these Programs is selected, the Luminosity Threshold Dial is used to set the Secondary Time Variable. Refer to the Program documentation below for further details.

For Day and Night Programs, turn the dial to set the threshold between day and night operation. For example, with the dial set somewhere in the middle, and a Night Program selected, the camera will only be triggered in gloomy and dark conditions. As the dial is turned anticlockwise the threshold is lowered so the camera would only get triggered in darkness. If the dial were turned fully clockwise, the camera would fire in all light conditions.

This behaviour is reversed in a Day Program; with the dial in the middle, the camera would only fire in gloomy light and full daylight, with the dial turned clockwise, it would only fire in bright sunlight and with the dial turned fully anticlockwise, the camera would fire in all light conditions.

Please note that if you want the camera to fire in all conditions then it is advisable to select a program without a luminosity cut-off to avoid the risk of accidentally setting the luminosity threshold incorrectly and the camera not operating for part of the day.

Program Selection

The PIR features 32 different operating programs. Programs are set via switches 1 to 5 on the front of the device. These switches are located under the watertight bung, behind the flap, to the left of the sensor dome.

There are 32 unique switch combinations that can be used to select programs. Use the diagram below as a reference for the switch positions. For example, if all of the switches were to be in the OFF position, the PIR would run Program 1. If only switches 2 and 3 were in the ON position, the PIR would run Program 13.

The tables below shows the binary switch positions used to select programs:

	Switches					
	1	2	3	4	5	
1	OFF	OFF	OFF	OFF	OFF	Interval
2	OFF	OFF	OFF	OFF	ON	
3	OFF	OFF	OFF	ON	OFF	
4	OFF	OFF	OFF	ON	ON	
5	OFF	OFF	ON	OFF	OFF	
6	OFF	OFF	ON	OFF	ON	
7	OFF	OFF	ON	ON	OFF	
8	OFF	OFF	ON	ON	ON	
9	OFF	ON	OFF	OFF	OFF	Video
10	OFF	ON	OFF	OFF	ON	
11	OFF	ON	OFF	ON	OFF	
12	OFF	ON	OFF	ON	ON	
13	OFF	ON	ON	OFF	OFF	
14	OFF	ON	ON	OFF	ON	
15	OFF	ON	ON	ON	OFF	
16	OFF	ON	ON	ON	ON	

	Switches					
	1	2	3	4	5	
17	ON	OFF	OFF	OFF	OFF	Video
18	ON	OFF	OFF	OFF	ON	
19	ON	OFF	OFF	ON	OFF	
20	ON	OFF	OFF	ON	ON	
21	ON	OFF	ON	OFF	OFF	
22	ON	OFF	ON	OFF	ON	
23	ON	OFF	ON	ON	OFF	
24	ON	OFF	ON	ON	ON	
25	ON	ON	OFF	OFF	OFF	Bulb
26	ON	ON	OFF	OFF	ON	
27	ON	ON	OFF	ON	OFF	
28	ON	ON	OFF	ON	ON	
29	ON	ON	ON	OFF	OFF	Wake
30	ON	ON	ON	OFF	ON	
31	ON	ON	ON	ON	OFF	
32	ON	ON	ON	ON	ON	

Program Quick Reference

The tables below provide a quick reference for each program. Refer to in-depth program documentation for further details.

Program	Switches					Function	Time dial	Lum dial
	1	2	3	4	5			
1	OFF	OFF	OFF	OFF	OFF	1 shot interval	Shot frequency	Gap after burst
2	OFF	OFF	OFF	OFF	ON	2 shot interval	Shot frequency	Gap after burst
3	OFF	OFF	OFF	ON	OFF	3 shot interval	Shot frequency	Gap after burst
4	OFF	OFF	OFF	ON	ON	4 shot interval	Shot frequency	Gap after burst
5	OFF	OFF	ON	OFF	OFF	5 shot interval	Shot frequency	Gap after burst
6	OFF	OFF	ON	OFF	ON	6 shot interval	Shot frequency	Gap after burst
7	OFF	OFF	ON	ON	OFF	1 shot interval	Shot frequency	Night mode
8	OFF	OFF	ON	ON	ON	2 shot interval	Shot frequency	Night mode
9	OFF	ON	OFF	OFF	OFF	3 shot interval	Shot frequency	Night mode
10	OFF	ON	OFF	OFF	ON	1 shot interval	Shot frequency	Day mode
11	OFF	ON	OFF	ON	OFF	3 shot interval	Shot frequency	Day mode
12	OFF	ON	OFF	ON	ON	5 shot interval	Shot frequency	Day mode
13	OFF	ON	ON	OFF	OFF	Half-press video	Video length	Gap after video
14	OFF	ON	ON	OFF	ON	Full-press video	Video length	Gap after video
15	OFF	ON	ON	ON	OFF	Half-press video	Min video length	Start press length
16	OFF	ON	ON	ON	ON	Full-press video	Min video length	Start press length

Program	Switches					Function	Time dial	Lum dial
	1	2	3	4	5			
17	ON	OFF	OFF	OFF	OFF	Half-press video	Video length	Night mode
18	ON	OFF	OFF	OFF	ON	Full-press video	Video length	Night mode
19	ON	OFF	OFF	ON	OFF	Half-press video	Min video length	Night mode
20	ON	OFF	OFF	ON	ON	Full-press video	Min video length	Night mode
21	ON	OFF	ON	OFF	OFF	Half-press video	Video length	Day mode
22	ON	OFF	ON	OFF	ON	Full-press video	Video length	Day mode
23	ON	OFF	ON	ON	OFF	Half-press video	Min video length	Day mode
24	ON	OFF	ON	ON	ON	Full-press video	Min video length	Day mode
25	ON	ON	OFF	OFF	OFF	1 shot day/1 shot night	Bulb time	Day/night thresh.
26	ON	ON	OFF	OFF	ON	1 shot day/2 shots night	Bulb time	Day/night thresh.
27	ON	ON	OFF	ON	OFF	1 bulb shot night	Bulb time	Night mode
28	ON	ON	OFF	ON	ON	2 shots night	Bulb time	Night mode
29	ON	ON	ON	OFF	OFF	Wake, 1 shot	Wake time	Night mode
30	ON	ON	ON	OFF	ON	Wake, 3 shots	Wake time	Night mode
31	ON	ON	ON	ON	OFF	Wake only	N/A	Night mode
32	ON	ON	ON	ON	ON	Full-press while motion	Min press length	Gap after press

Programs 1 to 12: Interval

These Programs are primarily for still photography. When motion is detected, the camera will take a burst of photos.

Program 1 to 6: Interval with No Luminosity Cut-off

- ⚙ Program 1 will take 1 photo per detection
 - ⚙ Program 2 will take 2 photos per detection
 - ⚙ Program 3 will take 3 photos per detection
 - ⚙ Program 4 will take 4 photos per detection
 - ⚙ Program 5 will take 5 photos per detection
 - ⚙ Program 6 will take 6 photos per detection
- ❗ There is no luminosity cut-off in these programs so they will operate at all times, regardless of the ambient light conditions.
- 🕒 Use the Time Dial to adjust the frequency of the shots from one shot every 0.5s (fully anticlockwise) to one shot every 8s (fully clockwise).
- ☀ Use the Luminosity dial to select the minimum gap between bursts from 1s (fully anticlockwise) up to 60s (fully clockwise).

Program 7 to 9: Interval, Night

- ⚙ Program 7 will take 1 photo per detection
 - ⚙ Program 8 will take 2 photos per detection
 - ⚙ Program 9 will take 3 photos per detection
- ❗ These are Night Programs so it is possible to limit operation based on the ambient light levels. The minimum gap between bursts is 5 seconds.
- 🕒 Use the Time dial to adjust the frequency of the shots from one shot every 0.5s (fully anticlockwise) to one shot every 8s (fully clockwise).
- ☀ Use the Luminosity dial to select the light cut-off threshold; when fully clockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is lower than the threshold set. If the dial were to be turned fully anticlockwise, the camera would only work in complete darkness.

Program 10 to 12: Interval, Day

- ⚙ Program 10 will take 1 photo per detection
- ⚙ Program 11 will take 3 photos per detection
- ⚙ Program 12 will take 5 photos per detection

- ℹ These are Day Programs so it is possible to limit operation based on the ambient light levels. The minimum gap between bursts is 5 seconds.

- 🕒 Use the Time dial to adjust the frequency of the shots from one shot every 0.5s (fully anticlockwise) to one shot every 8s (fully clockwise).

- ☀ Use the Luminosity dial to select the light cut-off threshold; when fully anticlockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is greater than the threshold set. If the dial were to be turned fully clockwise, the camera would only work in very bright light.

Programs 13 to 24: Video

These programs can be used to record video on compatible cameras. When motion is detected, the sensor will start video recording and it will then end recording after a configurable period of time.

There are two variations of every program. The first uses half-press shutter commands to start and stop video recording. These programs are for use with Canon cameras that have the Magic Lantern firmware installed. They require the Magic Lantern function enabled that starts/stops video recording with a half-press of the shutter button. Please note that this function is not available in all versions of Magic Lantern.

The second variation of each program uses full-press shutter commands to start and stop video recording. These programs are for use with cameras that allow the shutter press command to be used to start and stop video recording.

“Fixed Duration” Programs allow the user to explicitly set a video recording duration via the Time Dial.

“Minimum Duration” Programs allow the user to set a minimum video length via the Time Dial. If motion is detected during a recording, the video length is extended by the minimum duration time. For example, if the minimum duration time is 10 seconds and motion is detected 8 seconds into a recording, the recording length will be extended to $8s + 10s = 18s$ in total. This ensures that camera continues to record for as long as a subject is in front of the sensor.

Program 13 & 14: Fixed Duration with No Luminosity Cut-off

- ⚙ Program 13 uses half-press commands
- ⚙ Program 14 uses full-press commands
- ❗ There is no luminosity cut-off in these programs so they will operate at all times, regardless of the ambient light conditions.
- 🕒 Use the Time dial to set the video length. Video length can be varied from a few seconds (fully anticlockwise) to just over 3 minutes (fully clockwise).
- ☀ Use the Luminosity dial to select the minimum gap between video recordings from 1s (fully anticlockwise) up to 60s (fully clockwise).

Program 15 & 16: Minimum Duration with No Luminosity Cut-off

- ⚙ Program 15 uses half-press commands
- ⚙ Program 16 uses full-press commands
- ❗ There is no luminosity cut-off in these programs so they will operate at all times, regardless of the ambient light conditions.
- 🕒 Use the Time dial to set the minimum video duration. The minimum duration can be varied from a few seconds (fully anticlockwise) to just over 3 minutes (fully clockwise). If motion is detected during a recording, the video length is extended.
- ☀ Use the Luminosity dial to select the length of the press that is used to start recording. Set a short press duration for fast cameras that wake up quickly. Set a long press duration for cameras that take longer to wake and register commands. In general, the shortest possible press length should be used as some cameras only commence recording when the press is released. The other video programs all use an initial press length of 3.5 seconds.

Program 17 & 18: Fixed Duration, Night

- ⚙ Program 17 uses half-press commands
- ⚙ Program 18 uses full-press commands
- ℹ These are Night Programs so it is possible to limit operation based on the ambient light levels.
- 🕒 Use the Time dial to set the video length. Video length can be varied from a few seconds (fully anticlockwise) to just over 3 minutes (fully clockwise).
- ☀ Use the Luminosity dial to select the light cut-off threshold; when fully clockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is lower than the threshold set. If the dial were to be turned fully anticlockwise, the camera would only work in complete darkness.

Program 19 & 20: Minimum Duration, Night

- ⚙ Program 19 uses half-press commands
- ⚙ Program 20 uses full-press commands
- ℹ These are Night Programs so it is possible to limit operation based on the ambient light levels.
- 🕒 Use the Time dial to set the minimum video duration. The minimum duration can be varied from a few seconds (fully anticlockwise) to just over 3 minutes (fully clockwise). If motion is detected during a recording, the video length is extended.
- ☀ Use the Luminosity dial to select the light cut-off threshold; when fully clockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is lower than the threshold set. If the dial were to be turned fully anticlockwise, the camera would only work in complete darkness.

Program 21 & 22: Fixed Duration, Day

- ⚙ Program 21 uses half-press commands
- ⚙ Program 22 uses full-press commands
- ❗ These are Day Programs so it is possible to limit operation based on the ambient light levels. The minimum gap between bursts is 5 seconds.
- 🕒 Use the Time dial to set the video length. Video length can be varied from a few seconds (fully anticlockwise) to just over 3 minutes (fully clockwise).
- ☀ Use the Luminosity dial to select the light cut-off threshold; when fully anticlockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is greater than the threshold set. If the dial were to be turned fully clockwise, the camera would only work in very bright light.

Program 23 & 24: Minimum Duration, Day

- ⚙ Program 23 uses half-press commands
- ⚙ Program 24 uses full-press commands
- ❗ These are Day Programs so it is possible to limit operation based on the ambient light levels. The minimum gap between bursts is 5 seconds.
- 🕒 Use the Time dial to set the minimum video duration. The minimum duration can be varied from a few seconds (fully anticlockwise) to just over 3 minutes (fully clockwise). If motion is detected during a recording, the video length is extended.
- ☀ Use the Luminosity dial to select the light cut-off threshold; when fully anticlockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is greater than the threshold set. If the dial were to be turned fully clockwise, the camera would only work in very bright light.

Programs 25 to 28: Bulb

These experimental programs allow the PIR sensor to control the shutter speed of the camera. To facilitate these programs, the camera must be set to “Bulb” mode.

In automatic shooting modes, the camera will usually be limited to a maximum exposure time of 30 seconds. These programs allow exposure times of up to 2 minutes in length, so that stars or moonlit backgrounds can be exposed.

Night operation can either be a single long exposure (exposure time set by the Time Dial) or a single fast exposure followed immediately by a long exposure.

During the day, the camera can either be disabled or set to take a single fast exposure that avoids “ghosting”. This exposure time will be as fast as the camera can manage in bulb mode (this depends on the camera itself and is usually around 1/10s).

- ⚙ Program 25: the camera takes a fast exposure during the day and a single long exposure at night
- ⚙ Program 26: the camera takes a fast exposure during the day and a fast exposure followed by a long exposure at night
- ⚙ Program 27: the camera is disabled during the day and takes a single long exposure at night
- ⚙ Program 28: the camera is disabled during the day and takes a fast exposure followed by a long exposure at night
- 🕒 The Time Dial sets the long exposure duration at night. Time Dial has no effect on the daytime operation. Long exposure time can be varied from 0.5s (fully anticlockwise) to 2 minutes (fully clockwise).
- ☀ Use the Luminosity dial to set the threshold between day and night operation. To avoid ghosting, set the dial fully anticlockwise so that long exposures are only taken when there is little or no ambient light.

Programs 29 to 31: Wake

These programs are intended to wake the camera before the first shot is taken. This gives flashes time to charge ahead of the first photograph being taken.

Programs 29 & 30 fire the camera after the designated wake period. Program 31 only wakes the camera.

Program 29 & 30: Wake then Shoot

- ⚙ Program 29: after the wake period, a 1s full-press signal is sent to the camera.
- ⚙ Program 30: after the wake period, three shots are taken at 1 frame per second.
- ❗ These are Night Programs so it is possible to limit operation based on the ambient light levels.
- 🕒 The period of time between waking the camera and the first shot firing is set via the Time Dial. Wake time can be varied from 0.5s (fully anticlockwise) to 8s (fully clockwise).
- ☀ Use the Luminosity dial to select the light cut-off threshold; when fully clockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is lower than the threshold set. If the dial were to be turned fully anticlockwise, the camera would only work in complete darkness.

Program 31: Wake Only

- ⚙ Program 31 just sends a 2s half-press signal to the camera and no full-press signal.
- ❗ This program is intended for use in a dual sensor set-up in which the one sensor wakes the camera and then a second sensor fires the camera when the animal reaches a pre-determined position. The sensors can be connected to the camera using a simple cable splitter or wireless triggers.
- ❗ This is a Night Program so it is possible to limit operation based on the ambient light levels.
- 🕒 Time Dial is not used by this program.
- ☀ Use the Luminosity Dial to select the light cut-off threshold; when fully clockwise the camera will fire all of the time, otherwise the PIR will only operate when the luminosity is lower than the threshold set. If the dial were to be turned fully anticlockwise, the camera would only work in complete darkness.

Program 32: Shutter Hold Mode

- ⚙ Program 32 sends a single full-press signal to the camera. The press length is extended if additional motion is detected during the press.
- ℹ This program replicates the behaviour of the Version 1 Camtraptions PIR Sensor.
- 🕒 Use the Time dial to set the minimum press duration. The minimum duration can be varied from a few seconds (fully anticlockwise) to just over 3 minutes (fully clockwise). If motion is detected during a press, the press length is extended.
- ☀ Use the Luminosity dial to select the minimum gap between presses from 1s (fully anticlockwise) up to 60s (fully clockwise).

Wireless Switch

When the wireless switch (Switch 6) is ON it adds a short sequence to the shoot signal that makes the PIR compatible with Camtraptions wireless triggers. Due to the extra sequence, the response time of the camera is reduced by approximately 0.1 second. Therefore we recommend leaving this switch in the OFF position if you are not using it.

Camtraptions wireless triggers can be used to create a wireless link between the PIR and your camera. Follow these steps to set-up a wireless link:

- 1) Set Switch 6 to the ON position.
- 2) Use a Camtraptions E3 connecting cable to connect the PIR output socket to the AUX input socket on Camtraptions Wireless Transmitter.
- 3) Connect to your camera to the Wireless Receiver by plugging your camera connecting cable in to the “Camera” output socket on the receiver.

Note that the Wireless Triggers cannot accept a shoot signal that is longer than 2 seconds in length. Therefore, wireless mode may not work with some programs where the Time Dial setting results in a shoot signal that is longer than 2 seconds.

Also note that if you are also using Camtraptions Wireless Triggers to fire off-camera flashes then you need to use a second transmitter placed in your camera’s hot shoe to trigger the flashes. This transmitter and the flash receivers need to be set to a different channel to the sensor transmitter.

Quick Start PIR & Camera Settings

If you just wanted to start shooting still photographs without reading this entire manual then the following settings should work in a wide range of scenarios:

PIR settings:

- Push all six switches to the Off position to select Program 1.
- Set the top dial to somewhere in the middle for medium sensitivity.
- Set the middle dial to somewhere in the middle so that your camera will take approximately 1 shot every 4 seconds.
- Turn the bottom dial fully anticlockwise.

Connect your camera to the sensor using a camera connecting cable and set the camera up as follows:

- Manual focus (focus on the spot you expect the animal to be)
- One shot mode rather than continuous drive mode
- Manual exposure mode: shutter speed of 1/250s to ensure no ghosting and aperture of around f/8 to ensure plenty of depth of field.
- Auto ISO so the camera will adjust the ISO to correctly expose the image. You may want to limit the maximum ISO setting to 1600 or 3200 to avoid getting excessive noise at night.
- If the lens has image stabilisation/vibration reduction then disable it.
- Check that the menu option is activated that allows the camera to power down automatically after around 30 seconds.
- Turn off automatic image review after each shot to conserve the camera battery.
- If you are using a single flash then connect it to the camera via an off-camera TTL cord and allow the flash output to be set via TTL metering.
- If you are using multiple flashes then you will need to set the power of each flash manually so the image is correctly exposed in darkness.
- Shoot in RAW to give yourself more flexibility to adjust the image brightness afterwards.
- Make sure you have a memory card inside the camera and that it has plenty of free space!

Support

For technical support, please email support@camtraptions.com.

To share photographs and discuss camera trap techniques, please join our group on Facebook: <https://www.facebook.com/groups/camtraptions/>