Ltl Acorn 5310A / 5310WA Trail Camera

Box contents:
trail camera
strap
these instructions (or sent via email)
warranty card (for your own records)

Set Up & Recording
Remove any PIR sensor protectors before using your camera.

Open the hatch at the base of the camera & insert an SD Card (class 10, 32G max) and AA batteries (at least 4). The camera can hold a maximum of 8 batteries so you can choose to add an extra 4 in the back pack should you wish to - this would give your camera longer running time in the field.

Please read the section later in these pages about which batteries to use, battery choice is vital to the performance of your Ltl Acorn trail camera and batteries are always the first place to start if you think there is a problem with your camera!

Carefully remove back plate from camera body using the clips on each side and hand-tightening screw on the back.
The safest way to do this to avoid putting unnecessary stress on the side clips is to hold the 2 parts of the camera together firmly with one hand whilst releasing the clips, one at a time, with the other.

Move the ON/OFF/TEST switch on the bottom of camera to the TEST position.

After 2-3 seconds the LCD screen will come on (will go straight off again if you have not inserted a compatible SD card).

Push the MENU button & use the arrow keys to select & change settings.
Remember to push OK button after each setting change to save it.

Move the ON/OFF/TEST switch to the ON position, the LCD screen will now switch off & the camera is now ready to start recording whenever motion/heat change is detected. You will see a red light blink on the front of the camera for about 10 seconds after switching the camera into ON mode, this is to give you time to move out of the sensor range to avoid recording yourself.

Close bottom hatch & re-fit back plate before putting camera in chosen location. Use the side clips and the screw on the back to best seal the camera from the elements. The screw also takes some of the strain off the side clips.

Safe fitting of the main camera body to the back battery compartment
With the back battery compartment facing towards you, take the main camera body and make sure the left hand slide lug slots into place first followed by the right side lug. Then, whilst holding the two camera parts together firmly with one hand, carefully close each of the side clasps (changing hands as and when required). Then hand tighten the screw on the back.

Take extra care when unclasping if the camera has been outside during very cold and freezing conditions as that can make the plastic lugs and side clips a little more brittle.

BATTERIES

Batteries are not included but battery choice is vital for the performance of your Ltl Acorn camera, do not choose any batteries with a capacity lower than 2500mA.

We only recommend the following 2 types of battery to our customers:

Panasonic Eneloop Pro 2500mA Rechargeable AA (rechargeable)
or
Energizer Ultimate Lithium AA (disposable)

We use the Panasonic rechargeable batteries mentioned above every day and so can vouch for their compatibility & quality. Using rechargeables will also save you money in the long run and is better for the environment too.

DO NOT use Duracell or other "off the shelf in the supermarket" Alkaline batteries as they are unlikely to be powerful enough and so will reduce the performance level of your camera or cause problems.

Do not use any battery with a mA rating of less than 2500mA.
Although they look similar, all AA batteries differ very much in power output & quality!

Power issues can/will bring about many different, strange glitches and problems with any trail camera so it's very important to use a battery that outputs enough power before assuming you have a fault with the camera itself.

IMPORTANT – Do not leave batteries inside the camera if you are not using it, this could result in acid leak and ruin the camera – this is not covered under warranty!

Weatherproofing

Trail cameras are designed and manufactured to be as weatherproof as possible.

However, it's important to remember that most outdoor electrical items are completely sealed and not made to be opened up out in the elements. This is where trail cameras differ from most outdoor electricals as they usually have openings, doors and hatches which will be opened & closed hundreds (if not thousands) of times during their life span.

Trail cameras are often left out in the open and take a battering from heavy rain, humidity, hot sunshine etc. So to increase the longevity of your camera it's very much worth trying to shelter it as much as and wherever possible. If you can position it in locations where it is not hammered directly by heavy rainfall and other elements then this will help to increase the life span of the camera.

Also, if possible, try to avoid opening up your camera when outside and definitely during periods of rain or high humidity levels – this will help to prevent moisture getting inside the camera from the elements, moisture in the air and from your own fingers.

The security boxes that are available for the Ltl Acorn range can also help give your camera extra shelter and weatherproofing.

MENU SETTINGS

Pushing the MENU button when in TEST mode will take you into the built in Menu. You can use the UP & DOWN arrow buttons to move up and down through the menu options and you can use the left and right arrow buttons to scroll through the various different settings available for each selected menu option.

If you change a setting remember to push the OK button to save the change!

The following menu options are available:

Mode: Camera, Video or Cam+Video
Camera - record images only. Video - record videos only. Cam+Video records an image then video.

Format: will erase everything on the SD card.

Photo Size: choose the quality of the image the camera will record, options are 5MP or 12MP.

Video Size: choose the video quality the camera will record, options are 320x240, 640x480, 1280x720 or 1920x1080.

Set Clock: set date and time plus the date format using the up/down arrow keys to change the number and the right/left arrow keys to move to the next parameter.

Photo No.: if you have the camera set to record images you can choose whether you want a single image or a burst of 2 or 3 images.

Video Length: set the length of video that's recorded each time the camera is triggered from 0-60 seconds, remember the longer the video recording the more battery life will be used (especially when the infrared is on) so we recommend recording short video clips to conserve battery life. For example, if you choose to record for 60 seconds the camera will continue recording, even if the action only takes place for 5 seconds, so you could end up wasting a lot of battery power & SD card space.

Interval: choose how long the camera will wait after finishing one recording until it will start a new one. There will always be a minimum delay of around 4-5 seconds between recordings.

Sense Level: set the trigger sensitivity level, options are Off, Low, Normal, High. You can find out more about the sensitivity levels later in these instruction sheets under the heading “Heat Sensors”.

Time Stamp: choose On or Off dependent upon whether you want the date & time showing on each recording or not.

Timer 1 & Timer 2: these Timers allow you to set the camera to only record between certain times of day. For instance you may want the camera to record only between 6pm and 4am. Use the left/right arrow keys to change the setting from Off to On and then push the OK button. Now you can enter the start and stop recording times of your choice. You can choose to use just one or both of the Timers.

Password Set: here you can set a 4 digit password that would then need to be entered whenever you switch the camera into TEST mode. If you choose to set a password do not lose it! We can reset it but you'll need to send your camera back to us and there is a £20 charge for this.

Serial No.: this is a number or name for your camera and, if set, will show in the information bar at the bottom of each recorded image.

Timelapse: this feature allows you to set you camera to record a video or capture an image every X amount of hours, minutes or seconds regardless of whether or not there is any subject triggering the camera at that moment in time. For instance you may want to record the changes on a construction project and so take a new image every 12 hours to monitor progress over time.
If you <u>do not</u> want the camera to also trigger automatically using the sensors then you will need to switch the Sense Level to OFF.

Side PIR: switch the side sensors on/off, recommended to leave these on as they allow the camera to prepare in advance of a subject being central within the image.

Recycle: if set to ON the camera will start recording over the oldest recordings when the micro SD card runs out of space. If set to OFF then the camera will stop recording any new images or video as soon as the card becomes full.

TV Mode: PAL or NTSC, UK mode is always PAL.

Version: gives you information of the firmware version your camera is using.

Default Set: returns the camera back to factory default settings, this can be useful if you think your camera is not performing correctly. Acts as a reset tool.

PLAYING BACK RECORDINGS

You have two main options here, you can playback recorded files on the built in LCD screen (explained below) or you can remove the SD card and insert into your home computer. If your computer does not have an SD card slot then you can use a USB SD Card Reader to connect.

Playback on built in LCD screen

In TEST mode push the Replay/OK button to enter Playback mode.

Use the up & down arrow buttons to scroll through your recorded files. In the top left hand corner of each file you will see a symbol denoting whether that file is an image or a video. A white arrow is an image, for a video a green video reel symbol that looks a bit like a # will show.
If you are looking at a video clip, push the right arrow (SHOT) button to play it.

Press the OK button to leave Playback mode.

Deleting recordings when in the Playback Screen

Whilst in the Playback screen you can push the Menu button to bring up the option to delete files, you can either choose to delete the current clip/photo or delete all of them.

SD Cards

Always use genuine branded SDHC (class 10 & 32G max) cards, there are often many fake cards on the market (especially being sold on Amazon & eBay). Also, always format your SD card using the "format" option in the camera menu, or format the card on your home computer.

SD cards do not last forever, if you think that yours may have developed a fault then try a new card before assuming your camera is faulty.

Manual Reset

If you think your camera has developed a fault or glitch in performance, try a reset as below. Remove all batteries & SD Card, bring the camera inside to a dry warm spot for 3-4 days with all doors and hatches on the camera left open. This allows all capacitors on the circuit board to fully discharge. During this time fully charge your rechargeable batteries or get some new ones. Format your SD card inside your computer or try a brand new SD card.
After giving your camera this 3-4 day rest/reset period then put your new/fully charged batteries back inside the camera and insert your new/newly formatted SD card. Format the SD card again inside the camera via the menu system. Then select default from the menu too just to make sure all settings have been returned to default factory settings.
Now give the camera another try using whichever settings you choose.

Infrared

The infrared beam is powerful so don't position the camera too close to any solid objects as your night shots could suffer "white out" issues. You can also use the Infrared Brightness Adjustment feature to get the best image/video results for your camera location. This feature allows you to adjust the strength of your cameras infrared beam and can help reduce white out problems with night time images or video.

Infrared Cut Filter (situated in front of the lens)

When moving the camera in your hand you may notice the IR cut filter moving in front of the lens, this is perfectly normal. When the camera is in operation, it will decide if the cut filter is needed automatically depending upon light levels.
We take a lot of calls & messages from customers thinking that they have a broken part on their camera but this is not the case!

Infrared Brightness Adjustment

When in TEST mode, with the live camera view showing on screen, just push the down arrow button on the camera, your current infrared brightness level will be displayed on the screen, push the down arrow key again to change the setting, there are 3 levels available (high, medium & low) and your camera is likely to be set to high as default.

Language Set

When you have the camera in TEST mode, push the left arrow key to run through the various language options.

How does the camera work?

The wildlife trail camera has 3 heat sensors. 2 of these are known as side sensors or prep sensors, they cover a total range of 100 degrees.
So if you imagine drawing the letter V with the bottom point being the camera lens and the V having a 100 degree angle then you start getting a feel for the area that the sensors will cover in front of the camera.

The third (and most important) of the 3 sensors is the central "shooting" sensor.
This sensor has a V of 35 degrees.
The camera will only actually record a video or capture an image when this sensor is triggered.
The side sensors act to prepare the camera in advance of the central shooting sensor being triggered.
The reason for this is so that the majority of your videos or images will begin with the subject fairly central within the camera view.

All 3 sensors are heat sensors. They take the ambient air temperature and if they notice a different heat signature that's what triggers the camera into action. For example, it's 15 degrees outside and a human or creature with a body temperature of much higher than 15 degrees moves into the sensing area then the camera will come alive!

What is Trigger Speed?

Trigger speed determines how quickly, after detection by the main central/shooting sensor, will the camera then start actually recording.
Trigger speed is always going to be faster when capturing images/photos than it is for recording video due to it taking the camera a little longer to "wake up" and prepare for video recording than it does for it to "wake up" and take a quick snap.
So if you want to make sure you don't miss anything then it's recommended to either set the camera to take images or use the camera+video setting to take a photo first and then start recording the video clip.

Have a plan for your trail camera!

The position that you locate your trail camera is key to capturing good quality images.
Decide what you want from the camera and what you're looking to record.
Are you looking to capture images from a bird box, bird bath, small garden pond, maybe an entrance/exit from your garden used by foxes, a badger sett, hedgehog feeding station, a bait site etc. You will generally capture much better quality images if you have a specific subject area in mind. If you don't have a plan and try to cover several areas of interest with one camera then your image will usually be more confused – for example, you might record a fox 30cm away from the camera and a small bird 5m away which will probably not make for great images.

Once you have decided on your specific subject area you can then experiment with how far away to place the camera, how high to place it, the angle and tilt of the camera. Trial and error is always the best way to determine the best camera position so run some tests and see what you get back.
Remember there is no 100% correct location for any trail camera to cover any specific subject area as nature and wildlife is beautifully unpredictable!

Trail Camera Triggering & Placement - Best Practice & Information

Your trail camera records when triggered, the trigger occurs when the camera senses heat change within the image that is different to the ambient air temperature. This increased heat signature within the image is usually (but not always) caused by something new entering the camera view such as a human or creature.

In most cases optimal camera placement is at 45-90 degrees from the area you expect the subject to enter the image from. This way you are most likely to get the best picture/video possible of the subject entering the camera view.

When a subject moves across the camera's field of view at 45-90 degrees to the lens axis the camera will be much more sensitive to this movement than if the subject is moving directly towards or away from the camera.
The reason for the lack of sensitivity in the latter is because the size of the subject will only change slowly as the cameras view of the subject expands or contracts against the background.
Whereas, if the camera is positioned at a 45 or 90 degree angle from where the subject enters the view, the entire subject will appear as “new” heat change from the cameras' point of view.

Do not have the front/lens of the camera facing the sun wherever possible.

As you can imagine trail camera placement is not an exact science as we cannot always rely on any subject to enter the camera trigger area from where we want/expect them to! Trial and error is often the best way to find out where to place your camera.

Central Shooting Sensor & Side PIR Sensors

A recording will only be triggered when the subject is within the 35 degrees central “shooting” sensor area. With the side PIRs the total sensing range is 100 degrees but the side PIRs will only prepare the camera to record, it will not actually start recording until the subject enters the 35 degree central shooting sensor area.

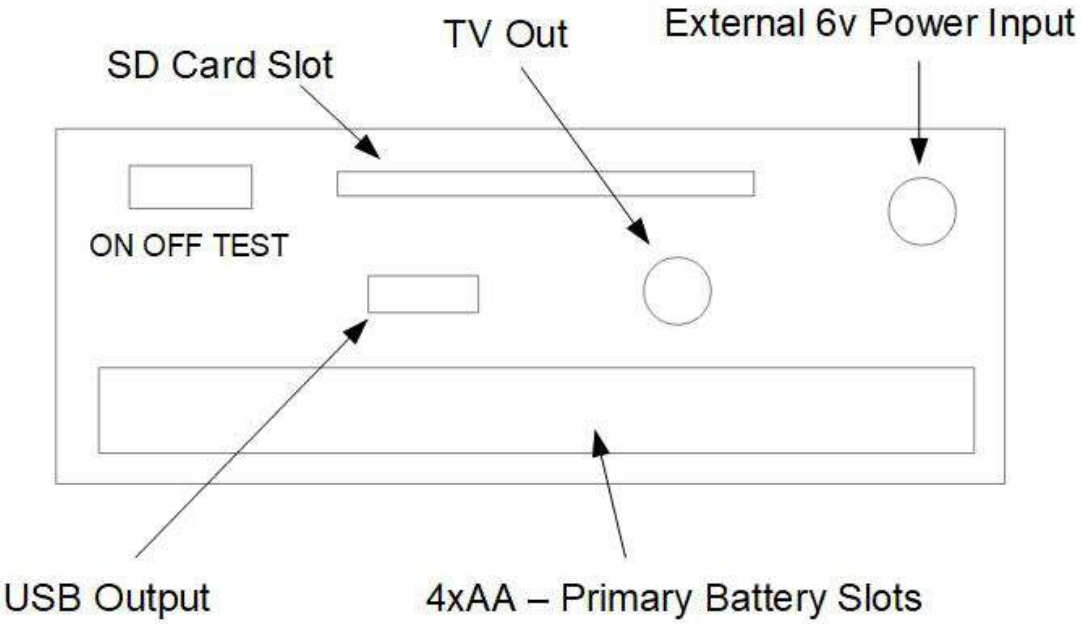
With a wide angle lens version camera the entire 100 degrees is a “shooting” sensor area.

Heat Sensors

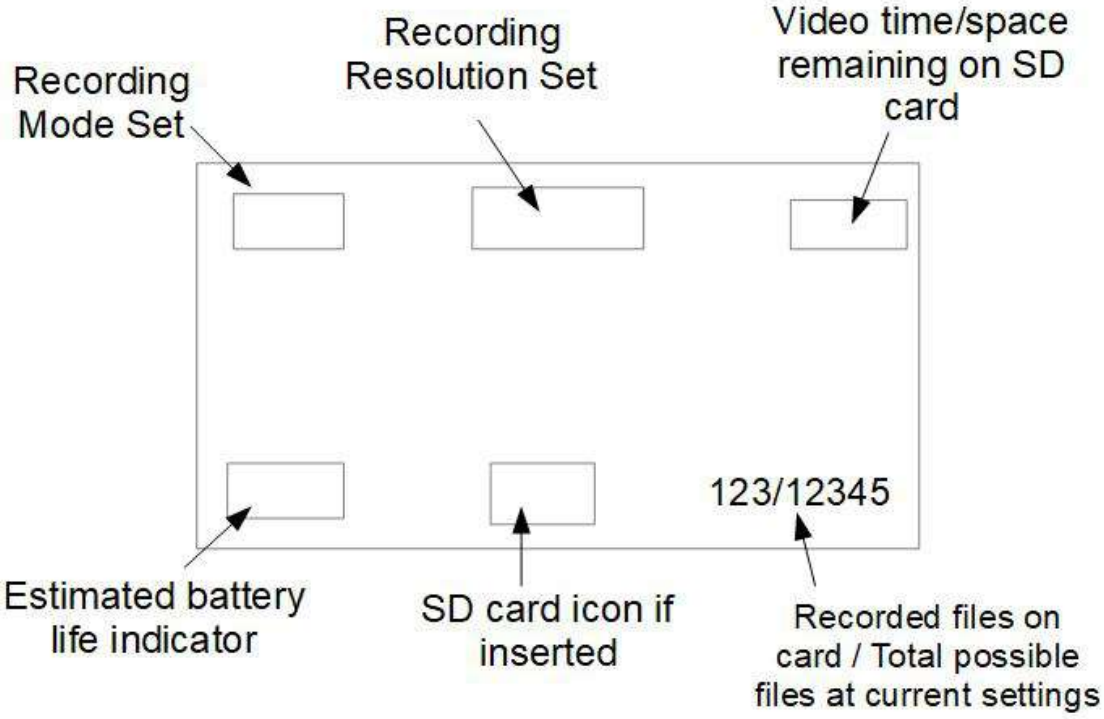
If the air temperature is 20C and a human with a body temperature of 37C moves in front of the camera then the camera will be sensitive to the change because of the 17C difference between the two. If the air temperature is 30C then the camera will be less sensitive because the difference is only 7C. With a small temperature difference between the air and subject temperatures it can be advantageous to set the cameras sensitivity to HIGH although this could also lead to some false triggers in some circumstances, such as a tree branch warming in the sun and then moving in the breeze for example.

Conversely, if a 37C object moves across a subzero air temperature of say -10C the camera will be very sensitive to this because the temperature difference of 47C is much greater. In these circumstances it may be advantageous to set the camera sensitivity to LOW.

Ltl Acorn 5000 Series Base View Diagram



LCD Screen in TEST Mode



Troubleshooting Tips

Batteries & SD Card

First port of call if you think your camera is not working correctly is always power!
Have a read of the section within these instruction pages about batteries and always try new ones of the recommended type before assuming a fault with the camera itself.

Next stop is to try a brand new SD card in your camera (make sure it's class 10 & genuine and not bought from eBay or Amazon!).

Batteries (rechargeable or not) and SD cards do not last forever so these are the first pieces of hardware to check.

System Reset

Carry out a full system reset as described earlier in these pages.

Moisture Removal

If your camera has been outside for a prolonged period of time in some damp/wet weather then bring it inside for 3-4 days, remove all batteries & SD card and leave the hatches/doors on the camera open. This will allow the camera to reset and dry out if any moisture has sneaked in.
Above a radiator or inside an airing cupboard can be good spots to leave a camera.
You can even use Silica Gel packs to help absorb any moisture if you have some.

Remember moisture is not just rain water getting inside the camera but can come from moisture in the air (high humidity levels) or from moisture on your own fingers when opening a trail camera outdoors.

Infrared Cut Filter Test & Maintenance

If you think the infrared cut filter in front of the lens is not working correctly and you are getting dark night time images/video then try the maintenance test below:

1. Reset your camera to default settings.
2. Set the interval to 0 seconds.
3. Put the camera lens facing up on a table and lean over it so that you will be directly in front of the sensors and lens etc.
4. Cover the lens and infrared area with your hand so that the camera thinks it's dark for 3-4 seconds, then uncover, then cover, then uncover etc. repeat this around 10-15 times and you should see (and hear) the infrared cut filter moving in front of and away from the lens.

This can help remove any build up of dust or debris (if there is any) that can develop over time on the infrared cut filter mechanism. It can also help loosen the mechanism if a little tightness is preventing proper movement of the filter.
Do the test above about 10-15 times, forcing the filter to move back and forth, then set your camera up again and put it in a dark location and see what you record next time it's triggered.

Sometimes you might notice red/pink coloured daytime recordings, this is usually because there are large areas of light & dark within the same camera view, such as a large area of bright sky in the background and a large area of dark hedge in the foreground. These contrasts can “confuse” the light sensor, so try avoid this sort of camera position and also ensure the camera isn't facing the sun.