LTL ACORN®
Scouting Camera
Ltl - 5210A
1920 x 1080 Resolution Video with Audio Record

USER'S MANUAL

LTL ACORN ®

Version:Ltl-5210A-03

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GENERAL INFORMATION

1.1 Introduction

The Ltl Acorn Ltl-5210A scouting camera (also called game camera/trail camera) is a scouting device. It can be triggered by sudden change of ambient temperature caused by moving game in a region of interest (ROI), which is detected by a highly sensitive Passive Infra-Red (PIR) sensor, and then take pictures or video clips automatically.

Feature:

- 5 Mega Pixels CMOS sensor. Interpolable to 12 Mega Pixels
- Sharp and bright color pictures in daytime and clear black/white pictures at night
- Ultra low standby power consumption. Extremely long in-field life (in standby mode, up to 3 months with 4 x AA batteries and 6 months with 8 x AA batteries)
- Unique side Prep Sensor design provides wider sensing angle and enhances camera's response speed
- Perform in the most extreme temperatures from -40°F to 158°F
- Compact size (5 ½ x 3 ½ x 2 ½ inches). Well designed to deploy covertly
- Impressively quick trigger time (0.8S)
- Backpack-looking tree grabber makes mounting and aiming a snap
- Serial Number function enables you to code locations in the photos. This helps multi-camera users identify the

location when reviewing the photos
- Date, time, temperature and moon phase can be stamped in the pictures
- Lockable and password protected

1.2 Application

- Trail camera for hunting
- Animal or event observation
- Motion-triggered security camera, for home, office and community
- All other indoor/outdoor surveillance where invasion evidence needed

1.3 Illustration

- Figure 1.1 shows the front view of the camera
- Figure 1.2 shows the bottom view of the camera
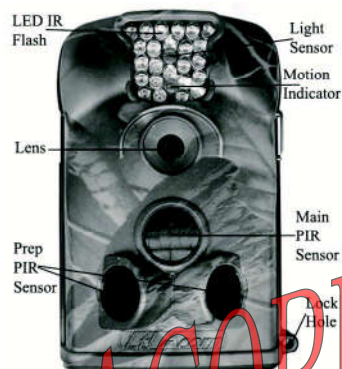- Figure 1.3 shows the back view of the camera
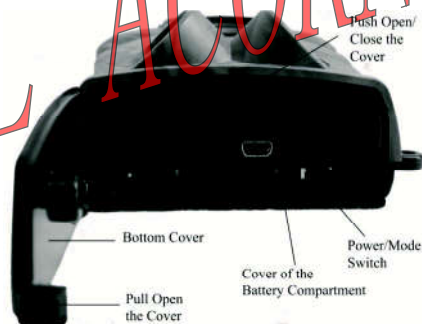
Figure 1.1: Front View

Figure 1.2: Bottom View

The camera provides the following connections for external

devices: USB port, SD card slot, TV out jack, and external DC power in jack. The 3-way Power/Mode Switch is used to select the main operation modes: **OFF**, **ON** and **TEST**.

To supply power, it is recommended to use four new high-performance alkaline AA batteries or low self-discharge Ni-MH chargeable AA batteries. To achieve longer in-field time, install the additional battery box which contains four more AA batteries.

Figure 1.3: Back View

QUICK START

2.1 Load Batteries

Let us begin with loading the batteries. Please follow the instructions below.

- Open the bottom cover by pulling down the lock hole.
- Push the cover of the battery compartment and release. It will pop out.
- Install 4 AA batteries. Make sure the polarity matches the sign on the cover.
- Replace the cover.

Alternatively the camera can run on an external 6V DC power source (optional, user provided). When both external power and batteries are connected, the camera will be powered by the external one.

2.2 Insert SD Card

The camera does not come with internal memory, pleas insert the SD card properly before powering on, or No SD Card! would be prompted and data cannot be stored. Before inserting the SD card, please make sure the write-protect switch on the side of the SD card is "off" (NOT in the "Lock" position). The supported memory capacity is up to 16GB. If you use a card capable of above 16GB, make sure you test it before putting the camera in use.

Figure 2.1

CAUTION: ALWAYS SWITCH THE CAMERA TO OFF MODE BEFORE YOU INSTALL OR REMOVE THE BATTERIES OR THE SD CARD.

2.3 Enter Test Mode

Switch to the **TEST** position to enter the Test mode. In this mode you can take pictures or video clips like a regular digital camera, or enter the Menu to set up parameters. On the keypad there are four "shortcut" functional keys (see Figure 2-1) working as below:

Figure 2.2

- Press the ▲ 📹 key to set the camera to shoot video clips.
- Press the ▼ 🏛 key to set the camera to take still pictures.
- Press the ▶ **SHOT** key to manually trigger the shutter. A photo or video (depending on the camera setting) will be taken and saved to the SD card. If the display shows "CARD PROTECTED" when you press the **SHOT** key, switch the power OFF, remove the SD card and slide its write-protect switch to off.
- Press the **OK** **REPLAY** key to review/playback photos/videos on the LCD screen, or a connected TV monitor. Use ▲ and ▼ key to navigate.

There is another key, **MENU**, on the keypad that allows you to program the camera to work the way you want. Please make reference to 3.1 Parameter Settings in the Advanced Operation section.

Under the test mode, one useful function you would like is testing the work area of the PIR (Passive Infrared) sensor, specifically the sensing angle and monitoring distance. To perform the test:

- First strap the camera on a tree aiming the region of interest (ROI).
- Walk slowly from one side of the ROI to the other parallel to the camera. Try different distances and angles from the camera.
- If the Motion Indicator flashes blue, it indicates the position from where you were detected by one of the

side Prep PIR sensors. If the Motion Indicator flashes red, it indicates the position from where you were captured by the main PIR sensor.

By doing this test, you can find the best placement when mounting and aiming the Ltl Acorn camera. In general, you are recommended to place the camera 3 to 6 feet (1 to 2 meters) above the ground.

To avoid potential false triggers due to temperature and motion disturbances, please do not aim the camera at a heat source (i.e. the sun) or nearby tree branches and limbs. The ideal direction to aim at is North or South. Also, remove any limbs close to the front of the camera.

2.4 Enter Live Mode

Switch to the ON position to enter the live mode. The Motion Indicator will flash red for about 10 seconds and the camera starts working by itself without any manual handling. It will at once shoot pictures or record videos when game or other objects enter the PIR area of the main sensor directly. If the game enters the PIR area of the prep sensors from the side, the prep sensors detect the movement and activate the camera. While the game keeps moving into the PIR area of the main sensor, the camera takes photos/videos immediately. If the game roams away after entering the PIR area of the prep sensors, the camera will power off and enter standby mode.

ADVANTAGES OF PREP SENSORS

In general, to save battery power, an Infer-Red camera is in "sleep" mode, with only the PIR sensor working. When game is detected by the PIR sensor, the camera is powered on and starts shooting pictures. The time period from being activated to starting firing is called trigger time. The trigger time varies among different scouting camera brands in the market, generally from 1 to 5 plus seconds. Our Ltl Acorn scouting camera has an impressive 0.6 second trigger time. However, when game passes across very quickly, the picture may only capture the rear part of the body, and possibly nothing at all.

With the unique side prep PIR sensors design, our Ltl Acorn solves this issue. The combination of the two side prep sensors and the main sensor comes up with a 100 to 120° angle of induction, a very wide scope far outweighing the 50 ° angle of the camera lens. When game first crosses the PIR area of the prep sensor, the camera is activated and ready to shoot after 1 second. If the game continually enters into the PIR area of the main sensor, the camera takes pictures immediately, therefore catching the whole body of the game. This split-second process could be as short as 0.2 second.

In the case the game browses only in the PIR area of the prep sensors, to avoid the camera being powered on constantly, the system is designed to work in the following way: If the game does not enter the PIR area of the main sensor and therefore not trigger the main sensor, the camera will power off after 3 seconds. If the trigger events consecutively happened twice only in the PIR area of the prep sensors, the camera will not be activated by the side prep sensors, but only by the main sensor. So later on when the game enters the PIR area of the main sensor eventually, since it is

not in fast movement, the picture will by all means capture the whole body of the game based on our standard 1 second response time.

ADVANCED SETTINGS

The Ltl Acorn trail camera comes with preset manufacturer settings. You can change the settings to meet your requirements. Please make sure the camera is in the test mode.

3.1 Parameter Settings

Press "MENU" key to enter/exit the menu. Press ▲, ▼ to move the marker, ◄, ► to change the setting, and **OK** to confirm the change. Always remember to press **OK** to save the change. Otherwise you will lose your new setting.

Parameter	Settings (**Bold** = default)	Description
Mode	**Camera**, **Video**, Camera+Video	Select whether picture or video to be taken. In **Cam+Video** mode, camera first takes photos then video.

Format	Enter	All files will be deleted after formatting the SD card. **Note: Format the SD card on the camera at the first use.**
Photo Size	12MP , **5MP**	Select picture resolution 5MP or 12MP. In order to the quality of the photo and save storage space, **5MP** is recommended.
Video Size	1920× 1080 **1280× 720** 640× 480 320× 240	Higher resolution produces better quality videos, but occupies more space. **1280× 720** is recommended.
Set Clock	Enter	Press **Enter** to set up date and time. Internal capacitor will remain the clock time for up to **7 minutes** when changing batteries.
Picture No.	**01 Photo,** 02 Photos, 03 Photos	Select the number of photos would be taken continuously at every trigger.
Video Length	**AVI 10s**, optional from 1s to 60s	The user can choose the length of the video.
Interval	**1 Min,** optional from 0s to 60min	The user can control the camera's interval between two times of triggers.
Sense Level	High, **Normal,** Low, Off	Select the sensitivity of the PIR sensor. The High setting suits

		indoors and environments with little interference, while the Normal/Low suits outdoors and environments with more interference. Temperature also affects the sensitivity. The High setting is suitable to the high ambient temperature, and the Low setting is helpful in cold weather.
Time Stamp	**On,** Off	Select **On**, serial No., date, time, temperature and moon phase would be stamped on photo.
Timer1	**Off,** On	Select **On,** camera works in a specified period every day. For instance, if the starting time is set at 18:35 and the ending time at 8: 25, the camera will function from 18: 35 the current day to 8: 25 the next day. Outside the setting period, the camera will not be triggered. This feature can be used together with **Time Lapse** feature.
Timer2	**Off,** On	**Timer2** is help to set another working time period. The function is same as above **Timer1**.
Password Set	**Off,** On	Set up a password to protect

		your camera from unauthorized users. The length is 4 digits (0~ 9).
Serial No	**Off,** On	Select On to assign a serial number to the camera. Use 4 digits (0~ 9) and/or alphabets (A~Z) to record the location in of photos (e.g. YSP1 for Yellow Stone Park). **Note: Please set a new serial number in advance if you want to change the name of photo/ video. It would take effect only if the camera is restarted**
Time Lapse	**Off,** On	Select **On,** the camera takes photos/videos automatically at the set interval (Note: In this mode, the PIR sensor is disabled). This feature can work together with Timer feature.
		The default setting is On. The two side PIR sensors provide wider sensing angle, activate the camera before game entering main PIR sensor area so as to catch the game, especially for those move fast. To avoid power consumption when the side PIR sensor is being activated constantly in the situation of

		game hangs around in side PIR sensor area but not trigger main PIR sensor, the side PIR would only work twice at one interval.
Recycle	**Off** ,On	Choosing ON enables the "cycling save" function, which automatically deletes the oldest files when the SD card becomes full to make room for the latest pictures or videos.
Default Set		Press OK/Enter to restore the manufacturer default settings.

3.2 File format

The camera stores photos and videos in the folder \DCIM\100IMAGE in the SD card. Photos are saved with filenames like IMAG0001.JPG and videos like IMAG0001.AVI.

In the **OFF** mode, you can use the provided USB cable to download the files to a computer. Or you can put the SD card to a SD card reader, plug in a computer, and browse the files on the computer without downloading.
The AVI video files can be played back on most popular media players, such as Windows Media Player, QuickTime, etc.

3.3 Change Language

Ltl-5210A hunting camera supports 4 languages, press ◀
 of the camera, the menu would change automatically.

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WARRANTY

We take great pride in our products. We always stand behind our promises. We provide a leading warranty term and service. Buying a Ltl Acorn product, you are covered under a limited warranty.

We guarantee our products to be free of defects in materials and workmanship for a limited warranty of the original purchase date. This warranty does not cover consumer caused damages such as misuse, abuse, improper handling or installation, or repairs attempted by someone other than our authorized technicians.

We will, at our option during the warranty period, repair your camera or replace it with the same or comparable model free of charge. This warranty only extends to the original retail buyer from our authorized dealer. Purchase receipt or other proof of the date of the original purchase is required to receive warranty benefits. The warranty on any replacement product provided under the original warranty shall be for the remaining portion of the warranty period applicable to the original product.

This warranty extends solely to failures due to defects in materials or workmanship under normal use. It does not cover normal wear of the product.

If you need to return a Ltl Acorn product under this warranty, please contact your dealer or our distributor.

Appendix I: TECHNICAL SPECIFICATION

Model	Parameters	Ltl-5210A
Image Sensor	5 Mega Pixels Color CMOS	Yes
Lens	F=3.1; FOV=52°; Auto IR-Cut	Yes
IR Flash	65 Feet/20 Meters	Yes
LCD Screen	48x35.69mm(2.36"); 480(RGB)*234DOT; 16.7M Color	Yes
Operation Keypad	6 Keys	Yes
Memory	SD Card (8MB ~16GB)	Yes
Picture Size	5MP/12MP=2592x1944; 4000x3000;	Yes
Video Size	640x480:30fps; 320x240:30fps; 1280x720:30fps; 1920x1080;15fps;	Yes
PIR Sensitivity	High/Normal/ Low/Off	Yes
PIR Sensing Distance	65ft/20m（Below 77°F/25°C at the Normal Level）	Yes

Prep PIR Sensing Angle	Left and right light beams form an angle of 100°; Each lens covers 10°	Yes
Main PIR Sensing Angle	35°	Yes
Operation Mode	Day/Night	Yes
Trigger Time	0.8S	Yes
Trigger Interval	0sec. - 60min; Programmable	Yes
Shooting Numbers	1~3	Yes
Video Length	1-60sec.; Programmable	Yes
Camera + Video	First take Picture then Video	Yes
Playback Zoom In	1~16 Times	Yes
Time Stamp	On /Off; Include serial no., temperature and moon phase	Yes
Timer 1	On /Off; Programmable	Yes
Timer 2	On /Off; Programmable	Yes
Password	4-Digit Numbers	Yes
Device Serial No.	4 digits and 26 alphabets set by yourself	Yes

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Time Lapse	On/Off; 0 Second ～ 23HOURS59Min59Sec; Programmable	Yes
Power Supply	4xAA; Expandable to 8xAA (With additional battery box)	Yes
Stand-by Current	0.4mA	Yes
Stand-by Time	3～6 Months（4xAA～ 8xAA）	Yes
Auto Power Off	Auto power off in 2 minutes while no keypad controlling	Yes
Power Consumption	150mA (+500mA when IR LED lights up)	Yes
Low Battery Alarm	4.2~4.3V	Yes
Interface	TV out (NTSC); USB; SD Card Slot; 6V DC External	Yes
Mounting	Strap; Tripod Nail	Yes
Waterproof	IP54	Yes
Operation Temperature	-40~+158°F/-40 ~+70°C	Yes
Operation Humidity	5% ~ 95%	Yes
Certificate	FCC & CE & RoHS	Yes

Appendix II: PACKAGE CONTENTS

Part name	Quantity
Digital camera	1
Additional battery box(optional)	1
TV AV IN cable	1
USB cable	1
Strap	1
External DC cable (optional)	1
Instruction Manual	1
User's Manual	1
Warranty Card	1

Appendix III: INSTRUCTION ON INSTALLING ADDITIONAL BATTERY BOX

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