

- For SMS remote control setting, different value comes with different extra power consumption: “0” the highest and “off” zero.
- The maximum for text messages is 60 bytes.
- If your phone number is put in properly during setup, once the camera receives the command, it will send you a text message saying “Message format OK”. If the code 60 function is turned on, the camera will also send a picture that it takes after executing the command along with the text message.
- Since the camera wakes up periodically, to ensure smooth usage please bundle the instructions into one command, or schedule your text messages accordingly.

Note: When using order code 12 and 13 to set additional phone numbers or email addresses, make sure to fill in code 12 first before 13. The number or e-mail added by using code 13 will not be accepted if the code 12 slot is empty.

Order code	Code Value	Example	Meaning
01	Mode: camera (0), video (1), camera+ video (2)	01*1#	Set to video mode
02	Image size: 12MP (0), 5MP (1), 2MP (2)	02*1#	5MP
03	Video size: 1080P(0), 720P (1), VGA(2)	03*1#	720P
04	Number of Pictures per Trigger: one photo (0), two photos (1), three photos (2)	04*2#	3 photos
05	Video length: 1-60 for the number of seconds	05*59#	59 seconds
06	Interval: beginning with S (s) represents Second, with M (m) represents minute 1-60 indicates different value	06*s30#	Interval:30s
07	Serial Number: off(0), on(1), take camera setting for reference, numbers and letters	07*1AbC D#	Serial number: AbCD
08	PIR sensitivity level: Low (0), normal (1), High (2) , off (3)	08*1#	normal
09	Time Stamp: off (0), on (1)	09*0#	off
10	Side PIR: off (0), on (1)	10*1#	on
11	MMS status: off (0), VGA (1), SMS (2)	11*2#	SMS
12	Phone No 2 or Email: Maximum 48 symbols	12*151976 11542#	Phone number 15197611542
13	Phone No 3 or Email: Maximum 48 symbols	13*info@ltlacorn.cn#	Email info@ltlacorn.cn
14	Additional Email: Maximum 48 symbols	14*info@ltlacorn.cn#	Email info@ltlacorn.cn
15	Maximum number of photos sent by camera per	15*0#	Camera sends as

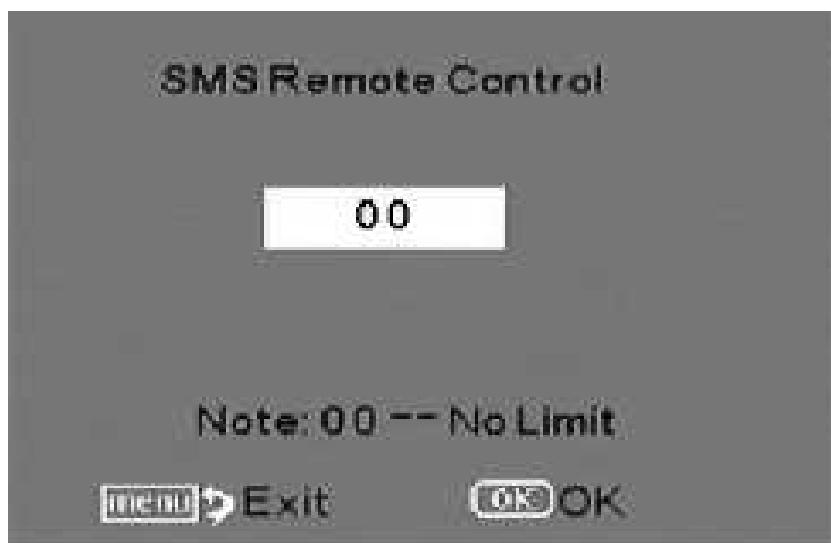
	day. 0 means no limit		many pictures as it takes.
16	Time lapse: off (0), on (1) , Time indicated by numbers. Example: 1h 30m 0s becomes 01 30 00.	16*101300 0#	The camera takes a picture every one and a half hours whether triggered or not
17	Timer : off (0), on (1) . Time indicated by 2 digits, Example: 13h 30m becomes 13 30.	17*113301 530#	Camera functions only between 1:30pm ~3:30pm when triggered.
18	Timer 2: off (0), on (1) .Time indicated by 2 digits, Example: 13h 30m becomes 13 30.	18*113301 530#	Camera functions only between 1:30pm ~3:30pm when triggered.
19	SMS command receiving time. 0: every 10 minutes; 1-24:every 1 to 24 hours; 25: off	19*2#	Camera wakes up every two hours and search for text message commands.
60	Whether or not the camera takes a picture and sends it back to you once text commands are received: off (0), on (1) This code works under CAMERA and VIDEO and CAMERA + VIDEO Mode.	60*1#	Camera takes a picture and sends it back upon command.
Note: Order 12 and13 are ineffective in SMTP mode			

Setting up SMS remote control on camera

Press  key to enter/exit the SMS remote control Setup menu.



Use and key to navigate



Use and key to set the value

2.8 View Local MPNO name and Signal Strength on TFT Screen

You can find your local Mobile Phone Network Operator's name and the signal strength on the TFT display screen on the camera, just like you can see the reception on a regular cell phone.

Install the SIM card and 12 AA batteries. Switch to the TEST position. If you like, you can connect the camera to a TV, using the provided TV/AV IN cable. Wait for up to 1 minute or until you hear of a short beep, and then you will be able to see the MPNO symbol and the signal strength on the TV. If you don't have access to a TV, wait for 1 minute or until you hear a short beep. Then you can see the information on the TFT display. **Note:** During the process,

slightly move the camera to make sure the LED light in the front keeps flashing. If you wait too long (over three minute), the screen may power off to save battery. If that happens, you'll need to switch to OFF and then TEST to start over.



Signal strength can be full 6 columns. To make the MMS module to work, at least two bars are required. If you only see one bar, the reception is too weak for the MMS to function.

Some U.S. AT&T customers will see a six-digit number (310410), instead of the operator's symbol, next to the signal bars. It is normal. If a code other than the MPNO symbol shows up on the screen, it indicates something is wrong. Specifically,

- **SIM:** No SIM card or installed incorrectly.
- **CSQ:** No signals.
- **CREG:** SIM card is password-protected, or deactivated due to low balance in the account, or not able to register with the GSM system.
- **CGREG:** Not able to register with GPRS network.
- **COPS:** Searching for the MPNO of the SIM card. Once found, the operator's symbol and the signal strength will show on the display.

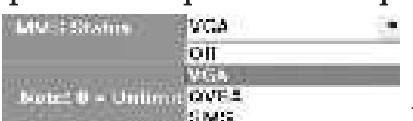
If **No MM1** shows on the screen, it means the MMS-module is not found or not installed. If your camera is a standard Model Ltl-6310MC, then it is OK because your camera is not equipped with MMS-module. If it is a MMS Model Ltl-6310MG, you can take out from the battery box one of the batteries and replace it and re-check the MPNO signal by following the aforementioned steps.



2.9 Camera Working with MMS

When all of the following conditions are met, the camera should start sending pictures to your cell phone and/or e-mail account. If you encounter any problems, it is highly recommend that you go through this list first.

- The camera is ON and functional. The SD card has enough space. The 12 AA batteries are installed matching the polarity symbols on the camera and has enough power capacity. The camera is in Cam mode or Camera + Video mode and not Video mode.
- SIM card is installed. The MMS/messaging service is activated (some MMS services need pre-paid balance in the account.) The SIM card is not password-protected.
- The signal is sufficiently strong in the field. The recipient's phone number and/or email account is entered correctly. It is recommended that you take the receiving phone with you and perform a test on site.
- The Timer function is OFF. Or if you have the Timer ON, make sure you are in the specified time period when expecting incoming MMS pictures.

-  Make sure MMS Status is not set to OFF.
-  Make sure that the setting is "0", or the daily limit has not been reached. If the daily limit has been reached, you can reset that number on your computer or on the TFT screen.
- The camera is stationary while sending MMS pictures.

2.10 Enter Test Mode

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

- First position the camera at proper height aiming at 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 means that the position you are right now can be detected by one of the side Prep PIR sensors. If the Motion Indicator flashes red, it indicates that particular position is captured by the main PIR sensor.

By conducting this test, you can identify the best placement when mounting and aiming the LTL ACORN camera. In general, we recommend placing 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 twigs. The ideal direction to aim at is the north. Also, remove any twigs close to the front of the camera.

2.11 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. It will immediately take pictures or record videos when a person or an animal enter the PIR area of the main sensor directly. If the subject enters the PIR area of the prep sensors from the side, the prep sensors will detect the movement and activate the camera. When the subject goes on to the PIR area of the main sensor, the camera will take photos/videos instantly. If, however the subject roams away after a while and never alert the main sensor, the camera will power off and resume standby mode.

2.12 Advantages of Prep Sensors

In general, to save battery power, an Infer-Red camera is in sleep/standby mode, with only the PIR sensor working. When a person or an animal is detected by the PIR sensor, the camera powers on and starts shooting pictures. The time period from being activated to taking the photos 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 0.8 seconds trigger time.

When the subject passes very quickly, it is possible that only part or even none of the subject is captured in the photo. With the unique side prep PIR sensors design, our LTL ACORN cameras solve 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 the subject first reaches the PIR area of the prep sensor, the camera turns on and gets ready to shoot. If the subject continues into the PIR area of the main sensor, the camera takes pictures immediately, capturing the whole body of the subject right in the middle of the frame. That process could be as short as 0.2 seconds.

In the case the subject only wanders in the PIR area of the prep sensors, the system is designed to work in the following way: If the subject does not enter the PIR area of the main sensor and therefore not trigger the camera, the camera will power off after 3 seconds; if the prep sensors are triggered twice consecutively, the camera will adjust and not be activated by the side prep sensors, only by the main sensor. Later on when the subject enters the PIR area of the main sensor eventually, since it is not in fast movement, the camera will by all means capture the whole body of the game based on our standard 0.8 seconds response time.

ADVANCED SETTINGS

The LTL ACORN trail camera comes with preset manufacturer settings. You can change the settings to meet your requirements, by manually operating on the camera or programming on your computer.

3.1 Parameter Settings

Switch to the **TEST** position to enter the Test mode. In this mode you can take pictures or video clips like using a regular digital camera, or enter the Menu to set up parameters. On the keypad there are four “shortcut” functional keys (see Figure 3-1) working as below:



Figure 3-1

- Press the key to set the camera to shoot video clips.
- Press the key to set the camera to take 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 REPLAY key to review/playback photos/videos on the LCD screen, or a connected TV monitor. Use and key to navigate. Use and key to zoom in and out on the pictures.

Press “**MENU**” key to enter/exit the Camera Setup menu. Press , to move the marker. Press , to change the setting, and press to confirm the change. Always remember to press to save the change.

List of Parameters

Parameter	Settings (Bold = default)	Description
Mode	Camera , Video, Cam+Video	Select whether photos or video clips will be taken. In Camera+Video mode, camera takes photos and videos on same trigger event
Format	Enter	All files will be deleted after formatting the SD card. Format the SD card on the camera when using it for the first

		time. Caution: make sure wanted files on the SD card are backed up.
Photo Size (affects pictures only)	5MP, 12MP, 2MP	Select desired resolution for photos from 2 to 12 megapixels. Higher resolution produces better quality photos, but creates larger files that occupy more space and take longer time to write to the SD card, which slightly affects the shutter speed. 5MP is recommended.
Video Size (affects video clips only)	1440X1080, 1280×720, 640×480	Select video resolution (pixels per frame). Higher resolution produces better quality videos, but creates larger files that occupy more space. 1280X720 provides the best High-Definition effect.
Set Clock	Enter	Press Enter to set up date and time. Internal capacitor will remember the time for up to 7 minutes when changing batteries.
Picture Number	01 Photo, 02 Photos, 03 Photos	Select the number of photos taken consecutively per trigger in Camera mode.
Video Length	Avi 10 s, optional from 1s to 60s	Videos are in AVI format that can be played back on most media players.
Interval	1 Min, optional from 1second to 60 minutes	Select the length of time that the camera will wait from when the last picture was taken and written on the SD card, to when it responds to any new triggers. During the selected interval, the camera will not take pictures/videos. This prevents the SD card from filling up with too many redundant images.
Sense Level (Sensitivity)	Normal, High, Off ,Low	Select the sensitivity of the PIR sensor. The High setting suits indoors and environment with little interference, while the Normal/Low suits outdoors and environment with more interference. Temperature also affects the sensitivity. The High setting is suitable when the ambient temperature is warm, and the Low setting is helpful in cold weather.
Time Stamp (affects photos only)	On, Off	Select On if you want the date & time imprinted on every photo.
Timer	Off, On	Select On if you only want the camera to work within 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 time period the camera will not be triggered or take photos/videos. This feature can be used together with Time Lapse feature.
Timer2		A second timer is available in case you need the camera to function in two separate time periods.
Password Set	Off, On	Set up a password to protect your camera from unauthorized users.
Serial No.	Off, On	Select On to assign a serial number to each camera you have. You can use the combination of 4 digits and/or alphabets to record the location in the photos (e.g. YSP1 for Yellow Stone Park). This helps multi-camera users identify the location when reviewing the photos.
Time Lapse	Off, On	If On , the camera will automatically take photos/videos at the set interval (Note: in this mode, the PIR sensor is disabled). This is helpful when monitoring fields in long range, or the process of flowering, etc. This feature can work together with the Timer feature.
Side PIR	On, Off	The default setting is On . The two side prep PIR sensors provide wider sensing angle and enhance response time. (Reference 2.10 Advantages of Prep Sensors.) However, in certain situations (difficulty removing the interfering twigs or cannot avoid sunlight), you have the option to turn off the side sensors.
Beep Sound	On, off	Choose OFF to turn off the sounds made by pressing the keys.
SD Cycle	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 and/or videos.
Default		Press OK Enter to return all your