

LTL ACORN®

Low Power Consumption Infrared Scouting Camera

Ltl-6630-4G

LTE Cellular Mobile Communication Series

1080P HD Video

Less Than 0.8S Trigger Time in Actual Application



USER'S MANUAL

TABLE OF CONTENTS

General Information	1
1.1 Features	2
1.2 Application	4
1.3 Illustration	4
1.4 Keypad	6
Getting Started	7
2.1 Load Batteries	7
2.2 Insert SD Card	7
2.3 Insert SIM Card	8
2.4 Enter Test Mode	8
2.5 Connect the environmental data acquisition device and necessary settings	10
2.6 GPS Positioning and NTP Update Time of camera	11
2.7 Automatic Infrared Sensing Shooting	12
ADVANCED SETTINGS	13
3.1 Set up Parameters on Camera	13
3.2 Replay Mode	17
3.3 Set up 4G Parameters on Camera	18
3.4 Set up Camera on PC	20
3.5 SMS Remote Control & Table of Command Code	23
3.6 View Local MPNO Name and Signal Strength on TFT Screen	28
3.7 Features and Working Condition of 4G Wireless Module	28
E-mail Uploading Function	30
4.1 Setup E-mail Parameters on Camera	30
4.2 Set up E-mail Parameters on PC	31
FTP/SFTP Uploading Function	36
5.1 Setup FTP/SFTP Parameters on Camera	36
5.2 Set up FTP Parameters on PC	37
5.3 Set up SFTP Parameters on PC	42
Ltl Acorn Camera Cloud System Settings	48
6.1 Set Parameters of Ltl Acorn Camera Cloud System on Camera	48
6.2 Set Parameters of Ltl Acorn Camera Cloud System on computer	49
6.3 Ltl Acorn Camera Cloud System remotely modifies camera parameters	53
6.4 Ltl Acorn Camera Cloud System Introduction	55
LTL-6630-4G Series Products	57
7.1 Ltl-6630-4G series model	57
IMPORTANT INFORMATION	58
8.1 Power Supply	58
8.2 Prevent From Short-Circuits	58
8.3 SD Card	58
8.4 Auto Adjustment on Video Length	58

8.5 850nm and 940nm IR LED.....	59
8.6 Mount on Tripod.....	59
8.7 FAQs on 4G Function	59
8.8 Low Battery Alert.....	60
Precautions	61
9.1 Battery safety.....	61
9.2 Use Camera Outdoors	61
9.3 Introduction of 18650 Lithium Battery	62
FIRMWARE UPGRADES.....	63
Remote update program via Ltl Acorn Camera Cloud System.....	65
LIMITED WARRANTY	69
Appendix I: TECHNICAL SPECIFICATION.....	70
Appendix II: PACKAGE CONTENTS	73
Appendix III: Illustration of Battery Box Installation.....	74
Appendix IV: Place and Install Camera	76

Ver: Ltl-6630-4G-003

General Information

This manual applies to model Ltl-6630-4G, Ltl-6630W-4G. They are 4G LTE cellular mobile communication network transmission cameras with feature of high-definition and with low-power PIR sensor developed by our company. The cameras use a high-end image processor, work with 14 megapixels BSI CMOS image sensor and a 120 degrees wide-angle lens (60 degrees lens models optional) that captures up to FHD 1080P (1920X1080) 30fps HD video with audio and 30 megapixels high-definition photos, the delicate and clear image offers users different visual experience.

The cameras use low-power PIR sensors and LTE 4G wireless module. Low-power PIR sensors with features of high sensing accuracy and sensitivity to avoid wrong shooting and missed shooting, as well as features of low standby current and so on when working on the camera. The camera standby current is about 80uA, far lower than 400 to 2000uA of other brands hunting camera in the industry, which greatly extends the standby time. The built-in 4G LTE wireless module with different bands for option, compatible with TDD LTE and FDD LTE 4G communication, the maximum uplink speed reaches 50Mbps; With features of high transmission speed and multiple network bands supported, etc. In 4G LTE network mode, it can quickly send the 30MP original picture and 1080P video to the user's E-mail/FTP(SFTP) server or upload directly to Ltl Acorn Camera Cloud System. To save 4G traffic flow, users can set the camera to send thumbnail, and send command to camera for the valuable pictures, it will send back the full size images of the thumbnail accordingly. The superior SMS remote control function supports to change camera parameters, get camera shooting and sending picture back by sending SMS remote control command to 4G module, make it convenient to operate.

Ltl Acorn established the Ltl Acorn Camera Cloud System Server based on traditional 4G wireless transmission products to offer users a better product experience. This system is a comprehensive network camera management system integrating camera image reception, image management, camera management, environmental data analysis and camera remote control. The captured picture and Video can be directly uploaded to Ltl Acorn cloud system via 4G network with protocol http/https, users are able to log in the cloud system on mobile APP, WeChat official account or computer web browser to view and manage the pictures and video uploaded by the camera, as well as remotely manage the camera, modify camera parameters, etc.

The working principle of the camera is with its highly sensitive passive infrared sensor (PIR) to sense the signal from animal or human, automatically triggers to record photo, video, send the captured file to E-mail, upload to the user's FTP(SFTP) server, or directly upload to the Ltl Acorn camera cloud system, multiple transmission ways for option. Please read the USER'S MANUAL in details before starting for better understanding and operation.

1.1 Features

- Picture resolution is up to 30MP.
- Real high-definition video of 1080P / 720P / VGA with audio record, H.264/AVC format.
- 2.0" TFT color LCD display, easy to set parameters, preview, replay photos and video.
- LTL-6630-4G with 120 degrees 7G high-quality wide-angle lens, can greatly expands the shooting range (60 degrees lens models optional).
- With 4G LTE wireless transmission module, the uploading speeds can be up to 50Mbps .
- Send the captured file to E-mail, appointed FTP (SFTP) or Ltl Acorn Camera Cloud System via 4G wireless network.
- Connecting with external environment data collection device with the Type-C interface, which accurately detects the ambient temperature, humidity and light intensity of the environment where the camera located, collects data automatically and upload the data to the Ltl Acorn camera cloud system at preset time every day.
- SMS remote control supports to change the camera settings, trigger camera remotely and control camera to send back full size picture by sending SMS command.
- Research and develop Ltl Acorn Camera Cloud System exclusively in the industry, the picture and video taken by the camera can be directly uploaded to the Ltl Acorn Camera Cloud System server through the 4G network. Users can manage the photo and video taken by the camera through the Ltl Acorn Camera Cloud System.
- FTP uploading function, camera uploads the file to appointed FTP or SFTP after shooting, users can download the picture or video from FTP.
- NTP update time, when the 4G sending status is in off mode and the workable SIM card is inserted, turn the camera to TEST mode, or when the NTP/ GPS positioning time is reached in ON mode, the camera will automatically search for NTP positioning, and update the camera time after NTP positioning successfully.
- GPS positioning, when the 4G sending status is not in off mode, turn the camera to TEST mode, or when the NTP/ GPS positioning time is reached in ON mode, the camera will automatically search for GPS positioning, then update the GPS coordinates and camera time after positioning successfully.
- Cam + Video mode enables camera to take both picture and video at every trigger.

- Burst shooting with 1 second interval.
- Photo encryption function (need to upgrade software with encryption function), the photos captured are automatically encrypted and only can be viewed after decrypted by decryption software.
- 6 super bright 850nm or 940nm IR LED lights for great night vision.
- Ultra-long standby time: more than 3 years with 6 18650 lithium batteries.
- Working temperature: $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$.
- Tight waterproof housing: IP68.
- Patent technology of Low Power PIR Pyroelectric Infrared Sensor, the camera detects animals in advance from wide scope in two stages, then quickly trigger to shoot, standby current is about 80uA, makes it to be the pioneer in the industry.
- Quick trigger time (0.8 seconds). Two high accuracy timers make the camera work in two specified periods as request.
- Set an ID for the camera, the prefix of file name could be same as the ID, makes it easy to classify the pictures from different place.
- Picture stamp for rich information, shows shooting date, time, latitude and longitude, temperature and month phase, etc.
- Password protected to prevent unauthorized operation.
- Optional memory overwrite function: delete the early pictures or videos automatically to make room for new records.
- Security box is optional for purchase.
- Support to fix by tripod.
- Supports to operate with 2G GSM/3G CDWMA/4G LTE networks globally.

1.2 Application

- Wildlife animal and plants observation
- Security and surveillance

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 camera's battery compartment

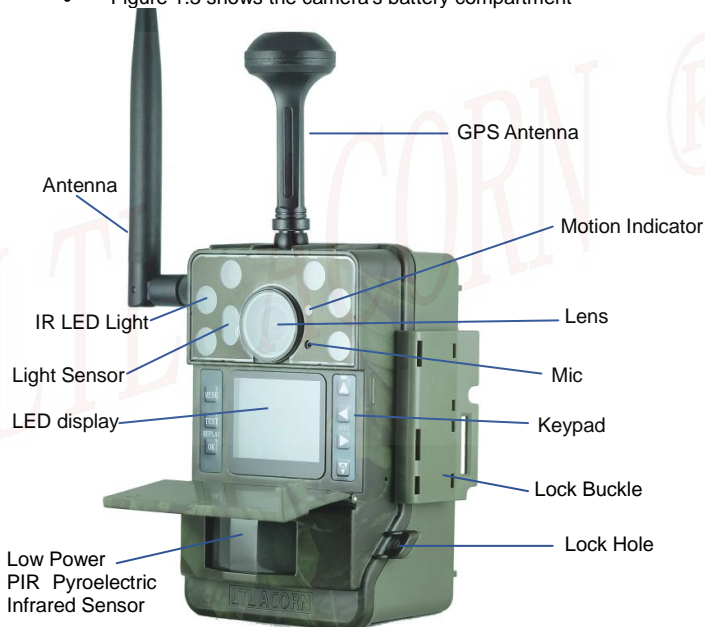
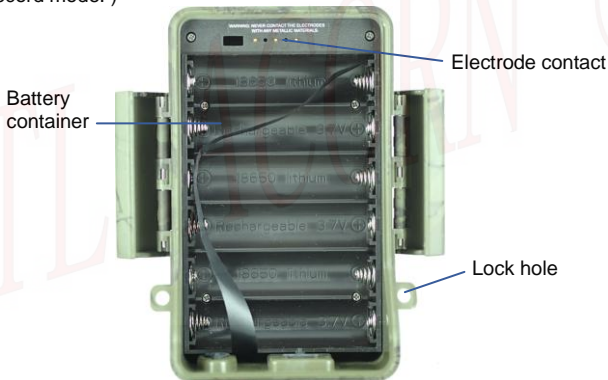


Figure 1.1 Front View of the Camera



Figure 1.2 Bottom View of the Camera

Camera interface: Type-C port, SD card slot, external DC power charging port. Power/mode switch (switch inward: OFF mode, switch outward ON mode: boot working mode, press TEST key to enter TEST test mode or ON auto record mode.)



• Figure 1.3 shows the camera's battery compartment

CAUTION: If the camera would not be used recently, it is recommended to remove the batteries from the camera to avoid damage caused by battery leakage, in which case the damage would void the warranty.

1.4 Keypad



Keypad

Keypad	Function
Power mode switch	OFF: power off. ON: automatic shooting. In the ON position, press the TEST key to enter the boot preview test mode.
MENU key	Enter/exit menu.
TEST key	The TEST (test) mode and ON (auto record) mode can be switched when the power switch is in the ON position.
Left key	Turn on 4G menu (TEST mode). Choose submenu setting item of menu (me nu mode). Long press to zoom in the picture when previewing pictures(replay mode)
Right key	Take photo (camera mode). Take video (video mode). Exit enlargement of picture, play or stop recording video(replay mode)
Up arrow key	Enter video mode (TEST mode). Move upward (menu/replay mode). Long press to move picture upward, short press to move picture leftward (when zoom in picture in replay mode).
Down arrow key	Enter camera mode (TEST mode). Move downward (menu/replay mode). Long press to move picture downward, short press to move picture rightward (when zoom in picture in replay mode). Set the brightness of night picture in Camera mode.
OK key	Confirm. Enter/exit reply mode.
Working indication light	The red light flashes 5 times when the camera enters the ON automatically shooting mode.
PIR indication light	In TEST mode, red and blue indication light will flash accordingly when the internal left and right PIR detects the animal.

Getting Started

2.1 Load Batteries

The battery box on the back of the camera can load 6 18650 lithium batteries.



- Please be aware that the battery polarity should correspond to the mark on the battery box.
- Please follow the positive and negative mark on battery box to load 6x18650 lithium batteries.

Note: When using the battery case to power the camera, please be sure to install 6 fully charged 18650 lithium batteries in the battery box.

The camera can use an external DC power supply of output current 2A, 12V~18V to charge the battery in the battery box. It is recommended to use our company's LTL-SUN-5.5W or LTL-SUN (built-in lithium battery) solar charger(purchased separately) for long working time. The camera may work in the field for more than 3 years without replacing battery.

2.2 Insert SD Card

It is recommended to use genuine 32GB Kingston SD card, other SD cards are not guaranteed to be stable.

Unlock the lock buckles and you will see the SD card slot at the bottom of the camera, insert SD card as below picture slightly into SD card slot, you will hear the sound like “click” and the card insertion is finished. Please make

sure the SD card insertion direction is same with the sign aside the SD card slot.



Insert SD card

The camera does not come with internal memory. It will not work without a SD (Secure Digital) memory card or SDHC (High Capacity) card. Before inserting the SD card, please make sure the write-protect switch is at “OFF” side (NOT at the “LOCK” position), format the SD card on camera before using.

2.3 Insert SIM Card

The SIM card should be purchased from local mobile operator, it must be 4G LTE system and be able to provide SMS and data traffic services.



Insert SIM Card

At the left side of the camera back, you can see the SIM sign and the SIM card slot. Insert the SIM card into the slot as the sign slightly and you will hear sound “click” and finish insertion. Please make sure the insertion direction of SIM card is correct when inserting.








Note: If the SIM card installed on the camera is an IoT card (data card), the SMS remote control function is unsupported.

2.4 Enter Test Mode

After load 6 fully charged 18650 lithium batteries, turn switch outward to ON mode, close the camera unit with battery box and lock the buckles, when the

working indicator light is flashing, it will enter the ON mode by default for automatic recording. Press the TEST button in ON mode, the camera screen will display and enter the preview test mode. In this mode, you can operate the camera by the buttons on camera operation panel, take photos and record videos as an ordinary digital camera.

Note: Press the TEST button when the camera is in the ON mode, if it does not enter the preview test mode immediately, it means that the work in the ON mode is not completed and camera cannot enter the test mode in time. Please press the TEST button 1~3 more times (press once every 3 seconds) then you can enter the test mode normally. In preview test mode, the camera will automatically enter the ON mode auto-shooting status when there is no operation for 4 minutes.

-  Key: when switch is in ON position and camera in ON automatic shooting mode, press once to switch to the preview test mode. In the preview test mode, press once to switch to ON auto-shooting mode.
- Press  to take video (move upward in menu or replay mode).
- Press  key to set the camera to take pictures (press down arrow key in MENU or REPLY mode). Set the brightness of night picture in Camera mode.
- Press  **SHOT** key to manually take picture or video and save in SD card. Furthermore, press  **SHOT** key to play or stop playing video when replying.
- Press **OK REPLAY** key to enter Replay mode (confirmation function in menu mode). At this moment, press up and down arrow key to turn page, left and right key to zoom in and restore the picture.
- Press  key to enter menu, change parameters setting to make the camera works as required. To change the camera parameters, please refer to the Advanced Settings for better operation.
- Press  key to enter 4G parameters and status setting, **please refer section 3.3 for details.**

In the Test mode, you can test the working area of the IR sensor, especially the sensing angle and the sensing distance. Do the following:

- First please tie the camera to a tree with a strap and aim at the

area as needed.

- Walk from one side to another side of the sensing area in front of the camera, try different distance and angle.
- If the indicator light flashes red when moving, it indicates that the camera will record at your location.

After doing this test, you can find the best shooting position when you install the camera. In general, we recommend placing the camera at a height of 3 to 6 feet (1 to 2 meters) from the ground.

2.5 Connect the environmental data acquisition device and necessary settings

Users need to buy the external environmental data acquisition device separately. You can see the Type-C USB socket at the bottom of the camera main unit, when installing, please face the Type-C USB plug of external environmental data acquisition device with the plastic protruding side to the Type-C USB socket notch and insert into the camera.



Install the external environment detection box

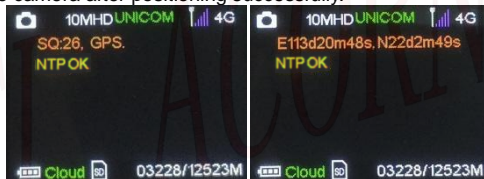
After load 6 fully charged 18650 lithium batteries, turn switch outward to ON mode, close the camera unit with battery box and lock the buckles, press TEST button when the working indicator light is flashing, the camera screen

will display and enter the preview test mode. In preview test mode, press left arrow key to enter wireless setting menu, set the send status as Ltl Acorn camera cloud system and set the cloud system parameters, then set the environment monitoring menu to 'ON'. After the camera is connected to external environmental data acquisition device, the ambient temperature, humidity and light intensity would be detected in ON mode, collect data regularly and upload to Ltl Acorn Camera Cloud System every 6 hours. The data uploaded can be viewed in page of Ltl Acorn Camera Cloud System -> Environmental data analysis.

Note: The Environmental Monitoring only works when the send status is set to Ltl Acorn Camera Cloud System and the Environmental Monitoring menu is 'ON'.

2. 6 GPS Positioning and NTP Update Time of camera

With the built-in GPS module, when the 4G sending status is not set to off, it can automatically search for GPS satellite signals and update the coordinate and time to camera after positioning successfully.



At outdoors, enter TEST mode, the GPS module begins to automatically search the signals for position and will show prompt message **GPS..** on the display, wait for about 1 to 3 minutes, when positioning successfully, the screen will show GPS coordinate information **E113d20m48s, N22d2m49s** and update the time and coordinate to camera menu synchronously.

Note: Satellite signals should be received outdoors where can see the sky, it would be seriously affected to receive satellite signals in the places with dense forests or under buildings. To ensure the good performance of the GPS function, please install the camera in the open air area and try to avoid objects above the camera.

NTP update time requires the camera with SIM card inserted and network connected, power on and enters preview test mode, the 4G wireless module starts positioning when receiving the network signal, when NTP positioning

is successful, the display will show prompt message **NTPOK** and automatically update the time of camera system.

In the ON mode, the camera will activate the NTP time synchronization function of 4G wireless module at around 00:13 every day to update and correct the time of camera.

Note: Both GPS and NTP can update camera time(NTP may not be supported by base station servers in some area), please take the latest updated time as the criterion. When the GPS satellite signals cannot be searched, the time can also be updated through NTP, but coordinates cannot be updated.

2. 7 Automatic Infrared Sensing Shooting

After load 6 fully charged 18650 lithium batteries, turn switch outwards to ON mode, close the camera unit with battery box and lock the buckles, when the working indicator light is flashing,it enters the ON mode by default to shoot automatically. After entering this mode, the red indicator light on the front of the camera will flash 5 times, after the red light is off, the camera enters the automatic shooting mode. When animal or other objects enter the sensing range of the PIR, the camera will immediately start recording picture or video.

Caution: To avoid potential false triggers due to temperature and motion disturbances, please do not aim the camera at a heat source (e.g.: the sun, heated stone or metal) or nearby tree branches and twigs. The ideal direction to aim at is the north and the open place without heat source.

ADVANCED SETTINGS

3.1 Set up Parameters on Camera

LTL ACORN hunting camera comes with default settings. Users can change the setting parameters as required. After installing 6 fully charged 18650 lithium batteries in the camera, turn the switch outwards to the ON position, close the camera unit with battery box and lock the buckles, press the TEST button when the work indicator is flashing, the camera will enter the preview after turning on, then you can start setting parameters.

Press MENU key to enter/exit the menu. Press ▲, ▼ key to move marker to select the menu to set, press ◀, ▶ key to modify parameters, after the modification, please must press **OK** key to save the changes, or the new settings would not be saved.

Parameter	Settings	Description
Mode	Camera, Video, Cam+Video	Select to take photo or video clips. In Cam+Video mode, camera takes photos first then video.
Format	Enter	All files will be deleted after formatting the SD card. Highly recommended to format the SD card on the camera at the first using. Caution: make sure the important files on the SD card are backed up before formatting.
Photo Size	30MP, 14MP, 10MP, 3MP	Select desired resolution for photo from 3 to 30 megapixels. Higher resolution produces higher quality photo, but occupies more space and slightly affects the shooting interval.
Video Size	(1080P)1920x1080 (720P)1280x720 (VGA)640x480	Higher resolution produces better quality of video, but occupies more space of the SD card.
Set Clock	Setup	Press OK key to set up date and time.

Picture No.	01 Photo, 02 Photos, 03 Photos	Select the number of burst shooting at per trigger.
Video Length	Default setting is 10s , optional setting is ' Automatic ' or 2s~60s	Set length of video as required, camera will start recording video as preset length after it is automatically triggered in ON mode and stop recording till preset length is reached. Set as ' Automatic ', the length of video triggered in ON mode will automatically change from range of 3s to 30s. If animal keeps wandering in the detection range when recording video in ON mode, the recording will last up to maximum length of 30s, if animal stop moving or leave detection range, the recording will stop.
Interval	1 Min , optional from 1 second 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. It prevents the SD card from filling up with too many redundant images of the same object, save power and SD card space.
Sense Level (Sensitivity)	High, Normal , Low, Off	Select the sensitivity of the PIR sensor. The PIR would stop sensing with Off setting (usually used in time lapse mode when the sensing shooting is not needed). Higher sense level with longer sensing distance, but easier to be interfered. The Normal/Low setting suits outdoors while the High setting suits indoors or environment with higher temperature. Recommendation: Do not set the sensitivity to high when the temperature is below 25°C.

Time Stamp	On, Off	<p>Select ON the camera or video will automatically mark the time stamp and the photo can show the camera ID, coordinates, temperature and moon phase.</p> <p>Notice: the temperature shown is the internal temperature of the camera, the camera will heat at work, it makes the difference between internal and external temperature and the difference will be small if the camera does not work long time in the field.</p>
Timer1	Off, On	<p>Select On and the camera will automatically work within a specified period of the day. For instance, if the starting time is set at 7:00 and the ending time at 9:00, the camera can be triggered from 7:00 a.m. to 9:00 a.m. Outside this period the camera will not be triggered even animal passes by.</p>
Timer2	Off, On	<p>Select On and the camera will automatically work within a specified period of the day. For instance, if the starting time is set at 10:00 and the ending time at 11:00, the camera can be triggered from 10:00 a.m. to 11:00 a.m. Outside this period the camera will not be triggered even animal passes by.</p>
Password Set	Off, On	<p>After selecting ON, set 4 digits as the power-on password. After password is set, others cannot turn on camera to reset the parameters. Please be sure to record the password, otherwise it is easy to forget. Notice: The password setting is available on camera only, but not on PC setup.</p>

Serial No.	Off, On	Select On to assign an ID for the camera with 4 digits and/ or alphabets, 0~9 and A~Z, the ID will be imprinted on photo with time stamp On.
Time Lapse	Off, On	Select On, you can set the time period of automatic cycle shooting, and the camera will automatically take pictures/videos without triggering according to the time period set. This feature is useful for shooting cold-blooded animals or observing the growth of plants. This function can be used with timer settings.
Beep Sound	On, off	To turn on or off the beep sound caused by pressing the keys. The default setting is On.
SD Cycle	Off, On	Choose On to overwrite the SD card, which automatically deletes the oldest files when the SD card becomes full to make room for the latest pictures or videos.
Language settings	Setup	English ,Deutsch,Suomi, Italiano, Dansk, Français, Magyar, Slovenščina,Čeština, 日本語, Nederlands, Русский,Polski
LED brightness	High, Low	Set the LED brightness for night shooting,default setting is High.
Exposure	High, Medium, Low	Adjust the exposure value of the night shooting as needed, when the exposure is set to high, the brightness of the night shooting image is higher;
Coordinate input	Setup	View or manually set the longitude and latitude of the coordinates (be sure to set the coordinates into the camera).

Software version	Enter	Show the software version of the camera.
Default Set	Enter	Press OK key to return all settings to default setting (exclude the 4G parameters setting).

3.2 Replay Mode

After installing 6 fully charged 18650 lithium batteries, turn the switch outwards to ON position, close the camera unit with battery box and lock the buckles, press TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. Press button OK allows to enter the replay mode to view the video and photo in SD card. Press the button 'Menu' to enter replay menu, you can delete photo and video, or directly send the current photo or video to mailbox, FTP/SFTP or Ltl Acorn Cloud System.

Playback mode menu






Parameters	Settings	Description
Delete Option	Delete Current, Delete All	Delete Current: delete the present photo or video you are viewing. Delete All: delete all photos and videos on the SD card.
Protect	Lock One Unlock One Unlock All	Lock One: lock and protect the current photo or video from deletion. Unlock One: remove the lock from the protected photo or video you're currently viewing. Unlock All: remove the lock from all protected photos and videos.
Upload	IMAG0001.JPG	The file IMAG0001.JPG would be sent to email, FTP/SFTP or LtlCloud as per the 4G send status setting after you press "OK" to send manually.

Note: When using the upload function in replay mode, please make sure that the send status in the wireless settings menu is not 'OFF', the upload parameters such as email, FTP and LtlCloud are set correctly.

The photo taken by camera is in JPEG format, video in H.264 AVI format. Ltl-6630-4G saves files in folder DCIM\100IMA4E in the SD card, Picture would be named like IMAG0001.JPG and video like IMAG0001.MOV. You can retrieve the SD card from camera and connect with computer with a SD card reader, view the files on computer directly.

The AVI video file can be played on most popular media players. If it cannot be played by the player you used, please try another.

3.3 Set up 4G Parameters on Camera

After installing 6 fully charged 18650 lithium batteries, turn the switch outwards to ON position, close the camera unit with battery box and lock the buckles, press TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on, press  to enter the wireless settings menu. Press , , ,  keys to choose and press OK key to confirm.

Parameter	Settings	Description
Send Status	Off, Email, FTP, Ltl Acorn Camera Cloud System	Off: Turn off the 4G communication function, then the camera would work as a basic scouting camera and 4G function would not be activated and consume power Email: Set the recipient email address and sender email address of camera for email. FTP: Set FTP or SFTP parameters and save directory. Ltl Acorn Camera Cloud System: Set upload parameters of Ltl Acorn Camera Cloud System .
4G Operator	Auto Settings, Manual Setting	Auto Settings: The camera with pre-load setting of main operators from the worldwide, choose the operator name to finish the setting easily. Manual Setting: Enter the data of SIM card operator manually.

Send Time	Immediately	Send immediately: camera will immediately send photo/video to the email, FTP/SFTP, or Ltl Acorn Camera Cloud System after shooting.
Remote Control	Off, 1 Hour ~24 Hour	<p>Default Off: cannot change camera setting by sending SMS command. 1 hour-24 hours: interval time to wake up camera to receive SMS commands. For example, if you set the SMS remote control time as 1 hour, the 4G module in the camera will wake up and start receiving SMS every one hour. i.e. the control command is possible to be responded more than 1 hour. SMS control can be used to change camera parameters and control the camera to take picture and send it back. As the setting time, the camera will start to search if any control message is received , therefore, the shorter the time is set, the more timely it will respond to the control command, but the more power it consumes too. In this menu, remote control phone number and remote receiver email can be set.</p> <p>Note: If the SIM card installed on the camera is an IoT card (data card), the SMS remote control function is unsupported.</p>
Query IMEI Number	OK	Press OK to confirm and show the IMEI number of the module.

Send Image Size	Full Image, Thumbnail	Full image: camera would automatically send original picture or video to the preset E-mail, FTP/SFTP or Ltl Acorn Camera Cloud System after shooting. Thumbnail: camera would send thumbnail to E-mail FTP/SFTP or Ltl Acorn Camera Cloud System after shooting (Video cannot be sent in Thumbnail mode).
Environment monitoring	On/Off	When 4G Send Options is set as Ltl Acorn Camera Cloud System, select ON, in the ON mode, with the correct connection of the environmental data acquisition device to automatically collect environmental data (temperature, humidity, light intensity, etc.) and upload to cloud system). Select OFF, cannot collect environmental data.
Wireless Default Set	OK	Press OK key to confirm, the 4G parameters would return to default setting (it would not return the camera parameters to default setting).

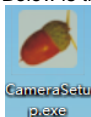
3. 4 Set up Camera on PC

Visit the website of LTL ACORN directly and download the software CameraSetup.exe.

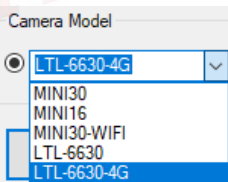
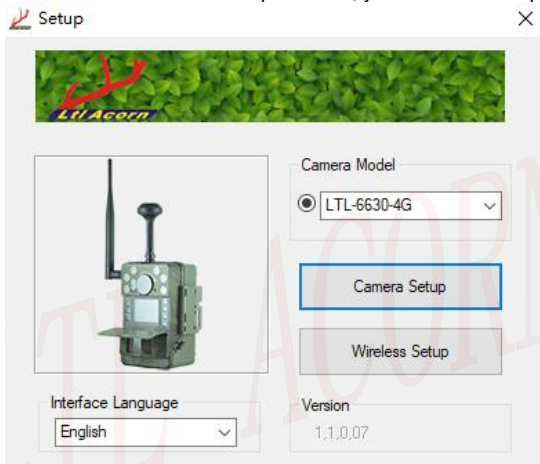
According to the link <http://www.ltlacorn.cn> (Download —> PC SETUP Download —> CameraSetup.exe), download and save it on the computer, run the CameraSetup.exe software.

Then format the SD card on the camera, eject the SD card and insert it into the computer. If your computer cannot read SD card, you may need to purchase an SD card reader separately.

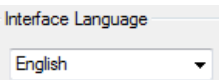
Below is the icon of the CameraSetup.exe software:



Double click the CameraSetup.exe icon, you will see below page :



Click to choose the camera model as request.




Click to choose the software language of the interface.

Click


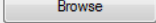
Camera Setup

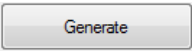
to enter camera setting interface:

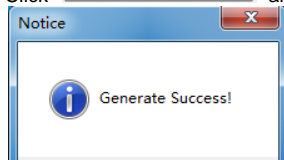
 Camera Setup ✕


Mode	Camera	Photo Size	10 MP
Video Size	1080P	Picture Number	01 Photo
Time Stamp	On	Sense Level	Normal
Side PIR	On	Video Length	10 Sec
Interval	1 Min	Date Format	YYMMDD
Beep Sound	On	SD Cycle	Off
Language	English	LED Brightness	High
		Exposure	High
Set Clock	Auto	2021 / 02 / 25 15 : 14 : 15	
Timer1	Off	Start Hour : Min	End Hour : Min
Timer2	Off	Start Hour : Min	End Hour : Min
Serial Number	Off	0 0 0 0	
Time Lapse	Off	Hour : Min : Sec	0 : 0 : 0
Coordinate	Direction	Degree	Minute
Longitude	E	0	0
Latitude	S	0	0
Save Path	Browse C:\Users\MAIBENBEN\Desktop\CameraSetup		
Default		Generate	


Set the camera as your requirements. Please refer to section **3.1 Set up**


Parameters on Camera for better operation. Click  **Save Path**  to choose the save directory, SD card root directory is recommended (connect SD card to computer with SD card reader first).

Click  and the below window will pop out:



Then click  to exit. A file named **menu.dat** has been created and saved in the selected directory, before inserting the SD card into camera, please copy the **menu.dat** file to the root directory of the SD card if you didn't choose SD card to save the file before.

Click  to restore to default settings, generate **menu.dat** file.

Click  to exit the setting interface. Copy the file menu.dat to root directory of SD card on computer, retrieve the SD card and insert it into the camera. After installing 6 fully charged 18650 lithium batteries, turn the switch outwards to ON position, close the camera unit and battery box and lock the buckles, press TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. The camera's TFT display shows "**Updated menu.dat Successfully**", indicating that the camera parameters have been upgraded successfully.

3.5 SMS Remote Control & Table of Command Code

In order to communicate well with your camera via text message/SMS, format your texts and send in a certain way is needed. Or please download the mobile APP to send command, it would be easier.

Note: If the SIM card installed on the camera is an IoT card (data card), the SMS remote control function is unsupported.

- All the SMS commands should start with "LTL(ltl)" and end with "AA(aa)".
- Between "ltl" and "aa", insert the specific commands you want the camera to perform. You can choose one command at a time, but it saves time to combine commands to send together.
- A specific command is made up with four parts in the following

sequence: a two-digit command code, an asterisk (*), a code value (a number or a combination of number and letter), and lastly a pound/hash sign (#).

- Both capitalized and non-capitalized letters can be used in a same command.
- Do NOT leave any spaces between any of the letters and symbols.
- Do NOT put a comma or period in the command. Do NOT include any quotation marks in a command; they are used here just for explanation purposes.
- The maximum for text messages is 60 bytes. If you want to send multiple commands, please do so in separate texts to avoid failure sending.

An example of a command: LTL01*0#02*2#06*S30#07*10A3Z#60*1#AA

It means to ask the camera to 1) be in camera mode and take only pictures, 2) set image size to 2MP, 3) take pictures with an interval of 30 seconds, 4) turn on serial number and set it to "0A3Z", and 5) immediately take a picture and send it to you.

- For SMS remote control interval, different value with different power consumption: "0" the highest and "off" zero.
- Camera will reply you message as below format when your SMS command is in correct format and received:
Message "LTL..." format OK.
SQ10,R1,G1,B3.

Attention: The content in the replied message in quote marks ("...") is the front part of the SMS command due to message length limitation.

SQ10 means signal strength is 10 (MAX: 31).

R1 indicates the network registration and status: 0: didn't register the network and the module didn't find the operator; 1: registered to the local network; 2: found the operator but didn't register the network; 3: the registration was rejected; 4: unknown data; 5: the registration is in roaming status;

G1 indicates the status of data network registration, 1 and 5 means the data network can be used, otherwise means the exception of data network registration, it cannot be used.

B3~B0 represents for battery level, B3 for high level, B1 for low level, please replace battery as soon as possible when B1.

Table of Command Code			
Command Code	Function of Command Code	Example	Meaning

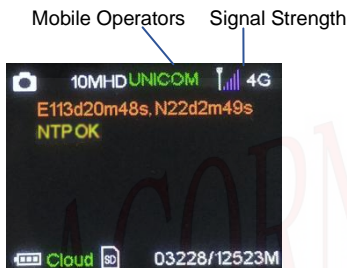
01	Mode: Camera (0), Video (1), Camera+ Video (2)	01*1#	set to video mode
02	Image Size: 30MP(0), 14MP(1), 10MP(2), 3MP(3)	02*1#	5MP
03	Video Size: 1080P (0), 720P (1), VGA (2)	03*1#	720P
04	Picture Number: 01 Photo (0), 02 Photos (1), 03 Photos (2)	04*2#	3 photos
05	Video Length: 1-60 indicates value of second	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: 30 seconds
07	Serial Number: Off (0), turn off serial number 07*0xxxx#; On (1), refer to camera setting, digit+ letter.	07*1ABCD#	Serial Number: ABCD
08	Sense 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	4G Send Status: Off (0)	11*0#	Close 4G
12	Recipient Phone Number 1: Maximum 48 bytes	12*1988888888 88#	Phone Number: 19888888888

13	Recipient Phone Number 2: Maximum 48 types	13*19888888888#	Phone Number: 19888888888
14	Recipient Email 1: Maximum 48 types	14*info1@lta.com.cn#	Email Address: info1@lta.com.cn
15	Recipient Email 2: Maximum 48 types	15*info2@lta.com.cn#	Email Address: info2@lta.com.cn
16	Remote Receiver Email (receive full size picture of command code 22): Maximum 48 types	16*info@lta.com.cn#	Email Address: info@lta.com.cn
18	Time Lapse: Off (0), On (1). Time indicated with 2 digits, e.g.: 1 Hour 30 Min 0 Sec, indication: 013300.	18*1013000#	The camera takes photo/video every one and a half hour no matter triggered or not.
19	Timer1: Off (0), On (1). Time indicated with 2 digits, e.g.: 13 Hour 30 Min, indication: 1330.	19*113301530#	Camera works at 1:30pm ~3:30pm
20	Timer1: Off (0), On (1). Time indicated with 2 digits, e.g.: 13 Hour 30 Min, indication: 1330.	20*113301530#	Camera works at 1:30pm ~3:30pm
21	Receiving time of SMS command: 1-24, 25 indicates Off. 1~24 indicates the interval time to receive SMS command.	21*25#	Off (need to turn on manually after turning off)
22	Request Full Image: Camera will send original picture to recipient E-mail address after receiving the command; (note: folder and file name must be capital letter).	22*100IMA4G\IMAG0001.JPG #	Request full size picture "100IMA4G\IMAG0001.JPG"

23	Size of sending picture: 0 for full size picture; 1 for thumbnail; valid in FTP/SFTP or email mode only;	23*0#	Send full size picture
60	Get the camera to take picture immediately and send to your remote control mobile, On (1). This code is workable in these mode: amera, Video, Camera + Video	60*1#	The camera would take a picture immediately and send to E-mail after receiving this SMS command.
61	This command controls the camera to take a video immediately (no matter the current mode is 'Camera', 'Video' or 'Camera + Video' mode) and send the video to the remote receiver E-mail.	61*1#	The camera would take a video immediately and send to E-mail after receiving this SMS command.
62	This command controls the camera to start shooting immediately, according to the mode set to take photo, video or photo + video, and then send, it according to the set sending options (E-mail, FTP/SFTP or Ltl Acorn Camera Cloud System).	62*1#	The camera will start shooting (according to the mode preset, take a picture, video or photo + video) after receiving this command, then send it as the send mode preset.
Note: Send command 60 and 61 by remote control number to control the camera to capture image and send to the mailbox, the sender email information and receiver email must be filled. The command 61 and 62 cannot send video when Send Image Size is Thumbnail.			

3. 6 View Local MPNO Name and Signal Strength on TFT Screen

After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on, you will hear a short beep after about 30 seconds, then the operator logo and signal can be seen on display.



In order to ensure the 4G module works properly, the signal strength should be at least 2 bars. If there is only one bar of signal, it may cause the sending and receiving of the camera is not very well.

If a code other than the MPNO symbol shows up on the screen, it indicates something is wrong. Specifically as:

- **No SIM:** No SIM card or installed incorrectly
- **WAIT..:** Searching signal or no signal received.
- **ErCxGx:** Error of network registry, please check if SIM card is password-protected, deactivated due to low balance in the account, or the signal is too poor.
- **NO MDM:** 4G module is not found or detected.

3. 7 Features and Working Condition of 4G Wireless Module

Ltl-6630-4G camera can automatically take photo or video and back to E-mail, FTP/SFTP or Ltl Acorn Camera Cloud System when it works with 4G wireless module, it allows to use mobile phone to send SMS command, receive SMS on 4G wireless module to remotely control the camera and modify camera parameters. The main features of the camera works with 4G wireless module are as follows:

- ✧ Through the 4G network to send the original size photo and video captured by the camera to E-mail, FTP/SFTP or Ltl Acorn Camera Cloud System.
- ✧ High speed of transmission: It costs less than 1 minute from triggering to finishing sending 1.5M size photo, less than 2 minutes from shooting 1080P video for 60s to finishing sending.
- ✧ Save on traffic: Photos can be sent as thumbnails to email, FTP/SFTP or Ltl Acorn Camera Cloud System.
- ✧ Supports to send SMS commands to 4G module to modify the camera parameters and trigger remotely.
- ✧ Send SMS command to module to get original picture sent to remote receiver E-mail refer to the thumbnail received.
- ✧ SMS remote control function is realized by timing wakeup to the 4G module, SMS wakeup interval could be set as 1 ~ 24 hours, the shorter of the interval, the faster of command responding, but more power would be consumed too.
- ✧ Supports to power off the module by camera setting when the 4G function is not in using, it won't consume any additional power and would work as the basic camera without 4G function.

4G communication of Ltl-6630-4G is working with below conditions:

- The camera mode switch is in ON mode and functions normally after turning on the camera. SD card has enough space. The battery is installed correctly and has enough power.
- The SMS and data traffic services of the 4G LTE SIM card have been activated. The SIM card is not password protected.
- The signal is sufficiently strong in the field.
- The SMS sending number should be the same with the phone number set on camera, or the camera will not accept the command.
- E-mail, FTP/SFTP and Ltl Acorn Camera Cloud System parameters, account and password should be set correctly.
- If you have the Timer on, please make sure the specified time of timer is in the period will send picture.
- Make sure the 4G Send Options is E-mail, FTP/SFTP or Ltl Acorn Camera Cloud System.
- The camera is stationary while working.






E-mail Uploading Function

Ltl-6630-4G series cameras have a function of email uploading, which can send the files record by camera to the email set by the user. To use this function, please enter the test mode, correctly set the send email parameters and receiver email address, press the TEST key to enter ON mode for automatic shooting, the camera will automatically record as settings and send to the designated email.

When the 4G Send Options is set to Email, the video record in the ON mode cannot exceed 50M, the email attachment exceeds the limit size, it cannot be sent successfully. The size of the video file will be different in different scene. Please take the actual scene record as the standard.

Note: When the email attachment exceeds the limit size of email, it cannot be sent successfully. Therefore, please confirm the maximum limit of the attachment allowed by your email when selecting the email address, and make sure that the file size captured by the camera is in the range allowed by the email address.

4.1 Setup E-mail Parameters on Camera

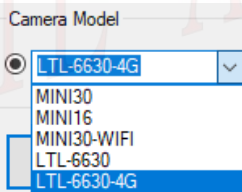
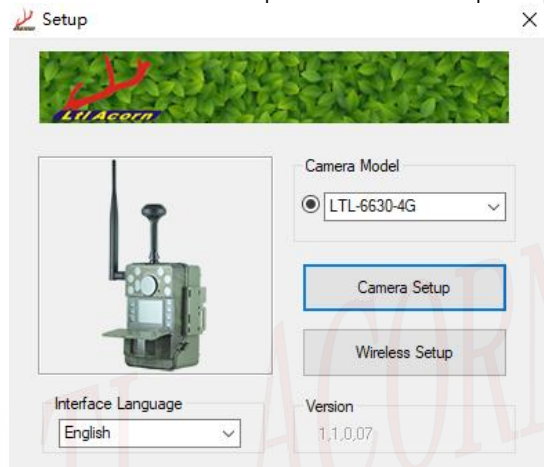
After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on, press  to enter the wireless settings menu. Press ,  key to select the "send status" menu, press **OK** key to confirm entry, then press ,  key to select "Email address", press **OK** key to confirm entry and you can set the email parameters.

The E-mail menu is as below:

Parameters	Setting	Description
Set Parameters	Server, Port, E-mail, Password	Set E-mail of sending email
Set E-mail Address 1	/	Set receiver E-mail address to receive photo or video sent by camera.
Set E-mail Address 2	/	Set receiver E-mail address to receive photo or video sent by camera.

4.2 Set up E-mail Parameters on PC


Double click the CameraSetup.exe icon to enter Setup homepage:



Click to choose the camera model as request.

Click **Wireless Setup** to enter camera wireless setting interface:

Send Status		Operator Parameter Options	
Email		Select Operator	
Operator Selection		Operator	
Country		China Unicom	
China		China Unicom	
MMS Parameters		Camera Cloud System Parameters	
URL		Registered mail	
APN		Login Password	
Gateway		SIM card phone number	
Port			
Account			
Password			
Network Settings, Mail Parameters			
Network Settings			
APN			
Account			
Password			
Sender Settings			
Server			
Port			
Email Address			
Account			
Password			
Next Page			


Send Settings
✕

To Destination

Phone Number 1
Phone Number 2

Email Address1
Email Address2

Send Image Size
Full Image

Max Sent Num
/Day

Send Mode

Send Mode
Send Immediately

Daily Send Time
00 o'clock

Remote Control

Remote Interval
Remote Off
☐ Do not use remote command - 22

Remote Phone Number
Remote Receiver Email

^ Remote control, receiving 60 command photos.
^ Receives the file requested by the 22 command.

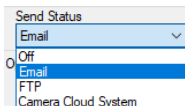
Save Path

Browse

C:\Users\MAIBENBEN\Desktop

Previous Page
Generate

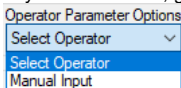
Wireless parameter setting interface has two pages, click [Next Page](#) to turn to next page, click [Previous Page](#) to turn to the previous page. Select "Send Status" as "Email" in "wireless Parameter Settings" window:



Send Status

- Email
- Off
- Email
- FTP
- Camera Cloud System

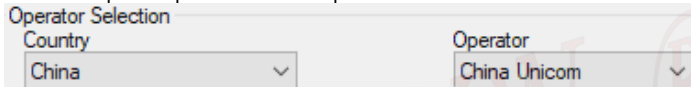
Set the network parameters of the SIM card operator (select the operator network parameters, or manually enter the URL, gateway, APN, port settings,



Operator Parameter Options

- Select Operator
- Select Operator
- Manual Input

etc. according to the prompt)
Select the operator parameters as required.

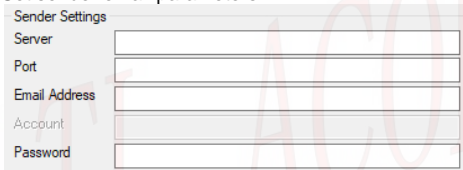


Operator Selection

Country: China

Operator: China Unicom

Set sender email parameters:



Sender Settings

Server:

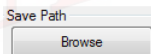
Port:

Email Address:

Account:

Password:

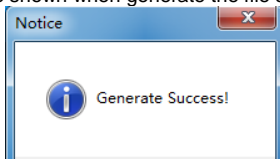
Click to set the receiver E-mail, sending option, mobile number and E-mail for camera remote control, remote control interval, etc.



Save Path


Click to choose the save directory, SD card root directory is recommended (connect SD card to computer with SD card reader first).

After finishing setting, click , the below prompt window would be shown when generate the file successfully:



Notice

Generate Success!

Please click the close button  in top right corner of the window to close the window.






After copying the **CFG.BIN** file to the root directory of SD card on PC, retrieve the SD card with **CFG.BIN** copy file and insert into camera. After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. The camera display shows message "**Updated 4G config Successfully**" indicating the camera parameters have been upgraded successfully.

Note: If you enable the remote control function, you must enter the mobile number of remote control(the mobile number to send the SMS command) and the remote control receiver E-mail(used to receive the file requested by command 60 and 22).

FTP/SFTP Uploading Function

Ltl-6630-4G series cameras have a function of FTP or SFTP uploading, which can upload the files record by camera to the appointed FTP or SFTP server. To use this function, please enter the test mode, correctly set the FTP/SFTP upload parameters, press the TEST key to enter ON mode for automatic shooting, the camera will automatically record as settings and upload to the designated FTP/SFTP server.

5.1 Setup FTP/SFTP Parameters on Camera

After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. Press  to enter the wireless settings menu. Press ,  key to select the "Send Status" menu, press **OK** key to confirm entry, and then press ,  key to select "FTP ", press **OK** key to confirm entry then you can set FTP/SFTP parameters.

The FTP menu is as below:

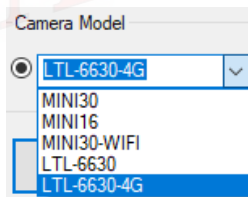
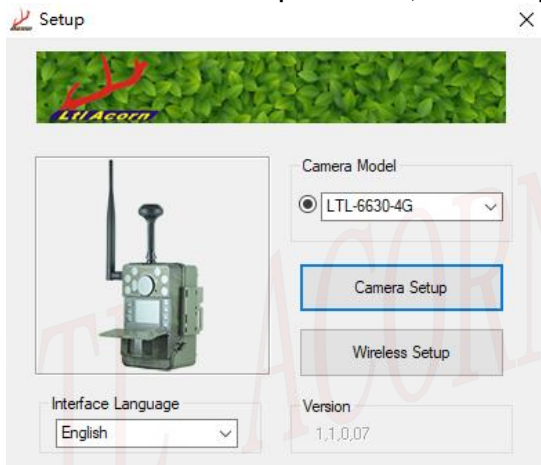
Parameters	Setting	Description
Set Parameters	Server, Port Account, Password	Set up the FTP "server" address starts with "ftp://", e.g.: ftp://192.168.11.1. Plaseset up SFTP parameters on software 4G-Setup.exe, refer to section 5.3 Set up SFTP Parameters on Computer.
Upload to FTP Catalogue	Root Catalogue, Appointed Catalogue	Root Catalogue: upload the files to root catalogue of FTP site directly. Appointed Catalogue: upload the files to appointed catalogue of FTP site directly and input name of appointed catalogue.

Note: Some FTP servers do not have enough permissions, it may not allow the camera to create new folder on the FTP server, so the folder path of the specified FTP directory should be existed.

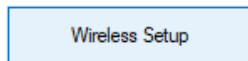
5.2 Set up FTP Parameters on PC

After formatting the SD card on camera, retrieve the SD card and insert into PC. The SD card reader may be needed if your PC cannot read SD card directly.

After double-click **CameraSetup.exe** software, the window appears below:




Click to choose the camera model as request.



Click to enter camera wireless setting interface:

Send Status FTP		Operator Parameter Options Select Operator	
Operator Selection Country China		Operator China Unicom	
MMS Parameters URL APN Gateway Port Account Password		FTP Settings Server Port 21 User Name Password Upload to FTP directory (must exist) Root /	
Network Settings, Mail Parameters			
Network Settings APN ***** Account Password			
Sender Settings Server Port Email Address Account Password			
Next Page			

 Send Settings
 ✕

To Destination

Phone Number 1

Phone Number 2

Email Address1

Email Address2

Send Image Size

Full Image

Max Sent Num

/Day

Send Mode

Send Mode

Send Immediately

Daily Send Time

00 o'clock

Remote Control

Remote Interval

Remote Off

☐ Do not use remote command - 22

Remote Phone Number

Remote Receiver Email

^ Remote control, receiving 60 command photos.

^ Receives the file requested by the 22 command.

Save Path

Browse

C:\Users\MAIBENBEN\Desktop

Previous Page

Generate

Next Page

Wireless parameter setting interface has two pages, click [Next Page](#) to turn to next page, click [Previous Page](#) to turn to the previous page. Select "Send Status" as "FTP" in " wireless Parameter Settings" window:

Send Status

FTP

Off

Email

FTP

Camera Cloud System

Set the network parameters of the SIM card operator (select the operator network parameters, or manually enter the URL, gateway, APN, port settings,

Operator Parameter Options

Select Operator

Select Operator

Manual Input

etc. according to the prompt)

Select the operator parameters as required.

Operator Selection

Country

China

Operator

China Unicom

Set up “Server”, “Port”, “User name” and “Password” in “FTP Settings” and the FTP directory for uploading.

Note: Enter the FTP “Server” address starts with “ftp://”, e.g.: ftp://192.168.11.1.

FTP Settings

Server

Port

21

User Name

Password

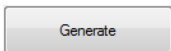
Upload to FTP directory (must exist)

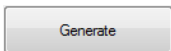
Root /

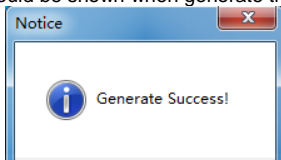
Click [Next Page](#) to setup “Sending Image Size”, “Save Path” and remote control parameters in the window of “Send Settings”.


Click [Browse](#) to choose the save directory, SD card root directory

is recommended (connect SD card to computer with SD card reader first).



After finishing setting, click , the below prompt window would be shown when generate the file successfully:

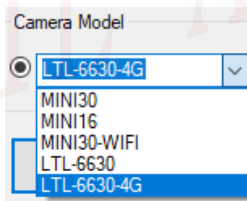
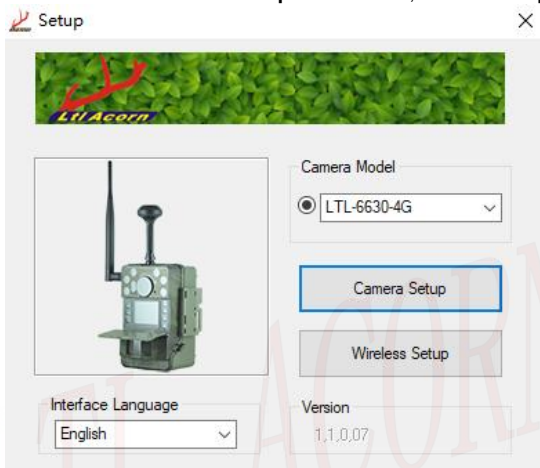


Please click the close button  in top right corner of the window to close the window.

After copying the **CFG.BIN** file to the root directory of SD card on PC, retrieve the SD card with **CFG.BIN** copy file and insert into camera. After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. The camera display shows message "**Updated 4G config Successfully**" indicating the camera parameters have been upgraded successfully.

5.3 Set up SFTP Parameters on PC


After double-click **CameraSetup.exe** software, the window appears below:



Click to choose the camera model as request.

Click **Wireless Setup** to enter camera wireless setting interface:

Send Status FTP		Operator Parameter Options Select Operator	
Operator Selection Country China		Operator China Unicom	
MMS Parameters URL APN Gateway Port Account Password		FTP Settings Server Port 21 User Name Password Upload to FTP directory (must exist) Root /	
Network Settings, Mail Parameters			
Network Settings APN Account Password			
Sender Settings Server Port Email Address Account Password			
Next Page			

 Send Settings
 ✕

To Destination

Phone Number 1

Phone Number 2

Email Address1

Email Address2

Send Image Size

Full Image

Max Sent Num

/Day

Send Mode

Send Mode

Send Immediately

Daily Send Time

00 o'clock

Remote Control

Remote Interval

Remote Off

☐ Do not use remote command - 22

Remote Phone Number

Remote Receiver Email

^ Remote control, receiving 60 command photos.

^ Receives the file requested by the 22 command.

Save Path

Browse

C:\Users\MAIBENBEN\Desktop

Previous Page

Generate

Next Page

Wireless parameter setting interface has two pages, click Next Page to

turn to next page, click Previous Page to turn to the previous page.

Select "Send Status" as "FTP" in " wireless Parameter Settings" window:

Send Status

FTP

Off

Email

FTP

Camera Cloud System

Set the network parameters of the SIM card operator (select the operator network parameters, or manually enter the URL, gateway, APN, port settings,

Operator Parameter Options

Select Operator

Select Operator

Manual Input

etc. according to the prompt)

Select the operator parameters as required.

Operator Selection

Country

China

Operator

China Unicom

Send SFTP with username and password:

Set up Server, Port, User Name, Password and FTP directory for uploading in FTP Settings.

The Server address starts with sftp://.

FTP Settings

Server

sftp://112.74.19.97/

Port

56332

User Name

root

Password

Upload to FTP directory (must exist)

Specify

/root/test/

Note: SFTP server may not allow the camera to create new folder on the FTP server, so the folder path of the specified FTP directory should be existed, for example: root/test/100IMA4G.

Tips to send SFTP with keys:

1. Use SFTP "Server" as the IP address, starts with sftp://.
2. When you use AWS SFTP server, the address length exceeds the

limit, you can enter address starts with sftp: without two slashes //. If you enter the address which is too long to fill the last few letters, the module program will automatically identify and fill in.




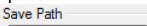

3. The SFTP server uses key to upload, please enter "PVT_KEY" to the password field, the module will use the key to upload.

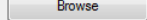
Configure the SFTP key:

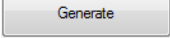
Change the key name of the SFTP server to "**my key pair.pair**", put it in the UPD folder on the SD card, trigger camera to capture and upload image in ON mode, when the camera detects the send option is FTP it will automatically update the key file "**my key pair.pair**", to the camera. After finish sending image, check the file "**my key pair.pair**", in the UPD folder, if it is gone, the key configuration is done.

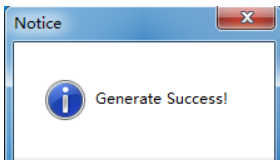
Note: SFTP server may not allow the camera to create new folder on the FTP server, so the folder path of the specified FTP directory should be existed, for example: test1/100IMA4G.


Click  to setup "Sending Image Size", "Save Path" and remote control parameters in the window of "Send Settings".

Click  to choose the save directory, SD card root directory is recommended (connect SD card to computer with SD card reader first).

After finishing setting, click , the below prompt window would be shown when generate the file successfully:








Please click the close button  in top right corner of the window to close the window.

After copying the **CFG.BIN** file to the root directory of SD card on PC, retrieve the SD card with **CFG.BIN** copy file and insert into camera. After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. The camera display shows message **"Updated 4G config Successfully"** indicating the camera parameters have been upgraded successfully.

Ltl Acorn Camera Cloud System Settings

Ltl-6630-4G series cameras have a function of Ltl Acorn Camera Cloud System uploading, which can upload the files record by camera to Ltl Acorn Camera Cloud System server. To use this function, first connect the external display, turn the switch to the ON to enter TEST mode, correctly set the Ltl Acorn Camera Cloud System parameters, then unplug the external display to enter ON mode for automatic recording, the camera will automatically record as settings and upload to the Ltl Acorn Camera Cloud System.

6.1 Set Parameters of Ltl Acorn Camera Cloud System on Camera

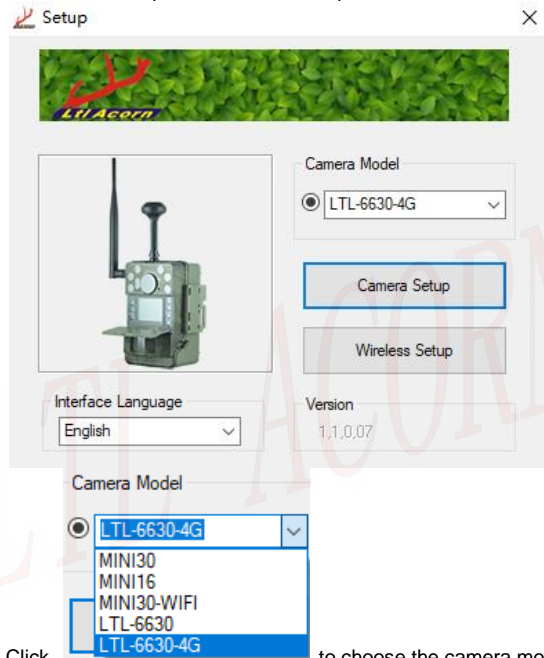
After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. Press Key to enter the 'wireless settings' menu, press ,  key to select the "Send Status" menu, press **OK** key to confirm entry, press ,  key to select "Ltl Acorn Camera Cloud System" menu, press **OK** key to confirm entry then you can set the parameters of Ltl Acorn Camera Cloud System.

The related menu items of the Ltl Acorn Camera Cloud System are as below:

Parameter	Settings	Descriptions
Set parameters	Registered E-mail, login password, SIM card phone number	Registered email: user's login account of Ltl Acorn camera cloud system; Login password: the password that the user enters when logging into the Ltl Acorn camera cloud system; SIM card phone number: the phone number entered when adding the camera to the Ltl Acorn Camera Cloud System (better to be same as the SIM card number installed in the camera).

6.2 Set Parameters of Ltl Acorn Camera Cloud System on computer


Double click to open the CameraSetup.exe software to see below window:



Click to choose the camera model as request.

Click **Wireless Setup** to enter camera wireless setting interface::

Send Status Camera Cloud System ▼		Operator Parameter Options Select Operator ▼	
Operator Selection Country China ▼		Operator China Unicom ▼	
MMS Parameters URL <input type="text"/> APN ▼ <input type="text"/> Gateway <input type="text"/> Port <input type="text"/> Account <input type="text"/> Password <input type="text"/>		Camera Cloud System Parameters Registered mail <input type="text"/> Login Password <input type="text"/> SIM card phone number <input type="text"/>	
Network Settings, Mail Parameters			
Network Settings APN <input type="text" value="*****"/> Account <input type="text"/> Password <input type="text"/>			
Sender Settings Server <input type="text"/> Port <input type="text"/> Email Address <input type="text"/> Account <input type="text"/> Password <input type="text"/>			
Next Page			


Send Settings
×

To Destination

Phone Number 1

Phone Number 2

Email Address1

Email Address2

Send Image Size

Full Image
▼

Max Sent Num
/Day

Send Mode

Send Mode

Send Immediately
▼

Daily Send Time

00 o'clock
▼

Remote Control

Remote Interval

Remote Off
▼

☐ Do not use remote command - 22

Remote Phone Number
Remote Receiver Email

^ Remote control, receiving 60 command photos.
^ Receives the file requested by the 22 command.

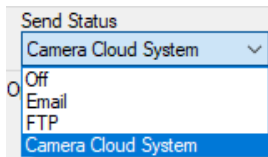
Save Path

Browse

Previous Page

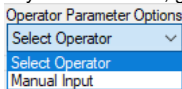
Generate

Wireless parameter setting interface has two pages, click Next Page to turn to next page, click Previous Page to turn to the previous page. In the Wireless Parameter Settings window, select “**Send Status**” as “**Ltl**



Acorn Camera Cloud System”:

Set the network parameters of the SIM card operator (select the operator network parameters, or manually enter the URL, gateway, APN, port settings,

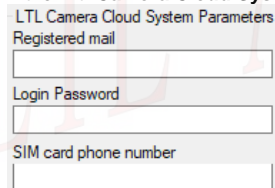



etc. according to the prompt)

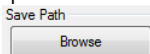
Select the operator parameters as required.

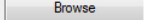


Set **"Registered mail"**, **"Login Password"** and **"SIM card phone number"** in the **"Ltl Camera Cloud System Parameters"** group box.



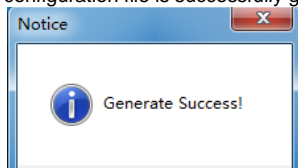
Click  to setup “Sending Image Size”, “Save Path” and remote control parameters in the window of “Send Settings”.




Click  to choose the save directory, SD card root directory is recommended (connect SD card to computer with SD card reader first).

Generate

Click after setting, a prompt window will appear when the configuration file is successfully generated:



To close the window, please click the close button  at the upper right corner of the window.

After copying the **CFG.BIN** file to the root directory of SD card on PC, retrieve the SD card with **CFG.BIN** copy file and insert into camera. After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, press the TEST key when the working indicator light is flashing, the camera enters preview test mode after powering on. The camera display shows message **"Updated 4G config Successfully"** indicating the camera parameters have been upgraded successfully.

6.3 Ltl Acorn Camera Cloud System remotely modifies camera parameters

Set the send status as Ltl Acorn Camera Cloud System, log in Cloud System on computer or mobile APP, you can remotely modify camera parameters though the camera parameters setting function on the Ltl Acorn Camera Cloud System.

Take computer web page operation as an example: click on the **Account**



Settings button **Account Settings** on the web page in the Ltl Acorn Camera

Cloud System, then click the **camera settings** button

Camera settings

of setting menu on the left side of the page and enter the page of camera parameter setting. In this page you can modify the camera setting.

Camera select:

B-1562222222

Click the **camera settings** on the camera parameter settings interface, select the camera model you need to set and

select the camera parameters to modify on the web page, after the settings is completed, click to generate configuration files. When the camera uploads photos to the Ltl Acorn Camera Cloud System, the configuration file in the Ltl Acorn Camera Cloud System will be downloaded and updated to the camera. The camera will respond to the newly modified command parameters in the next trigger.

Camera select:	<input type="text" value="B-1562222222"/>			
Camera mode:	<input type="text" value="Photo+video"/>	Photo Size:	<input type="text" value="10MP"/>	
Video Size:	<input type="text" value="720P"/>	Shot number:	<input type="text" value="01photos"/>	
Time stamp:	<input type="text" value="ON"/>	Sensitivity:	<input type="text" value="normal"/>	
SidePIR:	<input type="text" value="ON"/>	Videotape time:	<input type="text" value="10"/>	Sec
Timeinterval:	<input type="text" value="1"/> Minute	Wireless send:	<input type="text" value="ON"/>	
Send Image Size:	<input type="text" value="Full Image"/>	Remote control time:	<input type="text" value="1Hour"/>	
Remote Receiver mail:	<input type="text" value="2850427074@qq.com"/>			
Phone Number1:	<input type="text"/>	Phone Number2:	<input type="text"/>	
Email Address1:	<input type="text" value="2850427074@qq.com"/>		Email Address2:	<input type="text"/>

Coordinate	Direction	Degrees	Min	Sec
Longitude:	<input type="text" value="East"/>	<input type="text" value="113"/>	<input type="text" value="8"/>	<input type="text" value="48"/>
Latitude:	<input type="text" value="North"/>	<input type="text" value="23"/>	<input type="text" value="50"/>	<input type="text" value="1"/>

Timing setting					
Timing setting1:	<input type="text" value="Off"/>	Start :	<input type="text" value="0Hour"/>	<input type="text" value="0Min"/>	End : <input type="text" value="0Hour"/> <input type="text" value="0Min"/>
Timing setting2:	<input type="text" value="Off"/>	Start :	<input type="text" value="0Hour"/>	<input type="text" value="0Min"/>	End : <input type="text" value="0Hour"/> <input type="text" value="0Min"/>

Sequence number setting					
Serial No.:	<input type="text" value="Off"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Timing shooting setting	Hour	Min	Sec
Time shooting:	<input type="text" value="Off"/>	<input type="text" value="0Hour"/>	<input type="text" value="0Min"/> <input type="text" value="0Sec"/>

Default

Generate

6. 4 Ltl Acorn Camera Cloud System Introduction

Ltl Acorn Camera Cloud System is a comprehensive network camera management system integrating camera image reception, image management, camera management, environmental data analysis and camera remote control. The users log in the camera cloud system on the mobile APP or computer web browser, allowed to view and manage the images and videos uploaded by the camera, remotely manage the camera, modify the camera setting parameters, etc.

Open web browser and enter website: <http://ltl.miniacorn.us/index> to enter the Ltl Acorn Camera Cloud System login interface:

The screenshot shows the LtlAcorn Camera Cloud System login and registration interface. The interface is split into two main sections. The left section, titled "LtlAcorn Camera Cloud beta", contains a "sign in" tab and a "register" tab. Below the tabs are input fields for "Account" and "Password", a "login" button, a "Password retrieval" link, and a "Mobile LtlAcorn Cloud" button. The right section contains a "sign in" tab and a "register" tab. Below the tabs are input fields for "Account" (Email), "Code" (Mail received verification code), "Password" (0-9a-zA-Z not less than 8), "Pwd again" (Password confirmation), and "IMEI" (Camera menu query). There is a "Get Code" button next to the Code field and a "Register" button at the bottom of the right section.

click "Quick Registration" at the right side and follow the prompts to fill out the information registration account.

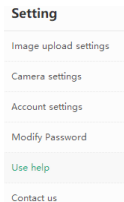
Click "Quick Registration", enter the account and password, click on the login button to login the Ltl Acorn Camera Cloud system.

Click " Mobile LtlAcorn Cloud " to enter the download page of Ltl Acorn Camera Cloud System Mobile APP, download and install the mobile phone APP according to the prompts.

After logging into the Ltl Acorn Camera Cloud System on computer, click



button Account Setting in the Ltl Acorn Camera Cloud System



page, then click the button [Use help](#) at the left setting menu in the page to open the instruction manual of the Ltl Acorn Camera Cloud System.

Note: Please refer to the detailed operation instructions of Ltl Acorn Cloud System, Ltl Acorn Cloud System mobile APP and WeChat official account in the Use help of Ltl Acorn Camera Cloud System website.

LTL-6630-4G Series Products

Ltl-6630-4G series camera is the latest 4G LTE cellular mobile communication network transmission cameras with features of high-definition and with low-power PIR sensor we developed. It has the 4G wireless transmission module which with strong communication ability and fast information transmission. The camera uses a high-end image processor, work with a 14 megapixels BSI CMOS image sensor. Standard lens series camera of 60 degrees and wide angle lens series camera of 120 degrees are for optional.

7.1 Ltl-6630-4G series model

Ltl-6630-4G series camera 850nm visible IR exposure LED, 940nm invisible IR exposure LED and white light LED are available for option.

60 degrees standard lens

1. **Ltl-6630-4G (850nm infrared light)**
2. **Ltl-6630-4G (940nm infrared light)**
3. **Ltl-6630-4G (white light)**

120 degrees standard lens

1. **Ltl-6630W-4G (850nm infrared light)**
2. **Ltl-6630W-4G (940nm infrared light)**
3. **Ltl-6630W-4G (white light)**

Note: After load 6 fully charged 18650 lithium batteries, turn the switch outwards to ON mode, close the camera unit to battery box and lock the buckles, the camera will enter ON mode for automatic shooting by default when the working indicator light is flashing, press TEST key in ON mode, the camera display will show and enter preview test mode. In this status, only can press TEST key to switch into ON mode or preview test mode. Please turn the switch to OFF position if you want to power off the camera.

IMPORTANT INFORMATION

8.1 Power Supply

LTL-6630-4G series camera battery box can load with 6x18650 lithium batteries and connect with external power for charging by external power socket. It is recommended to use our company's LTL-SUN-5.5W or LTL-SUN (built-in lithium battery) solar charger to charge 6x18650 lithium batteries, which can greatly extend the working time of the camera. Depending on the camera working status, it can even work all the time and no need to replace battery.

Note: Please check the 18650 battery installed in the camera once a year, and replace it in time if any problems are found to avoid damage to the camera.

8.2 Prevent From Short-Circuits

There are conductive metal contacts on camera unit and battery box, to avoid short circuit to damage the camera, please NEVER contact these conductive metal contacts with any metallic materials.



8.3 SD Card

There are various brands of SD cards on the market. We tested on our camera as many brands as we can. However, we cannot guarantee every brand will be compatible with our camera. Please format the SD card on the camera if the damaged photo is taken. If it doesn't work well, please try another brand.

8.4 Auto Adjustment on Video Length

In order to extend the battery's life, the camera can operate 30% more than

the number of video clips captured by similar products in the video mode or in the camera + video mode through technical improvements.

When the battery is low energy, the camera can automatically shorten the length of each video taken to maximize the number of animal fragments taken. Therefore, our LTL ACORN infrared induction self timer camera can take more 2~3 times than the similar products, so that users can obtain more useful information.

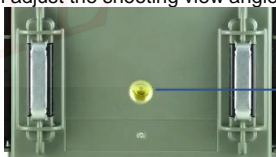
Attention: The camera performs at extreme cold environment as low as -45°C (-49°F), in which the battery power capacity deteriorates drastically. Therefore, the number of video clips decreases accordingly.

8.5 850nm and 940nm IR LED

Ltl-6630-4G series cameras has 3 types of LED light for option, 850nm, 940nm and white light. The 850nm provides a maximum irradiation range of 25m, the 940nm provides a maximum irradiation range of 20m, and the white light provides a maximum irradiation range of 25 m. The advantage of the 940nm infrared LED is that it is almost invisible to the naked eye in dark environments.

8.6 Mount on Tripod

The camera can be mounted on a 1/4" tripod. The detailed operation: align the bolt at the top of tripod to the screw hole on the back of battery box and tighten it, then adjust the shooting view angle of camera as request.




**Screw Hole on
Battery Box**




8.7 FAQs on 4G Function

- **The camera stops sending :** Please check if the SIM card balance is enough and local signal is well.
- **It takes so long to receive picture or cannot receive:** The signal is too weak or the batteries is near to be ran out.
- **Set the camera to have burst shooting, but some pictures**

- **were not sent:** The camera is able to send constantly, but if the signal is too weak, it may not work stably.
- **Receive partial image or some is incomplete:** The camera was in motion when sending pictures. Or the signal was unstable. Besides, the SD card may be damaged.

8.8 Low Battery Alert

The camera displays the battery power at the time stamp of each photo. The camera battery box can load 6x18650 lithium battery, when the battery is fully charged, the battery icon  is displayed in the lower left corner of the photo.

When the battery level is reduced, the battery icon is , and when the battery continues to decrease, the battery icon is , it means the batteries should be replaced asap. Otherwise, the icon will turn to  when the power continues to drop, the camera will stop working due to power is too low. User can replace the battery timely according to the battery level displayed on the photo sent by camera.

Precautions

9.1 Battery safety

The camera can hold 6 18650 lithium batteries, about the use and storage of batteries, please note:

- ◆ Do not short-circuit the battery.
- ◆ Do not soak the battery in the water.
- ◆ Do not approach and place the battery in the fire.
- ◆ Do not dissect and deform the battery, avoid contacting with the skin after the battery leakage.
- ◆ Do not mix batteries of different capacity when charging and using.
- ◆ Avoid placing the battery in device that unused for a long time.
- ◆ If the battery performance drops significantly, please replace to new battery.
- ◆ The inside of the battery is toxic substance of heavy metal , it's strictly prohibited to put into mouth.
- ◆ Please keep batteries away from children.
- ◆ Do not mix and use with other different types of batteries.
- ◆ Do not connect the battery electrode incorrectly in the charger or camera.
- ◆ Please check the battery regularly and replace abnormal battery in time.
- ◆ The battery should be placed in a cool, dry and well-ventilated area.
- ◆ When charging the 18650 battery, please connect the positive and negative poles correctly, do not use retrofitted or damaged charger, do not place the battery in the charger for more than 24 hours.
- ◆ Batteries should be stored at room temperature and should be charged to 30% to 50% of electricity. If stored for a long time, it is recommended to charge the battery every six months to prevent from over discharge.
- ◆ Waste battery treatment should comply with local regulations, so as not to endanger the environment and health.

Note: 18650 lithium batteries must be charged by qualified 18650 lithium battery charger and cannot use retrofitted or damaged charger. 18650 lithium battery charging cut-off voltage is 4.2V, a single 18650 lithium battery current is about 440mA~1100mA, please do not charge it at low temperature environment.

9.2 Use Camera Outdoors

When the camera needs to work outdoors for a long time, please note:

- ◆ Properly install 6x18650 lithium batteries in camera battery compartment.

- ◆ Switch the camera to ON mode, then connect the camera and battery compartment, clasp buckles tightly (please be careful not to hurt the hands or get stuck by foreign matter during assembly).
- ◆ Please choose straps, steel cables or brackets to fix the camera as required, strongly pay attention to fix the camera firmly to avoid falling off to hit people or breaking the camera.
- ◆ When camera works for long time, please check the camera and batteries regularly to deal with the abnormal situation in time.
- ◆ There are 42 850nm or 940nm infrared LED lights on the camera. When the infrared LED light of camera is on, please do not look at the light closely, the distance between the eyes and the lights should not be less than 1.5 meters, and please do not directly view the lights over 3 seconds, the interval between two direct viewings shall not be less than 2 hours to avoid the harm to the eyes.

9.3 Introduction of 18650 Lithium Battery

Ltl Acorn provides two types of 18650 Lithium battery for different working temperatures of -10°C and -40°C. Users can choose battery according to the actual working temperature of the camera.

Parameter	18650 Lithium battery for working temperature -10~60°C	18650 Lithium battery for working temperature -40~60°C
Nominal voltage	3.7V	3.7V
Maximum charging voltage	4.2V (±0.2V)	4.2V (±0.2V)
Lowest voltage on discharge	3V	2.5V
Capacity	2200mAh	2200mAh
Standard discharge current	440mA	1100mA
Standard charging current	440mA	1100mA
Working Temperature	Charge: 0~45°C Discharge: -10~60°C	Charge: 0~45°C Discharge: -40~60°C
Working Humidity	< 85% RH	< 85% RH

Please select the battery charger according to the charging voltage and charging current required by the battery.

FIRMWARE UPGRADES

The manufacturer reserves the right to upgrade the camera firmware and wireless module program, please consult with the local distributor for the website to download the program.

Make sure the camera with enough power before upgrade to avoid the unsuccessful upgrade or the fault caused by low battery after upgrade. Please follow below instruction to upgrade:

Prepare SD card

- Connect the SD card to camera and back up the SD card contents to computer (SD card reader may be needed).
- Retrieve the SD card from computer, insert it into camera and load batteries.
- Format the SD card on the camera.

Attention: For firmware & configuration file update, please use 32GB (or smaller) SD card only, not compatible with larger SD card.

Upgrade camera firmware

- Remove the SD card from the camera and connect to computer. Copy the camera program FW66304G.bin to the root directory of the SD card (please ask the local dealer for the effective download address of the camera program). Turn the lock switch of SD card to the LOCK position, then insert into camera.
- Turn the camera switch from OFF to ON, then install the camera with battery box, press TEST button to start the camera, the camera screen begins to blink, **"Updated Firmware Successfully"** will appear on the screen about 10 seconds later, means the program update is finished.
- The upgrade will have been finished successfully.
- Retrieve the SD card and unlock it, then re-insert into camera and format it.

Attention: The upgrade program of Ltl-6630-4G is not compatible to other models. In other word, an upgrade for Ltl-6630-4G only applies to Ltl-6630-4G model. If a camera is accidentally upgraded by running a non-compatible program, it will quit working and needs to be sent back for repair. This issue is not covered under warranty.

Upgrade 4G module program

- Copy and paste the program apce25 to the root directory of the SD card.

- Set the camera "Send Status" as "Email, FTP, or Ltl Acorn Camera Cloud System" and set the send option as "Send Immediately". Set up the remote control mobile phone number (to receive SMS of upgrade finished).
- Switch the camera to ON mode and trigger it to take picture. The module would be activated after shooting and start the upgrade. The file testsim would be deleted after the upgrade is finished, then the module would send the message of upgrade successfully to the remote mobile number.

LTL ACORN®

Remote update program via Ltl Acorn Camera Cloud System

The Ltl-6630-4G series camera with newly added function of remote update camera program via Ltl Acorn Camera Cloud System. The function of remote update program allows you to remotely update camera FW, Loader and module software.


Conditions of online update:


- 1、The camera send status is set to 'Ltl Acorn Camera Cloud System' and the upload parameters are set correctly.
- 2、Enter ON mode to ensure that the files captured by the camera are properly uploaded to the Ltl Acorn Camera Cloud System.
- 3、Users must login the Ltl Acorn Camera Cloud System through the browser on PC to upload the camera program.


Online Update:



In ON mode, please confirm the photo or video captured can be uploaded to Ltl Acorn Camera Cloud System successfully, then users can login the Ltl Acorn Camera Cloud System through the browser on PC and upload the program by below steps.

- 1、Please login Ltl Acorn Camera Cloud System through browser on PC,





















click camera manage 

Cloud > Camera Manage 


SIM Number : 

  Total number of lines: 5strip

View the camera notes, mailbox information, etc., please open the edit dialog box

	Serial number	IMEI	SIM Card number	Total numbers	Camera name	current location	electricity	About working hours(h)	About working hours	Operation
	1	3	185 	468	A	广东省清远市清新区	Low	3433	2019-07-25 03:08:10	 
	2	6	185 	74	B	广东省清远市清新区	High	2785	2019-06-28 02:25:48	 
	3	3	156 	296	3333	广东省清远市清新区	Low	1227	2019-06-27 00:00:00	 
	4	5	137 	0	123	Coordinate information error, location information not found	High	0	2019-06-10 22:28:02	 
	5	6	21 	68	RUBBER MO NKEY	Coordinate information error, location information not found	High	241	2019-06-24 00:00:00	 

2、Find the camera that needs to be updated in the camera manage list, click

the edit button  in operation line at the right side to pop up the edit window. In the window you can see the camera's current program version and the file selection buttons.

Edit

×

Latitude:

eg:22.083664

Remarks:

camera model:

LTL-6630-4G

MCU version:

V66304G.065

FW version:

V1.0.01-210125E_9WP5

FW upload:

Choose File

No file chosen

Loader version:

30P190730163530

Loader upload:

Choose File

No file chosen

Modular version:

V1.01_4G_CEA2101291112

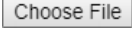
Modular upload:

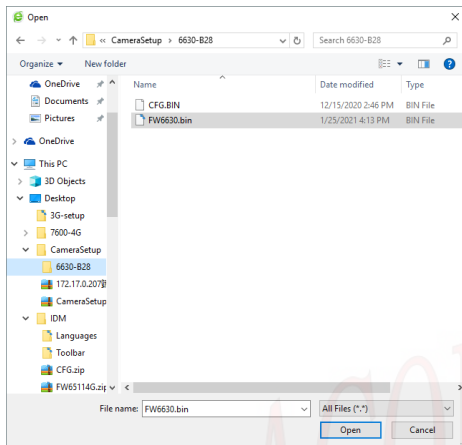
Choose File

No file chosen

Confirm


3、Click "Select file" button at the right side of FW upload, Loader upload (upload Loader program) or module upload to select the program to update.



Take FW upload as example: click select file button  at right side of FW upload, pop up the file selection box.



Find the camera software program 'FW66304G' you want to update through the open file window that pops up in the browser, choose and click 'Open', you can see the FW66304G.bin appears at the right side of select file button;

camera model:	LTL-6630-4G
MCU version:	V66304G.065
FW version:	V1.0.01-210125E_9WP5
FW upload:	Choose File FW6630.bin
Loader version:	30P190730163530
Loader upload:	Choose File No file chosen
Modular version:	V1.01_4G_CEA2101291112
Modular upload:	Choose File No file chosen
Confirm	

4、 Then click the confirm button  below the edit window, wait patiently for about 20 seconds (the wait time is different depends on different network speed), the edit window will be automatically closed, camera program uploaded successfully.

Note: Click the confirm button  below the edit window to start uploading program, during upload process, please to be patiently to wait till the window is closed automatically, do not click the confirm button or close button  again, otherwise it will cause the upload failure.

5、 After successfully upload the update program to the cloud system, when the camera record and upload photo or video to the cloud system again, it will automatically download and save the update program from the cloud system to the camera SD card, as well as automatically update.

Upload operation of Loader and module program is the same as FW upload, it automatically download and update at the next time when camera records and uploads.

After the camera automatically update successfully, you can view the camera version to confirm the update is successful at camera manage→ edit window.

LIMITED WARRANTY

We take great pride in our products. We always stand behind our promises. We provide leading warranty term and service. Every LTL ACORN trail camera comes with a limited times warranty.

We guarantee our trail cameras to be free of defects in materials and workmanship under normal use and service for a period of a limited time after the registered date of purchase. This warranty does not cover damages caused by misuse, abuse, or improper handling or installation, by user installed batteries, or by repair attempts of someone other than our authorized technicians.

In the event of a defect under this warranty, we will, at our option, repair your camera or replace it with the same or comparable model free of charge, provided the product is returned postage paid. 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.

Please contact our tech support department to determine the nature of the problem before you return a LTL ACORN product under this warranty for repair or exchange.

Appendix I: TECHNICAL SPECIFICATION

Model	Parameters
Image Sensor	14 Mega Pixels BSI CMOS sensor
Lens	FOV=60°; F=1.6 Auto IR-Cut FOV=120°; 7G+1P; F=1.8;Auto IR-Cut;
IR Flash	6 ultra-high brightness LED lights (940nm, 850nm, white light; optional)
Auto IR Adjustment	Automatically adjust brightness of IR LED in black and white video, reduce current after about 10s to lower power consumption.
Built-in LCD Screen	(2.0") ; 480(RGB)*240DOT;16.7M Color
Operation Keypad	7 Keys
Memory Card	It is recommended to use genuine 32GB Kingston SD card, other SD cards are not guaranteed to be stable
Picture Size	30MP(6400x4800),14MP(4416x3312) 10MP(4416x2484), 3MP(2048x1536)
Video Resolution	1080P(1920X1080)30fps; 720P(1280X720)30fps; VGA(640X480)30fps ;(Black and white video 15fps)
PIR Sensitivity	High/ Normal/ Low/ Off
PIR Sensing Distance	Up to 35 meters (below 25℃ at the Normal sensitivity)
PIR Sensing Angle	15~100 degrees according to the distance of the target
Operation Mode	Day/ Night
Time from trigger to finish shooting	0.8 Seconds
Night Shooting Distance	White light flashes 25 meters 850nm infrared LED flashes 25 meters 940nm infrared LED flashes 20 meters
Trigger Interval	0sec - 60min; Programmable
Photo Burst	1~3
Video Length	2~60sec ; Auto (2~30 seconds Automatic adjustment); Programmable;

Camera + Video	First take Picture then Video
Time Stamp	On/Off; Includes serial number, longitude and latitude, temperature, moon phase, date and time
Timer1	On/Off; Programmable
Timer2	On/Off; Programmable
Password	4 Digits (0~9)
Serial No.	4 digits and alphabets (0~9, A~Z)
Time Lapse	Off/ On; 0 Sec~23 Hour 59 Min 59 Sec; Programmable
Beep Sound	On/ Off
SD Cycle	On/ Off
SMS remote control shooting command	Send the text of command 60/61 or 62 on mobile, after receiving command, the camera will take photo, video or shoot as preset according to the command, then send it to the E-mail.
SMS remote control time	The interval to receive SMS messages can be set from 1 to 24 hours. For example: set interval as 1 hour, Send the text of command 60/61 or 62 on mobile, camera can receive SMS command and transmit the image file within 1 hour. The module normally cuts off the power and does not consume power, it will work after camera shooting and then transmit the image file.
Function of immediate transmission of original image	Send image to the preset receiving end immediately after finishing shooting.
Remotely modify camera parameters intensively	Set the camera parameters and remotely modify on the Ltl Camera Cloud System: when the camera uploads images to the Ltl Camera Cloud System, it reads the parameter settings generated by the Ltl Camera Cloud System and takes effect at next time when the camera works.

Wireless Send Options	Email, FTP, Ltl Camera Cloud System, Off=doesn't send file to E-mail/FTP/ Ltl Camera Cloud System; programmable; Send picture and video, no limited size of video file, a video of 60s is about 120M usually.
Email Recipient E-mail Address	1~2 E-mail Addresses
Sender E-mail	1 Sender E-mail Address
Remote Control	1 Remote Recipient Phone Number, 1 Remote Receiver E-mail
Recipient FTP Setting	FTP or SFTP Server Setting
Ltl Camera Cloud System	It has the functions of receiving and managing image files, identifying common animal species, setting the parameters of the Ltl Camera Cloud System, and displaying the actual position of camera on the map, etc.
Ltl Camera Cloud System APP	Use the Android/iPhone Ltl Camera Cloud System APP to visit Ltl Camera Cloud System on mobile.
Environmental monitoring (optional)	After the camera is connected to the environmental data acquisition device, the ambient temperature and humidity and intensity data can be collected and uploaded to the Ltl Camera Cloud System.
GPS Positioning (optional)	In TEST/ON mode(once a day), the camera automatically search GPS satellite signals, update the coordinate and time of camera
Power Supply	6 x 18650 Lithium Battery
External DC Power Supply (optional)	Plug Size: 4.0mmx1.7mm DC charging voltage: 12V~24V (DC power supply standard of customized camera: 7.4V~8V, 1~2A)
Solar panel charging (optional)	LTL ACORN weak light solar panel can be used to charge the rechargeable battery in the camera, saving energy and the battery can work for long time without changing. (12V~24V)
Standby current	80uA(non-sleep state)

Standby time (4G module is closed)	3 year (6 x 18650 Lithium Battery)
Auto Power Off	Auto power off in 4 minutes without any operation in TEST mode.
Power Consumption	280mA(+670mA when 940nm IR LED up; +600mA when white light or 850nm IR LED up)
Interface	Type -C socket; SD Card Slot; SIM Card Slot; DC External;
Mounting	Strap; Tripod; Conical Plastic Pillar
Ingress Protection	IP68
Working Temperature	-40℃ ~ +70℃
Working Humidity	5% ~ 95%
Certificate	CE & RoHS

Appendix II: PACKAGE CONTENTS

Part name	Quantity (PCS)
Digital Camera	1
Environmental data acquisition device	(Optional)
Strap	1
Steel cable / Lock	(Optional)
GPS Antenna	1
External DC Power Cable	(Optional)
Warranty Card	1

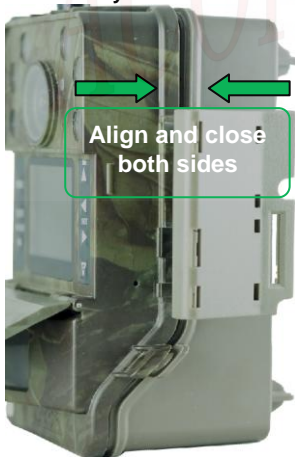
Note: About the part of the battery (6 x 18650 3.7V lithium battery), consumers need to buy on their own.

Appendix III: Illustration of Battery Box Installation

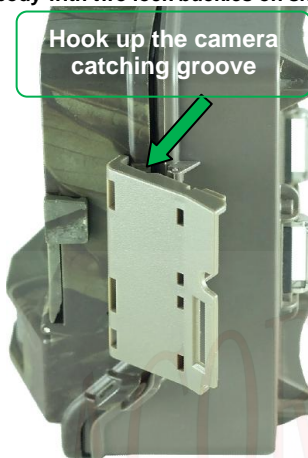
1、 Please follow the positive and negative labels on battery box to load the 6x18650 lithium batteries.



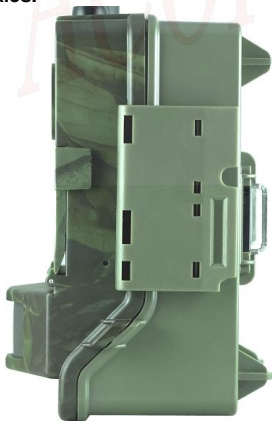
2、 Close the camera with battery box.



3、 Hook camera body with two lock buckles on side of battery box.



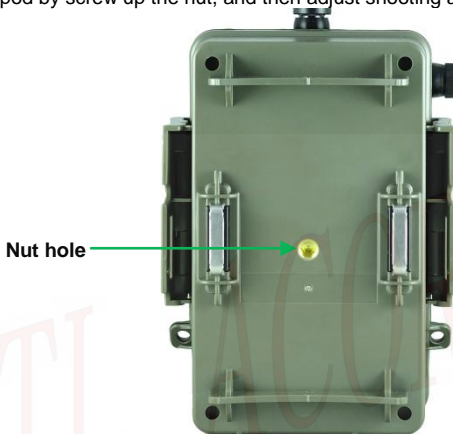
4、 Snap on lock buckles.



Appendix IV: Place and Install Camera

1、 Mount on tripod

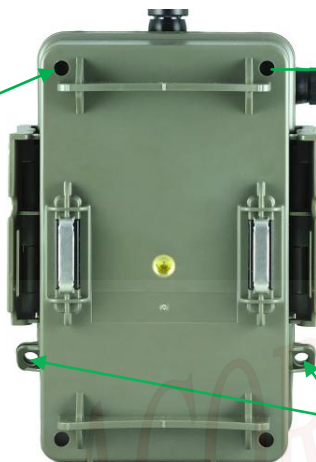
There is a 1/4" nut hole on the back of the camera battery box, fix the camera to tripod by screw up the nut, and then adjust shooting angle.



2、 Mount on tree trunk

Fits holes on battery box with four conical plastic pillars can avoid cameras being slipped off from tree and loose. Then across the theft proof holes at the side of the battery box with a cable lock, mount the camera on tree trunk. Besides, to avoid camera being stolen and damaged, use a chain and lock to keep it safe if possible.

**Plastic
pillar hole**



**Conical Plastic
Pillar**

Cable hole