

Bushwhacker



BATMAN **D2**
INFRARED WILDLIFE CAMERA

USER GUIDE

VER.201708

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1 Quick Start Guide

1.1 Introduction

Batman D2 wildlife game camera (also called hunting camera/trail camera) is a scouting device. It can be triggered by sudden change of ambient temperature caused by moving game in a region of interest, which is detected by a highly sensitive Passive Infra-Red (PIR) sensor, and then take pictures or video clips automatically. The camera can achieve more applications through Timer, Interval, PIR Sleep and other function settings.

1.2 Application

- Camera trap for hunting, animal or incident observation
- Indoor/outdoor surveillance for domestic, office, warehouse, farm or public use
- Observing wild animals/plants growth process
- For forestry bureau and forest public security to surveil and take evidence of stealing hunting, etc.
- Other evidence-taking works



Warning:

Please read the user guide carefully before using this product to avoid unnecessary loss!

Do not attempt to disassemble the camera, non-product quality problems and man-made damages will not be covered under warranty!

1.3 Battery

This product can be powered by battery 5 or an external power adapter.

A. Battery-powered

Please use high-quality alkaline batteries, nickel-metal hydride batteries or rechargeable batteries. The camera supports two groups of battery-powered, each group of four batteries, it's better to use 8 batteries for improving performance.

 *Note: The battery should be purchased by users. Make sure the polarity matches the sign on the cover. If you are not using the for an extended period of time, please remove batteries from the camera to avoid possible acid leak that may damage the camera.*

B. External power supply

This product supports 6V / 2A DC power adapter, solar power and so on.

 *Note: When the battery is low, in the "TEST" mode, the display shows a low battery prompt (the battery icon in the lower right corner is empty and "low battery" appears in the center of the screen).*

1.4 SD Card

The camera uses SD card to store images, the maximum capacity can support 32GB. To ensure optimum performance of the camera, use an SD card with a speed of 10x or higher. Please do not remove the SD memory card, battery, and plug the power when the camera is turned on!

 *Note: Before inserting an SD memory card, it is recommended to format the SD card, turn off the SD card lock protection, and insert the SD memory card correctly by the logo.*

The following table lists the different capacity of the SD card can shoot the number of pictures and video length (the value is for reference only), we can choose to purchase the appropriate capacity of the SD card.

Different capacity SD cards can store the number of images					
	2GB	4GB	8GB	16GB	32GB
Number of photos (sheets)					
1MP	8930	17639	34472	71878	99999
3MP	3488	6890	13465	28077	54909
5MP	2178	4302	8407	17531	34284
8MP	1373	2712	5301	11054	21618

12MP	914	1806	3530	7361	14395
Video Length (hours)					
1080P	0:08:22	0:16:32	0:32:19	1:07:23	2:11:46
720P	0:13:57	0:27:33	0:53:51	1:52:18	3:39:38
WVGA	0:18:36	0:36:44	1:11:49	2:29:44	4:52:51
VGA	0:24:59	0:49:21	1:36:28	3:21:09	6:33:22
10 seconds video number (segment)					
1080P	50	99	193	404	790
720P	83	165	323	673	1317
WVGA	111	220	430	898	1757
VGA	149	296	578	1206	2360

1.5 USB Function

This product can be connected via USB to a computer or TV.

The camera is connected to the USB port of the computer via the USB data cable, turn the switch to "TEST" then "MSDC" will be displayed on the screen, and the operation keys are disabled.

Find the removable disk from "My Computer", then users can do write operations to SD card via computer.

The camera is connected to the RCA of the TV via the TV cable and the camera function switch to the "TEST" test preview mode. Select "REPLAY" to view the image file in the camera.



Note: After connecting the TV, the camera display automatically turns off!

1.6 Attention

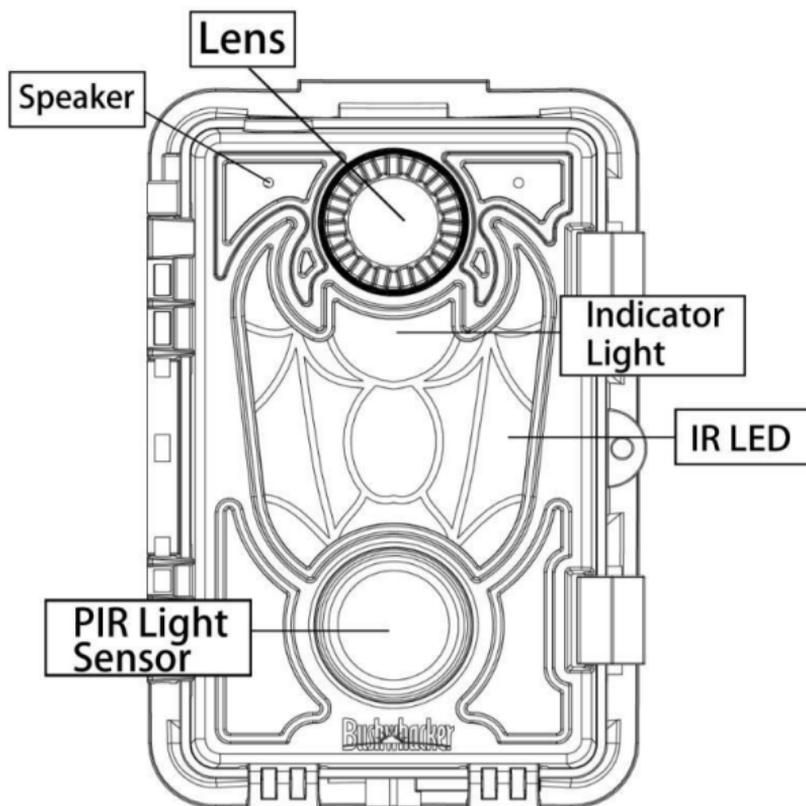
- On "TEST" mode, camera will be auto power off while no keypad controlling. Please switch to "TEST" mode again if you want to continue to use.
- Please keep power on during upgrade process. After finishes

upgrade, it needs to keep at least 5seconds before you can shut down or cut off power, otherwise it may causes upgrade failure.

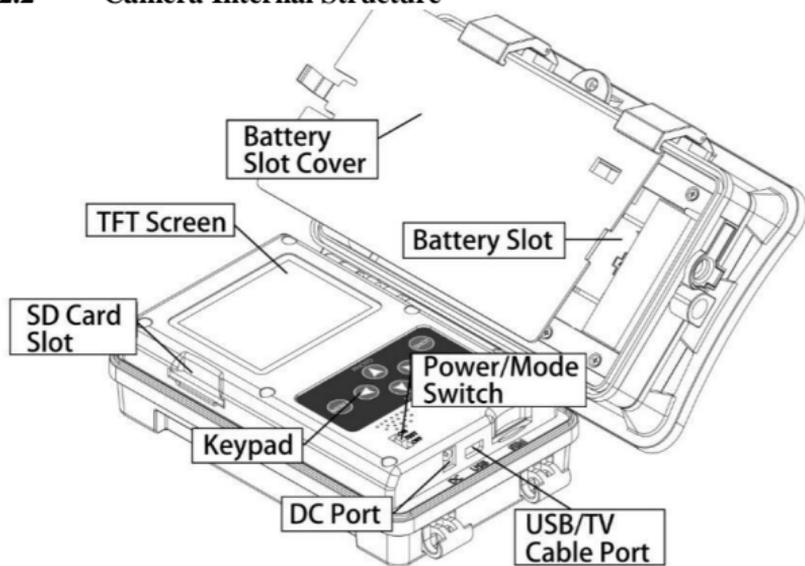
- When install camera please make sure there are not moving objects in 3m area in front of lens such as branches, leaves, weeds, strings, color ribbon and other objects which may fluttered in the wind to avoid potential false triggers.
- Please do not aim the camera at a heat source such as boiler, exhaust vents and light, etc. Avoid mistaking photos or videos and shortening stand-by time.
- Please do not use the voltage and current does not meet or exceed the requirements of the product of the external power supply, so as not to cause damage to the camera.
- The battery inside the camera keeps the clock, the date and time settings will remain until the battery runs out. After the battery is disabled, the date and time settings will be reset to the factory settings after power failure, and need to be reset after each power.

2 Camera Overview

2.1 Camera Front Structure



2.2 Camera Internal Structure

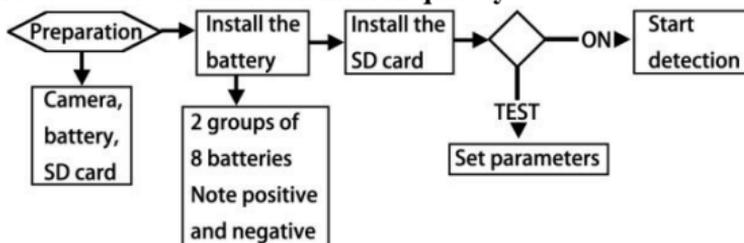


3 Quickly use the camera

Switch:

1. Turn the switch to "ON" then camera enters working mode (before in working mode the indicator will flash red and blue lights 8 times, display then appears countdown, in normal working mode the display will be closed.
2. Switch to TEST; the camera into the test mode, users can set parameters manually, take pictures or video, playback photos and video.
3. Switch to OFF, the camera stops working.

3.1 How to start the camera quickly



4 Menu Function Table

Press "MENU" key to enter the menu, press ▲, ▼ key to move the cursor to select various function options, "OK" key to confirm. Press "REPLAY" to enter playback mode. Press the "EXIT" key to return to the previous menu or exit the menu.

Menu function is related, part of the menu option will not appear because of the relevant function and display as gray.

The bold text in the table is the default.

Parameters	Set options (Bold=Factory default)	Function Description
Set Up		
Mode	Camera/Video/ Camera+Video/ Time Lapse Video	In "Camera+Video" mode, camera first takes photos and then shoots videos immediately. In "Time-lapse video" mode, The camera is programmable to take pictures at predefined intervals and generates video files automatically, ideal for capturing ongoing work on a building, how a plant grows, etc.
Image Size	1MP/3MP/5MP/8MP/ 12MP	Higher resolution produces better quality photos, but creates larger files that take more of SD card capacity and longer time to write to the SD card.
Shooting No.	1/2/3/6	Camera takes multiple consecutive photos according to user's settings per each trigger event.
Video Size	640*480P/720*480P/ 1280*720P/ 1920*1080P	Higher resolution produces better quality videos, but creates larger files that take more of SD card capacity and longer time to write to the SD card.
Time-lapse Video Size	2592×1944P/ 2048×1536P	

Video Length	5s~59s, 1/2/3/4/5/6/7/8/9/ 10 minutes	Videos are saved in AVI format and able to display on most of video media player.
Record Audio	Off/On	Select On if you want to record sound in video.
PIR Interval	5~59 minutes 1~60minutes	Select the PIR interval time, the PIR will be disabled after each triggering. After this period of time the PIR of the device will wait to be triggered by the motion of human (or animals).
PIR level	Low/Normal/High	User can set PIR sensitivity according to requirements.
Timer	Off/On	Set camera to work within specified time period every day. Outside the time period the camera will not be triggered or take photos/videos.
Time Lapse	Off / 3 seconds to 23 hours 59 minutes 59 seconds	The camera will automatically take photos/videos at the set interval. Note: In this mode, the PIR sensor is disabled.
Language	English and so on	Support multiple languages. *Reference to 6.2.2 Language
Loop Recording	On/Off	When the SD card is full, it will automatically overwrite the previous file.
Time&Date	01/01/2017 00:00	Set the camera's system time.
Stamps	Set Clock Date Off	If turned on, the bottom of each photo will show LOGO, temperature, moon phase, photo number. You can select the date, time to display together or separately. When closed, all stamps won't be displayed.
Password Set	Off/On 1234	4 digits (0~9) optional. Contact distributor if you forget the password.

Beep Sound	Off/On	Turn on or off.
Format	Yes/No	Format SD Card
Device No.	Off/On	4 digits (0~9) and/or alphabets (A~Z) optional. Device Number will be showed on top 4 image file name, this helps users identify which camera captured the image when review it.
Default Set	Yes/No	Return menu setting to defaults.
Version	D2-01-26861-82	D2: model abbreviation; 01: language version; 26543: DSP version number; 82: MCU version number.
Playback		
Delete current file	Cancel Delete	Delete current image
Delete all files	Cancel Delete	Delete all images
Slide Show		Auto replay all images, it will be stop when press “OK” key
Protect	Lock Current/ Unlock Current/ Lock All/ Unlock All	Lock important images to avoid deleting accidentally. If locked, images can't be deleted unless you unlock them.

5 Main Features and Parameters

5.1 Main Features:

- 1) Photo Size: 1MP/3MP/5MP/8MP/12MP
- 2) HD Video: 720P@30FPS, 1080P@17FPS, sounds recording can be turned on or off.
- 3) In "Camera + Video" Mode, camera takes both pictures and video at every trigger event.
- 4) Time-lapse Video: The camera is programmable to take pictures at predefined intervals and generates video files automatically, ideal for capturing ongoing work on a building, how a plant grows, etc.
- 5) 48pcs IR LEDs, 850nm and 940nm for selection.
- 6) 0.6s Trigger Time.
- 7) Build-in 2.4" TFT color screen.
- 8) Locking important image to avoid being deleted.
- 9) Take multiple consecutive pictures up to 6 photos.
- 10) When Timer setting is turned on, camera only works in specified period every day.
- 11) PIR Sleep setting can avoid the camera shoot the same object multiple times.
- 12) In Interval setting, the camera automatically and constantly takes pictures/videos at specified interval. This function suits for unwatched places, such as parking lot, courtyard etc.
- 13) Date, time, temperature, moon phase and battery power can be stamped in the pictures.
- 14) 7 operation buttons beep sound on/off available.
- 15) Support SD Card up to 32GB.
- 16) Extremely long in-field battery life (in standby mode, up to 8 months with 8*AA batteries)
- 17) Alarm light flashing when battery power level goes low.
- 18) Playbacks zoom in 1-8 times.
- 19) Auto play in "Slide Show"
- 20) Device Number will be showed on image file name, this helps users identify which camera captured the image when review it.

- 21) Lockable and password protected.
- 22) Color pictures at daytime, monochrome pictures at night, switched automatically.
- 23) Serration design make camera easy to fix firmly.
- 24) Battery cover to prevent erosion from battery leakage which may damage the camera.
- 25) Nine-rectangle-grid mode and auto play to view images.
- 26) The camera senses light via the sensor, rather than a photosensitive resistor, thus offering an accurate ISO and lifelike images.

5.2 Technical Parameters

Item	Parameters
Work Mode	Camera Video Camera+Video Time-lapse Video
Image Size	1MP: 1280×960 3MP: 2048×1536 5MP: 2592×1944 8MP: 3264×2488 12MP: 4000×3000
Video Size	WVGA: 640x480 VGA: 720x480 720P: 1280x720@30fps 1080P: 1920x1080@17fps
Operation Mode	Day/Night, Switch automatically
Lens	FOV = 50°, F=2.5, Auto IR-Cut
IR Flash	82 Feet/25 Meters
IR Setting	48 LEDs; 850nm or 940nm
LCD Screen	2.4" TFT Color Display
Operation Keypad	7 buttons
Beep Sounds	On/Off
Memory	SD Card(≦ 32GB)
PIR Level	High/Normal/Low
PIR Sensing	82 Feet/25 Meters

Distance	
PIR Sensor Angle	50 °
Trigger Time	0.6 Seconds(When using 2GB SD card)
PIR Sleep	5 Seconds~60 Minutes, Programmable
Shooting Numbers	1/2/3/6 Photos
Protection	Lock partial or all photos to avoid being deleted; Unlock
Video Length	5 Seconds~10 Minutes, Programmable
Camera + Video	First take Picture then Video
Loop Recording	On/Off
Playback Zoom	1~8 Times
Slide Show	Yes
Stamp	On/Off, Temperature, Moon Phase, Logo, Time and Date, Photo ID
Timer	On/Off, Programmable
Interval	3 Seconds~24 Hours
Password	4 Digit Numbers
Device No.	4 Digit and 26 Alphabet set by yourself
Power Supply	4×AA, Expandable to 8×AA
External DC Power Supply	6V/2A
Stand-by Current	330μA
Stand-by Time	4~8 Months(4×AA~8×AA)
Power Consumption	160mA (+1140mA when IR LED lights up)
Low Battery Alarm	4.6V
Interface	TV-out, USB,SD card slot,6V DC External
Mounting	Strap; Tripod Nail
Waterproof	IP66
Work Temperature	-22~+158 F/-30~+70 °C
Work Humidity	5%~95%
Certification	FCC & CE & ROHS
Dimensions	148×99×78 (mm)
Weight	320g

6 Others

6.1 Replay

With “REPLAY” button and other buttons can review/play/delete photos and videos in SD card; Photos can zoom in/zoom out/move; Nine-rectangle-grid mode to view images; Lock/unlock photos; Slide show, etc.

Image Review:

After press “REPLAY” button through ◀/▶ can review photos/videos in SD card.

Zoom/Move and Nine-rectangle-grid:

- When review photos, after press “ZOOM” button through ▲/▼ can zoom in/out photos. When zoom out photos to minimum size, photos will show in nine-rectangle-grid mode.
- When zoom in photo, after press “MOVE” button through ▲/▼/◀/▶ can check different parts of the photo.
- Continue pressing “ZOOM/MOVE” button can switch between “ZOOM” and “MOVE”.
- On Nine-rectangle-grid mode, through ▲/▼/◀/▶ can quickly move to chosen photos, press “OK” to check the photo.

Playing Video:

When review videos, operation tips will show on the bottom of TFT screen.

Press “OK” to play/pause video.

Press ▲/▼ to stop play video.

Press ◀/▶ to move video forward or backward in 2 times, 4 times, 8 times play speed.

Slide Show

All images are automatically played back by slide show.

 **Note:** When auto play images, the video files will show the first scene only, not play the whole video.

Image Lock/Unlock

If locked, images can't be deleted unless you unlock them.

On “REPLAY” mode, press “MENU” button and choose “Protect”, through ◀/▶ can set “Lock Current”, “Unlock Current”, “Lock All”, “Unlock All”.

 **Note:** On “Replay” mode, above functions can return to previous menu by pressing “EXIT”. Quickly exit “Replay” mode by pressing

“CAMERA”/ “VIDEO” to take photos or videos.

6.2 Details of Partial Function

6.2.1 Timer

Set camera to work within specified time period every day. Outside the time period the camera will not be triggered or take photos/videos, it supports 1 group of timer set.

Default set: Off, “00:00—00:00”

For instance: Set camera to work from 8:00 to 10:00 am

On, “08:00—10:00”

6.2.2 language

System language, Users can choose different language version to purchase.

Languages as below:

English, Deutsch, Dansk, Suomi, Svenska, Español, Français, Italiano, Nederlandse, Português

Default setting is “English”. User can view version number of different language on official website.

6.2.3 Firmware Upgrades

The manufacturer reserves the right to upgrade the camera and the firmware. Users can upgrade firmware through SD card (SD card capacity less than 32GB)

Follow the steps below to implement the upgrades:

1. Ready a formatted SD card;
2. Copy the new version files named "ISP_SD.bin" and "Rom_Code_D2_01_***** - **. Bin" into the SD card root directory.
3. Insert SD card to camera, while press "OK" button switch camera to “TEST” mode, after blue light flashes loosen the “OK” button. The screen flashes then go black, and the blue indicator flashes until restart.
4. Upgrading is underway when the screen is black, please don't turn of the power. Otherwise users need to do the upgrades again.
5. Restart and check if the new version number is the same as the old one, to confirm upgrade process succeed.

6.3 FAQ

Please do the following checks if camera cannot start or work normally:

- No battery;
- Battery loaded reversely;
- Run out of battery;
- Battery is not in conformity with the specifications;
- Not switch camera to "ON" mode;
- Not insert SD card;
- SD card is full or damaged;
- SD card capacity exceed 64GB;
- Sensitivity of PIR sensor too low.
-

In the "TEST" mode, the IR CUT will switch back and forth in different light intensities, you can hear "Kaka" sound, it is normal.

6.4 Factory Default Setting

Item	Parameters
Work Mode	Camera
Picture Size	5MP (2592×1944P)
Shooting Numbers	1
Video Size	1280x720P
Time-lapse Video Resolution	2592×1944P
Video Length	5 Seconds
Video Recording	On
PIR Sleep	1 Minute
PIR Level	Middle
Timer	Off
Time lapse	Off
Language	Simplified Chinese
Time & Date	01/01/2017 00:00
Stamp	Time & Date
Password Setting	Off
Beep Sounds	On
Format	No
Device No.	No
Restore Factory Defaults	No
Version	D2-01-26861-82

7 Warranty Policy

We value our customers very highly and would like to ensure that our products and service are always of a top standard. However, if you are experiencing issues with your Bushwhacker products, please take a moment to read through the information below to establish whether your products are covered under the warranty.

WARRANTY

We guarantee our Bushwhacker cameras to be free of defects in materials and workmanship under normal use and service for a period of a limited times after registered date of purchase.

EXCLUSIONS

This warranty does not cover damages caused by misuse, abuse, improper handling or installation, or improper storage conditions and natural disasters, by user installed batteries, or by repair attempts of someone other than our authorized technicians, nor does cover loss or theft.

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. The camera manufacturer can provide extra service for your camera after the warranty expiration, but the customer have to be responsible for extra charges on parts, labor and shipping costs therefore brought.

Please keep the warranty card for guarantee to keep in repair.
Please contact the regional distributor for more details.

8 Appendix I: Standard Packing List

Part Name	Quantity
Digital Camera	1
USB Cable	1
TV Cable	1
Strap	1
Manual	1
Warranty	1

9 Statements

1. The manufacturer reserves the right to amend the content due to editing or typographical errors, product upgrades and other factors which may causes discrepancies. Amendments will be applied to latest user's manual. These are subject to change without prior notice.
2. The manufacturer takes no responsibility for any illegal usage. Please comply with local laws and regulations.
3. The manufacturer takes no responsibility for user's data loss.
4. The manufacturer takes no responsibility for any losses and casualties resulting from misusing products.

BATMAN D2
INFRARED WILDLIFE CAMERA



CATCH THE ACTION WITH YOUR BATMAN

Made in China