

# Motion Activated Camera

MAC 200

## User Manual



# WELCOME TO THE **BRINNO** FAMILY !

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with other Brinno fans on our facebook

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## Thank you for purchasing this Brinno Motion Activated Camera!

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The Brinno **Motion Activated Camera (MAC 200)** is a battery powered motion activated security camera. Forget the power cord, Ethernet line or DVR system, it is your 100% DIY, 100% Wire-free, 100% portable security anywhere anytime. Brinno's new **Hybrid Mode®** provides a 10 X Outlook Range.

The dual functionality of a fixed capture interval + Motion Activation provides you with an unprecedented Portable level of Protection. Brinno's exceptional power saving technology, provides super long lasting standby time, combined with Rapid Wake Up functionality. Never miss a shot!

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more information: [www.brinno.com](http://www.brinno.com)

**brinno**  
brilliant innovation

# Motion Activated Camera Features



## 14 Months Battery Life

Brinno MAC200 no need plug, only 2D batteries have power up to Fourteen months.



## Dual Protection

Brinno's new Hybrid Mode®  
The dual functionality of a fixed capture interval + flexible Motion Activation provides you with an unprecedented Portable level of Protection.



## 10x Outlook Range

Images captured by a Fixed Capture Rate are in the Time Lapse mode and cover a range over 100 meters using fixed interval image capture in the detecting area.



## < 1 Sec. Rapid Wake Up

All Brinno products have excellent power saving technology, providing super long lasting standby time, combined with Rapid Wake Up functionality. Never miss a shot!



## Instant Video/ Fast Playback

Brinno MAC200 captures and converts thousands of photos into a Time Lapse video. Review your daily guests with the push of a button.



## 100% DIY

The Brinno MAC200 is a battery powered motion activated security camera. Forget the power cord, Ethernet line or DVR system, it is your 100% DIY, 100% Wire-free, 100% portable security anywhere anytime

### • Output file format

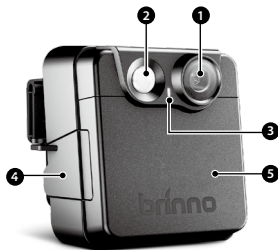
Fast Playback Time Lapse Video, AVI format, resolution is 720P (1280x720).

### • Package Contents

1. Motion Activated Camera x 1
2. Tree strap x 1
3. Rubber strap x 1
4. Wall Mount x 1
5. User Manual x 1

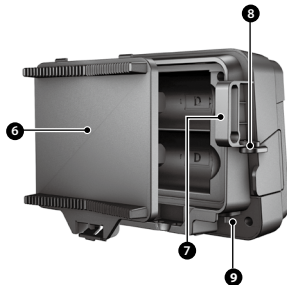


# Parts of the Camera



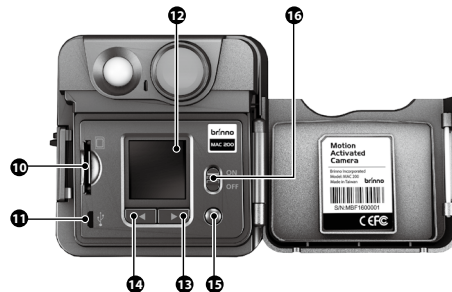
## Front

- 1. Lens
- 2. Motion Sensor
- 3. LED indicator
- 4. Operation Zone Latch
- 5. Operation Zone Cover



## Back

- 6. Battery Cover
- 7. Tree strap hole
- 8. Locking hole
- 9. External Power Port (DC IN 5V)

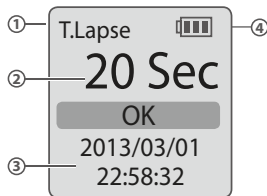


## Inside

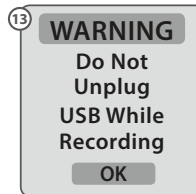
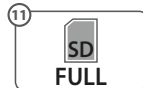
- 10. SD card slot
- 11. Micro USB port
- 12. LCD panel
- 13. TIME / Next (▶) button
- 14. MENU / Previous (◀) button
- 15. OK button
- 16. Power switch

# Display Icons

## Set Up screen



## Preview Screen



### At Set Up screen

#### 1. Capture mode:





- Motion mode
- Time Lapse
- Hybrid

#### 2. Time Interval/ Capture Rate:

Displayed in Time Lapse Mode/  
Hybrid Mode

#### 3. System date and time

#### 4. Battery level

Icon	Description
 (green)	Battery full charged.
 (yellow)	Battery partially charged.
 (yellow)	Low battery-Replace as soon as possible.
 (red)	Out of battery-Replace battery immediately.

### At Preview screen

#### 5. Capture Mode:

- M (Motion mode)
- T (Time Lapse mode)
- H (Hybrid mode)

#### 6. Preview Screen

#### 7. Timer

#### 8. Overwrite

#### 9. Battery level

#### 10. Battery Empty

Please replace battery immediately.

#### 11. SD Card Full

Please download files to clear  
SD card space.

#### 12. SD Card Error

Please replace SD card.

#### 13. Connected to computer via micro USB camera .

# Initial Setting

## How Our Power Saving Technology Works



### • At Setting Screen

After 10 seconds without activity on the set up screen, the camera will go to Preview screen automatically. You can press ◀ or ▶ to go back to the set up screen.

### • At Preview Screen

After 60 seconds without activity on the set up or preview screen, the LCD screen will turn off automatically to save power. You can press ⏻ to wake up.

## Initial Step-1



### Installing the Batteries

Open battery door, insert 2 D batteries and close battery door.



## Initial Step-2



### Installing SD Card

Insert the SD card.

⚠ Please be aware whether there is enough memory of the SD card before installing.

## Initial Step-3



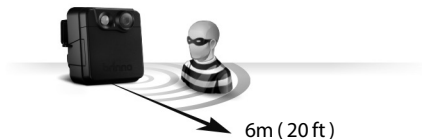
1. Turn on the Motion Activated Camera, press to go to MENU setting, select Set Date & Time, and press .
2. At the single number with red background, it means it's number now you are setting. Press to decrease value or to increase value, press to confirm and go to the next number.
3. When finished press to exit set up and back to Setting Screen.



## Motion Activated Mode

Images captured by Motion Activation are in what we consider the Hot Zone, close to the device. Motion Activation captures direct threats up close.

Capture Rat	Captures 2-3 frames per second.
Clip length	Once activated captures for 5 seconds
The Maximum size of single AVI	1024 frames
Motion Sensor Detecting Area	Detecting Angle: 100° Detecting Distance: 6M

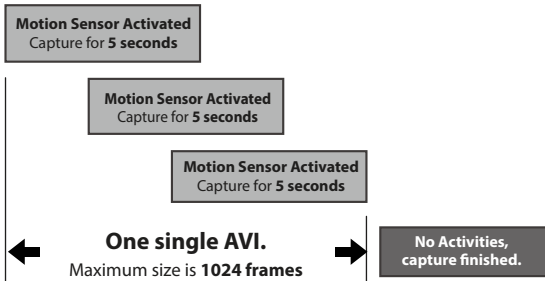




# Capture Mode

## Motion Activated Mode

## Time Lapse Mode



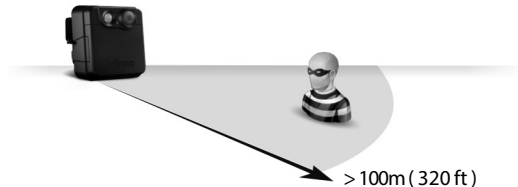
**Once activated the Motion Activated Camera will capture for 5 seconds,** during this working period if the Motion Sensor activated again, it will extend the capture time for more 5 seconds, when Motion Activated Camera finished the capture, all frames will be store into one AVI file.



### Time Lapse Mode

Images captured at a Fixed Capture Rate are captured in the Time Lapse mode and cover a range over 100 meters deep in the detecting area.

Capture Rat	1 frame every one second~24 hours ( How to set Capture Rate? please refer to the page16)
The Maximum size of single AVI	20480 frames





### Hybrid Mode

Brinno Hybrid Mode combines Fixed Capture Rate and Flexible Motion Detection. They provide Dual Protection in the Hot Zone. At standby status the camera works at Time Lapse Mode, the camera will capture images at your desired Capture Rate (1 frame in every 1 sec~ 24 hours), when detecting the motion the camera will switch to Motion Mode, captures 2~ 3 frames in 1 second. **Never miss a shot!**

Capture Rat	<b>Time Lapse mode</b> , capture 1 frame every one second~24 hours. <b>Motion mode</b> , capture 2-3 frames in one second.
The Maximum size of single AVI	1024 frames

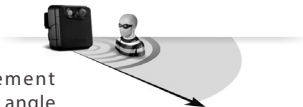
### Hybrid Time Lapse Mode

Normally, the Motion Activated Camera is operating in the Time Lapse mode, it's a long-time and a wide range recording mode. The frame rate (the film frequency) is base on your setting. (E.g. 1 minute captures 1 photo)



### Hybrid Motion Mode

When there comes any movement into the Detecting Zone (Detect angle 100°/ Detect distance 6 M), the Motion Activated Camera will shift to the Motion mode, and captures 2-3 photo per seconds, it will also recorde more details of the target.



# Start Recording

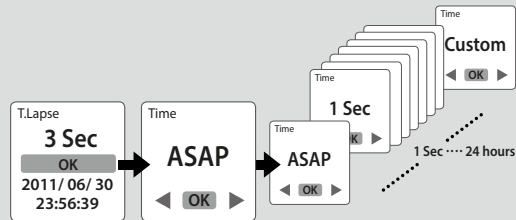
Before start recording, please select your capture mode :  
Motion Mode/ Time Lapse / Hybrid Mode.

## Motion Mode



1. At set up screen, press to Preview Screen.
2. Press again to start recording. The LCD will display " • REC " icon.
3. After 5 seconds without any activity, the LCD screen will turn off to save power.

## Time Lapse Mode & Hybrid Mode




1. At set up screen, press to Setting a Time Interval.
2. Press and to select a pre-set time interval or customize it by yourself. When complete, press to confirm and return to the Set up screen.  
(Time Interval range : from below 1 second to 24 hours.)

# Start Recording

## To Stop Recording



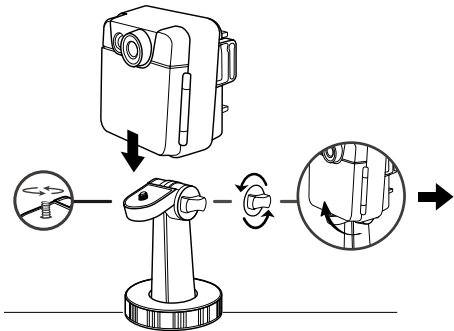
1. Hold  till screen on.
2. The LCD panel will show "Processing". At this moment, it means the Motion Activated Camera is achieving your data please wait until the icon disappear.
3. The LCD panel will go back to the Preview screen.

# Basic Installation

Mount it anywhere, no power required so anywhere really means anywhere.

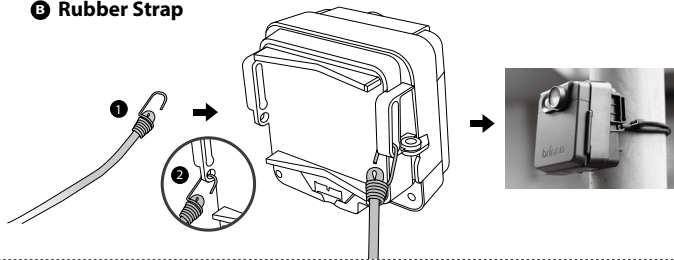
## 3 ways to mount the camera

### A Wall Mount

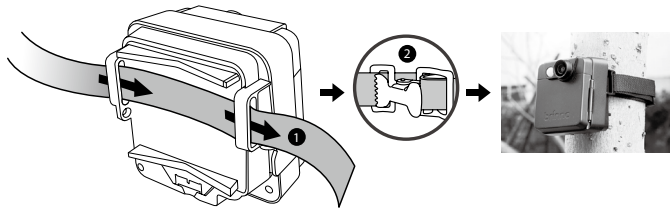


# Basic Installation

## B Rubber Strap

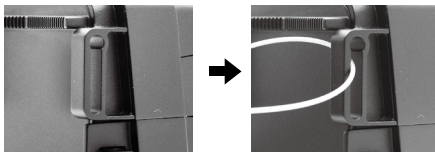


## C Tree strap

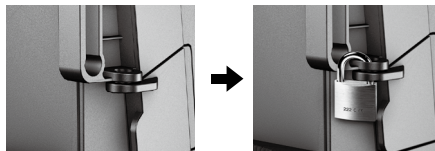


## 2 ways to secure the camera safety

### 1 Security lock cable




### 2 Camera Body Lock



### MENU Setting

#### Go to the MENU setting

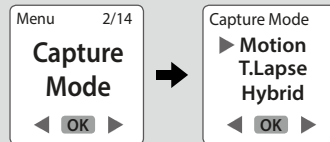
Power on the Motion Activated Camera, press  to into the MENU setting.

#### 1 SD card capacity






In this mode, the LCD will display the SD card capacity, so you will know how much free space remains on the SD card.

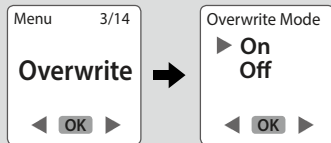
#### 2 Capture Mode




You can select your capture mode at this function.

1. Select mode by  and , there are Motion - Motion mode, T. Lapse - Time Lapse mode and Hybrid- Hybrid mode
2. Press  to confirm.

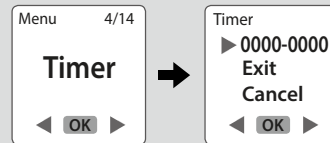
### 3 Overwrite



When the SD card free space less than 1%, the Overwrite function will remove old files to ensure SD card has more than 1% free space.

1. Select On or Off by ◀ and ▶ .
2. Press  to confirm.

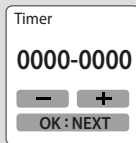
### 4 Timer



This function is only affected on Time Lapse mode and Hybrid mode. The Timer will allow you to pre-set a recording period. (eg. 8 am–5 pm)

Select **0000-0000** into timer setting. If you don't want to do any setting, select EXIT. If you want to cancel the setting, select Cancel.

### 4 Timer



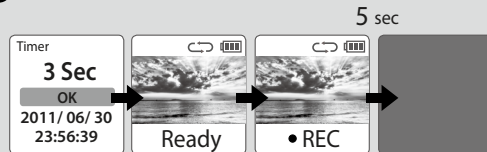
A B  
0000-0000

e.g.

**0600-1600** morning to afternoon  
**1600-2330** afternoon to night  
**2345-0500** overnight

1. Set the start recording time (A area), then set the stop recording time (B area). Press to lower the number, press to increase the number and press to next column.

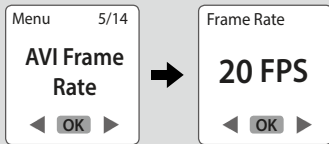
### 4 Timer



2. After setting up the time, go back to the Set up screen then press to move to the Preview screen.
  3. Press to start recording. The camera will automatically activate at the start recording time you selected.
- Once you activated Timer, your Time Lapse camera will only work at the timer setting period.



### 5 AVI Frame Rate



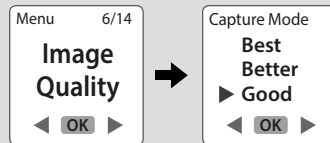
You can change the videos FPS (frames per second) playback with this setting.

1. Select FPS through the ◀ and ▶ .
2. What frame rate should I use?

Generally, 10 FPS is suitable for Time Lapse video, but depending on your needs you can use 1 - 30 FPS.

- 1 FPS** If the video plays at 1 frame per second, the video will not look smooth, and the video length will be longer.
- 30 FPS** If the video plays at 30 frames per second, the video will look smooth, and the video length will be shorter.

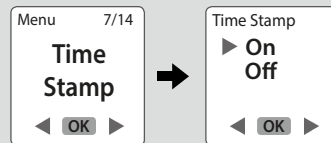
### 6 Image Quality



The Image Quality setting lets you choose a different image quality to fit your needs, and the image quality will determine the number of frames that can be stored on the SD Card :

Option	Single frame size	Description	4GB SD card capability
Best	200~400 kb	Low compression rate produces maximum image data for highest quality images	14000 photos
Better	150~300 kb	General usage	4GB SD card capability
Good	70~150 kb	High compression rate produce less image data, best for long capture periods	4GB SD card capability

### 7 Time Stamp

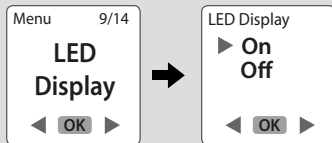


You can choose if you want the time stamp to show at bottom of your video.

Select FPS through the ◀ and ▶ .

1. Select ◀ or ▶ .
2. Press  to confirm.

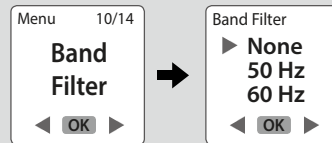
### 9 LED Display



You can choose whether or not the LED display will flash while capturing each frame.


1. Select ◀ or ▶ .
2. Press  to confirm.

### 10 Band Filter

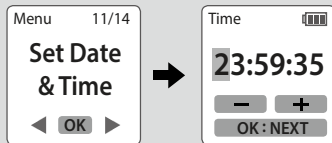


Select the correct fluorescent lighting frequency to match your indoor lighting frequency.

1. There are None, 50 Hz and 60 Hz option
2. None: For outdoor enviroment  
50 Hz: Europe  
60 Hz: USA

 We suggest you use None when the scene is outdoors.

### 11 Set Date and Time



Set the correct date and time for your camera.

1. At the single number with red background, it means it's number now you are setting. Press ◀ to decrease value or ▶ to increase value, press ⏻ to confirm and go to the next number.
2. When finished press ⏻ to exit set up and back to Setting Screen.

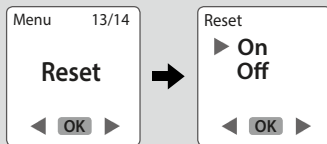
### 12 FW version




Displays the current version of firmware installed on the camera.

1. Displays the current version of firmware.
2. You can press ⏻ to exit.

### 13 Reset




You can reset your camera back to the default settings.

1. Select Reset.
2. Select Yes and press  to reset your camera.

Function	Setting
Capture Mode	Motion Mode
Overwrite	On
Timer	Off
AVI Frame Rate	20 FPS
Image Quality	Good
Time Stamp	ON
Output Resolution	720P
LED Display	ON
Band Filter	None

# What Size SD Card Should I Use

SD card size	Stored photos
4 GB SD Card	30,000
8 GB SD Card	60,000
16 GB SD Card	120,000
32 GB SD Card	240,000

 Base on image quality setting of “Good”

# Battery Life

Time Interval	Captured frames to battery low	Days
ASAP	1845000	7
1 sec	1537500	18
2 sec	1476000	34
5 sec	1317800	76
10 sec	1118000	129
30 sec	696200	242
1 min	444570	309
5 min	114240	397
10 H	59230	411
1 H	10185	424
4 H	2558	426
24 H	427	427

## Motion mode & Hybrid mode

- Stand by time: 427 days
- Captured frames to battery low: 1845000 frames

# Specification

Camera	
Model	MAC 200
LCD Screen	1.44" TFT LCD
Waterproof	IPX4
Capture Mode	
Time Lapse	Auto generation of Time Lapse video
Motion Activated	PIR motion detection
Hybrid	Combine Time lapse and Motion activated mode
PIR Sensor	
Detect distance	6M
Detect Angle	100°
Image Sensor	
Type	1/4" CMOS sensor
Resolution	1.3 Mega pixel
Pixel size	2.8 μm
Sensitivity	2500mV/lux-sec (Ultra good low light quality)

Optics Lens	
Aperture	F2.0
Field of View	75°
Focal Length	28 mm (35mm equivalent)
Focus Distance	60 cm (Minimum)
Recording	
Time Lapse Video	Format: AVI
Memory Storage	SD Card ( Supported up to 32GB)
Power	
Power source	Battery: 2x D cell Batteries
	DC IN: 5V
Dimension	
Size(DxWxH)	106x110x78 mm
Weight	250g (without batteries)
Color	Black
Operation Temperature	
	- 20°C ~ 50°C - 4°F ~ 122°F

