

ARTICULATION

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# User Manual

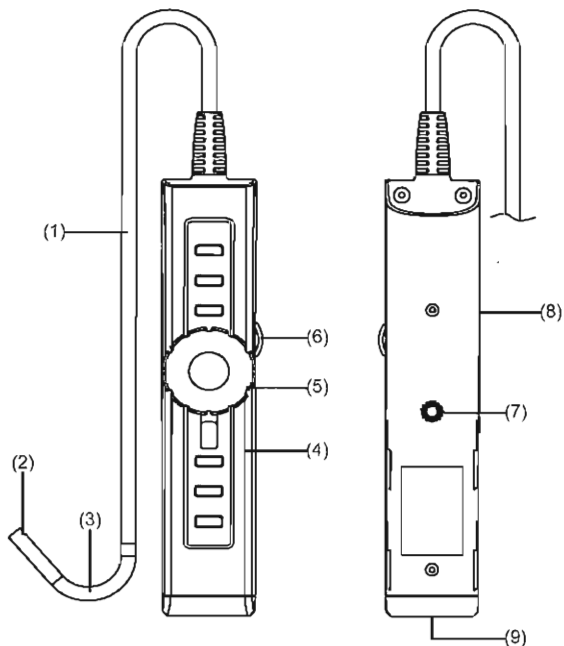




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## 1) Product Features

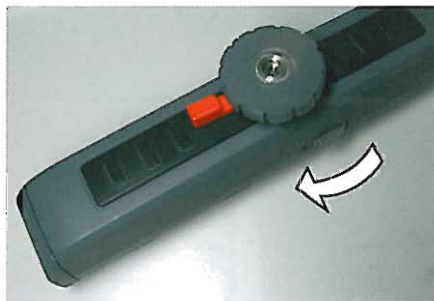





- (1) Insert Tube
- (2) Camera Lens
- (3) Bending Neck
- (4) Console
- (5) Control Wheel

- (6) On/Off Switch & Light Adjustment
- (7) Channel Switch
- (8) Power Indicator
- (9) USB Port

## 2) Getting Started

- Step 1** To activate the articulation controller, turn the LED adjustment dial clockwise until you hear a "click" followed by illumination of the adjacent green light.



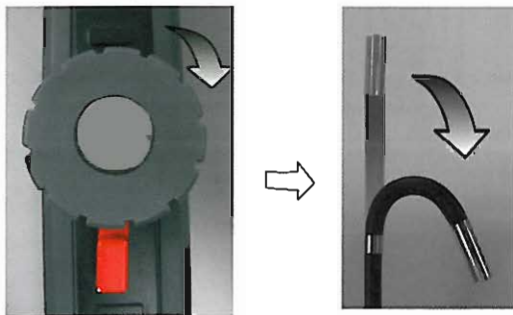
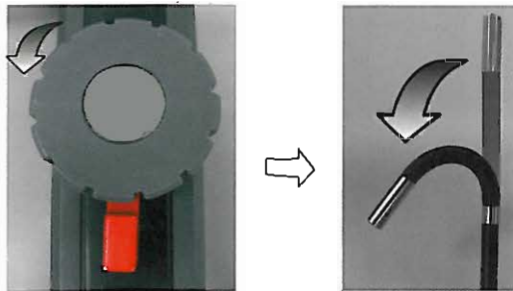
- Step 2** Press and hold down the  button on the console for 3 seconds until the image display on the monitor.
- Step 3** Aim the camera lens at the selected object. Press  to capture a .JPG image, or  to begin recording a .ASF video.

### 3) Manipulate

#### *Moving View*

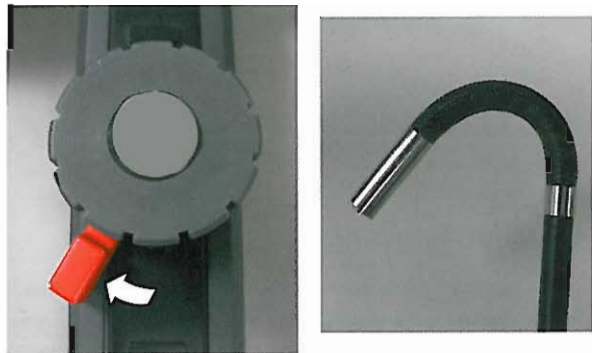
Want to bend the lip right side, just rotate the control wheel clockwise.

Want to bend to the left side, just rotate the wheel counter clockwise.



#### *Lock*

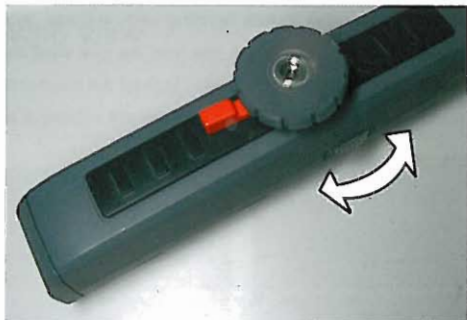
Twist the knob clockwise to lock bending neck in place. When you want to fix the bending neck angle, just twist the lock shaft clockwise to the lock position.



#### *Light Adjustment*

Twisting light adjusting wheel to adjust the brightness of the light source.

When wanting to turn off this articulation handle, just twist this wheel up, until you hear a 'click' sound.

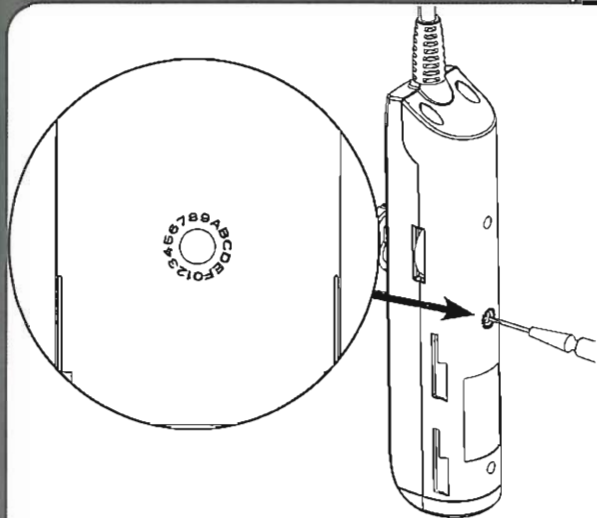


## Channel Adjusting

This articulation handle must use the same channel as the console during wireless transmission. Adjust the channel by using a small slotted screw driver following the direction of the arrow sign as shown below.

Users may refer to the following table to choose a suitable channel.

| Channel | Arrow Indication | Frequency |
|---------|------------------|-----------|
| 1       | 9,1              | 2414MHz   |
| 2       | A,2              | 2432MHz   |
| 3       | C,4              | 2450MHz   |
| 4       | 8,0              | 2468MHz   |

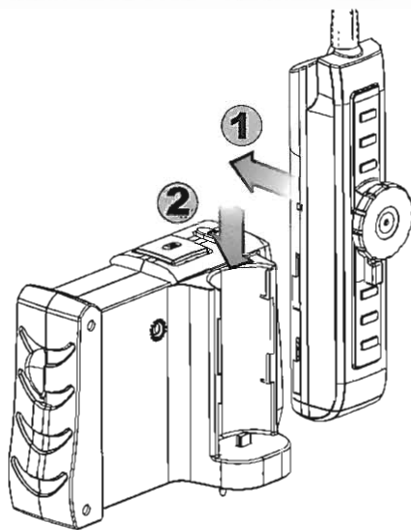


## Re-charging the battery

Insert the handle into the rear slot of the M2 console to re-charge both simultaneously. Connect the handle controller to a PC or Laptop using a standard Mini USB cable for re-charge.

### Caution

1. Turn off the console and handle during re-charging.
2. Ensure the power of PC/Laptop is turned on during re-charging by USB cable.
3. Ignore the "found new hard drive" message during re-charging by USB cable.



We can follow the indicator light signal to understand the status of the handle battery.

| Light    | indication                     | Status description  |
|----------|--------------------------------|---|
| Green    | In use                         | Working under full battery  |
| Dark Red | low battery                    | Please recharge the battery when the dark red light appears during usage. |
| Orange   | Charging while in use          | Charging while in use   |
| Red      | Charging while power off       | Charging while power off  |
| None     | Full battery(During power-off) | The light dims when the battery is fully charged.                         |

## 4) Specification

| Camera system & Insert tube    |   |
|--------------------------------|---|
| Insert tubes diameter          | 6.0mm   |
| Resolution                     | 325(H)*250(V)                                       |
| Housing                        | stainless Steel                                     |
| Light Source                   | White LED   |
| Length                         | 1M (Option: 2M, 3M)                                 |
| Field of View                  | Horizontal field angle 46°                          |
|                                | Vertical field angle 34°                            |
|                                | Diagonal field angle 56°                            |
| Depth of Field (DOF)           | 1cm~6cm   |
| Working Temperature            | 0°C~55°C  |
| Articulation Angle             | 2 Way   |
| Articulation Radius            | 48 +/-1mm   |
| Handle                         |   |
| Dimension                      | 139.3 * 34.9 * 31.8mm                               |
| Weight                         | 0.220kg   |
| Wireless Transceiver Frequency | 2.4GHz 4channels (2414MHz 2432 MHz 2450MHz 2468MHz) |
| Battery                        | Rechargeable Li-Polymer battery 3.7V                |
| rightness Control              | Variable  |

## 5) Trouble Shooting

### 1. Unable to turn on the console

Users will not be able to turn on the console when the battery is very low or empty. Please re-charge before use.

### 2. Can turn on the unit but the image does not appear on the monitor

Please check the insertion tube connector or simply re-connect the insertion tube to correct the problem.

### 3. Unable to capture photos/videos

Please check the status of the SD card. Users will not be able to capture photos or videos if the SD card is not installed properly or if it is full, write protected or damaged.

## 6) Insert Tube Maintenance

- To avoid danger, please do not put the insert tube into any flammable liquid or gas.

- The insert tube contains a series of small wires that control the optics and electronics of the camera tip. To ensure long-term reliability, do not bend the insert tube more than 180 degrees, and always bend the insert tube in an arc as large as possible during usage and storage.

## 7) Camera and Lens cleaning

- User may clean the camera lens with a cotton swab and small amount of cleaning naphtha.

- The articulation handle is designed for industrial use only. Do not use the system for human or any other biological inspection.

- Do not insert the insert tube into any flammable gas or liquid (such as a fuel tank) to avoid dangers.

- Do not use the articulation handle in a fuel tank or other dangerous environments such as a gasoline or alcohol storage tank.

- Do not use any corrosive liquid for cleaning, such as alcohol.

- Do not try to disassemble the product. This presents a shock hazard and could damage the unit.

- Do not bend the insert tube over 180 degrees during usage or storage.

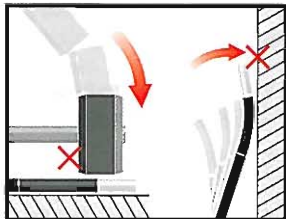
- Please use only recommended components or accessories. Unapproved accessories and components may cause damage.

- Please do not use the articulation handle in a medical facility or on an airplane, as the wireless signal may interfere with other critical equipment nearby.

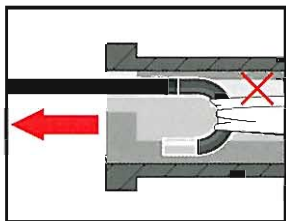
- Avoid direct exposure to sunlight for long periods of time.

## 8) Special Warning

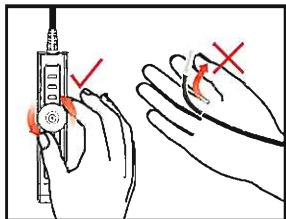
Bending neck is precise component, DO NOT load heavy load on this.



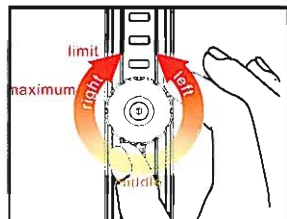
Never use the camera lip as a HOOK.



NEVER bend the bending neck directly, only bend by control wheel.



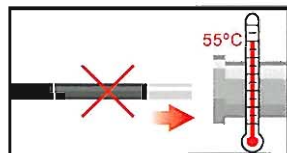
DO NOT rotate the controlling wheel when it is at the maximum angle.



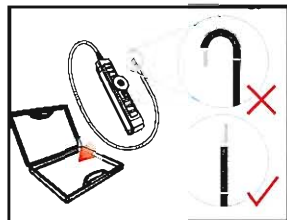
Insert tube is water-repellent, Please DO NOT immerse into any liquid.



Working temperature is 0-55°C

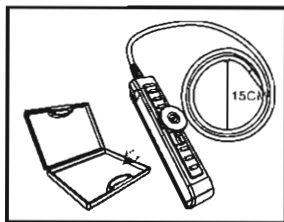


Please straighten the bending neck before storage.





DO NOT bundle the insert tube less than a 15CM circle in storage.



Please keep the insert tube straight in use.

