Articulation Monitor
Type Endoscope

INSTRUCTION MANUAL

Please carefully read this manual before using
A. POWER BUTTON On/Off
B. LIGHT SWITCH
C. JOYSTICK
D. PHOTO button

E. PREW BUTTON
F. MENU
G. NEXT BUTTON
H. MULTI-SELECTOR OK
I. MAIN UNIT
J. LOCK NUT
K. REC BUTTON
L. LOCK NUT
Safety recommendations

⚠️ **DANGER**

- This device must not be used for medical or veterinary purposes.
- Do not use this item in explosive atmospheres.

⚠️ **WARNING**

- Do not modify or disassemble the unit.
- Do not subject the insertion tube or other cables to strong pulling, and do not move the main unit around by holding the cables. Otherwise, the insertion tube or cables may be damaged.
- Do not subject the distal end to severe impact or pulling, do not expose the angulation section to severe impact or bending. Otherwise, the precision components that make up the distal end and the angulaion section may be damaged.
- Do not allow any liquids other than water, saltwater, machine, or diesel oil come into contact with the insertion tube. Otherwise, the insertion tube may be damaged.

- Do not allow water come into contact with parts other then insertion tube, water creates the risk of electric shock. the parts of the instument other than insertion tube are not watertight, so the instrument should not be used or stored where it is submerged or wet.

- Do not use or store the instrument at a temperature higher than 60° C or lower than –20° C.
- Store the instrument in dry and adequately ventilated environment.
**Button Description**

There are 3 basic modes for easier operations as follows:

<table>
<thead>
<tr>
<th></th>
<th>Preview mode</th>
<th>Surfing mode</th>
<th>Menu mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Display summarized optional functions such as: picture taking, video taking etc.</td>
<td>Survey photos and videos in the memory card and maintain.</td>
<td>Includes file maintenance, settings etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Button</th>
<th>Preview mode</th>
<th>Surfing mode</th>
<th>Menu mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Zoom x4</td>
<td>Switch to previous/next photo or video</td>
<td>Select previous/next function or option</td>
</tr>
<tr>
<td>MENU</td>
<td>To return to the preview mode</td>
<td>To return to the preview mode</td>
<td>To return to the preview mode</td>
</tr>
<tr>
<td>OK</td>
<td>To display or pause</td>
<td>Confirm selected function or option</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To take photo</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To start/stop video recording</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To enter surfing mode</td>
<td>Return to preview mode</td>
<td>Choose camera or maintenance settings</td>
</tr>
</tbody>
</table>

**Menu**

Under the preview mode: Press MENU button to display options as follows:

- **Camera**
  - Effect: Nor
  - Date Stamp: Date

- **OK** Enter **MENU** Back
To select the item, and enter the options display respectively as below:

### VGA Mode:

<table>
<thead>
<tr>
<th>VGA</th>
<th>HD</th>
</tr>
</thead>
</table>

Image display at 3.5 inch area.

### HD Mode:

<table>
<thead>
<tr>
<th>HD</th>
<th>Image full of screen</th>
</tr>
</thead>
</table>

### Normal Mode:

<table>
<thead>
<tr>
<th>Normal</th>
<th>B&amp;W</th>
</tr>
</thead>
</table>

You can choose the image with colour or without colour.

### Off Mode:

<table>
<thead>
<tr>
<th>Off</th>
<th>Date</th>
<th>Date &amp; Time</th>
</tr>
</thead>
</table>

Date stamp can be added to recording files or not.
Press Menu button return to menu mode, and by ▶ to set more options as below:

DATE/TIME SETUP
Press ▶ to select year/month/day or hour/minute/second, and press for increasing number and decreasing.

LANGUAGE SETUP
To select language (7 optional languages)
TVOUT SETUP

To set up the TV output format.

NTSC
PAL

OK Enter MENU Back

To set up time for auto power off.

3Min
5Min
10Min
Disable

OK Enter MENU Back

FORMAT & RESET ALL

Choose Yes to format storage media SD card or return to original settings

No
Yes

OK Enter MENU Back
Turning on checking

Press Power button for 2–3 seconds to turn on, the displays preview mode. Adjust illumination and extend the insertion tube straight out and operate joystick to check for smooth angulation section operation.

NOTE
Increasing the insertion tube bending amount decreases the maximum the angulation angle. Keep the insertion tube as straight as possible to get best operations.

### Operation

| Photo | Press  to take picture. After this operation, automatically switch back preview mode. |
| REC  | 1. Press for video recording. The icon in the lower – left corner to indicate recording status. 2. Press to stop recording. The icon disappears accordingly. |
| Zoom | In the preview mode press to get enlarged x1/x2/x3/x4 view of observation object, |
| Rotation | In the preview mode press to get image up side down or mirror image |

### Storage & Maintenance

1. Rechargeable battery

Charging time around 7 hours till the indicator light turn off, the fully charged battery can continuously works up to 8 hours.

2 Cleaning components

- **Cleaning insertion tube**
  
  Wipe thoroughly with a piece of gauze or other material moistened with neutral detergent, next clean by gauze moistened with clear water, and then wipe the insertion tube dry off all moisture.

CAUTION Clear the insertion tube immediately after withdrawing the insertion tube. Leave the very dirty insertion tube for long periods can cause it to be corroded.

- **Cleaning distal end**

  Grasping the rigid portion of distal end, use a clean soft piece of gauze or cotton swabs to wipe off dirty and water. Best results may be obtained using commercially available absolute ethanol.
**Storage & Maintenance**

- **Cleaning unit body**
  Wipe with soft cloth dampened with clean water, and wipe with clear and dry cloth.

3. **Storage precautions**
   - Store the instrument under normal room temperature and humidity.
   - Unload the battery, and straighten angulation section while lay into carrying case.
   - Store the equipment at a clear, dry and stable place.

**Q & A**

Q: No image on the screen after turning the power on
A: Battery is exhausted. Connect the main unit to the power adapter and recharge.

Q: No image, only words on the LCD monitor after turning the power on
A: Check that the control unit is correctly connected to the display main unit.

Q: Unable to take photo or record video
A: SD card absent, wrongly inserted, full or faulty.

Q: Shut down
A: When all functions freeze or fail, insert an insulated needle into the hole on the side of the main unit, the system will restart automatically.
### Specification

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD Panel</td>
<td>4.3 inch (Image display at 3.5 inch area with W&amp;B sensor)</td>
</tr>
<tr>
<td>Input/output connector</td>
<td>MicroUSB, DC in, TV out</td>
</tr>
<tr>
<td>Power supply</td>
<td>Lithium battery 3000mAh, AC adapter: Input 100-240VAC 50/60Hz, Output 5VDC</td>
</tr>
<tr>
<td>Recording media</td>
<td>SDHC Card support 32 GB</td>
</tr>
</tbody>
</table>

### Distal end & Camera

<table>
<thead>
<tr>
<th>Camera</th>
<th>Articulation</th>
<th>Sensor</th>
<th>Rigid portion</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.5mm</td>
<td>4-way</td>
<td>640x480</td>
<td>Dia8.5X28mm</td>
<td>Far focal&lt;br&gt;IR camera 6 meters away visible at complete darkness</td>
</tr>
<tr>
<td>8mm</td>
<td>4-way</td>
<td>640x480</td>
<td>Dia8.0X28mm</td>
<td>Far focal</td>
</tr>
<tr>
<td>8mm</td>
<td>4-way</td>
<td>1080x720</td>
<td>Dia8.0X28mm</td>
<td>Near focal</td>
</tr>
<tr>
<td>5.5mm</td>
<td>4-way</td>
<td>640x480</td>
<td>Dia5.5X23mm</td>
<td>Near focal</td>
</tr>
<tr>
<td>3.9mm</td>
<td>4-way</td>
<td>640x480</td>
<td>Dia3.9X14.5mm</td>
<td>Near focal</td>
</tr>
<tr>
<td>2.8mm</td>
<td>2-way</td>
<td>400x400</td>
<td>Dia2.8X10mm</td>
<td>Near focal</td>
</tr>
</tbody>
</table>