User Manual

88D Industrial Video Endoscope

Table of Contents

Welcome

Thank you for choosing our industrial video endoscope. Please read the user manual carefully before using this product.

This product is a newly hi-tech product designed as per inspection requirements for oil industry, automative maintainance, industrial machinery, electric and electronics, aerospace, and gas industry...ect；By its unique software processing system, the operator can easily carry on visual inspection for very small or hard to reach area, and record live condition. It is small, easy to carry, high resolution, more functions like photo taking, video recording, browsing, memory, playback.

Structure
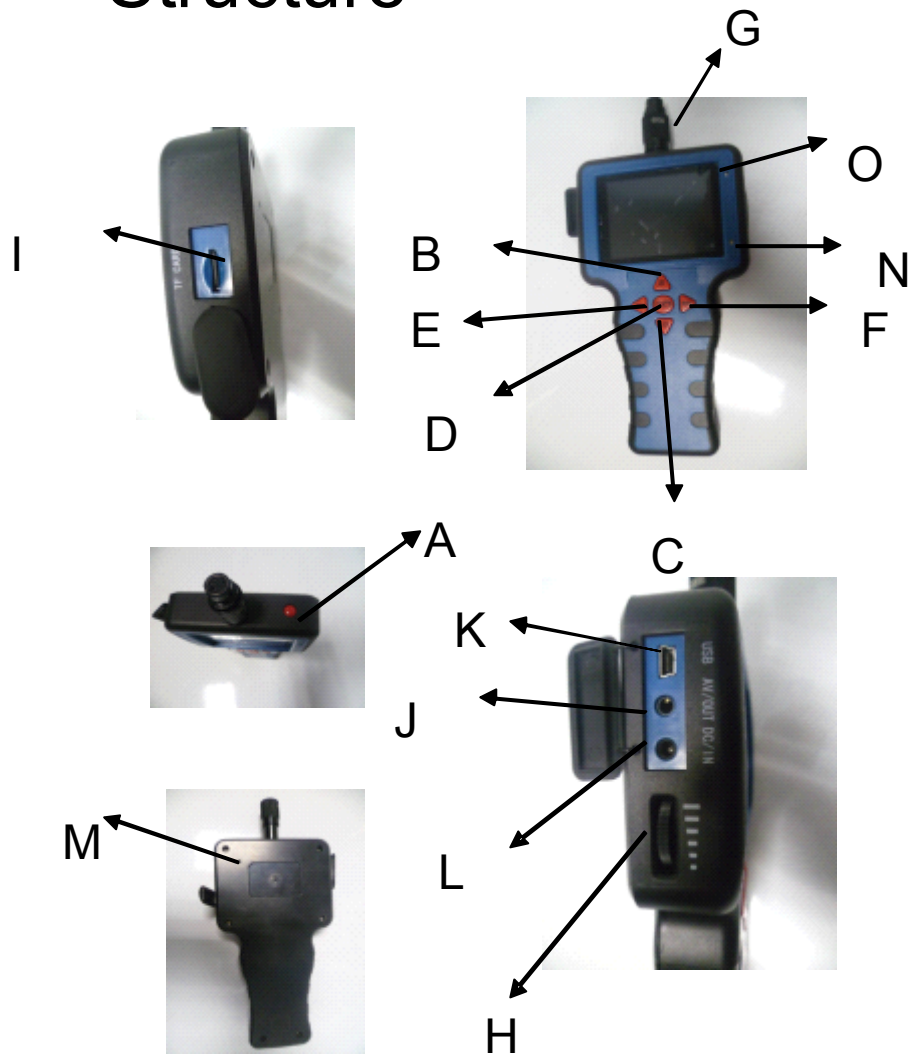
- **A. Power**
- **B. Up**
- **C. Down**
- **D. Confirmation**
- **E. Mode**
- **F. Menu**
- **G. Fasten tube connector**
- **H. Adjustment for light**
- **I. Slot of TF Card**
- **J. AV faucet**
- **K. USB faucet**
- **L. Power faucet**
- **M. Reset**
- **N. Charge indicator**
- **O. Power indicator**

PACKING LIST

Main unit x 1

Tube with len x 1
(optional)

DC 5V charger x 1

USB cable x
1

AV cable x 1

Accessory
maget/hook/mir
ror x 1

The accessories of this device can be used to retrieve small items like dropped rings or screws.

Key function

Under different mode, the key may has different function,pls refer to following table:

Key	Photograph	Video	Replay	Menu
Up▲	Zoom in	Zoom in	Choose up or zoom in	Choose or adjust upward
Down▼	Zoom out	Zoom out	Choose down or zoom out	Choose or adjust downward
OK	Photo taking	video recording	Confirmation	Confirmation
MODE	Mode browsing	Mode browsing	Exit	In Date/Time setting cursor move to left
MENU	Entering into function setting	Entering into function setting	Delete	In Date/Time setting cursor move to right or exit

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Install main unit with flexible tube

Before use the device, it is necessary to connect the flexible tube to the main unit properly. Refer to the following picture.

Plugged to the socket, fasten the knurled knob

和PACKING LIST 放同一页
即第4页 华鸣仪器 www.hmyes.com 电话：
0370-4196526

Operation

Take photo

1. Photo taking status is same as realtime monitoring status as following:

Photo taking   **battery capacity**   **TF card or memory capacity**

present time

2. Press OK button to take photo.

3. Press OK button 3 seconds long, the system will enter into selftimer status; after 10 seconds, the device start to take photo automatically.

Tips: 1. It means photo taking success after image move towards the left.

2. photoes can be stored direct to TF card or memory compartment.

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Record Video

1. Press Mode button to enter into video recording ; press OK button to start video.

Status: "RES…." shows on the top right corner of screen;

The recording time shows on the top left corner of screen;

Present date and time shows under the screen.

2. Press OK button to end the video recording , then the "RES…" disappeared.

3. Press Mode button to quit from video recording.

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Play Picture/Video

In the realtime monitoring status, press Mode button twice to enter into the following interface .

For picture

1. Press " ▲ " or " ▼ " to choose "   ", press OK button to enter into picture folder.
2. Press" ▲ " or" ▼ " to choose a certain picture ; pictures stored in the device by time order.
3. Press OK button to enter into the picture choosed, press" ▲ " the picture zoom in (max 4 times); press "▼" the picture zoom out.
4. Press Mode button to exit.

For Video

1. Press " ▲" or " ▼ " to choose "   ", press OK button to enter into video folder.
2. Press " ▲ " or " ▼" to browse video, video stored in the device by time order.
3. When select one certain video, press OK button to play video.
4. Press OK button again to end video replay; press Mode button to exit.

Tips: Under any modes, once you press Mode button, it soon exit from present interface. But once you press the button of Menu, it soon enter into function set interface . ?

Delete Video/Picture

When select one certain picture or video, press Menu button to enter into the following interface.
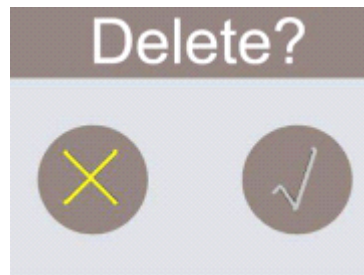
For Picture

1.Press " ▲ " or " ▼ " to select " ⊗ " or " ✓ ".

2.Choose " ⊗ ", press OK button, means give up to delete the picture and exit.

3.Choose " ✓ ", press OK button to confirm to delete the picture.

For Video
1.Press " ▲ " or " ▼ " to select " ⊗ " or " ✓ ".

2.Choose " ⊗ ", press OK button, means give up to delete the video and exit.

3.Choose " ✓ ", press OK button to confirm to delete the video.

AV & USB output

AV output

1. Insert the video cable into the video out socket of monitor. Insert the other end of the cable into the video in jack of a TV or another monitor. After this, there are two AV standard "NTSC" and "PAL" for your choosing. Press " ▲ " or " ▼ " to exchange AV standard.

2. After choosed, press OK button to confirm, the LCD screen will be shut off automatically, then all data or operation of the device will be shown on TV or another monitor.

USB output

Use the USB cable to connect the monitor to a PC, the USB online appears on the PC.

Open my computer, and find the Mobile Disk. The video/picture files in SD card could be copied/cut/playback.

NOTE! If the computer can not play the video files normally, please install the video player software in the CD-ROM.

Function setting

How to enter the setting mode

In the realtime monitoring status, press "menu" button to enter into the

setting interface as follows:
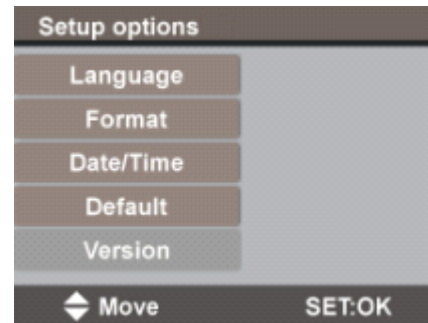
Language setting

1. In the setting mode, Press "▲" or "▼" button to select "language", press OK
   button to enter the following interface, there are 8 languages for your choosing.
2. Press "▲" or "▼" to select a suitable language.
3. Press OK button to confirm and exit.

Format

1.In the setting mode, press " ▲ " or " ▼ " to select "Format", press OK button to enter into the following interface.

2. Press " ▲ " or " ▼ " to select "yes" to conduct format, then press OK button will erase all data; " NO" will be exit.

```
Setup options

  Language
  Format           Yes
               o   No
  Date/Time
  Default
  Version

  ⬍ Move           SET:OK
```
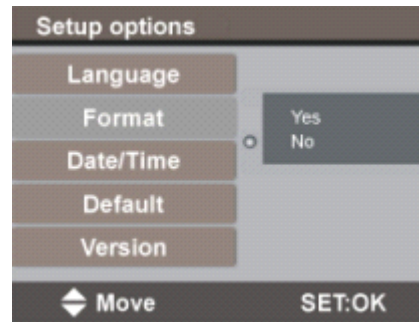
Date/Time setting

1.   In the setting mode, press " ▲ " or " ▼ " to select "Date/Time", press OK button to enter the following interface.

2.   Press " ▲ " or " ▼ " to select Date or Time: Press mode button cursor move to left and press menu button cursor move to right.

3.   Press " ▲ " or " ▼ " to modify the date or the time. Press OK to confirm and exit.

```
Setup options

  Language
  Format       Month  Day  Year
  Date/Time
              Hour  Minute
  Default
  Version
```

```
  ⬍ Move           SET:OK
```
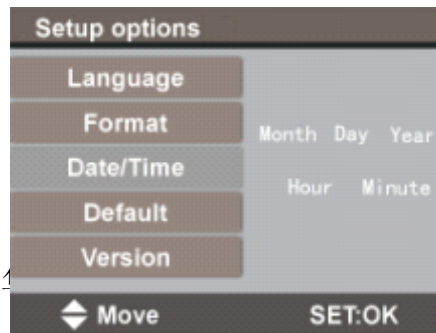
Default setting

1.In the setting mode, press " ▲ " or " ▼ " to select "Default", press OK button to enter into the following interface.

2.Select "Yes" to come back to factory default, or select "No" to give up factory default.

3.Press OK to confirm and exit.

```
Setup options
   Language
   Format
   Date/Time
   Default      ○  Yes
   Version          No

   ◆ Move        SET:OK
```
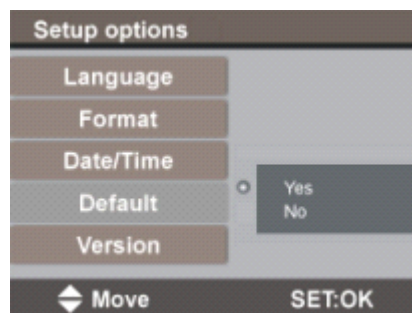
Version information

1.	In the setting mode, press " ▲ " or " ▼ " to select "Version", press OK to enter into the following interface. Here you can browse version information of this device.

2.	Press OK button to exit.

```
Setup options
   Language
   Format
   Date/Time
   Default       VER. INFO
   Version

   ◆ Move        SET:OK
```

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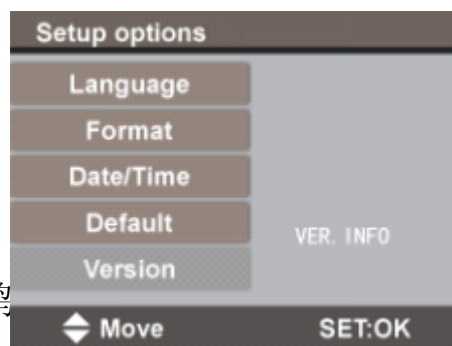
Safety Recommendation

- **<u>Warning:</u>**
- ★This device must not be used for medical or veterinary purposes.
- ★Do not modify or disassemble the unit.
- ★Do not use this item to explosive atmospheres.

- **<u>Cautions:</u>**
- 1.Keep the device out of the reach of children.
- 2.Do not look directly into the objective lens at the end of insertion tube, your eyesight may be
- seriously damaged.
- 3.Do not forcibly bend, twist or enlongate the insertion tube.
- 4.Strong impact on the device may result in the breakage of the objective lens at the tip of insertion tube.
- 5.Do not use or store the device at a tempreture higher than 60℃, or lower than -20 ℃ .
- 6. Keep the device away from acid or alkaline solutions, oil or petrol, and do not use it in an atmosphere containing their vapours.
- 7.Do not remove the SD memory card while data is being saved to the card, this may cause the data to be lost or the card to be damaged.
- 8. Pls store the device in dry and drafty condition.
- 9.Pls remove the batteries before storing the device for a long time.
- 10.If any quality or technique problem occurs,pls contact direct our after-sales service department.

Troubleshooting

1. No image on the dispay after turning the power on:
   Batteries is exhausted, connect the display unit to the power adapter supplied and recharge batteries.The video scope can be used when connected to ac power.

   No image, only word on the LCD monitor after turn the power on:
   Pls check whether the tube is connect to the display correctly.

2. Uable take photoes or record video:
   SD card not present, wrongly inserted, full or faulty. Check SD card is present, check SD card insertion, check the card capacity, check the SD card is faulty(check if SD card works in other device)

3. Shut down:
   When all functions freeze or fail,pls insert an insulated needle into the (Reset) hole at the back of main unit, the display will shut off soon, then you can restart the system.

Specification

LCD Screen Type	3.5" TFT LCD	
Len's Diameter (mm)	10 mm	5.5 mm optional
Tube's Diameter (mm)	6.8 mm	5.5 mm optional
Imaging Sensor	CMOS	
Total Pixel	640 x 480	
View Angle	54°	
Total length of camera	1,100 mm	
Capacity of TF Card	Up to max 16 G	
Tube and Len waterproof level	IP67	
Auxiliary ligh	2 LED	
Still image storage format	JPEG (640 x 480)	
Video system	NTSC/PAL	
Power supply	Li battery 3.7V	
Power adapter	DC 5V	
Focus distance	2-10 cm	
Operating temperature	-10°-60°	
Dimensions(L x W x H)	20CM(L)X11CM(W)X2.5CM(H)	FastenTerminal excluded
Weight (about)	700(G)	

* All the specification are subject to minor change without prior notice.

FCC INFORMATION

This device complies with part 15 of the FCC Rules, Operation is subject to the folowing two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party resposible for compliance could void the use's authority to operate the equipment.

EU Environmental Protection

Waste electrical products should not be disposed of with household waste. Pls recyle where facilities exist. Check with your local authority or retailer for recycling advice.