

**novascope®**

industriële endoscopen

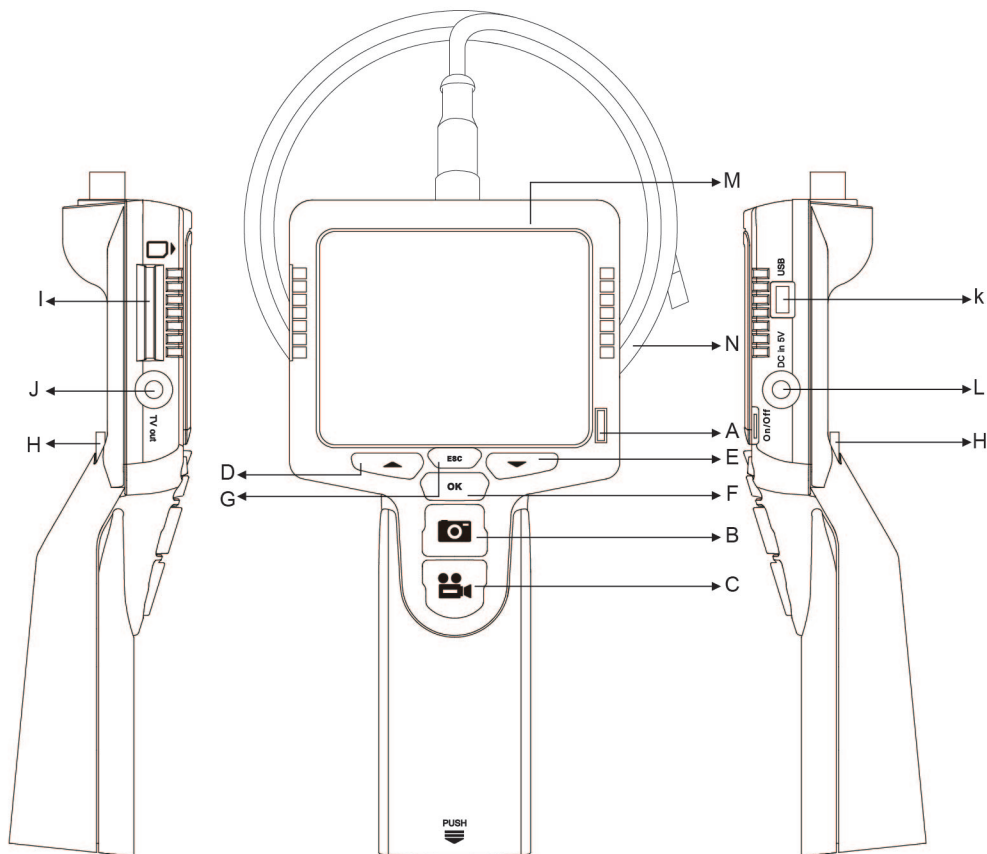
# MONITOR TYPE BORESCOPE



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## PARTS FUNCTION



- |                 |        |                   |     |                  |
|-----------------|--------|-------------------|-----|------------------|
| A. Power button | On/Off | F. Multi-selector | OK  | K. USB jack      |
| B. PHOTO button |        | G. Escape         | ESC | L. DC in jack    |
| C. REC button   |        | H. Light switch   |     | M. Main unit     |
| D. PREV button  |        | I. SD card jack   |     | N. Probe / Cable |
| E. NEXT button  |        | J. AV jack        |     |                  |





## INTERFACE OVERVIEW

This handy, easy-to-use device is designed with simple operational functions and commonly used by both amateurs and professionals. There are 3 basic modes for easier operations as follows :

<b>PREVIEW Mode</b>	Displays summarized optional functions such as; picture taking, video taking etc.
<b>SURFING Mode</b>	Allows user to survey photos and videos in the memory card and maintain.
<b>MENU Mode</b>	Includes file maintenance, settings etc.

## OPERATION FUNCTION

All the buttons of this scope different functions under each mode as cross referenced below:

Button	Preview Mode	Surfing Mode	Menu Mode
 		Back to previous photo or video. Switch to next photo or video.	Selecting the previous function or option. Selection the next function or option.
OK	To enter into the Menu mode.	To delete photos or video.	Confirm selected function or option.
ESC	To return to the Preview mode.	To return to the preview mode.	To return to the Preview mode.
	To take photograph.	View upward photo.	Displays information on the software for technical repairs and maintenance.
	To start / stop video recording.	View downward photo.	To return to the Preview mode.

## MENU

### Main Menu

Under the preview mode: Press **OK** button to display the various optional functions as follows:

**VIDEO OUTPUT**

**VIDEO FORMAT**

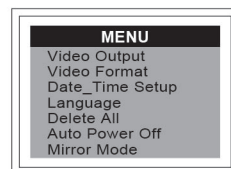
**DATE / TIME SETUP**

**LANGUAGE**

**DELETE ALL**

**AUTO POWER OFF**

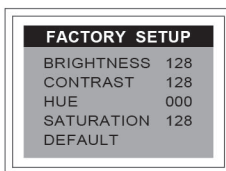
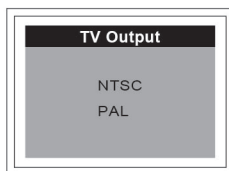
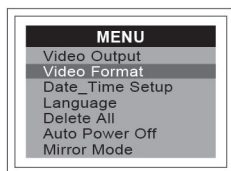
**MIRROR MODE**



### VIDEO OUTPUT

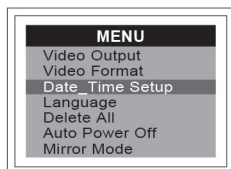
Once you insert the video cable, select this function to transfer the viewing screen from the main unit to television screen, the main unit screen will turn black. You can transfer the screen back to the main unit by selecting the same function.

**VIDEO FORMAT** To setup the TV output format.



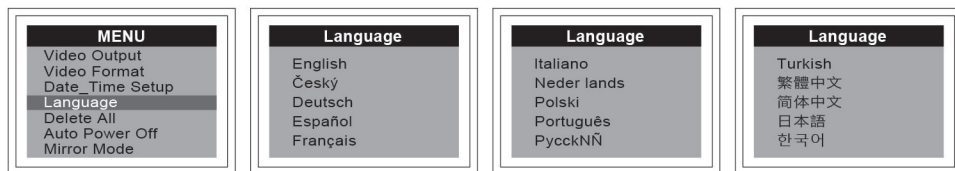
### DATE / TIME

Press **▲** button & **▼** button to select year / month / date or hour / minute / second, and press **OK** button for increasing numbers and press **⏮** button for reducing number.



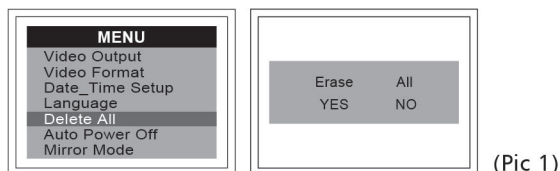
## MENU

**LANGUAGE SETUP** To select language (15 optional languages)



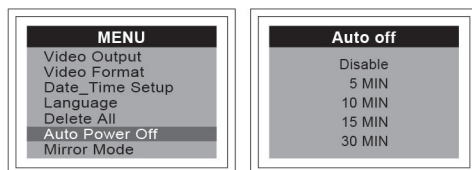
## DELETE ALL

Displays a frame includes two options as in Pic 1 press "▲" or "▼" to select "Yes" or "No" and press OK to confirm.



(Pic 1)

**AUTO POWER OFF** To setup time for auto power off.



## MIRROR MODE

Inserting probe to object, it probably present the opposite image.

Please make below step.

Push OK button and choose ▼ to mirror mode.

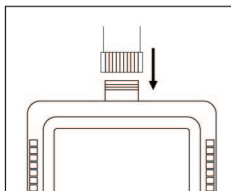
Push OK mirror mode function, it will demonstrate the correct image.

## OPERATION

### Installing (Getting started)

#### STEP 1

Connect the probe with the main unit. Place the main unit facing inward and connect the probe (marked with an arrow) by inserting it to the main unit and screw on (refer to Pic 2)

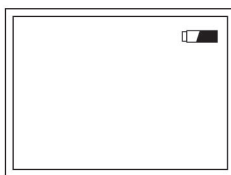


(Pic 2)

#### STEP 2

Press POWER button around 3~5 seconds to turn monitor on, then it can start to use. Be aware of battery bar, if battery low, while POWER button flickering that need to recharge or change battery.

(  Capacity of battery).














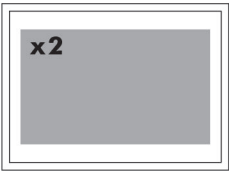






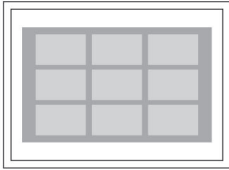
(Pic 3)

#### STEP 3

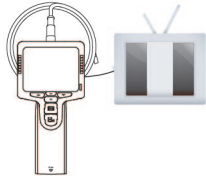
Press POWER button for 3-5 seconds to turn it off.



## OPERATION

<b>PHOTO</b> 	<p>Press  for taking picture.</p> <p>Status: After taking picture. the system automatically switch back preview mode.</p>
<b>REC</b> 	<ol style="list-style-type: none"> <li>1. Press  for video recording. Status: Displays the sign  in the lower-left corner to indicate recording status.</li> <li>2. Press  again to stop recording. Status: The symbol  in the lower-left corner disappears to indicate end of recording, return preview mode.</li> </ol>
<b>ZOOM IN 2x</b>	<ol style="list-style-type: none"> <li>1. Press  button.</li> <li>2. Display x2 text on the monitor, press  for taking picture or  for video recording that the picture or video image will show ZOOM x2.</li> <li>3. Not necessary ZOOM x2, press  or ESC.</li> </ol> 
<b>SURFING PICTURE OR VIDEO</b>	<p><b>STEP 1:</b></p> <ol style="list-style-type: none"> <li>1. Press ESC and show grid mode of 9th image on the monitor.</li> <li>2. Press  left image,  right image,  up image,  down image to select picture.</li> <li>3. Press ESC returns preview mode.</li> </ol> <p><b>STEP 2 or working in grid mode:</b></p> <ol style="list-style-type: none"> <li>1. Press OK displays single image, press OK again for image deletion.</li> <li>2. After picture selected, then press OK for viewing picture.</li> <li>3. After video selected, then press OK and continue to press  for viewing video. To press  again for pause video.</li> </ol> 

## OPERATION

<b>COMPARISON 2 PICTURES</b>	<ol style="list-style-type: none"> <li>1. Press ESC in preview mode, and select the first comparison picture to press <b>OK</b> , and press <b>📷</b> for comparing 2 selected pictures.</li> <li>2. Press <b>▲</b> or <b>▼</b> to choose picture in right side for advanced comparison. Press ESC twice to return preview mode.</li> </ol>
<b>DATE / TIME SETUP</b>	<ol style="list-style-type: none"> <li>1. Press <b>OK</b> to display main menu.</li> <li>2. Select Date_Time Setup and press <b>OK</b> to set date (YY/MM/DD/HOUR/MIN/SEC).</li> <li>3. Press <b>📷</b> for adding or <b>📺</b> for decreasing the numbers (date / time) .</li> </ol> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p style="text-align: center; margin: 0;"><b>MENU</b></p> <p style="margin: 2px 0;">Video Output</p> <p style="margin: 2px 0;">Video Format</p> <p style="margin: 2px 0; background-color: #ccc;">Date_Time Setup</p> <p style="margin: 2px 0;">Language</p> <p style="margin: 2px 0;">Delete All</p> <p style="margin: 2px 0;">Auto Power Off</p> <p style="margin: 2px 0;">Mirror Mode</p> </div> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;"> <p style="text-align: center; margin: 0;"><b>Time Set</b></p> <p style="margin: 2px 0;">2014/01/04</p> <p style="margin: 2px 0;">01:21:29</p> <p style="margin: 2px 0;">Display ON</p> </div> </div> <ol style="list-style-type: none"> <li>4. Display ON or OFF function: In "display off", means that never display DATE/TIME in preview mode and picture taken.</li> </ol>
<b>INPUT/ OUTPUT PICTURES INTO EXTERNAL VIEWING SCREEN</b>	<ol style="list-style-type: none"> <li>1. Connect the black AV cable with the unit to the AV jack on the left side of the main unit. (P.S: Make sure the other side of the AV cable is well connected with the external viewing screen.)</li> <li>2. Press <b>OK</b> to select.</li> <li>3. Press <b>▲</b> or <b>▼</b> to transfer to Video Output option.</li> <li>4. Press <b>OK</b> again.</li> </ol> <p style="margin-left: 40px;">Status: Picture will output to external viewing screen.</p> <p>PS: The function will detect automatically if AV cable already inserted in the AV jack. If not but inserted. the image of screen will be switched back to main unit.</p> <div style="text-align: right;">  </div>

## OPERATION

### IMAGE FORMAT/ BRIGHTNESS PARAMETER ADJUSTMENT

1. Press **OK** into MENU mode.
2. Press **▼** to image format.
3. Press **OK** into TV OUT mode and press **▼** or **▲** to choose image format in "NTSC" or "PAL".
4. Press **OK**.
5. Select Brightness to press **▼** or **▲** to adjust required brightness. Press **OK** after finished brightness setup.
6. Do same procedure for contrast, saturation, etc.
7. Press **DEFAULT** to return manufacture's original parameter setup.

Remark: Highly recommended don't change parameter for brightness/contrast/saturation if no possible requirement. If user finished adjustment; please press **DEFAULT** to return original parameter setup.

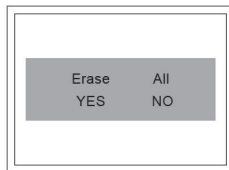
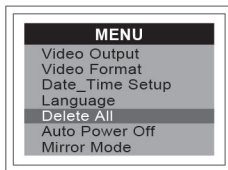
### DELETE SINGLE FILE (LIMITED TO VIEWING MODE)

1. Press **▲** or **▼** to go to the required file.
2. Press **OK** to go to the delete option.
3. Press **▲** or **▼** for "Yes" or "No" option
4. Press **OK** to confirm.



### DELETE ALL FILES

1. Press **OK** to go to DELETE ALL in the Main Menu.
2. Press **▲** or **▼** for "Yes" or "No" option.
3. Press **OK** to confirm.

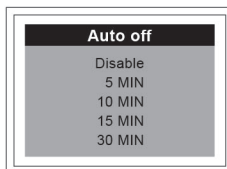
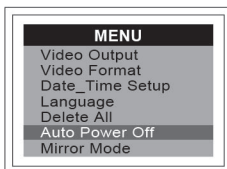


## OPERATION

### AUTO POWER ON / OFF SETTING

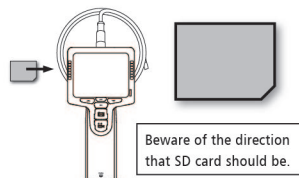
1. Press **OK** .
2. Press **▲** or **▼** to go to the Auto Power off option.
3. Press **OK** .
4. Press **▲** or **▼** to set up the time options (5min/10min/15min/30min) or DISABLE option(if you choose not to have this function)
5. Press **OK** .

Remark: Highly recommend choose 'disable" function, or choose 5/10/15/30 minutes will power off automatically when time out in use.



### ACCESSORIES :

- USB Cable- available connection to computer / notebook / laptop for convenient file transfer and maintenance.
- Video Cable- connects screening to television (AV in jack) when required.
- Adapter- enables power charging when low power is indicated.
- SD card- Please refer to the picture for direction when inserting to the unit.
- Li-Ion battery.



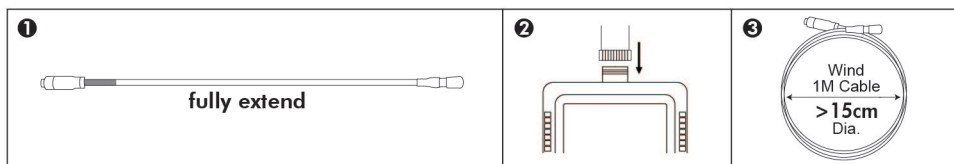
## SD CARD ROUTES



### REMARK :

- Approximate 1G memory store for each AVI file while taking video, pay attention to take video time avoid the file overwriting.
- SD card support to 32G SDHC. It can available work for S32G SDXC but need to make format to FAT32.

## PROBE / CABLE NOTES



- 1 Fully extend cable before using to avoid wire strict in cable tube.
- 2 Screw on / off must be tightened / slack completely.
- 3 Wind cable approx. 15cm diameter at 1M, 16cm at 2M, 17cm at 3M, etc...

### WARRANTY :

- This NOVASCOPE product will be valid within 6 months for warranty. The defected parts repaired freely during warranty period.
- This warranty does not apply to products that (a) defected parts resulting from misuse or improper application (b) scratch or wear from unprofessional use. Any service needed, please return the defected parts to your vendor ( the written description of the problem possible needs).
- Warranty valid in 6 months after the date of purchase from vendor.

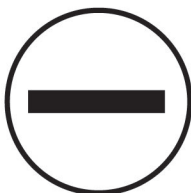
## SPECIFICATIONS

FEATURES	SPECIFICATION
<b>SYSTEM SPEC.</b>	
Effective Pixels	720 x 480 (NTSC) / 720 x 576 (PAL)
Display	3.5" TFT-LCD
Interface	Mini USB 1.1 / AV out
Power Supply	Rechargeable Lithium battery DC 5V / 1A
Video Format	NTSC & PAL
Recording Media	4GB SD card x 1
Picture Storage	JPEG (640 x 480)
Video Storage	AVI (640 x 480)
Magnification	Zoom x2
Picture / Video	Surfing picture / video
Comparison	Comparison 2 picture in monitor
Language Support	15 Languages
<b>CABLE SPEC.</b>	
Image Sensor	CMOS
Resolution	640 x 480
Tip Diameter	5.5mm (Option: 3.9, 4.5, 5.5, 8, 12mm)
Cable Length	1, 3, 5, 10, 20, 30M
Exposure	Automatic
White Balance	Fix
Field of View (Fov)	60°
Depth of Field (Dof)	2 ~ 5cm / 8cm ~ ∞
Operating Temp.	-10 ~ 60°C
Waterproofing	IP67
Light Source	4 white leds

## ATTENTION



- Prohibit disassemble the borescope, except authorized experts or distributor, especially in high voltage area.
- Please power off the switch before clean or repair the borescope, probably electric shock caused by connecting in electricity without power off the switch.
- Please keep clean or environmental management on working site to avoid any damages by bad working conditions
- The main unit of borescope probably caused damage by water drop or intrusion by sand in bad working environment.
- Please use original spare parts, if not, it might damage the product.



- Don't use the product in an aircraft and medical field.
- Don't use the product in dangerous environment such as oil tank.
- Don't use the product under the direct sunshine exposure.
- Do not remove the SD Memory Card while data is being saved to the card while photographing or videoing as this may cause the data to be lost or the card to be damaged.
- While videoing it need storage mass data, we recommend more than SD card to catch better quality.

### STORAGE & CLEANING:

- Please inspect and clean the borescope on a regular time schedule.
- Please change some parts if possible needed.
- Please inspect and clean outside of borescope and each part if any damaged.
- Please clean up the camera of coiled cable by dry mop before application for avoiding the impurity.
- Don't use chemical liquid to clean off the surface of the product, use cotton buds soaked in alcohol to clean the lens.
- Please inspect and clean the outlook of borescope if attached any organic solvent.

## ATTENTION

- Please inspect and clean the TFT-LCD monitor or switch if any water drop stained.
- When storing the product, be careful when bending the probe, don't bend the probe to 180°.
- Please store carefully after work and keep away from children hand touch.
- Keep away from sunshine exposed or moisture area.

### CAUTION OF LI-ION BATTERY :

- Please full recharging battery before operation, only charging battery low electricity while shipment or when end user bought at first time.
- Please recharging battery approximate 5~6 hours (not up to 6 ~ 8 hours), then pull out the adapter to protect battery life cycle.
- Must confirm battery in good order or electrode cleanly before recharging battery. The battery probably oxidation while long stored or battery terminal got wet or oily, caused lack of contact to electrode. Please wipe cleanly the battery electrode before use.
- The battery can be self-discharge since full charged, chemical material will go battery worse if not use for long period. While continuous self-discharge, battery electric voltage drop down quickly and cause it unable to use anymore.
- The best way of recharging battery in optimal mode will be equivalent electricity to avoid battery damage. In extreme battery low or lose power fully since battery continuous self-discharge easily caused battery damage in life cycle.
- Battery belongs to consumable products while it reduced the efficiency gradually due to more run the cycle of recharging and self-discharging. The life cycle depends on the habits of end user or environment in storage. In this situation, battery life cycle will make short gradually till finished.
- Please contact with distributor or manufacturer to replace new battery if fully charged but no power display or finished electricity suddenly.



## TROUBLESHOOTING

FAQ	SOLUTIONS
Battery Low	AC adapter charging
Battery life time	Battery changed.
No image on LCD monitor after power on	Probably battery is exhausted; replace new one battery or recharging battery.
No image but display text on LCD monitor after power on	Please check battery better connect or probe cable connection to main unit well.
TFT-LCD malfunction	Changed or repair
Camera malfunction	Changed or repair
Camera bending	Changed or repair
LED malfunction	Repair
Unable to take picture or video	Check SD card to insert housing; while damage or full memory storage caused SD card unable to work. Please file transfer to store in NB or PC through USB cable.
Main Unit shut down	When all the function freeze or failed, use needle to reset button on back of main unit. Main unit will restart automatically.

