



Camera Test & Video Borescope User's Guide



**Please read this manual before switching the unit on.
Important safety information inside.**



Camera Test & Video Borescope



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1.Warning

Safety Notes

⚠ Before using the instrument, please read all safety information and specification of the Video borescope carefully.

Application places

- Can be apply to detect the internal components of instruments working normally or not(such as: cars or large machines)
- Can check the objects underwater when put the camera into the water. (Drainage works).
- Can be used in some special monitor places, backsight of the cars.
- Used for wild adventure and so on.

Maintenance and Cleaning

- Repairing or maintenance should be carried out by professional person, the user cannot proceed it just only according to the manual.
- The camera cann't be cleaned by any impregnant, eradicator and so on.

Dangerous voltage

☐ Please be careful when you see the attachment which has dangerous voltage text, because this attachement possibly can cause the serious electric shock accident.

Safety symbols

Double insulation,accord with CE safety standards .

2.Introduction

This instrument uses high-definition video borescope 2.4 "TFT LCD, Resolution: 480 (W) X234 (H), application of H.264 video codec technology makes images clear picture quality, detailed, and equipped with a meter long curved comfortable waterproof goose-shaped tube , that can not be touched with the naked eye can not detect objects in view, while access to AV video display, signal system can input NTSC / PAL and automatically switch the signal format.

3.Function Description

Support the real-time view

Support AV input

Highlighted with LED,to support the operation of the dark places

Built-in 1400mAh lithium battery, support USB charging

Standby function to support the charge

NTSC/PAL auto switch

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4. Specifications

Camera

Sensor size	1/4inch CMOS
Sensor pixel	300,000
Maximum resolution	640 x 480
Maximum frame rate	30FPS/S
Focusing method:	Fixed focus15cm~25cm(5.9"~9.8")
Gooseneck length	1m(39")
Camera diameter	17mm(0.66")

TFT-LCD

Color TFT-LCD size:	2.4 inch
Display resolution	480(W) x 234(H)
Active area:	48mm x 35.6mm

Light Source

Highlight 4 LED	
Adjustable light intensity level	6 Level

Video format

NTSC/PAL	
Standard automatic conversion	

Power

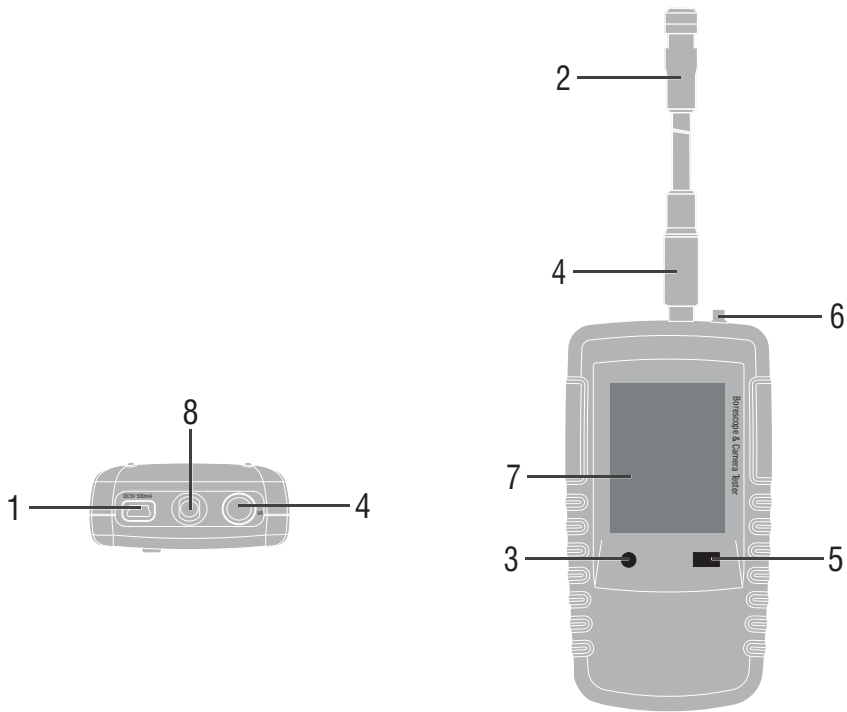
Battery:	Lithium batteries 3.7V/1400mAh
Current work:	MAX 400mA
Standby current:	MAX 5Ma
Low battery prompt:	3.3V

temperature

Operating temperature:	0°C----45°C
Storage temperature	-20°C----60°C
Relative humidity	5% ----85%

5. standard configuration

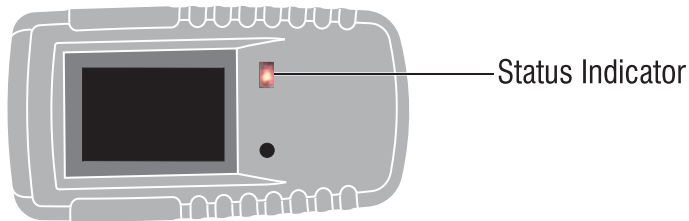
- BS-050
- 17mm Imager
- Hook, Magnet, Mirror Attachments
- Lithium batteries



7.Operation Instructions

Open and closed systems

- Power Switch: long press and hold the on/off button, Video borescope start, and long press and hold the on/off button again to power off the Video borescope.
- USB charging start: the system turned off, insert a USB charging, the system will automatically switch on and displays the LOGO, and then enter the LED charge indication states, TFT-LCD, Camera power supply will not be open, TFT-LCD without any DR information display, In this condition, long press the power switch 2 seconds, the system will wake up into the working state.



Illumination light source adjustment

- Light Maximum adjustable levels are to 6 level, the default illumination level is 3.
- Press the power button once to increase the illumination level cyclely.

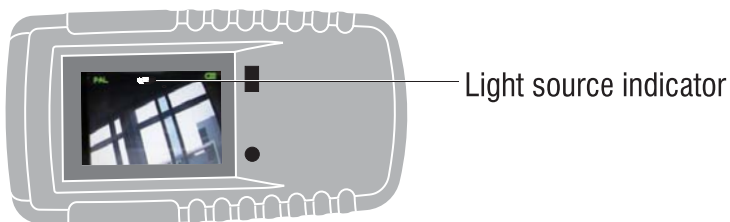
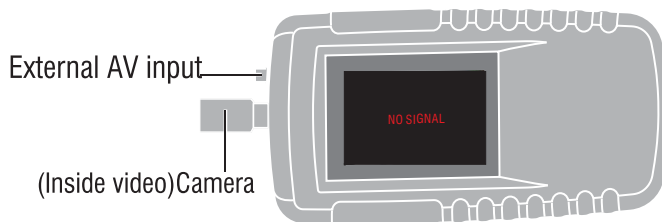


Image signal system

- Signal path: there are two accesses of the image signal entering, one way is for the image signal of inside camera and the other is for the external AV signal.
- Signal Switching: The meter's signal access is default of inside camera, on the TFT-LCD it display the illumination level indication, so when an external signal comes, the unit will automatically to switch to external access within 5 seconds, illumination level indication will disappear. when the external signal is cancelled, the system automatically switch to the internal access road within 2 seconds.
- Signal format conversion: Internal signal format defaults to PAL, without doing the signal format detection, external signal format can be converted to NTSC / PAL automatically.
- Auto Power off if no signal: When there isn't any internal signals or external signals to access, TFT-LCD displays NO SIGNAL, LED flashes green, and the meter is in standby, so if there is signal now, it will wake up the meter and make it enter into working mode. But if there isn't signal within 1.5 seconds, the meter will automatically power off.



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- Signal format instructions: When the switch to the external signal, TFT-LCD upper-left corner will indicate the current image signal format.

Power Supply Management

- Power Supply Instructions: When the system battery voltage is greater than 4.1V when the upper right corner of TFT-LCD display "☰" the battery symbol, said the power supply voltage is full, when the system battery voltage is greater than 3.9V when the upper right corner of TFT-LCD display "☰" the battery symbol, when the system 3.6V when the battery voltage is greater than the upper right corner of TFT-LCD display "☰" the battery symbol, when the system battery voltage is greater than 3.4V when the upper right corner of TFT-LCD display "☰" the battery symbol, when the 1. corner displays "☰" the battery symbol.
- Recharging: When the battery voltage is less than 4.1V, at the upper right corner of TFT-LCD display, the charging indicator means the battery is charging.
- Full: When the battery voltage is greater than 4.1V, at the upper right corner of TFT-LCD display, the battery symbol will be full.

Charge Standby:

- When the system turned off, insert a USB charging, the system automatically opens and displays the LOGO, and then enter the LED charge indication states, LED Status indication: When the battery voltage is greater than 4.1V when the green LED long light, when the battery voltage is less than 4.1 V, the red LED flashing slowly.
- When the system boot into a state of USB charging, TFT-LCD displays the charging indicator top right corner of the state.

8. Notes

- The non-professional persons should not open the machine cover
- Put down with caution.
- The camera is waterproof, but the scope body isn't waterproof, so please do not put the microscope instrument under rain or wet areas, or operate it in moist location. Once the camera tester is wringing, please immediately turn off the power supply, and have professional persons to maintain it. It is very easy to damage camera tester and to lead to electrical accidents.
- Please do not aim the camera at the sunlight, regardless of indoors and outdoors, do not operate the unit under the spotlight, strong light and beside the reflector lamp.
- Please operate the camera under the stated temperature, humidity and power supply range. The stated environment is (0 °C ~ 50°C) and humidity below 85%, the power voltage, please refer to above

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