

TABLE OF CONTENTS

Company Profile	1
Information about the device.....	2
Appearance Introduction.....	3
Display Introduction.....	4
Product Specifications.....	5
APP Download	6
Operational Guidance.....	7
Battery Installation	9
APP Appearance.....	10
Troubleshooting	11
Application Environment	12
Warranty Limitations	12
Cautions	13

COMPANY PROFILE

The brand Ralcam belongs to Shenzhen Ralcam Co, Ltd. We were established in 2010 and based in Shenzhen. Ralcam is a professional high-tech manufacturer and exporter that Specialize in the design, R&D and production of high resolution and small diameter industrial endoscope. More than 30 of our models are FCC CE ROHS certified that compliant with GS regulations. We have a 26-person R&D team, with well-equipped testing facilities, strong technical force and excellent quality control. ralcam borescope is committed to providing the best inspection tool for our customer to make our customer no worry about the problem of blind angle anymore. At present our research and development directions are small diameter industrial endoscope, HD endoscope, wireless endoscope, semi-rigid endoscope and wide-angle HD endoscope.

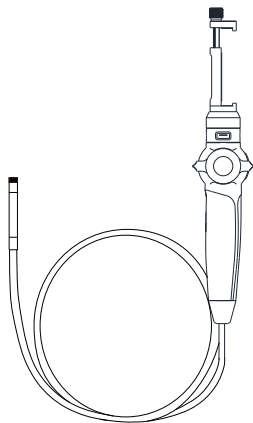
Our mission: Let visual products enter thousands of households and enhance family happiness and security.

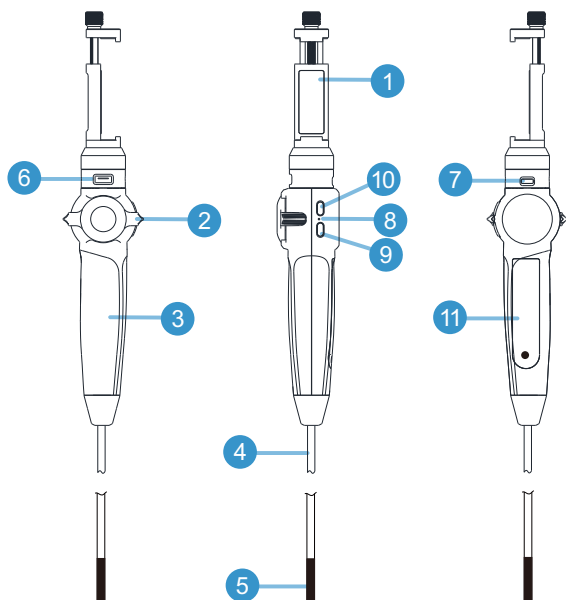
Take you to explore all the unknown!

INFORMATION ABOUT THE DEVICE

Device description

1. The automotive steering borescope of H4-A series is an important product and newly launched for the global automotive aftermarket.
2. It is specifically used to detect narrow and small curved spaces which are difficult to enter or hard-to-reach, such as automotive evaporator boxes, dew chambers, three-way catalytic sensors, etc.
3. This articulating borescope has a unique temperature protection function and is equipped with a two-way 180° steering detection function, which is convenient for users to put small probes into a small space, and then transmit vivid, clear, all-round videos and difficult films through the cable to show on the screen.
4. Meet your diversified inspection needs with advanced extended accessories and real-time temperature display.

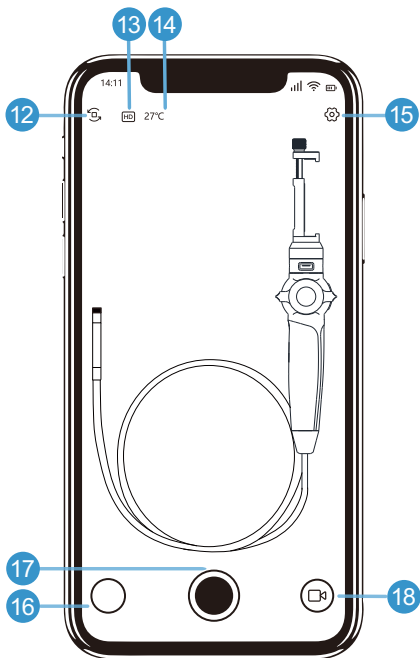




APPEARANCE INTRODUCTION

1	Cell Phone Holder
2	Rotate Wheel
3	Handle
4	Elastic snake tube
5	Megapixels HD Probe
6	USB port

7	Type-C Charging Interface
8	Power/Charging Indicator Light
9	Power On/Off , LED Adjust Button
10	Photo/ Video Button
11	Battery Cover



DISPLAY INTRODUCTION

12	Image rotation
13	resolution
14	Temperature
15	Setting
16	Play back
17	Snap/ video
18	Switch-over

PRODUCT SPECIFICATIONS


	Model	H408A	H406A
System	Support Phone System	Support Android and IOS, Harmony OS	
	Menu Language	Chinese Simplified, English, Chinese Traditional, Japanese, German, Spanish, French, Italian, Korean,	
	Snap Resolution	JPG 640*480/1280*720/1920*1080	
	Video Recording Resolution	AVI : 640*480/1280*720/1920*1080	
	Basic Function	Taking Photos, Videos Recording, Playback, Image Rotation, High Temperature Early Warning Protection, etc	
Probe	Steering Radius	≈ 32mm	≈ 32mm
	Steering	Steering Angle: Two-way 180° ; Steering Life ≥10000 Time	
	Snake Tube Material	Flexible Metal Tube	
	Snake Tube Length	1M / 2M / 3M / Customizable	
Camera	Camera Lens Diameter	Φ8.5 × 11.5mm	Φ6.2 × 16mm
	Sensor	1/6"COMS , 1920×1080 ; 20FPS	1/9 CMOS, 1280×720 ; 20FPS
	FOV	80°	90°
	DOF	20 ~ 100mm	20mm~100mm
	Lens Struc	F/No.: 3.8; 3P+1IR	F/No.: 4.7 ; 3P+1IR
	Adjuster LED Light	4 Level , 10 PCS LED	4 Level , 6 PCS LED
	AWB/ AGC	AWB: ON ; AGC: ON	
	Camera Head IP Grade	IP67	
Power	Battery Life	Charging ; DC5V*1A; 3.7V/2600mAh; About 4 Hours	
Operating Environment	Temperature & Relative Humidity	-10℃— 50℃; Less Than 90%	
Package	Box Size	34*28*9CM, 1.3 KG	
	Carton Size	10PCS/Carton 58*47*36CM, 14.5KG	
Qualification	Certification	CE/ FCC	


APP DOWNLOAD

APP Download and Installation Instructions

1. iPhone devices - Search for "Finder borescope" in the App store or scan the QR code to download and install APP.
2. Android devices - Scan the QR code to download and install APP
3. After the software installation is completed, the interface will appear as shown in the following figure. At this time, you can choose to click "Next" to skip it; you can also click "File Selection" to insert a picture with a pixel of 750*87. For the production of post-test reports.



 IOS(App store)

 Android(Google Play)

(Picture fixed size: W: 750 × H: 87X)

Model _____ License plate _____
 mileage _____ kilometer _____

Test effect comparison (after cleaning) Test effect comparison (before cleaning)

File Selection Next

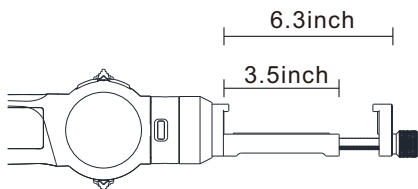
illustrate: _____

engineer _____

(Picture fixed size: W: 750 × H: 87X)

OPERATIONAL GUIDANCE**1 . Install the Phone on the Holder**

Adjust the adjustment knob of the mobile phone holder, insert the mobile phone on the mobile phone holder (support 3.5 inch--6.3 inch screen mobile phone), connect the mobile phone and the handle with a data cable

**2 . Power On/Off**

Press the Power Button for 2 seconds to turn on the device (when power on the indicator light turn GREEN) and the Android mobile phone will automatically open the application software(But iPhone needs to open the APP), meanwhile the snake tube LED will light on, the search interface appears, presenting the image. Long press the Power Button for 2 seconds to turn off.

3 . LED Light Adjustment

After power on, the LED light is the brightest by default setting, press the button to adjust the brightness, the brightness is divided into 3 levels, and the fourth level is turning off the LED light.

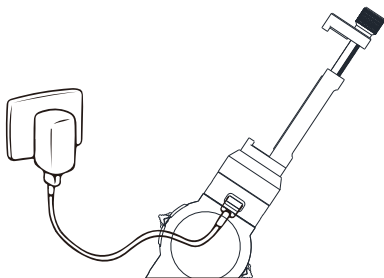
4 . Photo/Video

Press the button to take a photo, the photo file is saved in the Finder/camera Data directory of the phone, the format is JPG, long press the handle button for 2 seconds to enter the video, the video file is saved in the phone Finder/Camera Data directory, the format is AVI.

5 . Charging

Please use the 5V adapter or mobile power supply to connect to Type-C USB cable for charging. The charging voltage and current is 5V/1A. If the voltage is too high, it may burn the borescope.

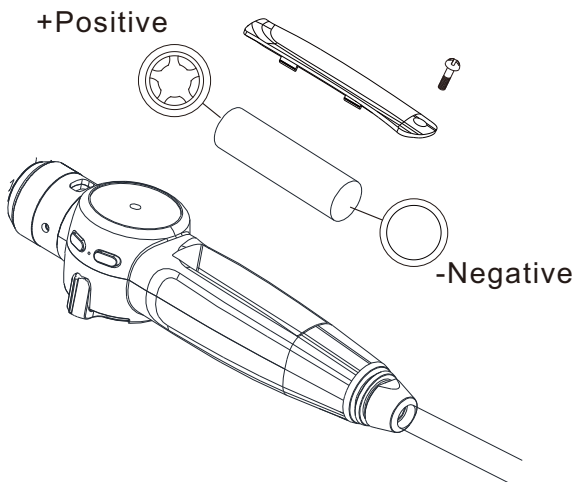
NOTE: Fast charging is not supported.



BATTERY INSTALLATION

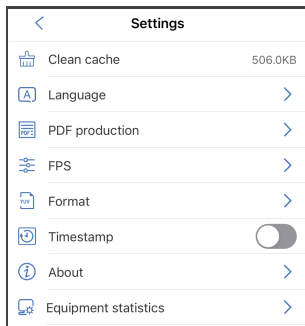
- 1 . Unscrew the handle battery screw cover and take out the battery
- 2 . Please pay special attention that the positive and negative poles of the battery correspond to the positive and negative poles on the endoscope handle. After fixed, close the battery cover and Tighten the screw

NOTE: Before replacing the battery, please make sure the device is dry and shut down.



APP APPEARANCE

1. Clean cache

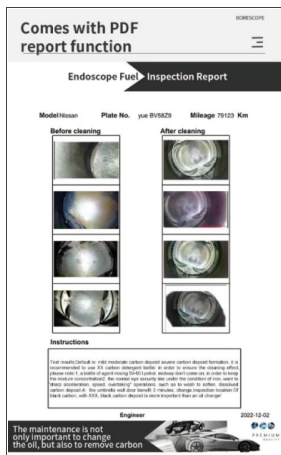


2. Language



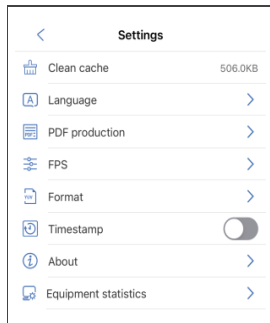
3. PDF report

You can produce the PDF report as follows.



4. Equipment statistics

You can check the cumulative use time and boot times.



TROUBLESHOOTING

Fault	Possible causes	Method
Unable to Power-on	<ol style="list-style-type: none"> 1. Dead Battery 2. Incorrect Installation 	<ol style="list-style-type: none"> 1. Please recharge or replace the battery. 2. Please check the battery and battery compartment contact if it is dirt or deformation then reinstall the battery
Auto Power-off	Low Battery	Please recharge or replace the battery.
Boot screen stuck	<ol style="list-style-type: none"> 1. System Booting Failure 2. Interface of the Data Cable is Dirty Data Cable Dysfunction 	<ol style="list-style-type: none"> 1. Restart the APP/Phone 2. Clean the Cable Interface and Plug again Replace the Data Cable
	<ol style="list-style-type: none"> 1. The APP didn't get the Permission Access APP incompatible with the OS 	<ol style="list-style-type: none"> 1. Allow the Permission Access in the Permission Manager 2. Uninstall the APP and install a new one Try another Phone to Check whether the Borescope is Dysfunction or not
Image cannot be recorded or found	The APP didn't get the Permission Access	<ol style="list-style-type: none"> 1. Allow the Permission Access in the Permission Manager 2. Uninstall the APP and install a new one 3. Search "FINDERCameraData" in the File of the Phone Storage
Can't charge	<ol style="list-style-type: none"> 1. The charging interface is dirty. 2. Damaged charging cable. 	<ol style="list-style-type: none"> 1. Clean the charging interface and replug it. 2. Replace the charging cable or adapter cable.
Blurry Image	<ol style="list-style-type: none"> 1. The probe is dirty. 2. Probe is not within the range of the depth -of-field. 3. Damaged lens due to high temperature. 	<ol style="list-style-type: none"> 1. Clean the probe with the lint-free cloth within the package. 2. Please place the probe within the depth of field range of 20-100mm. 3. Do not place the probe in a high temperature environment (below 70°C).
The probe steering range is too small	Snake tube is distorted	Please place the snake tube straight

APPLICATION ENVIRONMENT

For professional maintenance personnel, this portable articulating car endoscope can be used to detect places where the human eye can't see without disassembling the machine or damaging the instrument. It can be applied to precision instrument testing, engine overhaul, auto repair, pipe line overhaul, building maintenance, air conditioning overhaul, and so on.

Operating Temperature	Snake Tube	-10°C-70°C
	Whole Machine	-10°C-50°C
Input Voltage	Whole Machine	DC5V
Humidity	Whole Machine	15%-90%
Waterproof Level	Whole Machine	No Operating Under the Water

WARRANTY LIMITATIONS

Join the Ralcam family, Enjoy a No-Worry Warranty policy:

1. 6-month warranty for quality-related issues. After checked the root cause is caused by defective manufacturing process or component damage via our professional maintenance engineer.
2. We take care of all quality-related issues with a REPLACEMENT

REMINDER: Be sure to use your product as directed.

Free services will not be available in the following situations:

- 1 . Damage caused by improper storage.
- 2 . Damage caused by the customer's own disassembling.
- 3 . Damage caused by the customer's own modification.
- 4 . Damage caused by other irresistible factors.

CAUTIONS

Please read this manual carefully before using this product, and follow the instructions to avoid the damage caused by improper use.

- 1 . Please don't use our snake tube camera with other manufacturers borescope parts without authorization, even if the interfaces are the same.
- 2 . Please don't use the product in areas where it may be exposed to wire or charged objects, as the exposed metal parts can be electrically conductive and may cause unexpected accidents.
- 3 . Please don't allow minors to operate this borescope separately, and it's forbidden to use this borescope for medical or human and animal testing
- 4 . Please keep the product clean, avoid exposure to the sun, or direct contact with water, oil and corrosive liquids.
- 5 . NOTE: The whole borescope is NOT WATERPROOF! But IP67 Waterproof lens, Please dry the water stain on the lens after use
- 6 . Please take it lightly, do not over-tugging the tube, the maximum bending of the snake tube is one circle.
- 7 . Please make sure that the Wheel is returned to the neutral position before pulling out the snake tube. It is strictly forbidden to turn the Wheel roughly.
- 8 . Please use the original USB cable for charging