

# Steering Borescope Manual



## Company Profile

The brand “RALCAM” belongs to Shenzhen Ralcam Co., Ltd. We are established in 2010 and based in Shenzhen. RALCAM is a professional high-tech manufacturer and exporter that is concerned with the design, development and production of high resolution and small diameter industrial borescope. More than 30 of our models are FCC CE & ROHS certified to be compliant with GS regulations. They 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 any more. At present the our research and development directions are small diameter industrial borescope, HD borescope, wireless borescope, semi-rigid borescope and wide-angle HD borescope. Our mission: Let visual products enter thousands of households and enhance family happiness and security. Take you to explore all the unknown!



## H4-B Series Steering Borescope

The automotive steering Borescope of H4-B series is an important product and newly launched for the global automotive aftermarket. 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.. This steering 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. Meet your diversified inspection needs with advanced extended accessories and real-time temperature display.

### Note:

Do not put the snake tube in a high temperature environment of exceed 70°C.

Keep the snake tube straight to use.



**Warning:** Please read this manual carefully before using the borescope and follow herein instructions to avoid the damage caused by improper use.

## Appearance Introduction



No.	Name
1	TF Card Slot
2	Headphone Socket
3	Type-C Charging Interface
4	Power ON/OFF
5	4.3" LCD IPS Screen
6	UP/TV
7	Set / Album

No.	Name
8	DOWN / Image Rotate
9	Confirm / Photo
10	Rotate Wheel
11	Photo/Video Button
12	LED Adjustment
13	Flexible Snake Tube
14	Megapixel HD Probe

**Icon Statement**

a. TF card:



No TF card



With TF card

b. LED:



Level 1



Level 2



Level 3



Level 4  
(turn off)

c. Rechargeable Battery:



Power 25%



Power 50%



Power 75%



Full



Battery Runs Out  
Charge Immediately



Charging

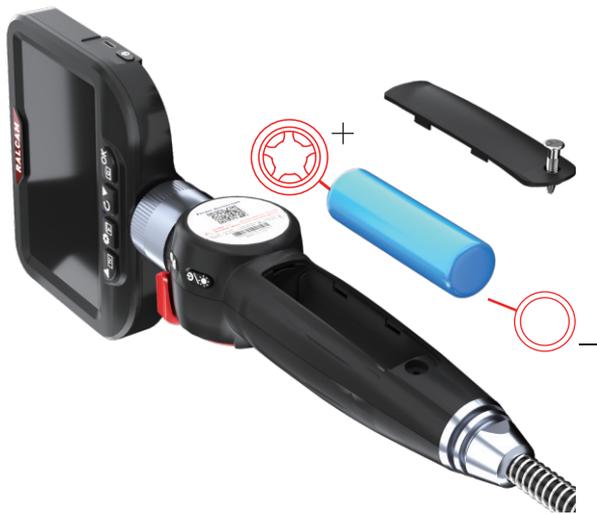
## Technical Parameters

Model No.	H405B	H406B	H408B
Camera Lens Diameter	5.5mm	6.2mm	8.5mm
Snake Tube Length	1.2m/2m	1m/2m/3m	1m/2m/3m
Pixels	1 Mega Pixel	1 Mega Pixel	2 Mega Pixel
Depth of Field	20-100mm	20-100mm	20-100mm
Field Of View	100°	90°	80°
LED Lamp Beads Quantity	6 LED lights	6 LED lights	10 LED lights
Sensor	1/9" CMOS	1/9" CMOS	1/6" CMOS
Photo/Video Resolution	1280*720P	1280*720P	1920*1080P
Manual Dimming	Support	Support	Support
Rotation Angle	≥180° in both directions		
Snake Tube Material	Flexible Metal Tube		
Battery Type	2600mAh Polymer Lithium Battery		
APP Language	Supports multiple languages		

## Operational Guidance

### 1. Battery Installation

- a. Unscrew the handle battery screw cover and take out the 18650 battery.
- b. Please pay special attention that the positive and negative poles of the 18650 battery correspond to the positive and negative poles on the endoscope handle. After fixed, close the battery cover and screw on the screws.



### 2. Mobile Phone APP Download and Installation Instructions

Only compatible with Android OTG device

How to use ?

Step1-Remove the 4.3" LCD IPS Screen of the borescope

## Operational Guidance

Step2 - Scan the QR code to download and install APP



### App Download

Android (Google Play)

Windows XP/Vista/7/8/10

Step3 - Take out the OTG data cable from tool box, connect mobile phone and borescope

handle via OTG cable, then open the APP (Named: OTG SEE) the phone automatically pops up the image.

### 3. Power On/Off

Press  the host button for 2 seconds to turn on, the handle and IPS screen indicator lights green, long press  2 seconds for power off.

### 4. 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 4 levels, and the fourth level is turning off the LED light.

## Operational Guidance

### 5.Mode

Long press  selection, 3 different function:

video  Photo  Album 

Long press  button to enter the video

a. The icon  is displayed in the upper left corner of the screen which is the video mode;

b. The icon  is displayed in the upper left corner of the screen which is the photo mode, press the host  button or  on the handle to take a picture.

c. The icon  is displayed in the upper left corner of the screen, which is the album mode, press  and  to view photos and videos, Press the host  button or  on the handle to play the video; Press the host  button or  on the handle again to pause; Press the button  on the host to fast forward, press the button  to rewind, there are 3 level fast forward and rewind adjustments, and press the button  to return to the normal play speed.

### 6.Delete photos and videos

In album mode, select the photo or video you want to delete, - Press  pop-up the delete page, select "Delete" and then press the  select "Delete Current" or "Delete All" as needed.

## Operational Guidance

### 7. Other Settings

In photo or video mode, press   once to set the "Resolution" and "Date Sticker", among which:

a. Resolution can choose "VGA" or "HD";

b. After the date sticker is turned on, when taking a photo or video, the date of the photo/video will be displayed in the lower right corner of the photo or video.

In the photo or video mode, press   twice to make the following settings:

c. Automatic shutdown, you can choose setting "off" or "3 minutes", "5 minutes" and "10 minutes", Automatic shutdown after minutes;

d. Language setting, support "Simplified Chinese", "Traditional Chinese", "Japanese", "English", "Korean", "French", "German", "Russian" and "Spanish", default "English".

e. Format

Delete all the contents of the memory card.

## Application Environment

For professional maintenance personnel, this portable articulating car borescope 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, pipeline overhaul, building maintenance, air conditioning overhaul, and so on.

Operating Temperature	Snake Tube	-10℃—70℃
	Whole Machine	-10℃—50℃
Input Voltage	Whole Machine	DC5V
Humidity	Whole Machine	15%—90%
Waterproof Level	Whole Machine	not waterproof

## Notice and Cautions

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

\*Please don't use our snake tube camera with other manufacturers borescope parts without authorization, even if the interfaces are the same.

\*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.

\*Please don't allow minors to operate this endoscope separately, and it's forbidden to use this borescope for medical or human and animal testing.

\*Please keep the product clean, avoid exposure to the sun, or direct contact with water, oil and corrosive liquids.

\*The whole machine is not waterproof, the snake cable and steerable probe are IP67 waterproof.

\*Please take it lightly, don't over-tugging the tube, the maximum bending of the snake tube is one circle.

\*Please make sure that the rotate wheel is returned to the neutral position before pulling out the snake tube. It is strictly forbidden to turn the rotate wheel roughly.

\*Please use the original USB cable for charging.

## Warranty Limitations

**Free services will not be available in the following situations:**

- \* Damage caused by improper storage,
- \* Damage caused by the customer's own disassembling,
- \* Damage caused by the customer's own modification.
- \* Damage caused by improper use.
- \* Damage caused by other irresistible factors

## Troubleshooting

Fault	Root Cause	Solution
Unable to Power-on	1. Dead Battery 2. Incorrect Installation	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	1. Failed to start the system. 2. Low Battery	1. Reassemble the battery and restart it, then charge it. 2. Reinstall the host
Image cannot be recorded or found	SD card capacity is insufficient.	1. Replace the SD card or delete unnecessary files. 2. Formatting the SD Card.
"SD card error" or "Format" when inserting	The position of the card is deviated.	1. Clean the SD card contact. 2. Reinstall the SD card.

## Troubleshooting

Fault	Root Cause	Solution
Can't charge	<ol style="list-style-type: none"> <li>1.The charging interface is dirty.</li> <li>2.Damaged charging cable.</li> </ol>	<ol style="list-style-type: none"> <li>1.Clean the charging interface and re-plug it.</li> <li>2.Replace the charging cable or charger.</li> </ol>
Blurry Imag	<ol style="list-style-type: none"> <li>1.The probe is dirty.</li> <li>2.Probe is not within the range of the depth-of-field.</li> <li>3.Damaged lens due to high temperature.</li> </ol>	<ol style="list-style-type: none"> <li>1.Clean the probe with the lint-free cloth within the package.</li> <li>2.Please place the probe within the depth of field range of 20-100mm.</li> <li>3.Do not place the probe in a high temperature environment (below 70°C).</li> </ol>
The probe steering range is too small	Snake tube is distorted	Keep the snake tube straight to use.