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Ralcam H406BD

Ralcam Dual Lens Articulating Borescope Model H406BD User Manual

6.2mm Slim Probe, 5-inch Endoscope Camera with Light, 5FT Semi-Rigid Cable

1. Product Overview

The Ralcam Dual Lens Articulating Borescope (Model H406BD) is an advanced inspection camera designed for detailed visual examination of hard-to-reach areas. It features a 6.2mm slim probe with dual lenses, allowing simultaneous front and side views, and a 5-inch IPS display for clear imaging. The probe offers 2-way 210° articulation for flexible navigation and is equipped with adjustable LED lights for optimal illumination. Its semi-rigid cable provides both flexibility and stability, making it ideal for automotive, industrial, and home inspection tasks.



Figure 1: Ralcam Dual Lens Articulating Borescope H406BD

2. Package Contents

Verify that all items are present in the package:

- Ralcam H406BD Borescope Unit
- USB-C Charging Cable
- Carrying Bag
- Cleaning Cloth
- 32GB Micro SD Card (pre-installed)
- User Manual (this document)



Figure 2: Included accessories and main unit

3. Product Components

Familiarize yourself with the main components of your borescope:

- **5-inch IPS Display:** High-resolution screen for real-time viewing.
- **Control Handle:** Ergonomic grip with articulation wheel and control buttons.
- **Probe Cable:** 5FT (1.5m) semi-rigid cable with a 6.2mm dual-lens camera.
- **Articulation Wheel:** Allows 2-way 210° movement of the probe tip.
- **LED Lights:** 6 front-facing and 1 side-facing adjustable LEDs for illumination.
- **Power Button:** To turn the device on/off.
- **Navigation Buttons:** For menu, settings, photo/video capture, zoom, and lens switching.



Figure 3: The 5-inch IPS display unit.



Figure 4: Articulation wheel for probe control.

4. Setup

4.1 Charging the Battery

The borescope is powered by a rechargeable lithium polymer battery. Before first use, fully charge the device using the provided USB-C cable and a standard 5V USB power adapter (not included).

- Connect the USB-C cable to the charging port on the borescope and the other end to a USB power source.
- The charging indicator light will show the charging status.
- A full charge typically takes several hours.



Figure 5: Charging the borescope via USB-C.

4.2 Inserting the Micro SD Card

A 32GB Micro SD card is included and typically pre-installed. This card is essential for saving photos and videos.

- Locate the Micro SD card slot on the side of the display unit.
- If not already inserted, gently push the Micro SD card into the slot until it clicks into place. Ensure the correct orientation.
- To remove, push the card in again until it springs out.

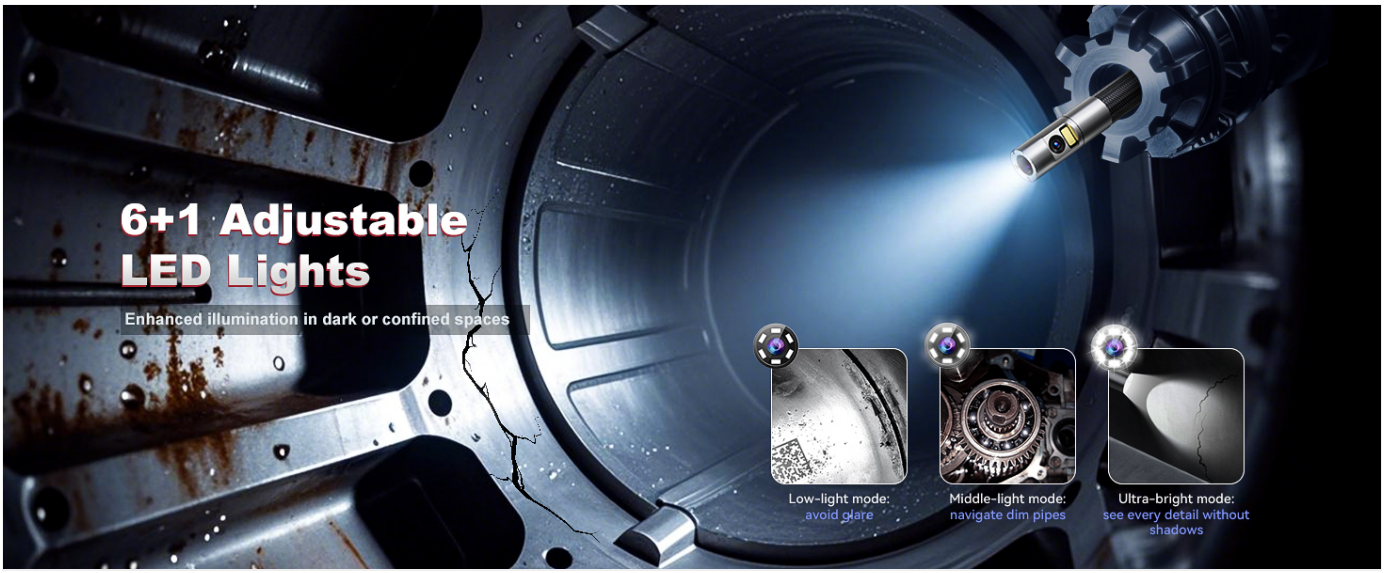

Figure 6: Micro SD card slot for storage.

4.3 Powering On/Off

Press and hold the power button () on the display unit for a few seconds to turn the device on or off.

5. Operating Instructions

5.1 Adjusting Articulation

The probe tip can be articulated 2-way up to 210° using the wheel control on the handle.

- Rotate the red wheel on the handle to bend the probe tip in the desired direction.
- Release the wheel to lock the probe tip in position.



Figure 7: Demonstrating 2-way articulation.

5.2 Adjusting LED Lights

The borescope features 6 front-facing and 1 side-facing LED lights with adjustable brightness levels.

- Press the light adjustment button (often indicated by a light bulb icon) to cycle through different brightness levels (e.g., Low, Medium, High, Off).
- Choose the optimal brightness for your inspection environment to avoid glare or ensure sufficient illumination.



Figure 8: Adjustable LED lights for various conditions.

5.3 Switching Lens Modes

The dual-lens probe allows you to switch between front view, side view, or a dual view (both simultaneously).

- Long press the appropriate button (often indicated by a camera icon with arrows or 'C' for camera) to toggle between Front Camera (default mode), Side Camera, and Dual Camera Modes.



Figure 9: Switching between front, side, and dual views.

5.4 Taking Photos and Recording Videos

The borescope can capture high-resolution images and 1080P videos.

- To take a photo, press the photo capture button (often a camera icon).
- To start/stop video recording, press the video recording button (often a video camera icon).

- All captured media is saved to the Micro SD card.

5.5 Zoom Function and Image Rotation

The device supports digital zoom and image rotation for better inspection.

- Use the zoom buttons (often '+' and '-' or magnifying glass icons) to apply up to 4x digital zoom.
- The image can be rotated 180° for optimal viewing angle, typically through the settings menu or a dedicated button.



Figure 10: Digital zoom and image rotation features.

5.6 High Temperature Protection

For safety, the borescope is equipped with high-temperature protection. If the probe tip exceeds 90°C (194°F), the device will automatically shut down to prevent damage.



Figure 11: High temperature protection warning on screen.

6. Maintenance and Care

6.1 Cleaning

- **Probe:** After each use, especially in dirty or wet environments, gently wipe the probe and camera lens with the provided cleaning cloth. For stubborn dirt, use a small amount of isopropyl alcohol on the cloth. Ensure the probe is dry before storage.

- **Display Unit:** Wipe the screen and body with a soft, dry cloth. Avoid abrasive cleaners or solvents.

6.2 Storage

- Store the borescope in its carrying bag in a cool, dry place, away from direct sunlight and extreme temperatures.
- Ensure the probe cable is coiled loosely and not sharply bent to prevent damage.



Figure 12: The portable carrying case for safe storage and transport.

6.3 Battery Care

- To prolong battery life, avoid fully discharging the battery frequently.
- If storing for an extended period, charge the battery to approximately 50-70% every few months.



Figure 13: The borescope features a detachable and rechargeable battery.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on	Low battery; Power button not pressed long enough	Charge the battery; Press and hold the power button for 3-5 seconds

Problem	Possible Cause	Solution
No image on screen	Probe not connected properly; Camera mode not selected	Ensure probe is securely connected; Switch to a camera view (Front, Side, or Dual)
Poor image quality	Dirty lens; Insufficient lighting; Incorrect focus distance	Clean the camera lens; Adjust LED brightness; Ensure object is within optimal focal range (6.5cm macro focus range)
Cannot save photos/videos	No Micro SD card; SD card full or corrupted	Insert a Micro SD card; Delete old files or format the card (backup data first)
Probe tip does not articulate	Articulation mechanism jammed; Cable damage	Gently try to free the mechanism; If damaged, contact support
Device shuts down unexpectedly	High temperature protection activated; Low battery	Allow device to cool down; Recharge the battery

8. Specifications

Feature	Detail
Model Name	H406BD
Probe Diameter	6.2mm
Cable Length	5FT (1.5m) Semi-Rigid
Articulation	2-Way, 210 Degrees
Screen Size	5 Inches IPS LCD
Video Capture Resolution	1080p
Effective Still Resolution	1080 Pixels
Photo Sensor Resolution	200 MP (interpolated)
LED Lights	6+1 Adjustable LEDs
Water Resistance Level	IP67 (Probe)
Macro Focus Range	6.5 cm
Optical Zoom	4x
Storage	Micro SD Card (32GB included)
Connectivity Technology	USB-C
Battery	1 Lithium Polymer (included)
Product Dimensions	10 x 5 x 20 cm
Item Weight	1.28 Kilograms

9. Warranty and Support

9.1 Warranty Information

This Ralcam product comes with a 1-year warranty from the date of purchase. The warranty covers manufacturing defects and malfunctions under normal use. It does not cover damage caused by misuse, accidents, unauthorized modifications, or improper maintenance.

9.2 Customer Support

For technical assistance, warranty claims, or any questions regarding your Ralcam borescope, please contact Ralcam customer support. Refer to the contact information provided on the product packaging or the official Ralcam website.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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