

ABZEKH H16 / R16 / MIPI

ABZEKH Drone Accessories

USER MANUAL

Model: Skydroid H16 / R16 / MIPI

1. PRODUCT OVERVIEW

The ABZEKH Drone Accessories system provides advanced digital video and data transmission capabilities for drone applications. This comprehensive system includes a 2.4GHz 16-channel FHSS (Frequency Hopping Spread Spectrum) transmitter, an R16 receiver, and a MIPI camera module. Designed for professionals and enthusiasts, it ensures stable and long-range communication, high-definition video, and integrated telemetry functions.

The MIPI camera module features an integrated 8W searchlight with ultra-high luminous efficiency LEDs and a 150-degree lens, enhancing visibility and operational capabilities in various lighting conditions.

2. SAFETY INFORMATION

- **Voltage Compatibility:** Ensure the power supply voltage is within the specified range of 14-72V. Using incorrect voltage can damage the device.
- **Proper Handling:** Handle all components with care. Avoid dropping or subjecting them to excessive force.
- **Environmental Conditions:** Do not expose the devices to extreme temperatures, humidity, or direct water contact. Operate within recommended environmental limits.
- **Connection Integrity:** Always ensure all connections (power, data, antenna) are secure before operation to prevent signal loss or damage.
- **Antenna Placement:** Position antennas correctly and avoid bending them sharply to maintain optimal signal strength.
- **Ventilation:** Ensure adequate ventilation around the transmitter unit during operation to prevent overheating.

3. PACKAGE CONTENTS

Please verify that all items listed below are present in your package:

- Skydroid H16/R16 Transmitter Unit
- MIPI Camera Module with Integrated Searchlight
- Antennas (typically two for the transmitter)
- Connecting Cables (as required for power and data)



Figure 3.1: ABZEKH Skydroid H16/R16 Transmitter Unit. This image displays the main transmitter unit, a black rectangular device with cooling fins, two UART ports (UART0, UART1), a 'SET' button, and two detachable antennas connected via coaxial cables.



Figure 3.2: ABZEKH MIPI Camera Module. This image shows the compact black camera unit with a central lens and two integrated LED searchlights on either side. A braided cable with red and black wires extends from the module, terminating in a connector.

4. SETUP

Follow these steps to set up your ABZEKH Drone Accessories:

1. **Antenna Installation:** Carefully screw the provided antennas onto the corresponding connectors on the transmitter unit. Ensure they are finger-tight but do not overtighten.
2. **Power Connection:** Connect the power cable to the transmitter unit. Ensure the power source provides a stable voltage between 14V and 72V. Observe polarity if applicable.
3. **MIPI Camera Connection:** Connect the MIPI camera module to the designated port on your drone's flight controller or the transmitter unit, as per your drone's specific wiring diagram. The camera's cable typically includes power and data lines.
4. **Receiver Connection (R16):** Connect the R16 receiver to your drone's flight controller. Refer to your flight controller's manual for the correct wiring and configuration for SBUS, PPM, or other supported protocols.
5. **Telemetry and Data Ports:** Utilize the UART0 and UART1 ports on the transmitter for telemetry data transmission or other peripheral connections as needed. Consult your flight controller's documentation for UART setup.
6. **Initial Power-On:** Once all connections are secure, apply power to the system. Observe indicator lights on the transmitter and receiver to confirm successful power-up and binding.

5. OPERATING INSTRUCTIONS

This section outlines the basic operation of the ABZEKH Drone Accessories system:

- **Powering On/Off:** Power on your drone and the connected ABZEKH system. The system will typically initialize automatically. To power off, disconnect the power source.
- **Binding (if necessary):** If the transmitter and receiver are not pre-bound, follow the binding procedure outlined in the Skydroid H16/R16 specific manual. This usually involves pressing a bind button on the receiver while powering it on.
- **Video Transmission:** The system provides 1080P digital video transmission. Ensure your ground station or display device is properly configured to receive the video feed from the H16 transmitter.
- **Data Transmission & Telemetry:** The 2.4GHz FHSS system ensures stable data transmission up to 20KM. Telemetry data (e.g., battery voltage, GPS coordinates, flight mode) will be transmitted to your ground station via the H16 transmitter.
- **MIPI Camera Operation:** The MIPI camera provides a high-quality video feed. The integrated 8W searchlight can be activated or controlled via your flight controller or a dedicated switch, depending on your setup. The 150-degree lens offers a wide field of view.
- **Channel Control:** The 16-channel capability allows for extensive control over your drone's functions and accessories. Map channels in your flight controller software as required.

6. MAINTENANCE

Proper maintenance ensures the longevity and reliable performance of your ABZEKH Drone Accessories:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the transmitter and camera modules. Do not use liquid cleaners or solvents, as they may damage the components.
- **Connection Check:** Periodically inspect all cables and connectors for signs of wear, fraying, or corrosion. Replace damaged cables immediately.
- **Antenna Care:** Ensure antennas are not bent or damaged. Store them in a way that prevents stress on the connectors.
- **Firmware Updates:** Check the manufacturer's website periodically for firmware updates for the H16 transmitter and MIPI camera. Keep your devices updated for optimal performance and new features.

- **Storage:** When not in use, store the accessories in a cool, dry place, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

This section addresses common issues you might encounter:

Problem	Possible Cause	Solution
No power to transmitter/camera	Incorrect voltage; Loose power connection; Damaged cable.	Verify power source voltage (14-72V); Check all power cable connections; Inspect cables for damage and replace if necessary.
No video signal	MIPI camera not connected; Incorrect ground station setup; Signal interference.	Ensure MIPI camera is securely connected; Verify ground station video input settings; Reduce distance or move away from sources of interference.
Poor video quality / Lag	Weak signal; Obstructions; Antenna orientation.	Ensure line of sight between transmitter and receiver; Adjust antenna orientation for optimal signal; Avoid operating near large metal objects or dense foliage.
No telemetry data	UART connection issue; Flight controller not configured for telemetry.	Check UART cable connections between transmitter and flight controller; Configure flight controller's UART port for telemetry output as per its manual.
Transmitter/Receiver not binding	Incorrect binding procedure; Out of range during binding.	Refer to the Skydroid H16/R16 specific manual for the correct binding steps; Ensure devices are close during the binding process.

8. SPECIFICATIONS

Feature	Specification
Model No.	For MIPI (Camera), Skydroid H16/R16 (Transmitter/Receiver)
Working Voltage	14-72V
Working Current (Light On)	140mA (for MIPI Camera)
Working Current (Light Off)	14mA (for MIPI Camera)
MIPI Camera Size	102.1 x 42.6 x 36.5 mm
MIPI Camera Weight	63g
Camera Features	Integrated 8W searchlight; Ultra high luminous efficiency LED with 150-degree lens
Transmission Frequency	2.4GHz
Channels	16CH

Feature	Specification
Transmission Technology	FHSS (Frequency Hopping Spread Spectrum)
Transmission Range	Up to 20KM
Video Resolution	1080P Digital Video
Functionality	Digital Video Data Transmission, Telemetry

9. WARRANTY AND SUPPORT

Specific warranty information for this product is not provided in this manual. For details regarding warranty coverage, terms, and conditions, please refer to the documentation included with your purchase or contact the manufacturer directly.

For technical support, troubleshooting assistance beyond what is covered in this manual, or inquiries about replacement parts, please contact ABZEKH customer service through their official website or the retailer from whom you purchased the product.

