RunCam Spotter V2

RunCam Spotter V2 FPV Camera and Transmitter Kit User Manual

Model: Spotter V2

1. Introduction

The RunCam Spotter V2 Micro FPV AIO Camera is an integrated camera and video transmitter (VTX) system designed for First Person View (FPV) applications in various remote-controlled vehicles such as RC cars, planes, boats, and drones. This compact unit provides a 700TVL camera with a 170-degree field of view, a 5.8GHz 40-channel adjustable power VTX (20mW-200mW), an integrated microphone, and an On-Screen Display (OSD) for real-time data.
This manual provides essential information for the proper setup, operation, and maintenance of your Spotter V2 FPV Camera and Transmitter Kit.

2. Package Contents

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

- 1x Spotter V2 Micro FPV AIO Camera (with Cloverleaf antenna)
- 1x XT-60 Power Cable
- 1x Double Sided Tape (one side is Velcro)
- 1x Spare Whip Antenna
- 1x User Manual (this document)

3. Specifications

Feature	Specification
Camera Resolution	700 TVL

Field of View (FOV)	170 degrees
Video Resolution	1280*960
Integrated Microphone	Yes
Video Transmission Frequency	5.8 GHz
Channels	40 CH
Transmission Power	20mW ~ 200mW (Adjustable)
Maximum Transmission Distance	500 meters / 547 yards
Default Video Input	PAL
Input Power	2S-4S (7.4V ~ 14.8V)
Antenna Type	Cloverleaf (default), Whip (spare)
Built-in OSD	Yes
Minimum Illumination	0.5 LUX
Operating Current	80mA
Dimensions (L x W x H)	35mm x 20.5mm x 17.8mm (Antenna not included)
Total Weight	9g
Compatibility	RC cars, aircraft, boats, drones; compatible with analog FPV goggles and monitors.

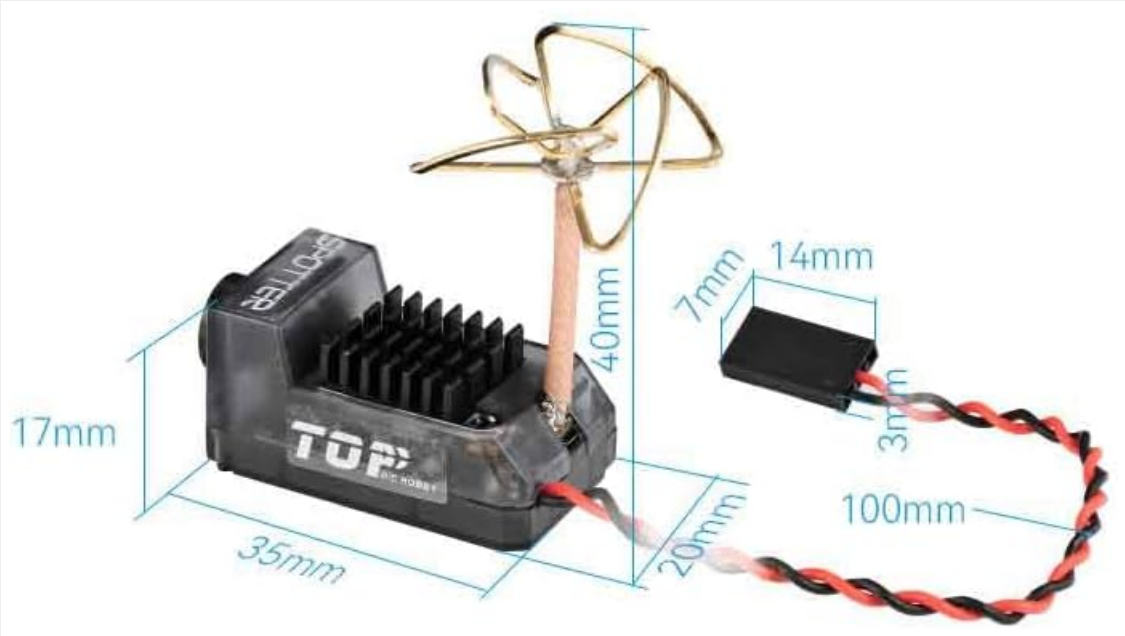

Image: Dimensions of the RunCam Spotter V2 FPV Camera, showing length, width, and height measurements in millimeters.

Image: Illustration of the 170-degree wide-angle lens of the Spotter V2 camera, demonstrating its expansive field of view over a landscape.

4. Setup

4.1 Mounting the Camera

The Spotter V2 camera is designed to be compact and lightweight, making it suitable for various RC vehicles. Use the provided double-sided tape (Velcro on one side) to securely mount the camera to your RC car, plane, boat, or drone. Ensure the camera has a clear line of sight for optimal FPV experience.

Image: A hand holding the compact RunCam Spotter V2 FPV camera, demonstrating its small size relative to a US quarter coin.

Image: The Spotter V2 FPV camera mounted on top of an RC car, demonstrating a typical installation scenario.

4.2 Power Connection

Connect the provided XT-60 power cable to the camera's power input. The camera supports a 2S-4S LiPo battery (7.4V-14.8V). Ensure correct polarity when connecting the power source to avoid damage to the unit.
The camera's wiring typically consists of:

- **Red Wire:** Positive (+) power input
- **Black Wire:** Negative (-) power input (Ground)
- **Yellow Wire:** Video Out (if applicable, though this is AIO, so video is transmitted wirelessly)

For direct power, connect the red and black wires to your vehicle's battery or a suitable power distribution board within the specified voltage range.

4.3 Antenna Installation

The Spotter V2 comes with a pre-installed Cloverleaf antenna. A spare Whip antenna is also included. If the Cloverleaf antenna becomes damaged, you can solder the Whip antenna in its place. Ensure the antenna is securely attached and positioned to minimize obstruction for best signal transmission.

5. Operating Instructions

5.1 Powering On and Initial Check

Once the camera is mounted and powered correctly, connect your FPV goggles or monitor. The camera will power on automatically with your vehicle's power system. You should see the FPV feed on your display device.

Image: The Spotter V2 FPV camera positioned next to an FPV monitor, illustrating the live video feed capability.

Image: The Spotter V2 FPV camera shown with an FPV monitor and goggles, highlighting its broad compatibility with analog FPV receiving equipment.

5.2 Channel and Power Adjustment

The Spotter V2 features a button for frequency adjustment. Refer to the markings on the camera unit for the exact location of the "PRESS" button. Short presses typically cycle through channels, while long presses may cycle through bands or power levels. Consult the on-screen display (OSD) for current channel, band, and power settings.

- **Short Press:** Change channel within the current band.
- **Long Press:** Change band or adjust VTX power (20mW, 200mW).

Ensure your FPV receiver (goggles/monitor) is set to the same band and channel as the Spotter V2 for a clear video feed.

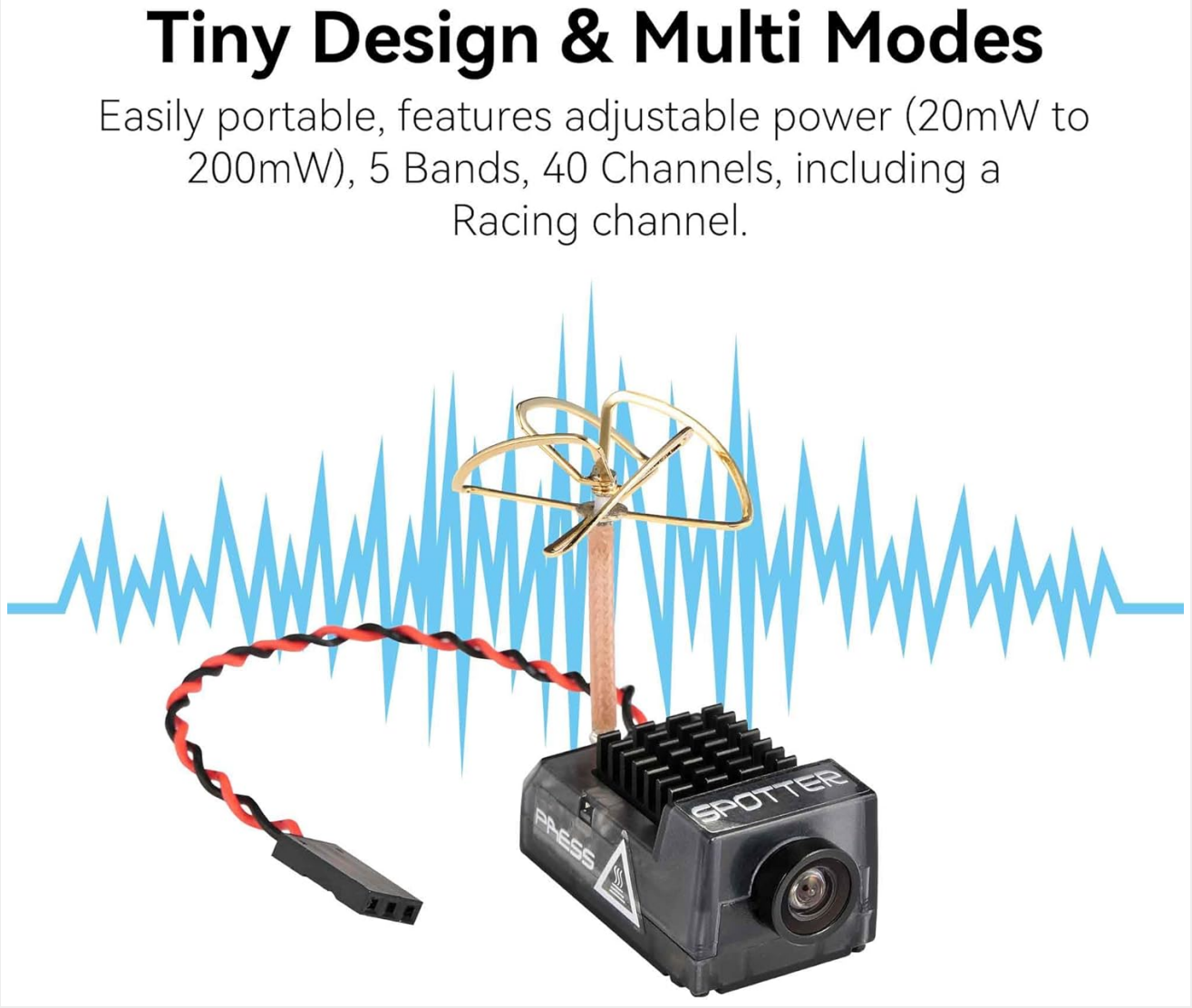

Image: The Spotter V2 FPV camera with its antenna, depicted with signal waves, representing its multi-mode capabilities including adjustable power and multiple channels.

5.3 On-Screen Display (OSD)

The integrated OSD provides real-time information directly on your FPV feed. This may include battery voltage, current channel/band, and other critical flight data. This feature helps in monitoring the system status during operation.

5.4 Integrated Microphone

The Spotter V2 includes an integrated microphone, allowing you to hear ambient sounds from your RC vehicle. This enhances the immersive FPV experience. Ensure your FPV receiver supports audio reception.

6. Maintenance

- **Cleaning:** Keep the camera lens clean using a soft, dry cloth. Avoid abrasive materials or harsh chemicals.
- **Antenna Care:** Ensure the antenna is not bent or damaged. A damaged antenna can significantly reduce transmission range and video quality. Use the spare whip antenna if the primary antenna is compromised.
- **Storage:** Store the camera in a dry, cool place away from direct sunlight and extreme temperatures.
- **Power:** Always disconnect power when not in use to prevent battery drain and potential damage.

7. Troubleshooting

Problem	Possible Cause	Solution
No video signal on FPV display.	◦ Incorrect channel/band on receiver. ◦ Power not connected or insufficient. ◦ Damaged antenna. ◦ Receiver not compatible (e.g., digital receiver with analog camera).	◦ Verify receiver is on the same band and channel as the camera. ◦ Check power connections and battery voltage. ◦ Inspect antenna for damage; replace if necessary. ◦ Ensure your FPV receiver is analog compatible.
Poor video quality (static, lines, weak signal).	◦ Interference from other devices. ◦ Antenna obstruction or damage. ◦ Low VTX power setting. ◦ Distance too far from receiver.	◦ Change to a less congested channel. ◦ Ensure antenna is clear and undamaged. ◦ Increase VTX power to 200mW if range is an issue. ◦ Reduce distance between camera and receiver.
No audio from integrated microphone.	◦ FPV receiver does not support audio. ◦ Microphone port blocked or damaged.	◦ Check your FPV receiver's specifications for audio support. ◦ Ensure the microphone opening is not obstructed.

8. Warranty and Support

The RunCam Spotter V2 FPV Camera and Transmitter Kit comes with a standard manufacturer's warranty. For specific warranty details and duration, please refer to the documentation provided at the time of purchase or contact RunCam customer support directly.

For technical support, troubleshooting assistance beyond this manual, or warranty claims, please visit the official RunCam website or contact their customer service department. Keep your purchase receipt as proof of purchase.

Manufacturer: RunCam

Website: www.runcam.com (This is a placeholder link, please verify the official website for support.)