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Flysky FS-R9B

Flysky FS-R9B 2.4G 8-Channel Receiver User Manual

Model: FS-R9B

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Flysky FS-R9B 2.4G 8-Channel Receiver. Designed for use with compatible Flysky transmitters, such as the FS-TH9X, this receiver is suitable for various RC models including gliders, helicopters, and airplanes. Please read this manual thoroughly before using the product to ensure safe and optimal performance.

2. PRODUCT OVERVIEW AND FEATURES

The Flysky FS-R9B is an 8-channel receiver utilizing the advanced AFHDS (Automatic Frequency Hopping Digital System) 2.4GHz technology, providing reliable and interference-free communication for your RC models.

Key Features:

- **Channels:** 8 Channels for comprehensive control.
- **Model Type Compatibility:** Designed for RC Gliders, Helicopters, and Airplanes.
- **RF Range:** Operates within the 2.40-2.48GHz frequency band.
- **Bandwidth:** 500Hz.
- **Band:** 160.
- **Receiving Sensitivity:** -105dBm for robust signal reception.
- **2.4G System:** AFHDS (Automatic Frequency Hopping Digital System).
- **Code Type:** GFSK (Gaussian Frequency Shift Keying).
- **Resolution:** 1024.
- **Input Power:** 4.5-6.5V DC.
- **Antenna Length:** 26mm.
- **Compact Size:** 42.7 x 27 x 15mm.
- **Lightweight:** Approximately 11.3g.
- **Certifications:** CE, FCC compliant.



Figure 2.1: Two Flysky FS-R9B 8-channel receivers, showcasing their compact design and included bind plugs. Each receiver features an antenna and multiple channel ports.



Figure 2.2: Detailed view of the Flysky FS-R9B receiver's top label, displaying the model number, "FLY SKY" branding, CE and AFHDS certifications, and input voltage range (4.5-6.5V).

3. SETUP AND INSTALLATION

3.1. Binding the Receiver to the Transmitter

The FS-R9B receiver must be bound to your Flysky transmitter (e.g., FS-TH9X) before first use. This process links the receiver uniquely to your transmitter, preventing interference from other radio systems.

1. Ensure your transmitter is turned off.
2. Connect the bind plug (included with the receiver) to the "BIND/BAT" port on the FS-R9B receiver.



Figure 3.1: The bind plug, a small black connector used to initiate the binding process on the receiver.

3. Apply power to the receiver (4.5-6.5V DC) through any available channel port (e.g., CH1, CH2, etc.) or the dedicated "BAT" port if available and not used for binding. The receiver's LED should flash rapidly, indicating it is in binding mode.



Figure 3.2: Detailed view of the FS-R9B receiver's channel ports (CH1-CH8) and the dedicated BIND/BAT port, where the bind plug is inserted for the binding procedure.

4. While holding the "BIND" button on your transmitter (refer to your transmitter's manual for exact location), turn on the transmitter.
5. The receiver's LED should stop flashing and become solid, indicating a successful bind.
6. Release the "BIND" button on the transmitter, then turn off both the receiver and the transmitter.
7. Remove the bind plug from the receiver.
8. Turn on the transmitter first, then power on the receiver. The receiver's LED should be solid, confirming a successful connection.

3.2. Connecting to Your Model

Connect your servos, ESC (Electronic Speed Controller), and other components to the corresponding channel ports on the FS-R9B receiver. Ensure correct polarity for all connections (signal, positive, negative).

- **CH1-CH8:** Connect servos or other control surfaces according to your model's requirements and transmitter setup.
- **BAT:** If not used for binding, this port can be used to supply power to the receiver, typically from an external BEC (Battery Eliminator Circuit) or a dedicated receiver battery.

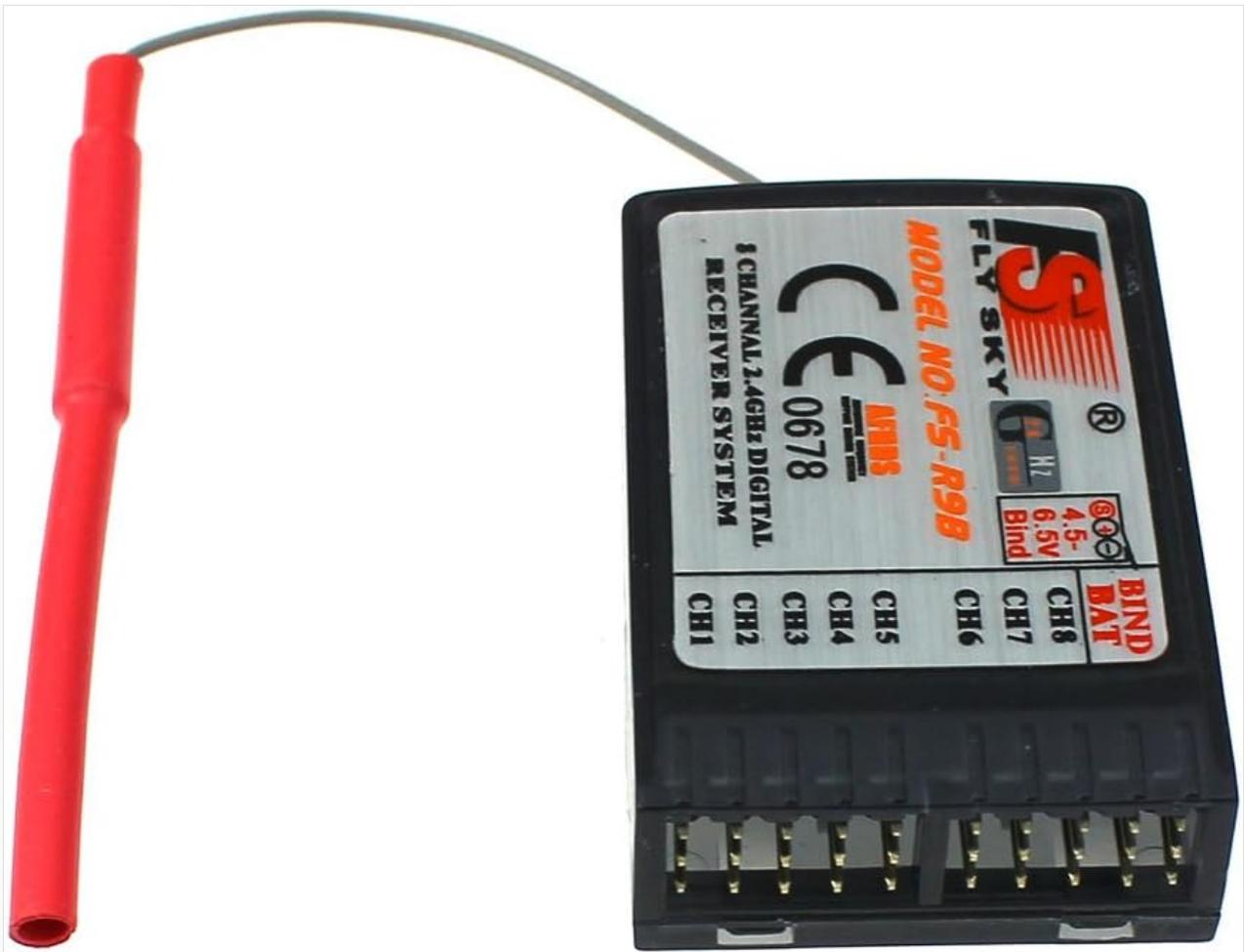


Figure 3.3: A single Flysky FS-R9B receiver with its antenna clearly visible, ready for installation in an RC model.

4. OPERATING INSTRUCTIONS

Once the receiver is successfully bound and installed in your RC model, follow these general operating procedures:

1. Always turn on your transmitter first.
2. Then, power on your RC model, which will power the receiver. The receiver's LED should illuminate solid, indicating a stable connection.
3. Perform a range check before flying, especially with a new setup or in a new environment.
4. After use, always turn off the receiver/model first, then turn off the transmitter.

Ensure your transmitter's settings (e.g., channel assignments, servo directions, endpoints) are correctly configured for your specific model and receiver setup.

5. MAINTENANCE

Proper maintenance ensures the longevity and reliability of your FS-R9B receiver:

- **Keep Clean:** Regularly inspect the receiver for dirt, dust, or debris. Use a soft, dry brush or compressed air to clean it.
- **Avoid Moisture:** Protect the receiver from water, humidity, and extreme temperatures. If exposed to moisture, allow it to dry completely before use.
- **Physical Protection:** Mount the receiver securely within your model to prevent vibrations and physical damage during operation or crashes. Consider using foam or vibration-dampening material.

- **Antenna Placement:** Ensure the antenna is not kinked or damaged. Position the antenna away from carbon fiber or large metal objects that can shield the signal. For optimal reception, try to position the antenna perpendicular to the transmitter's antenna.
- **Cable Management:** Secure all connecting wires to prevent them from interfering with moving parts or becoming disconnected during flight.

6. TROUBLESHOOTING

If you encounter issues with your FS-R9B receiver, refer to the following common troubleshooting steps:

- **Receiver LED Not Solid After Power On:**
 - Ensure the receiver is correctly bound to the transmitter. Repeat the binding process if necessary.
 - Check power supply to the receiver. Verify voltage (4.5-6.5V DC) and connections.
 - Ensure the transmitter is turned on and within range.
- **No Control/Intermittent Control:**
 - Verify that the receiver is powered and bound (solid LED).
 - Check all servo and ESC connections to the receiver for correct polarity and secure fit.
 - Ensure the transmitter's batteries are charged.
 - Perform a range check to rule out environmental interference or excessive distance.
 - Inspect the receiver antenna for damage or improper placement.
- **Servos Jittering/Unresponsive:**
 - Check for sufficient power supply to the servos and receiver. A weak BEC or battery can cause this.
 - Ensure no physical obstructions are impeding servo movement.
 - Test with different servos to isolate the issue.
- **Binding Fails (LED keeps flashing):**
 - Ensure the bind plug is fully inserted into the BIND/BAT port.
 - Verify the transmitter is in binding mode (holding bind button while powering on).
 - Try binding in a location with less 2.4GHz interference.
 - Ensure the receiver is receiving adequate power during the binding process.

7. SPECIFICATIONS

Detailed technical specifications for the Flysky FS-R9B receiver:

Parameter	Value
Channels	8 Channels
Model Type	RC Glider / Helicopter / Airplane
RF Range	2.40-2.48GHz
Bandwidth	500Hz
Band	160

Receiving Sensitivity	-105dBm
2.4G System	AFHDS
Code Type	GFSK
Resolution	1024
Input Power	4.5-6.5V DC
Antenna Length	26mm
Weight	11.3g
Dimensions (L x W x H)	42.7 x 27 x 15mm
Color	Grey transparent
Certificates	CE, FCC

8. SAFETY INFORMATION

Always adhere to the following safety guidelines when operating RC equipment:

- Operate RC models responsibly and in designated areas.
- Keep a safe distance from people, animals, and property.
- Never operate RC models near power lines, roads, or airports.
- Ensure all connections are secure before each use.
- Regularly inspect your model and components for damage.
- Do not modify the receiver or its components. Unauthorized modifications can lead to malfunction and void any potential warranty.
- The recommended age for use is 14 years and up.

9. WARRANTY AND SUPPORT

For specific warranty terms and conditions, please refer to the documentation provided by your retailer or contact the manufacturer directly. General support for Flysky products can often be found on the official Flysky website or through authorized distributors.

This product is manufactured by Flysky.