FrSky NPH-01266

FrSky Taranis Receiver X8R User Manual

Model: NPH-01266

1. Introduction

The FrSky X8R receiver is an advanced 8/16 channel telemetry receiver designed for use with FrSky Taranis and other compatible transmitter modules. It offers enhanced capabilities in a compact form factor, supporting both standard servo outputs and SBUS for up to 16 channels. The X8R features SmartPort for new hub-less sensors and older analog sensors, providing full duplex transmission. Its robust design ensures reliable operation and extended range for various remote control applications.



Figure 1: Front view of the FrSky X8R Receiver, showing the SmartPort, LED indicator, F/S button, and servo/SBUS/RSSI ports.

2. Product Features

- **Channel Versatility:** Provides 1 to 8 conventional channel outputs and 1 to 16 channels via the SBUS port.
- **Expandable Channels:** Capable of combining two X8R receivers to achieve a full 16-channel system.
- **RSSI Output:** Features a PWM output for Received Signal Strength Indication (RSSI) with a range of 0 to 3.3V.
- **SmartPort Enabled:** Supports two-way full duplex transmission for telemetry data, compatible with both new hub-less and older hub analog sensors.
- **Compact Design:** Smaller package compared to previous 8-channel receivers, offering enhanced capability.
- **Backward Compatibility:** Operates in D8 mode with DHT, DJT, DFT, and DHT-U transmitter modules for 8-channel operation.

3. What's in the Box

Upon opening the package, verify that all components are present:

- 1 x FrSky X8R Receiver
- 2 x Short Tool (for binding/setup)
- 1 x User Manual (this document)

4. Installation and Setup

4.1. Binding the Receiver

The X8R receiver must be bound to your FrSky transmitter or compatible module before use. The binding process varies slightly depending on the mode (D16 or D8) and your transmitter.

1. **For 16 Channels (D16 Mode):** Requires a FrSky Taranis or XJT module bound in D16 mode.
2. **For 8 Channels (D8 Mode):** Compatible with FrSky Taranis, XJT, DJT, DFT, DHT, and DHT-U modules.
3. Refer to your transmitter's manual for specific binding procedures. Generally, this involves putting the transmitter into bind mode, powering on the receiver while holding its F/S (Failsafe) button, and observing the LED indicator for successful binding.



Figure 2: Close-up view of the FrSky X8R Receiver, highlighting the F/S (Failsafe) button and LED indicator for binding and status.

4.2. Connecting Servos and Peripherals

The X8R offers multiple connection options:

- **Standard Servo Outputs (Channels 1-8):** Connect your servos directly to the labeled ports.
- **SBUS Port:** For accessing all 16 channels with SBUS-supported servos or a FrSky S.BUS Decoder. This allows for a cleaner wiring setup.
- **SmartPort:** Connect telemetry sensors to the SmartPort for real-time data feedback to your transmitter.
- **RSSI Output:** The RSSI port provides an analog voltage output (0-3.3V) for signal strength monitoring.

4.3. Antenna Placement

Proper antenna placement is crucial for optimal signal reception and range. It is recommended to position the two antennas at a 90-degree angle to each other (one vertical and one horizontal) to ensure robust reception regardless of the model's orientation during flight.

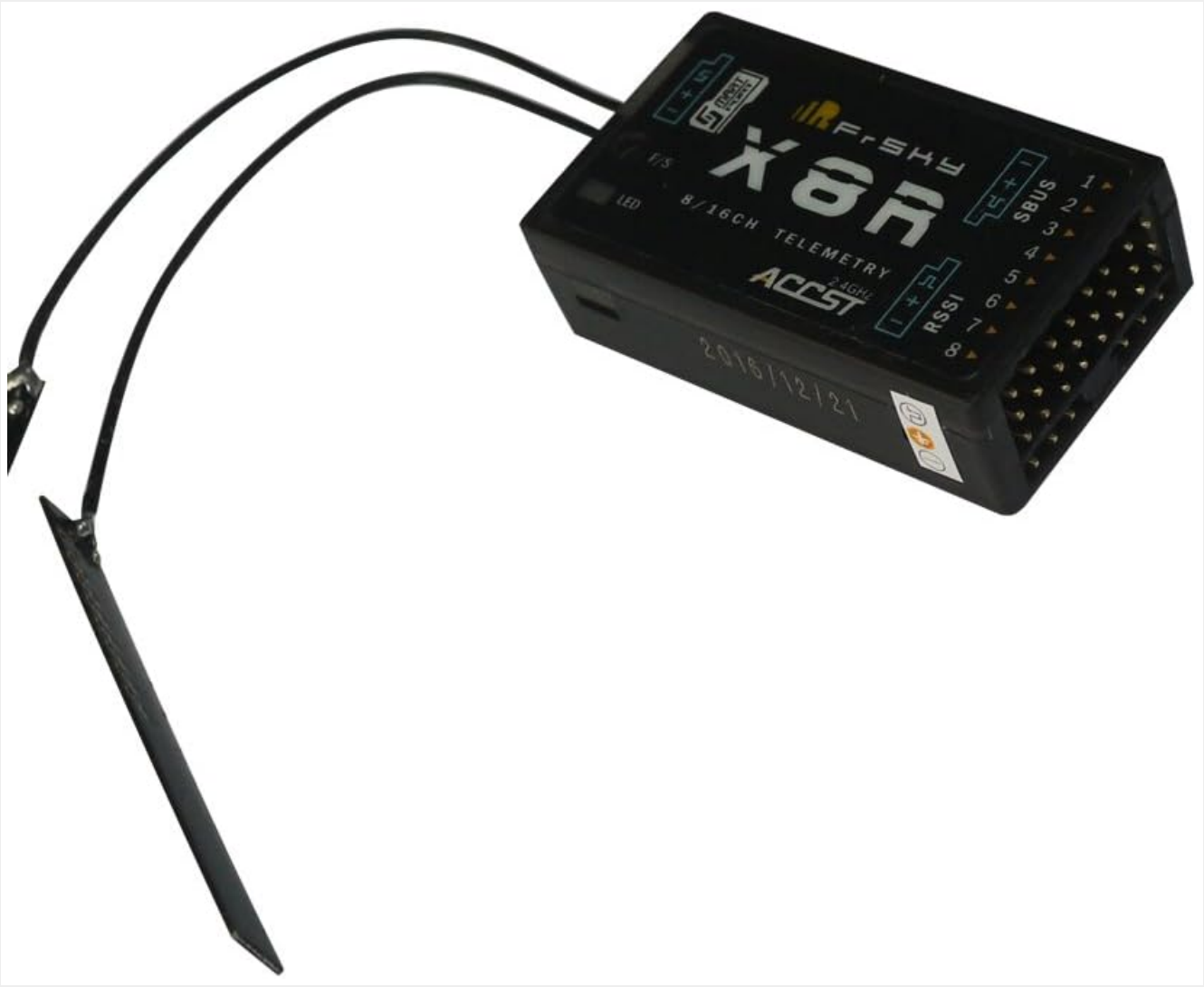


Figure 3: The FrSky X8R Receiver with its dual antennas extended, illustrating the importance of proper orientation for signal reception.

5. Operation

5.1. Channel Configuration

- **Standard Channels:** Channels 1-8 are available via the conventional servo outputs.
- **SBUS Channels:** The SBUS port provides access to all 16 channels. This is ideal for flight controllers or devices that support SBUS input, simplifying wiring.
- **Dual Receiver Mode:** For applications requiring more than 16 channels, two X8R receivers can be used in parallel. The first receiver will handle channels 1-8, and the second receiver will handle channels 9-16, effectively creating a 16-channel system.

5.2. SmartPort Telemetry

The SmartPort allows for two-way communication between the receiver and compatible FrSky telemetry sensors. This enables real-time monitoring of various parameters such as battery voltage, GPS data, altitude, and more, directly on your FrSky transmitter's display.

5.3. Failsafe Setup

Setting up failsafe is critical for safety. In the event of signal loss, failsafe ensures that your model reacts predictably (e.g., motors off, control surfaces neutral, or return-to-home). Consult your transmitter's manual for detailed instructions on how to configure failsafe settings for the X8R receiver.

6. Troubleshooting

6.1. Binding Issues

- **Receiver Not Binding:** Ensure your transmitter is in the correct mode (D16 for 16 channels, D8 for 8 channels) and that the receiver's F/S button is held down during power-on for binding.
- **Compatibility with Older Modules (DJT/DFT/DHT/DHT-U):** If experiencing binding issues with older FrSky modules, the X8R receiver may require a firmware flash to ensure compatibility. This process typically involves connecting the receiver to a computer using a specific cable and flashing the appropriate firmware. Refer to FrSky's official website for firmware updates and instructions.

6.2. Signal Loss or Intermittent Connection

- **Antenna Orientation:** Verify that the receiver antennas are positioned at a 90-degree angle to each other and are not obstructed by carbon fiber or other conductive materials.
- **Range Check:** Perform a range check before flight to ensure adequate signal strength.
- **Interference:** Keep the receiver away from high-current wires, ESCs, and other potential sources of electrical interference.

7. Specifications

Feature	Detail
Number of Channels	16 (8 conventional, 16 via SBUS)
Dimensions	46.5mm x 27mm x 14.4mm (1.83" x 1.06" x 0.56")
Weight	16.8g (0.59 oz)
Operating Voltage Range	4V - 10.0V
Operating Current	100mA @ 5V
Operating Range	>1.5km (Full Range)
RSSI Output	Analog voltage output (0-3.3V)
Compatibility	FrSky Taranis, XJT (D16 mode for 16ch); XJT, DJT, DFT, DHT, DHT-U (D8 mode for 8ch)



Figure 4: Rear view of the FrSky X8R Receiver, showing regulatory markings and model information.

8. Care and Maintenance

To ensure the longevity and reliable performance of your FrSky X8R receiver, follow these general care guidelines:

- **Keep Dry:** Avoid exposure to moisture, rain, or high humidity, as this can damage internal electronics.
- **Clean Gently:** Use a soft, dry cloth to clean the receiver. Do not use solvents or abrasive cleaners.
- **Protect from Impact:** Mount the receiver securely within your model to protect it from vibrations and impacts during operation or crashes.
- **Temperature:** Operate and store the receiver within its specified temperature range. Extreme temperatures can affect performance.
- **Antenna Care:** Do not bend or crimp the antennas excessively. Ensure they are free from cuts or damage.

9. Support

For further assistance, technical support, or warranty inquiries, please visit the official FrSky website or contact their

customer service. Always refer to the latest documentation available from the manufacturer for the most up-to-date information.

FrSky Official Website: www.frsky-rc.com

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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.

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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.

Submit question