FrSky Archer Plus R6

FrSky 2.4GHz Archer Plus R6 Receiver User Manual

Model: Archer Plus R6

1. Introduction

The FrSky Archer Plus R6 is a 2.4GHz receiver designed for remote control applications, offering enhanced anti-RF-interference capabilities and robust RF performance. This receiver supports both ACCESS and ACCST D16 modes, automatically matching the RF protocol during the binding process. It features 6 high-precision PWM channels and supports SBUS output for up to 24 channels, along with an SBUS input for signal redundancy. The Archer Plus R6 also includes a basic Black-Box function for preserving flight data and supports Over-The-Air (OTA) firmware updates.

2. Key Features

- Enhanced Anti-RF-Interference capability for solid RF performance.
- Smart-matched ACCESS & ACCST D16 modes.
- Supports basic Black-Box function for flight data preservation.
- 6 high-precision PWM channel ports.
- SBUS Out port (supports 16CH/24CH mode).
- SBUS In port (supports Signal Redundancy).
- Full control range with telemetry (S.Port or FBUS).
- Over-The-Air (OTA) FW update capability.
- External battery/device voltage detection via AIN2.

3. Specifications

Parameter	Value
Dimensions (L*W*H)	33mm * 15mm * 9.7mm
Weight	4.2g
Number of Channels	6/24 channels (6 PWM & 16 SBUS or 6 PWM & 24 SBUS)

Operating Voltage Range	3.5V - 10V
Operating Current	<65mA@5V
Operating Range	>2km (Full range)
Voltage Measurement Range (AIN2)	0-35V (Battery Voltage Divider Ratio: 1:10)
Antenna Connector	IPEX4
Compatibility	FrSky 2.4GHz ACCESS / ACCST D16 capable transmitters

4. Package Contents

- 1x FrSky Archer Plus R6 Receiver

5. Product Overview

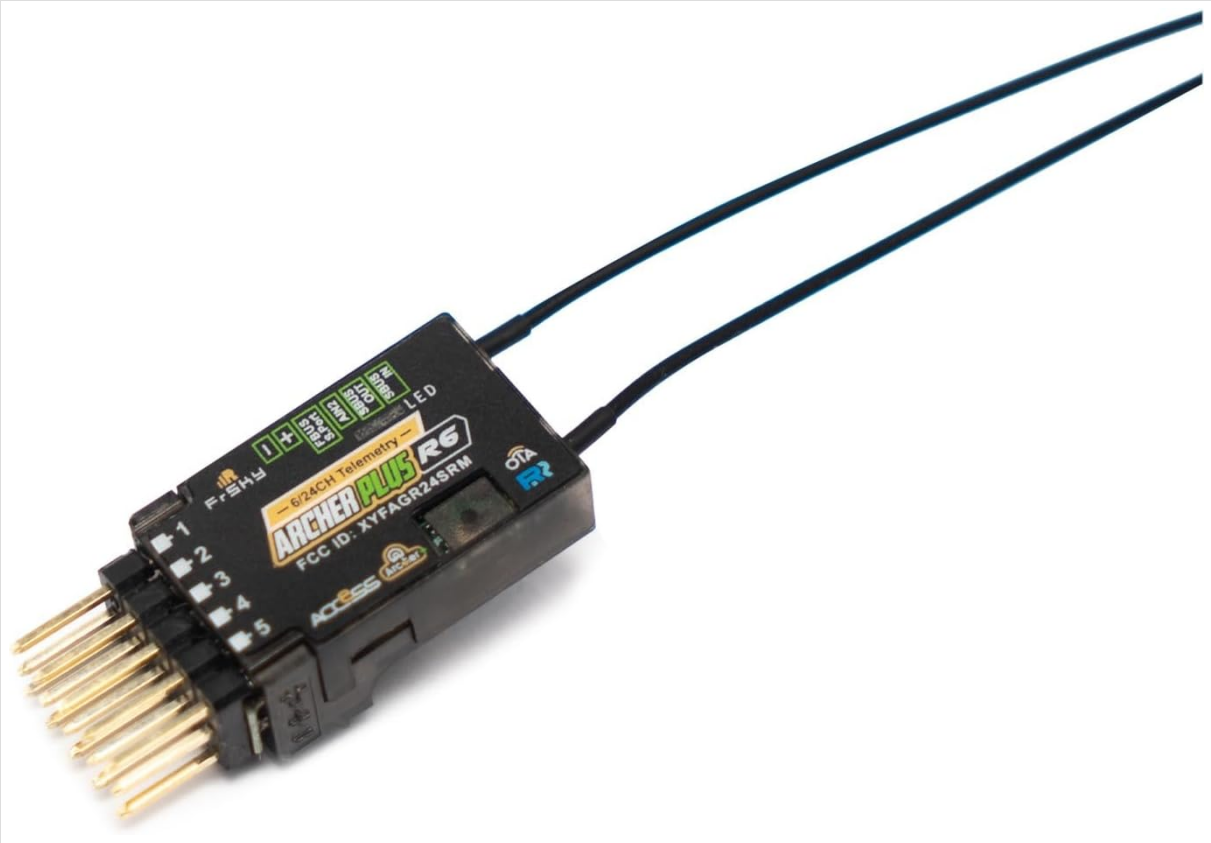


Figure 1: Top-down view of the FrSky Archer Plus R6 Receiver, showing its compact size and dual antennas.

Figure 2: Close-up view of the FrSky Archer Plus R6 Receiver, highlighting the PWM channel pins (1-5), F.BUS/S.PORT, SBUS IN, and SBUS OUT ports, along with the LED indicator.

Figure 3: Bottom view of the FrSky Archer Plus R6 Receiver, showing the QR code and internal components.

6. Setup

6.1 Binding Procedure

The Archer Plus R6 receiver supports both ACCESS and ACCST D16 protocols. The RF protocol is automatically matched during the binding process with your FrSky 2.4GHz transmitter.

1. Put your FrSky transmitter into binding mode (refer to your transmitter's manual for specific instructions).
2. Power on the Archer Plus R6 receiver while holding down the F/S button. The LED on the receiver will indicate binding status.
3. Once the binding is successful, the LED on the receiver will change to a solid green.
4. Power cycle both the transmitter and receiver to confirm the binding.

6.2 Wiring Diagram and Connections

Connect the receiver to your flight controller or servos according to your model's requirements.

- **PWM Channels (1-6):** Connect individual servos or other PWM-controlled devices to these ports.
- **SBUS Out:** Connect to a flight controller that supports SBUS input for up to 16 or 24 channels, depending on the receiver's mode.
- **SBUS In:** Use this port for signal redundancy by connecting it to the SBUS Out of another FrSky receiver.
- **S.Port / FBUS:** This port provides telemetry data. Connect to compatible telemetry devices or flight controllers. The FBUS protocol simplifies connections with multiple telemetry devices.
- **AIN2:** For external voltage detection (e.g., battery voltage) using a 1:10 voltage divider.

6.3 Antenna Installation

The Archer Plus R6 features dual detachable antennas for optimal reception and range. Ensure the antennas are mounted at a 90-degree angle to each other and away from carbon fiber or metal parts of your model to minimize signal blocking. Secure them properly to prevent movement during flight.

7. Operation

7.1 Channel Modes

The receiver operates in two main channel modes:

- **6 High-precision PWM & 16 SBUS channels Mode:** Provides 6 direct PWM outputs and 16 channels via SBUS.
- **6 High-precision PWM & 24 SBUS channels Mode:** Provides 6 direct PWM outputs and 24 channels via SBUS.

The specific mode is typically configured through your transmitter's settings or during the binding process, depending on the firmware version.

7.2 Telemetry and FBUS Protocol

The Archer Plus R6 supports full-range telemetry via S.Port or the FBUS protocol. FBUS allows for seamless pairing with multiple telemetry devices (e.g., XACT servos, ADV Sensors) and simplifies wiring by using a single line for data transmission.

7.3 Signal Redundancy

The SBUS In port allows the Archer Plus R6 to function as a primary receiver in a redundant setup. By connecting the SBUS Out of another FrSky receiver to the SBUS In of the R6, you can enhance signal reliability and safety.

7.4 Over-The-Air (OTA) Firmware Update

The receiver supports OTA firmware updates, allowing you to update the receiver's firmware wirelessly through your compatible FrSky transmitter. Refer to your transmitter's manual and FrSky's official website for the latest firmware and update procedures.

7.5 Black-Box Function

The integrated Black-Box function records basic flight data, such as power and signal-related information. This data can be useful for diagnostics and analyzing flight performance. Accessing and interpreting this data typically requires specific tools or software from FrSky.

8. Maintenance

8.1 Firmware Updates

Regularly check the FrSky official website for the latest firmware updates for your Archer Plus R6 receiver. Firmware updates can improve performance, add new features, or address known issues. Utilize the OTA update feature for convenience.

8.2 General Care

- Keep the receiver clean and free from dust, dirt, and moisture.
- Avoid exposing the receiver to extreme temperatures or direct sunlight for prolonged periods.
- Ensure all connections are secure and free from corrosion.
- Handle the antennas carefully to prevent damage.

9. Troubleshooting

- **No Signal / Loss of Control:** Ensure the receiver is correctly bound to the transmitter. Check antenna placement and ensure they are not obstructed. Verify power supply to the receiver.
- **Binding Failure:** Confirm the transmitter is in binding mode and the receiver's F/S button is held during power-up. Ensure compatibility between transmitter and receiver protocols (ACCESS/ACCST D16).
- **Telemetry Issues:** Check S.Port/FBUS connections. Ensure telemetry sensors are correctly connected and configured in the transmitter.
- **Intermittent Signal:** Check for potential sources of RF interference near the model or operating area. Ensure antennas are undamaged and properly oriented.

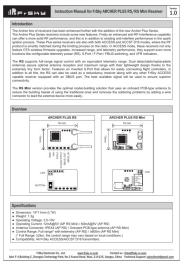
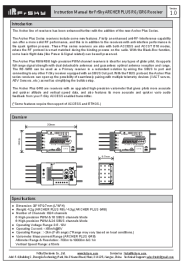
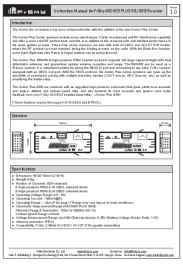
10. Safety Information

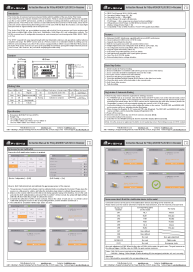
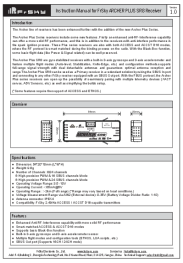
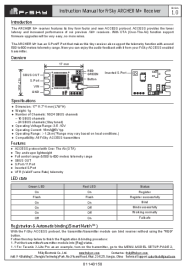
- Always operate your RC model in a safe and responsible manner.
- Ensure all connections are secure before operating your model. Loose connections can lead to loss of control.
- Never operate your RC model near people, animals, or property that could be damaged.
- Regularly inspect your receiver and other RC components for any signs of damage or wear.
- Keep the receiver away from water and other conductive materials.

11. Warranty and Support

For warranty information and technical support, please refer to the official FrSky website or contact your authorized FrSky dealer. Keep your proof of purchase for any warranty claims.

Related Documents - Archer Plus R6

	FrSky ARCHER PLUS RS/RS Mini Receiver Instruction Manual Comprehensive instruction manual for the FrSky ARCHER PLUS RS and RS Mini RC receivers, covering features, specifications, binding, firmware updates, failsafe settings, and FCC compliance.
	FrSky Archer Plus R6/GR6 Receiver Instruction Manual Comprehensive instruction manual for the FrSky Archer Plus R6 and GR6 receivers, detailing features, setup, operation, and specifications for ACCESS and ACCST D16 modes.
	FrSky Archer Plus R8/GR8 Receiver: Instruction Manual & Specifications Comprehensive instruction manual for FrSky Archer Plus R8 and GR8 receivers, detailing features, specifications, setup, binding, firmware updates, failsafe, and FCC compliance. Covers ACCESS and ACCST D16 modes, telemetry, and variometer functions.

	[FrSky ARCHER PLUS SR10+ Receiver Instruction Manual] This manual provides comprehensive instructions for the FrSky ARCHER PLUS SR10+ receiver, detailing its features, setup, calibration, flight modes, and advanced functions like OTA updates and failsafe settings.
	[FrSky Archer Plus SR8 Receiver: Features, Specifications, and Setup Guide] Discover the advanced features and comprehensive setup instructions for the FrSky Archer Plus SR8 receiver, including stabilization, dual-band compatibility, and enhanced RF performance for RC aircraft.
	[FrSky ARCHER M+ Receiver Instruction Manual - ACCESS Protocol, OTA Updates] Comprehensive instruction manual for the FrSky ARCHER M+ Receiver. Learn about its features, specifications, ACCESS protocol, Over-The-Air (OTA) firmware updates, binding procedures, and FCC compliance.