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ATA HOBBY T16D

Radiolink T16D 16 Channels RC Transmitter and R16F Telemetry Receiver User Manual

Model: T16D | Brand: ATA HOBBY

1. Introduction

This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of your Radiolink T16D 16-channel RC Transmitter and R16F Telemetry Receiver. Please read this manual thoroughly before using the product to ensure safe and optimal performance. The T16D is designed for a wide range of RC models, including drones, airplanes, cars, and boats, offering advanced control and telemetry capabilities.

Image 1.1: The Radiolink T16D 16-channel RC Transmitter shown with two R16F Telemetry Receivers connected.

2. Safety Precautions

Always observe the following safety guidelines to prevent injury or damage to the product and property:

- Operate RC models responsibly and within your line of sight.
- Ensure all batteries are fully charged and properly installed before operation.
- Perform a range check before each flight or operation.
- Avoid operating in crowded areas, near power lines, or in adverse weather conditions.
- Keep the transmitter and receiver away from moisture, extreme temperatures, and direct sunlight.
- Do not attempt to modify or disassemble the product, as this may void the warranty and cause malfunction.

3. Package Contents

Verify that all items are present in your package:

- Radiolink T16D 16-Channel RC Transmitter
- Radiolink R16F Telemetry Receiver
- USB Type-C Cable

- User Manual (this document)

4. Product Overview

4.1 T16D Transmitter Features

- 16 Fully-Proportional Channels
- Voice Broadcast Customization
- Supports ELRS, TBS Crossfire, and other long-range modules
- Built-in Open-source Simulator support (requires firmware V1.7)
- 100 Model Storage Groups
- Real-time Telemetry Display

4.2 R16F Receiver Features

- Telemetry Functionality (RSSI, battery voltage)
- Multiple Signal Working Modes: PWM, PWM+SBUS, PWM+CRSF+SBUS, CRSF+PWM
- Subsidiary ID Function for multiple binding receivers

5. Setup

5.1 Battery Installation and Charging

The T16D transmitter uses an internal rechargeable battery. Connect the provided USB Type-C cable to the transmitter's charging port and a suitable USB power source (e.g., computer, USB wall adapter). The charging indicator will show the charging status.

5.2 Binding the Transmitter and Receiver

To establish communication between the T16D transmitter and R16F receiver, follow these steps:

1. Power on the T16D transmitter.
2. Connect the R16F receiver to power.
3. Press and hold the binding button on the R16F receiver until the LED indicator flashes rapidly.
4. On the T16D transmitter, navigate to the binding menu (refer to Section 6.2 for menu navigation).
5. Initiate the binding process from the transmitter. The receiver's LED will turn solid when binding is successful.

5.3 Initial Configuration

After binding, configure your model type and basic settings:

- **Model Selection:** Navigate to the 'Model Select' menu and choose the appropriate model type (e.g., Airplane, Helicopter, Drone).
- **Channel Assignment:** Verify and adjust channel assignments for your servos and ESCs.
- **Failsafe Settings:** Configure failsafe positions for all channels to ensure safety in case of signal loss.

6. Operating Instructions

6.1 Basic Controls

The T16D features two main control sticks, various switches, and rotary knobs for precise control of your RC model.

- **Sticks:** Control primary functions like throttle, aileron, elevator, and rudder.
- **Switches (A, B, C, D):** Typically used for flight modes, gear, flaps, or other auxiliary functions.
- **Knobs (VRA, VRB):** Provide proportional control for functions like camera tilt or gain adjustment.

6.2 Menu Navigation

Use the scroll wheel and 'Mode' / 'End' buttons to navigate the transmitter's menu system. The display provides real-time information and access to all settings.

6.3 Model Storage and Selection

The T16D can store up to 100 different model configurations. To select a model, navigate to the 'Model Select' menu and choose the desired profile.

6.4 Voice Broadcast Customization

The T16D allows for personalized voice broadcast messages. You can customize the language, form, and content of these broadcasts to suit your operational needs.

Image 6.1: The T16D transmitter displaying options for customizing voice broadcast messages, including examples like 'Turn on cruise control' and 'Landing gear open'.

6.5 Telemetry Functionality

The R16F receiver provides real-time telemetry data to the T16D transmitter, including signal strength (RSSI), receiver voltage, and model battery voltage. This information is displayed on the transmitter screen, allowing for proactive adjustments and preventing issues like battery over-discharge.

6.6 Simulator Connection

The T16D supports direct connection to open-source simulators via its Type-C port. This feature allows for practice and skill development without requiring additional dongles. A firmware upgrade to V1.7 may be necessary for full compatibility.

Image 6.2: The T16D transmitter connected to a computer, demonstrating compatibility with various open-source flight simulators such as TRYP FPV, AeroFly, Uncrashed, Liftoff, FPV LOGIC, and Velocidrone.

6.7 Signal Modes

The R16F receiver supports four distinct signal working modes:

- **PWM:** Standard Pulse Width Modulation output for each channel.
- **PWM+SBUS:** Combines PWM outputs with a single SBUS output.
- **PWM+CRSF+SBUS:** Integrates PWM, CRSF, and SBUS outputs.
- **CRSF+PWM:** Combines CRSF with PWM outputs.

Select the appropriate mode based on your flight controller and servo requirements.

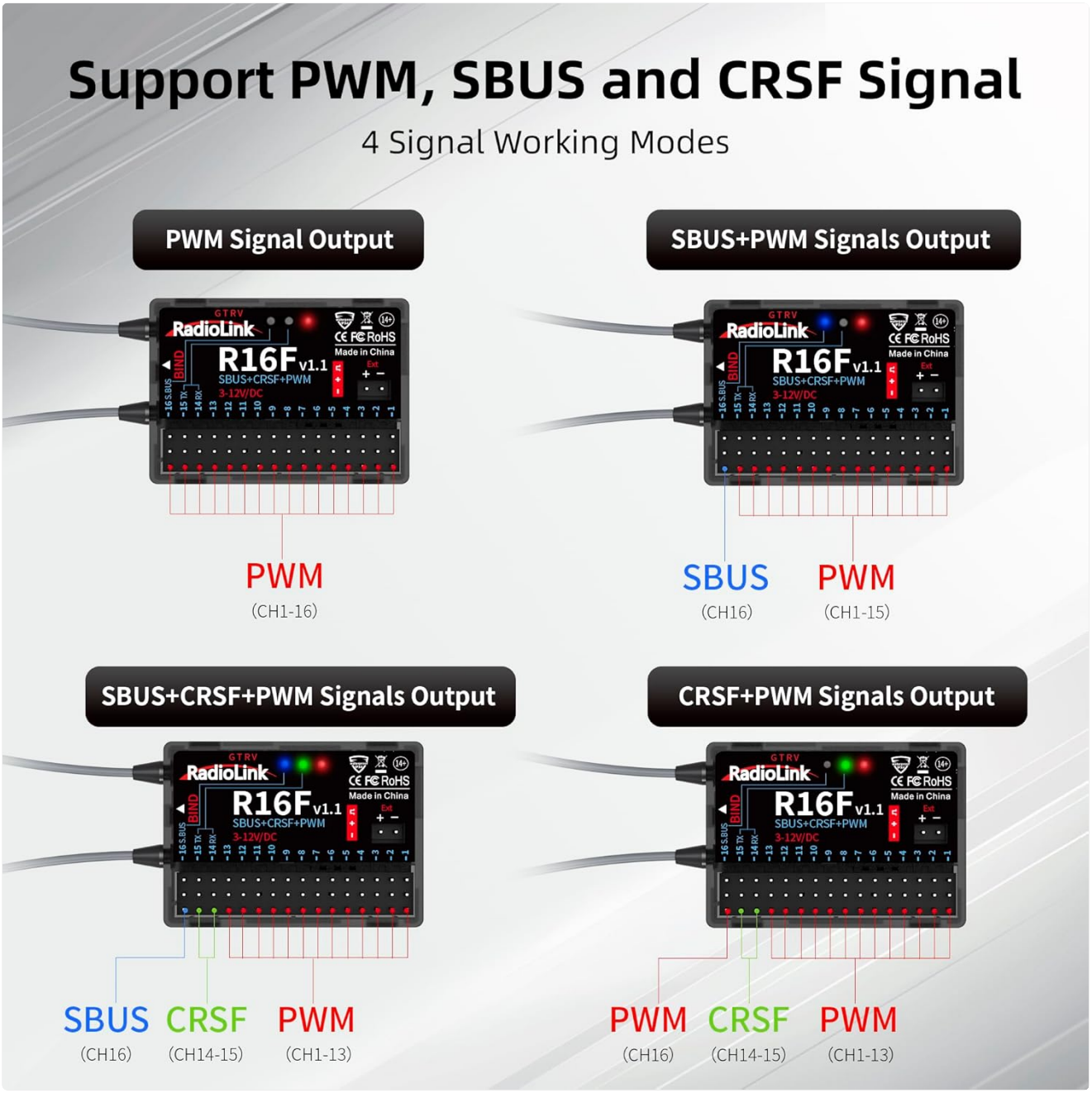

Image 6.3: Diagrams illustrating the four signal working modes of the Radiolink R16F receiver: PWM, SBUS+PWM, SBUS+CRSF+PWM, and CRSF+PWM, showing the corresponding channel outputs for each mode.

7. Maintenance

7.1 Cleaning

Wipe the transmitter and receiver with a soft, dry cloth. Avoid using solvents or abrasive cleaners.

7.2 Storage

Store the product in a cool, dry place away from direct sunlight and extreme temperatures. Remove batteries if storing for

extended periods.

7.3 Firmware Updates

Periodically check the manufacturer's website for firmware updates. Updates can improve performance, add features, and fix bugs. Follow the provided instructions carefully when performing firmware updates.

8. Troubleshooting

Problem	Possible Cause	Solution
No power to transmitter	Battery discharged or faulty	Charge the battery; if problem persists, contact support.
Receiver not binding	Incorrect binding procedure, receiver too far from transmitter	Repeat binding steps (Section 5.2); ensure close proximity during binding.
Loss of control range	Antenna obstruction, interference, low battery	Check antenna placement; avoid interference sources; ensure batteries are charged.
Telemetry data not displayed	Receiver not properly connected or configured	Verify receiver connection and telemetry settings in the transmitter menu.

9. Specifications

- **Channels:** 16
- **Frequency:** 2.4GHz
- **Compatibility:** Helicopters, Fixed-wing, Gliders, Drones, Cars, Boats, Robots
- **Module Support:** ELRS, TBS Crossfire, other mainstream long-range modules
- **Simulator Support:** Built-in open-source simulator (firmware V1.7 required)
- **Model Storage:** 100 groups
- **Telemetry:** Real-time signal strength (RSSI), receiver voltage, model battery voltage
- **Receiver Signal Modes:** PWM, PWM+SBUS, PWM+CRSF+SBUS, CRSF+PWM

10. Warranty and Support

For warranty information and technical support, please refer to the official ATA HOBBY website or contact your authorized dealer. Keep your purchase receipt as proof of purchase for warranty claims.
Online Resources: For additional resources, FAQs, and the latest firmware updates, visit the ATA HOBBY Store.