Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

FrSky X20R

FrSky Tandem X20R Dual-Band Transmitter User Manual

Model: X20R

1. Introduction

The FrSky Tandem X20R is a high-performance dual-band 2.4G/900M transmitter designed for remote control (RC) fixed-wing aircraft and FPV applications. It features a long-range RF link with telemetry capabilities, powered by the TD-ISRM RS module and the ETHOS operating system. This manual provides essential information for the proper setup, operation, and maintenance of your Tandem X20R transmitter.



Figure 1: Front view of the FrSky Tandem X20R transmitter, showcasing the touchscreen display and primary controls.

2. Key Features

- **TD-ISRM RS Dual-Band Internal RF Module:** Supports 900M/2.4G TD Mode, Dual 2.4G TW Mode, ACCESS 2.4G & ACCESS R9 Modes, and 2.4G ACCST D16 Mode.
- **Enhanced RF Reliability:** Utilizes three different RF links simultaneously for long-distance RC operations.
- **Ergonomic Design:** Features a comfortable grip, adjustable slider levers, and metal components for durability.
- **High-Brightness Touchscreen:** 800x480 resolution for outdoor visibility.
- **Advanced Controls:** M20 High-Precision 4 Ball-Bearing Hall-Sensor Gimbals, 2 knobs, 4 standard trims, 2 extra trims, 6 quick-mode custom buttons, and 2 momentary buttons.
- **Connectivity:** 2 external antenna connectors for LoRa mode, USB Type-C interface for data transmission and charging.
- **Integrated Sensors:** Built-in 6-axis gyroscope sensor.
- **Audio & Alerts:** Digital audio power amplifier, haptic vibration alerts, and voice speech outputs.

3. Setup

3.1 Unpacking and Initial Inspection

Carefully unpack all components and inspect them for any signs of damage. The package should include the FrSky Tandem X20R transmitter, a carrying case, a USB Type-C cable, a 2S Li-ion battery, a neck strap, and various accessories like gimbal stick ends and an Allen key.



Figure 2: Typical package contents for the FrSky Tandem X20R, including the transmitter, battery, case, and accessories.

3.2 Battery Installation and Charging

1. Locate the battery compartment on the back of the transmitter.
2. Connect the provided 2S Li-ion battery to the internal connector.
3. Securely close the battery compartment.
4. Connect the transmitter to a 5V USB adaptor (current >2.0A) using the USB Type-C cable for initial charging. The charging current is approximately ≤1A ±200mA.



Figure 3: Rear view of the FrSky Tandem X20R, showing the battery compartment and ergonomic grip design.

3.3 External Module Installation (Optional)

The X20R features a Lite-type external module slot. To install an external module:

1. Ensure the transmitter is powered off.
2. Align the external module with the module bay on the back of the transmitter.
3. Gently push the module into place until it is securely seated.

4. Operating Instructions

4.1 Powering On and Off

- **Power On:** Press and hold the power button located centrally on the transmitter until the screen illuminates.
- **Power Off:** Press and hold the power button until a shutdown prompt appears on the screen. Confirm to power off.

4.2 Navigating the ETHOS System

The Tandem X20R operates on the ETHOS system, accessible via the 800x480 touchscreen. Use touch gestures (tap, swipe) to navigate menus and adjust settings. The main screen provides access to model selection, editing, flight modes, mixes, outputs, timers, trims, and RF system settings.



Figure 4: Angled view of the FrSky Tandem X20R, highlighting the touchscreen interface and gimbal controls.

4.3 RF Module Configuration

The built-in TD-ISRM RS module supports various RF modes. To configure:

1. Access the "RF system" menu on the touchscreen.
2. Select the desired internal RF mode (e.g., TD, TW, ACCESS, ACCST D16).
3. For enhanced long-range control, additional 2.4G and 900M antennas can be mounted to the 2 external antenna connectors for LoRa modes.

4.4 Control Inputs

The transmitter features a comprehensive set of controls:

- **Gimbals:** M20 High-Precision 4 Ball-Bearing Hall-Sensor Gimbals provide precise control.
- **Trims:** 4 standard trims and 2 extra trims allow for fine-tuning of control surfaces.

- **Slider Levers:** Two angle-adjustable slider levers on both sides, with adjustable center positioning.
- **Knobs:** Two rotary knobs for additional functions.
- **Buttons:** 6 quick-mode custom buttons on the front and 2 momentary buttons on the rear for programmable actions.



Figure 5: Close-up of the FrSky Tandem X20R controls, showing gimbals, trims, and buttons.

5. Maintenance

5.1 Cleaning

Regularly clean the transmitter with a soft, dry cloth. Avoid using harsh chemicals or solvents that could damage the finish or electronic components. Keep the touchscreen clean for optimal responsiveness.

5.2 Battery Care

- Always use the recommended 2S Li-ion battery.

- Do not overcharge or deeply discharge the battery.
- Store the transmitter and battery in a cool, dry place when not in use.
- If storing for extended periods, charge the battery to approximately 50% capacity.

5.3 Firmware Updates

Periodically check the official FrSky website for firmware updates for the ETHOS system and the internal RF module. Follow the provided instructions carefully for updating firmware to ensure optimal performance and access to new features.

6. Troubleshooting

- **Transmitter not powering on:** Ensure the battery is correctly installed and fully charged. Verify the power button is pressed and held sufficiently.
- **No RF link with receiver:** Check that both the transmitter and receiver are powered on and properly bound. Verify the selected RF mode on the transmitter matches the receiver's protocol. Ensure antennas are correctly attached and not obstructed.
- **Touchscreen unresponsive:** Try restarting the transmitter. If the issue persists, ensure the screen is clean and free from debris.
- **Controls not responding:** Check model settings in ETHOS. Ensure gimbals and switches are calibrated if necessary.

For more detailed troubleshooting or persistent issues, refer to the official FrSky support resources or contact customer service.

7. Specifications

Feature	Specification
Dimensions (L*W*H)	205*213*90mm
Weight (Battery Excl./Incl.)	892g / 1024g
Operating System	ETHOS
Internal RF Module	TD-ISRM RS (900M/2.4G Dual Band)
Number of Channels	Up to 24
Built-in Flash Storage	8GB
Operating Voltage Range	6.5 ~ 8.4V (2S Li-battery)
Operating Temperature	-10°C ~ 60°C (14°F ~ 140°F)
Operating Current	600mA@7.4V (typical)
Charging Current	≤1A ±200mA
USB Adaptor Voltage	5V+0.2V

Feature	Specification
USB Adaptor Current	>2.0A
LCD Resolution	800*480 (Backlit Touchable)
Compatibility	ACCST D16 & ACCESS & TD & TW receivers
External Module Bay	Lite Type

8. Warranty and Support

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

Online Resources:

- FrSky Official Website: www.frsky-rc.com
- ETHOS Suite Software: www.frsky-rc.com/ethos-suite

Ask a question about this manual

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.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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

Open the live page

https://manuals.plus/asin/B0D5Y1RS15

More documents and user manuals: **https://manuals.plus/**