FrSky X20

FrSky Tandem X20 Transmitter User Manual

Model: FrSky Tandem X20

1. Introduction

Welcome to the user manual for the FrSky Tandem X20 Transmitter. This advanced radio system is designed for remote control enthusiasts, offering a powerful and reliable dual-band RF system (900MHz and 2.4GHz) with simultaneous operation. The Tandem X20 features an ergonomic design, a color touch screen display, and runs on the intuitive ETHOS operating system, providing a flexible and enjoyable RC experience.



Figure 1: Front view of the FrSky Tandem X20 Transmitter, showing the color touch screen and main controls.

2. Key Features

- **Dual-Band RF System:** Integrated 900MHz and 2.4GHz RF modules for simultaneous, reliable long-range control with telemetry.
- **Low Latency:** Achieves superb end-to-end 4ms latency performance.
- **ETHOS Operating System:** A new, intuitive, and flexible operating system designed by RC experts.
- **Color Touch Screen Display:** 800 x 480-pixel display, easy to read indoors and in direct sunlight.
- **Ergonomic Design:** Lightweight (less than 1000 grams) with comfortable side handle grips and well-positioned hall-gimbals.
- **Customizable Controls:** 6 customizable front buttons and 2 rear momentary buttons for enhanced flexibility.
- **CNC Metal Hardware:** Trims and pots utilize CNC metal for increased durability.
- **External Module Bay:** Lite version module bay supports R9M Lite, R9M PRO Lite, XJT Lite, etc.
- **Wide Compatibility:** Supports TD, ACCESS, and ACCST D16 receivers.



Figure 2: Angled view of the FrSky Tandem X20, showcasing its ergonomic design and screen visibility.

3. Setup Guide

3.1 Initial Charging

Before first use, ensure your Tandem X20 transmitter is fully charged. Connect the provided USB cable to the USB-C port on the top of the transmitter and to a compatible USB power adapter (not included). The charging indicator will show the charging status.

3.2 Powering On/Off

1. **To Power On:** Press and hold the power button (located centrally below the screen) until the screen illuminates.
2. **To Power Off:** Press and hold the power button until a shutdown prompt appears on the screen. Confirm shutdown.

3.3 Basic Calibration

It is recommended to perform a basic calibration of the gimbals and switches upon initial setup.

1. Navigate to the "System" menu on the touch screen.
2. Select "Calibration".

3. Follow the on-screen instructions to move all gimbals through their full range of motion and toggle all switches.
4. Save the calibration settings.



Figure 3: The FrSky Tandem X20 screen showing the ETHOS operating system, ready for configuration.

4. Operating Instructions

4.1 Model Creation and Selection

The Tandem X20 allows for multiple model memories. To create or select a model:

- From the home screen, tap on "Model Select" or navigate through the "System" menu.
- Choose to create a new model or load an existing one.
- Configure model-specific settings such as channel assignments, mixes, and flight modes.

4.2 Binding to a Receiver

To establish communication between your transmitter and a receiver:

1. Ensure both the transmitter and receiver are powered off.

2. Put the receiver into bind mode (refer to your receiver's manual for specific steps).
3. On the Tandem X20, navigate to the "RF System" settings for the selected model.
4. Select the appropriate internal RF module (TD, ACCESS, or ACCST D16) and initiate the bind process.
5. Once bound, power cycle both the transmitter and receiver.

4.3 Using Gimbals and Switches

The gimbals control primary flight surfaces (e.g., aileron, elevator, rudder, throttle). The various switches and potentiometers (pots) can be assigned to control auxiliary functions, flight modes, or other parameters within your model setup. Refer to the ETHOS operating system documentation for detailed customization options.



Figure 4: Top view of the Tandem X20, illustrating the layout of gimbals, switches, and other controls.

5. Maintenance and Care

5.1 Cleaning

Wipe the transmitter's exterior with a soft, dry cloth. For stubborn dirt, a slightly damp cloth can be used, but ensure no moisture enters the ports or internal components. Avoid using harsh chemicals or abrasive cleaners.

5.2 Battery Care

The Tandem X20 uses an internal battery. To prolong battery life:

- Avoid fully discharging the battery frequently.
- Store the transmitter with a partial charge (around 50%) if not used for extended periods.
- Charge in a cool, dry environment.

5.3 Storage

Store the transmitter in a cool, dry place, away from direct sunlight, extreme temperatures, and high humidity. Use a protective case to prevent physical damage.



Figure 5: Rear view of the Tandem X20, highlighting the handle and the external module bay.

6. Troubleshooting

Problem	Possible Cause	Solution
Transmitter does not power on.	Low or depleted battery.	Charge the transmitter fully.
No connection to receiver.	Not bound, incorrect protocol, or receiver issues.	Ensure receiver is powered, re-bind the receiver, verify correct RF protocol in model settings.
Gimbals/switches not responding correctly.	Calibration needed or physical damage.	Perform gimbal/switch calibration. Inspect for physical damage.
Screen is dim or unreadable.	Brightness setting too low or direct sunlight.	Adjust screen brightness in system settings. Move to a shaded area if in direct sunlight.

7. Specifications

Model: Tandem X20

Internal RF Module: TD-ISRM (Dual-Band 900MHz/2.4GHz)

Operating System: ETHOS

Display: 800 x 480 Color Touch Screen

Weight: Less than 1000 grams (approx. 2.2 pounds)

Connectivity: USB (for charging and data transfer)

Compatible Receivers: TD, ACCESS, ACCST D16

Item Model Number (ASIN): B093WBZF5F (Internal ID: 9bce5d62-3a78-49b7-b90f-75258b5e9809)

Batteries: Internal rechargeable battery (primary power); 1 AA battery (included, likely for backup or specific low-power functions).

Color: Black

Manufacturer: FrSky

First Available: April 30, 2021



Figure 6: Bottom view of the Tandem X20, showing the base and potential battery access.

8. Warranty and Support

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

Official FrSky Website: www.frsky-rc.com

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