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

FrSky Tandem X20 HD

FrSky Tandem X20 HD Transmitter User Manual

Model: Tandem X20 HD

Introduction

The FrSky Tandem X20 HD radio system is an advanced digital video transmission system designed for FPV flying enthusiasts. It integrates an FPV screen with 720p 60FPS video quality, eliminating the need for separate display equipment. This system combines near 0ms low latency digital video transmission with robust radio control capabilities, enhancing the FPV flying experience. It is compatible with HDZero video transceiver (VTX) products.

Product Overview

The Tandem X20 HD Transmitter features a comprehensive design for intuitive control and high-performance operation. Key components and features include:

- **Integrated HD Digital Video Transmission:** Supports 720P 60FPS with near 0ms latency.
- **Dual-Band Internal RF Module:** TD 900M/2.4G module supporting ACCST D16, ACCESS, and TD modes.
- **High-Resolution Touch-Screen:** 800x480 color display for clear interface navigation.
- **Precision Control:** High-Precision Hall-Sensor Gimbals with CNC metal panel.
- **User-Friendly Interface:** ETHOS operating system with clear UI design, supporting dual operation modes (touch and non-touch).
- **Customizable Controls:** 6 Quick-Mode custom buttons (front) and 2 momentary buttons (rear).
- **Telemetry and Long Range:** Up to 50-100KM range with telemetry feedback and down to 4ms end-to-end latency.
- **Accessibility Features:** Haptic vibration alerts and voice speech outputs.
- **Power Management:** Supports recharge system for 2S Li-ion battery via USB Type-C.



Figure 1: Front view of the FrSky Tandem X20 HD Transmitter, showing the integrated screen, gimbals, and control buttons.



Figure 2: The FrSky Tandem X20 HD Transmitter displaying the ETHOS operating system menu on its integrated screen.



Figure 3: Rear view of the FrSky Tandem X20 HD Transmitter, showing the battery compartment and external module bay.

Setup Guide

Follow these steps for the initial setup of your FrSky Tandem X20 HD Transmitter:

1. **Unboxing and Inspection:** Carefully remove all components from the packaging. Inspect the transmitter for any signs of damage.
2. **Battery Installation and Charging:** The transmitter uses a 2S Li-ion battery. Ensure it is properly installed. Connect the included USB Type-C cable to the transmitter and a compatible USB power source (e.g., computer USB port, USB wall adapter) to charge the battery. The charging indicator will show the status.
3. **Power On:** Press and hold the power button located on the front panel until the screen illuminates.

4. **Initial Configuration:** Upon first power-on, the ETHOS operating system may guide you through initial setup steps such as language selection, date/time setting, and basic calibration. Follow the on-screen prompts.
5. **Antenna Connection:** Ensure the 5.8G circularly polarized directional external antennas are securely connected to their respective ports on the top of the transmitter.
6. **Firmware Update (Optional):** It is recommended to check for the latest firmware updates on the FrSky official website to ensure optimal performance and access to new features. Refer to the official FrSky documentation for detailed firmware update procedures.

Operating Instructions

This section provides general guidance on operating your Tandem X20 HD Transmitter. For detailed instructions on specific functions, refer to the comprehensive ETHOS operating system manual available on the FrSky website.

Navigating the ETHOS System

- **Touch Screen:** Use the integrated touch screen to navigate menus, select options, and input data.
- **Navigation Buttons/Scroll Wheels:** Utilize the physical buttons and scroll wheels for precise navigation and adjustments, especially in non-touch mode.
- **Quick-Mode Buttons:** The 6 front and 2 rear momentary buttons can be customized for quick access to frequently used functions or flight modes.

Binding a Receiver

To establish communication between your transmitter and a receiver (e.g., ACCST D16, ACCESS, or TD series receiver), follow the binding procedure outlined in your receiver's manual and the ETHOS system's binding menu. Generally, this involves:

1. Power on the transmitter and navigate to the Model Setup menu.
2. Select the internal RF module and choose the desired mode (e.g., ACCESS, TD).
3. Initiate the binding process on the transmitter.
4. Place your receiver into binding mode (refer to receiver manual).
5. Once bound, the receiver's LED indicator will confirm successful connection.

FPV Video Display

The integrated screen displays the FPV video feed from compatible HDZero VTX products. Ensure your VTX is properly configured and powered. The transmitter's built-in video receiver module will automatically detect and display the video signal. The HDMI output port allows connection to an external monitor if desired.



Figure 4: Angled view of the FrSky Tandem X20 HD Transmitter showing an FPV video feed displayed on its integrated screen.

Maintenance and Care

Proper maintenance ensures the longevity and reliable performance of your FrSky Tandem X20 HD Transmitter:

- **Cleaning:** Use a soft, dry cloth to clean the transmitter's surface. For the screen, use a microfiber cloth specifically designed for electronics. Avoid abrasive cleaners or solvents.
- **Storage:** Store the transmitter in a cool, dry place away from direct sunlight, extreme temperatures, and high humidity. Use a protective case when transporting.
- **Battery Care:** Do not overcharge or deep discharge the Li-ion battery. If storing for extended periods, charge the battery to approximately 50% capacity.
- **Gimbal Protection:** When not in use, ensure the gimbals are protected from impact or pressure.
- **Antenna Care:** Handle the external antennas with care to avoid bending or damaging them.

Troubleshooting

This section addresses common issues you might encounter. For more complex problems, refer to the official FrSky support resources.

Problem	Possible Cause	Solution
Transmitter does not power on.	Low or depleted battery; incorrect battery installation.	Charge the battery using the USB Type-C port. Ensure the battery is correctly installed.
No FPV video on screen.	VTX not powered or configured; incompatible VTX; antenna issue.	Verify VTX power and settings. Ensure VTX is HDZero compatible. Check antenna connections on both transmitter and VTX.
Receiver not binding.	Incorrect RF mode selected; receiver not in binding mode; distance too far.	Ensure the correct RF mode (ACCST D16, ACCESS, TD) is selected on the transmitter. Put the receiver into binding mode. Try binding at a closer distance.
Gimbal calibration issues.	Gimbals require recalibration.	Navigate to the calibration menu in ETHOS and follow the on-screen instructions to recalibrate the gimbals.

Technical Specifications

Feature	Specification
Model	Tandem X20 HD
Dimensions	Approximately 5 x 5 x 5 inches
Display Resolution	800*480 Color Touch-Screen LCD
Video Transmission	720P 60FPS HD Digital Video (near 0ms latency)
Video Encoding	H.264, H.265/HEVC
RF Module	Built-in TD 900M/2.4G Dual-Band Internal RF Module
Compatibility	ACCST D16, ACCESS, TD series receivers; HDZero VTX products
Control Latency	Down to 4ms end-to-end

Feature	Specification
Control Range	Up to 50 to 100KM (dependent on VTX power setting)
Gimbals	High-Precision Hall-Sensor Gimbals with All-CNC Metal Panel
Connectivity	USB Type-C (charging), HDMI Output
Special Features	Touchscreen, 6-axis Gyroscope Sensor, Haptic Vibration, Voice Speech Outputs, PARA Wireless Training System
Operating System	ETHOS

Warranty and Support

FrSky products are manufactured to high standards and undergo rigorous quality control. For information regarding warranty coverage, terms, and conditions, please refer to the warranty card included with your product or visit the official FrSky website.

For technical support, troubleshooting assistance beyond this manual, or service inquiries, please contact FrSky customer support through their official website or authorized service centers. Always provide your product model and serial number when seeking support.

© 2024 FrSky. All rights reserved.
This manual is subject to change without prior notice.

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/B0BJJWVPMJ

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