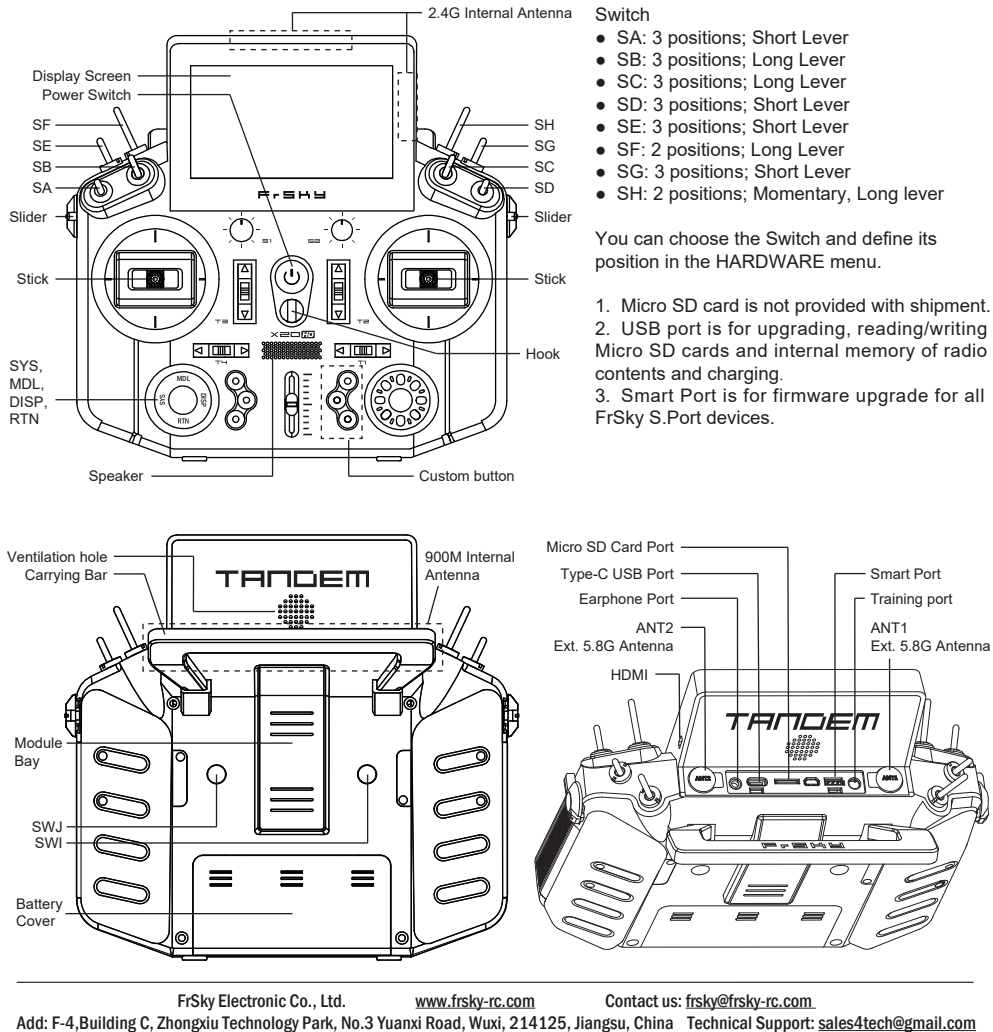


Introduction

FrSky Tandem X20 series HD radio system provides the perfect solution for FPV flying and pilots preferring an easier operation with fewer devices. The HD version of the X20 radio system includes an integrated FPV screen supporting 720p 60FPS video quality, removing the need for a standalone FPV screen. When combining the HD 720p 60FPS video with near 0ms low latency digital video transmission technology, the X20 HD radio will provide more enjoyment and confidence when FPV flying tours. The built-in video receiver module is compatible with all HDZero video transceiver (VTX) products.

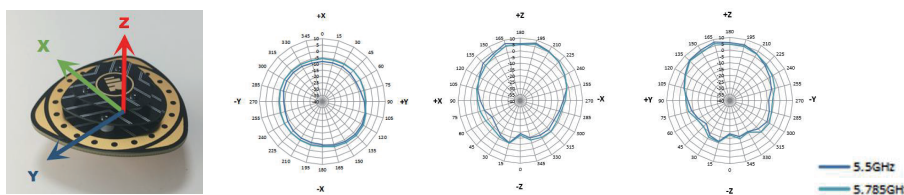
The X20 HD radio package includes a 5.8G antenna kit. The circularly polarized directional antennas ensure that the radio receives optimum video transmission signals, even in complex RF environments. The HD version of the X20 radio also provides an HDMI output which can be used to easily transfer the HD video to an external monitor or device if required, this provides a great solution if you wish to use your existing FPV goggles which support HDMI-in, removing the need for separate HDZero video receiver attached to your goggles.

Layout



5.8G Antenna (video transmission)

Peak Gain: 8.0dBi@5.5GHz, 7.0dBi@5.785GHz



Specifications

- Dimension: 213*200*95 mm (L*W*H)
- Weight: 833g (without battery)
- Operating system: ETHOS
- Internal RF module: TANDEM
- Number of Channels: 24 channels
- Operating Voltage Range: 6.5 ~ 8.4V (2S Li-battery)
- Operating Temperature: -10°C~60°C (14°F~140°F)
- USB Adaptor Voltage: 5V+0.2V
- USB Adaptor Current: >2.0A
- Backlit touchable LCD resolution: 800*480
- Compatibility: ACCST D16 & ACCESS & TD series receivers
- Resolution & Frame Rate of HD VTX: 720P 60FPS

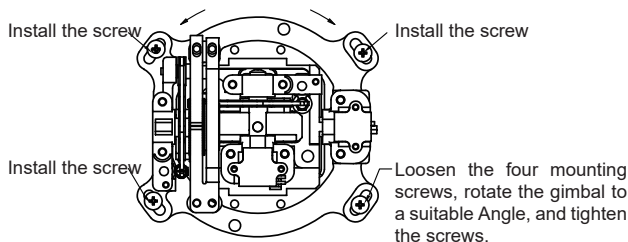
Features

- Built-in near 0ms latency HD digital video transmission system (720P 60FPS)
 - Supports working with HDZero VTX Race V2, etc.
 - (Note: the range is dependent on the VTX power setting in use.)
 - Supports HDMI Output
 - 5.8G circularly polarized directional external antennas
- Built-in TD 900M/2.4G Dual-Band Internal RF Module
 - Supports Multiple Working Modes
 - 2.4G ACCST D16 Mode (Compatible with ACCST Receivers with D16 V2 or later FW)
 - 2.4G ACCESS Mode (Compatible with ACCESS Receivers)
 - 900M ACCESS Mode (Compatible with ACCESS R9 868/915MHz Receivers)
 - Capable of simultaneous working under ACCESS mode
 - 2.4G&900M TD Mode ^{NEW} (Compatible with TD Receivers)
- Super-low latency and long-range control with telemetry
 - Up to 50 to 100KM range and down to 4ms end-to-end latency
- 800*480 Color Touch-Screen Displays
- 6 Quick-Mode Custom Buttons (Front) and 2 Momentary Buttons (Rear)
- Lite Type External Module Bay
- Built-in 6-axis Gyroscope Sensor
- All CNC Metal Trim Knobs
- Haptic Vibration Alerts and Voice Speech Outputs
- Supports Recharge System for 2S Li-ion Battery (USB Type-C Interface)
- High-speed PARA Wireless Training System (Compatible with FreeLink App3.0)
- High-Precision Hall-Sensor Gimbals with All-CNC Metal Panel
- ETHOS: The more powerful, Flexible and Intuitive OS for your radio.
 - Clear and Intuitive UI Design
 - Supports Dual Operation Modes of Radio Display (Touch and Non-Touch)
 - Supports Multi-Language Switching
 - Hardware/Software Version and Factory Version Detection
 - Supports running LUA Scripts

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Gimbal adjustment (UpKit version)

Unscrew the four screws on the back cover of the remote control, open the back cover of the remote control, you can adjust Gimbal.



Audio bluetooth (UpKit version)

This Audio module can have your wireless Bluetooth audio devices connected and functioned as a broadcast. Open the wireless settings in the ETHOS system menu, select "Audio" and click "Search", then open your wireless Bluetooth audio device and bound.

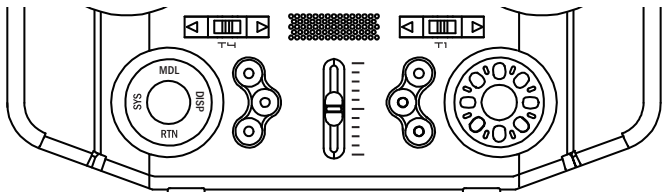
2S Li-battery balance charging via USB-C:

The Green LED indicator states:
Led on: in Charging/Led off: end of charge/flash: charge fault
Battery compartment size: 84*41.5*20mm (L*W*H)

- Note:** 1. Charge the battery with the USB adapter (Voltage: 5V+0.2V Current: >2.0A) when you use the USB charging function.
2. The lower the initial charging voltage, the better the charging effect is when the voltage difference cells exceed 50 mV between the two.

Navigation Controls

The left navigation control does RTN, SYS, MDL, DISP and Page UP/Down. The right navigation control does scroll and enter. Both navigation controls and touch screen can be used to control the system.

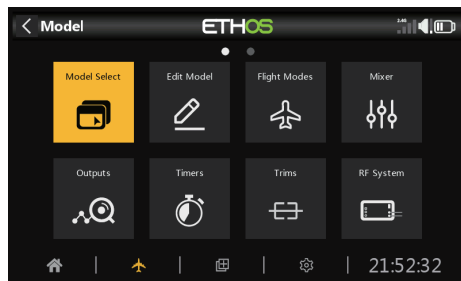


ETHOS Operating System

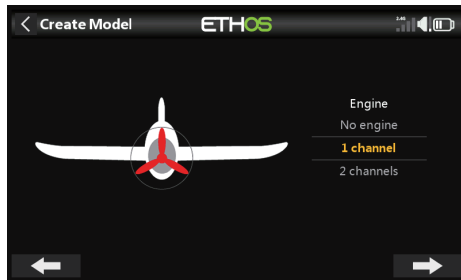
Create the model

Step 1: Enter into Model Select, then select the model type.

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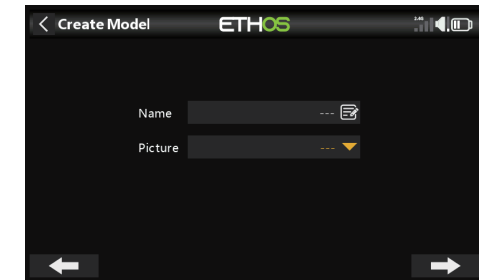
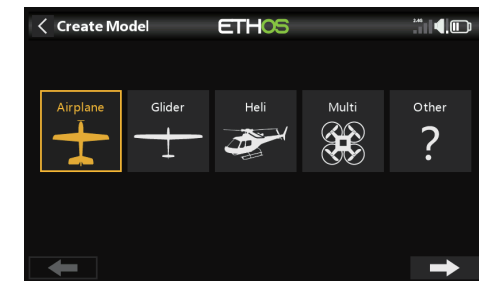
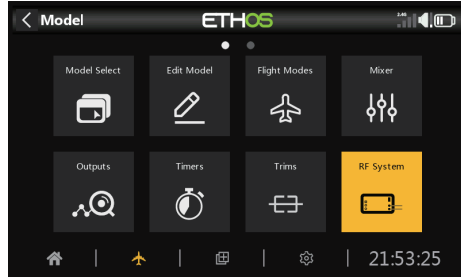


Step 2: Configure the model channel and create the model name.



Model Setup Procedure-Internal Module

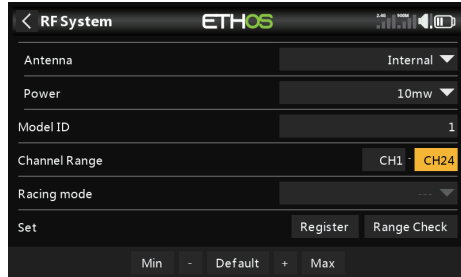
Step 1:



Touch the screen or use the navigation keys to enter the RF system menu.

Step 2: Set the Channel Range

The TANDEM RF module supports 24 channels. the channel range is configurable, and it needs to be double checked before use.



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