FrSky Scout VS600

FrSky Scout VS600 VTX Instruction Manual

Your guide to setup, operation, and maintenance of the FrSky Scout VS600 Video Transmitter.

1. INTRODUCTION

The FrSky Scout VS600 is an advanced 5.8 GHz video transmitter (VTX) designed for FPV (First Person View) applications. It offers a simple and clean design with adjustable power output and switchable frequency bands and channels. This manual provides essential information for the proper installation, operation, and maintenance of your VS600 VTX.

Key Features:

- S.Port enabled and supports telemetry data transmission.
- Supports inverted S.Port.
- Built-in microphone for audio telemetry feedback.
- Adjustable and unlockable parameters via VTX Button, gTrans.lua script, FreeLink (PC), or FreeLink App (with AirLink S).

Image 1.1: The FrSky Scout VS600 VTX module with its connected antenna. This image displays the compact size and general layout of the video transmitter, including the main circuit board and the attached antenna cable leading to the SMA connector.

2. SPECIFICATIONS

Parameter	Value
Dimension (L*W*H)	31*24*4.9mm
Weight	4g
Available Channels	26CH
Operating Voltage	2-6S (LiPo)
Transmission Frequency	5.8 GHz

Parameter	Value
Transmission Power	<0.01mW (pit mode) / 25mW
Item Weight	0.141 ounces
Item Model Number	Scout VS600

What's in the Box:

- FrSky Scout VS600 VTX Unit
- Built-in Microphone

3. SETUP GUIDE

3.1 Physical Connection

Carefully connect the VS600 VTX to your flight controller and power source. Ensure correct polarity for power connections to prevent damage. The VTX typically requires connections for power (VBAT or regulated 5V/9V depending on setup), ground, video input from the camera, and S.Port for telemetry.
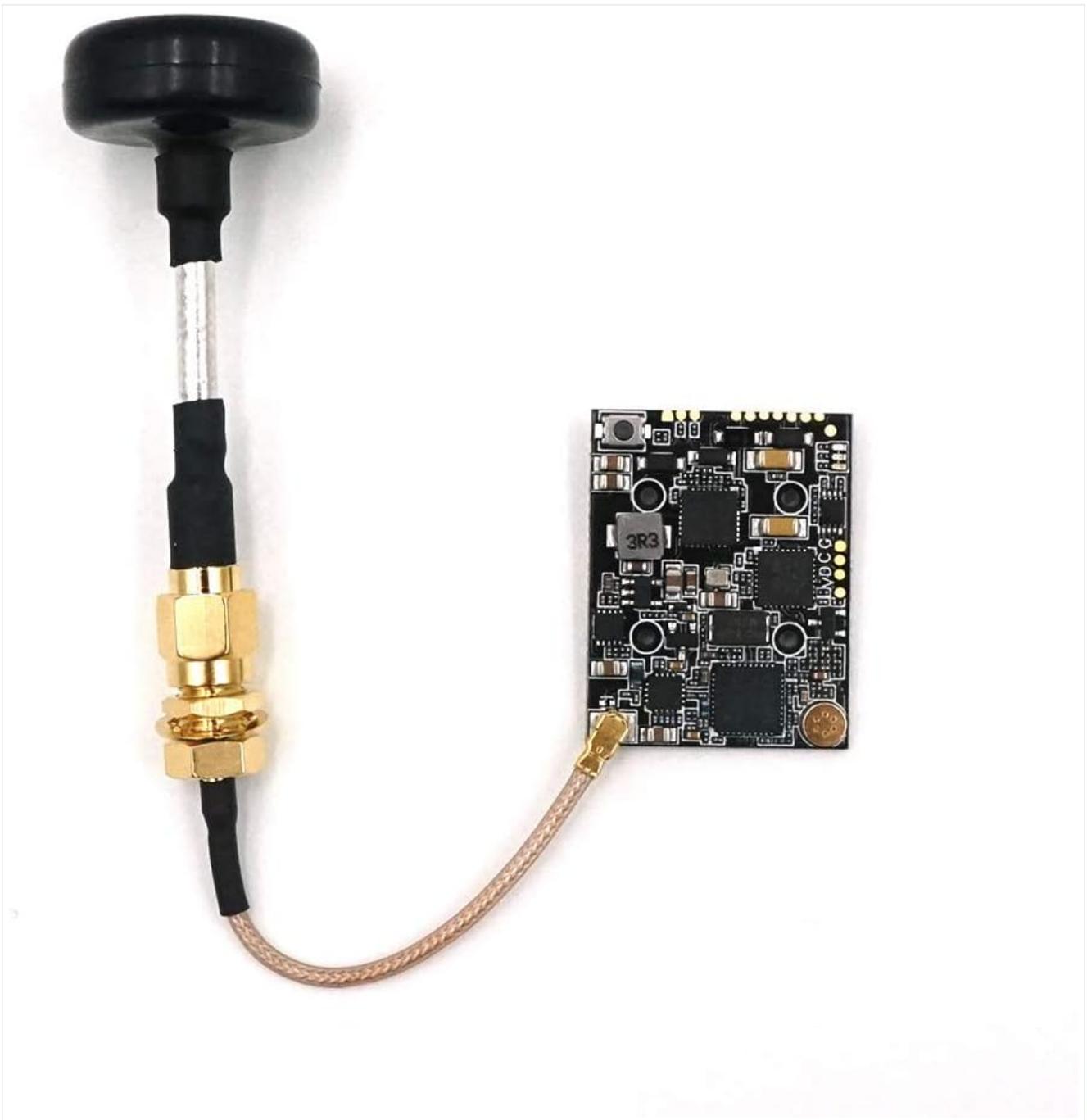
Image 3.1: The FrSky Scout VS600 VTX module with an alternative antenna type. This view highlights the compact PCB and the connection point for the antenna, which is crucial for proper video transmission.

3.2 Antenna Installation

Screw the provided 5.8 GHz antenna onto the SMA connector of the VTX. Ensure the connection is secure but do not overtighten. Always operate the VTX with an antenna connected to prevent damage to the transmitter module.

3.3 Initial Power-Up

Before applying power, double-check all connections. Power the VTX from a 2-6S LiPo battery. Observe the LED indicators (if present) for proper operation. Refer to your flight controller's manual for specific wiring diagrams if integrating with a flight stack.

4. OPERATING INSTRUCTIONS

4.1 Channel and Power Adjustment

The VS600 VTX allows for adjustment of transmission channels and power output. These parameters can be changed using one of the following methods:

- **VTX Button:** A physical button on the VTX module allows for cycling through channels and power levels. Consult the specific button press sequence for your VTX version.
- **gTrans.lua Script:** If paired with an FrSky radio transmitter, parameters can be adjusted conveniently through the gTrans.lua script running on the radio.
- **FreeLink (PC Software):** Connect your VTX to a computer via a compatible interface and use the FreeLink PC software for configuration.
- **FreeLink App (with AirLink S):** Use the FreeLink mobile application with an AirLink S module for wireless parameter adjustment.

The VTX supports a 'pit mode' with <0.01mW output for safe testing without interfering with other pilots, and a standard 25mW output for flight.

4.2 S.Port Telemetry

The VS600 VTX is S.Port enabled, allowing it to transmit telemetry data back to your FrSky receiver and radio. This can include VTX status, power levels, and other relevant information. Ensure your flight controller and receiver are configured to pass S.Port telemetry data.

4.3 Audio Telemetry (Built-in Microphone)

The built-in microphone provides audio telemetry feedback, allowing you to hear ambient sounds from your drone through your FPV goggles or ground station. This feature can be useful for monitoring motor sounds or environmental cues during flight.

5. MAINTENANCE

The FrSky Scout VS600 VTX is designed for durability, but proper care ensures longevity and reliable performance.

- **Cleaning:** Keep the VTX free from dust, dirt, and moisture. Use a soft, dry brush or compressed air to clean the board. Avoid using liquid cleaners directly on the electronics.
- **Storage:** Store the VTX in a dry, cool environment away from direct sunlight and extreme temperatures.
- **Physical Inspection:** Regularly inspect solder joints, wire connections, and the antenna connector for any signs of wear or damage.
- **Antenna Care:** Always ensure an antenna is connected before powering on the VTX. Operating without an antenna can permanently damage the transmitter.

6. TROUBLESHOOTING

If you encounter issues with your FrSky Scout VS600 VTX, consider the following troubleshooting steps:

- **No Video Signal:**
  - Check all video input and output connections between the camera, VTX, and flight controller.
  - Ensure the VTX is powered correctly and receiving sufficient voltage.
  - Verify that your FPV goggles/receiver are on the correct band and channel matching the VTX.
  - Confirm the antenna is securely attached to the VTX and not damaged.

- **Poor Video Quality/Range:**
  - Check for obstructions between the VTX and receiver antenna.
  - Ensure both VTX and receiver antennas are correctly oriented (e.g., vertical polarization).

- Verify the VTX is operating at the desired power level (e.g., 25mW, not pit mode).
- Inspect antennas for damage or loose connections.
- Check for sources of electrical interference near the VTX or receiver.

- **No Telemetry Data:**
  - Ensure the S.Port wire is correctly connected from the VTX to the flight controller/receiver.
  - Verify that S.Port telemetry is enabled and configured in your flight controller firmware and FrSky radio.

- **No Audio from Microphone:**
  - Confirm your FPV receiver/goggles support audio reception.
  - Check for any audio settings that might be muted or set too low.

7. SAFETY INFORMATION

Please read and adhere to the following safety guidelines to ensure safe operation and prevent damage to the product or injury.

- **Antenna Connection:** Always connect the antenna before powering on the VTX. Operating without an antenna can cause permanent damage to the transmitter.
- **Power Supply:** Use only the specified operating voltage (2-6S LiPo). Incorrect voltage can damage the VTX.
- **Heat:** VTX modules can generate heat during operation. Ensure adequate airflow and avoid enclosing the VTX in a way that prevents heat dissipation.
- **Interference:** Be mindful of local regulations regarding 5.8 GHz transmission. Avoid operating near sensitive electronic equipment or in areas where interference could be an issue.
- **Handling:** Handle the VTX with care to avoid static discharge or physical damage to the delicate electronic components.
- **Age Recommendation:** This product is recommended for users 14 years and older.

8. WARRANTY AND SUPPORT

FrSky products are manufactured to high standards and undergo rigorous testing. For specific warranty terms and conditions, please refer to the official FrSky website or contact your authorized dealer.
If you require technical assistance or have questions not covered in this manual, please visit the official FrSky support page or contact their customer service. Keep your proof of purchase for warranty claims.

Official FrSky Website: www.frsky-rc.com