

Mini fan cooling system

# FPV Video Transmitter

## VTX-S2

4.9/5.8/6G 3W 48+24CH

### KEY FEATURES

- Channels: 48CH+24CH
- Control Protocol: IRC Tramp, OSD parameter adjustment
- Power Levels: PIT, 25mW, 400mW, 800mW, 3000mW
- Wide Voltage Input: 7-36VDC (2-6S)
- Voltage Output: 5VDC/0.5A
- Video Format: PAL/NTSC
- Temperature Protection: Automatic
- Audio Input: Supported
- Design: High-strength aluminum alloy CNC housing with built-in micro turbine fan
- Weight: 15.8g (excluding antenna)
- Dimensions: L38.8 x W26 x H11mm
- Antenna Interface: MMCX
- Modulation Type: FM
- Transmission Power: 35dBm ± 1dBm (MAX)
- Channel Selection: "Band/CH button"-Long press for 3 seconds to switch bands; Short press to switch frequency points.
- Power Adjustment: "Power button"-Short press to switch.



### APPLICATIONS

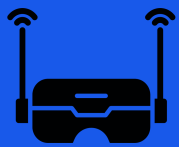
- FPV Drone Racing
- UAV Communication Systems
- Remote Vehicle Monitoring
- Wireless Video Transmission Systems

### TRANSMITTER OPERATION AND ADJUSTMENT

#### a. STANDARD FREQUENCY TABLE

| BAND              | CH1      | CH2      | CH3      | CH4      | CH5      | CH6      | CH7      | CH8      |
|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1, A ( BOSCAM )   | 5865 MHz | 5845 MHz | 5825 MHz | 5805 MHz | 5785 MHz | 5765 MHz | 5745 MHz | 5725 MHz |
| 2, B ( BOSCAM )   | 5733 MHz | 5752 MHz | 5771 MHz | 5790 MHz | 5809 MHz | 5828 MHz | 5847 MHz | 5866 MHz |
| 3, E ( BOSCAM )   | 5705 MHz | 5685 MHz | 5665MHz  | 5645 MHz | 5885MHz  | 5905 MHz | 5925 MHz | 5945 MHz |
| 4, F ( FAT SHARK) | 5740 MHz | 5760 MHz | 5780 MHz | 5800 MHz | 5820 MHz | 5840 MHz | 5860 MHz | 5880 MHz |
| 5, R ( RACEBAND)  | 5658 MHz | 5695 MHz | 5732 MHz | 5769 MHz | 5806 MHz | 5843 MHz | 5880 MHz | 5917 MHz |
| 6, L ( BAND)      | 5362 MHz | 5399 MHz | 5436 MHz | 5473 MHz | 5510 MHz | 5547 MHz | 5584 MHz | 5621 MHz |

Note: The power levels of 400mW, 800mW, and 3000mW must be properly matched with an antenna. Otherwise, the power amplifier may burn out due to improper power transmission.



Mini fan cooling system

# FPV Video Transmitter

## VTX-S2

FPVspeed™

4.9/5.8/6G 3W 48+24CH

### 6. EXTENDED FREQUENCY TABLE

| BAND           | CH1      | CH2      | CH3      | CH4      | CH5      | CH6      | CH7      | CH8      |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1,V BAND (MHZ) | 4990 MHz | 5020 MHz | 5050 MHz | 5080 MHz | 5110 MHz | 5140 MHz | 5170 MHz | 5200 MHz |
| 2,U BAND (MHZ) | 4867 MHz | 4884 MHz | 4921 MHz | 4958 MHz | 4995 MHz | 5032 MHz | 5069 MHz | 5099 MHz |
| 3,H BAND (MHZ) | 5960 MHz | 5980 MHz | 6000 MHz | 6020 MHz | 6040 MHz | 6060 MHz | 6080 MHz | 6100 MHz |

Note: When using extended frequency bands, please replace the antennas with a matching 4.9G antenna (for groups 1 and 2) and a 6G antenna (for group 3). Mismatched antennas may affect signal transmission and could even damage the transmitter.

### 1. POWER ADJUSTMENT INSTRUCTIONS

- Power Adjustment: Use "Power button" to adjust power levels. Short press to cycle between PIT, 25mW, 400mW, 800mW, and 3000mW.
- Power Indicator Light: Red light blinks to indicate power level: 25mW blinks once, 3000mW blinks four times. Long press for 3 seconds to enter PIT mode, with the red light remaining on.
- Temperature Protection: If the temperature exceeds 100°C, the power level will reduce stepwise until the lowest level (25mW) is reached. Once the temperature drops below 95°C, power will return to the original level.

|                     |           |             |              |                |                |
|---------------------|-----------|-------------|--------------|----------------|----------------|
| Power Adjustment    | PIT       | 25mW        | 400mW        | 800mW          | 3000mW         |
| Red Indicator Light | Always On | Blinks Once | Blinks Twice | Blinks 3 Times | Blinks 4 Times |

### 2. FREQUENCY GROUP AND CHANNEL ADJUSTMENT

- Use "Band/CH button" to adjust frequency groups and channels. Long press for 3 seconds to change the frequency group, short press to change the channel.

|   |                       |             |              |                |                |                |                |                |                |
|---|-----------------------|-------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Frequency Group Control<br>Press and hold for 3 seconds to switch bands | Band                  | BAND A      | BAND B       | BAND E         | BAND F         | RaceBand       | BAND L         |                |                |
|   | Blue Indicator Light  | Blinks once | Blinks twice | Blinks 3 times | Blinks 4 times | Blinks 5 times | Blinks 6 times |                |                |
| Frequency Channel Control<br>Short press to switch channels             | Channel               | CH1         | CH2          | CH3            | CH4            | CH5            | CH6            | CH7            | CH8            |
|   | Green Indicator Light | Blinks once | Blinks twice | Blinks 3 times | Blinks 4 times | Blinks 5 times | Blinks 6 times | Blinks 7 times | Blinks 8 times |



### 3. SWITCHING BETWEEN STANDARD AND EXTENDED FREQUENCY GROUPS

Press and hold both the "Power" button and the "Band/CH" button simultaneously for more than 5 seconds to switch between the standard frequency group (48CH) and the extended frequency group (24CH). After switching, power off and power on again to take effect.

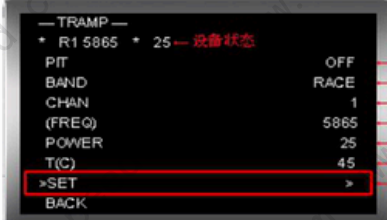
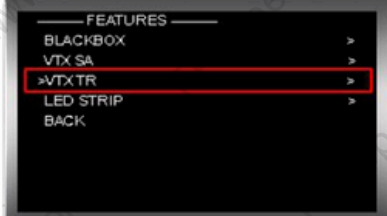
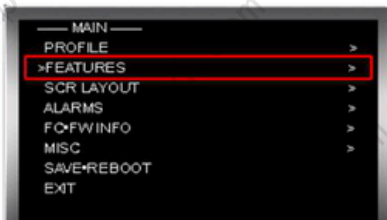
- standard (48CH) to extended (24CH): all three indicators will flash once simultaneously.
- extended (24CH) to standard (48CH): all three indicators will flash twice simultaneously.

**Note:** Switching between the standard and extended frequency groups can only be done via the buttons, not through protocol commands. After switching, the IRC protocol can be used to change frequency channels.

### 4. REMOTE OSD PARAMETER ADJUSTMENT (TRAMP PROTOCOL)

- Flight controller controls the power levels of 25, 400, 800, 3000, corresponding to the transmitter power levels: 25mW, 400mW, 800mW, 3000mW.

#### ★ OSD界面说明



PIT 模式  
频段组选择  
频点选择  
频率值显示  
输出功率选择  
温度显示  
选定后确定

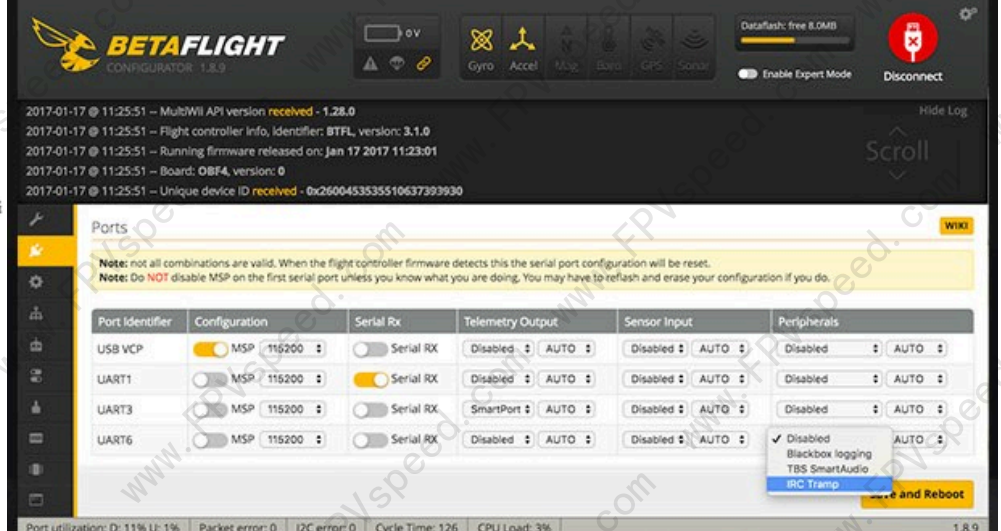
## 通过OSD界面远程调整图传发射频率和功率

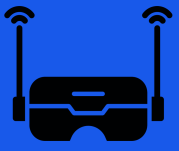
### ★ 硬件线路连接

将图传RX连接到飞控硬件空余的Uart (TX) 端口 (参考下方连线方式2)。

### ★ 地面站软件配置

1. 选择端口选项卡;
2. 参考下图, 如图设置对应端口的Peripherals菜单。





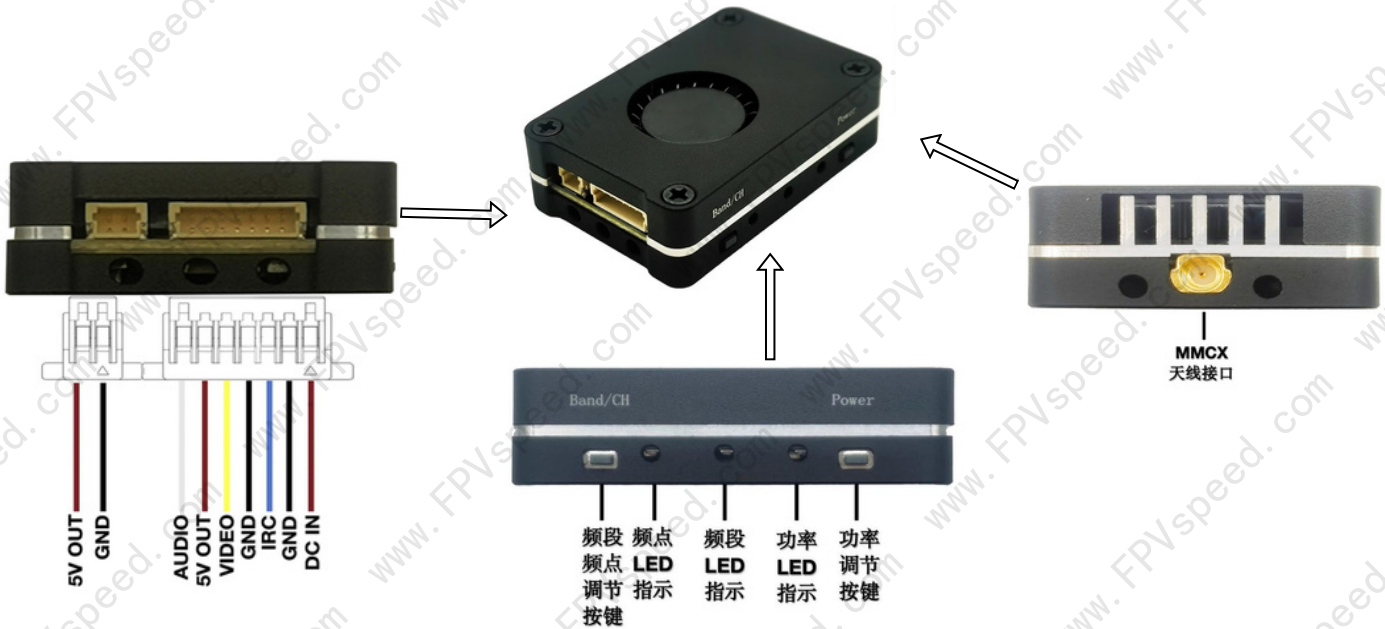
Mini fan cooling system

# FPV Video Transmitter

## VTX-S2

4.9/5.8/6G 3W 48+24CH

### TRANSMITTER WIRING DIAGRAM



### PRECAUTIONS

- Please install the antenna before powering on to avoid equipment malfunction.
- Select the appropriate operating frequency and set both the transmitter and receiver to the same frequency (refer to the frequency table for details).
- The transmitter has high power output. Do not touch the casing while it is in operation to avoid burns (the casing becoming hot is normal; please use it with confidence).
- If the casing is removed to reduce weight, the product can still be used normally, but the transmission power may slightly decrease due to increased temperature of the transmitter.
- Input voltage is 7-36V (2-6S). Do not exceed this voltage range.
- Output voltage/current is 5V/0.5A. Ensure the camera is within this voltage/current range. If the camera current exceeds 0.5A, do not use the voltage output from this product, as it may damage the transmitter's power module.

### DISCLAIMER

**⚠ This product is intended for civilian and commercial use only. It is strictly prohibited from being used for any military purposes or activities.**