



FPVspeed™

Compatible with stacks

# FPV Video Transmitter

VTX-SD2

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, compatible with 30.5mm x 30.5mm stack mounting
- Weight: 16g (excluding antenna)
- Dimensions: L38.8 x W26 x H11mm
- Antenna Interface: MMCX
- Modulation Type: FM
- Transmission Power: 35dBm  $\pm$  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.



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## 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 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 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	



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### 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.

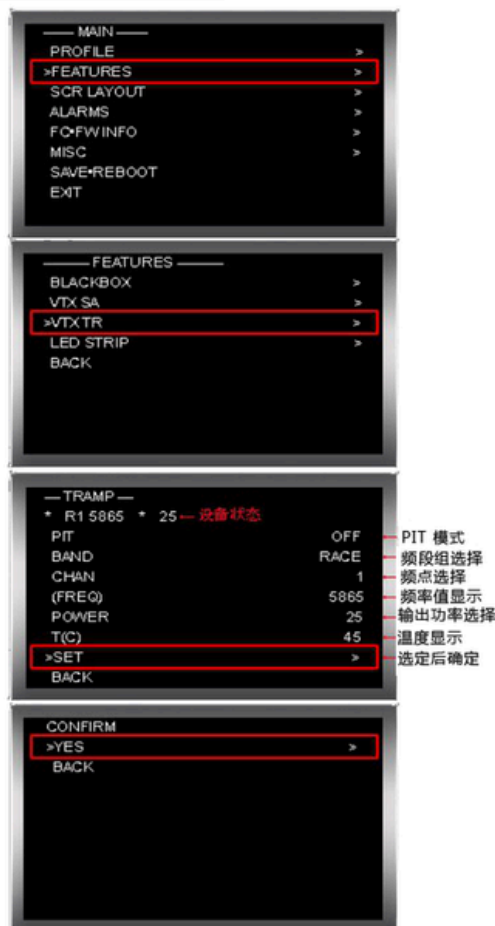
- standard (48CH) to extended (24CH): all three indicators will flash once simultaneously.
- extended (24CH) to standard (48CH), all three indicators will flash twice simultaneously.

**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



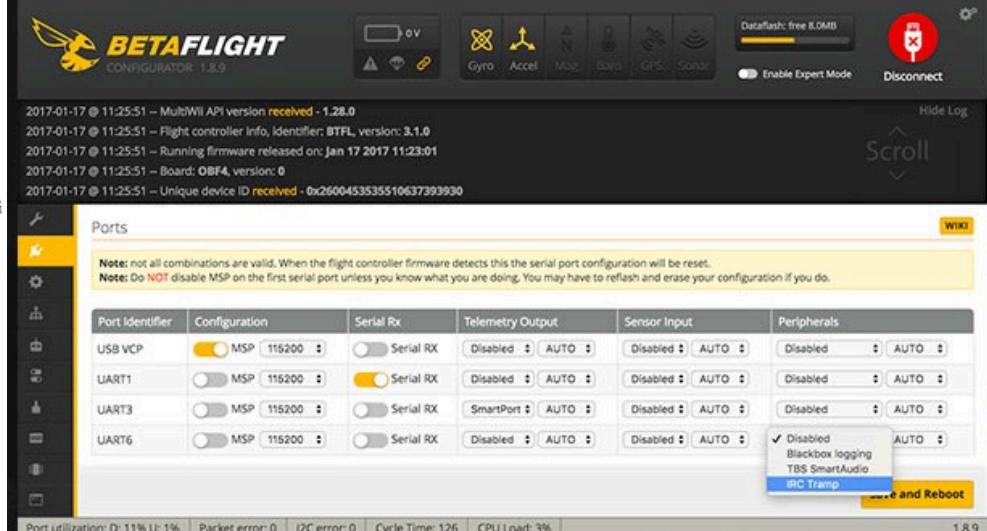
### 通过OSD界面远程调整图传发射频率和功率

#### ★ 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。





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## 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.**