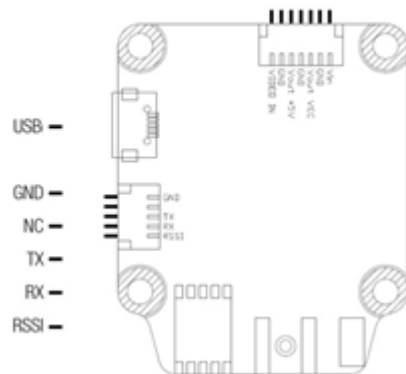


Diatone SP2 48-Channel Video Transmitter

The Diatone SP2 is a 48-channel 5.8GHz video transmitter (VTX) for use with FPV drones. The SP2 is supplied as standard with the Tyrant-S racing drone used in the Airgeeners competition.

PCB Layout

VIDEO IN / GND / Vout 5V / GND / Vout VCC / GND / Vin 2-4S



Specification

Frequency	5.3GHz – 5.95GHz
Operating voltage	10V - 16.8V
Output voltage	5V/VCC
Supply current	300mA ±10mA
Video input level	1V ±0.2Vp-p/75Ω
Audio input level	0.5-2.0V p-p/10kΩ
TV system	PAL/NTSC/SECAM (auto)
RF output power	0/25/200/600mW *1
Weight	12g
Dimensions (mm)	43.5 x 36 x 6.3
Operating temperature	-10°C + 75°C

*1 Important – 200mW and 600mW transmissions are not permitted in the UK or in the Airgeeners competition. When using in the UK, please ensure 25mW mode is selected.

Operating Frequency Table (GHz)

BAND\CH		CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Boscam A	A	5.865	5.845	5.825	5.805	5.785	5.765	5.745	5.725
Boscam B	B	5.733	5.752	5.771	5.790	5.809	5.828	5.847	5.866
Boscam E	E	5.705	5.685	5.665	5.645	5.885	5.905	5.925	5.945
FS/IRC	F	5.740	5.760	5.780	5.800	5.820	5.840	5.860	5.880
RaceBand	R	5.658	5.695	5.732	5.769	5.806	5.843	5.880	5.917
DIATONE	D	5.362	5.399	5.436	5.473	5.510	5.547	5.584	5.621

Switching Bands, Channels, and Power Output

All of the functions on the SP2 VTX are controlled via a single push button. The single digit LED display is used to indicate the band and channel. The coloured LEDs are used to indicate the power output.

Switching frequency

A short press of the button changes the frequency. The display will show a number from 1 to 8 which corresponds to the channel (CH) number in the table above.

Switching Band

Press and hold the button for 2 seconds, then release to change band. The display will show A, B, E, F, R or D which corresponds to the band letter in the table above.

Switching Power Output

Press and hold the button for 5 seconds to move to the next power output. The current power output is indicated by the red and blue LEDs

Both off	0mW (off)
Blue only	25mW
Red only	200mW
Red and blue	600mW

Please note that only the 25mW mode is permissible in the UK and in the Airgineers competition. 200mW and 600mW modes should not be used.

Examples

Display shows R and 2 and only the blue LED is on – RaceBand CH2 (5.695GHz) at 25mW

Display shows E and 7 and only the red LED is on – Boscam E CH7 (5.925GHz) at 25mW

When flying FPV with more than one drone in the sky at once, you should try to operate on frequencies as far from each other as possible. The RaceBand is designed to offer the widest split between channels.

Examples:

2 drones in the air at once - use RaceBand CH1 and RaceBand CH8 as these two channels have frequencies that are as far from each other as possible.

3 drones in the air at once - use RaceBand CH1 , RaceBand CH4 and RaceBand CH8 as these three channels have frequencies that are as far from each other as possible.

www.airgineers.co.uk

 @airgineers