

FPV RACING TANK ULTIMATE 5.8G VTX RUSH USER MANUAL

! WARNINGS Read this user manual before use.

- The user needs to have relevant professional knowledge while mounting or operating the VTX product, any illegal use may cause potential danger. Please ensure that you are at least 18 years old and have the skills of operating radio equipments, or operate under the guidance of a professional. Read this manual carefully before you use. For those who ignore the following statement or violate the operating regulations, the user assumes the responsibility for any personal injury and property damage.
- The VTX will generate a lot of heat while normal working, please ensure adequate airflow to provide a well-ventilated environment, the overheated environment will cause the VTX breakdown, and direct touch may cause burns. Please ensure all the cables and plugs are installed correctly, the VTX will not work or be damaged if you connected incorrectly or short-circuited. Before powering up, please ensure the antenna has been installed correctly to the VTX RF output, low SWR and proper gain is recommended while selecting the antenna to obtain better signal. Please contact your dealer for technical support when the VTX breakdown. There are a large number of precision RF components in the VTX, please do not disassemble, repair or modify this product personally.
- Please follow the local radio regulations, HAM licensed is required for operating on HAM channels, and HAM power levels, some channels need to be notified to the local radio regulatory agency before use. Ensure you are in accordance with all local laws and regulations about the drones and radio. It is strictly forbidden to fly in the no fly zone such as airport, military facilities and over crowds.

Specifications

Model : RUSH TANK 5.8G Video transmitter

Input Voltage : 7-25V HV (2-6S LIPO)

On board DC output : 5V 1A max

Channels : 48

Transmit Power : PIT/0mW 25mW/14dBm

200mW/23dBm 500mW/27dBm 800mW/29dBm

Video format : PAL/NTSC

Operating temperature : -20°C - 90°C

Serial protocol : TBS SmartAudio V1

Antenna connector : MMCX 50Ω

Socket : JST 1.0mm 6pin / PADS

Mounting holes : M3×4 30-30.5mm Spacing

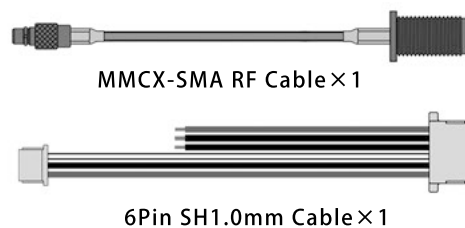
Size : H 36mm×W 36mm×D 4mm-4.5mm

Weight : 6.8g (Cable not included)

Product features

- POWER LUT** Built-in high precision power lookup table which performs milliwatt power calibration for all channel, full band has it's own unique power output. In multiplayer flight, all players will benefit from this and obtain a fair and consistent
- LOCK-ON** The new designed locked frequency circuit coordinates software optimization, enables transmitting frequency of TANK to keep the set point in any harsh (high interference) environment. Allows 8 drones racing in same band, without interference.
- SILENT SETTING** The intelligent transmit circuit of TANK will not generate any interference signal during the switching and setting of VTX. With PITMODE, you can set the VTX anytime and anywhere.
- PIT MODE** After entering the PITMODE, the VTX power will be reduced to a minimum. Your video feed is only visible to yourself at close range, so don't worry about disturbing others.
- SMARTAUDIO** Built-in SmartAudio protocol authorized by TBS. Which can be set with RGB LED by conventional double buttons, and also access the SmartAudio protocol to set up and view the VTX information via the OSD menu.
- TANK ARMOR** Under the fully covered metal case there are 6 layers of PCB after waterproofing work. VTX is fully protected, avoiding external interference and achieving ultra high heat dissipation efficiency.

Items List

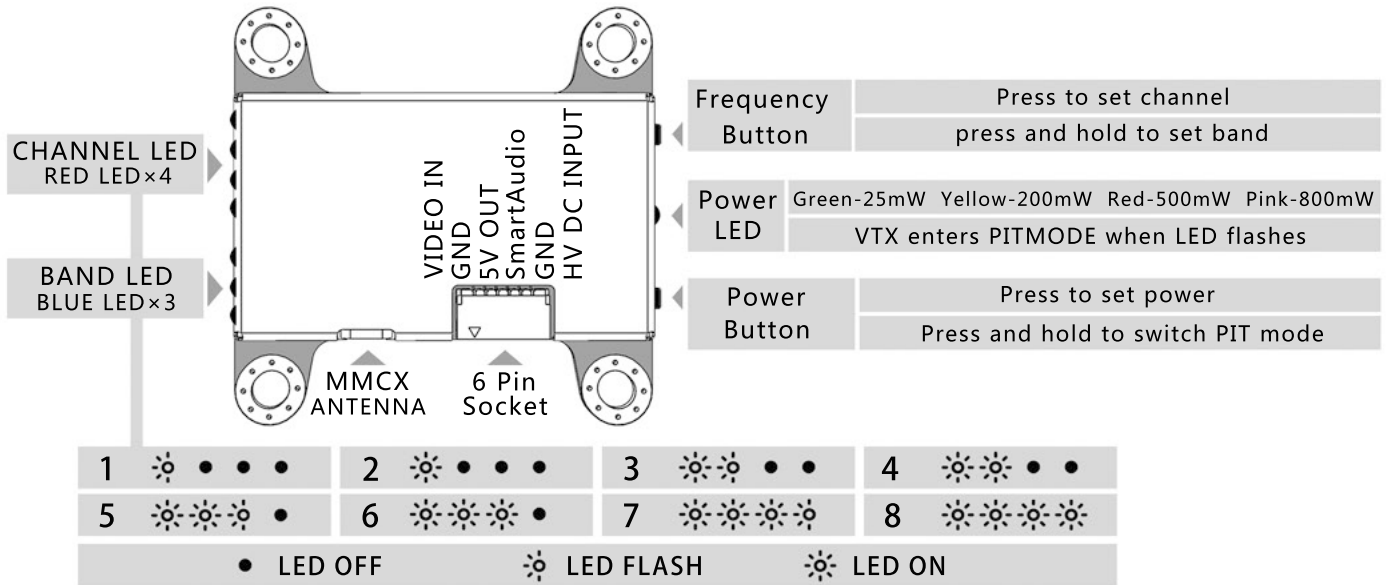


CH	BAND A		BAND B		BAND E		BAND F		BAND X		BAND L	
	F	W	F	W	F	W	F	W	F	W	F	W
1	5865	5733	5705	5740	5658*	5362						
2	5845	5752	5685	5760	5695*	5399						
3	5825	5771	5665	5780	5732*	5436						
4	5805	5790	5645*	5800	5769	5473						
5	5785	5809	5885	5820	5806	5510						
6	5765	5828	5905	5840	5843	5547						
7	5745	5847	5925*	5860	5880*	5584						
8	5725*	5866	5945*	5880*	5917*	5621						

The selections in * requires HAM license to operate legally. * selections are only available on special request.

Frequency table × 1

LED Light/Button



Frequency Table

CH	BAND A	BAND B	BAND E	BAND F	RaceBAND	Low Race
1	5865	5733	5705 ⚠	5740	5658 ⚠	5362
2	5845	5752	5685 ⚠	5760	5695 ⚠	5399
3	5825	5771	5665 ⚠	5780	5732 ⚠	5436
4	5805	5790	5645	5800	5769	5473
5	5785	5809	5885 ⚠	5820	5806	5510
6	5765	5828	5905 ⚠	5840	5843	5547
7	5745	5847	5925	5860	5880 ⚠	5584
8	5725 ⚠	5866	5945	5880 ⚠	5917 ⚠	5621

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SmartAudio

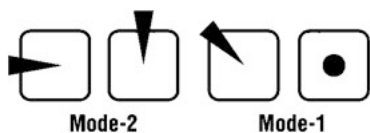
RUSH TANK has built-in SmartAudio Control Protocol officially authorized by TBS. After the VTX is connected to the FC or CF receiver, the VTX parameters can be quickly set via the OSD or radio control.

For more information please visit : <https://github.com/betaflight/betaflight/wiki/Unify-Smartaudio>

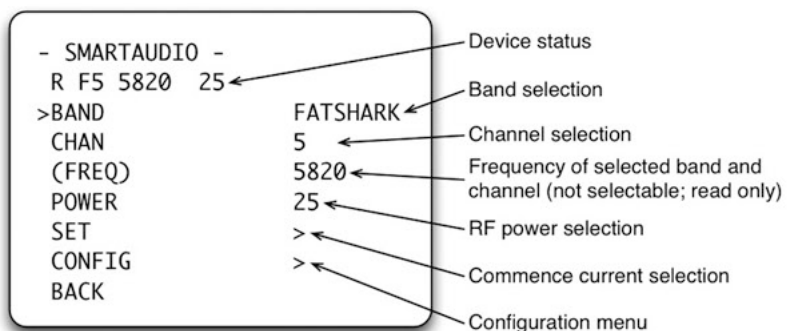
1. Connect the smartaudio port to the Flight controller Free UART-TX

2. Open BetaFlight configurator, Goto Ports tab, Select TBS SmartAudio from Peripherals drop down menu, Speed can be left at AUTO. and save settings

3. Turn on the radio control, THR middle, YAW left, PITCH up, Enter the OSD menu.



4. In FEATURES > VTX SA menu, you can set the transmit frequency and power.



SmartAudio VTX top menu (Band/Channel mode)