

! 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 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, and direct touch may cause burns. Please ensure all the cables and plugs are installed correctly. Before powering up, please ensure the antenna has been installed correctly to the VTX RF output. There are a large number of precision components in the VTX, please do not disassemble, repair or modify this product personally. Contact your dealer for technical support when the VTX breakdown.
- 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 corwds.

Feature

- Developed for extreme long-range pilots, compact and efficient active cooling design unleashes the full performance of the VTX.
- LOCK-ON technology with jitter-free transmit channels and no sweep interference for multi-pilot flights.
- Factory power consistency calibration for all channels
- Low noise DC-DC power supply design for clean screens.

Specification

CHANNEL: 48CH / 37CH (US)

POWER LEVEL: PIT-25mW-500mW-1000mW-MAX*

INPUT : DC 7-36V (6S LiPo)

OUTPUT : DC 5V (Max 500mA)

VIDEO IN : CVBS PAL/NTSC

AUDIO IN : 6.5M MONO

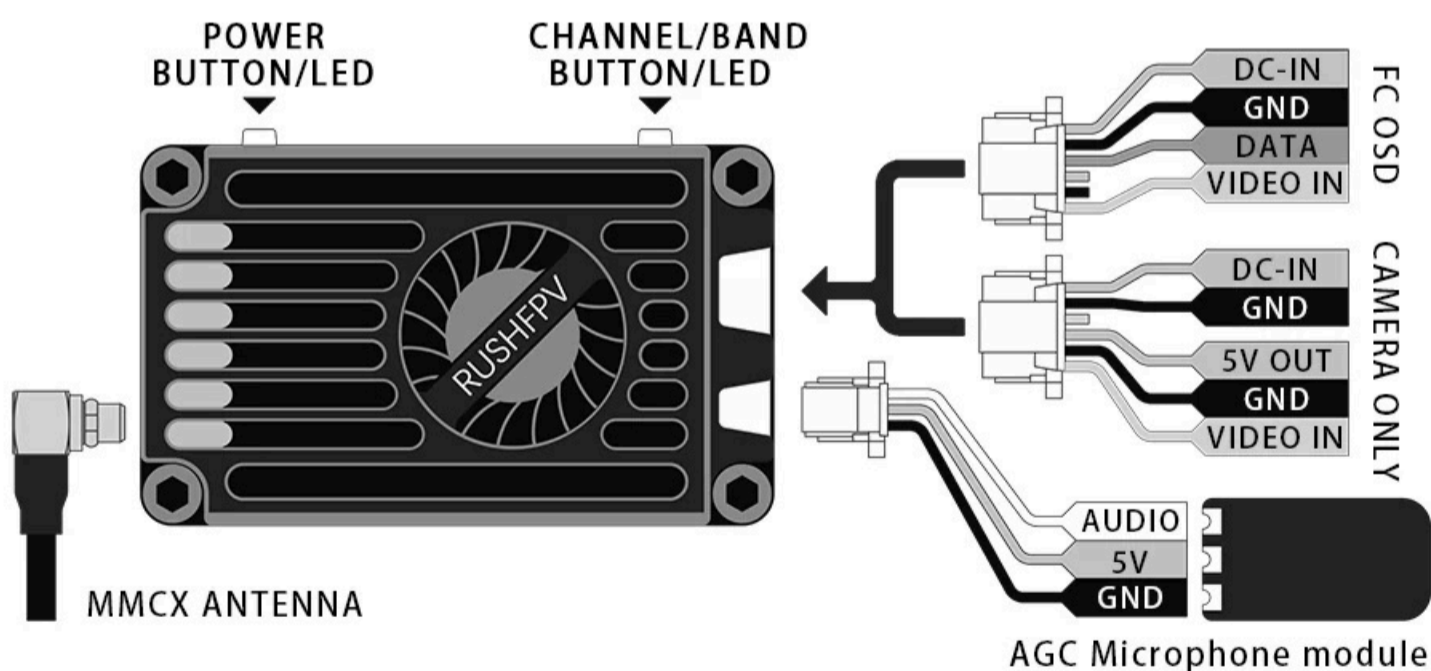
ANTENNA CONNECTOR : MMCX 50Ω

EXTERNAL CONTROL: Smart Audio

SIZE: H 40mm* W 24mm* D 10.5mm

WEIGHT:15g (With out cable)

*MAX Power level can provide 2500mW(34dbm) or more power depending on the environment's ability to dissipate heat.



Press CHANNEL/BAND BUTTON to set channel, press and hold to set band.

Press POWER BUTTON to set power level, press and hold to ON/OFF pitmode.

- RF amplifier is very sensitive to SWR when the high power output. The antenna must be installed before the VTX can be turned on, otherwise the VTX amplifier will burn out.
- Damaged antenna and coaxial cable may also lead to amplifier failure.
- In the state of not connected Smartaudio, VTX will keep the lowest power block every time it starts.
- Do not block the airflow duct of the high efficiency cooling fan, please use it in a frame with air circulation.
- The 5V output is for camera use only, please do not connect to the power input and battery, this will cause damage to VTX!

POWER/FREQUENCY DISPLAY

CAUTION: The selection in [grey box] require a HAM License to operate legally. [black box] Selections are ONLY available by special request. (The US version does NOT include these channels.)

FREQUENCY TABLE

CH	BAND A	BAND B	BAND E	BAND F	RACEBAND	LOWRACE
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 chosen channel and band will be displayed in sequence. The number of flashes in red will indicate the channel and blue will flash for the band.

POWER LEVEL

LED COLOR	GREEN	BLUE	RED	PURPLE
POWER	25mW	500mW	1000mW	MAX

PIT MODE = flashing Power LED

EXIT PIT MODE = press and HOLD Power Button to use selected Power Level.

Overheated = Power LED flashes rapidly and the VTX slowly reduces transmit power

When the VTX cools down, it will resume transmitting power and the power LED will stop flashing

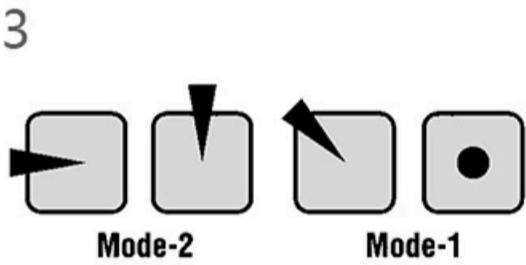
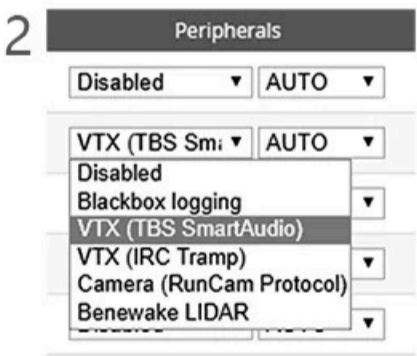
SMARTAUDIO

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

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

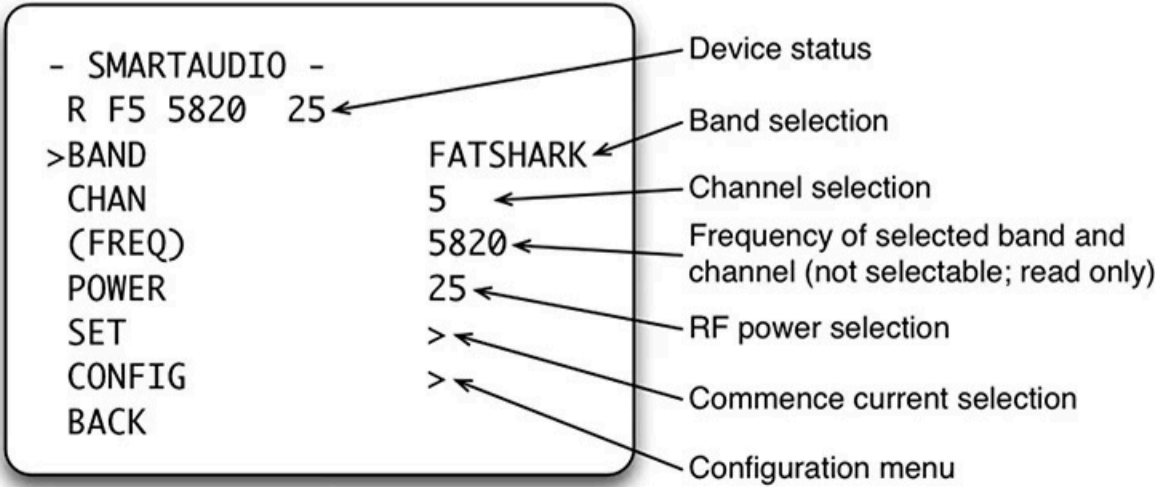


2. Open BetaFlight configurator, Goto the Ports tab, Under peripherals next to the UART which is connected to the RX pad of the VTX select TBS SmartAudio (Speed can be left at <auto>). Save the settings.



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

4. In the Function> VTX SA menu, set the VTX working state. In the CONFIG menu, when set to RACE mode, VTX will automatically enter PIT mode after booting, set to FREE mode, VTX will normally transmit after booting. After switching the working mode, you need to reconnect the power to make the settings take effect.



SmartAudio VTX top menu (Band/Channel mode)

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