FPV RACING RUSH
TANK SOLO 5.8GHz VTX 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 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.
- Do not operate product unless user has appropriate skills and/or licence(s) necessary to operate this radio equipment legally; or user is under the guidance of a professional. HAM Radio Licensing is required to operate on some frequencies/power levels.
- Be sure operator is in compliance with all local and governmental laws/regulations regarding drones and radio use.It is strictly forbidden to fly in no fly zones such as airports, military facilities and over crowds, etc.
- Before powering up, the user shall ensure the antenna and all other components have been installed properly.VTX will generate a lot of heat under normal operating conditions. To prevent overheating, provide constant airflow and a well ventilated environment. To prevent burns, do not touch VTX when in use. Give product enough time to cool completely before handling.
- Do not disassemble, repair or modify this product to avoid potentially damaging the VTX. Contact your local dealer for any technical support.

Specification

- LOCK-ON TECH eliminates frequency drift.
- No frequency sweep.
- Sturdy aluminum case.
- All channel power calibration.
- 7-36V (6S lipo) HV input with dual power filter.
- Built-in high quality AGC microphone.

POWER LEVEL: PIT-25mW-400mW-800mW-MAX*	CHANNEL: 48CH/37CH(US)
INPUT VOLTAGE: DC 7-36V (6S LIPO)	OUTPUT VOLTAGE: DC 5V (Max 600mA)
VIDEO FORMAT CVBS PAL/NTSC	AUDIO: 6.5M MONO WITH AGC MIC
DIMENSIONS: H 37mm* W 24mm* D 6.7mm	WEIGHT:12g (WITHOUT CABLE)
EXTERNAL CONTROL: SMARTAUDIO V2.1	(TBS authorized commercial)

*MAX Power level can provide 1W(30dbm) or more power depending on the environment's ability to dissipate heat.

## Feature

SH1.0-6Pin SOCKET

MMCX SOCKET

AGC MIC

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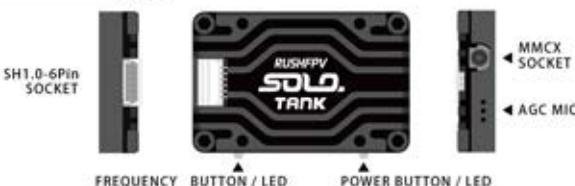
Press FREQUENCY BUTTON to set channel,press and hold to set band.
Press POWER BUTTON to set power level.press and hold to ON/OFF pitmode.

Wiring Diagram

ONLY VTX	
CAMERA	VIDEO-IN / GND / 5V-OUT
BATTERY OR 7V+ BEC	GND / 7-36V DC-IN

TO FC	
OSD VIDEO OUT / FC UART TX	VIDEO-IN / SMARTAUDIO
BATTERY OR 7V+ BEC	GND / 7-36V DC-IN

CAUTION
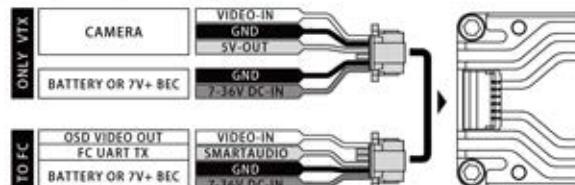
- Install antenna before use.
- To prevent overheating, provide constant airflow and a well ventilated environment. Install a cooling fan if operating in confined conditions.
- The 5V OUTPUT is for a Camera/Cooling Fan use only!
  Do not connect Power Input/Battery to 5V Out. Serious damage will occur to VTX.

POWER/FREQUENCY DISPLAY

CAUTION: The selection in ▓ equire a HAM License to operate legally. ▓ 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	YELLOW	RED	PURPLE
POWER	25mW	400mW	800mW	MAX

PIT MODE = flashing Power LED
EXIT PIT MODE = press and HOLD Power Button to use selected Power Level.
Overheated = Power LED Flashing Quickly,transmitted power will automatically slowly decrease.When VTX cool, VTX will resume original power settings & Power LED will STOP Blinking.

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 perlpherals 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.
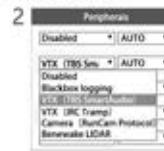
3.Turn on the radio control, THR middle, YAW left ,PITCH up ,Enter the OSD menu.
4.In the Function> VTX SA menu, set the VTX working state.
In the CONFIG menu, when set to RACE mode, VTX will automatically enter PIT mode after booting, set to FREE mode, VTX will normally transmit after booting. After switching the working mode, you need to reconnect the power to make the settings take effect.


```
 - SMARTAUDIO -
 R  F5 5820  25
>BAND              FATSHARK
 CHAN              5
 (FREQ)            5820
 POWER             25
 SET               >
 CONFIG            >
 BACK
```

- Device status
- Band selection
- Channel selection
- Frequency of selected band and channel (not selectable; read only)
- RF power selection
- Commence current selection
- Configuration menu
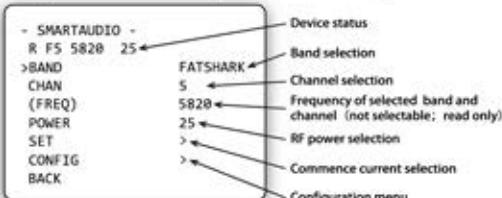
SmartAudio VTX top menu (Band/Channel mode)
For more information please visit:
https://github.com/betaflight/betaflight/wiki/Unify-Smartaudio