TBS CROSSFIRE/ TRACER - MAVLink by WiFi

Revision 2021-10-14

What you need

- TBS CROSSFIRE/ TRACER transmitters on FW 4.11 (beta) or later **with WiFi module**
- WiFi module on FW 2.04 or later - how to upgrade it
- FC with a MAVLink capable firmware (e.g. Ardu, PX4 or iNav)
- Ground control software like Mission Planner or QGroundControl

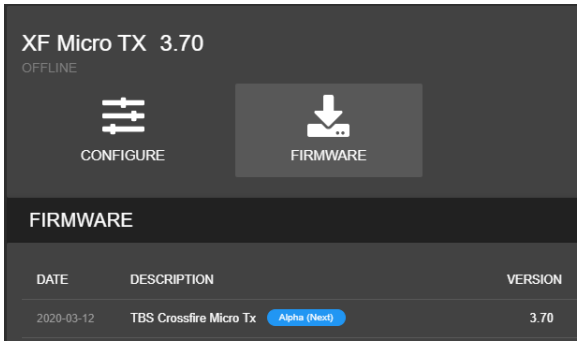
General CROSSFIRE/ TRACER Settings

Transmitter Settings:
- CROSSFIRE OP Mode: normal
- WiFi: active

Receiver settings:
- CROSSFIRE RF Profile: dynamic/ forced 150hz*
- Telemetry: active

**This is only necessary during the connection to your ground control software if you use a MAV firmware on your FC. They request all parameters at the first connection which can cause timeout issues in 50hz mod. After all, parameters are loaded, you can switch back to your regular settings or leave the CROSSFIRE in dynamic mode.*

Setup

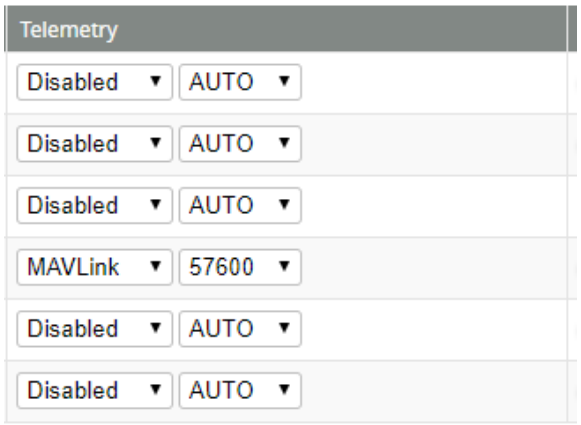


Update your CROSSFIRE/ TRACER TX to FW 4.11 (or later) by Agent X. If you can't see the required FW version, click on the 3 dots in the top right corner and check *"include beta releases".*

Make sure that the WiFi module is powered up as well (Standard TX).

Also, update your WiFi module to FW 2.XX

Connect your CROSSFIRE/ TRACER to a hotspot via the built-in WiFi module. You can provide access point information from your nearest wifi hotspot, or create a temporary one on your phone. Connect your PC to the same network.
OR
connect your PC/ mobile phone straight to the CROSSFIRE/ TRACER access point.

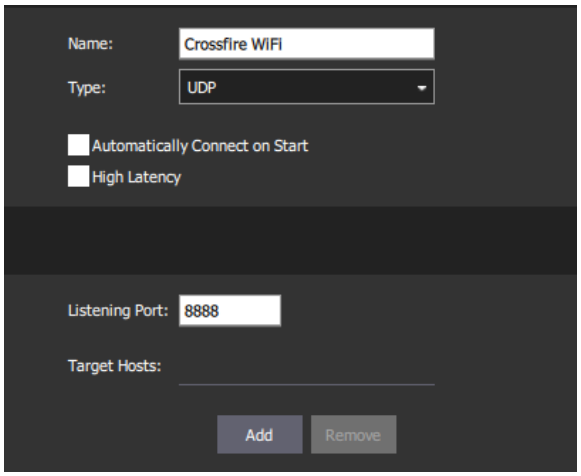


Connect your CROSSFIRE/ TRACER to the FC by MAVLink and enable the port in the software. Note: BetaFlight and iNav can use CRSF instead for live telemetry.
Wiring example in the attachments

Note: CROSSFIRE/ TRACER 6.09 (or later) requires 115200baud

TBS CROSSFIRE
true connectivity

Adjust the output-map of the CROSSFIRE/ TRACER receiver to MAVLink TX/RX according to the output map table.
If you use a non-MAVLink firmware on your FC, you need to use CRSF for RC data and LUA support and a MAVLink connection as well



Set the connection type of your ground control software to **UDP(<2.03)/ TCP (2.03 and later), Port 8888***

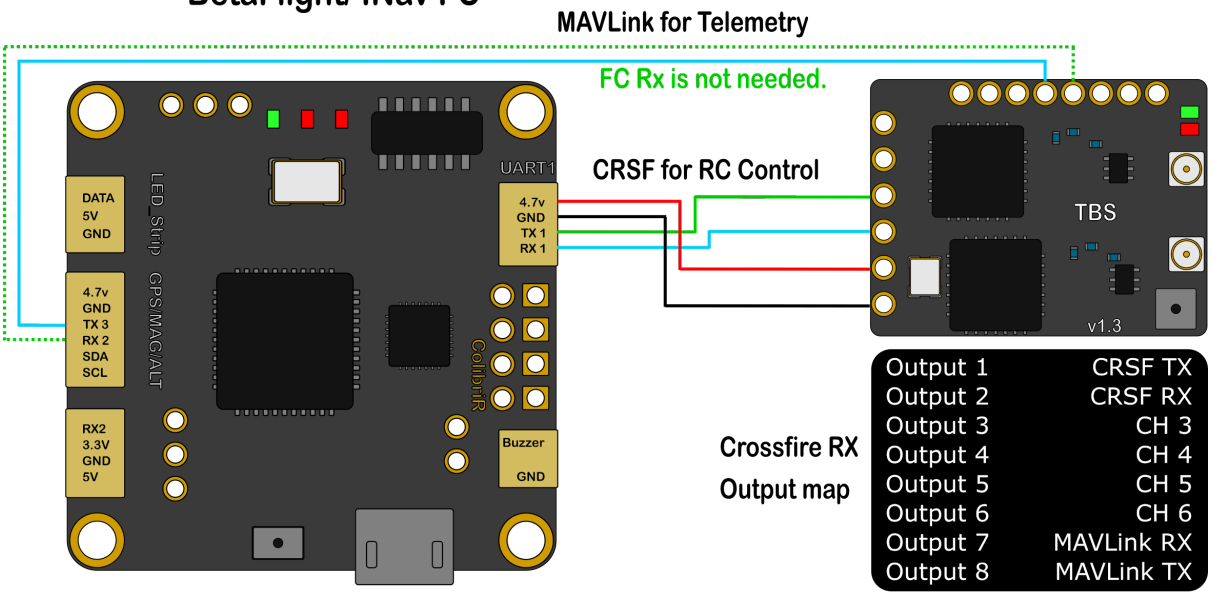
Depending on the software you use, you need to enter the port number after starting the connection (MissionPlanner) or in the connection settings (QGroundControl)

If you use an FC with *BetaFlight or iNav* you need to cancel the "getting parameters" dialog as it will not get past this. The telemetry data will be sent anyway

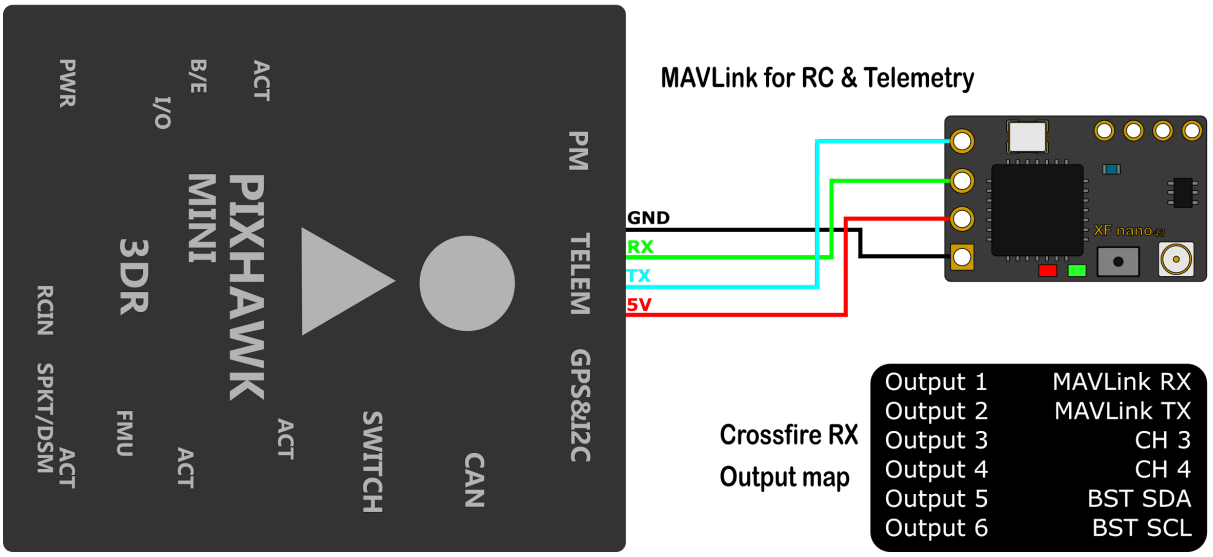
**the port can be changed in the settings of the WiFi module. Only change it if you know what you are doing*

Wiring examples

BetaFlight/ INav FC



Ardu/ PX4 FC



TBS CROSSFIRE
true connectivity

Receiver Output Map

Each receiver is capable of outputting MAVLink on several pins. Just change one TX pin to MAVLink TX, the associated RX pin will be changed by the CROSSFIRE.

Receiver pin	Output type CROSSFIRE Diversity RX (standard)	Default value
3	PWM Ch1 to 12, RSSI, LQ, RSSI/LQ, SBUS, n.i.SBUS, Serial TX, **MAVLink TX**, CRSF TX, SmartAudio	PWM Ch. 3
4	PWM Ch1 bis 12, RSSI, LQ, RSSI/LQ, Serial RX, **MAVLink RX**, CRSF RX	PWM Ch. 4
7	PWM Ch1 bis 12, RSSI, LQ, RSSI/LQ, Serial RX, **MAVLink RX**, CRSF RX	PWM Ch. 7
8	PWM Ch1 to 12, RSSI, LQ, RSSI/LQ, SBUS, n.i.SBUS, Serial TX, **MAVLink TX**, CRSF TX, DSMX, SmartAudio	PWM Ch. 8

Receiver pin	Output type CROSSFIRE Diversity RX (Nano)	Default value
3	PWM Ch1 to 12, RSSI, LQ, RSSI/LQ, SBUS, n.i.SBUS, Serial TX, **MAVLink TX**, CRSF TX, DSMX, SmartAudio	PWM Ch. 3
4	PWM Ch1 bis 12, RSSI, LQ, RSSI/LQ, Serial RX, **MAVLink RX**, CRSF RX	PWM Ch. 4
7	PWM Ch1 bis 12, RSSI, LQ, RSSI/LQ, Serial RX, **MAVLink RX**, CRSF RX	PWM Ch. 7
8	PWM Ch1 to 12, RSSI, LQ, RSSI/LQ, SBUS, n.i.SBUS, Serial TX, **MAVLink TX,** CRSF TX, DSMX, SmartAudio	PWM Ch. 8

Receiver pin	Output type CROSSFIRE Micro V2/ CROSSFIRE/ TRACER Nano RX	Default value
1	PWM Ch1 bis 12, PPM, RSSI, LQ, RSSI/LQ, SBUS, n.i. SBUS, CRSF TX, **MAVLink TX**, SmartAudio, DSMX	CRSF TX
2	PWM Ch1 bis 12, PPM, RSSI, LQ, RSSI/LQ, CRSF RX, **MAVLink RX**	CRSF RX
3	PWM Ch1 bis 12, PPM, RSSI, LQ, RSSI/LQ, CRSF RX, **MAVLink RX**	PWM Ch. 3
4	PWM Ch1 bis 12, PPM, RSSI, LQ, RSSI/LQ, SBUS, n.i. SBUS, CRSF TX, **MAVLink TX**, SmartAudio, DSMX	Smart Audio