



FPV Racing with TBS CROSSFIRE

The TBS Crossfire has emerged into a de facto standard for large drone events due to link reliability, and for racing pilots due to the low latency link. TBS would like to make sure every pilot can get the most out of their TBS CROSSFIRE system in each specific event. Please read the below instructions carefully, and good luck at the races!!

Race with multiple pilots

FPV races often have up to 8 pilots on the course at a time, as well as tight and nail-biting quad-vs-quad battles in close proximity to each other. To decrease the possibility of interference between the drones and pilots, we recommend to change a few settings to optimize the performance of TBS CROSSFIRE for this use case. In addition it's recommended to keep your remote/transmitter turned off if you are not competing in a heat as to not interfere the pilots competing on the race track.

Antennas

Antenna mounting and orientation is one of the most important things and mostly underrated. Make sure your antennas are as exposed as possible, not close or covered by any carbon part. More information about this can be found [here](#).

Check your antennas frequently and specially after crashes. In addition RSSI can be checked to verify the receiver gets enough signal. For this separate yourself around 5m from the quad and make sure RSSI is higher than -60dBm (higher means closer to 0 as it's a negative value, or a lower absolute value).

Firmware

It's recommended to use one of the most recent stable firmware (V2.11 or newer - status January 2018). Connect your transmitter to the TBS agent from time to time and check if there is a new firmware released.

Transmitter settings

Most of the settings can be found under Menu -> General Settings

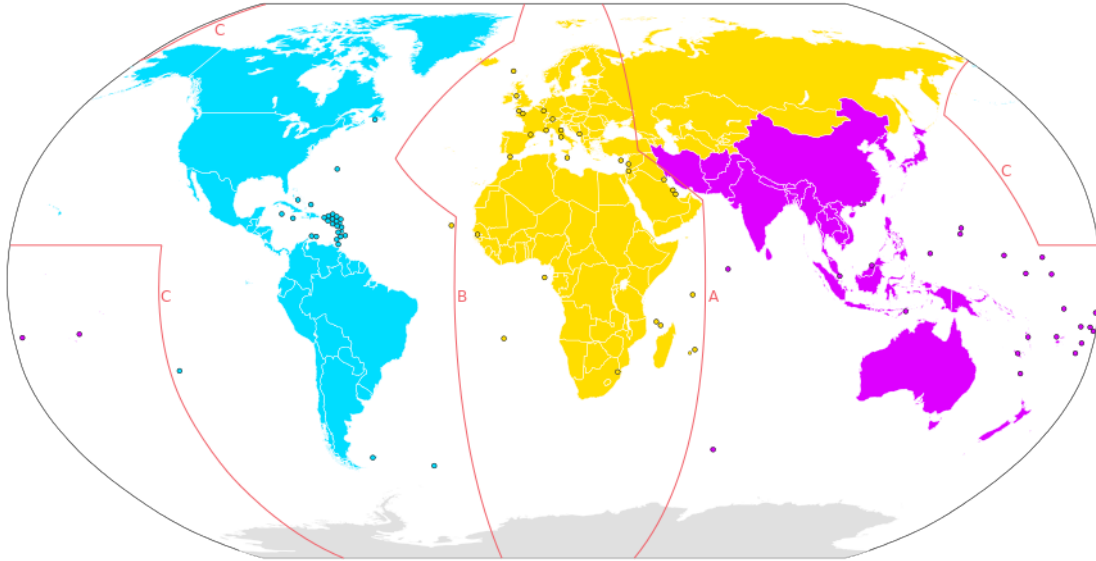
Region Setting:

Make sure the region setting is set to "open". If you don't see the a menu called region under general settings your transmitter is lock. In this case you need to unlock the transmitter first. Please see [here](#)



Frequency:

As more racers are traveling around the globe to attend at races it's required to make sure the frequency is set correctly for the location of the event. We recommend to ask the event organizer for the correct selection, or use the below map for orientation:



General area	Frequency
ITU Region 1 - Europe/Africa/Middle East (yellow)	868 MHz SRD band
ITU Region 2 - America/Greenland (blue)	915 MHz ISM band
ITU Region 3 - Asia/Oceania (purple)	915 MHz ISM band

RF Power:

It's important all pilots are on the same power level. If the race organizer doesn't announce this for all pilots, please consult with them and agree on a common RF power for all pilots. We recommend to use 100mW. Depending on the race track 500mW should be used. It's recommended to measure the RF coverage pre-race or during training.



Receiver

Receiver settings need to be applied to all receivers/quads.

Telemetry

If there are any issues, set telemetry off. The setting can be found under receiver settings. This will force the system into 50Hz mode and disable dynamic power. From our experience the 50Hz mode proved to be the most robust link and has been tested at many big events.

Feedback

We appreciate any feedback if you encounter problems. Please contact us through our Customer Support Helpdesk, and in order to allow us to best help your specific case provide as much information and media (DVR, photos, etc) as possible.

Link: <http://team-blacksheep.freshdesk.com/helpdesk>