

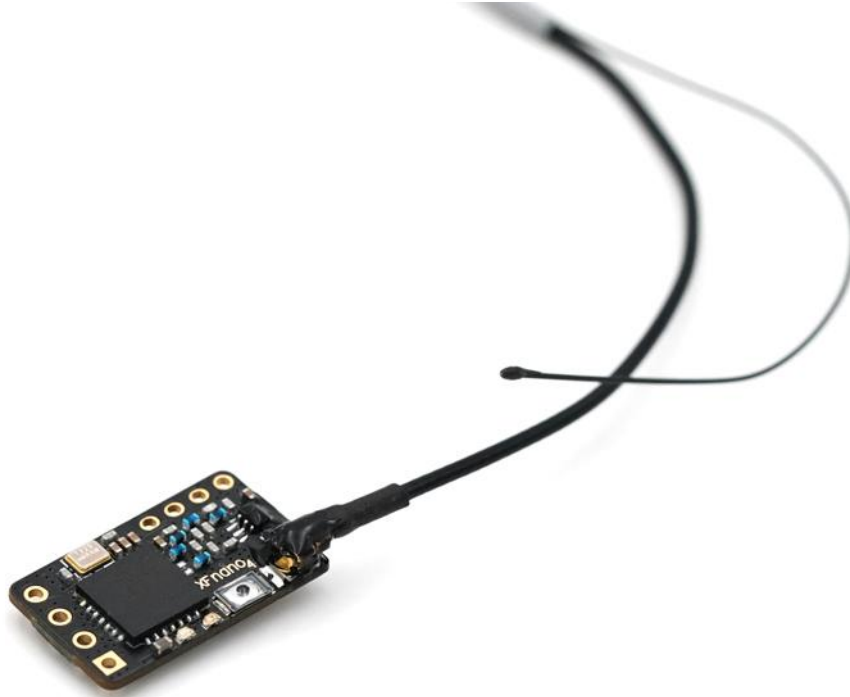
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# TBS CROSSFIRE Nano RX

Revision 2021-10-14

## Quickstart guide

The CROSSFIRE Nano RX has much of the same feature set as the TBS CROSSFIRE Micro RX but on a smaller form factor and without connectors.



The small size allows you to save space and weight, while still retaining the key features that make the CROSSFIRE system flexible and reliable.

### Key features:

- Super compact, just only 11 x 18 mm
- Same feature set like regular CROSSFIRE Micro receiver (SBUS, PPM, PWM, CRSF, SmartAudio, MAVLink, Serial Bridge)
- Telemetry support
- Full range receiver
- 5V voltage input
- 2.54mm pitch front connector and 2mm pitch side connector

### Note:

\*\*\* Firmware 2.24 or newer required! \*\*\*

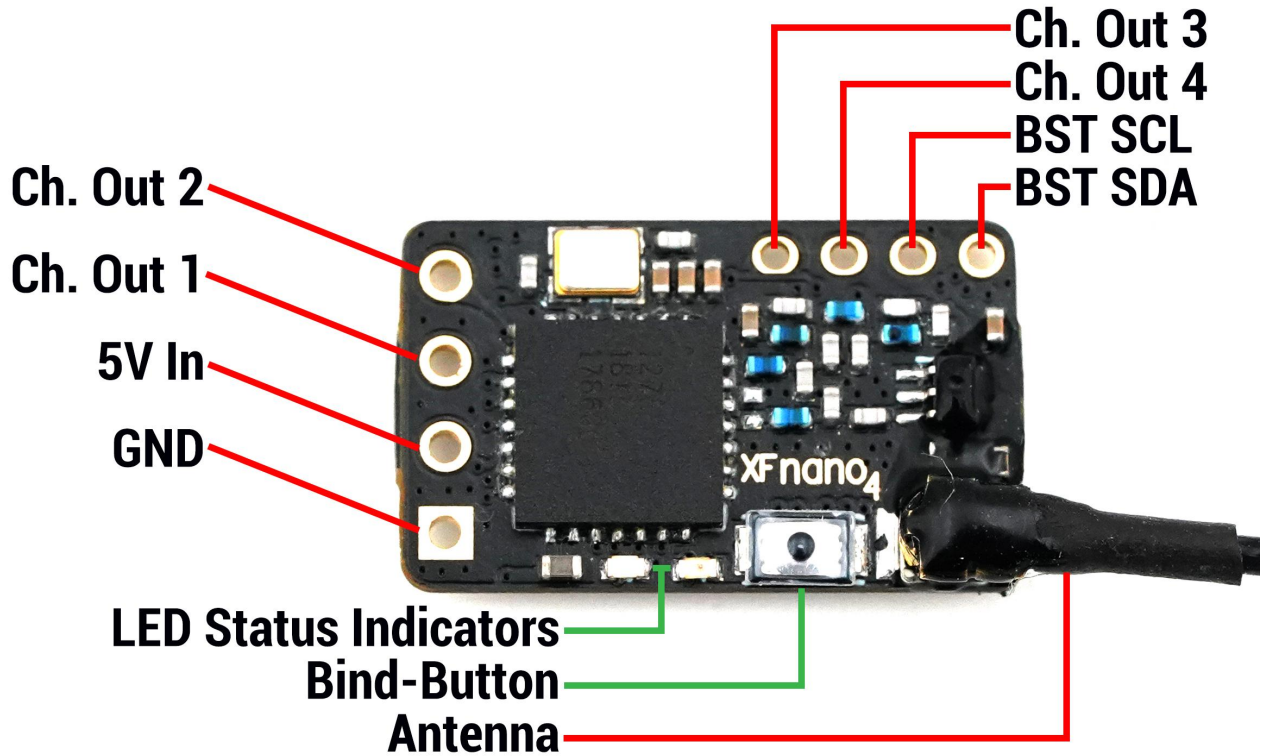
How to: [Update TX](#) / [Update RX](#)



## Wiring receiver

The receiver does not come with any connectors on-board, this is intending to allow for flexible and more varied setups, i.e. it is easier to add a connector than to remove a pre-soldered one.









Use normal servo-wires to either connect directly to the soldering pads/vias or use a 2.54mm pin header to mount it to a motherboard. The antenna uses a U.FL connector. Use heat-shrink tubing to protect the receiver.



Receiver pin	Output typeNano RX	Default
1	PWM CH1 (PWM Ch1 to 12), PPM, RSSI, LQ, RSSI/LQ, SBUS, n.i. SBUS, CRSF TX, MAVLink TX, SmartAudio*, DSMX	CRSF TX
2	PWM CH2 (PWM Ch1 to 12), RSSI, LQ, RSSI/LQ, CRSF RX, MAVLink RX	CRSF RX
3	PWM CH3 (PWM Ch1 to 12), RSSI, LQ, RSSI/LQ, CRSF RX, MAVLink RX	PWM Ch. 3 RX
4	PWM CH4 (PWM Ch1 to 12), RSSI, LQ, RSSI/LQ, SBUS, n.i. SBUS, CRSF TX, MAVLink TX, SmartAudio*, DSMX	SmartAudio
5 (BST)	PWM CH5 (PWM Ch1 to 12), RSSI, LQ, RSSI/LQ, BST SCL	BST SCL
6 (BST)	PWM CH6 (PWM Ch1 to 12), RSSI, LQ, RSSI/LQ, BST SDA	BST SDA



## Receiver LED Color

Receiver LED indicators	Description
Solid green 	The link is up and running OK
Solid red 	No packages received from the transmitter and receiver is in failsafe mode
Slow red blinking 	The receiver needs an update, confirmation on the TX is required
Slow green blinking 	The receiver is in binding mode
Fast green blinking 	Receiver bootloader active or firmware upgrade running
Green is flashing 	diversity RX is in Find-mode (up to 1 min. delay between flashing)
Double green blinking 	Authentication running/ error. Rebind your receiver if it remains longer than a few seconds
Red/ Green blinking, any pattern 	firmware issue, run the emergency update for the receiver, then rebind it

## Antenna

Connect the antenna with the U.FL connector to the socket on the receiver. To ensure that it does not disconnect or unseat, run the coax cable across the receiver board over to the servo channel end and secure it with the heat shrink tubing.



## Binding

Binding the transmitter and receiver is super simple.

1. Just power up the TBS CROSSFIRE transmitter
2. On the standard transmitter, enter the configuration menu by pressing and holding the joystick for 3 seconds, select "General" and "Binding" - a message "Binding" will start blinking, waiting for the receiver. On the micro transmitter, a short press on the button will initiate binding mode.
3. Now, power up the receiver (without pressing the Bind button!), if your receiver has not been previously bound, it will automatically bind. Otherwise, press and release the "BIND" button on the receiver to initiate binding. On the receiver is a timeout of one minute for after power up to enter bind mode. If the status LED will start blinking slowly the receiver has switched successfully to bind mode.
4. Within a few seconds, the process will finish with a "Binding complete" message on the standard transmitter, or a solid green LED on the micro transmitter. The receiver has now stored the unique serial number of that particular CROSSFIRE transmitter. If it doesn't bind, please verify that your firmware is to the newest version on both the receiver and the transmitter.

## BST connectivity

The TBS CROSSFIRE Nano RX comes with a fully-featured BST port. To connect it to other devices like TBS CORE PRO, FPVision layer, GPS, or other TBS peripherals, a custom cable needs to be made. BST connector usually has 5 pins, but on the CROSSFIRE Nano RX only SDA, SCL, and GND have to be connected. The best practice is to use a BST cable, cut the connector on one, and cut the unused wires on the other connector. Then solder the required wires accordingly.

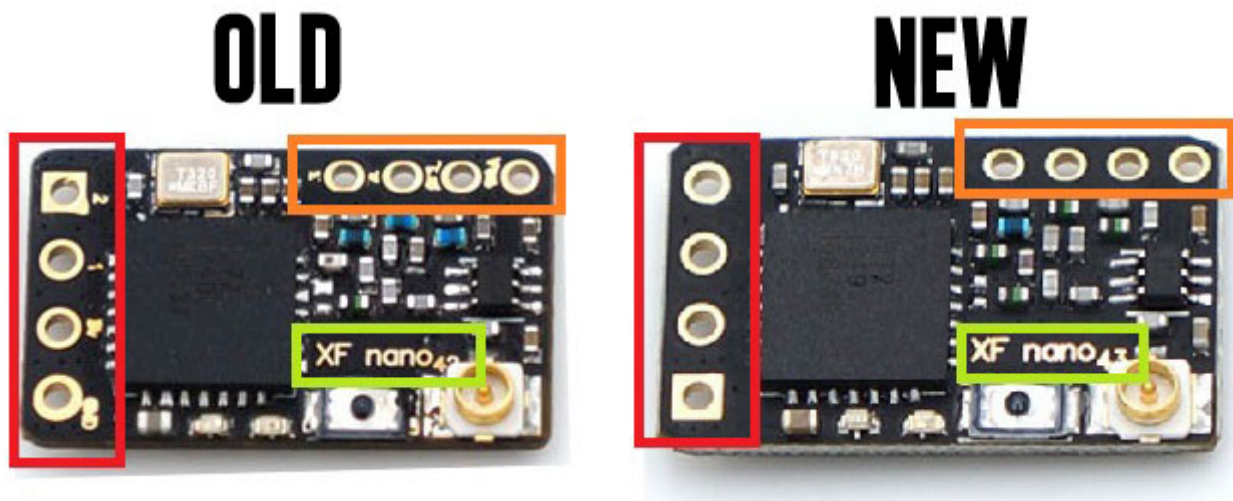
### BST cable pinout:

+5V	Black
+VBATT	Red
GND	Black
SCL	Grey
SDA	Yellow



## Versions

TBS is now shipping a newer version of the Nano RX. We removed the markings to reduce soldering difficulties. GND pad is now properly shaped (square). The version number has also changed. Please see the photo below for a clearer comparison.



## Further Information

This manual is a quick start guide that does not include all functions and information in detail or at all.

For further information check the official TBS CROSSFIRE manual:

[English version](#)/ [German version](#)

Manual written and designed by ivc.no in cooperation with TBS.

