

This is a flight control with STM32F722 and ICM20689 mainstream FPV small frame. The input voltage is 2S-6S. It has BEC-5V output 3A current. It has a large current PDB interface and integrates 600MW power adjustable OSD. The parameter-adjustable picture transmission supports the mainstream PPM, SBUS, IBUS, DSM2/DSMX and other receivers on the market. There is LED\_STRIP interface, active buzzer interface. Integrated OSD function, support DSHOT ESC.

## Receiver connection configuration:

### PPM, SBUS, IBUS, DSM2, DSMX---RX2 port

#### Hardware Configuration:

CPU: STM32F722RET6

Sensor: ICM20689

Atmospheric pressure sensor: BMP280

With 600MW adjustable power, OSD adjustable parameter map

Four-way high current PDB distribution board

Receiver: PPM, SBUS, IBUS, DSM2/DSMX.

LED\_STRIP interface

Active buzzer interface

No black box

Built-in ammeter, current detection

Camera interface

Comes with BEC 5V 3A

Screw hole spacing: 30.5\*30.5MM

Diameter:4.4MM

Dimensions: 41\*51MM (including the pad length of the bonding wire)

Weight:13.5g

#### New F7 flight control:

1. Using F7 firmware
2. The main control is STM32F722 with a refresh rate of up to 32K.
3. PCB enhances copper thickness, enhances current stability and fast heat dissipation
4. BEC is 5V3A output
5. Exposed pads for easy soldering and the ability to discard conventional splitter boards.
6. Compatible with all ESCs in the market
7. Flight Control Integrated OSD does not need to independently write firmware, support BF ground station to adjust OSD
8. Integrated galvanometer, real-time monitoring of data such as current consumption
9. You can use the remote control to make OSD adjustment data such as flight control PID (TX5 configuration OSD adjustment, IRC Tramp)
10. Open ports can be adjusted from OSD, such as power, frequency band, and frequency.
11. F7 flight control adopts four independent damping balls, which can filter and offset the vibration of the motor, which makes the flight experience better.

**Interface description:**

**GND M1-M4:** Connect the signal line corresponding to the ESC

**+ -:** Corresponding to the positive and negative poles of the ESC power cord, with the ‘-’ as the ground.

**B+ B-:** Lithium battery input

**+5V:** With 3A output, it can be connected to the picture transmission, receiver and camera at the same time.

**GND:** Ground

**VIN:** video input, connected to camera signal line

**LED:** Programmable LED\_Strip signal line output

**RX2:** Connect PPM, SBUS, IBUS, DSM2/X receiver

**TX3, RX3, TX1, RX1, TX2, TX4:** Reserved UART port

**TX5:** The board is internally connected to the OSD Assistant (IRC Tramp Protocol).

**VBAT:** Wide voltage map power supply positive (synchronized with battery voltage), where the voltage is the power voltage

**BUZ+, BUZ-:** Active buzzer connection

**Button function:**

**BOOT:** Used as a firmware to enter DFU mode

**FR:** VTX transmission frequency adjustment button (long press and short press), blue, green LED indication

**POW:** VTX transmission power adjustment button, red LED indication

**Figure transfer manual adjustment:**

FR button Switches the frequency point.

**Short press:** switch channels, 4 blue LEDs indicate channels.

**Long press (2 seconds):** switch group, 3 green LEDs indicate group.

There are 48 frequency points, and the specific channel frequency refers to the frequency list.

|                    | ○○○      | ○○●      | ○●○      | ○●●      | ●○○      | ●○●      |
|--------------------|----------|----------|----------|----------|----------|----------|
|                    | CH 3 2 1 |
| FR ○○○○<br>4 3 2 1 | 5362     | 5658     | 5705     | 5733     | 5740     | 5865     |
| FR ○○○●<br>4 3 2 1 | 5399     | 5695     | 5685     | 5752     | 5760     | 5845     |
| FR ○○●○<br>4 3 2 1 | 5436     | 5732     | 5665     | 5771     | 5780     | 5825     |
| FR ○○●●<br>4 3 2 1 | 5473     | 5769     | 5645     | 5790     | 5800     | 5805     |
| FR ○●○○<br>4 3 2 1 | 5510     | 5806     | 5885     | 5809     | 5820     | 5785     |
| FR ○●○●<br>4 3 2 1 | 5547     | 5843     | 5905     | 5828     | 5840     | 5765     |
| FR ○●●○<br>4 3 2 1 | 5584     | 5880     | 5925     | 5847     | 5860     | 5745     |
| FR ●○○○<br>4 3 2 1 | 5621     | 5917     | 5945     | 5866     | 5880     | 5725     |

**Power switching:**

POW button-----power adjustment

Press once, switching one power (25mW, 100mW, 200mW, 400mW, 600mW)  
600mW in default.

| 0MW/PIT                                 | 25MW           | 100MW          | 200MW          | 400MW          | 600MW                                    |
|---|----------------|----------------|----------------|----------------|--|
| P01 P02<br>simultaneously<br>slow flash | ○ ○<br>P01 P02 | ● ○<br>P01 P02 | ○ ●<br>P01 P02 | ● ●<br>P01 P02 | P01 P02<br>simultaneously<br>quick flash |

**Red circle means light on, hollow circle means light off**

**OSD adjustment parameters:**

In the PORTS of the flight control, you need to configure the TX5 port to be used for OSD tuning. The wiring needs to be interfaced, and IRC Tramp can be selected.

**Step 1:** is to properly configure the receiver to ensure that the receiver channels are normal, the OSD is used for TX5, and the receiver is used for RX2.

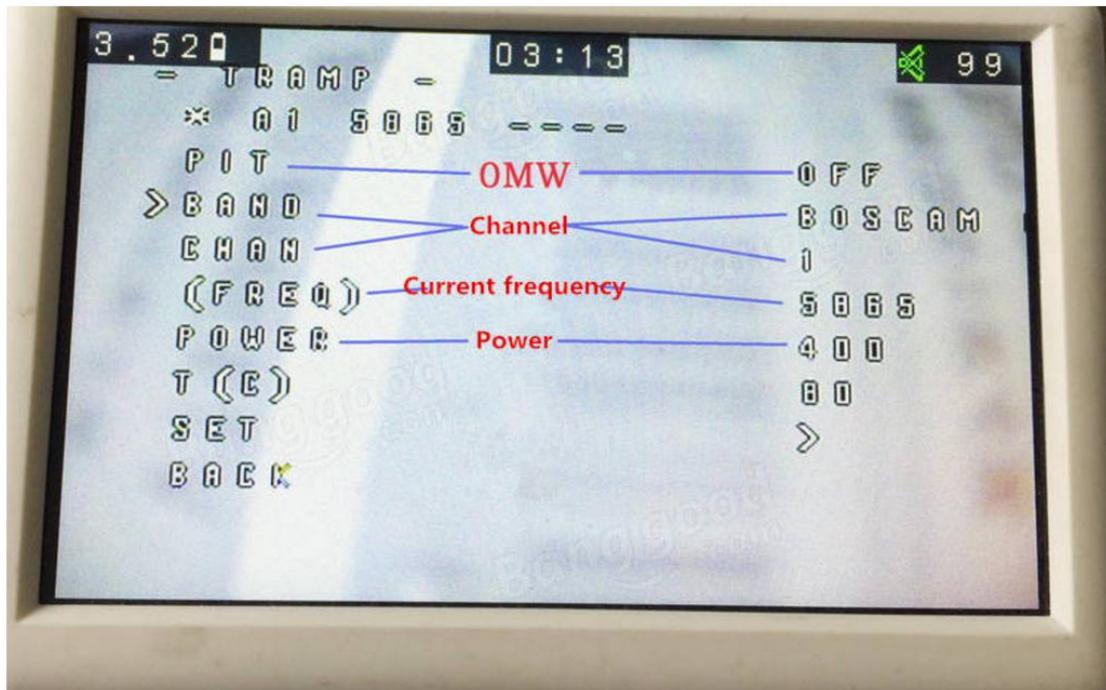
**Step 2:** Put the throttle to the middle position about 50% (THR MID), the direction lever to the far left (YAW LEFT), and the pitch lever to push forward (PITCH UP). Enter the OSD menu

**Step 3:** switch the VTX channel and transmit power.

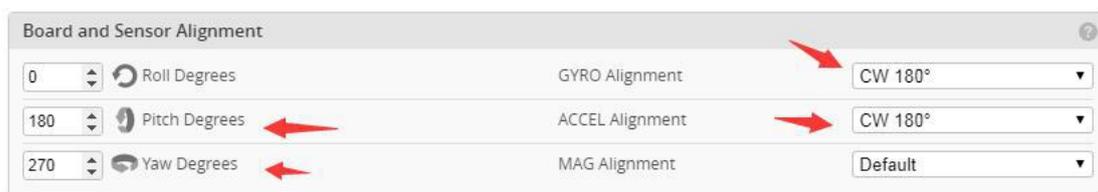
On the MAIN page, select the FEATURES item and go to the FEATURES page.

Select the VTX TR option and go to the VTX page.

Select CHANNEL to switch channels and select POWER to switch the transmit power.



**Note: If the customer re-flashes the firmware, remember to configure this parameter as follows:**



Packing list :

|                                   |       |
|-----------------------------------|-------|
| NTXF7-FC Flight Control           | 1 PCS |
| XT60 inner needle                 | 1 PCS |
| Shock Absorbing Ball              | 4 PCS |
| IPEX-SMA (inner needle)           | 1 PCS |
| Nylon column M3*6                 | 4 PCS |
| Nylon screw M3*8                  | 4 PCS |
| Electrolytic capacitor 1000UF/25V | 1 PCS |
| 14AWG red line 100MM              | 1 PCS |
| 14AWG black line 100MM            | 1 PCS |
| Heat Shrink Tubing Red 15MM       | 1 PCS |
| Heat Shrink Tubing Black 15MM     | 1 PCS |