

## N7 Series - FAQ

No.	QUESTION	ANSWER
1	What is the flight controller supply voltage?	4.5 ~ 5.5V
2	Does the flight controller pin have output voltage?	There is no output voltage; an external power supply is required.
3	What is the flight controller firmware?	It is a standard open-source flight controller that supports APM and PX4.
4	Does it require debugging?	Requires knowledge of open-source flight controller debugging.
5	Unable to unlock the flight controller, with a prompt saying "RC not calibrated"?	Perform remote controller calibration in the ground station: pull the joystick to the full extent in all directions, save the center position and extreme values; ensure the mode switch is set to Stabilize/Manual mode and the throttle is at the lowest position.
6	It tips over or rolls sideways immediately upon takeoff?	This is usually caused by incorrect motor sequence installation, incorrect propeller direction (clockwise/counterclockwise), firmware errors, or incorrect frame mode configuration. These issues are almost always due to installation errors. It is recommended to carefully check each item, or consider disassembling and reinstalling everything, including the firmware.
7	What models can it be applied to?	Multi-rotor, helicopter, fixed-wing, VTOL, UGV, USV, etc.
8	What external interfaces does the N7 have?	UART serial ports: 4 I2C: 3 PM power module input: 1 CAN standard bus: 1 GPS and safety switch: 1 PWM output: Standard 8 PWM + 5 programmable I/O RC IN (SBUS): 1 TF card slot: 1
9	What should I do if the aircraft vibration is too severe?	An external vibration damping plate needs to be installed.
10	Can the flight controller read the motor speed in real time?	The propulsion system needs to support the CAN protocol.
11	The flight controller cannot connect to the ground station telemetry via the USB cable?	The computer is missing the required driver; you need to install the driver.
12	What are the methods for flashing firmware?	<b>Online flashing:</b> Directly connect to the internet through the ground station to download and flash the firmware. <b>Local flashing:</b> Download the firmware from the website or load a modified firmware, then upload it to the flight controller via the ground station.
13	How to calibrate the magnetometer (compass)?	Lift the drone and rotate it in different directions, ensuring each side (front, back, left, right, top, and bottom) points toward the ground for a few seconds. Do not calibrate the compass near any objects that generate metal or magnetic fields (computers, phones, metal tables, power sources, etc.), as this may cause calibration abnormalities.

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14	Common flight modes	<b>Stabilize</b> (Stabilization mode; altitude requires real-time throttle control) <b>Alt Hold</b> (Altitude hold mode) <b>Loiter</b> (Hover mode) <b>RTL</b> (Return-to-Launch; returns to the takeoff point) <b>Auto</b> (Automatic mode; autonomous waypoint flight, requires GPS) <b>AutoTune</b> (Automatic tuning; can be used when the aircraft drifts significantly in one direction) <b>Land</b> (Landing mode) <b>Guided</b> (Guided mode; not recommended unless necessary)
15	The aircraft motors spin but cannot take off, or the motors do not spin after unlocking?	(1) Incorrect propeller installation or incorrect motor rotation direction. (2) Insufficient power; check whether the propeller size and battery voltage in the motor parameters are compatible. (3) No motor response after unlocking or continuous beeping: - Remote controller throttle range not calibrated. - Safety switch not turned off. (4) Poor GPS positioning preventing unlocking. (5) No power-off operation was performed after calibration.
16	How to set the forward/backward control, left/right control, rotation control, and their reversal?	Through the remote controller menu, set the corresponding channel to reverse (invert).
17	There is shaking during flight?	The default parameters are currently suitable only for aircraft with a wheelbase of around 450mm. If your aircraft is outside this range, it is normal to experience shaking. Simply adjust the parameters to resolve the issue.
18	The aircraft is spinning rapidly (fast yaw rotation)?	(1) Check for any abnormal motor rotation, ensure the motor and propeller rotation directions are correct, and verify the firmware. (2) In GPS mode, check for compass interference; in Stabilize mode, verify if the issue persists. (3) For slow yaw spin, this issue typically occurs with large-wheelbase aircraft. You can adjust the yaw value in the PID settings.
19	The aircraft does not take off when the throttle is increased?	Sometimes you may encounter a situation where the aircraft cannot take off even when the throttle is pushed to the maximum. Possible causes include: (1) Insufficient battery voltage. (2) The propellers are rotating in the wrong direction, causing the airflow to blow upward and keeping the aircraft firmly on the ground. (3) The ESC has not been throttle-calibrated! As a result, even though the remote controller is sending full throttle and the flight controller is also outputting full throttle, the ESC interprets it as only 20% throttle. Note: For a newly assembled aircraft, always calibrate the ESC throttle, and ensure you calibrate the remote controller first before calibrating the ESC.
20	The flight controller auto-lock time is too long or too short?	After the aircraft lands, it will automatically disarm after a certain period of time. If you find the waiting time too long or too short, adjust the DISARM_DELAY parameter. The unit is seconds, and this parameter determines how long the system waits before automatically disarming.

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21	Flight controller log abnormal / unable to parse?	(1) Logging is not enabled (2) SD card is damaged (3) Log storage is full (4) Firmware version does not match the analysis tool
22	Sudden loss of control during flight / abnormal return-to-home (RTH) behavior?	(1) Possible causes: weak GPS signal, compass interference, low battery voltage, firmware bug, or loss of remote controller signal. (2) Solutions: Check the GPS installation position (keep it away from ESCs and motors), perform compass calibration and check for interference, and inspect the battery health.
23	PID parameter misconfiguration causing severe shaking during flight / loss of attitude control?	Possible causes: parameters adjusted <b>too</b> aggressively during manual tuning, loading parameter files that do not match the frame type, failure to <b>reset</b> parameters after firmware upgrade, or PID auto-tuning failure due to excessive vibration.
24	Flight mode cannot be switched / no response after switching?	Possible causes: incorrect remote controller channel mapping or insufficient channel travel for flight modes, flight controller mode switch not enabled or parameter misconfiguration, or flight mode switch conditions not met (e.g., cannot switch to Altitude Hold or Loiter modes when GPS has no fix).
25	Battery voltage alarm abnormal (false alarm / no alarm)?	Possible causes: incorrectly set voltage detection threshold (too high or too low), current sensor not calibrated or wired in reverse, or mismatched battery type parameters (e.g., incorrect number of lithium battery cells).
26	Peripheral devices (gimbal / LED / telemetry) cannot be controlled?	Possible causes: mismatched baud rate or protocol between the peripheral and the flight controller's serial port, serial port occupied by another device (e.g., GPS and telemetry sharing the same serial port), insufficient power supply to the peripheral or incorrect wiring, or the corresponding peripheral function parameter not enabled in the flight controller.
27	Compass calibration failed / excessive compass interference?	(1) Possible causes: strong magnetic fields present in the calibration environment (e.g., metal objects, motors), compass installed too close to motors, ESCs, or <b>power</b> cables, <b>incorrect</b> compass orientation setting in multi-compass flight controllers, or hardware damage to the compass sensor. (2) Solutions: Choose a calibration environment away from metal and electromagnetic interference (e.g., an open outdoor area). Adjust the compass installation position, keeping it away from power cables and motors, and consider adding a magnetic shield. Before calibration, verify in the ground station that the compass orientation matches the frame (e.g., X/Y/Z axis directions). For multi-compass flight controllers, disable the severely affected compass in the parameters and retain only the primary
28	Multi-rotor frame resonance causing flight vibration (severe gimbal jello effect).	Possible causes: insufficient frame rigidity leading to resonance during flight, poor dynamic balance of motors and propellers, PID parameters <b>not</b> optimized for the resonant frequency of the frame, or damping structure failure (aged damping balls or over-tight installation).
29	(VTOL) Transition from vertical takeoff and landing to fixed-wing flight mode failed.	Possible causes: unreasonable mode switch threshold settings (e.g., forcing the transition without meeting airspeed requirements), parameter mismatch between fixed-wing and multi-rotor modes (e.g., significant differences in throttle curves), incorrect attitude transition parameter settings causing abrupt attitude changes during transition, sensor data delay, or airspeed/altitude data not synchronized.