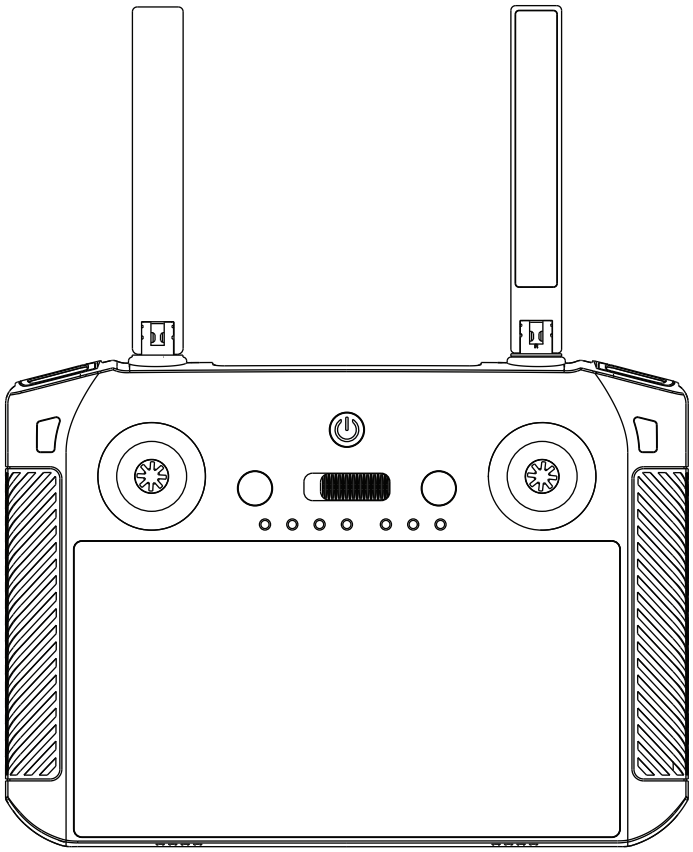
100drone™
PRO DRONES FPV PARTS DIY SOLUTIONS

SCEPTER 15 Remote Controller

Quick Start Guide and Disclaimer

V1.1 202610



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1. Disclaimer

Thank you for purchasing the SCEPTER 15 Remote Controller. Read this document carefully before use to understand your legal rights, responsibilities, and safety information; otherwise, property damage, accidents, or personal injury may occur.

By using this product, you acknowledge that you understand, accept, and agree to all terms of this statement. You are responsible for your actions and all resulting consequences. Use this product only for legitimate purposes and comply with all policies and guidelines issued by the company. The company reserves the right of final interpretation of this document and all related materials.

Specifications are subject to change without notice.

2. Product Use Precautions

1. The SCEPTER 15 receiver supports a 2S–4S input supply. Power the module strictly within this range.
2. Ensure that the antenna is installed before power-on to prevent circuit damage.
3. During use, keep the antenna unobstructed and straight, and as far as possible from large metal structures to avoid degraded communication.
4. Do not disassemble or modify this product. Contact the company if an issue cannot be resolved during installation or use.
5. Maintain adequate spacing between electronic devices during installation to reduce electromagnetic interference.
6. Before use, ensure that all connections are secure and all components operate normally.
7. Before use, check the surroundings for interference from other devices operating in the same frequency band.
8. Contact the company if an issue cannot be resolved during product installation or use.

3. Product Overview

The SCEPTER 15 remote control system is a professional multi-scenario control platform designed for drones, unmanned vehicles, unmanned boats, and other smart devices. It uses dual-band RF technology (2.4G + 5.8G) and a 32-channel redundant communication architecture to provide stable 15 km beyond-visual-line-of-sight transmission in complex electromagnetic environments. It supports real-time HD video, multi-protocol data transmission, and remote command control. The remote controller features a 5.5-inch high-brightness touchscreen and an Android smart system, combining professional control with mobile-terminal expandability. External displays can be connected via HDMI, and customized apps can be deployed for industrial inspection and emergency response. The built-in fast-charging battery supports 4.5 hours of continuous operation. IP53 protection and a wide operating-temperature range suit harsh field environments. Together with the receiver's multi-interface compatibility (SBus/UART/Ethernet/USB), it integrates with various unmanned-device control systems to provide a complete remote monitoring and control solution.

4. Package Contents (Standard Version)



SCEPTER-15 Controller



Receiver



Receiver Antenna



Antenna



Ethernet/Power/Serial Cables



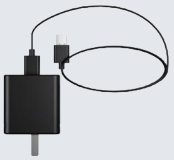
Dust Bag



MMCX–SMA Cable



EPP Case



Charger

5. Specifications

Video Transmission

Antennas: Dual antennas
Maximum effective range: 15 km
Operating frequencies: 7+7 (2.4G + 5.8G)
Equivalent isotropically radiated power (EIRP): 15 dBm–27 dBm

Display

Resolution: 1920 × 1080
Frame rate: 60 FPS
Size: 5.5 inches
Maximum brightness: 500 cd/m²
Touch: 5-point touch

Wi-Fi

Wi-Fi protocol: IEEE 802.11a/b/g/n/ac
Operating frequencies: 2.4G / 5.8G
Wi-Fi EIRP: 17 dBm (max.)

Bluetooth

Bluetooth protocol: 5.0
Bluetooth EIRP: 8 dBm (max.)
Operating frequency: 2.4G

Battery

Battery capacity: 5000 mAh
Charging time: 1.5 hours (powered off)
Charging method: PD 30 W fast charging
Operating time: 4.5 hours (adaptive power mode, 25°C ambient)

General Specifications

System: Android 11
Weight: 700 g
HDMI: 1080p
Hardware ports: Charging: Type-C; External storage: TF card slot
Protection rating: IP53

Operating temperature: -10°C to 45°C
Storage: 4 GB RAM; 32 GB expandable storage (Micro SD card)
Dimensions: L175 mm × W137 mm × H47.4 mm (sticks removed)
L175 mm × W137 mm × H64 mm (sticks installed)

Receiver Specifications

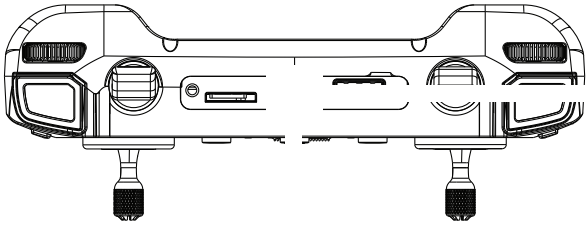
Hardware Ports

SBus: 3-pin
Data link (flight-control connection): UART 4-pin
Ethernet port: 4-pin
USB port: 4-pin

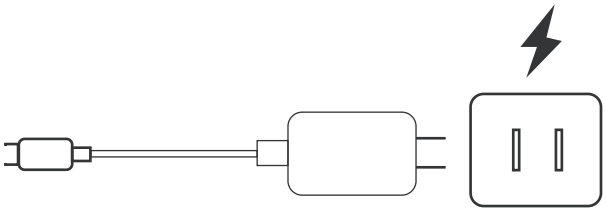
Control signal: 16-channel SBUS
Antenna gain: 3 dBi
Weight (excluding antenna): 50 g
Operating voltage: 12 V–27 V
Operating temperature: -10°C to 45°C
Dimensions (excluding antenna): 57 mm × 47 mm × 18.1 mm

6. Charging

Open the dust cover on top of the unit to access the Type-C port. Connect the charger to the remote controller's Type-C port. A full charge takes approximately 1 hour 30 minutes at the fastest rate.



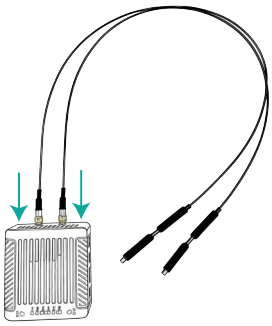
Type-C



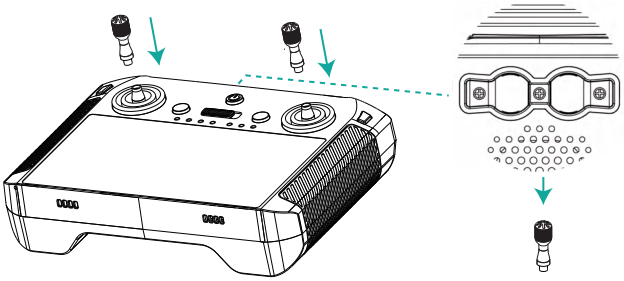
Fully charge the remote controller every three months to maintain the battery.

7. Installation

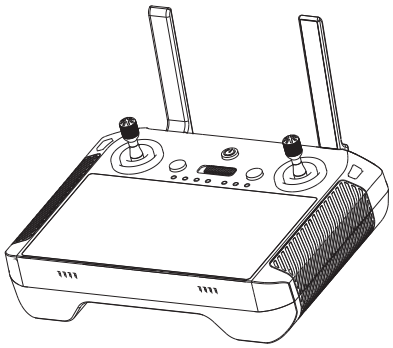
1. Install the Antenna
Fully install the RF antenna before powering on the air unit.



2. Install the Control Sticks
Remove the control sticks from the back of the remote controller and install them.



3. Unfold the Remote Controller Antennas



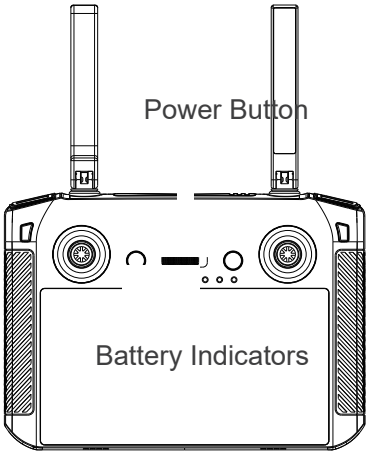
8. Basic Remote Controller Operations

1. Check Battery Level, Power On, and Power Off

① Check battery level: Briefly press the power button. The battery indicators illuminate to show the current level.

② Power on: After the battery indicators illuminate, press and hold the power button to turn on the remote controller.

③ Power off: With the controller on (screen lit), press and hold the power button, then select Power Off from the displayed options.

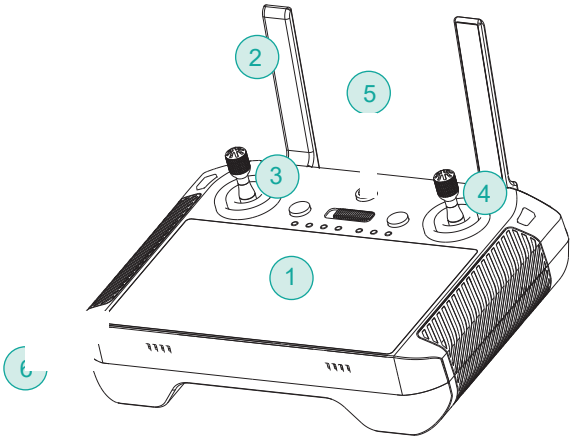


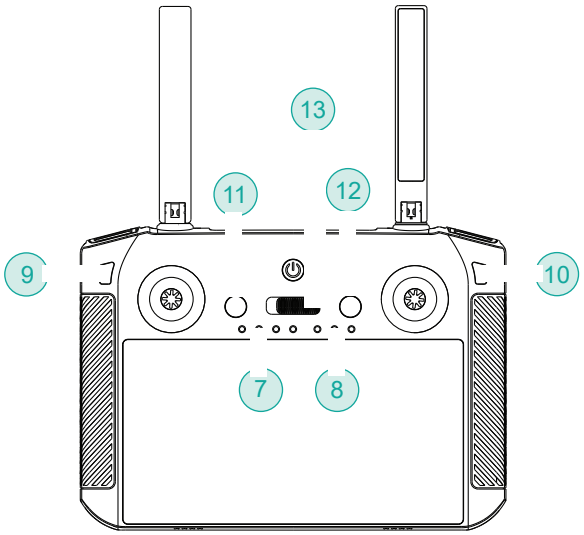
2. Pairing

The devices are paired by default. To pair another receiver, follow these steps:

1. Power on the remote controller.
2. Install the air-unit antenna, then connect a 2S–4S battery to power it on.
3. Wait for the air-unit LINK indicator to flash slowly. Hold PAIR and release it when LINK flashes rapidly.
4. Open Scepter Tool on the remote controller.
5. In the app, open the Video Link page and tap Pair to start pairing. (See the APP Operation section for details.)

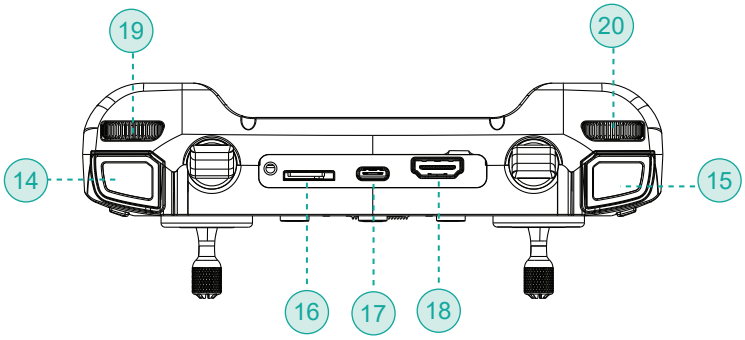
9. Hardware Overview

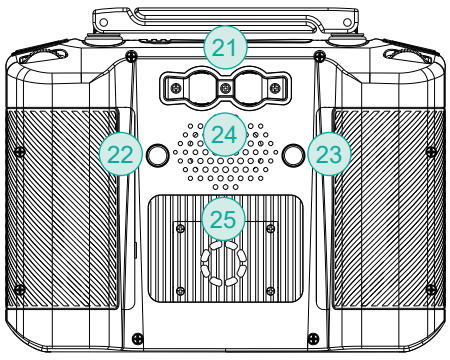




1. Screen
2. Antenna
3. Left Stick
4. Right Stick
5. Power Button
6. Microphone

7. Battery Indicators
8. Signal Quality Indicator
9. Custom Button L1
10. Custom Button R1
11. Custom Button C1
12. Custom Button C2
13. Custom Three-Position Switch

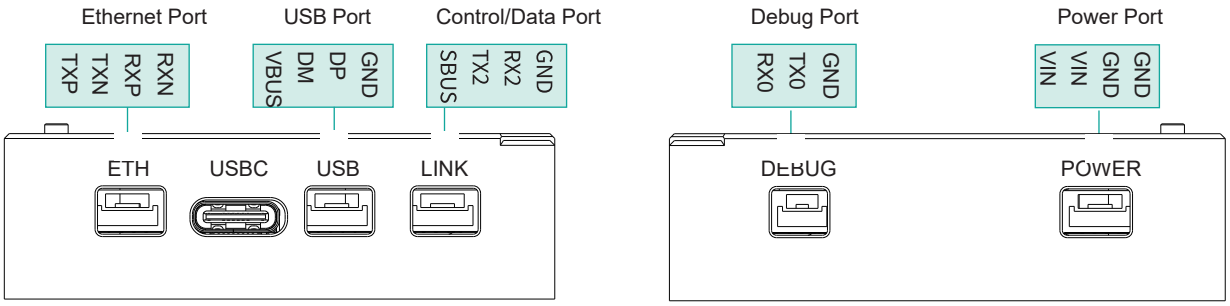


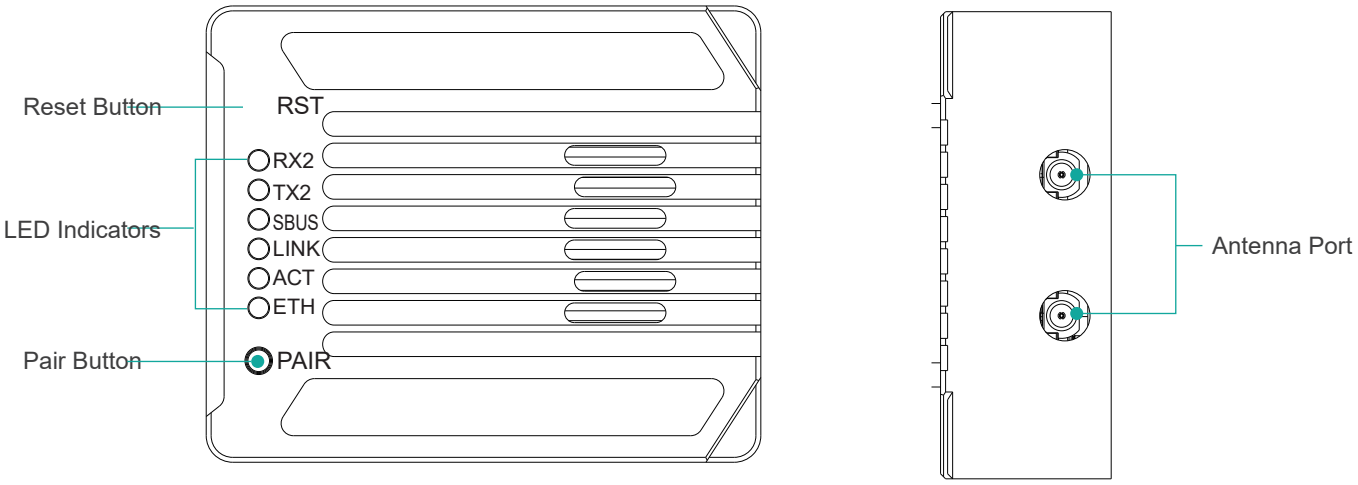


14. Custom Button L2
15. Custom Button R2
16. SD Card Slot
17. TYPE-C
18. HDMI
19. Left Dial
20. Right Dial

21. Control Stick Storage
22. Custom Button L3
23. Custom Button R3
24. Speaker
25. Heat Sink

10. Receiver Interfaces and Buttons

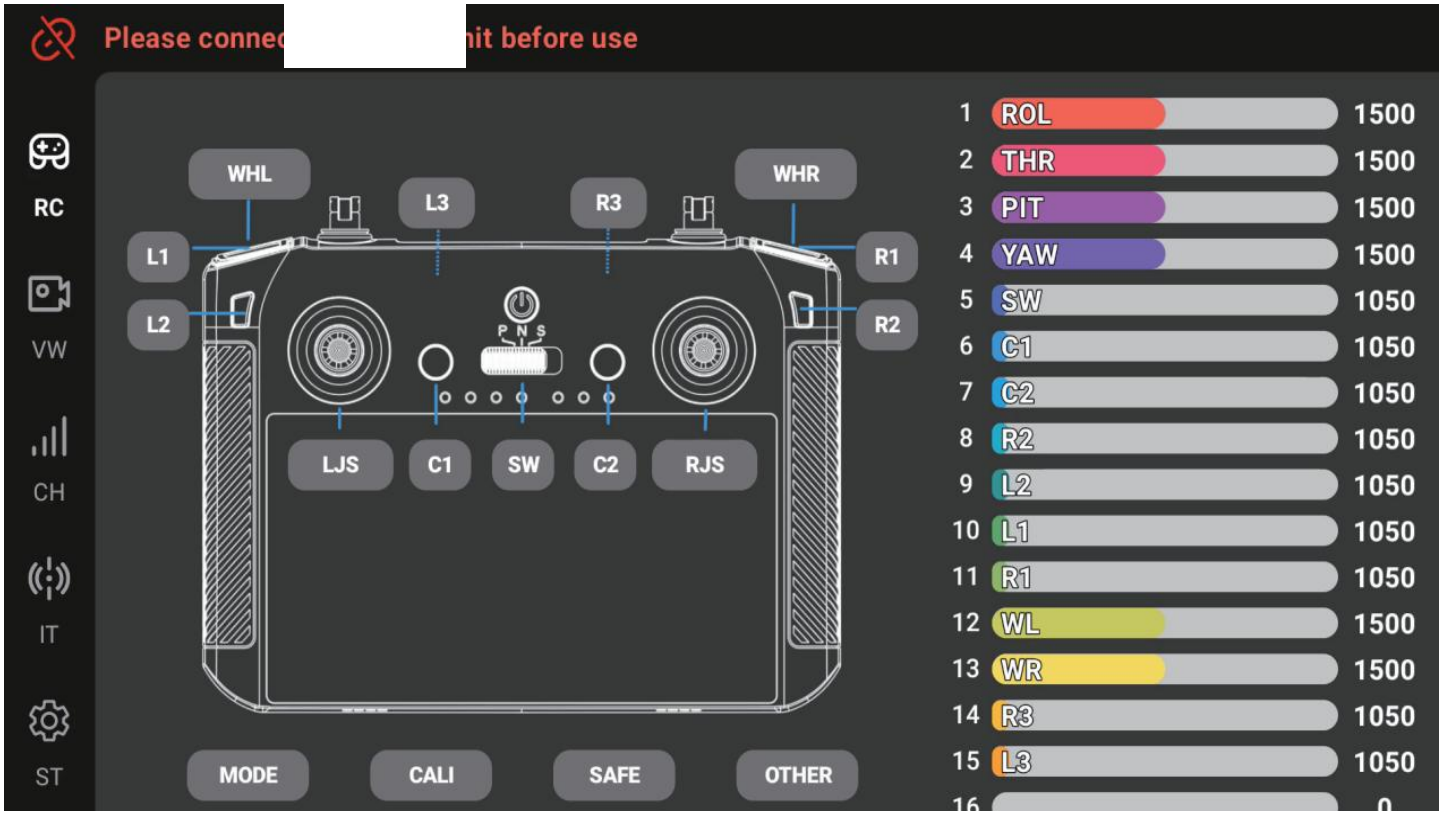




Component	Description
Ethernet Port	• 100M Ethernet port. Connects network devices such as computer boards, gimbals, network cameras, or LiDAR.
USB Type-C Port	• Connects to a PC for receiver firmware upgrades.
USB Port	• Connects to an onboard computer for data communication. It shares the USB Type-C interface and cannot be used at the same time.
Control/Data Port	• SBUS output: Default 100 kbps, 1 start bit, 2 stop bits, even parity. Outputs stick, dial, button, and other control signals. • UART data port: Default 115200 bps, 1 start bit, 1 stop bit, no parity. Typically used for MAVLink data.
Power Port	• External power input, 12 V–27 V.
Debug Port	• Debug serial port, 115200 bps.
Reset Button	• Press to restart the module.
Pair Button	• Hold for 5 seconds to pair. Pairing mode exits after 60 seconds if unsuccessful.
Antenna Port	• Connects an antenna with a male-pin MMCX connector. A copper-tube dual-band antenna is recommended.
LED Indicators	• RX2: Data-link RX indicator. • TX2: Output TX indicator. • SBUS: SBUS transmission indicator; flashes after pairing to indicate normal SBUS output. • LINK: Flashes slowly when unpaired, rapidly while pairing, and remains on after the wireless link connects. • ACT/ETH: Ethernet indicator; on when connected and flashes during communication.

11. APP Operati

Tap Scepter Tool on the s



Main Interface

The main interface consists of the top status bar, left function bar, and main operation area.

The left function bar contains:

Control: Displays the control interface and the SBUS channel values for each stick, button, switch, and dial.

The Streaming option displays the video stream, frame rate, and related information.

Channel: Displays the current operating channel and scanned signal values for each 2.4G/5.8G frequency.

The Video Link option controls video-link power, sets the stream address, and initiates re-pairing.

Settings: Displays the system and video-link firmware versions.

Status Bar

The top status bar shows wireless-link status, operating frequency, signal-to-noise ratio, and antenna signal strength.

Disconnected:



Connected:



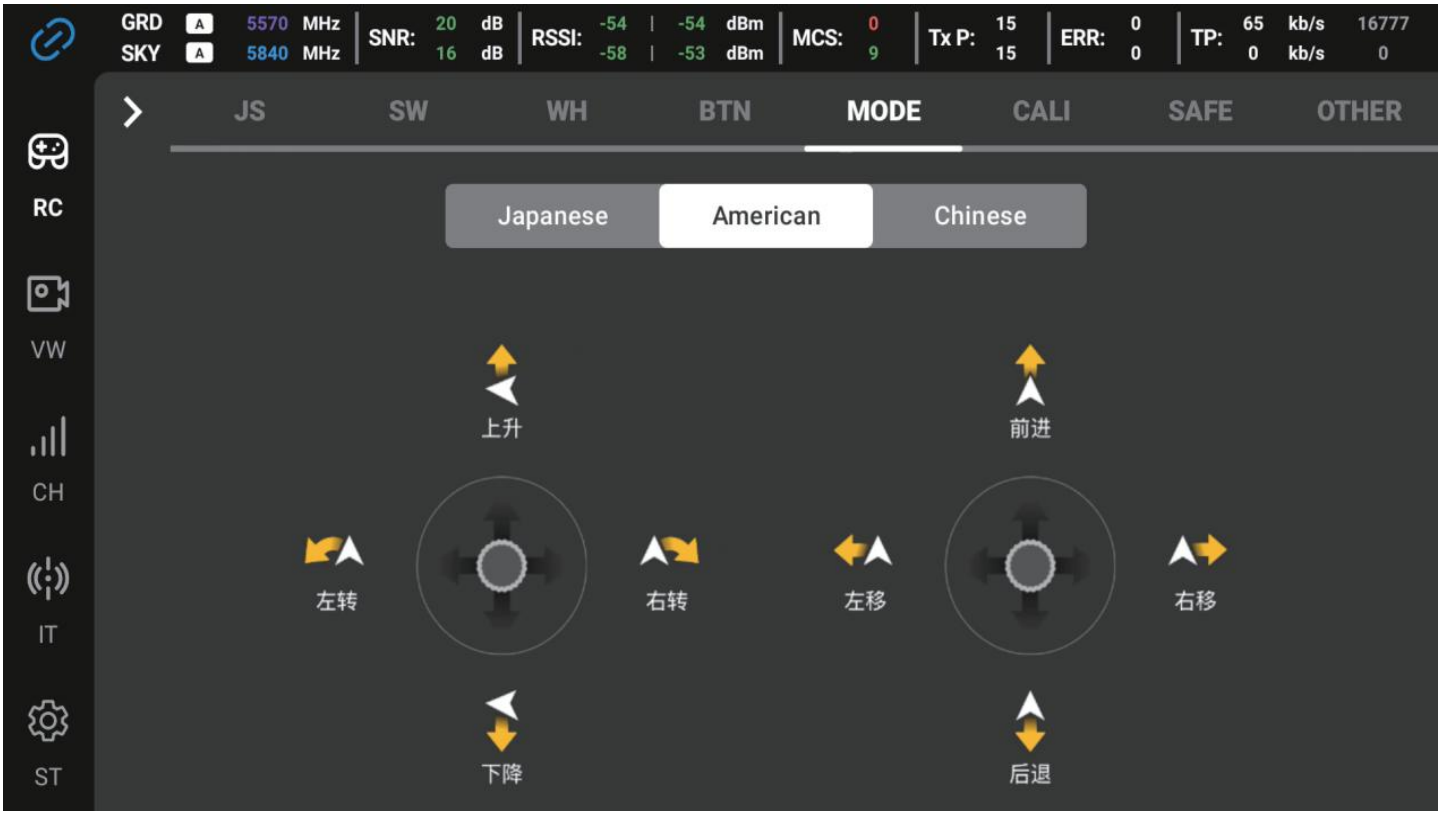
Ground unit (GND) and air unit (SKY) status is shown on separate rows:

- Operating frequency (FREQ): The frequency currently used by the wireless link for transmission and reception.
- Signal-to-noise ratio (SNR): Indicates the current link SNR for evaluating interference and link status.
- Received signal strength (RSSI): Indicates received signal energy and is used with SNR to assess channel interference and link status.
- Modulation and coding scheme (MCS): In normal use, remote-controller-to-receiver (BR) traffic is low and fixed at MCS=0. Receiver-to-controller (Slot) traffic is higher, so modulation and coding are adjusted adaptively according to channel quality.

MCS Value	Modulation
-2~2	BPSK
3~5	QPSK
6~8	QAM16
9~12	QAM64

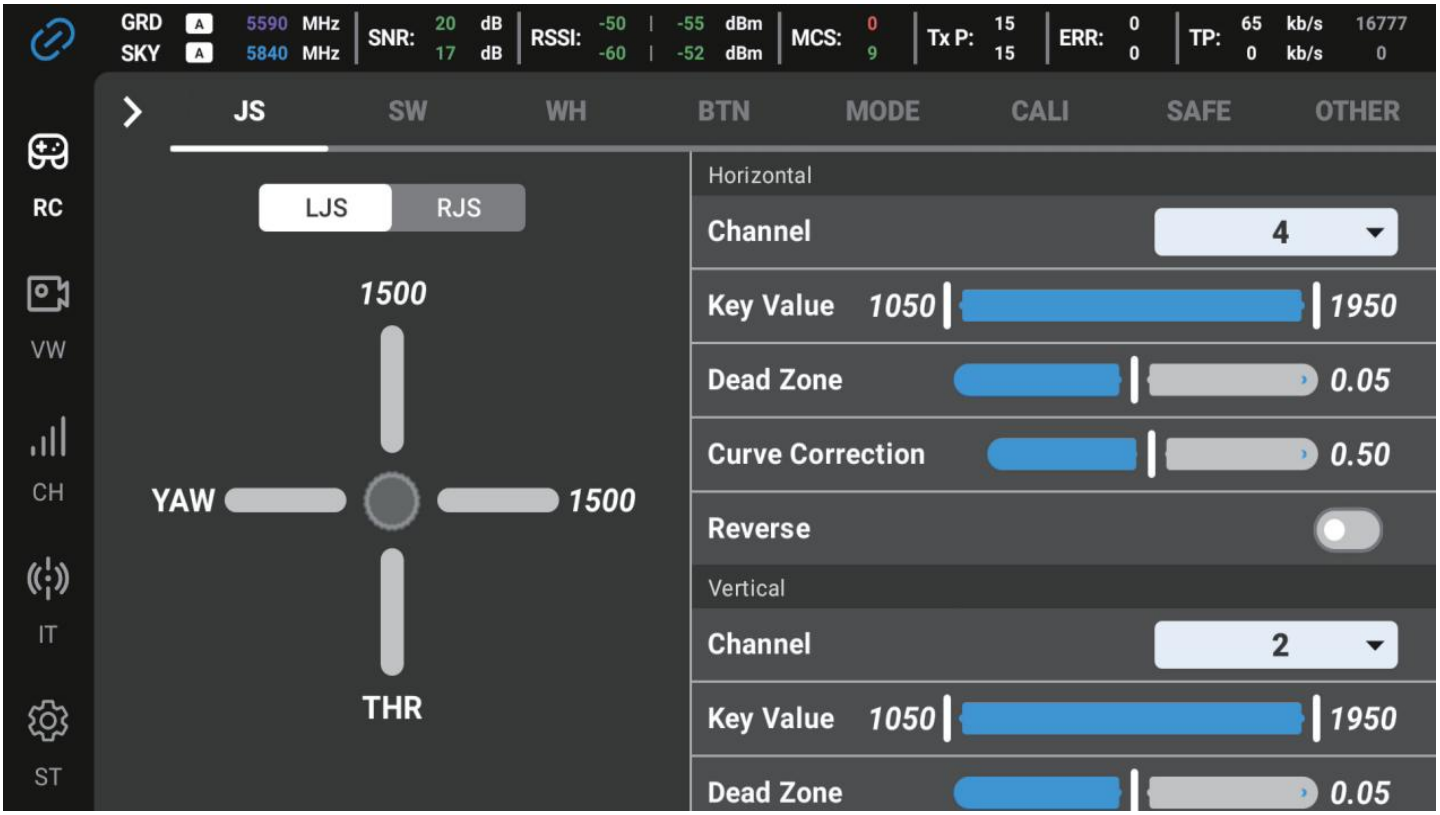
Mode Settings

On the control interface, tap Mode at the bottom to switch among Japanese, American, and Chinese stick modes. Tap a mode option to apply it. The factory default is American mode.



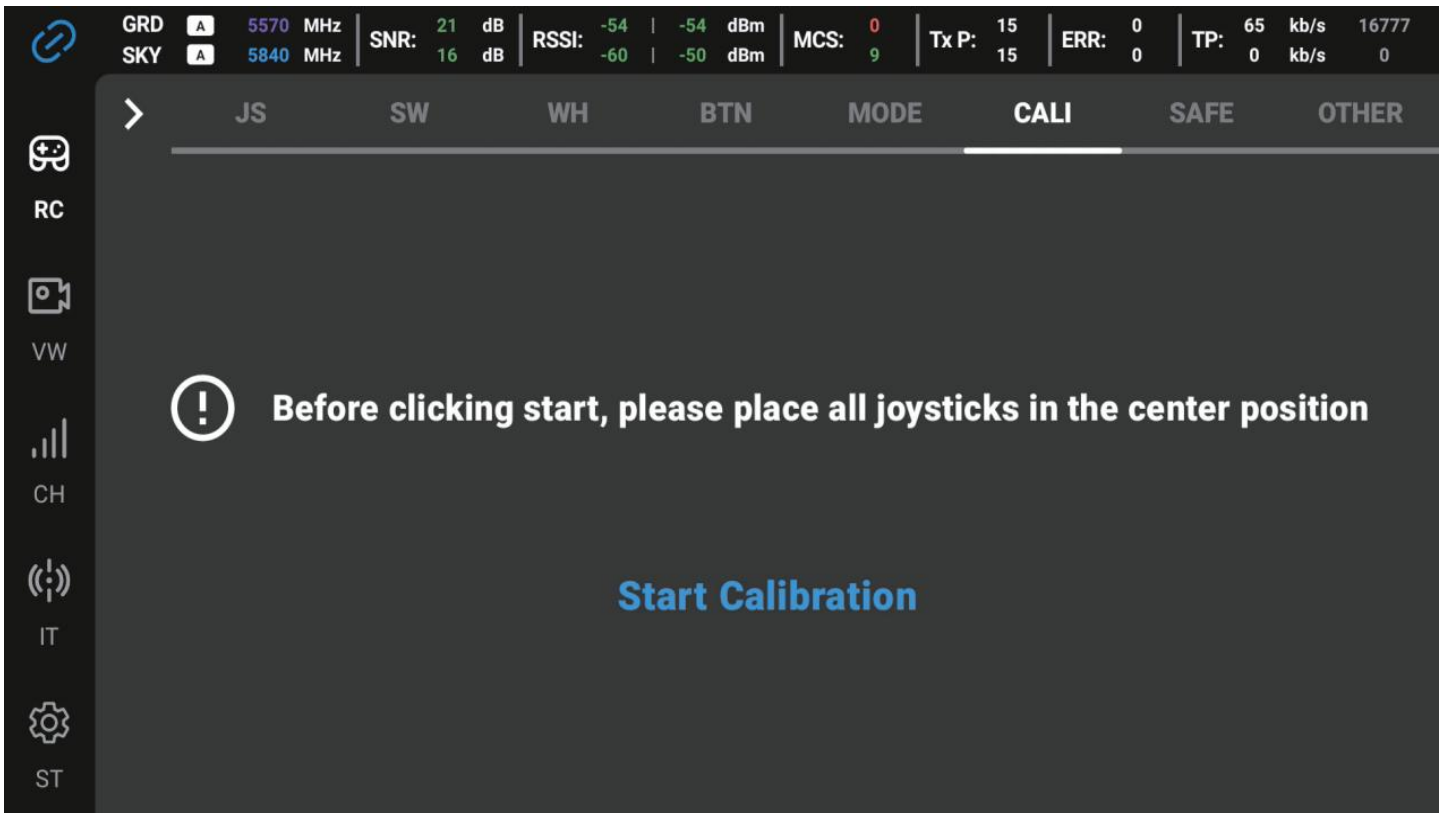
Stick Settings

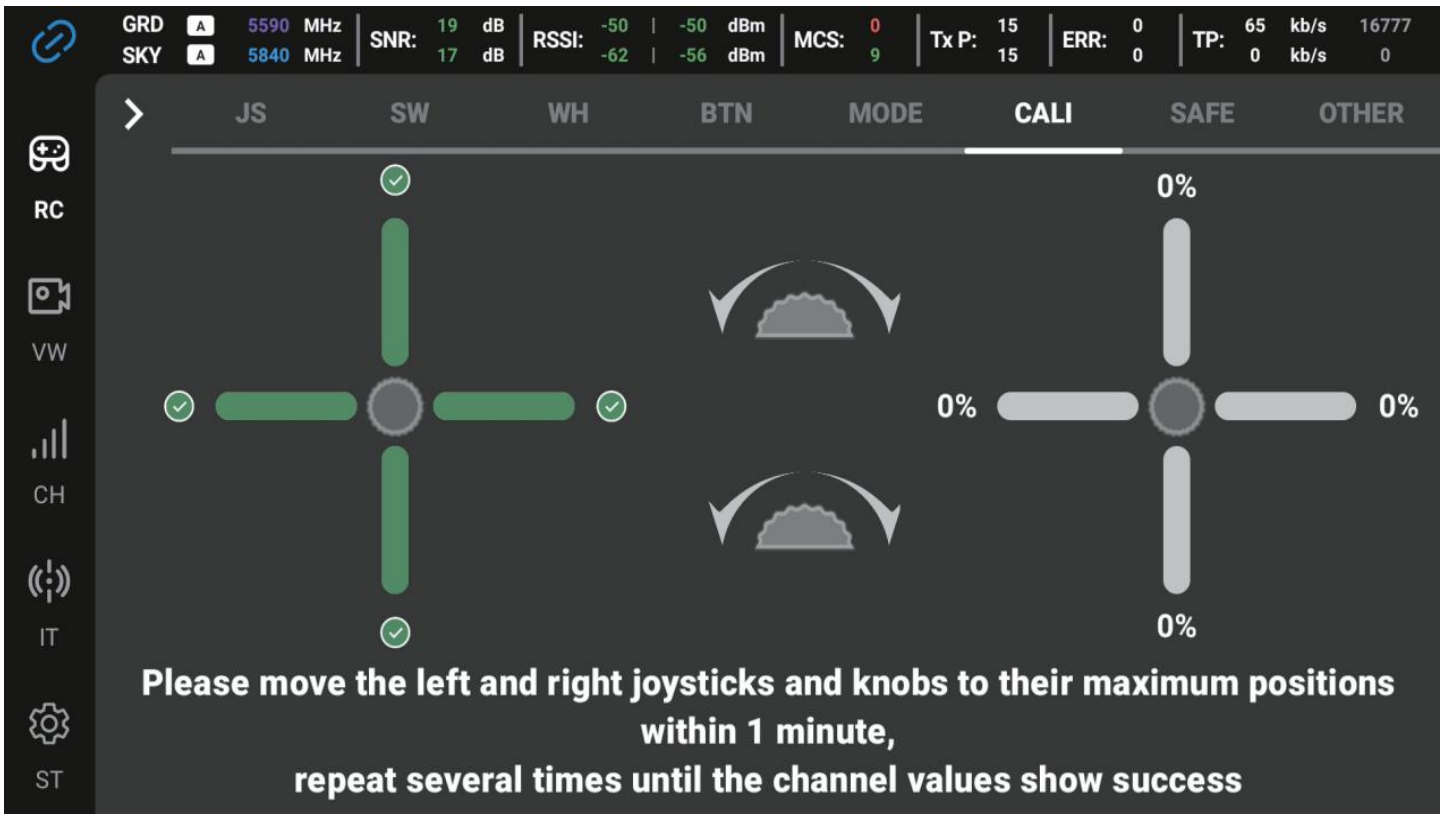
On the control interface, tap Left Stick or Right Stick to configure maximum and minimum values, deadband, and other stick parameters.



Stick Calibration

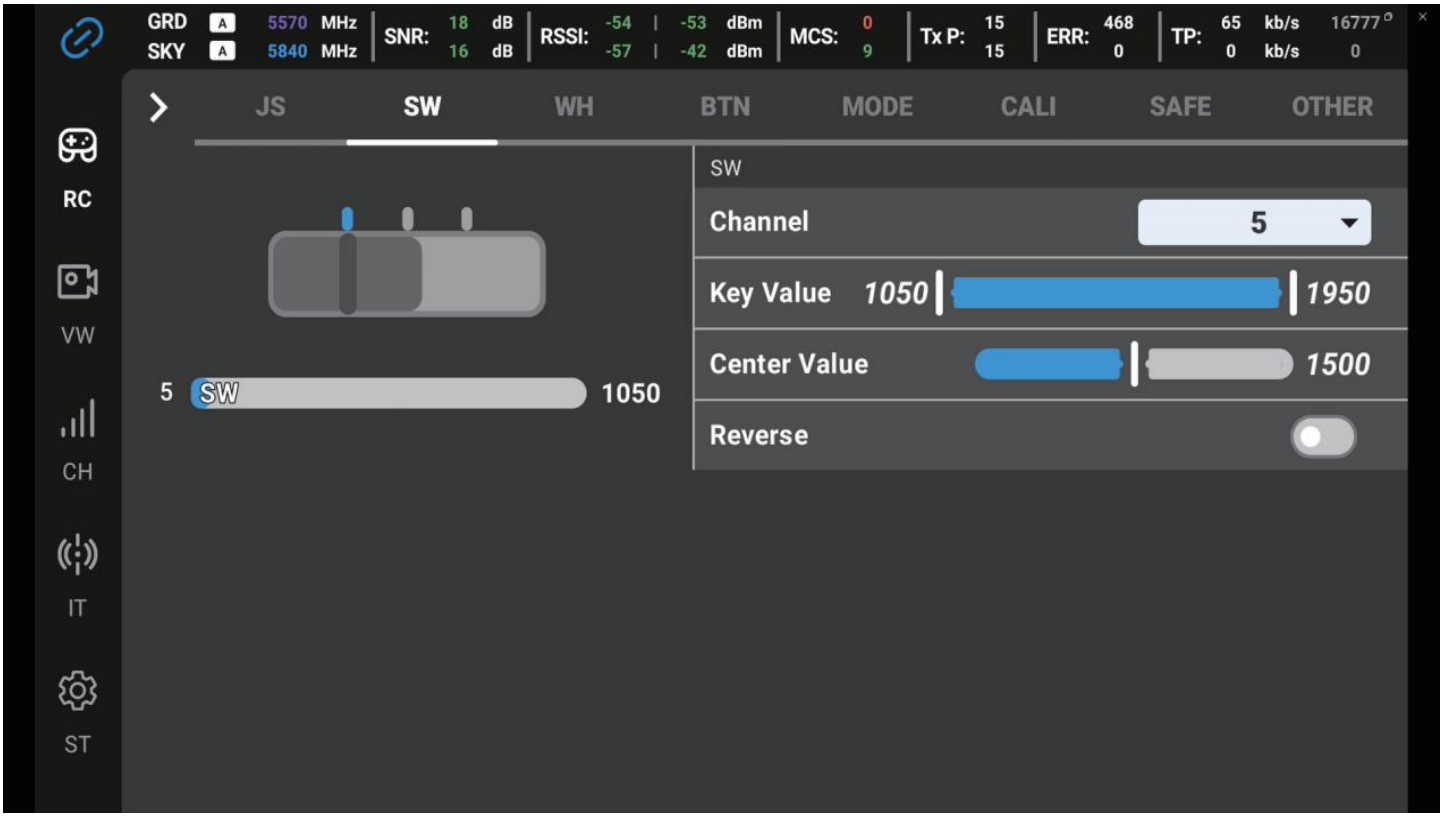
On the control interface, tap Calibrate, then move both sticks to their limits in all four directions within one minute.





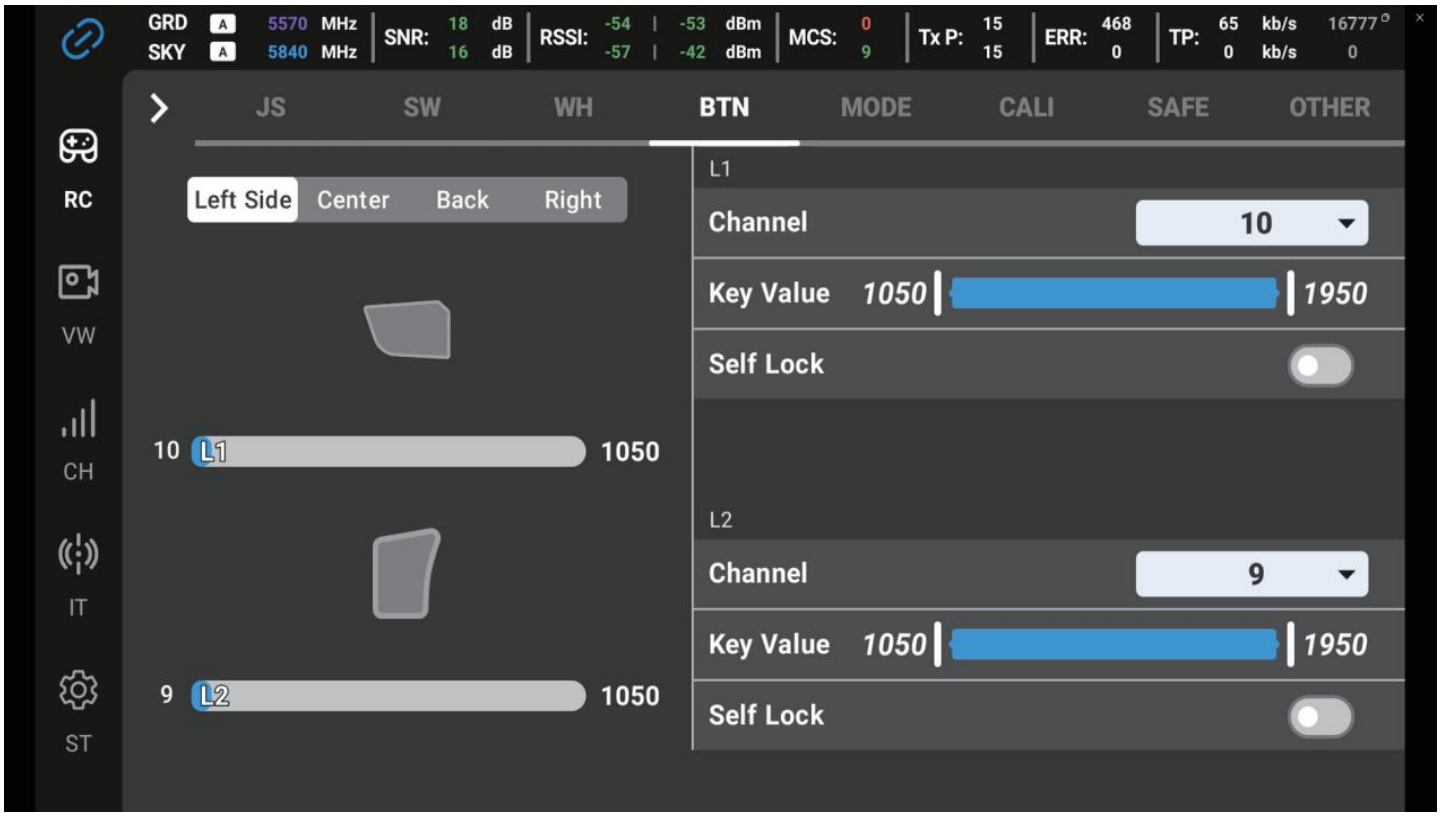
Switch Settings

On the control interface, tap SWL or SWR to configure the corresponding switch channel, center value, and upper and lower limits.



Button Settings

On the control interface, tap C1, C2, L1, L2, R1, or R2 to configure the button channel, upper and lower limits, and latching behavior.



Dial Settings

On the control interface, tap WL or WR to configure the corresponding dial channel, upper and lower limits, and reverse setting.



Channel Distribution

Displays channel information and configuration parameters. The line chart shows the frequency band used for remote-control communication and its scanned noise energy. Lower noise energy indicates better channel quality.

Manual configuration is normally unnecessary; the device automatically selects optimal parameters according to on-site interference.

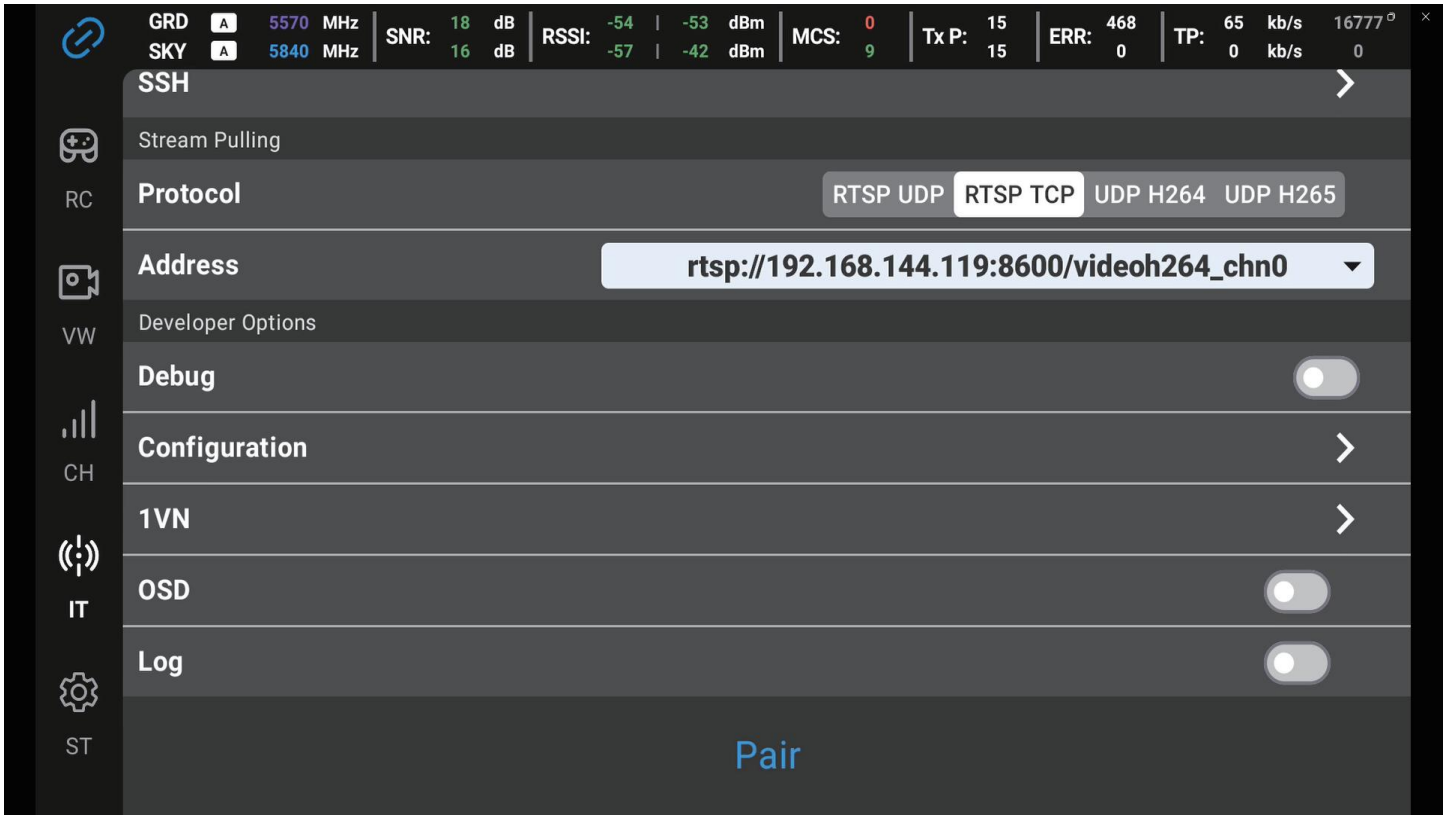


Video Link Settings and Pairing

On the Video Link interface, you can control module power and switch communication between the video link and system. Enter the stream address of the device connected to the receiver Ethernet port.

Four protocols are available: RTSP UDP, RTSP TCP, UDP H264 stream, and UDP H265 stream.

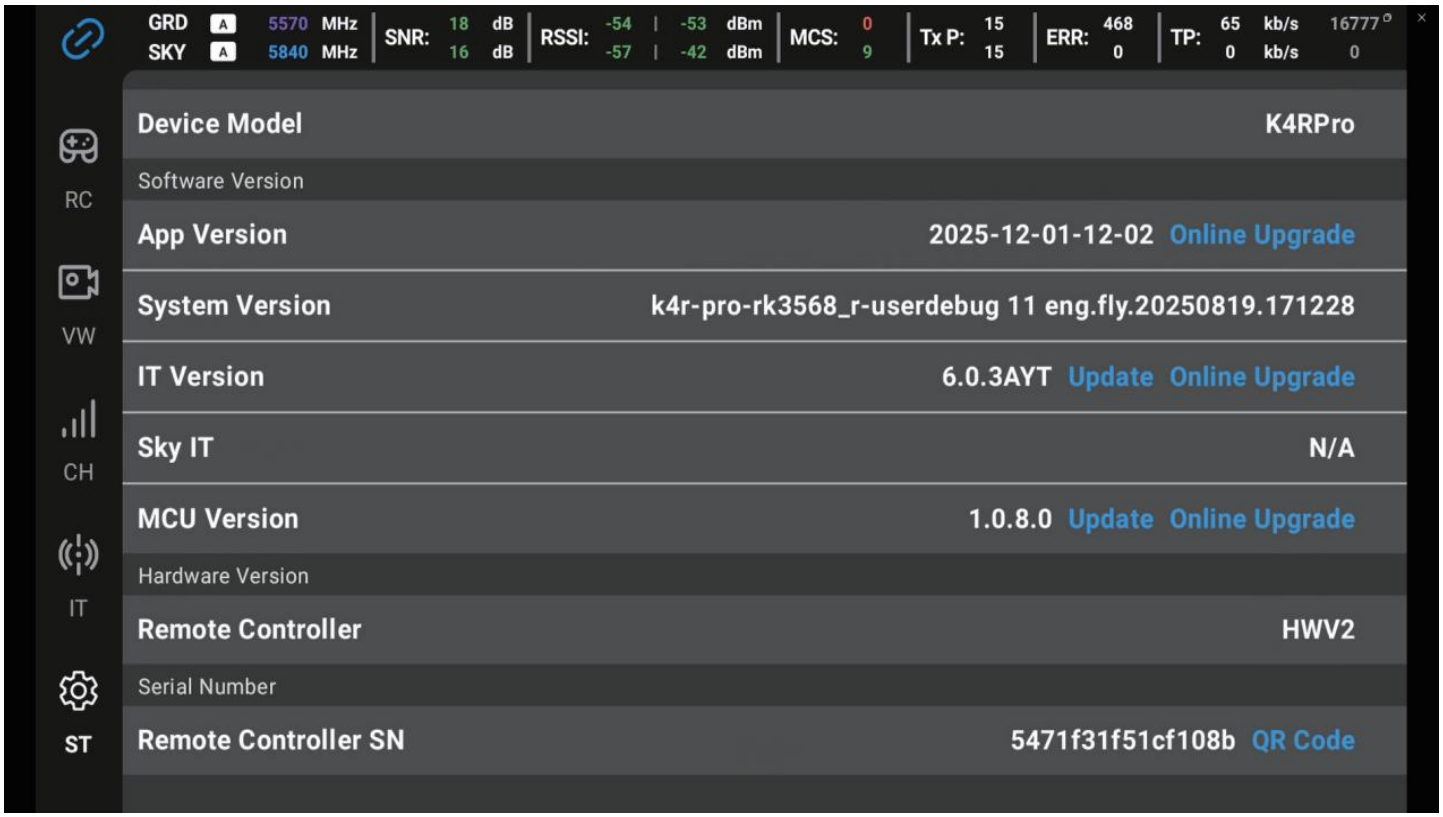
Tap Pair at the bottom of the Video Link interface to enter pairing mode. The connection-status indicator on top of the remote controller flashes rapidly.



ıe Video Link configuration submenu, default parameters are normally sufficient. These settings are provided only for cial requirements.

System Settings

The Settings page shows the device model, software version, hardware version (if supported), and other information. Video-link and remote-controller firmware upgrades are supported.



In special cases, the video-link firmware may need to be upgraded. Copy the firmware supplied by the company to a microSD card and insert the card into the slot.

1. Video-Link Firmware Upgrade

Tap Update for Ground Video Link. In the file-selection window, select the required video-link firmware file and wait for the upgrade to complete automatically.

2. Remote Controller Firmware Upgrade

Tap Update for Remote Controller Firmware. In the file-selection window, select the required firmware file and wait for the upgrade to complete automatically.

Do not perform other operations during a firmware upgrade. Interrupting the upgrade may prevent the remote controller from operating normally.

12. Other Settings

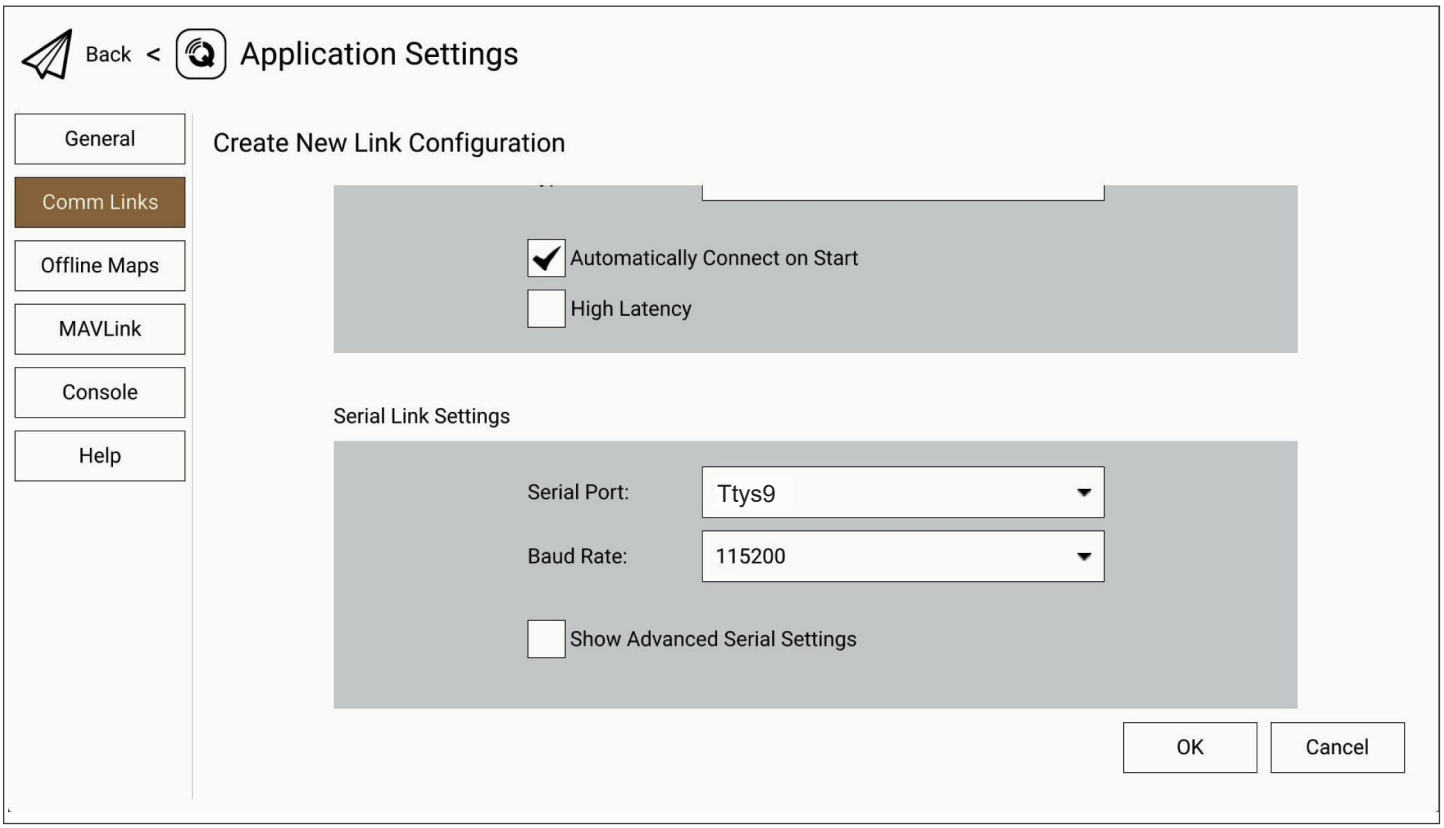
QGC Settings

QGC Ground Station is preinstalled at the factory. Do not uninstall or remove it; this version is customized for the remote controller. If it has been removed, contact the manufacturer for the latest version.



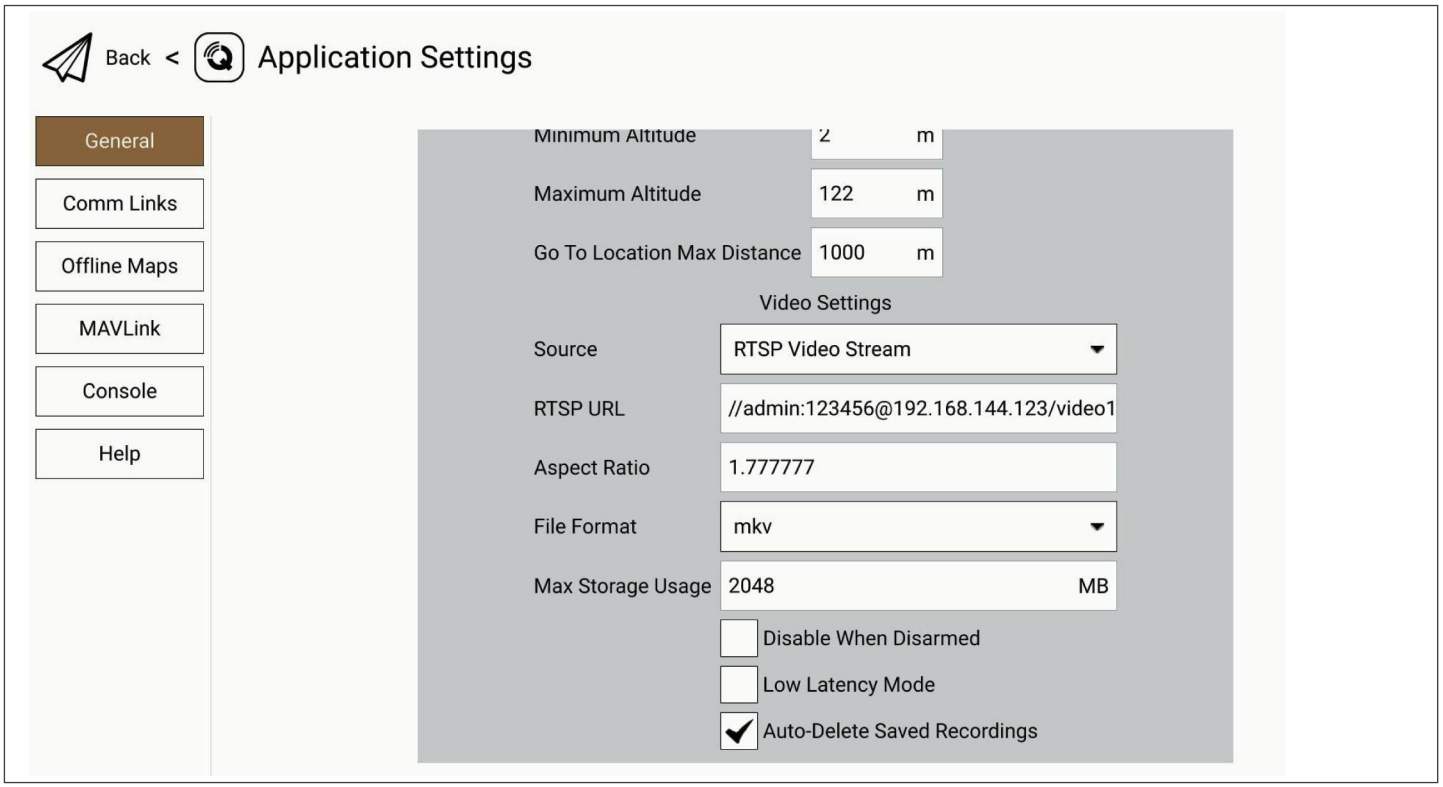
MAVLink Serial Port Settings

In Application Settings > Comm Links, configure the MAVLink data-stream serial port. Select ttyHS9 and set the baud rate to 115200. It is recommended to select Automatically Connect on Start so QGC connects to the flight controller automatically at the next startup after pairing.



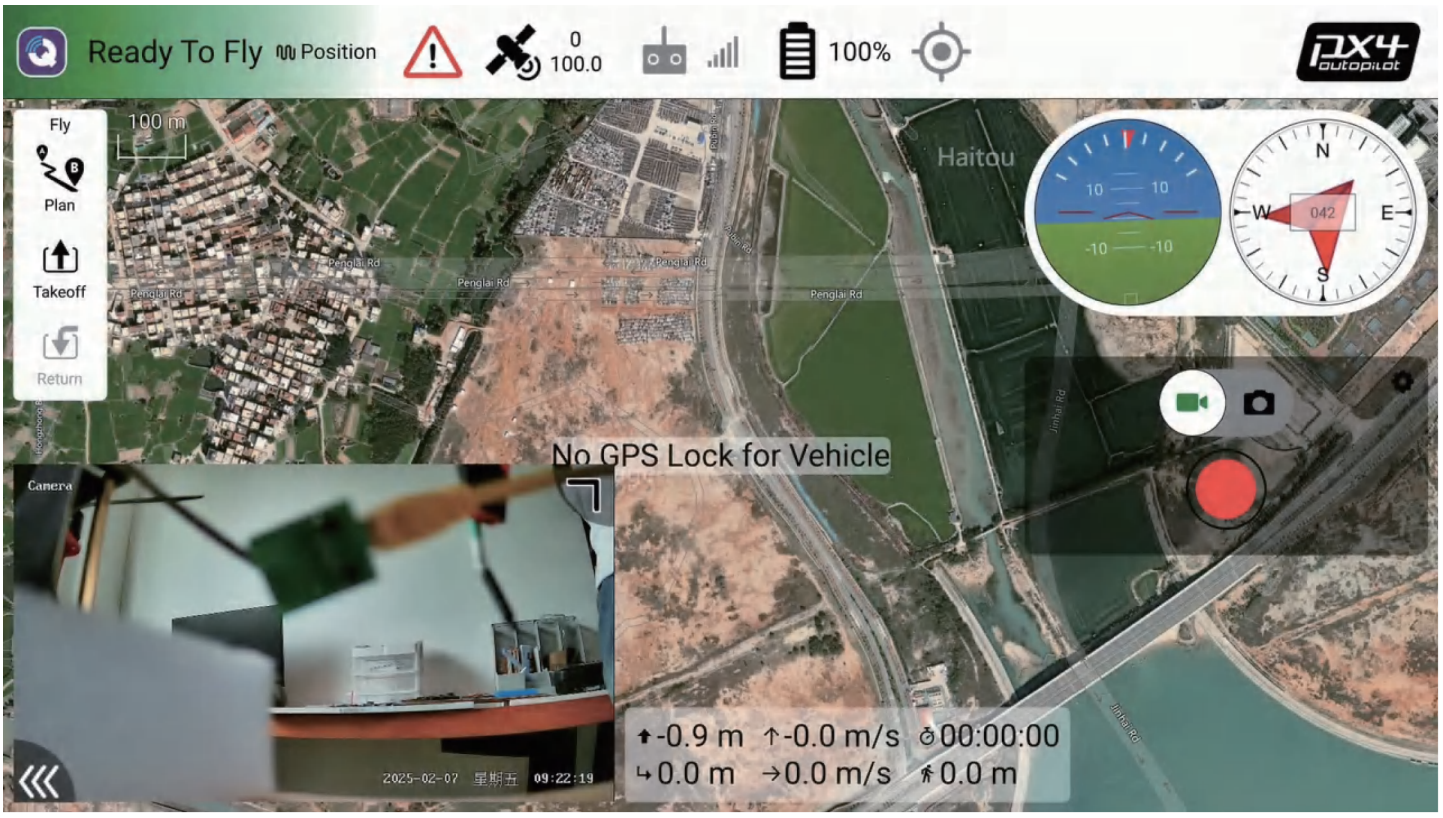
RTSP Streaming Settings

Set the video-stream address in Application Settings > General. For RTSP streaming, select RTSP Video Stream in the Source field, then enter the stream address in RTSP URL. Note that it must begin with //.



Setup Complete

After setup, return to the main interface. QGC downloads the flight-controller information and displays flight status. The RTSP stream appears in the lower-left video window.



13. Maintenance and Repair

For proper care and maintenance of the remote controller and module during long-term storage, follow these recommendations:

1. Storage environment: Keep the remote controller and module in a dry, well-ventilated location away from humidity and high temperatures.
2. Avoid direct sunlight: Limit direct sunlight to prevent overheating and material aging.
3. Temperature control: The recommended storage temperature is 22°C to 28°C, which helps maintain performance and extend service life.

Cables and small parts may be hazardous to children. Keep remote-controller components out of their reach.

Never immerse the module in water. If it gets wet, wipe it promptly with a soft, dry cloth, switch off the power immediately, and contact after-sales service.

Do not strike, crush, puncture, or drop the battery.