

Scepter UDP MAVLink Forwarding Feature Guide

This guide describes how to configure UDP forwarding of MAVLink data in Scepter App, and how to verify the feature and connect to QGC.

Document Revision History

Date	Version	Description	
2026-01-14	V1.0	Document initialized; structure reorganized and layout optimized	

1. Prerequisites

1.1 Network Environment Configuration

If MAVLink data needs to be forwarded to a computer, ensure that the remote controller and computer are on the same LAN and can communicate with each other (they can ping each other). The following connection methods are supported:

- **Wireless hotspot mode:** Connect the computer to the Wi-Fi hotspot enabled on the remote controller.
- **LAN mode:** Connect the remote controller and computer to the same Wi-Fi router.
- **Wired direct connection mode:** Connect the computer directly to the remote controller's Ethernet port (hardware support is required, and the IP address must be configured manually).

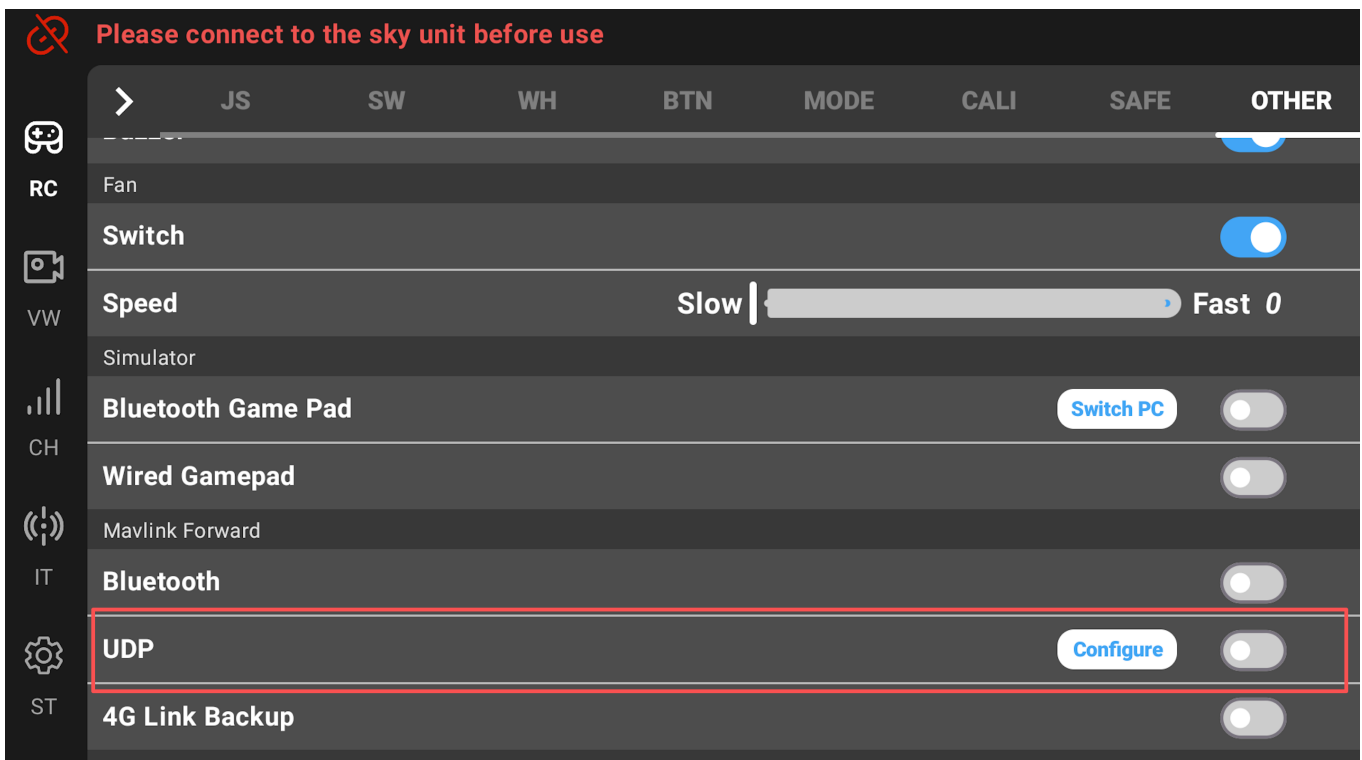
1.2 Software Version Requirements

- **Scepter App:** Version **2026/01/11** or later is required.

2. Feature Configuration

2.1 Accessing the Configuration Screen

In Scepter App, tap **Remote Control** -> **Other** in sequence, locate the **MAVLink Forwarding** module, and select **UDP**.

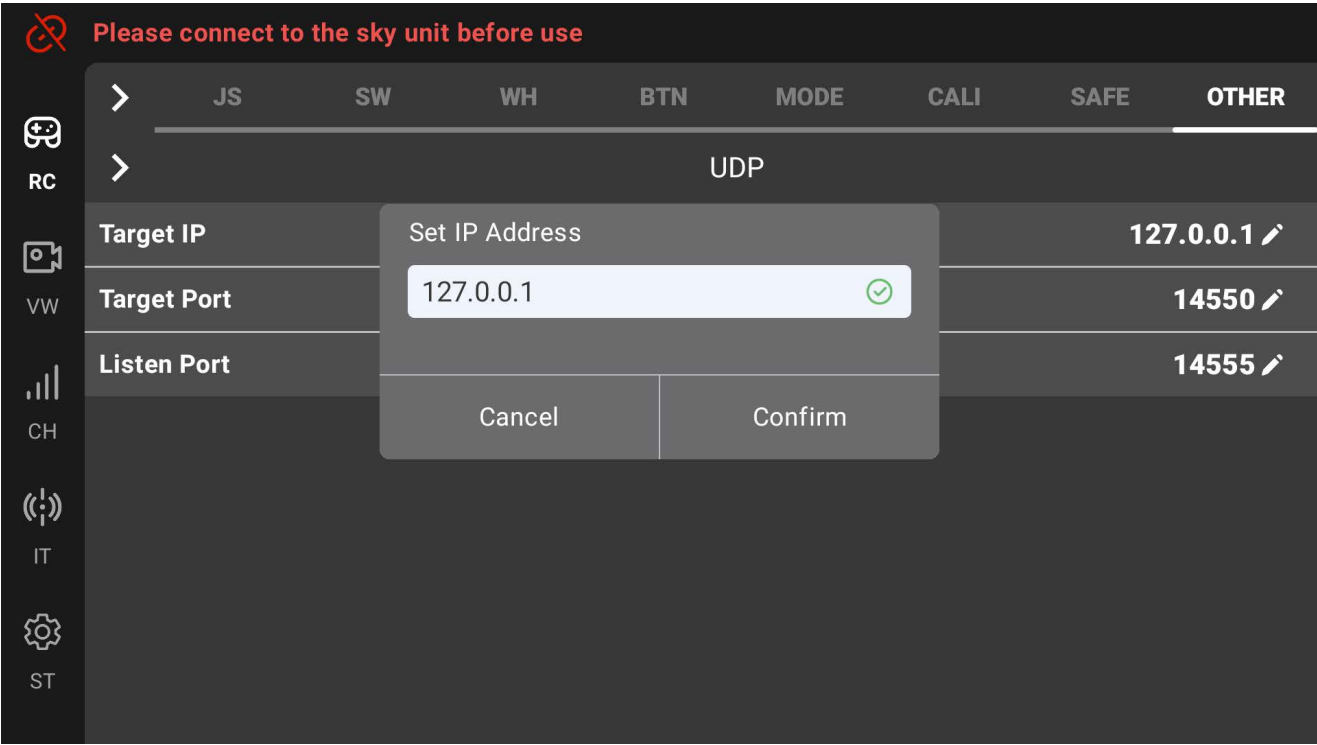
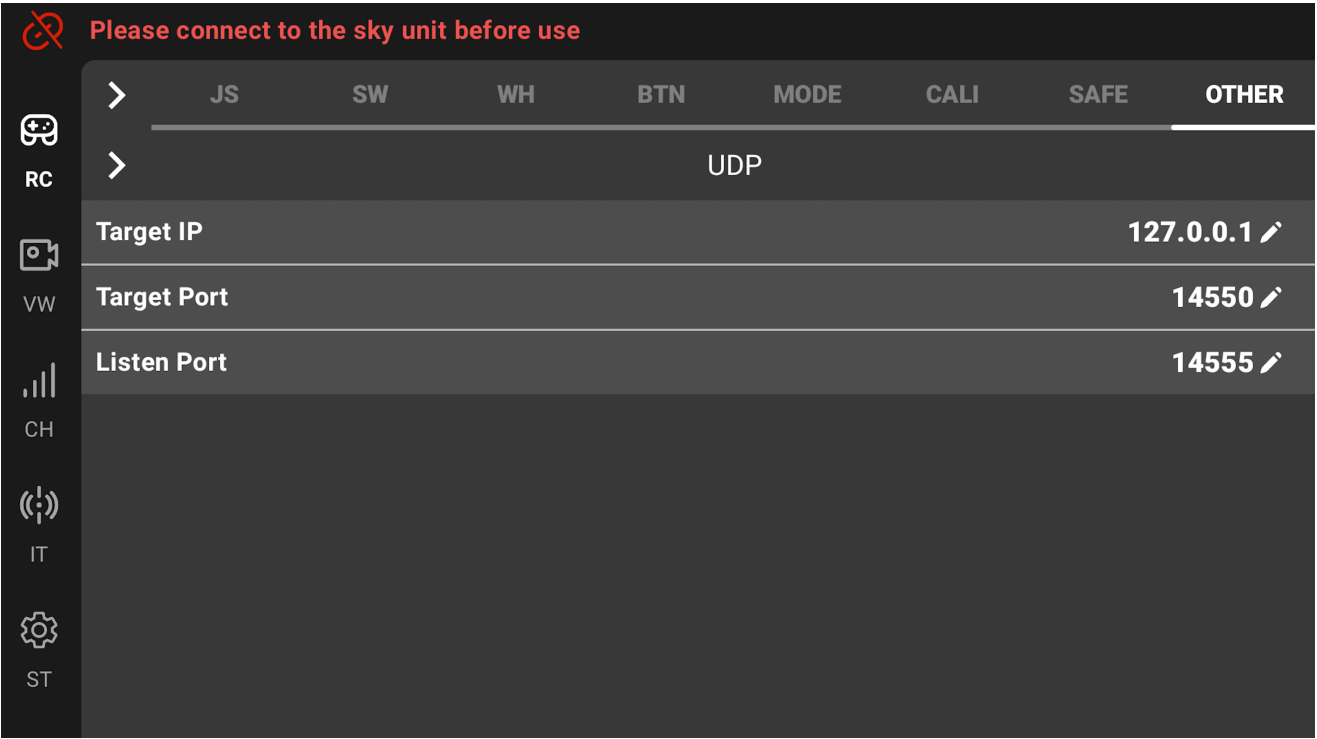


2.2 Setting Parameters

Tap **Configure** to open the configuration page, then set the following parameters as required:

- **Target IP** (target IP): IP address of the device receiving the data.

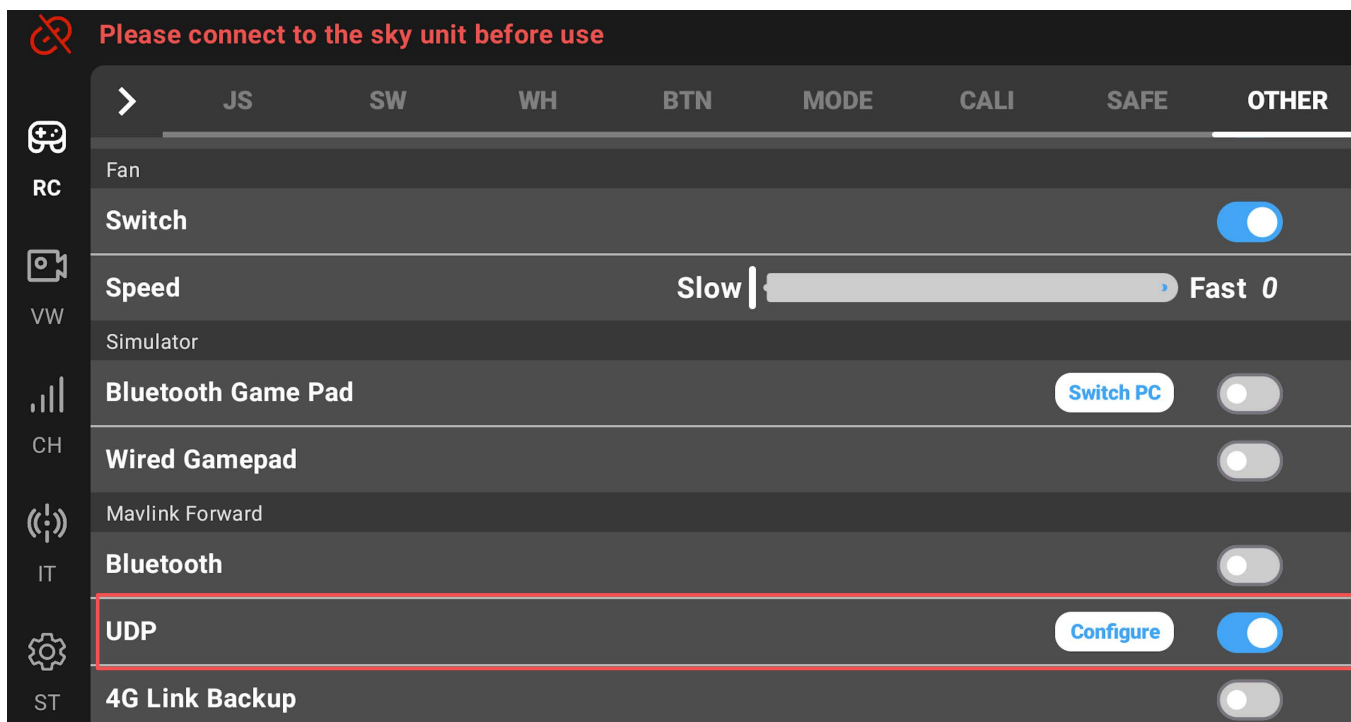
- **Target Port** (target port): Port number on which the data is received (typically 14550).
- **Local Port** (local listening port): Local listening port (keep the default or specify a custom value, such as 14555).



For detailed parameter settings, refer to [Section 3, Application Examples](#).

2.3 Enabling Forwarding

After setting the parameters, tap the Back button, then turn on **UDP Forwarding**.



3. Application Examples

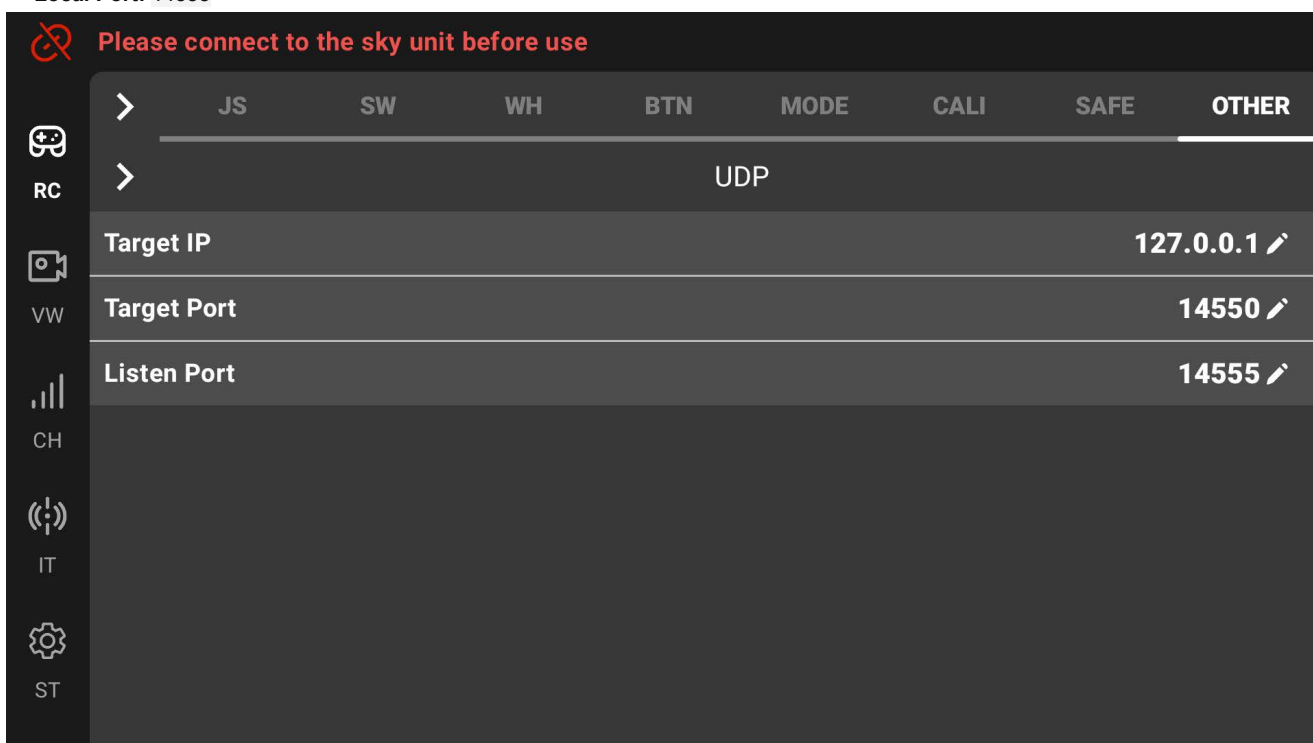
3.1 Scenario 1: Forwarding to QGC on the Remote Controller

This scenario applies when the QGC ground station is run directly on the remote controller's Android system and communicates over the local loopback network.

1. Scepter App Configuration:

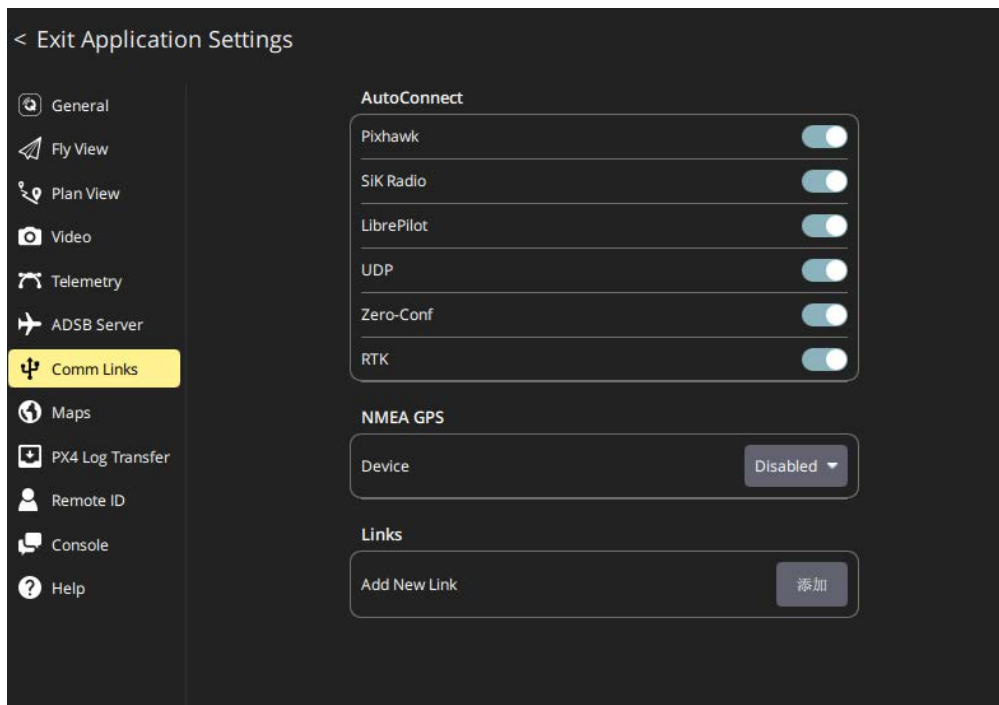
Configure the following parameters on the **MAVLink Forwarding** screen:

- **Target IP:** 127.0.0.1 (local loopback address)
- **Target Port:** 14550
- **Local Port:** 14555

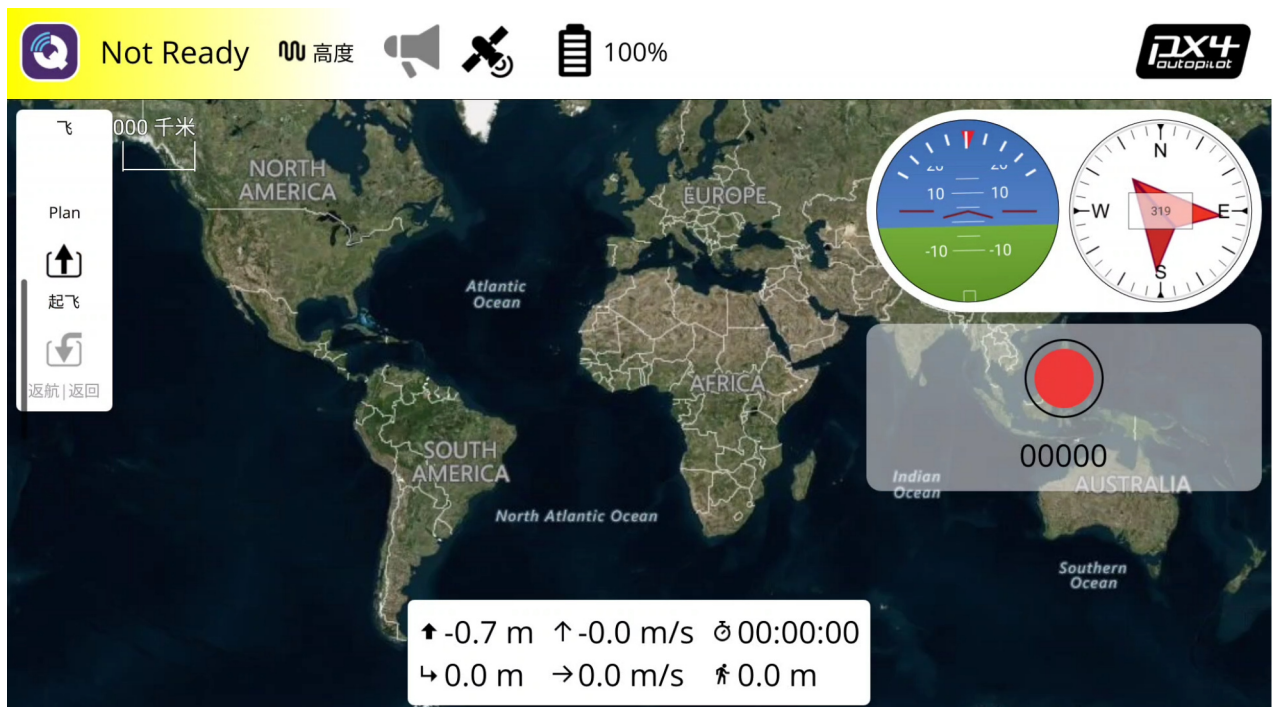


2. QGC Configuration on Android:

1. Launch **QGC** and tap the icon in the upper-left corner to open **Application Settings**.
2. Select the **Comm Links** tab and tap **Add** to create a new connection.
3. In the configuration window that appears, set:
 - **Name:** A custom name (for example, MAVLink).
 - **Type:** Select UDP.
 - **Port:** 14550 (must match **Target Port** in Scepter App).



4. Tap **OK** to save, select the connection, and tap **Connect**.

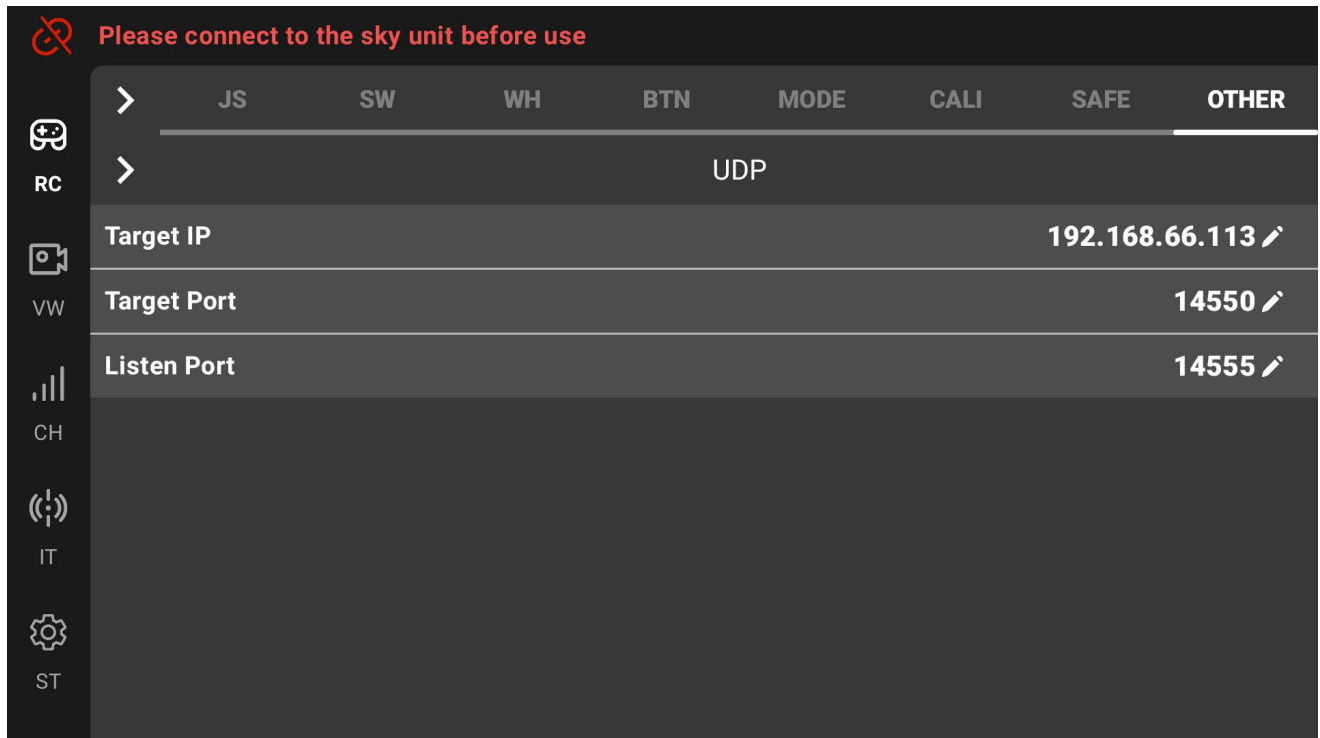


3.2 Scenario 2: Forwarding to QGC on a Computer

This scenario applies when the computer and remote controller are on the same LAN (connected via Wi-Fi or an Ethernet cable), and data is forwarded to QGC on the computer.

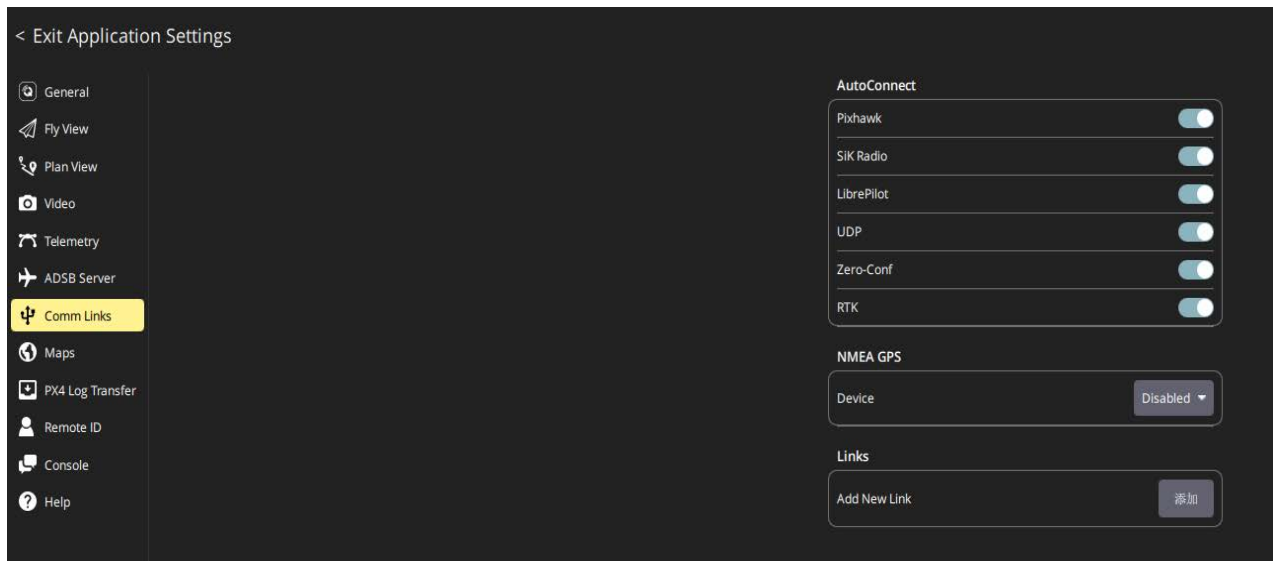
1. Scepter App Configuration:

- **Target IP:** Enter the computer's LAN IP address (for example, 192.168.66.113).
- **Target Port:** 14550
- **Local Port:** 14555

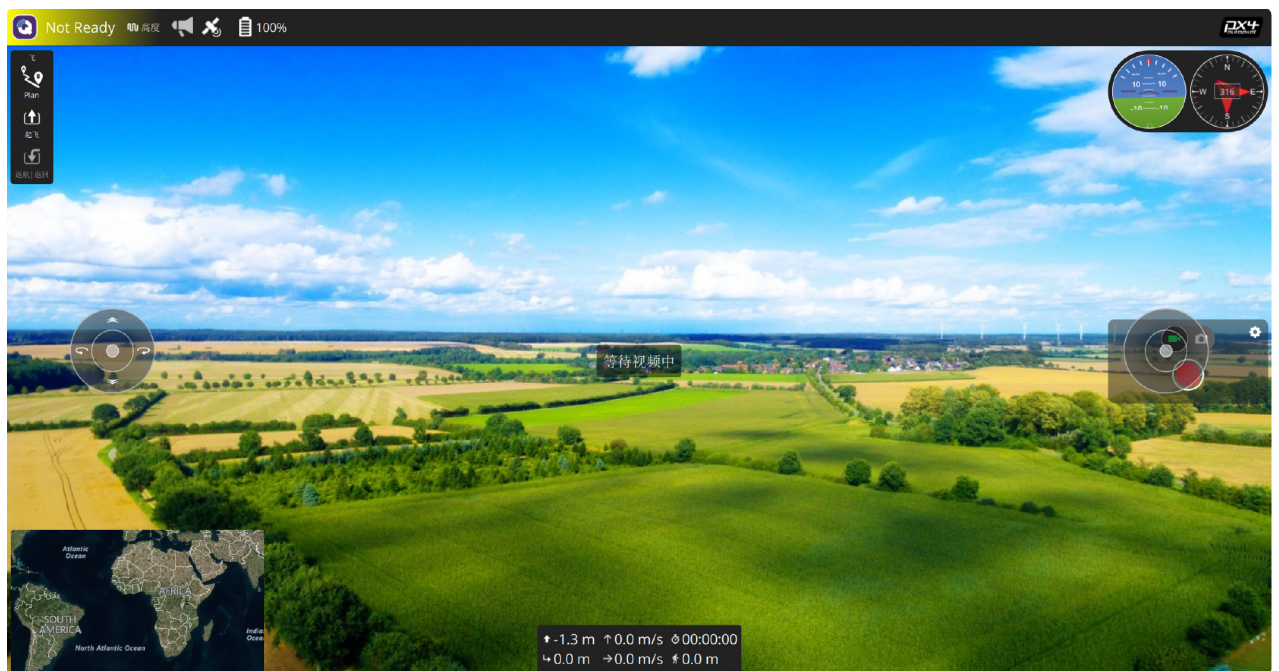


2. QGC Configuration on the Computer:

1. Launch **QGC** and open **Application Settings**.
2. Select **Comm Links** and tap **Add**.
3. Configure the connection parameters:
 - **Name:** A custom name (for example, MAVLink).
 - **Type:** Select **UDP**.
 - **Port:** 14550 (must match **Target Port** in Scepter App).



4. Tap **OK** to save, select the connection, and tap **Connect** to establish communication.



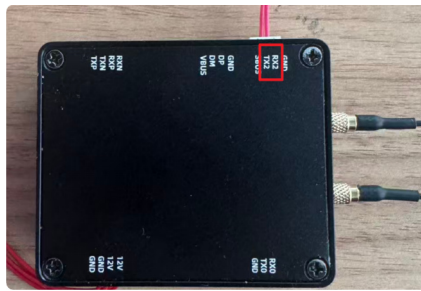
4. Feature Verification

This section uses a loopback test to verify whether UDP forwarding is working.

4.1 Hardware Connection

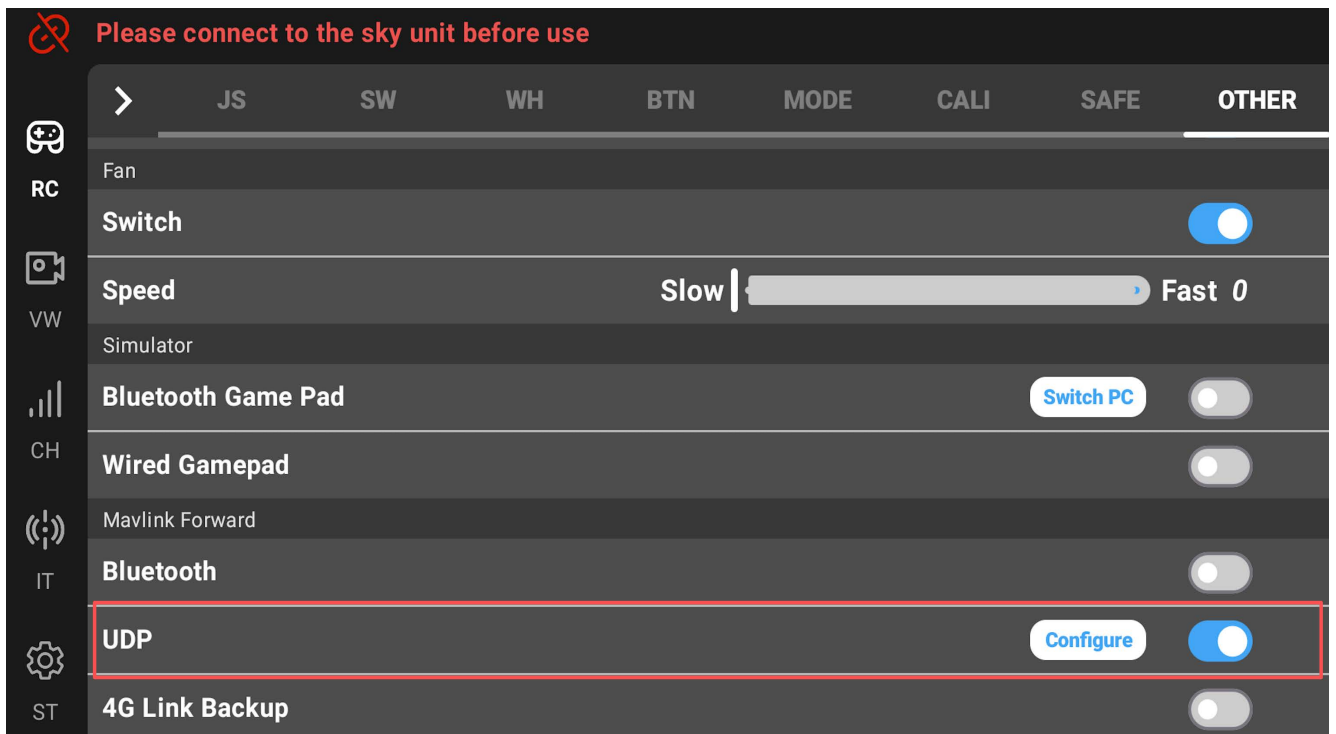
To implement a data loopback, make a physical jumper connection on the air unit as follows:

1. Use a jumper wire to short the **TX2** and **RX2** pins of the data transmission port on the video transmission air unit.
2. The connection is shown below:

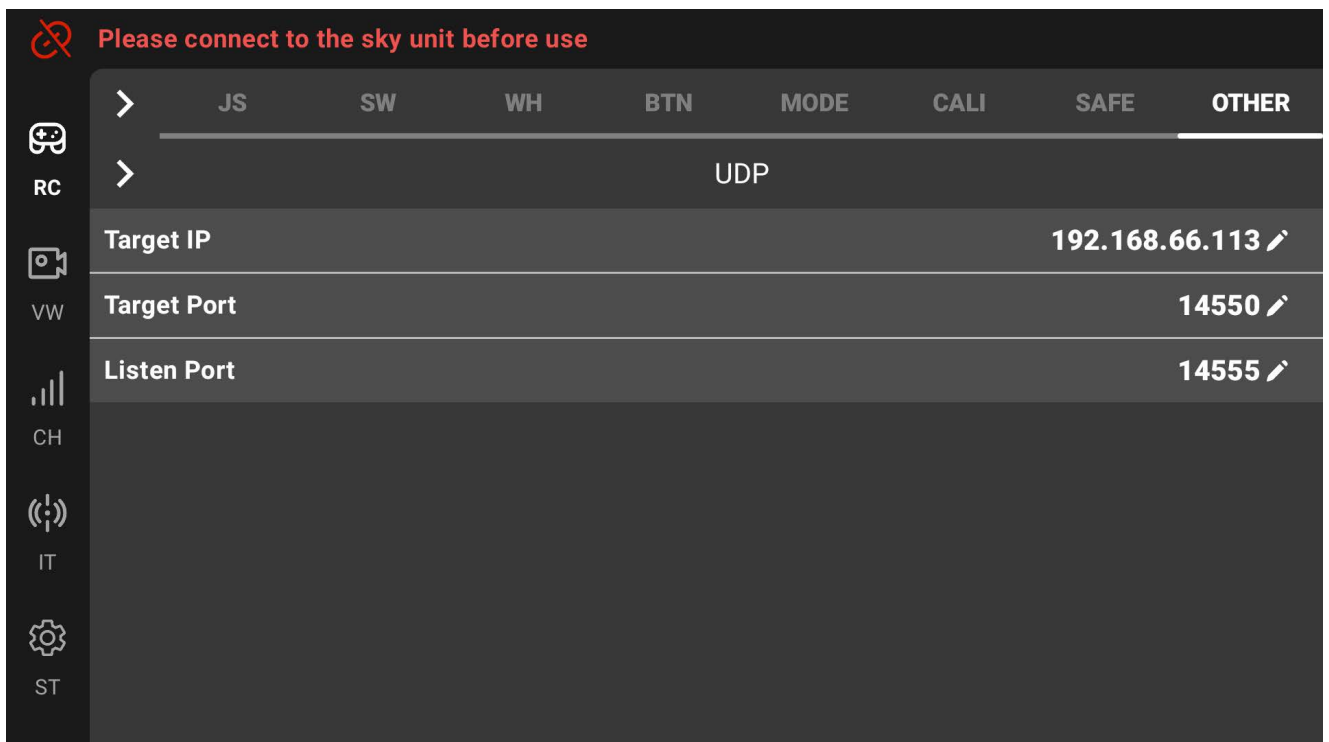
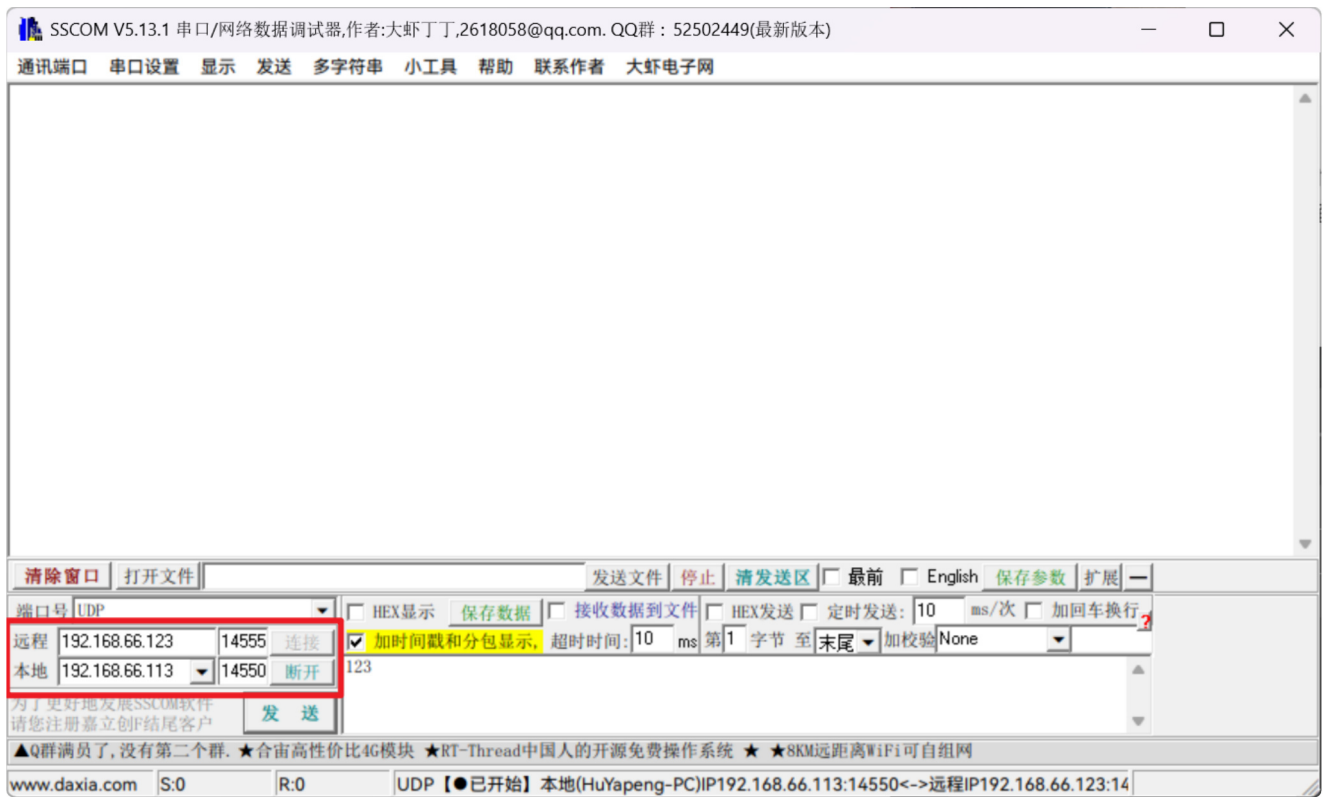


4.2 Software Configuration

1. **Enable Forwarding:** Ensure that UDP forwarding is enabled in Scepter App.



2. **Configure a Debugging Tool:** Open **SSCOM** or another UDP debugging tool on the computer, and configure the parameters as follows:
 - **Remote Host (Remote IP):** Enter the **remote controller IP address**.
 - **Remote Port:** Enter **LOCAL PORT** displayed on the Scepter screen.
 - **Local Host (Local IP):** Enter the **computer's IP address**.
 - **Local Port:** Enter **PORT** displayed on the Scepter screen.



4.3 Performing the Test

1. Confirm that the remote controller and air unit have been paired successfully and that the link is connected.
2. Send any test string in **SSCOM**.
3. **Expected Result:** If the software's receive window immediately echoes the transmitted data, the UDP forwarding link is fully operational and the verification is successful.

