SmallRig

Wireless Tethering Hub
for Cameras

[For Nikon Cameras]

User Manual

Chapter / Section Title

Lanyard Hole

Red / Green
Status Indicator

1/4" Threaded Hole with
Anti-Deflection Design

USB-C Input

Reset Button

1/4" Threaded Hole

1/4" Threaded Hole with
Anti-Deflection Design

Note: The power supply can be a power bank with 5V⎓3A output.
1. Connect the power supply;
2. The "SmallRig" indicator changes from red to green, indicating successful startup;
3. Wait for approximately one minute, and the smartphone will detect the Wi-Fi signal
   [SmallRig_5G_****] [SmallRig_2.4G_****]

2,Use diagram

Wi-Fi connect

Power on

Wi-Fi connect

Install the Nikon 's App

(1)Please prepare USB-Type C power cable, battery, camera and mobile phones(or tablet)
(2)The USB-Type C power cable must have a USB port on one end and a Type C port on the other end. Power cables with Type C ports on both ends cannot be used.
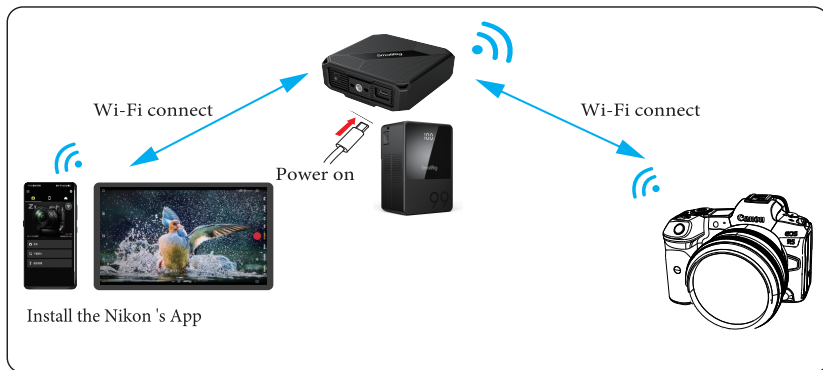
3 Battery life

Battery life test data of PRLV 500					
Battery model	Battery capacity （Wh)	Working voltage (V)	Working current (A)	Power (W)	Actual battery life(H)
XIAOMI power bank/10000mA	37	5	0.6	3	9

Note:

1. The battery life will vary depending on the battery.
2. The battery life will vary slightly when connecting to different models of cameras.
3. The measured data is for reference only

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Chapter 2 Compatibility and use

1,Compatible models

Network mode		Camera model		Remote control distance			
				Distance between mobile phone and camera remote	Distance between camera remote and camera	Total remote control distance	Distance to ground
Wi-Fi Dual Band	5.8G	Mirrorless camera	Z9,Z6Ⅲ	≤300m	≤50m	≤350m	2m
	2.4G						

II. Schematic Diagram of Remote Control Distance

Test Environment: Open riverside area with no obstructions; both the Wireless Tethering Hub for Cameras and the camera are mounted at a height of 2 meters, with good communication conditions;
Schematic Diagram of Communication Distance Between Smartphone, Wireless Tethering Hub for Cameras, and Camera.

Distance≤300m   Distance≤50m   Z9

Distance≤300m

Z9

Distance≤50m

Z9
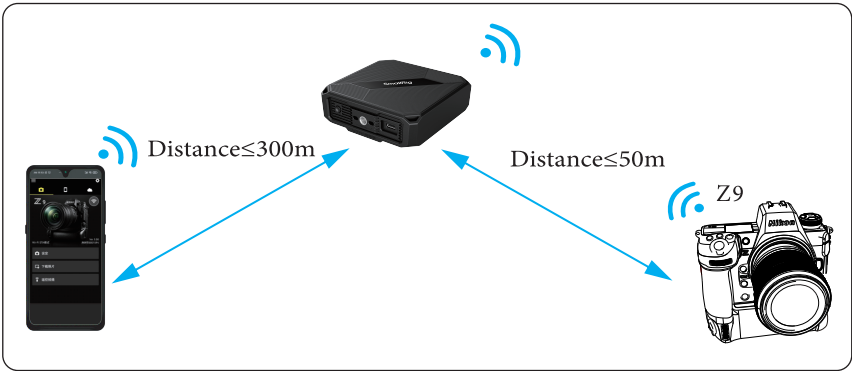
III. Description of Communication Distance for the Wireless Tethering Hub for Cameras

1. Device Layout

Ensure there is no obstruction or slight obstruction between devices; heavy obstruction will cause signal interruption and latency.

The camera should be kept off the ground, and the Wireless Tethering Hub for Cameras should be placed close to the camera.

The higher the Hub is mounted, the stronger the signal and the longer the communication distance.

2. Device Performance

Newly Released Camera + High-Performance Smartphone = Longer Communication Distance.

3. Communication Frequency Band Selection

Wilderness/Uninhabited Areas: Use the 5.8 GHz frequency band for the longest remote control distance.

Urban/Interfered Areas: (e.g., near stadiums or base stations): Use the 2.4 GHz frequency band; the remote control distance is shorter but more stable.

IV. Device Layout Methods and Tips for Ensuring Smooth Communication

1. Smooth communication between the Wireless Tethering Hub for Cameras, camera, and smartphone (or tablet) is key to smooth shooting.

2. A triangular layout is an effective way to avoid obstructions.

Concealed Shooting Layout:

Wireless Tethering Hub for Cameras: Mounted at a commanding height (e.g., tripod, tree branch, or rock)

Distance≤300m   Distance≤50m
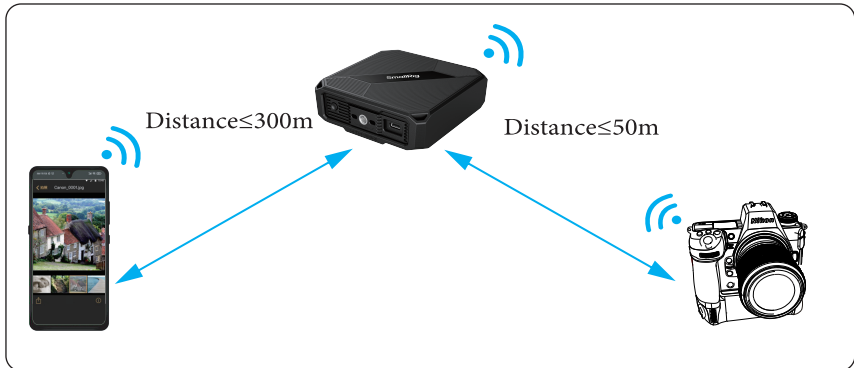
Camera: Placed close to the subject

Operating End: Can be hidden behind cover (e.g., inside a vehicle, in bushes, etc.)

Depression Shooting Solution:

Camera: Placed in the depression

Wireless Tethering Hub for Cameras: Must be mounted at a commanding height. An extension bracket is recommended

3. Device Maintenance

   Keep the device battery level above 20%.

   Impact of Low Battery Level: Picture latency will increase by 30-50%,

   and image quality will be automatically reduced.

4. Troubleshooting Process:

① Check the Wi-Fi connection status

② Confirm the device power supply is functioning properly

③ Verify the camera connection status

④ Restart the entire system if necessary

The Wireless Tethering Hub for Cameras supports [One-to-One], [One-to-Many], and [Many-to-Many] modes.

I. [One-to-Many] Mode

1. [One-to-Many] Mode Description

One smartphone can remotely control 2 (or 3) cameras to shoot. It can be used with a combination of different models from the same brand or different brands; however, only compatible models from Canon, Nikon, or Sony are supported.

Camera model	Qty of cameras	Qty of mobile phones	App
Nikon Z9	1	1	SnapBridge App
Canon R5	1		Camera Connect App
Total	2	1	Note: Canon/Nikon can be changed to Sony cameras(Install Creators'App)

WTH500[One to many]mode

Distance≤160m

Distance≤50m

WTH500

Canon R5   Nikon Z9
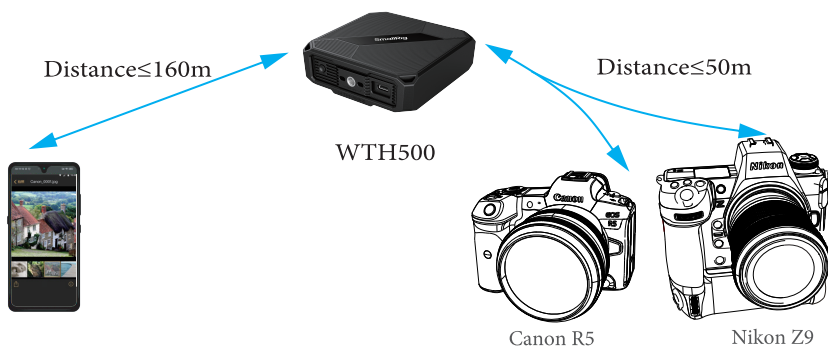
2. One-to-Many Mode Operation Method and Requirements

(1). Connect two cameras and one smartphone simultaneously to Wi-Fi: SmallRig_5G_****

(2). Install brand-specific apps on the same smartphone (e.g., Nikon's official SnapBridge app /Canon Camera Connect)

(3). Launch Nikon app → Connect to camera → Complete shooting

(4). Exit Nikon app → Launch Canon app → Connect to R5 camera → Complete shooting

(5). One phone remotely controls shooting for two cameras. Simultaneous shooting from both cameras is not possible; switching between brand-specific apps is required. Only one app can be open at a time to connect to its corresponding camera and initiate shooting control. Exit one app before opening another.

3. Functions of One-to-Many Mode

(1). Multi-camera setup for multi-angle, multi-directional shooting of the same subject.

(2). Capture footage from different perspectives in a single shoot to present the subject's full appearance/details in a three-dimensional manner.

4. Precautions

The more cameras connected simultaneously, the more congested the communication channels become, leading to degraded communication quality.

II. [Many-to-Many] Mode

1. [Many-to-Many] Mode Description

One Wireless Tethering Hub for Cameras (WTH-500) can remotely control up to 3 cameras simultaneously for shooting.

Cross-brand model mixing is supported; however, only compatible models from Canon, Nikon, or Sony are allowed.

For example: 2 smartphones and 2 cameras connect to the Wi-Fi of one Wireless Tethering Hub for Cameras at the same time. Simultaneous remote control of 2 cameras for shooting is supported.

For example: Two photographers go shooting together with only one Wireless Tethering Hub for Cameras (WTH-500). Both can use this single Wireless Tethering Hub for Cameras: connect their respective smartphones and cameras to the Wi-Fi, operate independently, and remotely control their own cameras for shooting.

Camera model	Qty of camera	Qty of mobile phone	App
Nikon Z9	1	1	SnapBridge App
Canon R5	1	1	Camera Connect App
Total	2	2	Note: Canon/Nikon can be changed to Sony cameras(Install Creators'App)

WTH500 [Many to many]mode

Distance ≤300m

Distance ≤50m

WTH500

Canon R5   Nikon Z9
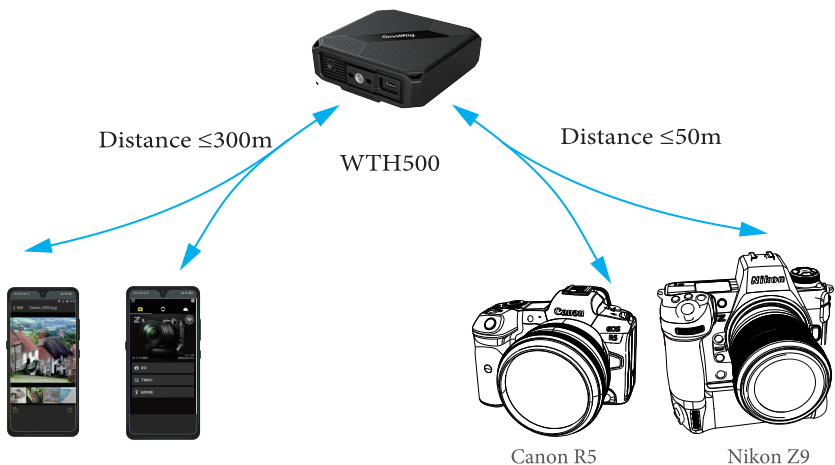
2. Operation Methods and Features

(1) Connect 2 cameras and 2 smartphones to the Wi-Fi [SmallRig_5G_****] respectively;

(2) Both smartphones can use their respective Apps at the same time to remotely control their corresponding cameras for shooting;

(3) One smartphone controls one camera for photo shooting, and the other controls the other camera for video recording; both can switch between photo and video modes as needed.

(4) Two-person collaboration: Each person operates one camera independently; Single-person dual control: Use two smartphones to operate separately.

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3. Value of [Many-to-Many] Mode
(1) Multi-camera collaboration: Synchronously capture multi-angle materials of the same target (e.g., front, side, top view, etc.)
(2) Multi-target coverage: One system can shoot 2 to 3 adjacent targets simultaneously
4. Precautions
The more cameras connected simultaneously, the more congested the communication channel will become, and the lower the communication quality will be.

Operating Instructions for Nikon Cameras: Using the Z9 and Z8 as Examples, Explaining How to Connect the Camera to a Smartphone (or Tablet) via Wi-Fi and How to Use the Official Application Software.

Chapter 4 Operating method of Nikon Z9 camera

1,The camera is connected to Wi-Fi/mobile phone(or tablet) for the first time

Step 1: Preparation

(1)Download and install the SnapBridge App
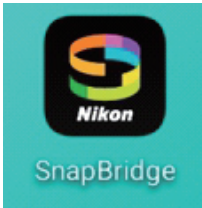
Note: Please download the App from official website or browser, do not download from the App store of mobile phone

(2). Camera Firmware Update or Verify Latest Nikon-Released Firmware
The SnapBridge App has firmware requirements. Cameras with incompatible firmware versions cannot connect to external networks. Refer to the Nikon official website for methods to check the firmware version number and perform firmware updates.
(3). Camera Initialization
1. No initialization is required immediately after a firmware upgrade.
2. Before using the Real-time Remote, if the camera has multiple custom settings based on personal shooting habits, or if remote shooting via mobile phones or other communication methods has been used, it may be difficult to restore the camera to its original state through the [MENU] settings. In such cases, performing a camera initialization can quickly reset the camera.

Nikon camera initialization settings:
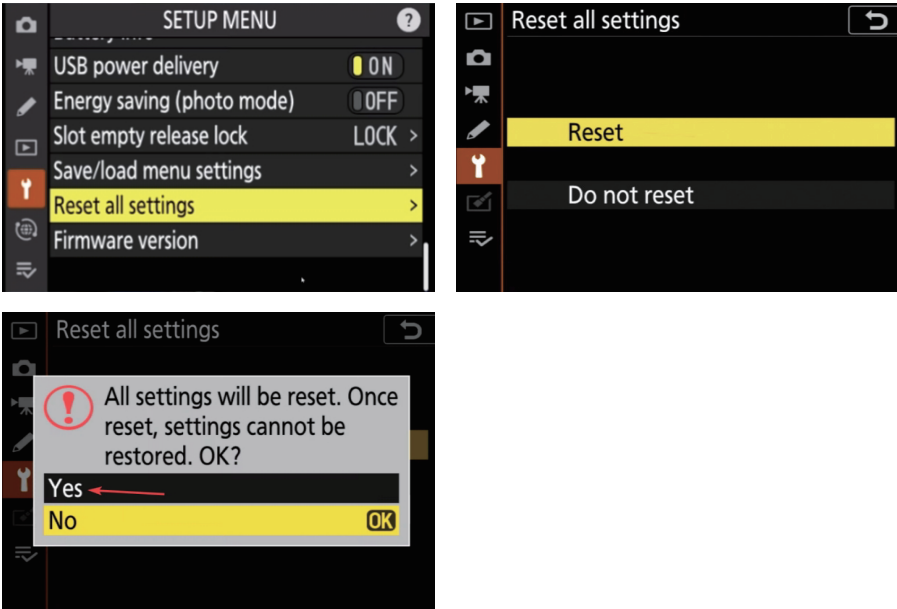
Step 2: Connecting the camera to the Wi-Fi

Basic settings
Click MENU.

🌐 Enter the Network menu.
[Airplane mode] set to [OFF].
[Wired LAN] set to[ON].
[Connect to Computer] set to [OFF].
Connect to FTP Server] set to[OFF].
Move the yellow box to [Connect to
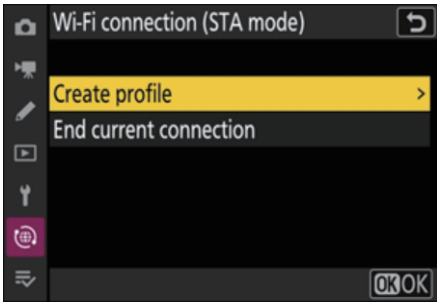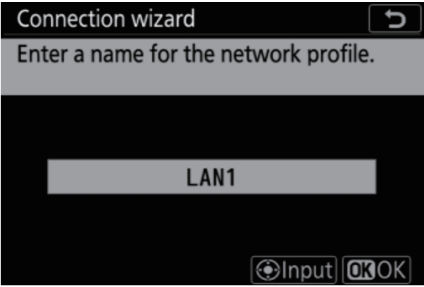Smart Device] and press the ► button.

Using the Z9
camera as an
example.
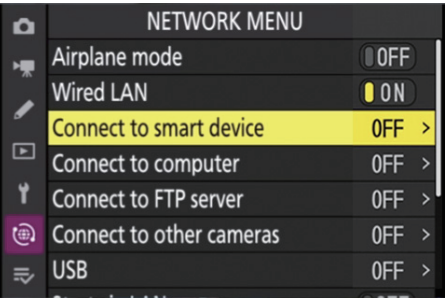
When this page appears, select [Wi-Fi
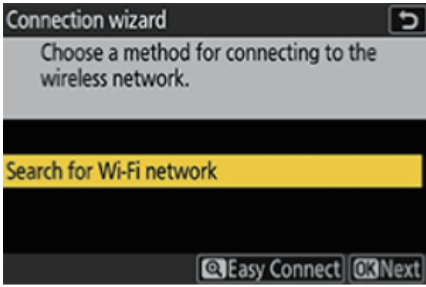Connection (STA mode)] and press the ►
button.

When this page appears, select [Create
pr ofile] and press the ► button.

When this page appears, tap [Confirm] on the camera screen.

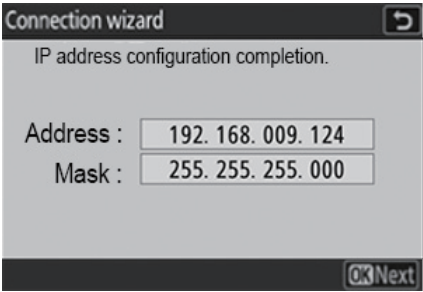When this page appears, tap [OK Next] on the camera screen.

When this page appears, please wait.

Until [Extender_5G_****] appears, indicating that the camera is connected to Wi-Fi, click the [OK] button on the camera body.
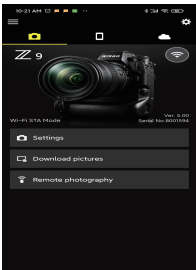

Step 3: SnapBridge App on Your Phone Connect to the Camera

Select [Auto-acquire], and click [Next] on the camera screen.
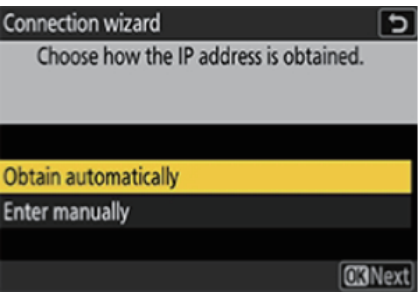
Click the [Next] button on the camera screen.

Pick up your phone or tablet with the SnapBridge App installed.


Step 3: SnapBridge App on Your Phone Connect to the Camera

1. Confirm the Wireless Tethering Hub for Cameras is turned on, open the Wi-Fi settings on the smartphone, search for the Hub's Wi-Fi [SmallRig_5G_****], tap [Connect], and the password setup page will appear.
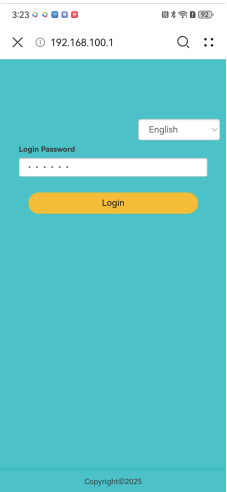
2. Set the password:

a. A password is required for every use;

b. Be sure to remember it; if forgotten, reset the Hub to factory settings
   (see reset instructions on page ***)

c. Password requirements: Must include letters and numbers; choose a memorable
   password (e.g., aaa666).

d. After connecting to Wi-Fi [SmallRig_5G_****], the password setup page should
   appear automatically. If it doesn't, open a browser and manually enter [192.168.100.1].
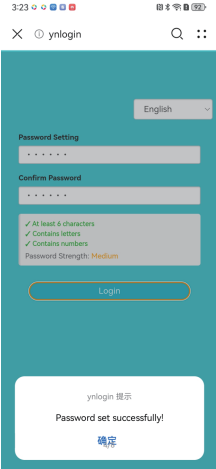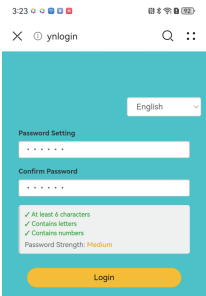
Enter the password
and tap [Login]

A [Password Setup Successful]
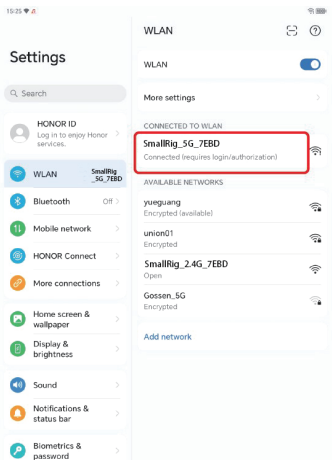notification will appear, Tap [OK]

Enter the password   Scan   After scanning is complete,
you just set again   this page will pop up; exit
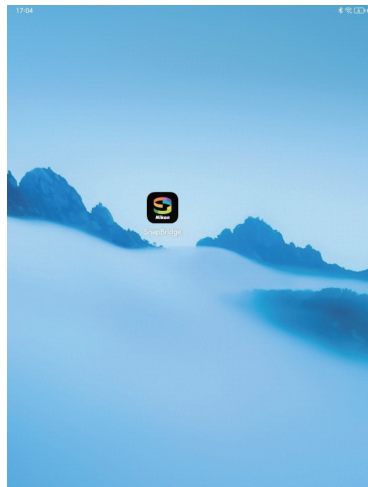and tap [Login]   and navigate to the WLAN
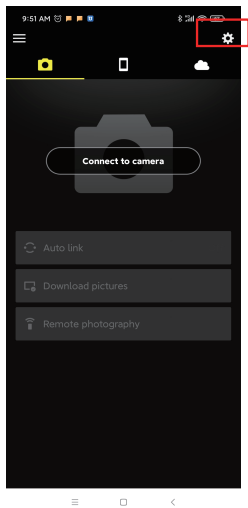   Wi-Fi page

Tap [SmallRig_5G***];
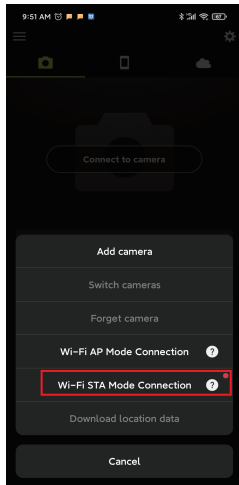a [Connected] status will be displayed;
then proceed to the next step
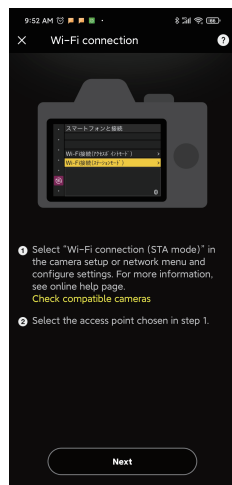
Return to the home screen
Open SnapBridge APP

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Click the settings icon in the upper right corner

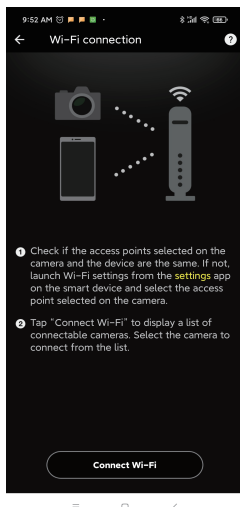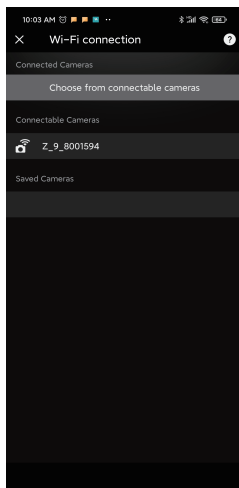

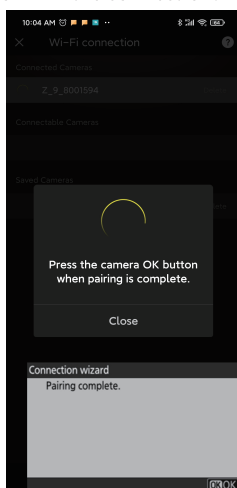Click [Wi-Fi STA mode] to connect

Click [Next]

The app will automatically search for connected cameras


Click the name to connect the camera

When the [When pairing is complete, press the camera OK button] pops up, press the [OK] button on the camera to confirm the connection.

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After connection is established, the connected camera model will be displayed on the app page, and the camera will show WLANI. Connection to the smart device has been established. Once connected, the Z9 camera will display a pop-up prompt stating "Connected to Smart Device." Tap the close icon in the upper-left corner to return to the app's main page.
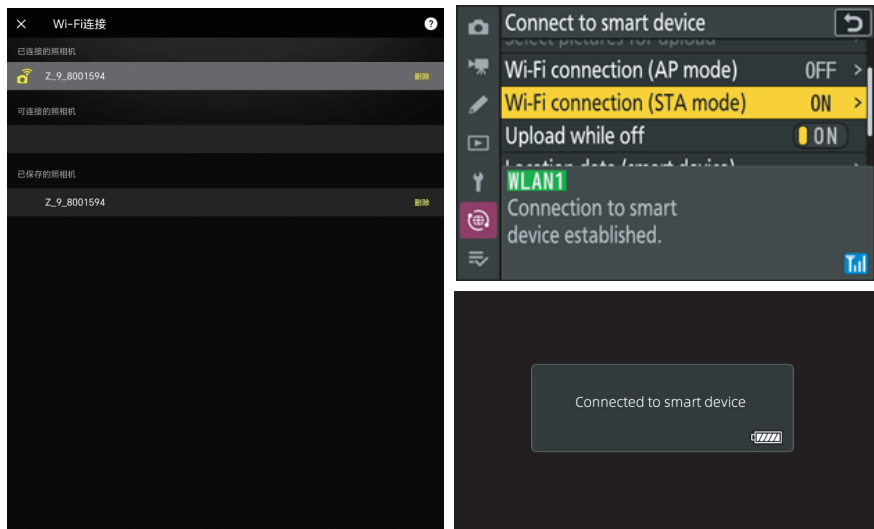
Click[Remote shooting]
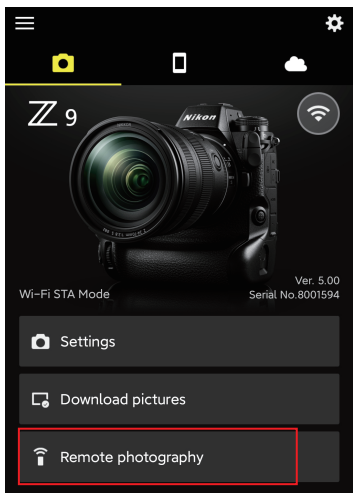
Click the white circle to start taking photos. There are two modes to choose from: photo shooting and video recording.
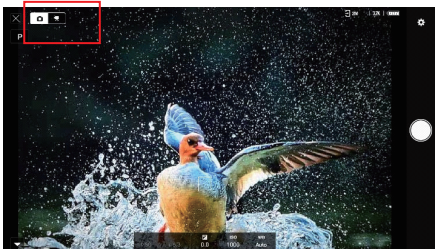
3，After pairing, when using Sony Creators' App again

Conditions of Use
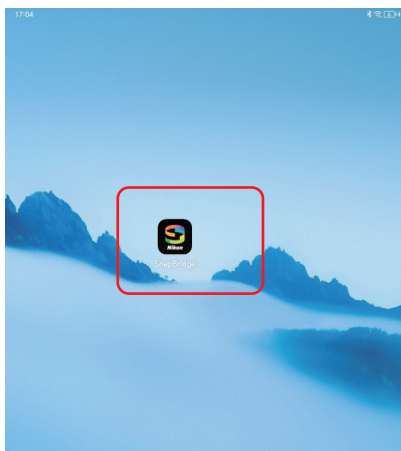
Open the SnapBridge App

Camera side：

(1) The camera has not disconnected from the network,
the Wi-Fi - U9A signal has not been interrupted, and the camera
is not powered off and restarted,
or it is powered off and restarted.

Mobile/tablet side：
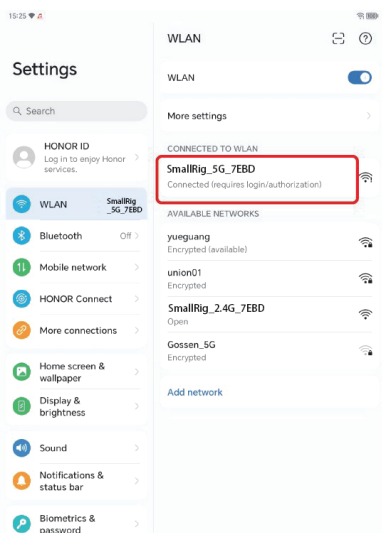
(2) The SnapBridge App on the phone has not exited, and the phone has not disconnected from the Wi-Fi - U9B network.(If the phone's communication network has been disconnected, reconnect to the Wi-Fi)
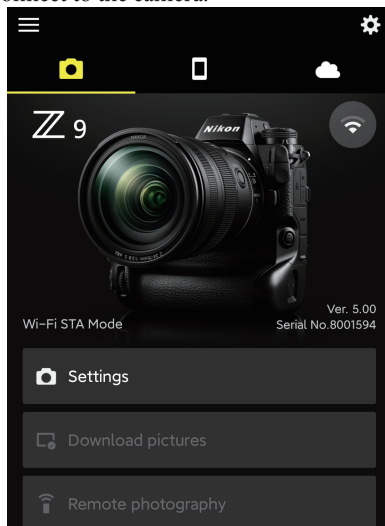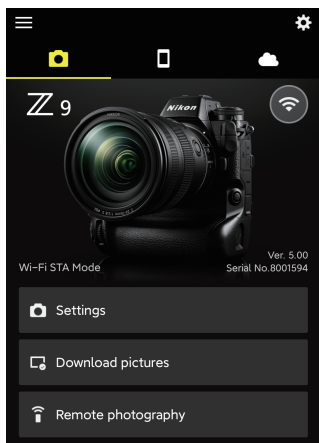

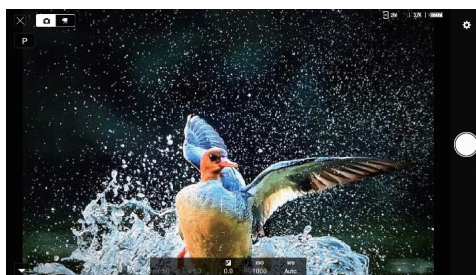Make sure your phone or tablet is connected to Extender_5G_****'s Wi-Fi

Open[SnapBridge App]The signal icon flashes and the APP will automatically connect to the camera.

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The SnapBridge App displays this page, Click [Remote Photography] to enter the shooting page.
The icons on the top of the SnapBridge App have two modes. Click as your requirement.

4.Features of using the Nikon Z9 on the SnapBridge App

(1) Communication Features

①The camera and the App have internal memory , allowing for quick re-connection.

②After the camera is powered off and restarted, it will automatically connect to the network soon；

③If you do not select [Exit Wi-Fi STA mode] when exiting the Nikon SnapBridge app, you can continue to connect to the camera by operating the app；

④If you selected [Exit Wi-Fi STA mode] when exiting the Nikon SnapBridge app, you must re-operate the mobile app as if you were connecting to the camera for the first time.

(2)SnapBridge App operation features

Brand	Model	Camera shooting mode settings	SnapBridge App		
			Photo mode	Video mode	Photo mode and video mode switching
Nikon	Z9 Z6Ⅲ	Photo mode (Single shooting)	Single shooting, exposure modes P/M/S/A available		OK, switchable, single shooting only. Exposure modes available; video modes P/M available
		Photo mode (Continuous shooting)	Single shooting, exposure modes P/M/S/A available		OK, switchable, single shooting only. Exposure modes available; video modes P/M available
		Video mode		Video exposure modes P/M available	OK, switchable, single shooting only. Exposure modes available; video modes P/M available

Chapter 6 Solutions to some problems in use

1. When a smartphone, tablet, or camera can detect a Wi-Fi signal but fails to connect for a long time or encounters a connection error.
Solution: Press the [Reset] button on the Wireless Tethering Hub for Cameras for approximately 10 seconds to restore it to factory settings, then reconnect to Wi-Fi.
(Note: Sony cameras can directly open the official camera App for use after connecting to Wi-Fi. There is no need to access the network configuration page or configure any parameters.)


II. After connecting the power cable,
the Wireless Tethering Hub for Cameras
has an unlit indicator light and does not function.
Solution:
1. Check if the battery has power.
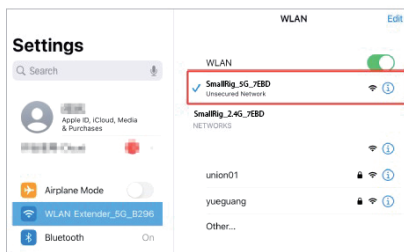2. Check the power cable for damage or replace it with a new one.

2. Tips for using Apple device

1. After confirming the Wireless Tethering Hub for Cameras is turned on, open the Wi-Fi settings page on your smartphone or tablet, search for the Hub's Wi-Fi [SmallRig_5G_****], tap [Connect], and the password setup page will appear. Follow the same password setup method as mentioned above.
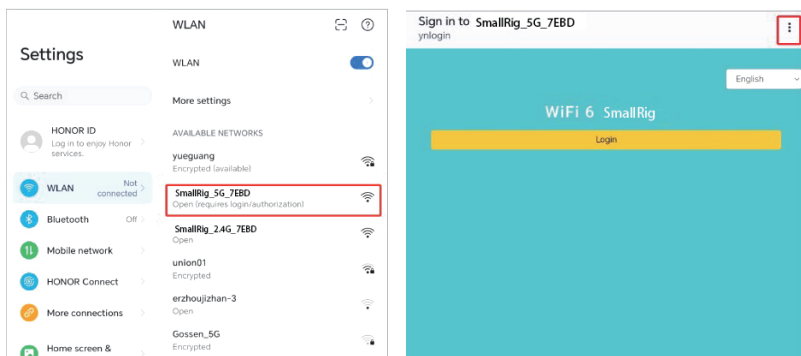

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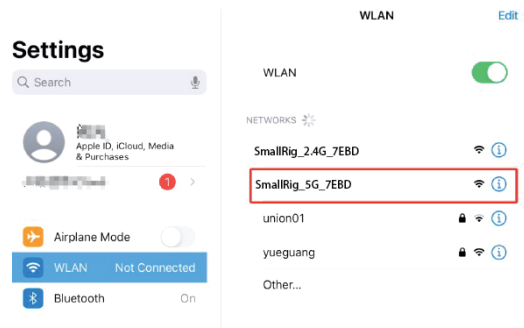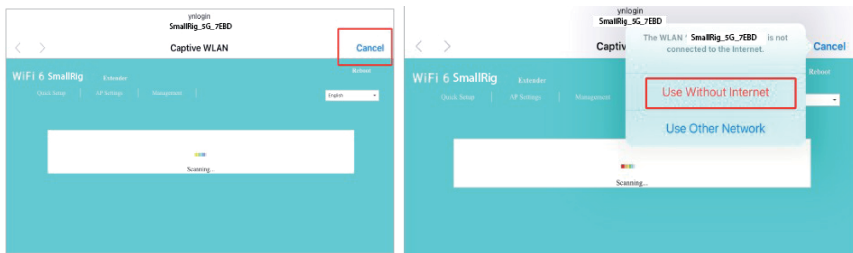
2. After connecting to the Hub's Wi-Fi [SmallRig_5G_****], the network configuration page will pop up automatically. At this point, tap the [Cancel] button in the upper right corner and select [Use Without Internet Connection].

3. When a ✓ appears before the WiFi name, it means the network connection is successful. (It shows an unsecured network because there is no password, don't worry)

4. Tips for using Android devices

After confirming the Wireless Tethering Hub for Cameras is turned on, open the Wi-Fi settings page on your smartphone or tablet, search for the Hub's Wi-Fi [SmallRig_5G_****], tap [Connect], and the password setup page will appear. See previous instructions.

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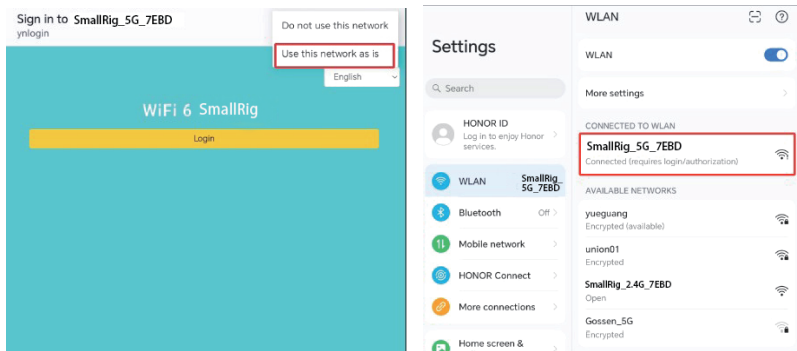
After connecting to the Hub's Wi-Fi [SmallRig_5G_****], the login page will pop up automatically. At this point, tap the icon in the upper right corner and select [Use This Network Directly]. If no relevant content is displayed, simply return to the Wi-Fi connection page. A [Connected] label next to the Wi-Fi name indicates a successful connection.

Chapter 7 Specification

Item/sub item		Contents
Name		Wireless Tethering Hub for Cameras
Model		WTH 500
Functions	Control method	A device that can remotely control camera shooting via a mobile phone or tablet within a range of 500m in unobstructed or slightly obstructed situations.
	Shooting function	Camera App control the camera to shoot
	App	Manufacturer's App
	Compatible model	Mirrorless CamerasZ9, Z6Ill; Mirrorless CamerasZ8, Z7II, Z6ll,Zf
Communication	Communication distance	The maximum communication distance between the camera and the WTH500 is less than 90m, with no obstruction or slight obstruction.
		The maximum communication distance between a mobile phone or tablet and the WTH500 is <310m, with no obstruction or slight obstruction.
		Different remote control distance for different models and environments.
	Antenna	Built-in 2 high-gain antennas
	Wi-Fi standard	1201 Mbps (5 GHz, 11ax) + 574 Mbps (2.4 GHz, 11ax)，Compatible to EEE802.11B /G/N/AC/AX Wi-Fi standard
	Frequency	2.4 GHz and 5.0 GHz
Communication	Transmit power	FCC：<18 dBm(2.4GHz)，<18 dBm(5GHz)
	Signal rate	2.4GHz 574 Mbps，5GHz 1201 Mbps
Hardware	Dimension	95*95*27mm
	Network	152g
	Input voltage	5V3A
Certification		Passes the FCC, CE, SRRC, RoHS test
Ambient temperature and humidity	Operating temperature	0°C~40°C (32°F~104°F)
	Storage temperature	-40°C~70°C (-40°F~158°F)
	Operating humidity	10%~90%non-condensing
	Storage humidity	5%~90%non-condensing