# TAO 1tiny 2

## User Manual

RGBlink

| Revision History | | | |
|---|---|---|---|
| **Date** | **Firmware Version** | **Description** | **Author** |
| 2026-04-27 | V1.42 | **Mobile Casting:** Update mobile casting feature in 2.3.6 Network Input | Alyn |
| 2026-03-16 | V1.42 | **Add the Dropbox link:** Add the Dropbox link for the latest firmware. | Alyn |
| 2026-03-13 | V1.42 | **UVC video input via USB-A:**Resolved HDMI output issue when using UVC video input (e.g., USB webcams, OBSBOT cameras) via USB-A port. | Alyn |
| | | **Third-Party Switcher Compatibility:** Improved compatibility with third-party switchers. | |
| | | **NDI Function Verification and Documentation Update:** Verified NDI connectivity via NDI Tools and RGBlink Vue PTZ. | |
| | | **Documentation and User Guidance:** User manual and FAQ updated to reference firmware to prevent user confusion or incorrect operation. | |
| 2025-08-26 | V1.41 | **First Release** | Alyssa |

# Chapter 1 Product Overview

## 1.1 Getting to Know TAO 1tiny 2

RGBlink introduces the new TAO 1tiny 2 Gen 2 UVC to HDMI smart converter, keeping all the great features of the first version while adding important improvements. The upgraded model features a stylish silver-gray metal body with better cooling for more reliable performance, plus a new Gigabit Ethernet port for sending high-quality video over networks (with NDI support). Its easy-to-use web interface lets you control settings and switch signals remotely. It works perfectly with RGBlink mini devices and supports popular UVC cameras - ideal for professional streaming and video production.

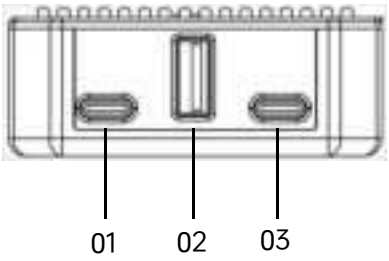
The TAO 1tiny 2 converts USB 3.0 (UVC compatible) video to HDMI 2.0 and also handles NDI encoding. It can:
1. Change video from USB cameras or mini devices into HDMI output or NDI streams;
2. Turn NDI signals into HDMI 2.0 output.

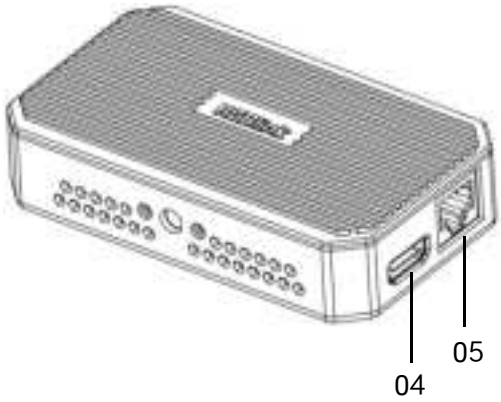
This means you can use regular USB cameras as professional NDI sources, or show NDI streams on monitors - a flexible solution for live production, meetings, and more.

**Please Note:**

1. **Download the latest firmware**
   This user manual applies to TAO 1tiny 2 with firmware **v1.42 or later**. To ensure compatibility, make sure the device firmware is updated to the latest version before use.
   Visit Dropbox_TAO 1tiny 2_V1.42.1 to download the latest firmware. You can also see Firmware Upgrade and obtain the latest version of the user manual.
2. The TAO 1tiny 2 prioritizes the recognition and output of signals from physical interfaces (TypeC/USB-A). By default, the NDI encoding and decoding features are disabled. Please enable them manually via the Web management interface (refer to NDI Encoding and NDI Decoding for more details).

## 1.2 Interface Description




01 Type C Power Input
02 USB 2.0 Input Port (Up to 2K)
03 USB Type C Input Port (Up to 4K)
04 HDMI 2.0 Output Port
05 Gigabit Ethernet Port

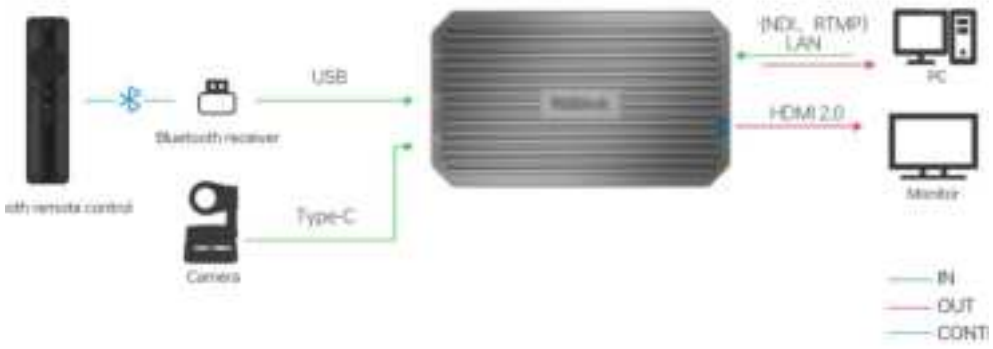
The power adapter used must provide at least 9V/2A; using a computer's USB port for power is strictly prohibited.

# Chapter 2 Use Your Product

## 2.1 Connect the TAO 1tiny 2

### 2.1.1 Connect a USB Camera to TAO 1tiny 2

Please connect the TAO 1tiny 2 and the USB camera(e.g., DJI PK3, Action 5 and insta360 X5, etc.) as shown in the diagram below :




1. Power the TAO 1tiny 2 using a USB-C power cable.
2. Connect the USB camera to the USB-C input port using a USB-C cable (The TAO 1tiny 2 can supply power to the USB camera: 5V/1A).
3. Connect the HDMI 2.0 output port to a display using an HDMI cable.

The time interval between powering off and then powering on the TAO 1tiny 2 must be greater than 30 seconds; otherwise, recognition issues may occur.

## 2.1.2 Using TAO 1tiny 2 with mini Switchers

Please connect the TAO 1tiny 2 and the BMD ATEM as shown in the diagram below:


1. Power the TAO 1tiny 2 using a USB-C power cable.
2. Connect the mini-pro to the USB-C input port using a USB 3.0 to USB-C cable.
3. Connect the HDMI 2.0 output port to a display using an HDMI 2.0 cable.

# 2.2 Compatible Products

TAO 1tiny 2 is compatible with the following products:

| | |
|---|---|
| RGBlink | mini, mini-pro, mini-edge, mini-mx, vue PTZ 2K |
| Blackmagic Design | ATEM mini |
| DJI | Osmo Action 5, Osmo Action 4, POCKET 3 |
| Insta 360 | insta 360 X3, link UHD4KAI WEBCAM |
| OBSBOT | tiny 2K, tiny 4K, meet 2K, meet 4K |

# 2.3 Device Management

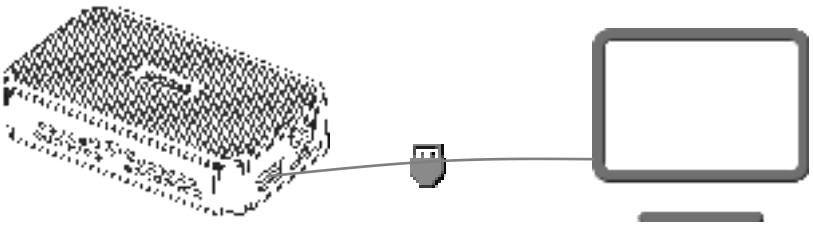
## 2.3.1 Access the Device Management Page

The device management page for TAO 1tiny 2 is accessed via the device's IP address. Its default factory IP is 192.168.5.100.

For initial setup, you need to set the IP address of your management computer (e.g., PC) to be in the same LAN as the TAO 1tiny 2's fixed IP, i.e., 192.168.5.x (the first three segments of the IP must match, x can be any number from 0 to 254).

Proceed as follows:

1. After powering on the TAO 1tiny 2, connect it to a display's HDMI port using an HDMI cable. The display should show the TAO 1tiny 2's fixed IP address: ETH: 192.168.5.100



2. Disconnect the computer from other networks and set a static IP address on the computer that is in the same LAN as the TAO 1tiny 2.

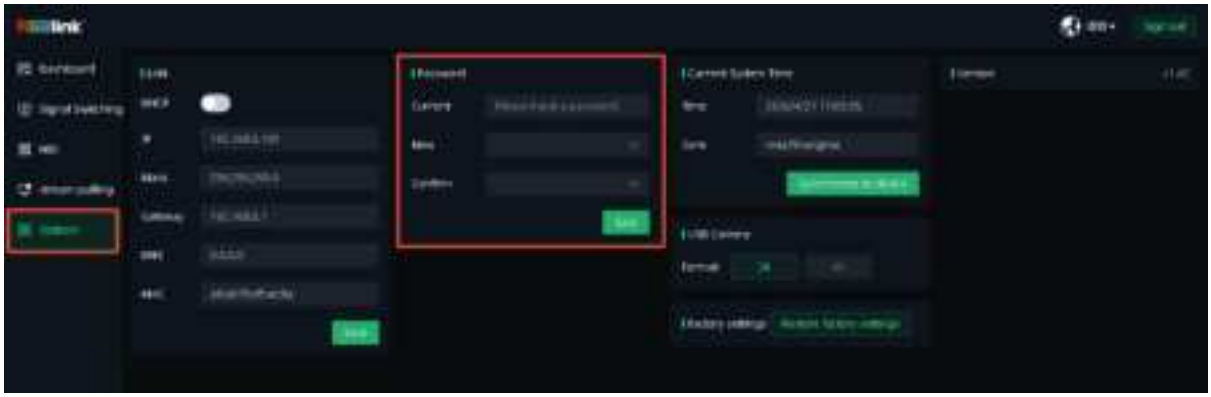
a. Configure the computer's network settings: Go to System Settings > "Network & Internet" > "Network and Sharing Center".

b. Click "Change adapter settings" > Right-click "Ethernet" > "Properties" > Select "Internet Protocol Version 4 (TCP/IPv4)" > Click "Properties".

c. Select "Use the following IP address". Enter an IP address (first three segments matching the TAO 1tiny 2's IP, e.g., 192.168.5.x), mask (255.255.255.0), and Default gateway (usually the router's IP, e.g., 192.168.5.1). After confirming the settings, the computer and TAO 1tiny 2 will be on the same LAN.


3. Open a web browser, access the web management page using the IP address (192.168.5.100). The default username and password are both: admin.

**4.** It is recommended to change the password after first login to enhance security.

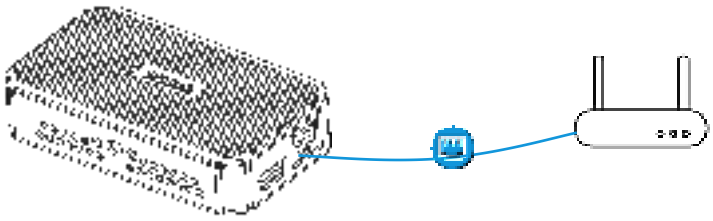


During device management, ensure the network connection is stable and do not disconnect the router from the TAO 1tiny 2.

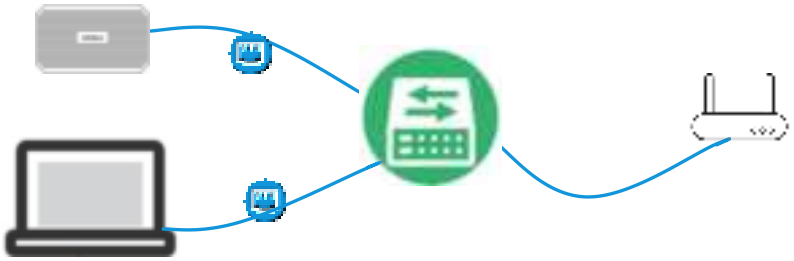
## 2.3.2 Network Configuration

The TAO 1tiny 2 and the computer must be on the same local area network (LAN), meaning the first three segments of their IP addresses must be identical. Out of the factory, the DHCP function (automatic IP address acquisition) on the TAO 1tiny 2 is disabled by default. After initially logging in using the static IP, you need to go to "Options" page > "Network Port" to enable DHCP. This allows the device to obtain an IP address assigned by the router and join the network.

Wireless Network:
After connecting the router and the TAO 1tiny 2 with an Ethernet cable, set the computer's WiFi to the same SSID as the router. The TAO 1tiny 2 and the computer will then be on the same LAN without further configuration.



Wired Network:
Connect the router to a switch using an Ethernet cable. Then connect both the TAO 1tiny 2 and the computer to the same switch using Ethernet cables. The TAO 1tiny 2 and the computer will be on the same LAN.



### 2.3.3 Monitor Device Status

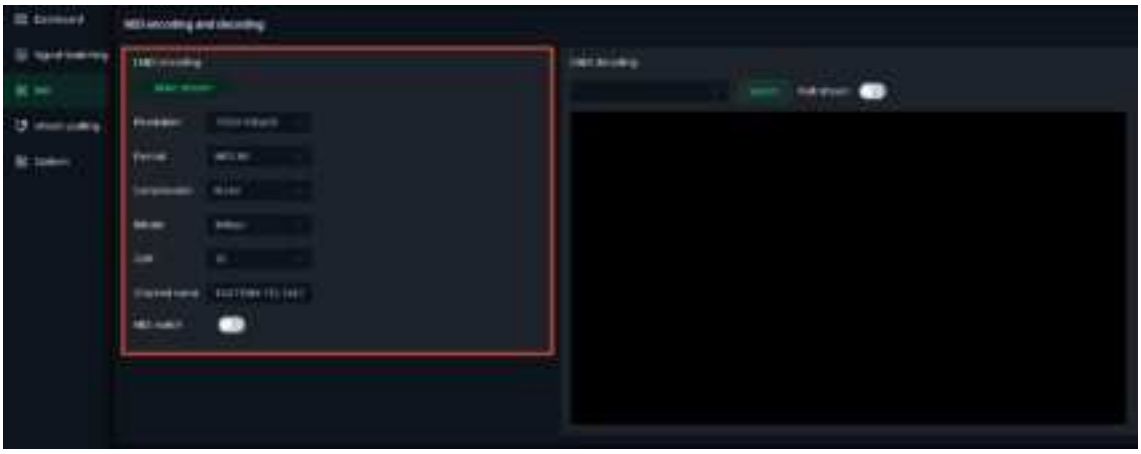
After accessing the device management page, you can monitor the current operational status, port status, signal preview, and network status of the device.

## 2.3.4 NDI Encoding

The TAO 1tiny 2 adds NDI encoding feature, converting the signal from a USB camera into an NDI signal via the Ethernet port.

Proceed as follows:

1. Connect the USB camera to the TAO 1tiny 2 and ensure the computer and TAO 1tiny 2 are on the same LAN. Refer to 2.3.2 Network Configuration.
2. Configure the NDI encoding settings. Set the NDI resolution, format, compression format, bitrate, etc., and click "Save".

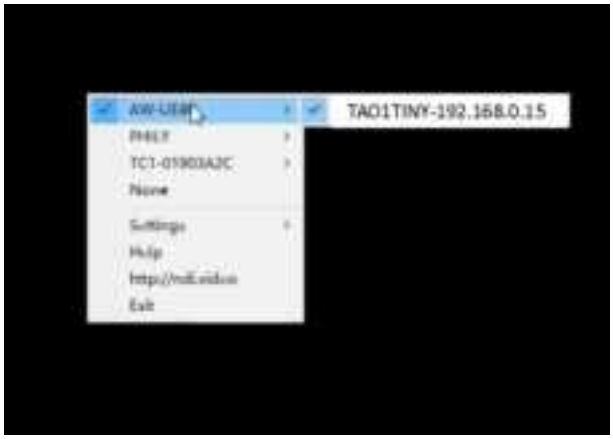


   a. Resolution: Displays the input source resolution, fixed at 1920x1080p@30Hz.
   b. Encoding Format: Default is NDI|HX.
   c. Compression Format: Default is H.264.
   d. Bitrate: Default is 8Mbps.
3. Use NDI Tools to Receive the NDI Source

a. Download from: ([https://www.newtek.com/ndi/tools/](https://www.newtek.com/ndi/tools/))
b. Open the NewTek Studio Monitor software.


c. Click the icon in the top left corner to display the list of discovered NDI source names. Select the device you want to connect to (TAO 1tiny 2+IP), and it will begin pulling and playing the

selected video stream. After successfully pulling the video stream, you can click on a blank area of the device display to view the NDI resolution.




NDI encoding and decoding cannot be performed simultaneously.

## 2.3.5 NDI Decoding

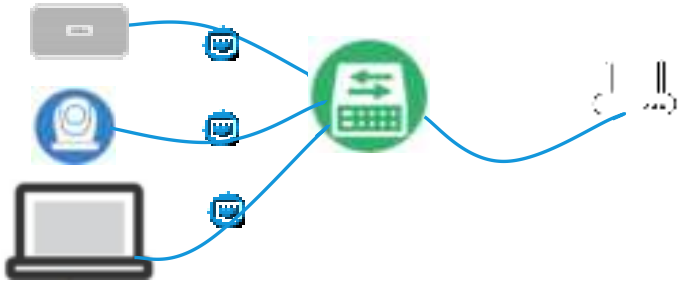
The TAO 1tiny 2 adds NDI decoding feature, converting the input NDI signal to an HDMI 2.0 output.

TAO 1tiny 2 NDI decoding specifications:

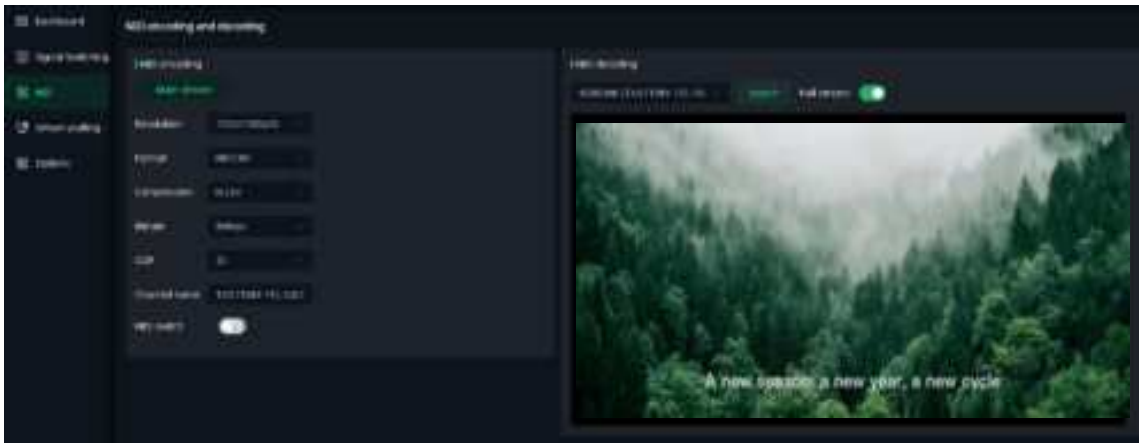
1. Decoding format: NDI |HX， NDI |HX2， NDI | HX3
2. Resolution: 3840 x 2160@60Hz
3. Please Note that the current NDI decoding feature does not support FULL NDI.

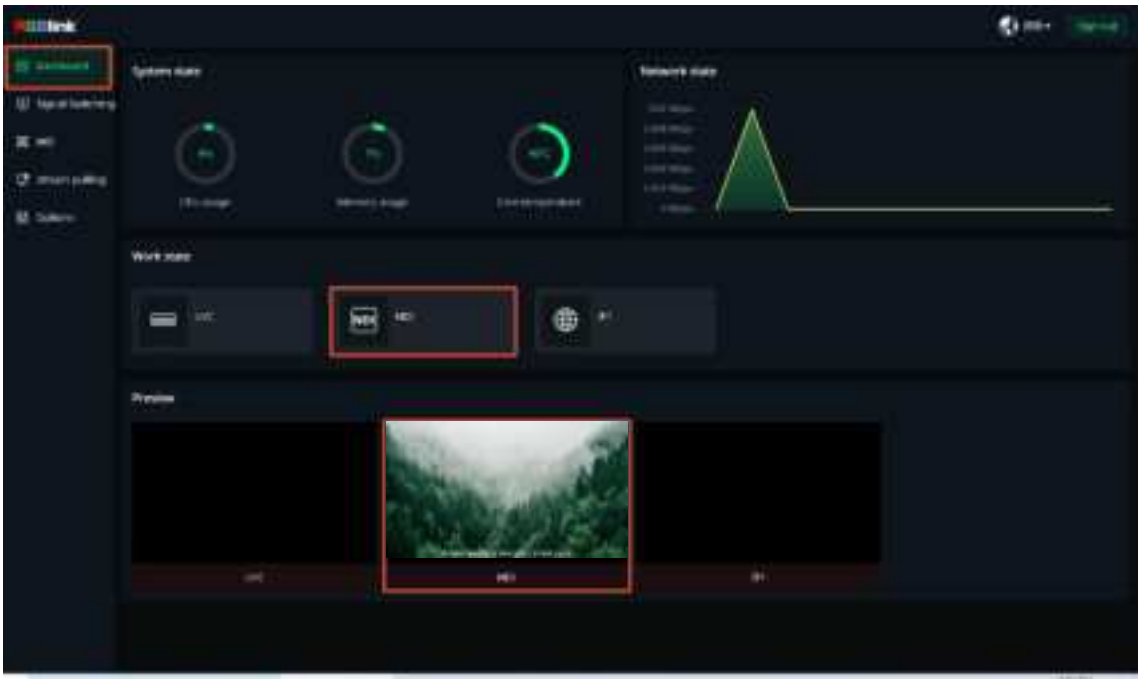
Proceed as follows:

1. Connect a switch and a router with an Ethernet cable. Then connect the TAO 1tiny 2, NDI camera, and computer to the switch, placing them on the same LAN.

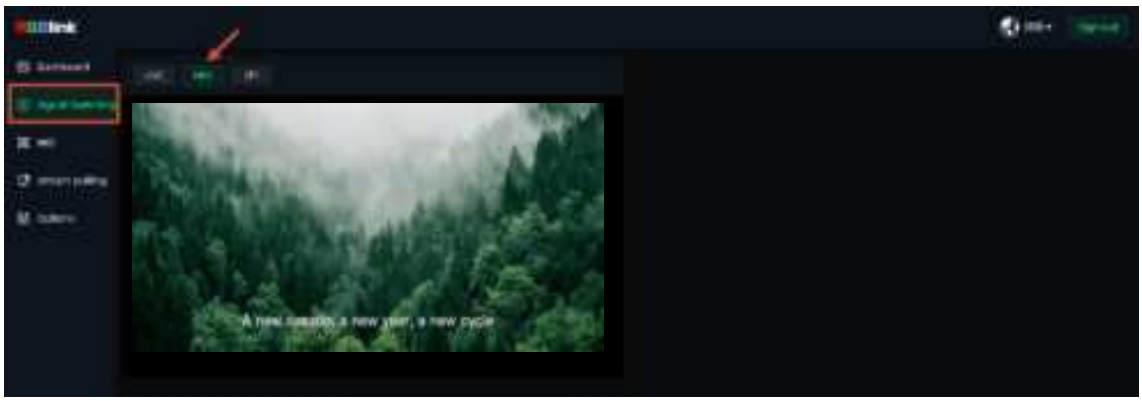


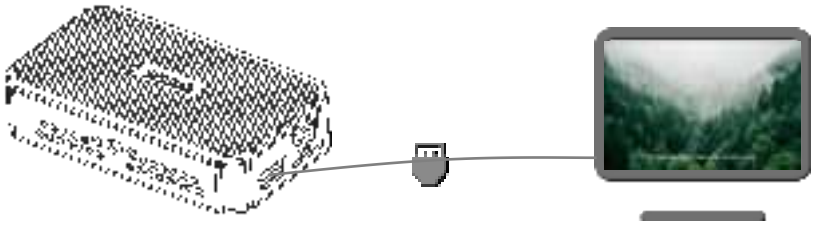
2. On the NDI Encode/Decode page, under NDI Decode, click "Search" for NDI Source. Then click "Pull Stream", and the preview window will display the NDI source video.





3. The decoded NDI video now becomes an input source. You can switch the HDMI main output signal on the "Signal Switching" page.





## 2.3.6 Network Input

The TAO 1tiny 2 supports network streams as input sources, compatible with RTMP/RTSP/NDI protocols. Enter the stream URL to receive video.

This section covers:

- **PTZ Camera Stream**
- **Mobile Casting**

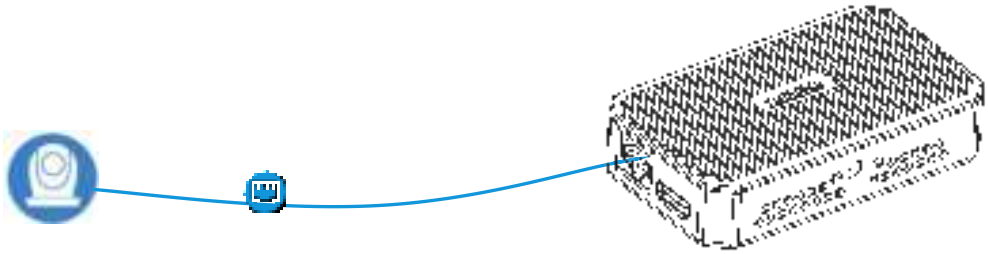
### PTZ Camera Stream

This example shows how to connect an IP-based PTZ camera.

The device and camera **must** be on the same network.

**1. Using Static IP**

a. Connect the PTZ camera and TAO 1tiny 2 to the same network switch.



b. Obtain the camera IP address from the manual or control panel.

c. Go to the Options page and disable DHCP.

d. Manually set the device IP. Make the first three segments identical to the PTZ camera IP to ensure both are on the same network.

e. Click **Save** .

**2. Adding a Stream URL**

Ensure TAO 1tiny 2 and the PTZ camera are on the same network.

The device supports ingesting PTZ camera video via standard network protocols. A valid stream URL is required for connection.

a. Most stream URLs follow a common format, for example: rtsp://[ip_address]:[port]/[path]. Replace variables as follows.

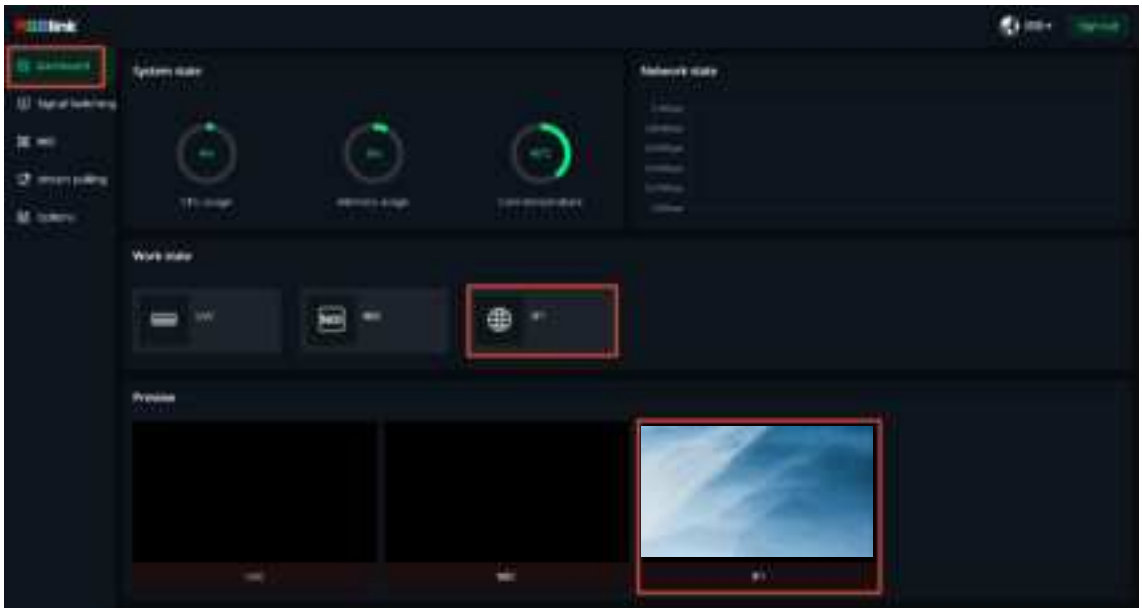
a) IP address: static IP configured for the PTZ camera, or dynamic IP assigned by the router.

b) The username, password, and stream path: refer to the PTZ camera manual.

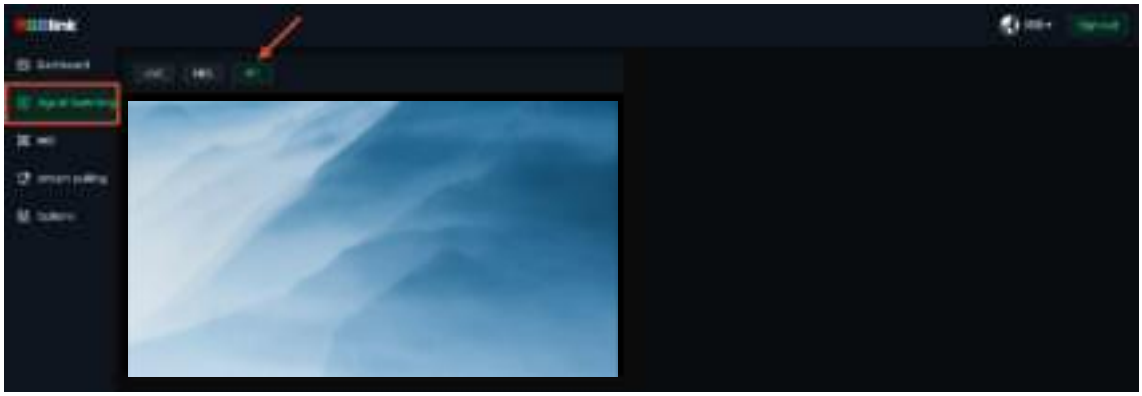
b. On the **Streaming Pulling** page, enter the channel name and stream URL.

c. **Enable** the switch for this stream URL, you can see the video feed in the preview area under

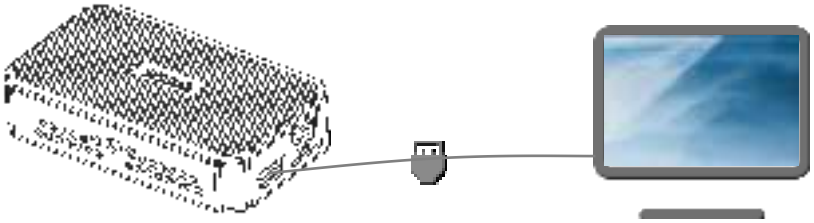
the **Dashboard** page.



d. On the **Signal Switching** page, select IP1.



e. The HDMI output will switch to the camera feed.



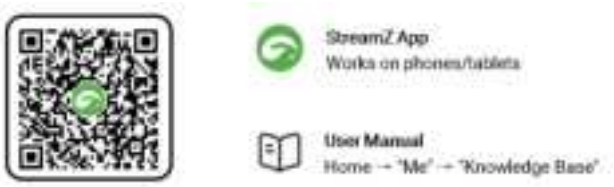
## Mobile Casting

### 1. Requirements

a. Only **Android** devices are supported, and **landscape mode** is required.

b. Install the TAO App (version 2.6.5 or later):

   a) Scan the QR code




   b) Download from app stores (search TAO or TAO RGBlink)

c. The device, mobile phone, and wireless router must be on the same network, with normal internet access.

### 2. Steps

a. Power on TAO 1tiny 2 and log in to the web interface.
   Go to **Signal Switching** page and select IP1.

b. Go to **Stream Pulling**, locate the RTMP URL (fixed and not editable), and enable the stream.

c. On the mobile device:

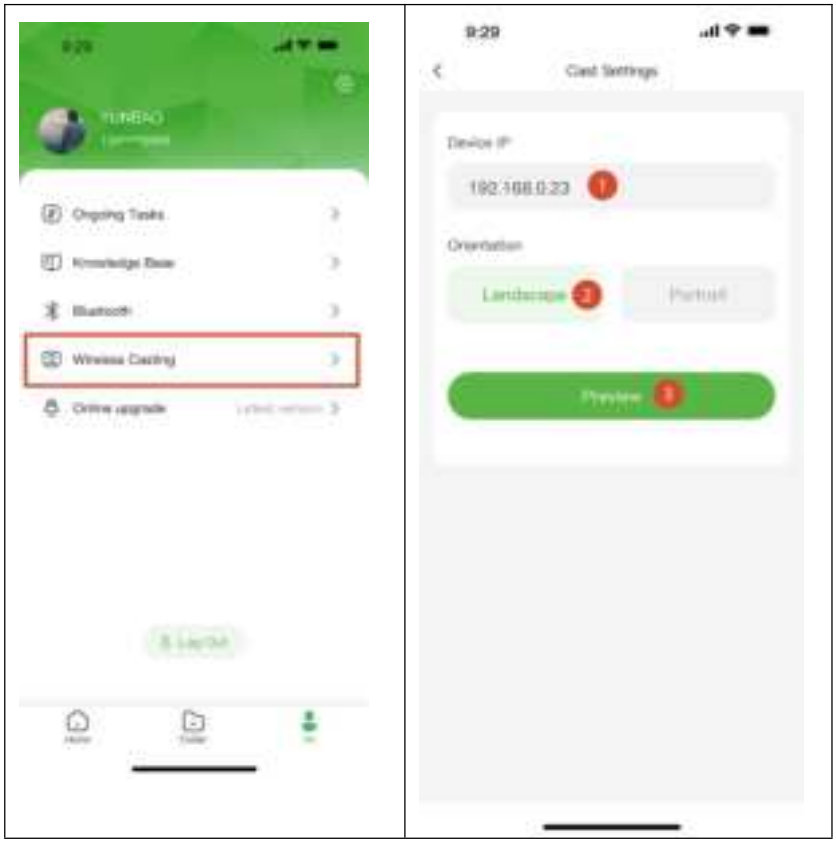
   a) Install and open the TAO App

   b) Connect to the same Wi-Fi network as TAO 1tiny 2

   c) Navigate to: **Me** > **Wireless Casting**

   d) Enter the device IP address

   e) Select **Landscape** mode and tap **Preview**




d. In the preview screen:

a) Shows mobile camera feed

b) Tap the Play icon to start casting

Once casting starts, verify that the HDMI output matches the mobile camera feed.

## 3. Interface Guide

| Icon | Function |
|---|---|
|  | Play. |
|  | Stop the current stream. |
|  | Switch between front and rear cameras. |
|  | Turn microphone on/off. |
|  | Flip image horizontally. |

## 2.4 Firmware Upgrade

The TAO 1tiny 2 is upgraded via USB drive. Proceed as follows:

1. Download the latest TAO 1tiny 2 firmware from the RGBlink website (http://www.rgblink.com) and copy it to a USB drive.
2. Insert the USB drive (containing the latest upgrade package) into the USB 2.0 port. The device will upgrade automatically. Upon successful upgrade, the device will reboot automatically. The USB drive will automatically generate a prompt file indicating a successful upgrade. You can also see "Upgrade Done" and the version number information on the HDMI output display.

   ⚠ Do not disconnect the device during the firmware upgrade process.


Content is subject to change without notice. Please download the latest version of the User Manual from the RGBlink Technology website: (http://www.rgblink.com)

## 2.5 FAQ

**Q: Why can't I use the NDI feature?**

**A:** TAO 1tiny 2 supports NDI encoding and decoding. If you cannot discover or connect the signals, check the following:

1. Default configuration: NDI features are disabled by default. Log in to the web management interface and enable the required feature manually. See NDI Encoding and NDI Decoding for details.
2. Network environment: the device has been tested with tools such as NDI Tools and RGBlink Vue PTZ. If the connection still fails, ensure that TAO 1tiny 2 and your computer are on the same local network. See Network Configuration for details.

**Q: Why does the receiver display 1080p when the input signals is 4K and streamed via NDI?**

A: When performing NDI encoding, the TAO 1tiny 2 outputs video at a fixed resolution of 1920x1080@30Hz. This is a hardware design characteristic, not a malfunction. Ensure that the receiving device is configured to accept a 1080p signal.

**Q: Why can't OBS or Studio Monitor detect the video, or why is the screen black?**

A: The TAO 1tiny 2 NDI decoding freature supports NDI |HX, NDI |HX2, NDI | HX3, but does not support FULL NDI. If your source device is transmitting FULL NDI, the device cannot decode or display the stream.

**Q: Why is there no HDMI output when a USB camera (such as a USB webcam or OBSBOT camera) is connected through the USB-A port?**

A: In earlier firmware versions, TAO 1tiny 2 did not support UVC video input via USB-A. This issue has been resolved in firmware v1.42. If you encounter connection issues, update the device to the latest firmware. See Firmware Upgrade for details.

**Q: Why can't a third-party video switcher detect the video signals?**

A: Compatibility has been improved in the latest firmware version. If you encounter connection issues, update the device to the latest firmware. See Firmware Upgrade for details.

# Warranty

All products are designed and tested to the highest quality standard and backed by 1 years parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. RGBlink warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush),
and/or other unusual damages.Warranty is return to base. Return for repairs are accepted only where shipping charges are prepaid.

Your complete satisfaction is our goal.
According to the after-sale service,please contact our team as soon as possible after the failure occurs to obtain the corresponding after-sale service.


- Headquarter: 6th Floor, Building 3, Xinke Plaza, Torch Hi-Tech Industrial Development Zone, Xiamen, China
- Tel: +86-592-5771197
- Fax: +86-592-5788216
- Customer Hotline: 4008-592-315
- Web:http://www.rgblink.com
- E-mail: support@rgblink.com