MAGEWELL®

Pro Convert IP to USB

User Manual

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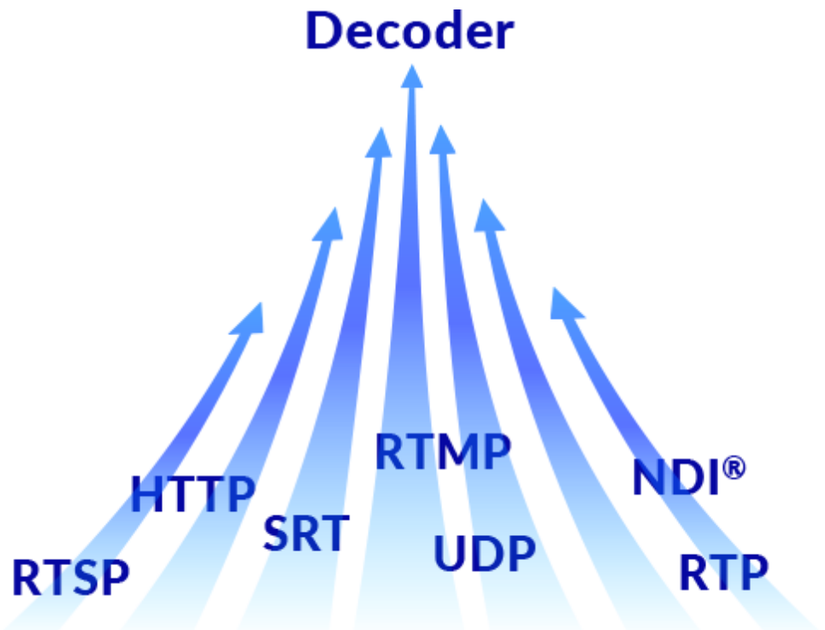
Getting Started



Overview

Pro Convert IP to USB is a plug-and-play device that enables computers including laptops to natively capture an NDI®, NDI® HX or streaming source through a USB interface with no additional power source required. It does the heavy lifting of decoding IP stream without consuming CPU/GPU resources of the host machine. The device supports video formats including NV12, YUY2, and MJPEG, and resolutions of 1920x1080, 1368x768, 1280x1024, 1280x720, 720x640, 720x480, and 640x480. It is ideal for use in conference rooms and production studios, particularly in environments where users' software does not natively support NDI® or other IP protocols and any additional software utility is not allowed to use.

Key Features

- Capture one network video source into software at resolutions up to 1080p60
- Support NDI® High Bandwidth, NDI® HX2, or NDI® HX3 sources or H.264/H.265 streams in protocols including RTMP, RTSP, RTP, UDP, SRT and HTTP
- Support uncompressed YUY2/NV12 video output up to 1080p60, and MJPEG video output up to 1080p30 (USB 2.0)
- Support 2-channel 16-bit, 48KHz audio output
- Support DHCP for automatic network configuration
- Control PTZ cameras via NDI® or Visca over UDP through the web UI

- It is configurable to capture the video as content or camera into Zoom software

System Requirements

Network

- Gigabit Ethernet

Supported Web Browser for the Web UI

- Google Chrome version 49 and above
- Microsoft Edge
- Mozilla Firefox version 61 and above
- Apple Safari 11.1 and above
- Opera 55.0.2994.44 and above

Installation

Safety Information

- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you notice any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact your dealer or the Magewell Support Team via support@magewell.net.

Interfaces & Indicators

1. Connect power.
   - Connect the supplied USB cable from the unit to your computer, and the power indicator beside the USB port will illuminate blue.
2. Connect network.
   - Plug an Ethernet cable into the unit and connect it to a switch for data transmission.

Web UI Configuration

Pro Convert allows you to control your device through a web-based user interface (Web UI). With the Web UI, you can monitor the device’s work status, input signal status, and custom session parameters.

Figure1. USB NET

Accessing Web UI

If you know your device's IP address, type it into your web browser to display the Web UI. Alternatively, you can access the Web UI in one of the following 2 ways.

Method 1: using USB NET

1. Connet the device to the computer through the USB-C port, open a browser and access 192.168.66.1.
2. Enter the user name Admin and password Admin to log in. The pop-up web UI of the connected device will be shown in your browser. Please do not change the IP address unless there is a conflict in your network.

> ⚠ Do not connect more than one device simultaneously to the same system via USB net.
> Change the password after yourinitial login for security.

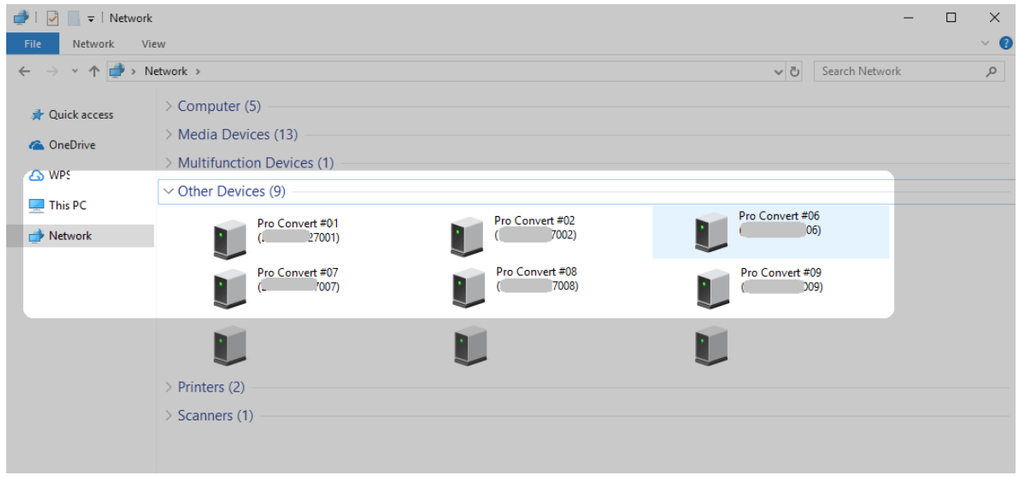
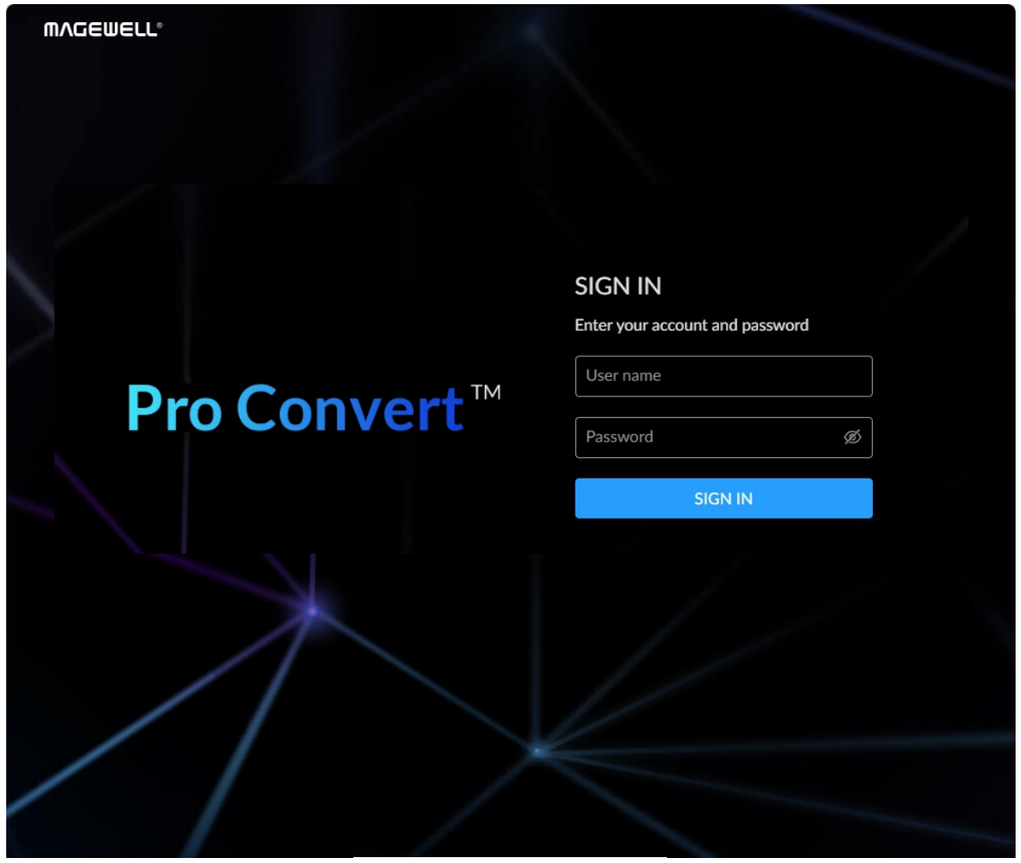


Figure 2 Find your device in the Network > Other Devices section

Method 2: using Windows File Explorer

This method is available for Windows7/8/8.1/10/11 users.

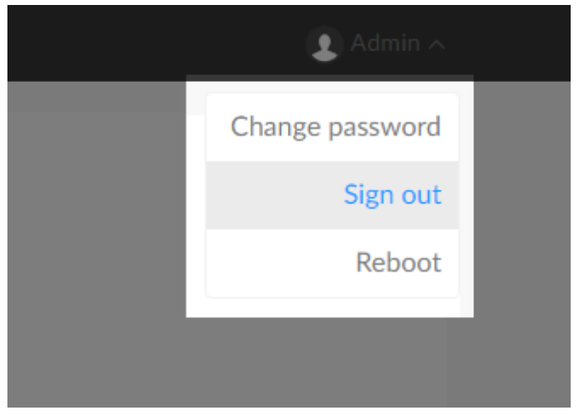
1. Connect your device via Ethernet and power it up as shown on the left figure.
2. Open a **File Explorer** window in one of the following ways.
   - Click on the **Start** button and find File Explorer in the Start menu.
   - Press the Windows logo key + E.
   - Select the folder icon on the taskbar.
3. Select the **Network** at the bottom of the list of items on the left side of the File Explorer.
   Turn on the network discovery function if prompted.
4. Find your device in the **Other Devices** section, where it will be shown as "**serial number**". The **serial number** is marked on your device.
5. Double click the device icon to open the Web UI in your web browser.



Signing In/Out

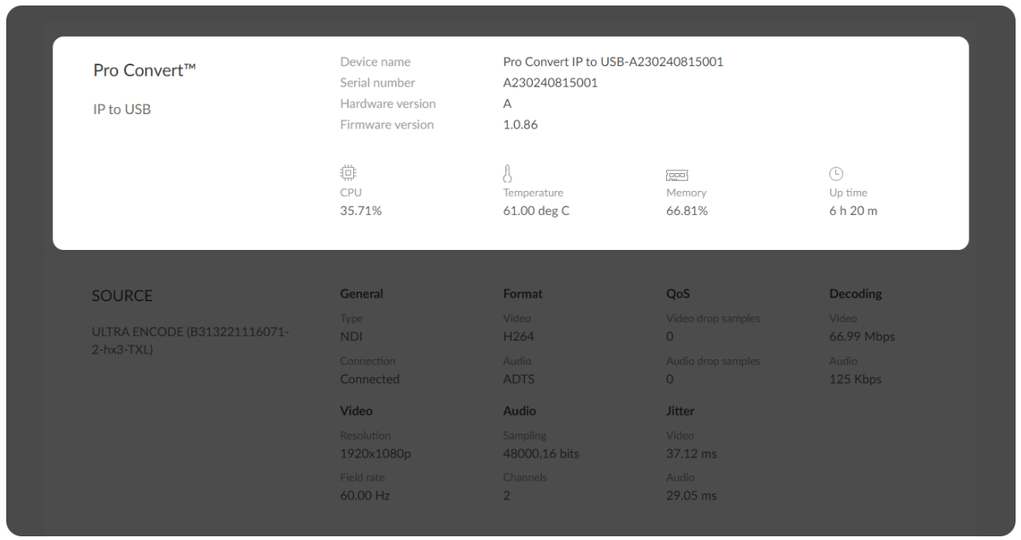
The Web UI allows multi-users to have read/write access to make configuration settings at the same time after login. However, to avoid configuration conflicts, do not operate one device simultaneously.

1. Signing In: Enter your account and password in the **SIGN IN** page.
   - The default administrator account name and password are as follows:
     Username: **Admin**
     Password: **Admin**
   - It is recommended to change the admin password after login (see modify the admin password). Unlike the password, the administrator username cannot be modified.
   - Your account will sign out automatically if there is no operation performed within ten minutes.
2. Signing Out: Click the drop-list icon behind your username at the top-right of the Web UI, and select **Sign out**. The **Reboot** function requires administrative rights.



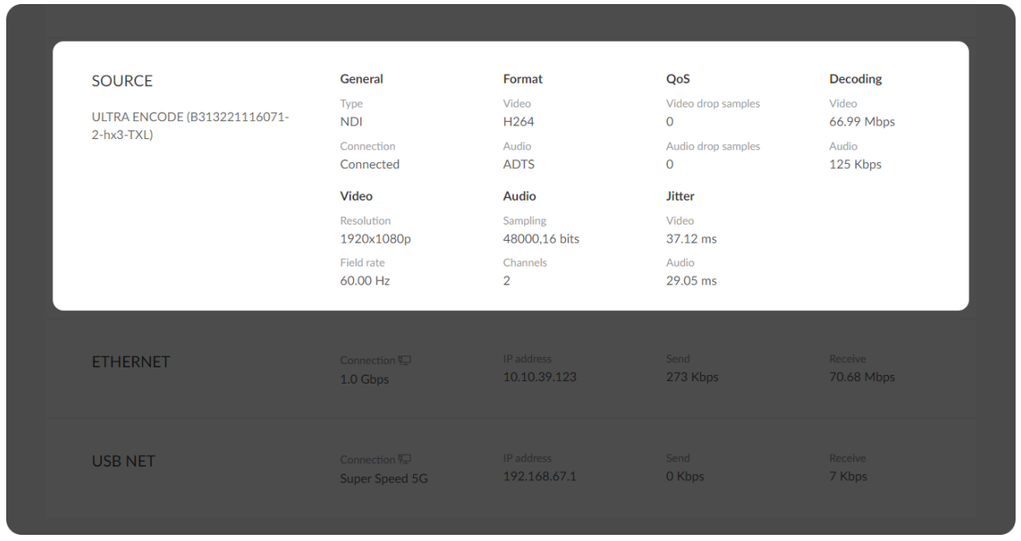
Dashboard

The Dashboard tab in the web UI can show the real-time status and parameters of the Pro Convert IP to USB device. Click and enter the **Dashboard** tab to check the device status.



Checking Basic Information

- **Device name** shows the name of your Pro Convert unit.
  Only the Administrator can modify the device name in the System > General tab. For detailed information, refer to Setting Device Name.
- **Serial number** shows the serial number of your unit, which is also marked on your device.
- **Hardware version** shows the hardware version of your unit.
- **Firmware version** shows the current firmware version that's installed in your unit. Only the Administrator can update the firmware, via the Firmware tab. For detailed information, refer to Updating the Firmware.
- **CPU** shows the current CPU usage (the load on the processor, shown as a percentage) of the Pro Convert IP to USB device.
- **Temperature** shows the current temperature of the CPU.
  Keeping the device free from dust and avoiding a high-temperature work environment may help to avoid overheating of the device. If the core temperature is approaching 90℃, please try to lower the temperature by ensuring a supply of cooler air.
- **Memory** shows current memory usage.
- **Up Time** shows the elapsed time since your device's last boot-up.



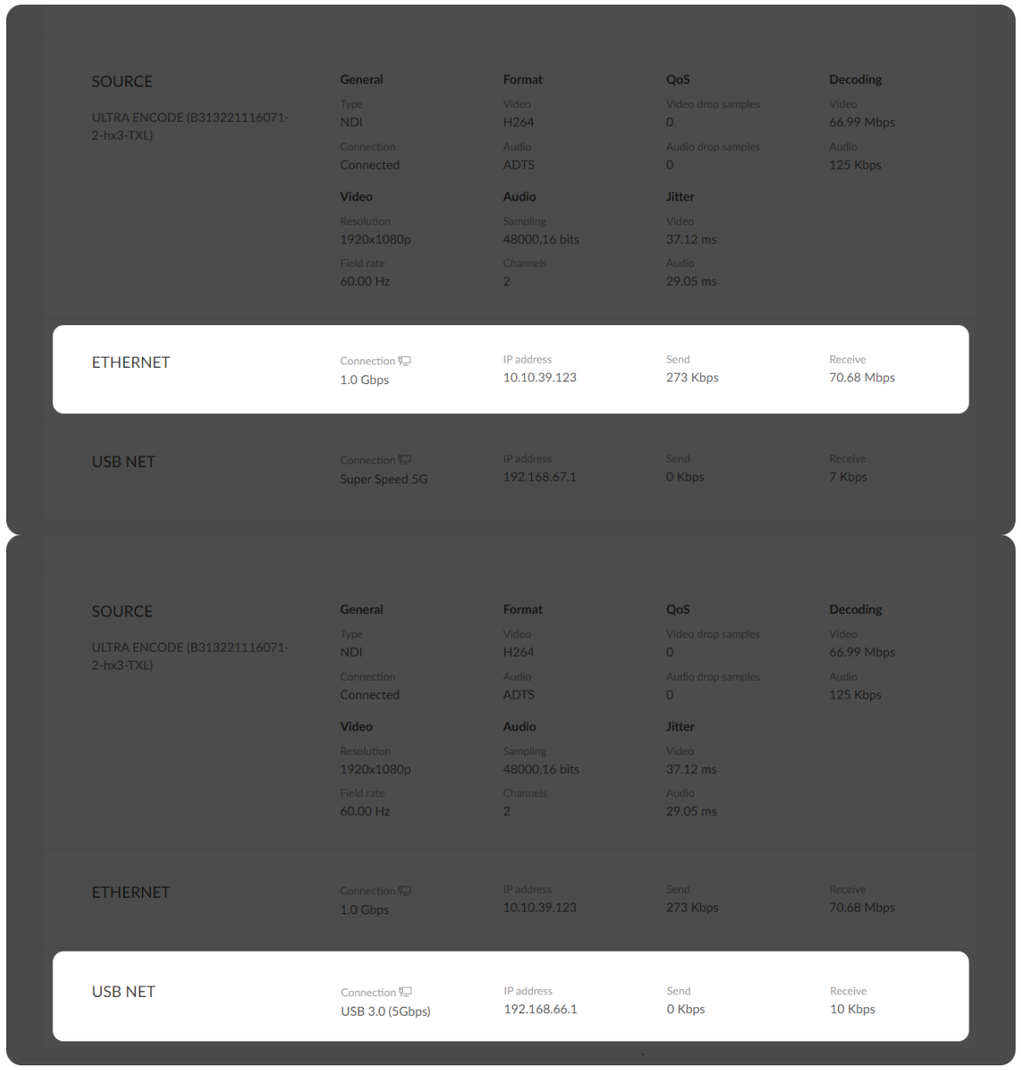
Checking Source Status

Settings of decoded video stream refers to the Sources tab.

- **General** shows video source information.
  - **Type** shows the decoding stream type which is specified in the **Source** tab.
  - **Connection** shows whether a stream data is received by your device.
- **Format** shows the format of source.
  - **Video** shows the source video format.
  - **Audio** shows the source audio format.
- **QoS** shows the number of frames dropped in the previous second.
  - **Video drop samples** shows dropped video samples in the previous second.
  - **Audio drop samples** shows dropped audio samples in the previous second.
- **Decoding** shows the decoding speed in the previous second.
  - **Video** shows the video bitrate for the previous second.
  - **Audio** shows the audio bitrate for the previous second.
- **Video** shows the decoded video information.
  - **Resolution** shows the decoded video resolution.

- **Field rate** shows the decoded video field rate.

- **Audio** Shows audio information.
  - **Sampling** shows the sampling rate and bit depth of the audio source.
  - **Channels** shows the total number of source audio channels.
- **Jitter** Shows the time difference between the estimated and actual arrival time of a frame of source image.
  - **Video** shows the video time difference.
  - **Audio** shows the audio time difference.

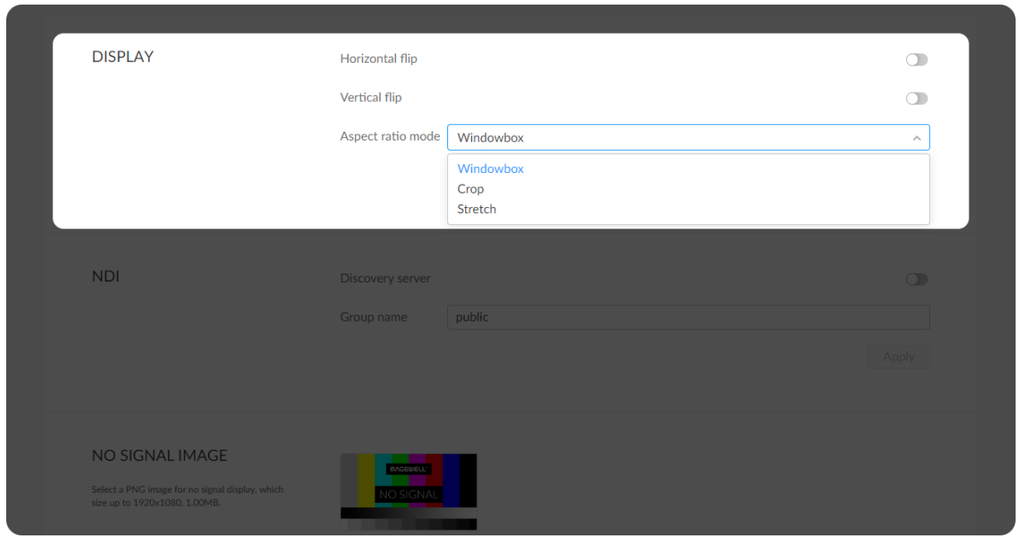


Checking Ethernet Status

An RJ45 port and an USB-C port (for USB NET) are provided for data sending and receiving.

- **Connection** shows current connection status.
- **IP Address** shows the IP Address of current connection. You can manually change it in the **System > Network** tab with administrative rights.
- **Send** shows the current transmission speed. Observing this value will help to guide you in determining how many streams your LAN can handle.
- **Receive** shows the current receive speed.

Options



Setting Display Format

- **Horizontal flip**

  Turn on the switch to set a mirror effect of the video, making sure the viewer see the image in the right direction. By default, it is off.

- **Vertical flip**

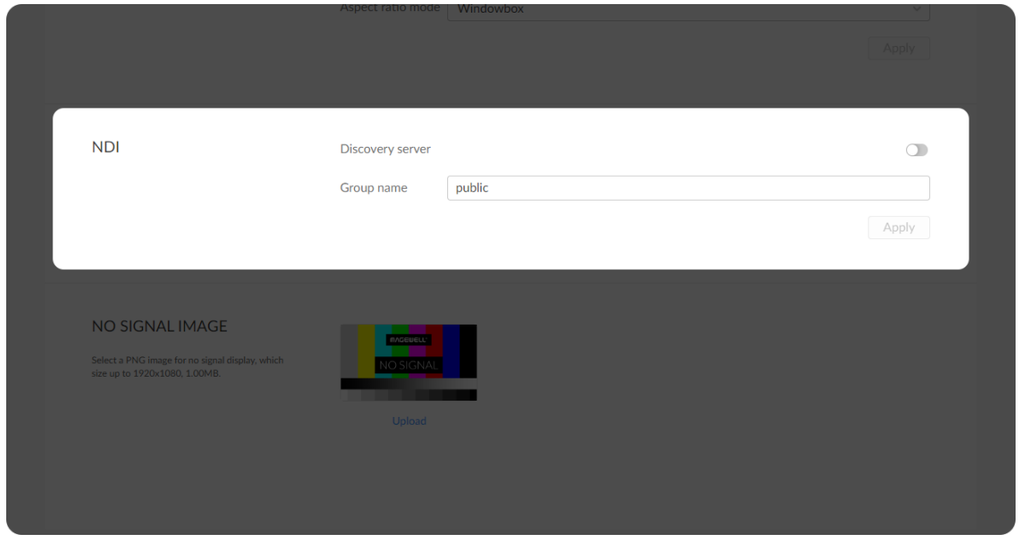
  Turn on the switch to reverse the active image vertically, making sure the viewer see the image in the right direction. By default, it is off.

- **Aspect ratio mode**

  Set the method to convert the aspect ratio of the decoded video.

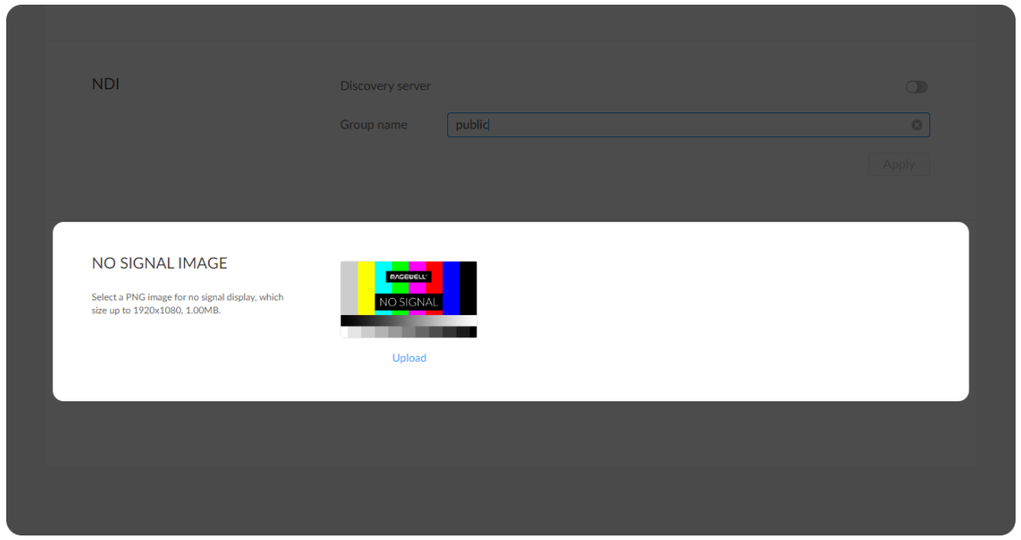
  - **Windowbox** indicates to adapt the display size of the presentation screen by filling with black borders to keep the aspect ratio of the source image. Letterbox features to fill in black bars at the top and bottom while pillarbox filling in left and right. By default, this is used.
  - **Stretch** indicates to stretch the video image to fill the presentation screen.
  - **Crop** indicates to use the screen aspect ratio as the decoded video aspect ratio by stretch or compression.

- Click **Apply** button at the bottom-right corner of the page to save changes.



Setting NDI

- **Discovery Server:** turn on the switch to auto-detect a source sender in different network segment and ping the sender. And the **Server IP** should be the IP address of the server running discovery server software. By default, the switch is off. Multiple IP addresses are supported, which should be comma-separated.
- **Group name:** specify the group which the source belongs to. 1 to 63 characters are supported. It is case-insensitive, and should be a combination of A to Z, a to z, 0 to 9 and special characters like _-. Multiple groups are supported, which should be comma-separated. By default, it is Public.
- Click **Apply** button at the bottom-right corner of the page to save changes.

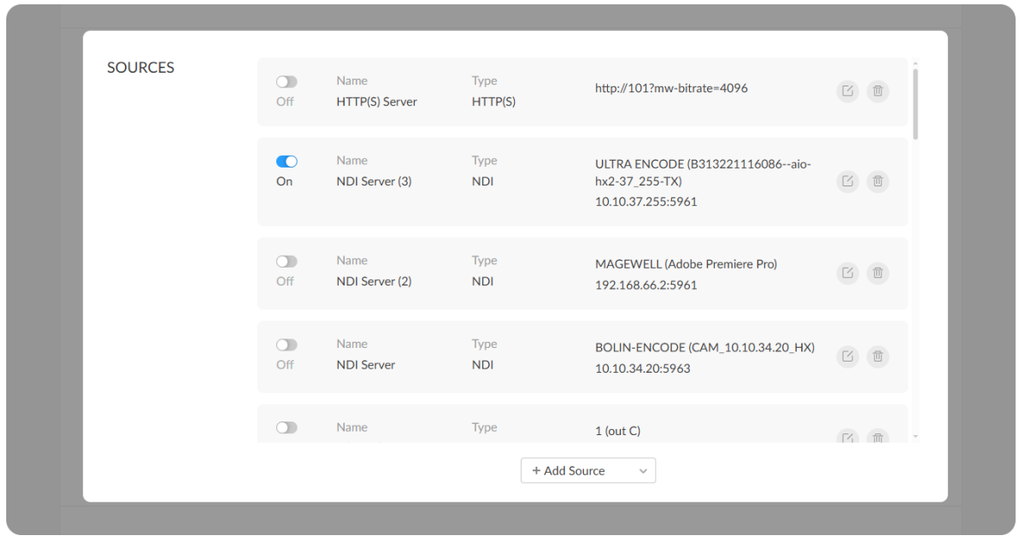


Setting NO SIGNAL IMAGE

- Upload: You can upload one PNG photo sizing up to 1920x1080, 1.00 MB to replace the default one.
- Delete: click and delete the uploaded picture.

Sources

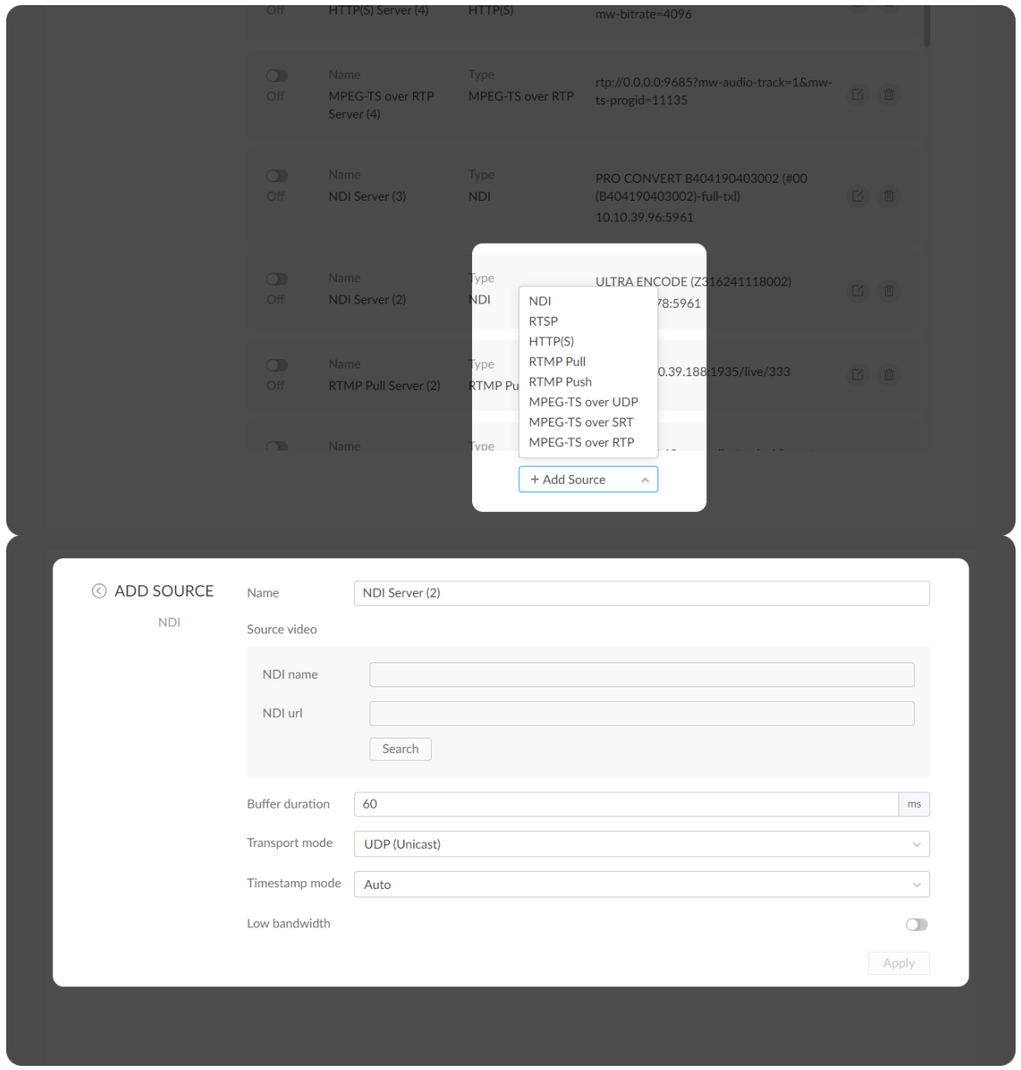
Up to 100 sources are supported.



Setting SOURCE PRESETS

SOURCES list all added stream sources.

- Click to modify the parameters of the stream.
- Click to remove the source from the list.
- Click to decode current source stream.
- Click Add to select a protocol session to join to the list.
- The unit supports connection to one PTZ camera at a time. And you can enable PTZ settings only when the connected video source supports PTZ.



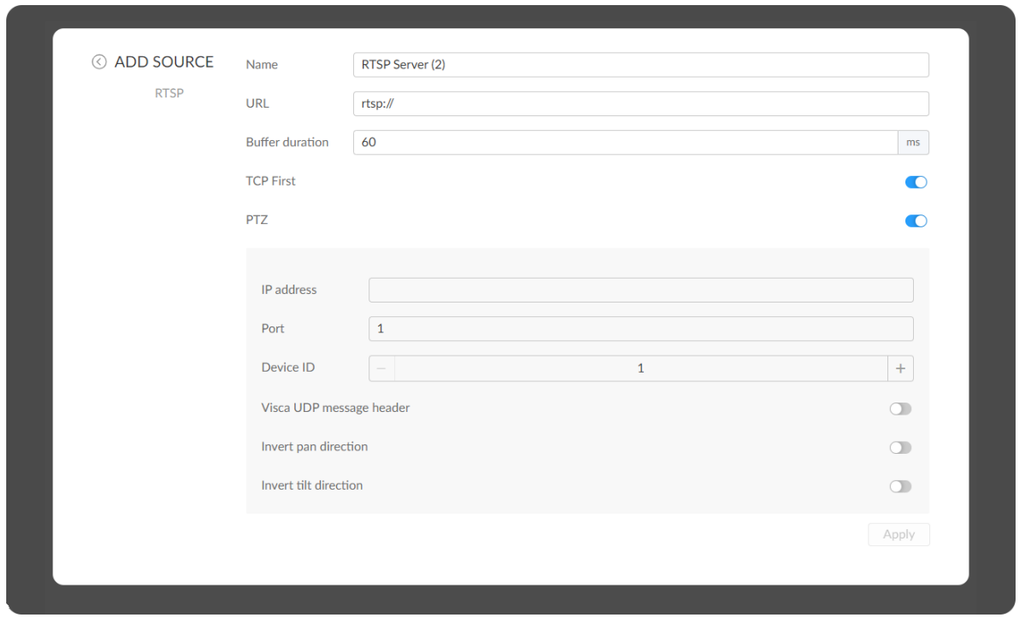
Adding an NDI Source

- To add an NDI source discovered by the device automatically
  - Click **Search**, and the auto-detected NDI sources are listed in the pop-up Source list window. Select the target stream and click **OK**.
- To add an NDI source manually
  - **NDI name:** (Mandatory) Enter the of ndi source name, which is case insensitive.
  - **NDI URL:** (Optional) Enter the of ndi address.
- **Buffer duration:** Enter a number between 3 and 1000ms, and the default value is 60. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video.
- **Transport Mode**
  - Auto (default) indicates the result of automatic negotiation between the device and the data source.
  - **UDP (Unicast)** receive A/V packets via unicast UDP.
  - **UDP (Multicast)** receive A/V packets via multicast UDP. This mode is used by default.
  - **RUDP (Unicast)** receive A/V packets via reliable UDP.
  - **TCP (Uni-connection)** receive A/V packets are transferred via one TCP port.
  - **TCP (Multi-connection)** receive A/V packets via different TCP ports.
- **Timestamp mode**: Options are Auto (default), Timecode and Timestamp.

- Auto mode will automatically select the most suitable display format.
- Timecode mode displays time based on frames, which is suitable for scenarios requiring precise editing.
- Timestamp mode shows the absolute playback time, making it ideal for situations where focus is on the duration of play rather than frame numbers.

- **Low bandwidth** Turn on the switch for decoding NDI® stream when the network bandwidth is too low to have a smooth video. Generally, if the resolution is higher than 2048 x 1080, the height and width will be reduced to a quarter of the original, that is one-sixteenth of the original resolution; otherwise the height and width will be reduced to half of the original value, that is one-quarter of the original resolution. Meanwhile, the frame rate will drop to about 15 FPS. By default, it is off.

- Click **Apply** button at the bottom-right corner of the page to save changes.

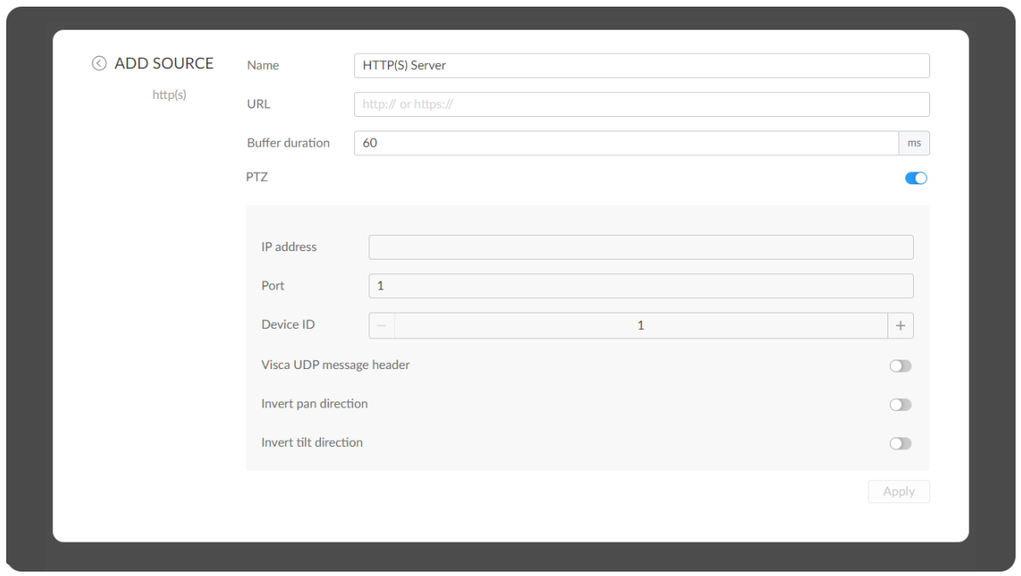


RTSP

- **Name:** Specify a name for current session for your convenience of source management.
- **URL:** Enter the RTSP URL. The URL syntax is **rtsp://username:password@IP-address:port**, username and password are from RTSP digest authentication.
- **Buffer duration:** Enter a number between 3 and 1000, and the default value is 60. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video. Shorten it when low latency matters, otherwise the default value is recommended.
- **TCP First:** By default it is on. As is, the decoder connects to the RTSP server over a TCP connection. When the switch is off or the TCP connection is timeout, a UDP connection is used instead. Set the switch by your network quality and layout.
- **PTZ**
  - Always verify PTZ compatibility and protocol requirements in the camera manual before configuration.
  - Ensure that the Pro Convert device and PTZ camera can ping each other.
  - Test directional controls after installation to validate inversion settings.
  - Ensure that USB Device is set to "Normal Mode" instead of Content Mode in the System > General part for PTZ control.
  - **IP address:** enter the camera's IP address.

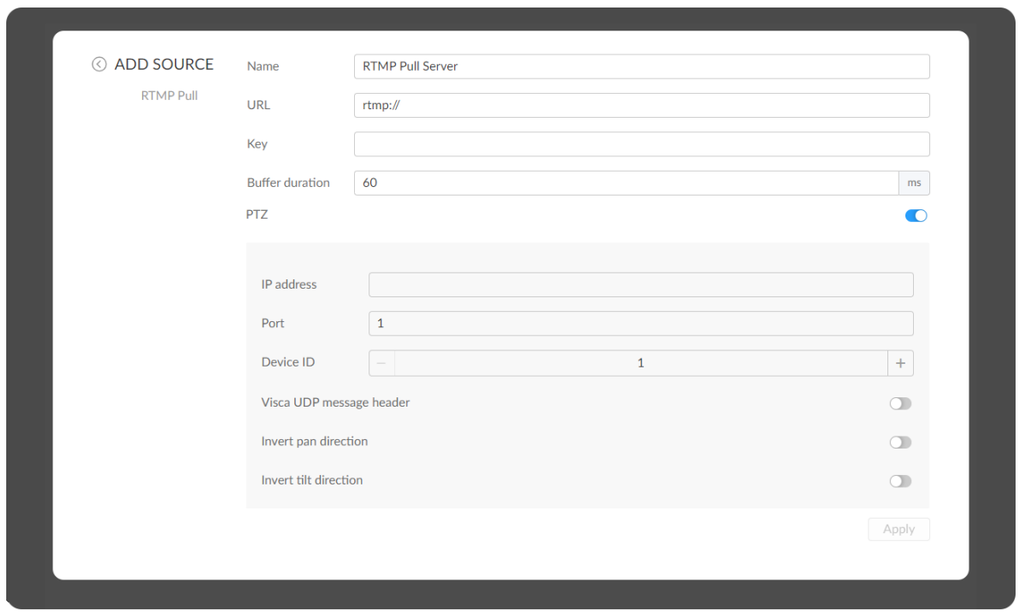
- **Port:** specify the camera's VISCA protocol network port (refer to manufacturer documentation).
- **Device ID:** assign a unique ID (1-7) to identify the camera. It is recommended to use the default value of 1.
- **Visca UDP message header:** enable for cameras requiring VISCA UDP headers (e.g., Sony models). Disabling may cause control failures.
- **Invert pan direction:** reverse horizontal movement for non-standard camera mounting orientations.
- **Invert tilt direction:** reverse vertical movement for non-standard camera mounting orientations.

- Click **Apply** button at the bottom-right corner of the page to save changes.



HTTP(S)

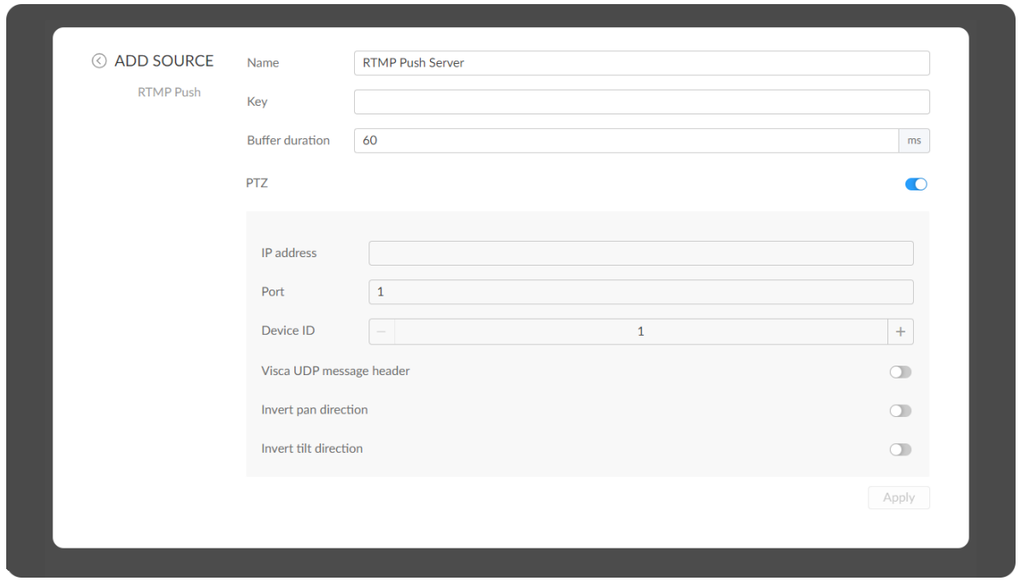
- **Name:** Specify a name for current session for your convenience of source management.
- **URL:** Enter the URL of the decoded HTTP/HTTPS or HLS stream.
- **Buffer duration:** Enter a number between 240 and 5000, and the default value is 300. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video. Shorten it when low latency matters, otherwise the default value is recommended.
- If a PTZ camera is connected, parameter settings see PTZ.



- Click **Apply** button at the bottom-right corner of the page to save changes.

RTMP Pull

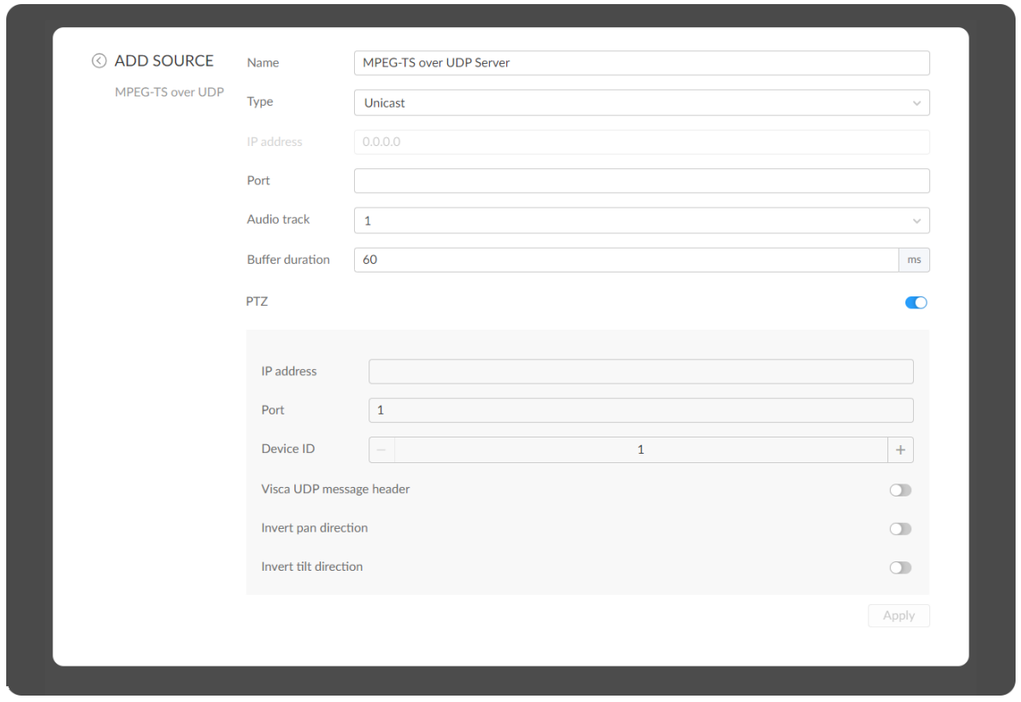
- **Name:** Specify a name for current session for your convenience of source management.
- **URL:** Enter the RTMP URL address, or an RTMP address you obtained from the live stream platform.
- **Key:** Enter the stream key.
- **Buffer duration:** Enter a number between 3 and 1000, and the default value is 60. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video. Shorten it when low latency matters, otherwise the default value is recommended.
- If a PTZ camera is connected, parameter settings see PTZ.
- Click **Apply** button at the bottom-right corner of the page to save changes.



RTMP Push

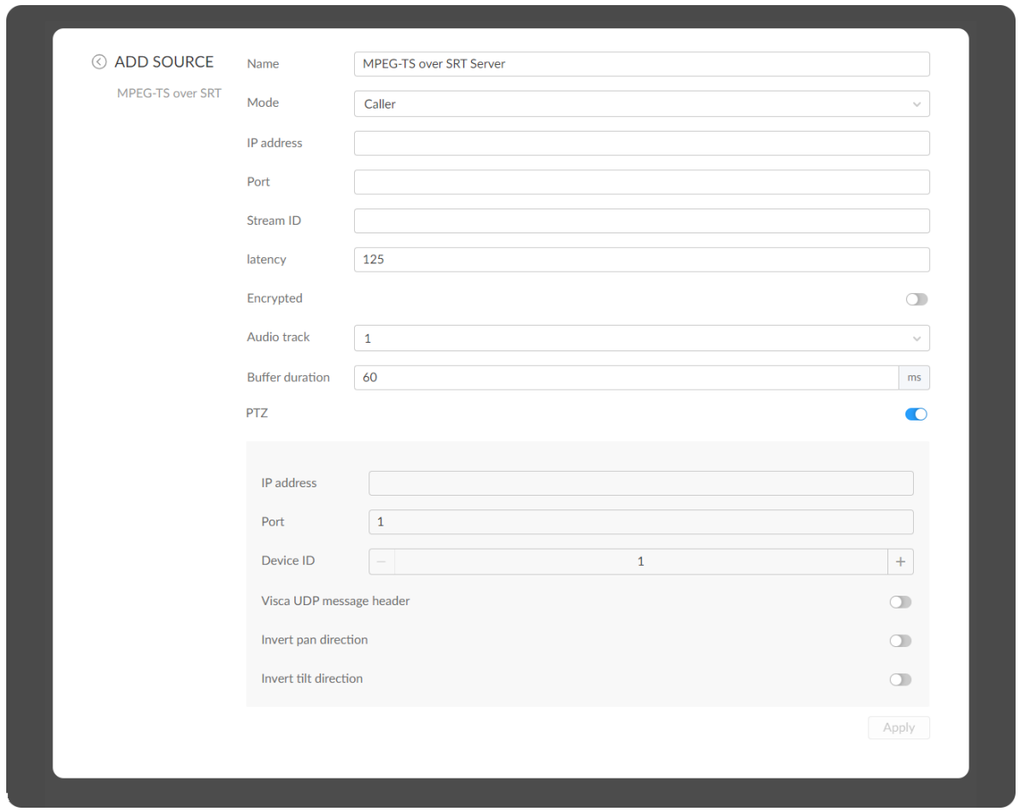
As is to send RTMP streams to the decoder, the URL of the decoder is the destination.

- **Name:** Specify a name for current session for your convenience of source management.
- **Key:** Enter the stream key.
- **Buffer duration:** Enter a number between 3 and 1000, and the default value is 60. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video. Shorten it when low latency matters, otherwise the default value is recommended.
- The destination address of the sender must be consistent with the automatically generated address.
- If a PTZ camera is connected, parameter settings see PTZ.
- Click **Apply** button at the bottom-right corner of the page to save changes.



MPEG-TS over UDP

- **Name:** Specify a name for current session for your convenience of source management.
- **Type:** Select the **Unicast** or **Multicast**. When unicast is selected, the data source streams to the decoder. When selecting multicast, you need to specify the multicast address to get the decoded stream.
- **IP Address:** Enter the address when the **Type** is **Multicast**.
- **Port:** Enter the port number specified by the streamer.
- **Audio track:** Select an audio track from 1 to 8. By default, track 1 is used.
- **Buffer duration:** Enter a number between 3 and 1000, and the default value is 60. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video. Shorten it when low latency matters to your session, otherwise the default value is recommended.
- If a PTZ camera is connected, parameter settings see PTZ.
- Click **Apply** button at the bottom-right corner of the page to save changes.

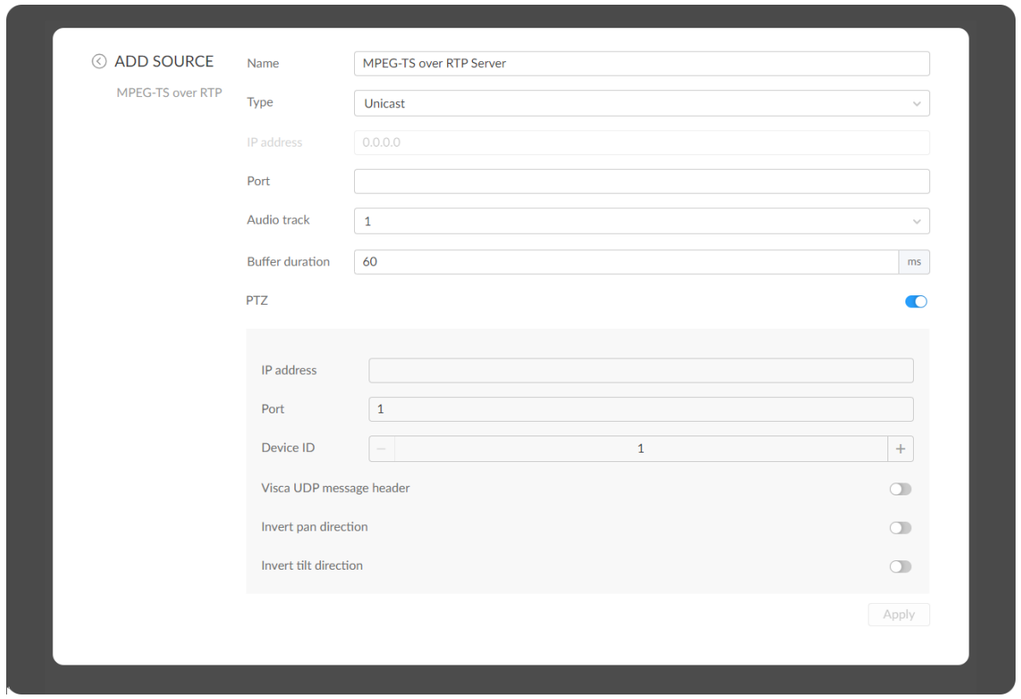


MPEG-TS over SRT

- **Name:** Specify a name for current session for your convenience of source management.
- **Mode:** Select the **Caller** or **Listener**. The decoder can be worked as either a SRT Caller to call a listerner, or a SRT Listener to be called.
- **Address:** Enter the Listener address when the **Mode** is set to **Caller**. If the SRT listener and caller are on the same LAN, enter the private IP address of the SRT listener on the LAN. If the SRT listener and caller are in different network environments, enter the public IP address of the SRT listener.
- **Port:** Enter the port number specified by the streamer.
- **Stream ID:** It should be consistent with the Stream ID of the sender, ranging from 0 to 512 characters. You can leave it empty if sender has no stream ID.
- **Latency:** Enter a number between 20 to 8000. The default value is 125. We recommend that the latency of the decoder is configured the same as that of the streamer.
- **Encrypted:** Turn on the switch when decoding an encrypted stream.
- **Passphrase:** Enter the password phrase for the encrypted stream.
- **Audio track:** Select an audio track from 1 to 8. By default, track 1 is used.
- **Buffer duration:** Enter a number between 3 and 1000, and the default value is 60. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video. Shorten it when low latency matters, otherwise the default value is

recommended.

- If a PTZ camera is connected, parameter settings see PTZ.
- Click **Apply** button at the bottom-right corner of the page to save changes.



MPEG-TS over RTP

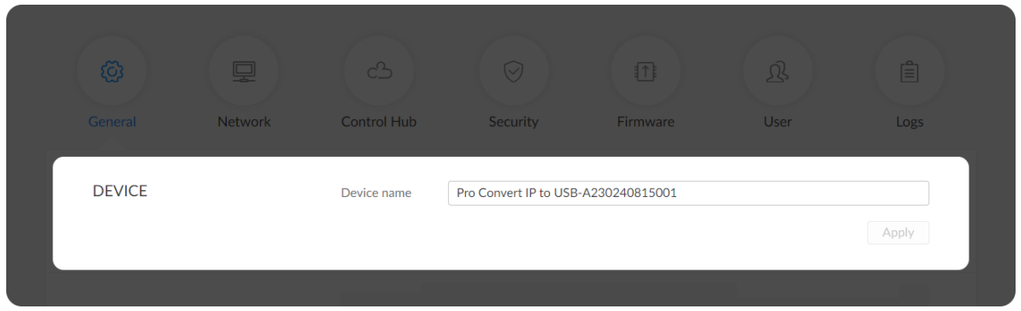
- **Name:** Specify a name for current session for your convenience of source management.
- **Type:** Select the **Unicast** or **Multicast**. When unicast is selected, the data source streams to the decoder. When selecting multicast, you need to specify the multicast address to get the decoded stream.
- **IP Address:** Enter the address when the **Type** is **Multicast**.
- **Port:** Enter the service port specified by the streamer.
- **Audio track:** Select an audio track from 1 to 8. By default, track 1 is used.
- **Buffer duration:** Enter a number between 3 and 1000, and the default value is 60. The buffer duration is suggested to be greater than the **Jitter** value shown in the **Dashboard** tab for a smoothy video. Shorten it when low latency matters, otherwise the default value is recommended.
- If a PTZ camera is connected, parameter settings see PTZ.
- Click **Apply** button at the bottom-right corner of the page to save changes.

System

With administrative rights, you can access the **System** tab to control more functions, such as:

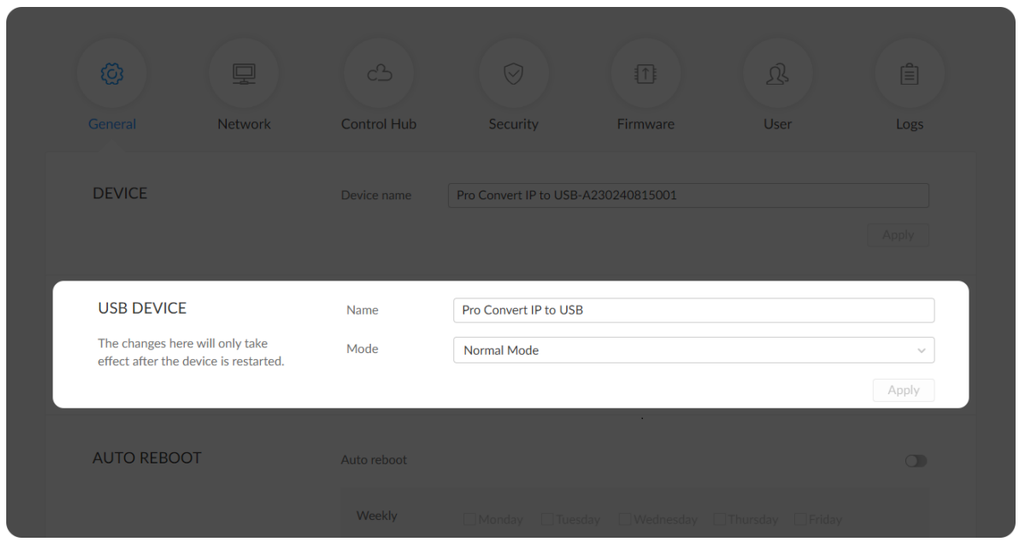
- Changing the device's name
- Creating or removing general user accounts for accessing the device
- Changing passwords for all users of the device
- Network settings for joining a specific LAN
- Updating firmware for the latest features and improvements
- Exporting reports and logs to get technical support
- Rebooting or resetting the device for troubleshooting

Otherwise, the **System** tab is invisible when you log in as a general user.



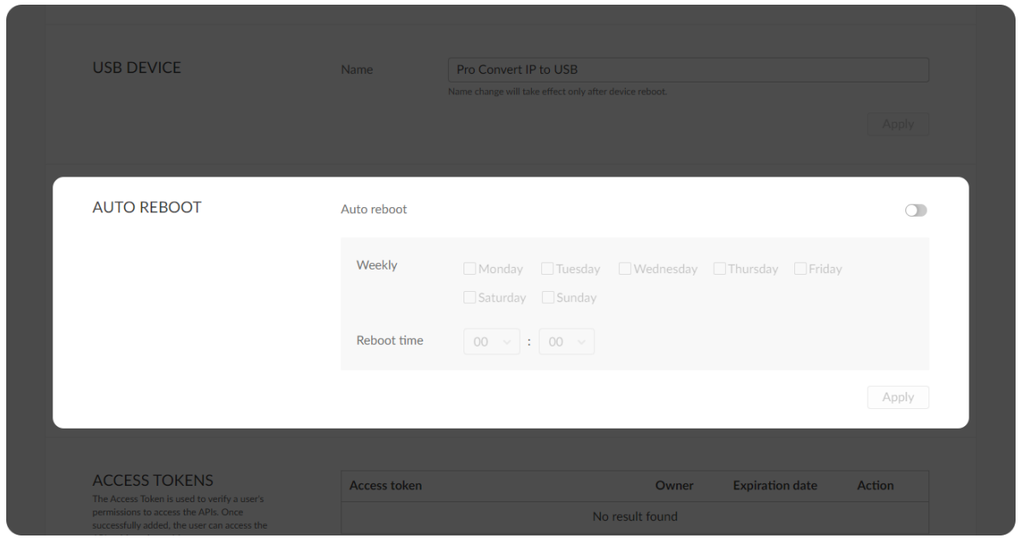
Device Name

- Device name：A string of 1 to 30 non-case sensitive characters, containing letters a to z, A to Z, 0-9, spaces and special characters like _-.
- Click **Apply** to save changes, and confirm with **Yes** when prompted.



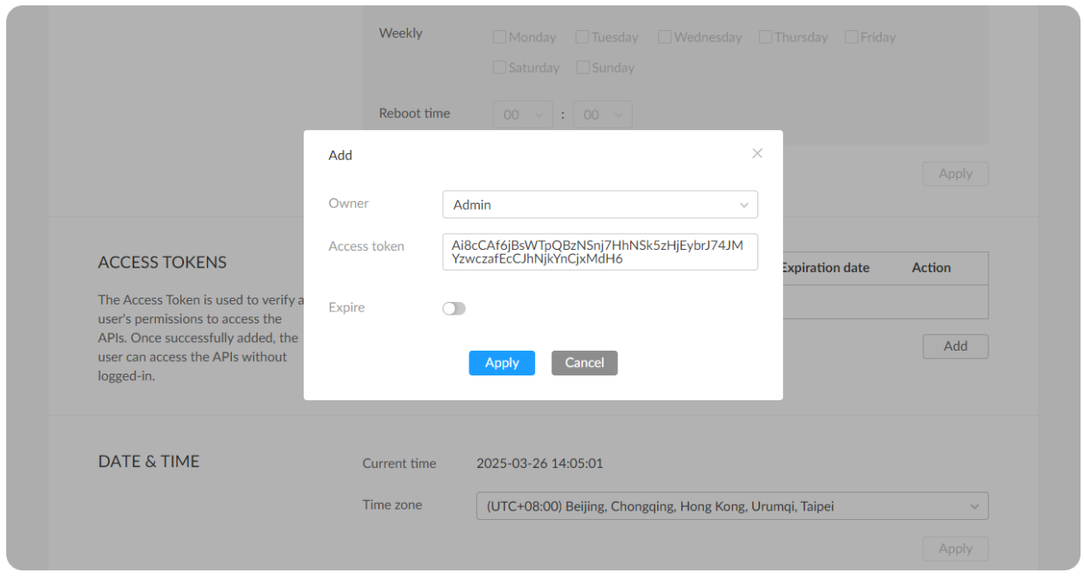
USB Device

- **Name**: a string of 1 to 30 non-case sensitive characters, containing letters a to z, A to Z, 0-9, spaces and special characters like _-®.
- **Mode**: By default, the device operates in Normal mode. When connected to Zoom Rooms, it functions as a camera, supporting PTZ control via the Zoom Rooms Controller. In Content mode, upon detecting a video signal input, Zoom Rooms will automatically display the content from the device. If the video signal is interrupted, Zoom Rooms will switch back to the default camera feed.
- Click **Apply** to save changes, and confirm with **Yes** when prompted.
- Restart your device for the modification to take effect.



Auto Reboot

- By default, the Auto-reboot function is disabled.
- Turn on the **Auto reboot** switch. Specify the weekday and time for your reboot schedule.
- Click **Apply** to save your change. Then your device will automatically restart at the scheduled time.

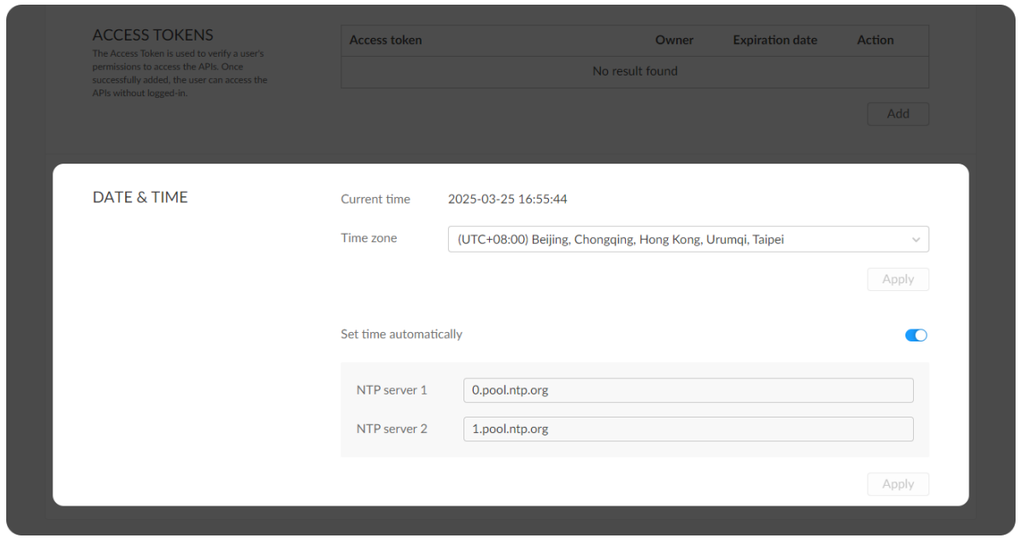


Adding Tokens

You can add a Token and use the authentication methods of the Token mechanism to enable login-free calls to the API.

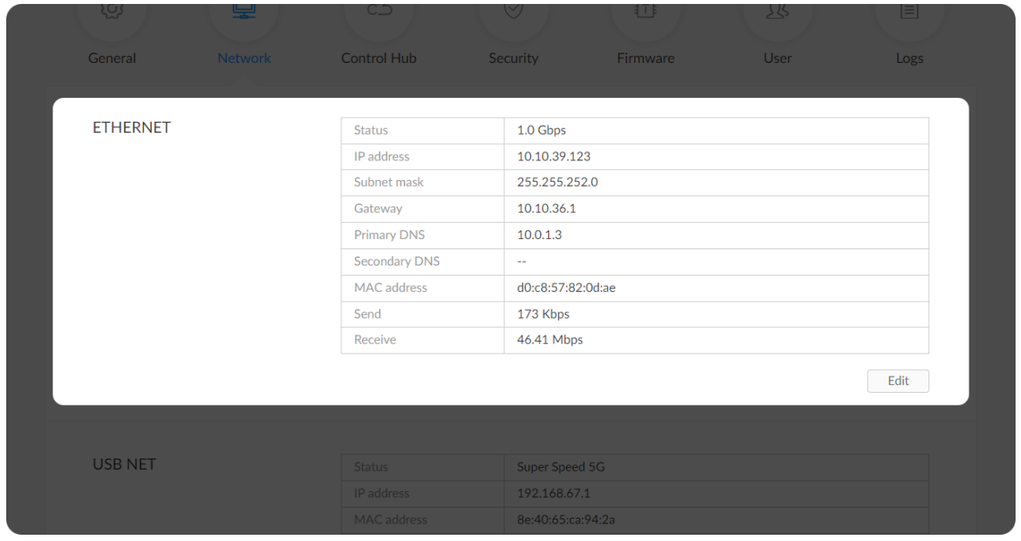
1. In the **ACCESS TOKENS** area, click **Add**.
2. Select **Owner**, which can be Admin or a common user.
3. Enter **Access token**. The system will provide a random token. The token must be 64 characters long and can include A-Z, a-z, and 0-9.
4. (Optional) Toggle on the **Expire** switch to set an expiration date. If disabled, the token remains valid indefinitely.
5. Click **Apply**.
6. (Optional) Repeat above steps to add more tokens.
7. In the "Access token" list, you can view the added tokens, their owners, and expiration times.
   - Click on the right to delete the token.

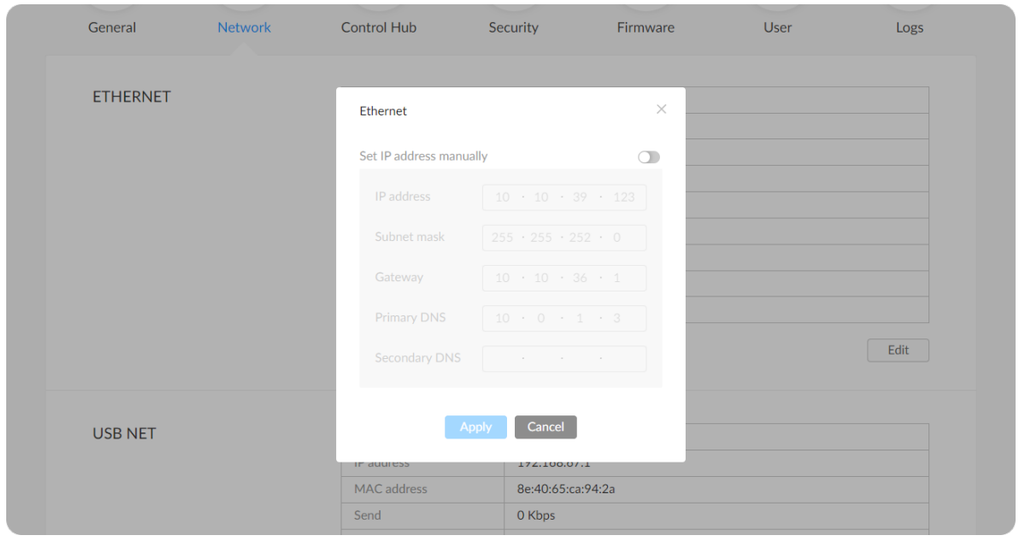
- Click on the right to copy the token.



Date & Time

- **Time zone:** specify a time zone for your device.
- **Set time automatically:** turn on **Set Time Automatically**. Then the device's time will synchronized to the world-time servers depending on the timezone you set. Otherwise, you can set time manually.
- **NTP server 1:** the default server is 0.pool.ntp.org.
- **NTP server 2:** the default server is 1.pool.ntp.org.
- **Save:** save current configuration.





Network Settings

To change network connections in the **System** tab requires administrative rights. You can change the device name while setting network parameters. By default, the Pro Convert IP to USB unit automatically detects any connected network. You can set a static IP Address if the device failed to auto-configure using DHCP. If multiple devices are connected using USB net, change the USB NET IP address according to your own arrangement.

Configuring Ethernet

Viewing Network Information

After Pro Convert device connects to an Ethernet network through the ETH port, you can view the following Ethernet connection information in the **ETHERNET** area on the **Network** page.

1. Log in to the Web UI as the Admin user.
2. Navigator to the **System** > **Network** > **ETHERNET** area, and check the Ethernet connection information.
   - **Status**: Ethernet connection status
     - **Down**: The network port is down.
     - **Disconnected**: No network is connected.
     - check the current Ethernet connection speed.
   - **IP address**: IP address of the device
   - **Subnet mask**: a 32-bit mask that divides an IP address into two parts, network address and host address
   - **Gateway**: IP address of the gateway, which connects different

networks

- **Primary DNS**: IP address of the primary DNS server. The default is the current network setting.
- **Secondary DNS**: IP address of the secondary DNS server. The value is left empty by default.
- **MAC address**: MAC address of the current network adapter
- **Send**: data sending speed of the device
- **Receive**: data receiving speed of the device.

Configuring Static IP Address for Ethernet

Pro Convert device uses an DHCP-assigned IP address by default, which can effectively avoid IP address conflict, but can also result in constant IP address changes.

If no DHCP service is available in a network, you can manually set a static IP address. The static IP address will remain unchanged. However, you must make sure that this IP address is not used by any other device on the same network.

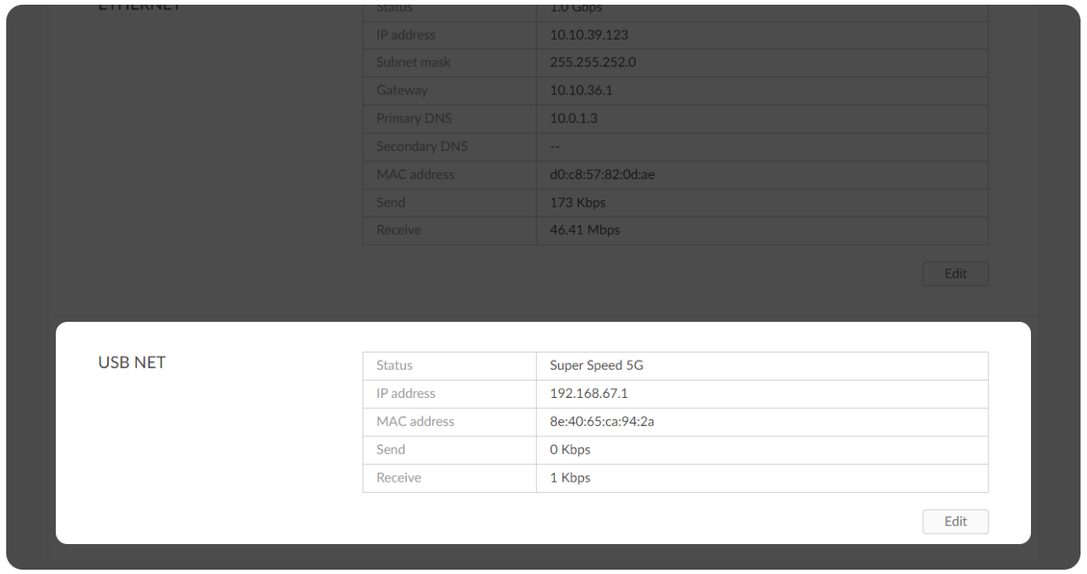
1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **ETHERNET** area, click **Edit**.
4. On the displayed window, enable **Set IP Address Manually**, and set **IP address**, **Subnet mask**, **Gateway**, **Primary DNS** and **Secondary DNS**.
   The current network settings are used by default.

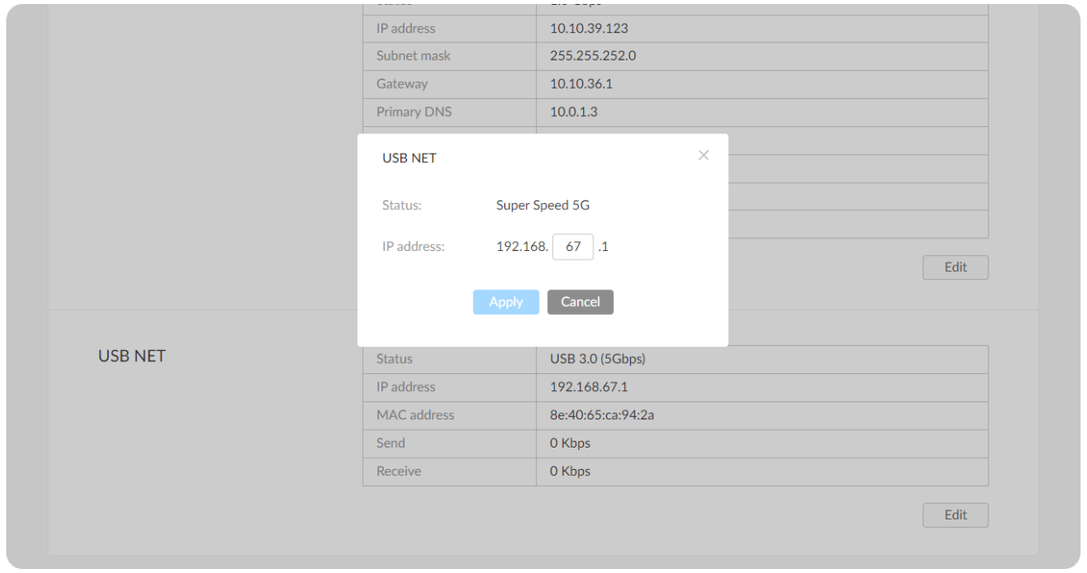
> To change back to using the DHCP service to obtain an IP address, disable **Set IP Address Manually** and click **Apply**. The parameters in the dialog box will be restored to their defaults.

5. Click **Apply**.

> If you are currently accessing the Web UI using an Ethernet IP address, since the original IP address can no longer be used for access, the device will log you out.

6. In the address bar of a browser, enter the new IP address to ensure it can be used to access the Web UI.





Configuring USB Net

You can use the USB net function to connect a USB cable from the CONFIG port of Pro Convert device to your computer, which establishes a virtual network between the computer and the device. Pro Convert device comes with a default network IP, namely 192.168.66.1.

Viewing USB Network Information

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **USB NET** area, view USB network connection information:
   - **Status**: USB network connection status
     - **Down**: The network port is down.
     - **Disconnected**: No network is connected.
     - Connected: **USB 2.0** or **USB 3.0 (5G)**.
   - **IP address**: IP address of the device
   - **MAC address**: MAC address of the current network adapter
   - **Send**: data sending speed of the device
   - **Receive**: data receiving speed of the device

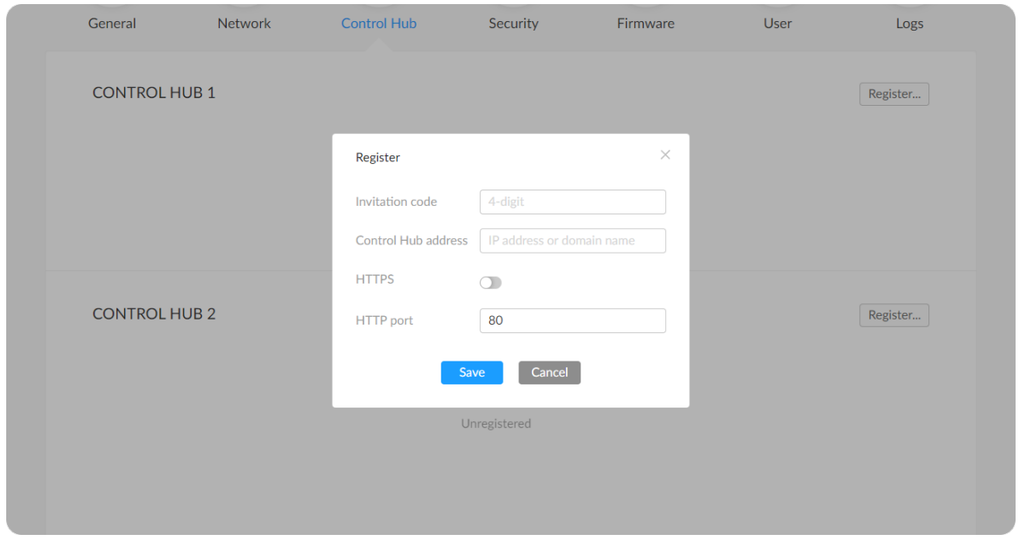
Changing USB Net IP Address

- If there is no conflict within the network, it is not recommended to change the USB network IP address.
- It is not recommended to connect multiple Pro Convert device devices to the same computer. If you connect multiple devices, only the first device is assigned the default IP address. You will need to change the IP address of previous devices for the subsequent devices to successfully connect to the computer.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **USB NET** area, click **Edit**.
4. In the displayed dialog box, set **IP address**.
   You can only change the third segment of the address. Make sure that the new IP address is not occupied in the local network.
5. Click **Apply**.

   If you are currently accessing the Web UI using an USB network IP address, since the original IP address can no longer be used for access, the device will log you out.

6. Use USB network to access the Web UI to ensure that the new IP address can be used for access.



Control Hub

Pro Convert device can join Magewell Control Hub, so that administrators can remotely configure device parameters, trigger operational functions and upgrade the firmware of multiple devices in batches. They can also group devices together and assign permissions for different devices or groups. Currently, you can connect two Control Hub instances.

Please install and log in Magewell Control Hub at first by referring to Magewell Control Hub User Manual.

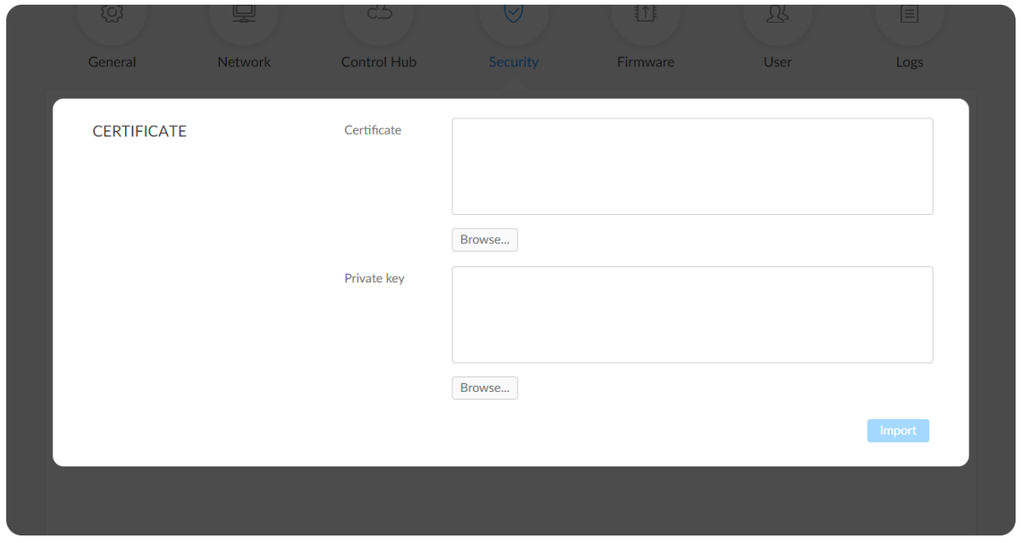
The following steps take the CONTROL HUB 1 area as an example.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Control Hub**.
3. Click **Register...** in the **CONTROL HUB 1** area.
4. Input parameters in the pop-up window.
   - **Invitation code**: a 4-digital numbers security code enabled on Magewell Control Hub. If not enabled, leave it empty.
   - **Control Hub address**: input IP address or domain name of Control Hub.
   - **HTTPS**: turn it on if you need to connect Control Hub via HTTPS.
   - **HTTP/HTTPS port**: input the HTTP/HTTPS port number, which should be consist with that of Control Hub. It uses the HTTP 80 port by default. The value ranges from 1 to 65535.
5. Click **Save**.
6. In the **CONTROL HUB 1** area, check parameters related to Control Hub management.
   - **Control Hub status**: **Online** or **Offline**. Online indicates that the

communication between device and Control Hub goes well. On the other hand, Offline indicates the communication is interrupted.

- **Register status**: shows current status of Control Hub join permission, including:
  - **Incorrect invitation code**: you need to change your registration with correct code.
  - **Waiting**: registration is successfully submitted to Control Hub and waiting for approval.
  - **Accepted**: registration is approved. This device can be remotely controlled.
  - **Rejected**: Registration is denied.
  - **Deleted**: Registration is deleted, you can re-apply for joining the Control Hub.
  - **Control Hub address**: shows IP address or domain name of Control Hub.
  - **HTTPS**: it displays "Enabled" when connecting Control Hub via HTTPS; it displays "Disabled" when via HTTP.
  - **HTTP/HTTPS port**: shows the HTTP/HTTPS port of the device used to communicate with Control Hub.

7. Manage the device on Magewell Control Hub. For details, please refer to Magewell Control Hub User Manual.
8. To deregister from Magewell Control Hub, click **Deregister** in the **CONTROL HUB 1** area.

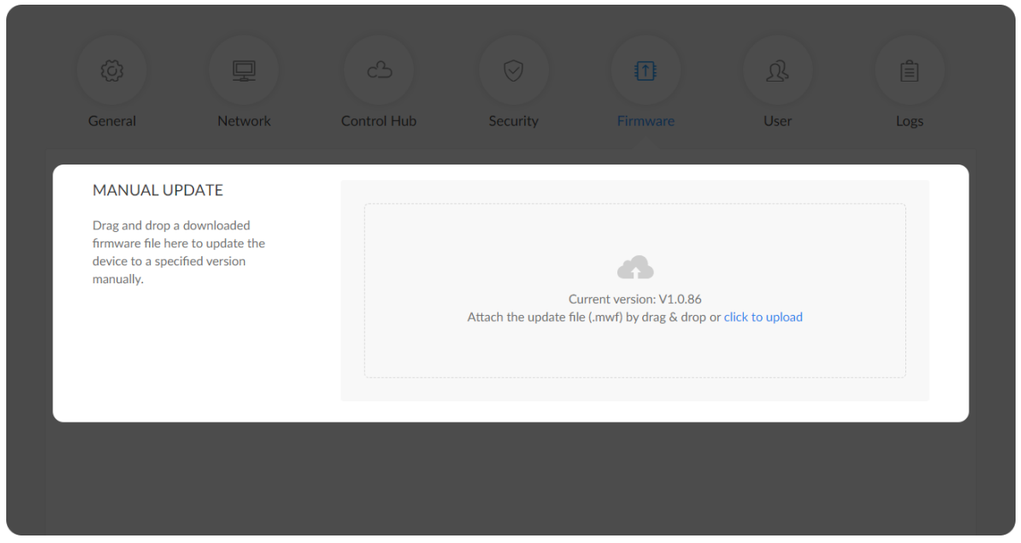


Security Settings

Pro Convert device supports login via HTTPS or Token, to enhance security.

Setting HTTPS

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Security**.
3. Add HTTPS credentials.
   i. **Certificate**: Click **Browse...** and choose the certificate file.
   ii. **Private Key**: Click **Browse...** and select the key file.
   iii. Click **Import**, and the information of the specified certificate file will be displayed on the page.
4. Click **Enable**, and then restart the device to make the configuration take effect.
5. Enter the IP address with the prefix "https://" in the browser, and access the Web UI and log in again.
6. To change the certificate, click **Change** and re-import the certificate.
7. To delete the certificate, click **Delete**, and then restart the device to make the configuration take effect.
8. To disable HTTPS login, click **Disable**, and then restart the device to make the configuration take effect.



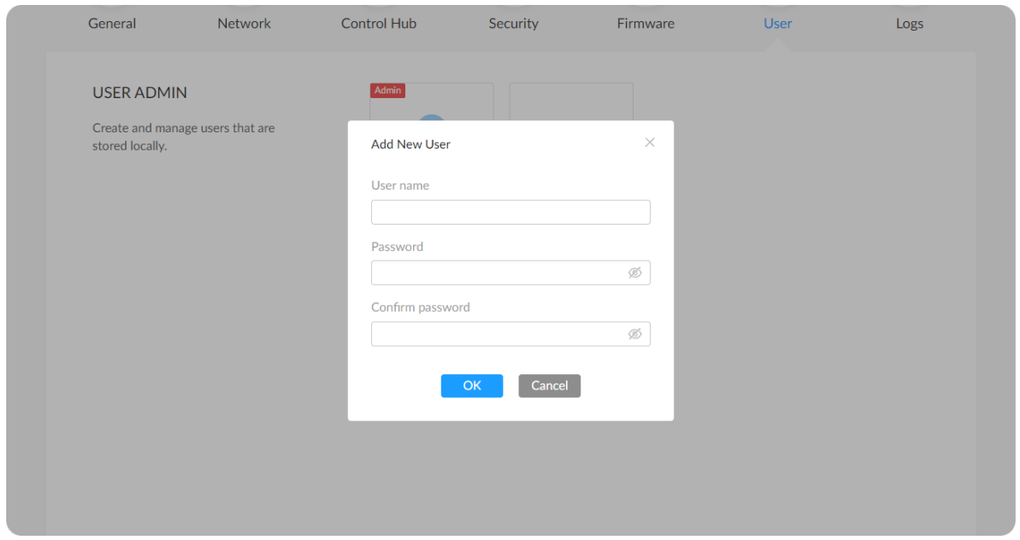
Updating Firmware

Before updating, download the firmware from the official website to your local computer.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Firmware**.
3. In the **UPDATING FIRMWARE** area, click **click to upload** in the file upload box to select the firmware file stored locally and upload.
   You can also drag the firmware file to the file upload box.
   The device will automatically verifies if the update file is valid. If yes, the device then loads the file.
4. Click **Update**.
   - The update consists of operations including erasing and writing, so you need to wait for a while.
   - While updating, do not shut down/reboot the device, or disconnect from the network.
   - If the update is interrupted due to unexpected exceptions (such as power outage or network disconnection), the firmware will roll back to the factory version, and you need to update the firmware again.
5. When the update is completed, click **Reboot**.
   The reboot will automatically disconnect from and then connect to the network. when the reboot is completed, you will be directed to the Web UI login page.
6. Log in to the Web UI again and check **Firmware version** on the

Dashboard page.

The firmware version should be the one you just updated to.



Managing Users

Pro Convert device has a preset Admin user that cannot be deleted. The Admin user can create and manage users for the current device.

Creating Users

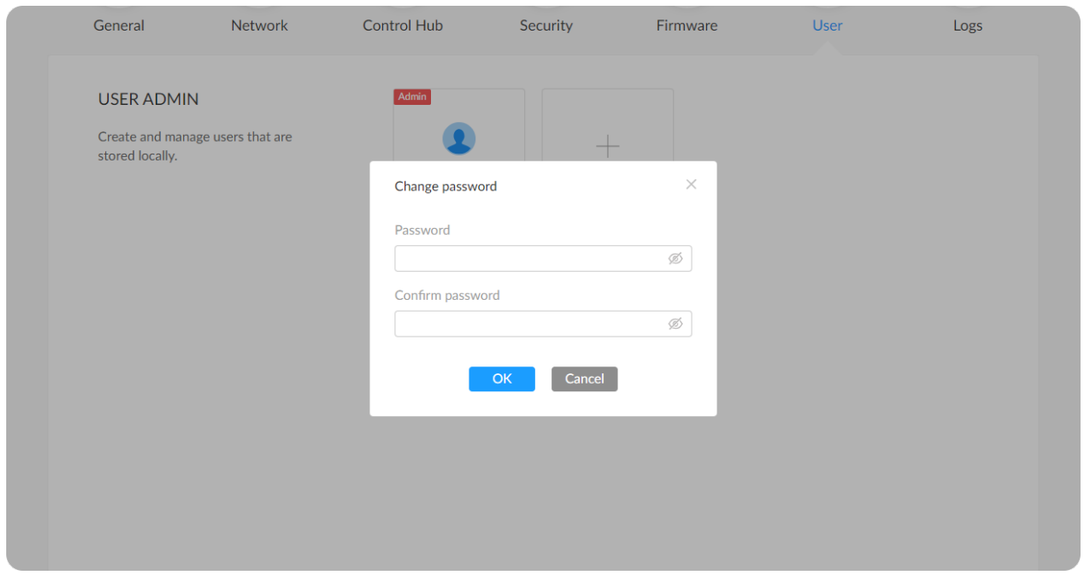
Multiple users can access the same device for monitoring or other operations.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **User**.
3. On the **User** tab page, click the **Add New User** button.
4. Enter the user name and password, and confirm the password.
   - The user name is case sensitive, ranging from 3 to 12 characters consisting of A-Z, a-z, 0-9 and underscores (_).
   - The password is case sensitive, ranging from 1 to 32 characters consisting of A-Z, a-z, 0-9, and special characters _-~!@#$%^&*-+=
5. Click **OK**.

Deleting Users

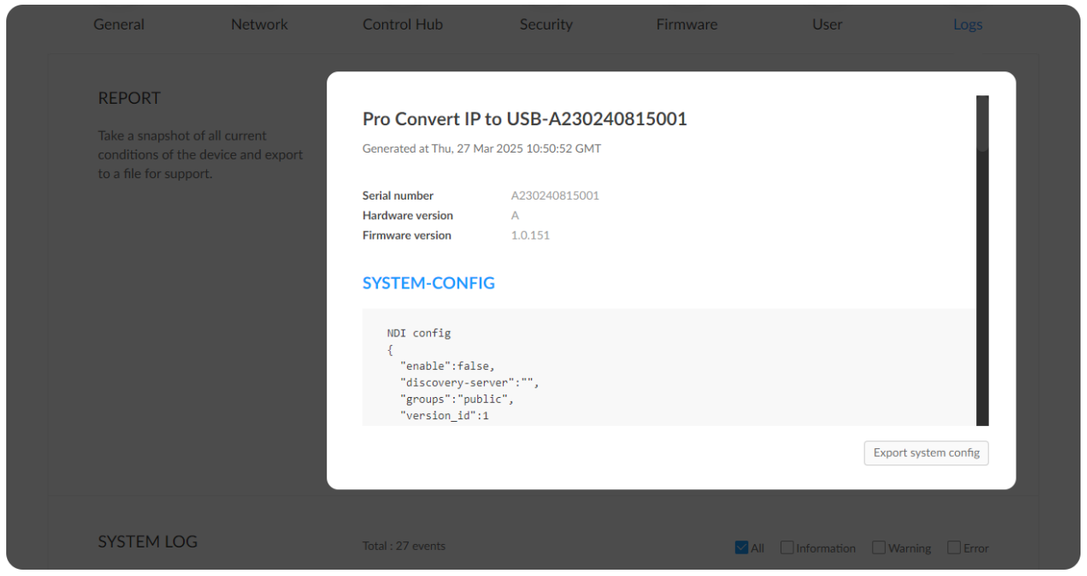
1. Log in to the Web UI as the Admin user.
2. Choose **System** > **User**.

3. On the **User** tab page, move the mouse to a user and click the **X** icon at the upper right corner.
   The **Admin** user cannot be deleted.
4. In the displayed dialog box, click **Yes**.



Resetting the Password

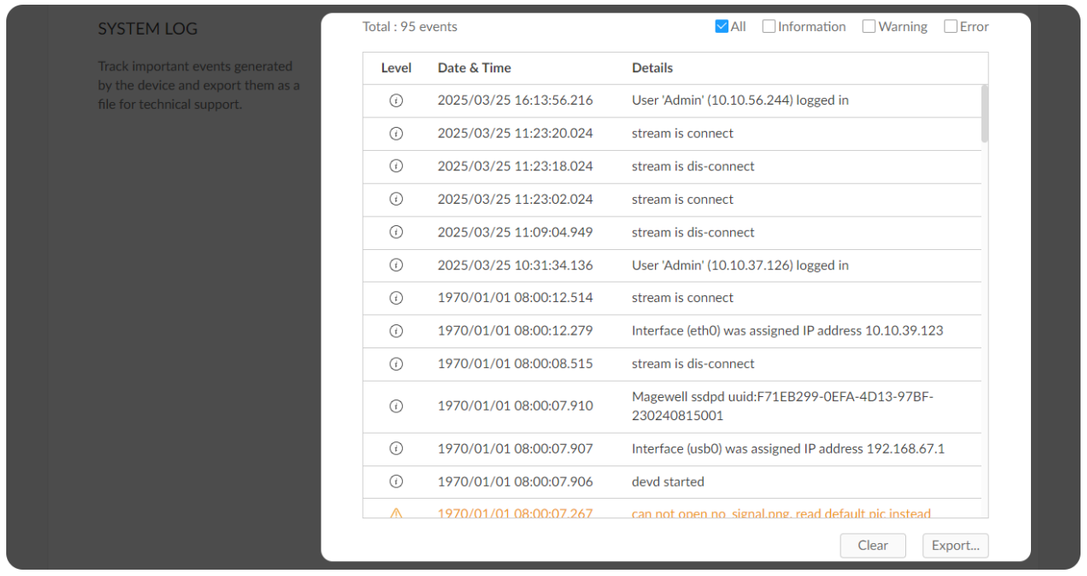
1. Log in to the Web UI as the Admin user.
   If you need to reset the password of the Admin user, you need to reset the device to restore to the default Admin account. For details, see Resetting Device.
2. Choose **System** > **User**.
3. On the **User** tab page, move the mouse to a user and click **Set password** .
4. In the displayed window, enter the new password, and confirm the new password.
   The password is case sensitive, ranging from 1 to 32 characters consisting of A-Z, a-z, 0-9, and special characters _-~!@#$%^&*-+=
5. Click **Yes**.
   The new password will take effect immediately.



Managing Report

When you need support service, providing logs to support engineers can often help troubleshooting your problem. Only the Admin user can export report.

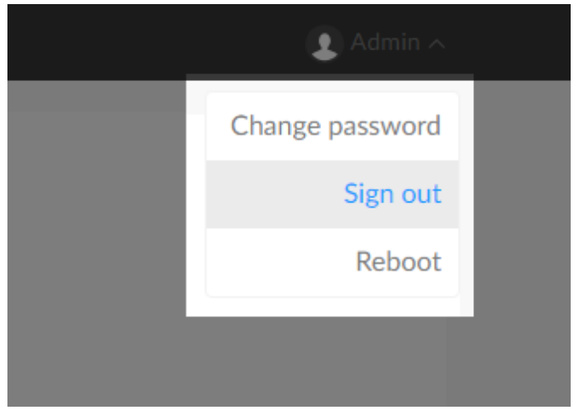
1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Logs**.
3. (Optional) In the **REPORT** area, check system configurations.
4. (Optional) Click **Export system config** to export the report file. In the displayed window, click **Export**.



Managing Logs

When you need support service, providing logs to support engineers can often help troubleshooting your problem. Only the Admin user can export logs.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Logs**.
3. (Optional) In the **SYSTEM LOG** area, filter logs.
   By default, all logs are displayed in the table. Check the following boxes to display corresponding logs:
   - **All**: Check to display all logs.
   - **Information**: Check to display information logs. This log level records user operations and system events, such as login and signal locking.
   - **Warning**: Check to display warning logs. This log level records system exceptions, such as Ethernet disconnection, and signal not locked.
   - **Error**: Check to display error logs. This log level records serious system errors, such as device initiation failure.
     The total number of logs is also displayed above the log list.
4. (Optional) Click **Export...** to export a log file in .html format.
   In the displayed window, click **Export**.
5. (Optional) Click **Clear** to remove all logs.
   In the displayed window, click **Yes**.



Rebooting/Resetting Pro Convert

Rebooting/resetting your Pro Convert devices when problems are encountered.

Rebooting Pro Convert

⚠ Rebooting your device will not lose any of your configuration settings.

1. Access the Web UI and sign in as administrator.
2. Click the drop-list icon behind your username at the top-right of the Web UI and select **Reboot**.
3. When prompted in the window, click **Reboot** to restart decoder immediately.
4. (Optional) Set **Auto reboot** to schedule device restart in the "System > General > AUTO REBOOT" part.
   You can specify a specific time weekly in the prompt **Auto reboot** window.

Figure1. Connections

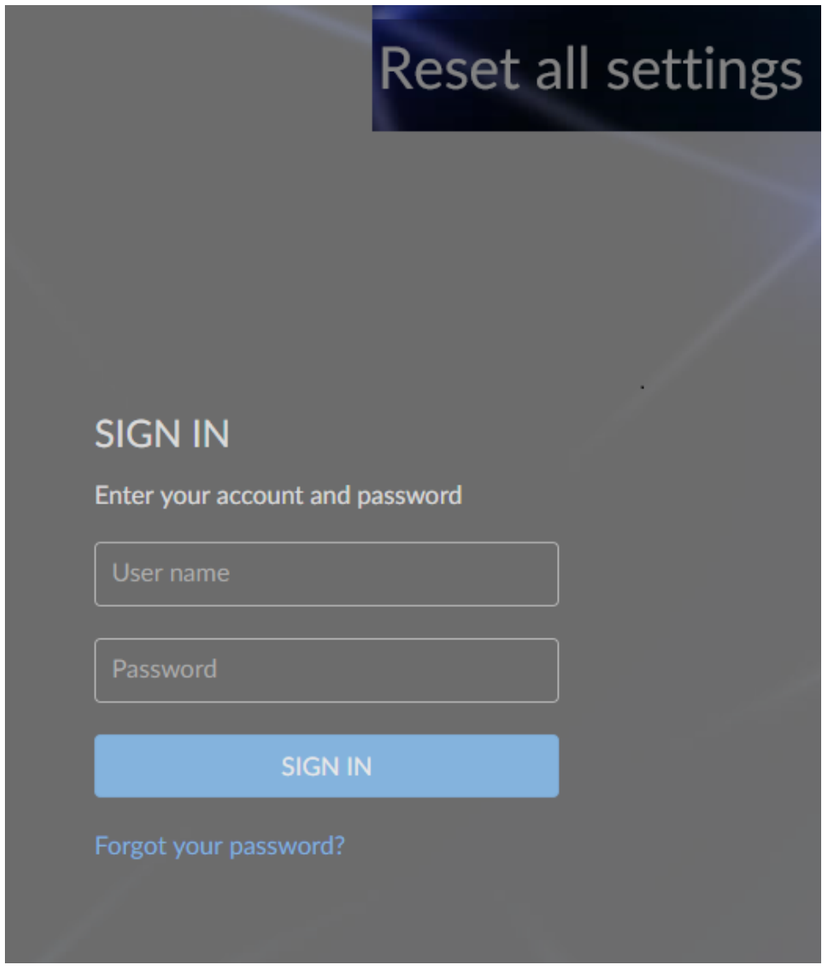


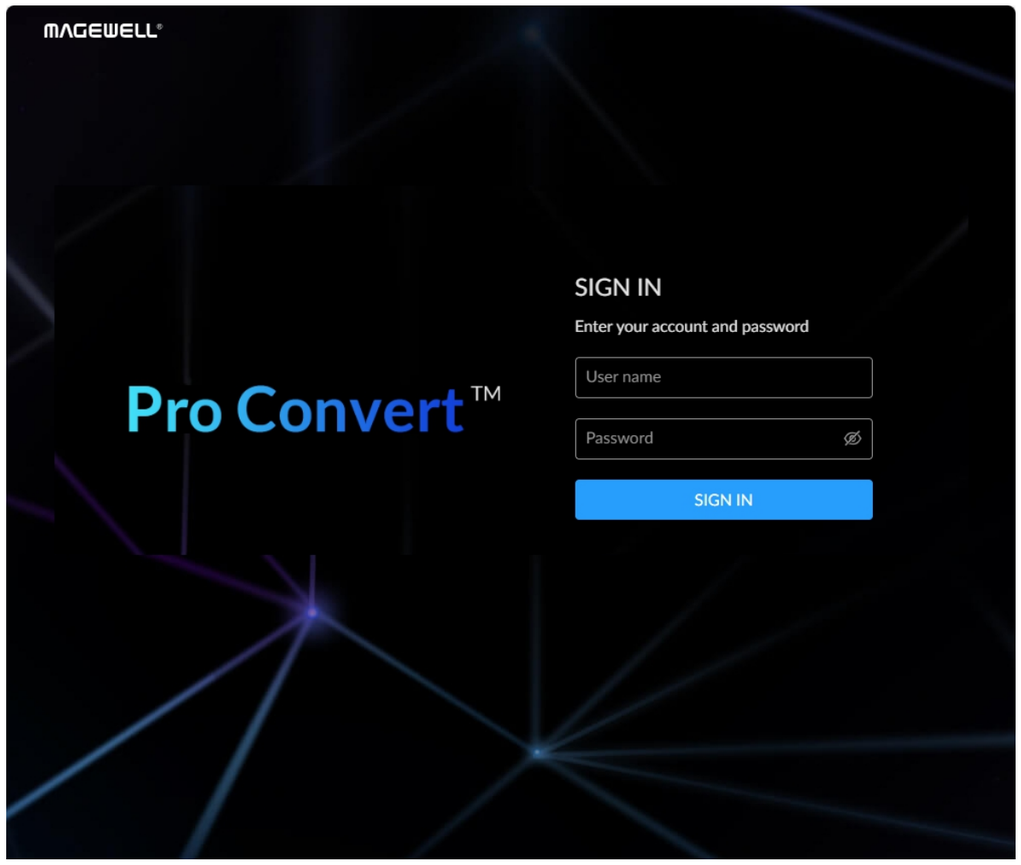
Figure2. Reset all settings

Resetting All Settings

⚠ Warning: Resetting your device will lose all your configuration data.

1. Connect the device and your computer with the USB cable.
2. Launch your web browser and type in the Ethernet over USB address to access the Web UI **SIGN IN** page.
   The default address is 192.168.66.1. Please do not change it unless there is a conflict in your network.
3. Click **Reset all settings** at the top right corner of the **SIGN IN** page.
   The reset process may take a few minutes.

FAQ



How to configure Pro Convert IP to USB via Web UI

Pro Convert IP to USB allows you to set up and control via a web-based user interface as either an administrator or a general user.

You can get access to the Web UI using Windows File Explorer, through your web browser over a USB connection, or with NDI Studio Monitor software. Here takes the Pro Convert IP to USB HDMI 4K Plus as an example.

Make sure that at least one of the following web browsers is installed in your system.

- Google Chrome version 49 and above
- Microsoft Edge
- Mozilla Firefox version 61 and above
- Apple Safari 11.1 and above
- Opera 55.0.2994.44 and above

Figure1. USB NET

Method 1: using USB NET

1. Connet the device to the computer through the USB-C port, open a browser and access 192.168.66.1.
2. Enter the user name Admin and password Admin to log in.
   The pop-up web UI of the connected device will be shown in your browser.

Please do not change the IP address unless there is a conflict in your network.

> ⚠ Do not connect more than one device simultaneously to the same system via USB net.

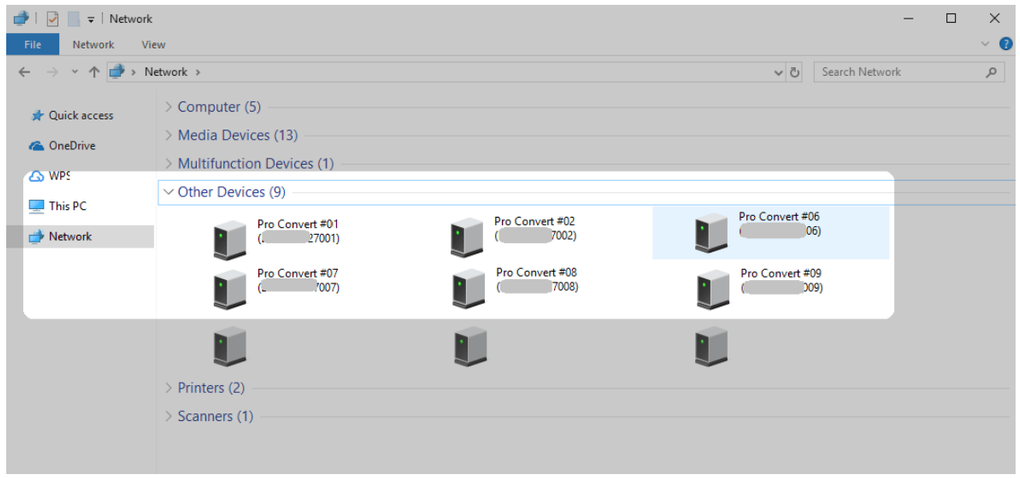


Figure 2 Find your device in the Network > Other Devices section

Method 2: using Windows File Explorer

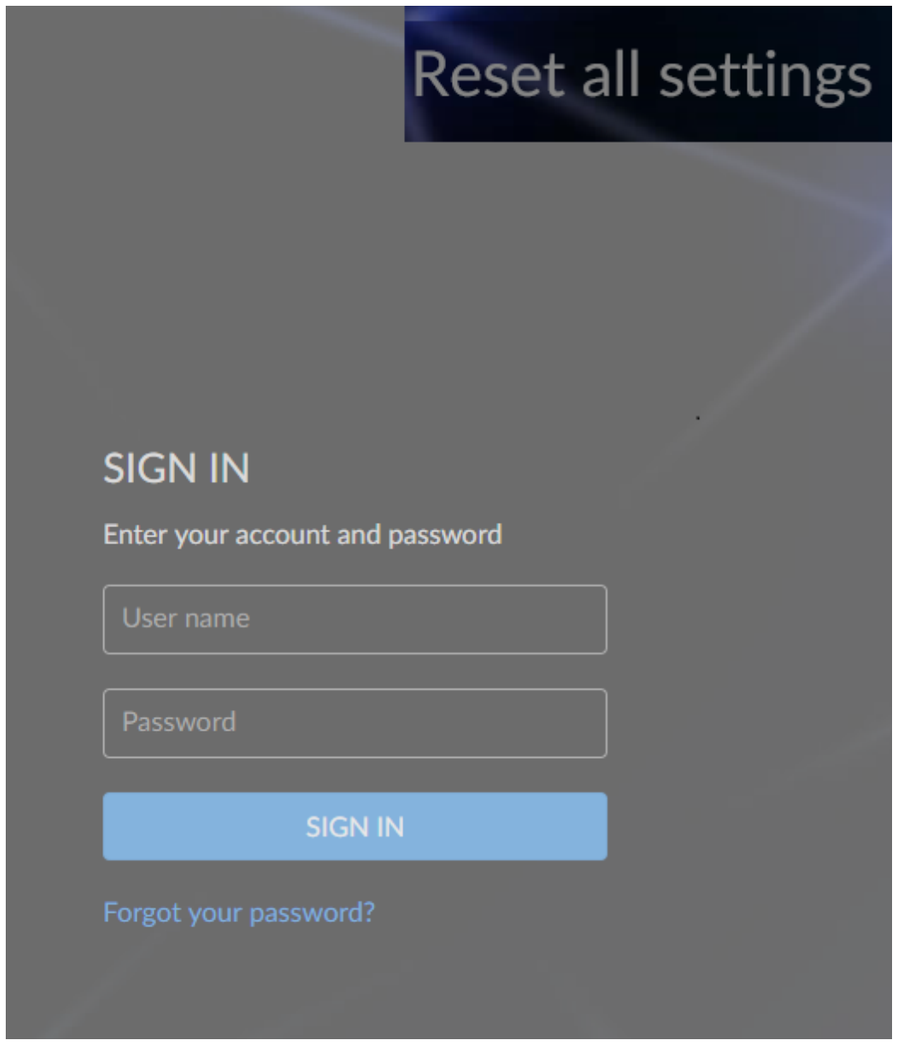
This method is available for Windows7/8/8.1/10/11 users.

1. Connect your decoder via Ethernet and power it up as shown on the left figure.
2. Open a **File Explorer** window in one of the following ways.
   - Click on the **Start** button and find File Explorer in the Start menu.
   - Press the Windows logo key + E.
   - Select the folder icon on the taskbar.
3. Select the **Network** at the bottom of the list of items on the left side of the File Explorer.
4. (Optional) Turn on the network discovery function if prompted.
5. Find your device in the **Other Devices** section, where it will be shown as "**serial number**". The **serial number** is marked on your device.
6. Double click the device icon to open the Web UI in your web browser.

How to change the device name

Pro Convert IP to USB allows you to set the device name via a web-based user interface as an administrator.

1. Access the Web UI, and sign in as administrator.
2. Click and enter the **System > General** tab.
3. Change the **Device name**.
   The device name is a string of 1 to 30 non-case sensitive characters, containing letters a to z, A to Z, 0-9, spaces and special characters like _-+.
4. Click **Apply** to save your changes, and then click **Yes** when prompted.
   It may take a few minutes for your settings to take effect.



How to reset a Pro Convert IP to USB device

⚠ Warning: Resetting your device will lose all your configuration data.

1. Connect your device to your computer.
2. Launch your web browser, and type in the USB NET address to access the Web UI **SIGN IN** page.
   The default address is **http://192.168.66.1**. Please do not change it unless there is a conflict on your network.
3. Click **Reset all settings** at the top right corner of the **SIGN IN** page.
   The reset process may take a few minutes.

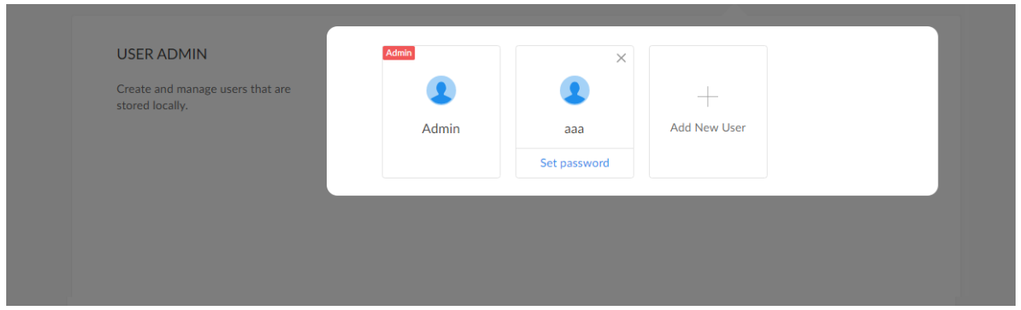


Figure1. Connections

What to do if you forgot the password

If you are a general user, ask your administrator to set a new password for you. If you are the administrator, you need to reset all settings back to default values, then set a new admin password.

1. To reset a general user's password.

1. Access the Web UI, and sign in as administrator.
2. Click and enter the **System** tab.
3. Click the **Set password** link which appears when your mouse hovers over the user name.
4. Type in new password and confirm the new password as prompted in the window. The password is a string of 1 to 32 case-sensitive characters, which contains A-Z, a-z, 0-9 and special characters _-~!@#$%^&*-+=.
5. Click **OK**.

2. To set a new admin password.

1. Connect the device to a computer with the USB cable.
2. Type in the USB NET address to your web browser.
   The default IP address of USB NET is http://192.168.66.1. Please do not modify it unless there is a conflict on your network.
3. Click **Reset all settings** at the top-right corner of the **SIGN IN** page.
   The reset process may take a few minutes, and all configuration data will be lost – not just the passwords.

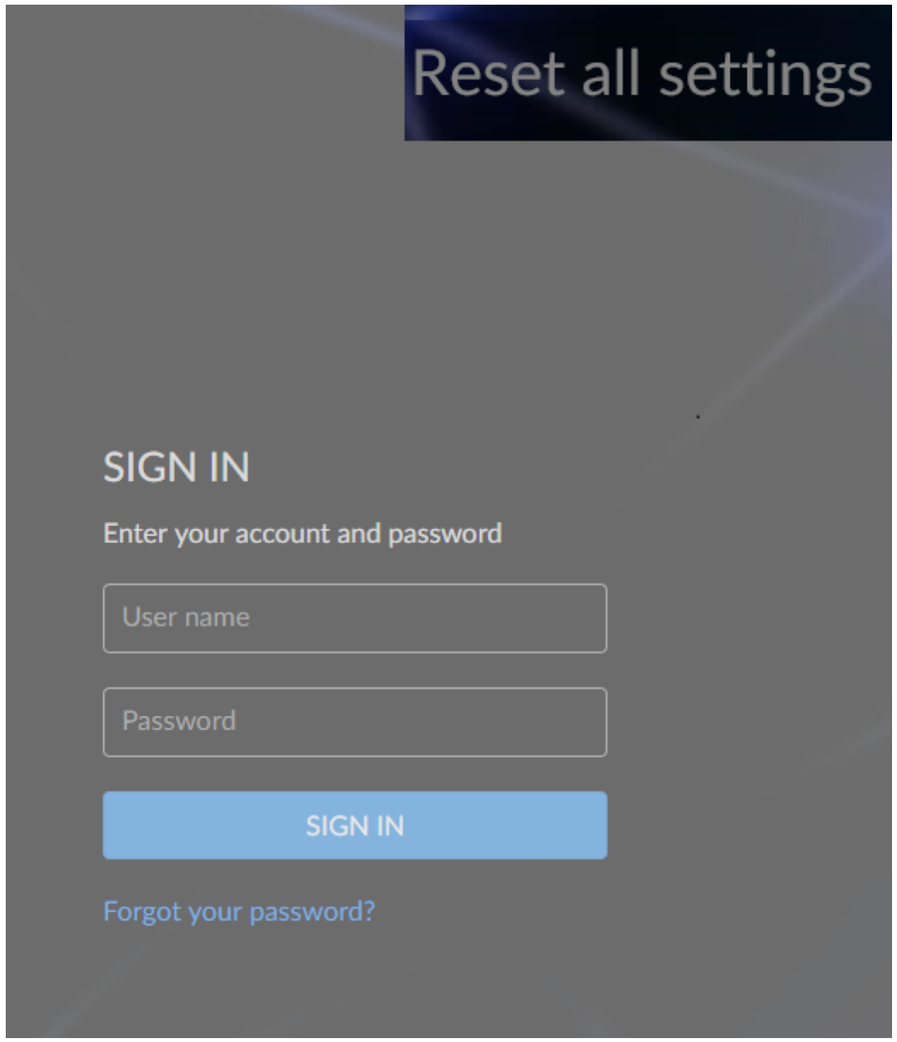


Figure2. Reset all settings

4. Sign in to the Web UI via the default admin account (case-sensitive): Admin, Admin.
5. Click and enter the **System** tab.
6. Click the **Set password** link which appears when your mouse hovers over the user name.
7. Type in new password, and confirm the new password as prompted in the window.
   The password is a string of 1 to 32 case-sensitive characters, which contains letters A-Z, a-z, numbers 0-9 and special characters _-~!@#$%^&*-+=.
8. Click **OK**.

Figure1. USB Net connections

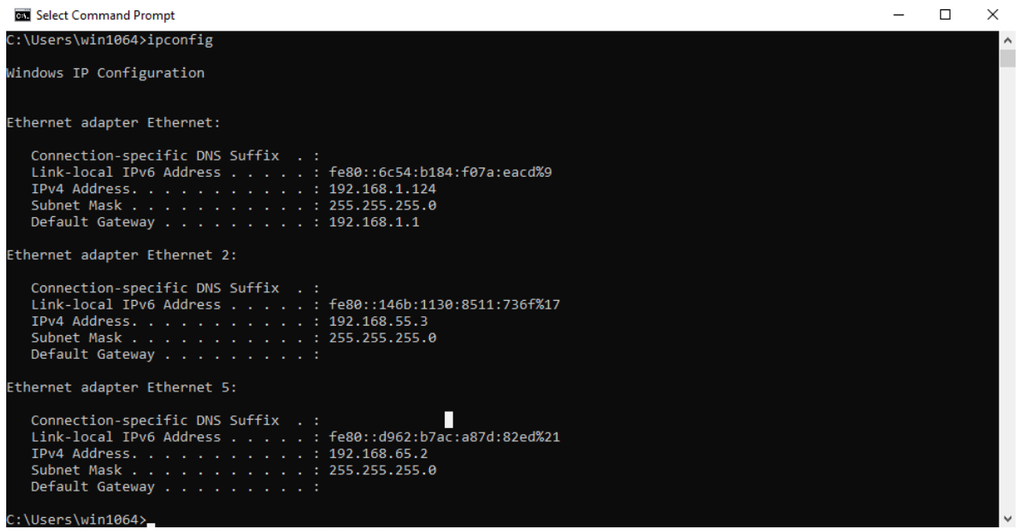


Figure2. Windows Command Line Interpreter

How to retrieve your USB Net IP Address

1. Connect the device and your computer with a USB cable as shown in the left Figure1. Connections.
2. For Windows users, follow the steps bellow.
   i. Type **cmd** in the search bar to start the command interpreter.
   ii. Type in **ipconfig**, and find an IPv4 address of the form 192.168.xxx.2, as shown in Figure2. Windows Command Line Interpreter.

> ⚠ If 192.168.xxx.2 is taken, the IP address would automatically change to another value within the ranges of 192.168.xxx.2 to 192.168.xxx.254.

3. Type in **192.168.xxx.1** in your web browser to access the Web UI.

Which version of NDI® is compatible with Pro Convert IP to USB?

NewTek NDI 6 is compatible with Pro Convert IP to USB.

Support

Get the Latest Information

If you have any problems using Magewell products or need more technical information, please visit the following channels.

- Tutorial video: www.magewell.com/tv
- YouTube: Magewell
- Knowledge base: www.magewell.com/kb/pro-convert
- Official website: www.magewell.com/pro-convert

Technical Support

- Submit your questions in the online Ticket System: tickets.magewell.com
- Contact the Magewell Technical Support Team at support@magewell.net

Warranty

Limited Warranty

Except otherwise set between you and Magewell in advance in a written form, the free limited warranty service starts from the date on your proof of purchase. The proof can be: sales contract, formal sales receipt, invoice or delivery note. The earliest date of these proofs is the starting date of the free limited warranty.

The period of free limited warranty goes as below:

- Entire device (except the screen): two (2) years;
- Accessories: one (1) year.

How to get the limited warranty

1. Please contact the Magewell support team by email (support@magewell.net) first, to determine whether your problem can only be solved by returning it to Magewell for repair. Magewell might ask you to take photos of the front and back of the defective products.
2. Magewell will issue an RMA letter to you if it is confirmed that you need to return the faulty product for further examination or repair. Please fill in the RMA with necessary information as required.
   If it is regular repair, you will be responsible for the shipping cost, duties and insurance cost (if applicable); if the product is DOA, Magewell will be responsible for the shipping cost.
3. If some components need to be replaced, Magewell will decide to repair, renovate or replace the components by itself. Magewell may use new or repaired component to repair the product. The repaired product can be expected to work normally and the performance to remain the same. Repaired products can work in a good working condition and at least function the same as the original unit. The original replaced component will become the property of Magewell and components which are replaced for the client will become his/her property.
4. If the product is within warranty, Magewell will repair or replace the faulty units at its own discretion. In circumstances where the faulty unit is replaced by another one, Magewell may use new, repaired or renovated units. The faulty unit will then become the property of Magewell while the replacement unit will become the property of the purchaser.

5. If the warranty expires, Magewell will inform the purchaser whether the products can be repaired and the maintenance costs they need to pay. If purchasers decide to repair, Magewell will repair, renovate, or replace the components after receiving the maintenance costs. If purchasers give up repairing, Magewell will dispose of the faulty unit if the purchaser chooses that option.
6. The repaired or replaced product assumes 1) the remaining term of the Warranty of the replaced unit or faulty unit; 2) ninety (90) days from the date of replacement or repair, whichever provides longer coverage for you. The extended warranty is only valid for repaired/replaced components.
7. The period of service depends on the client's location (country and area) and the product.

To view the complete warranty policy, please visit www.magewell.com/quality-assurance.

Notice

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