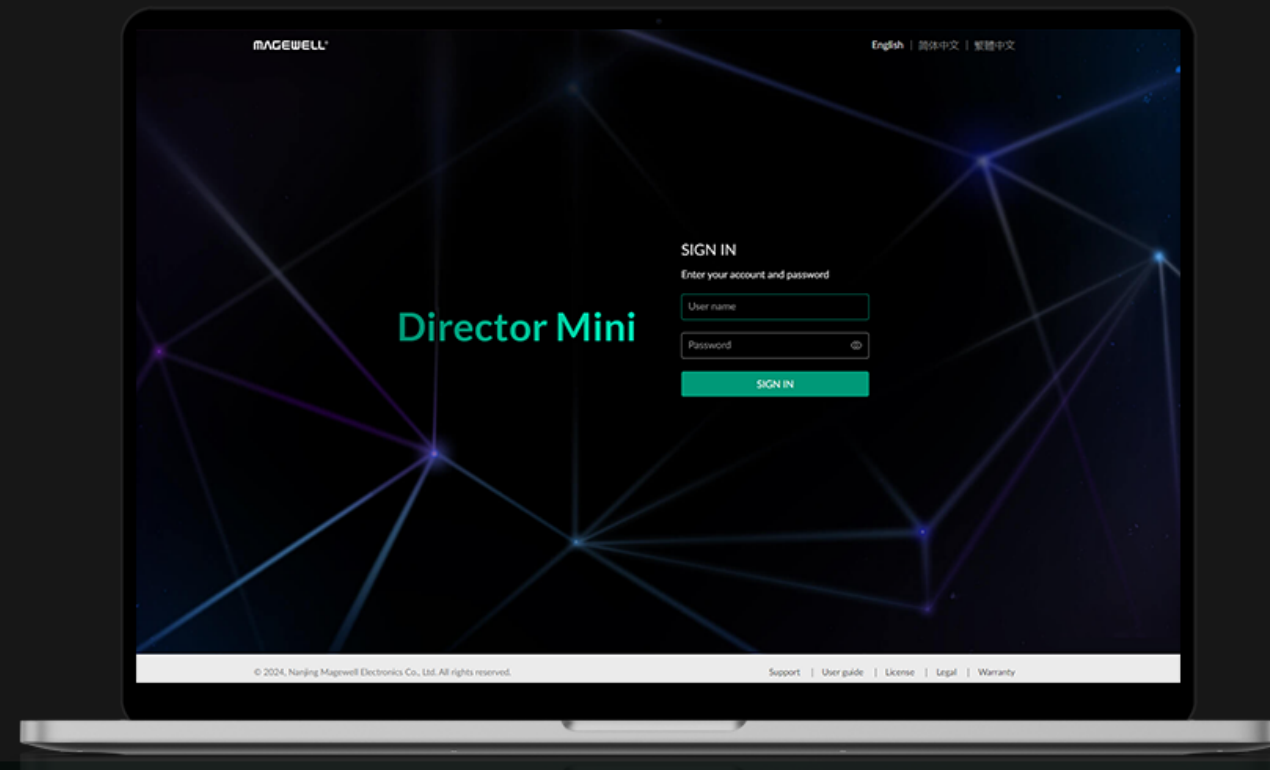


Director Web UI

User Manual, Reference and FAQs



Firmware: 3.0

Date: 03.03.2025

Director Mini

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Overview

Director device provides a Web UI for user to check device status, configure device functions, control and manage content of show, and more. After a computer connects to the same network as the Director device, the computer can access the Web UI of your Director device.

Web UI Layout

The screenshot displays the MAGEWELL Director Mini Web UI. The top navigation bar includes the MAGEWELL logo, a 'Dashboard' link, and menu items for 'Input', 'Produce', 'Encode', 'Stream', 'Album', 'BGM', 'Media', and 'System'. A user profile 'Admin' is visible in the top right corner.

The main content area is divided into four sections:

- DIRECTOR MINI:** Shows device name (DMA511220416050), serial number (A511220416050), and power status (Power cable connected).
- VERSION:** Shows firmware (1.20), software (3.0.856), and hardware (A).
- STATUS:** Shows CPU usage (27.06%), memory (57%), temperature (49.35°C), up time (16 m), free space (49.7 GB), fan speed (3550 rpm), and kernel (603).
- NETWORK:** Shows cellular, Bluetooth, Ethernet (10.10.7.181), Hotspot, and USB-Fusion_8456_5G (192.168.67.227).

You can use the tabs at the upper part of the Web UI to navigate:

- **Dashboard:** Displays basic device information, device status, and network status.
This is the page displayed when you log into the Web UI.
- **Input:** Displays input information, and set no signal image.
- **Produce:** Preview program image, manage shows, control scenes, [GFX](#) and audio, and set shortcuts, etc.
- **Encode:** Set parameters for Encode 1 and Encode 2.
- **Stream:** Configure stream servers and start or stop streaming at any time.
- **Album:** Start or stop recording, take screenshots of the program output, and manage files in the Album.
- **BGM:** Add and control global background music.

- **Media:** Upload and manage pictures, videos, and music.
- **System:** Configure and maintain the system, including general settings, network settings, registration with Magewell Control Hub, security, firmware update, user administration, logs.

The system configuration and maintenance functions are available only to the Admin user, not to common users.

In the user information area at the upper right corner, you can also change password, log out, and reboot the device.

The device reboot function is available only to the Admin user, not to common users.

What's New

User manual updating with Director One released in March 2025

- Add Director One (firmware version: 3.0) to Director family.

Director Mini Firmware History

Firmware version: 3.0

- **View Hotspot Information**
You can view the hotspot name on the Dashboard page.
- **Export Media Files**
When you export a show, you can select media files to export together.
- **More Scene Sources**
You can use [SRT Listener](#), [RTSP stream](#) and [Webpage](#) as sources.
- **More Phone Camera Parameters**
You can set latency and buffer duration when creating a phone camera scene.
- **More Transition Effects**
It provides more scene transition effects, including [DIP](#), [Wipe](#), [DVE](#), [Stinger](#) and [3D](#).
- **Re-ordering Scene/[GFX](#)/Shortcut List**
You can re-order scene/[GFX](#)/Shortcut list by drag and drop.
- **New Replay Tab**
A new Replay tab helps you better control replay, and you can rewind or fast forward one frame during replay.
- **Video Source and Audio Source Options for Encoding**
When configuring [Encode](#) and [NDI Server](#), you can select different audio sources and video source.
- **Support Scheduled YouTube Stream**

You can stream to the YouTube channel for preview only and start streaming later as scheduled.

- **New Album Page**

The new Album page provides "Record", "Replay" and "Screenshot" tabs to separate files, so that you can easily find the file you need.

- **Shortcut**

The shortcut functions are updated to date, and you can edit existing shortcuts and add the Wait function to set a pause between two functions.

Firmware version:2.4.708

- **Audio Input from Webpage GFX**

When you apply a webpage GFX in a show, the audio from the webpage can be used as an audio input.

- **A Plain Black Image Option for No Single**

A plain black image is added to the default options for no signal.


Firmware version:2.4.687

- **New Input page**

A new Input page supports viewing input information and setting no signal image.

- **New Produce page**

The Produce page with renewed layout provides user-friendly remote control, and it is featured with the following new highlights.

- **Replay:** allow you capture some of greatest moments, slow down the action and save your highlights.
- **Create scenes:** add single-view scenes quickly.
- **Control OBSBOT Webcam:** implement PTZ control, enable AI human tracking, and record videos.
- **Add Webpage GFX:** add a URL and use the webpage's content as a GFX.
- **Set FTB image and set FTB transition duration.**
- **Show live comments:** select one comment as an overlay when streaming to YouTube, Twitch or Facebook.
- **New switch mode:** when switching scenes manually, you can select the transition effect by clicking the **Cut** or **Fade** button.
- **Free layout:** you can move the cursor over the Scene, GFX, Audio Mixer, Shortcuts, or Live Comments tab and click  to open it as a new tab, so as to

customize your preferred layout.

- **Set DNS for Ethernet**

You can manually set DNS for Ethernet.

- **HTTPS Connection to Control Hub**

You can enable HTTPS when registering to Control Hub, so as to enhance data security.

- **Add HTTPS Certificate**

You can upload HTTPS certificate to log in to the Web UI via HTTPS, enhancing data security.

Firmware version: 2.3.576

- **Access Web UI via MDNS**

You can enter `directormini.local` or `device name.local` on the web browser to access the Web UI quickly.

- **View input information**

On the Dashboard page, you can view the information of each input source.

- **A new Produce page**

A new Produce page enables more control and creative options. You can:

- Preview and monitor the current show.
- Create, manage, import and export shows.
- Control scenes, [GFX](#) and audio.
- Control phone camera and PTZ camera on the preview area.
- Set shortcuts for the USB keyboard connected to the Director Mini device.

- **Add the Encode page**

On the Encode page, you can add and edit encode schemes quickly.

- **Enhance stream settings**

When you set stream servers, more parameter options help you enhance the live streaming experience, such as setting network priority, setting Ingestion Protocol for YouTube, and supporting RTMPS for [RTMP](#).

- [Add the Network page](#)

Go to System - Network, and then you can manage the Ethernet, Wi-Fi and Hotspot.

Firmware version: 2.2.650

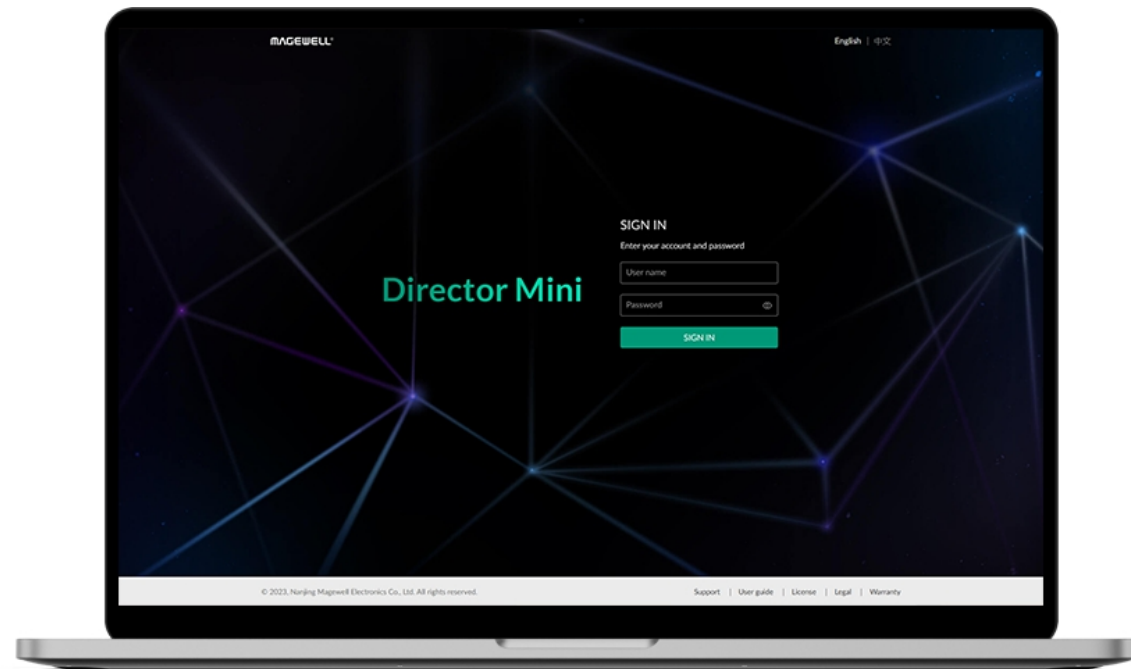
- [Optimize Audio Mixer](#)

Audio input sources can be linked globally or disconnected with separated settings for each scene

- **Update "System"**

The System page has more functions. You can [set device name](#), [set system time](#), and [update firmware](#).

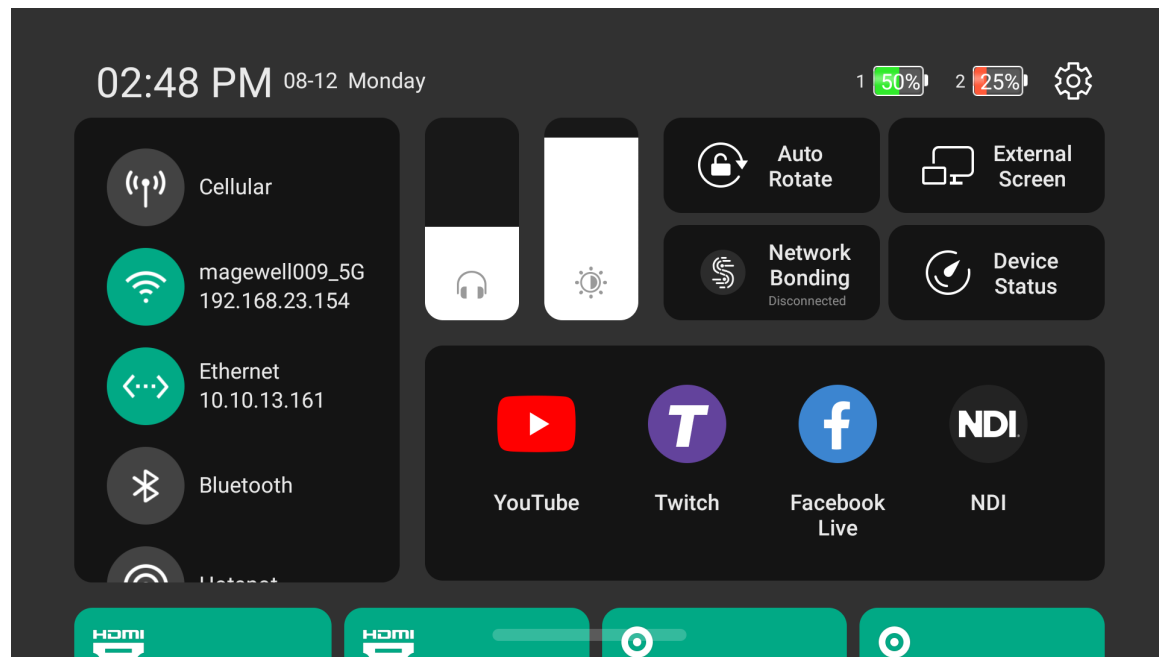
Log Into the Web UI



Access the Web UI

Director device can connect to a network via Ethernet or Wi-Fi. After Director device is connected to a network, you can use flexible methods to access its Web UI, including:

Access Method	Requirements
Use an Ethernet/Wi-Fi IP address	The Ethernet/Wi-Fi IP address of Director device has been obtained.
Use MDNS	The computer and Director device are in the same LAN.
Use Windows network discovery	On a Windows Operating system.



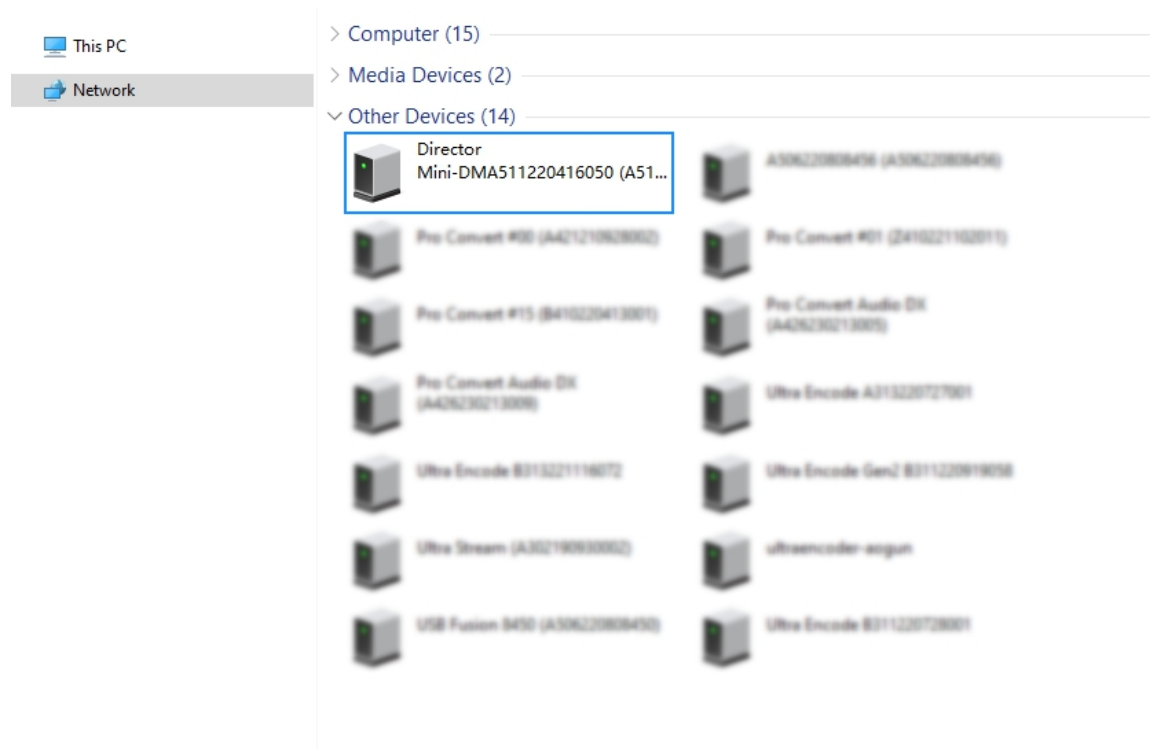
Use an Ethernet/Wi-Fi IP Address

1. Ensure that Director device is powered on and has connected to a network. For the network settings of Director device, please refer to *User Manual for Director*.
2. Swipe down from the top of the device's main screen to open the Control Center, where you can find the IP address of the Ethernet or Wi-Fi.
3. Connect your computer and Director device to the same network.
4. On the computer, open a browser, enter the IP address, and press **Enter**. Then you can see the Web UI login page.

Use MDNS

Director device supports multicast DNS (mDNS), a simple, easy to build, user friendly network discovery protocol. Thus, you can access the Web UI more quickly.

1. Ensure that Director device and your computer is in the same local network.
2. On the computer, open a browser, enter `directormini.local` for Director Mini, `directorone.local` for Director One or `device name.local`, and press **Enter**. Then you can see the Web UI login page.
 - The default device name is "DM + Serial Number", for example, DMA511220416050. You can [customize the device name](#).
 - The serial number of Director device is the one that can be found on the back of device, for example, A511220416050.







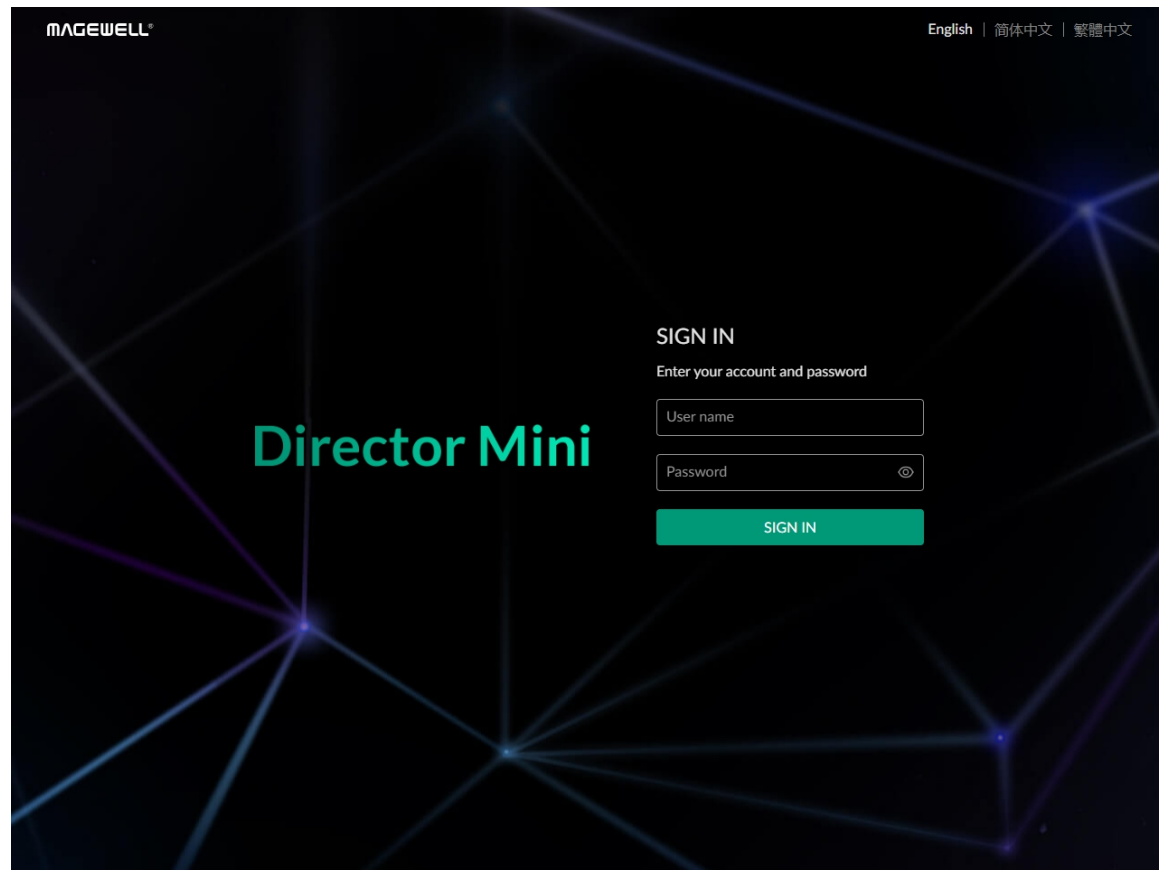
Use Windows Network Discovery

Director device supports SSDP-based network discovery, which you can use to access the device.

On Windows, you can use the File Explorer to discover Director device. This method applies to Windows 7 and later.

The following uses Windows 10 as an example.

1. Ensure that your Director device is powered on and has connected to a network. For the network settings of Director device, please refer to *User Manual for* .
2. Connect your computer and Director device to the same network.
3. On the computer, open **File Explorer**. You can:
 - Click the **Start** button  , and select **File Explorer** in the start menu.
 - Hold down the  key and press E on your keyboard.
4. At the left panel of **File explorer**, click **Network**.
If network discovery is disabled, you need to first enable it by referring to the following method:
Choose  >  , then choose **Network and Internet** > **Network and Sharing Center** > **Change advanced sharing settings**. Under the current network (the one marked as **current profile**), click **Turn on network discovery**.
5. In the **Other Devices** area, the name of Director device is displayed as "Director X + Device Name (Serial Number)". Find your Director device based on the **Serial number**.
 - The default device name is "DM + Serial Number", for example, DMA511220416050. You can [customize the device name](#).
 - The serial number of Director device is the one that can be found on the



back of device, for example A511220416050.

6. Double-click the device icon to access the Web UI login page.

Log Into the Web UI

To ensure system stability and security, Director device grants permissions based on role. The roles and permissions are as follows:

Role	Default Name	Permission
Administrator	Admin	Basic view and configuration permissions, and system management and configuration permissions, which include user management, log management. This role cannot be deleted nor changed name.
Common user	None	Basic view and configuration permissions. No system management and configuration permissions. Common users are created and managed by the administrator.

Director device allows multiple users to simultaneously log in to the Web UI and perform configurations. However, this may lead to previous configurations being overwritten by latter configurations. Therefore, to prevent configuration conflicts, different users should avoid changing configurations at the same time.

- **Sign in:** Enter your account name and password on the Web UI login page.

To access the login page, see [Accessing the Web UI](#).

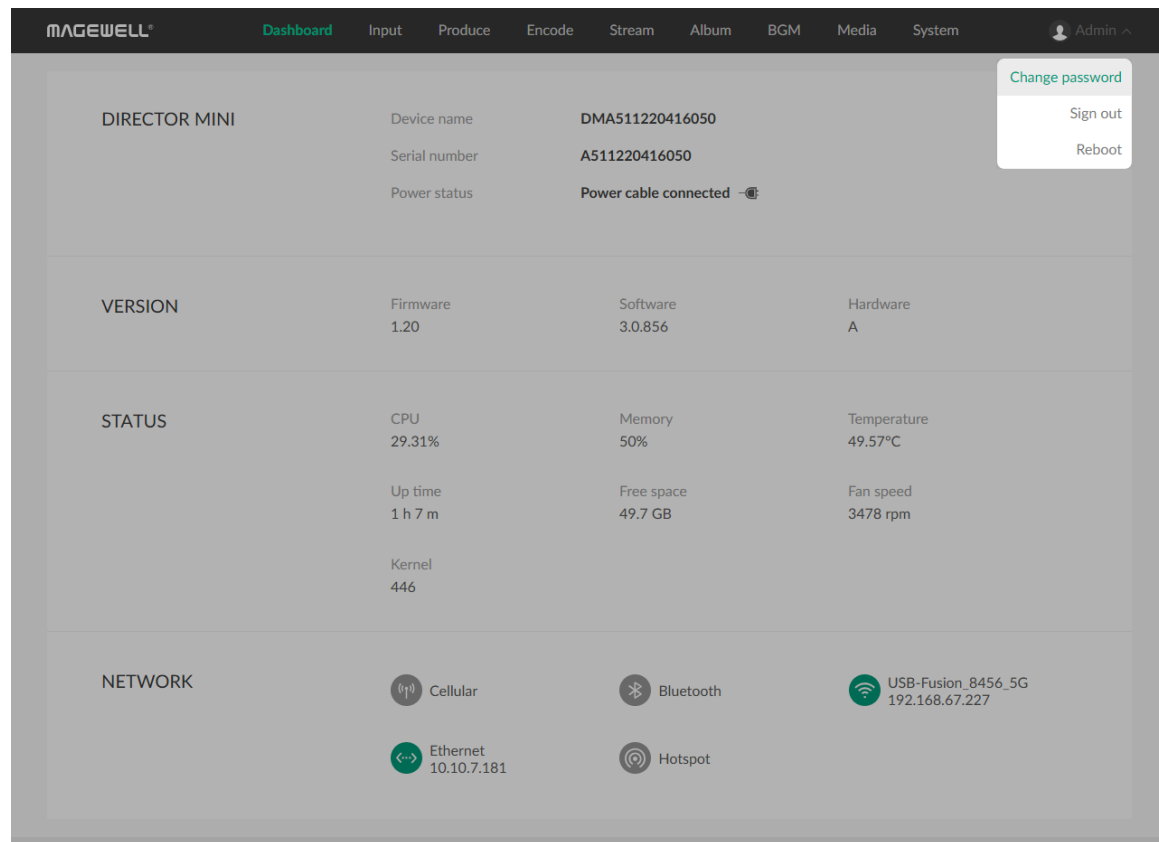
The default account name is **Admin**, and password is **Admin**, both of which are case sensitive.

The default language is English. You can select your preferred language on the upper right corner of the login page.

If you forget the login password:

- For a common user: Use the admin account to reset your password. For details, see [Reset the Password](#).
- For the administrator: Reset the device, and use the default admin account to log in. For details about device resetting, please refer to the *User Manual for Director*.
- **Sign out:** After you log in, click the user name at the upper right corner, and click **Sign out**.

After using the Web UI, make sure you log out so as to prevent unauthorized access.



Change the Login Password

Periodically changing the login password can improve your account security.

For account security, you are advised to change the default password for the Admin user.

1. Log in to the Web UI.
2. Click the user name at the upper right corner, and click **Change password**.
3. In the displayed dialog box, enter the old password, new password, and confirm the new password.

The password is case sensitive, ranging from 1 to 32 characters. Supported characters are as follows: A-Z, a-z, 0-9, and special characters _~!@#\$\$%^&*~+=

4. Click **OK**.

Besides changing its own password, the Admin user can also reset passwords for common users. For details, see [Reset the Password](#).

View Device Information

The screenshot displays the MAGEWELL web interface with a navigation menu at the top: Dashboard, Input, Produce, Encode, Stream, Album, BGM, Media, System, and Admin. The main content area is divided into four sections:

- DIRECTOR MINI:**
 - Device name: DMA511220416050
 - Serial number: A511220416050
 - Power status: Power cable connected
- VERSION:**
 - Firmware: 1.20
 - Software: 3.0.856
 - Hardware: A
- STATUS:**
 - CPU: 27.06%
 - Memory: 57%
 - Temperature: 49.35°C
 - Up time: 16 m
 - Free space: 49.7 GB
 - Fan speed: 3550 rpm
 - Kernel: 603
- NETWORK:**
 - Cellular
 - Bluetooth
 - USB-Fusion_8456_5G: 192.168.67.227
 - Ethernet: 10.10.7.181
 - Hotspot

When using the Director device, you can learn about the device information on the **Dashboard** page of the Web UI.

Basic Information

The **DIRECTOR X** area, such as DIRECTOR MINI, displays the basic information of the device.

- **Device name:** the connected Director device's name. This name can be changed on System > General. Only the Admin user can [set the device name](#) on the Web UI.
- **Serial number:** the serial number of the connected Director device. The serial number can also be found on the device.
- **Power status:** the power connection status, displaying the power cable or the battery status.

Version Information

The **VERSION** area displays the version information of the device

- **Firmware:** the firmware version of Director device.
- **Software:** the software version of Director device. After you [update firmware](#), you can view software version to check whether the update succeeds.
- **Hardware:** the hardware version of Director device.

Device Status

The **STATUS** area displays the running status of the device.

- **CPU:** the CPU usage of Director device, in percentage.
- **Memory:** the memory usage of Director device, in percentage.
- **Temperature:** the temperature of the chipset on Director device. To avoid overheat, ensure that device is working in a well-aired environment with proper temperature. When the temperature approaches 90 degrees, you need to reduce the temperature, such as by using a fan.
- **Up time:** the duration that Director device keeps running since last startup.
- **Free space:** the available storage of Director device.
- **Fan speed:** the rotation speed of the fan per minute. This changes based on the temperature of Director device.
- **Kernel:** the usage of kernel resource.

Network Information

The **NETWORK** area displays the network connection information.

- **Cellular:** the cellular network information if a USB Modem is connected.
- **Bluetooth:** the name of the Bluetooth device connected with the device.
- **Wi-Fi:** the name and IP address of the Wi-Fi.
- **Ethernet:** the IP address of the Ethernet.
- **Hotspot:** the hotspot name.

View Input

In the navigation bar at the upper part of the Web UI, click **Input** to view input information and set no signal image.

The screenshot displays the 'INPUT INFORMATION' section with eight input sources:

Input Source	Format	Resolution/Frame Rate	Bitrate
HDMI 1	YUV	1920x1080p60	59.82 fps
HDMI 2	YUV	1280x720p60	59.94 fps
WEBCAM 1 (USB Capture SDI 4K+)	NV12	1920x1080p30	29.92 fps
WEBCAM 2 (X1100DUSB-HDMI)	YUYV	1920x1080p50	50 fps
NDI (ULTRA ENCODE)	H.264	1920x1080p60	59.88 fps, 66.3 Mbps
CAMERA Camera #1 (iPhone)	H.264	1080x1920p60	60.45 fps, 3.3 Mbps
RTMP (RTMP 2)	H.264	1920x1080p60	59.94 fps, 7.2 Mbps
SRT (SRT 2)	H.264	1920x1080p60	59.58 fps, 7.0 Mbps

The 'NO SIGNAL IMAGE' section includes a toggle for 'Overlay Input Name' and settings for Location (Top left), Margin (60px), Text Color, and Opacity (100%). A row of input source icons is visible at the bottom, with 'HDMI 1' selected.

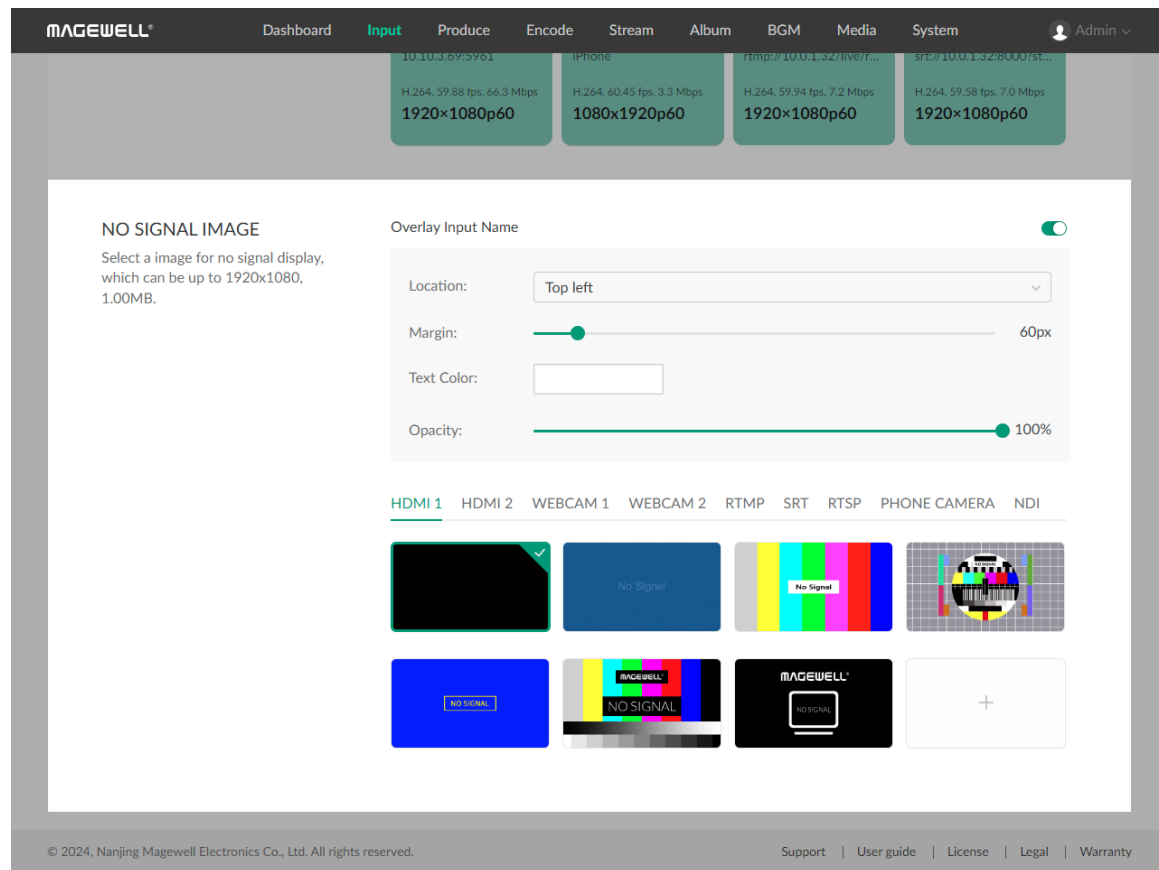
View Input Information

The **INPUT INFORMATION** area displays the information of the input sources of current show, in which HDMI and WEBCAM are always displayed, while IP inputs and phone camera are displayed when they are added to scenes.

- **HDMI 1/2:** the input status of the HDMI 1/2 port
 - *Format:* the color format of HDMI input, such as YUV and RGB
 - *Real-time frame rate:* the real-time frame rate of HDMI input
 - *Resolution/frame rate:* the original resolution and frame rate of HDMI input, such as 1920x1080p60
 - *Disconnected:* no input source connected.
- **WEBCAM 1/2:** the input status of WEBCAM 1/2
 - *Device name:* the device name of WEBCAM
 - *Format:* the video format of WEBCAM input, such as YUYV, NV12 and MJPEG
 - *Real-time frame rate:* the real-time frame rate of WEBCAM
 - *Resolution/frame rate:* the resolution and frame rate of WEBCAM which is set when you add the source in a scene, such as 1920x1080p60
 - *Disconnected:* no input source connected or added to a scene
- **NDI®:** the input status of NDI stream

- *Stream name*: the name of NDI stream
- *URL*: the URL of NDI stream
- *Codec*: the codec information of NDI stream, such as H.264 and H.265
- *Real-time frame rate*: the real-time frame rate of NDI stream
- *Bitrate*: the real-time bitrate of NDI stream
- *Resolution/frame rate*: the original resolution and frame rate of NDI stream
- *Disconnected*: no NDI input signal
- **RTMP**: the input status of RTMP stream
 - *Stream name*: the name of RTMP stream
 - *URL*: the URL of RTMP stream
 - *Codec*: the codec information of RTMP stream, such as H.264
 - *Real-time frame rate*: the real-time frame rate of RTMP stream
 - *Bitrate*: the real-time bitrate of RTMP stream
 - *Resolution/frame rate*: the original resolution and frame rate of RTMP stream
 - *Disconnected*: no RTMP input signal
- **SRT**: the input status of SRT stream
 - *Stream name*: the name of SRT stream
 - *URL*: the URL of SRT stream
 - *Codec*: the codec information of SRT stream, such as H.264 and H.265
 - *Real-time frame rate*: the real-time frame rate of SRT stream
 - *Bitrate*: the real-time bitrate of SRT stream

- *Resolution/frame rate*: the original resolution and frame rate of SRT stream
- *Disconnected*: no SRT input signal
- **RTSP**: the input status of RTSP stream
 - *Stream name*: the name of RTSP stream
 - *URL*: the URL of RTSP stream
 - *Codec*: the codec information of RTSP stream, such as H.264
 - *Real-time frame rate*: the real-time frame rate of RTSP stream
 - *Bitrate*: the real-time bitrate of RTSP stream
 - *Resolution/frame rate*: the original resolution and frame rate of RTSP stream
 - *Disconnected*: no RTSP input signal
- **Phone Camera**: the input status of phone camera
 - *Camera name*: the custom name of phone camera
 - *Phone name*: the custom name or model of your phone
 - *Codec*: the codec information of phone camera
 - *Real-time frame rate*: the real-time frame rate of phone camera
 - *Bitrate*: the real-time bitrate of phone camera
 - *Resolution/frame rate*: the original resolution and frame rate of phone camera which is set when you add the source to a scene.
 - *Disconnected*: no phone camera input signal



Set No Signal Image

In the **NO SIGNAL IMAGE** area, you can choose to overlay input name and select a image for no signal display.

Overlay Input Name

1. Toggle on the the switch of **Overlay Input Name**.
2. Select the location where to display the input name.
3. Drag the slider to adjust the margin.
4. Select the text color.
5. Drag the slider to adjust the text opacity.

Select No Signal Image

You can select a default or custom image for no signal display, which can be up to 1920x1080, 1.00MB.


1. In the **NO SIGNAL IMAGE** area, click each source tab to select image for different source.
2. Click **+** to select an image from the Media. If there is no available images, you can click **Upload** to import an image from local.

Supported image files are JPEG, PNG, BMP.

3. Click **+** again to add more images.
4. Click one image to set it as the no signal image.

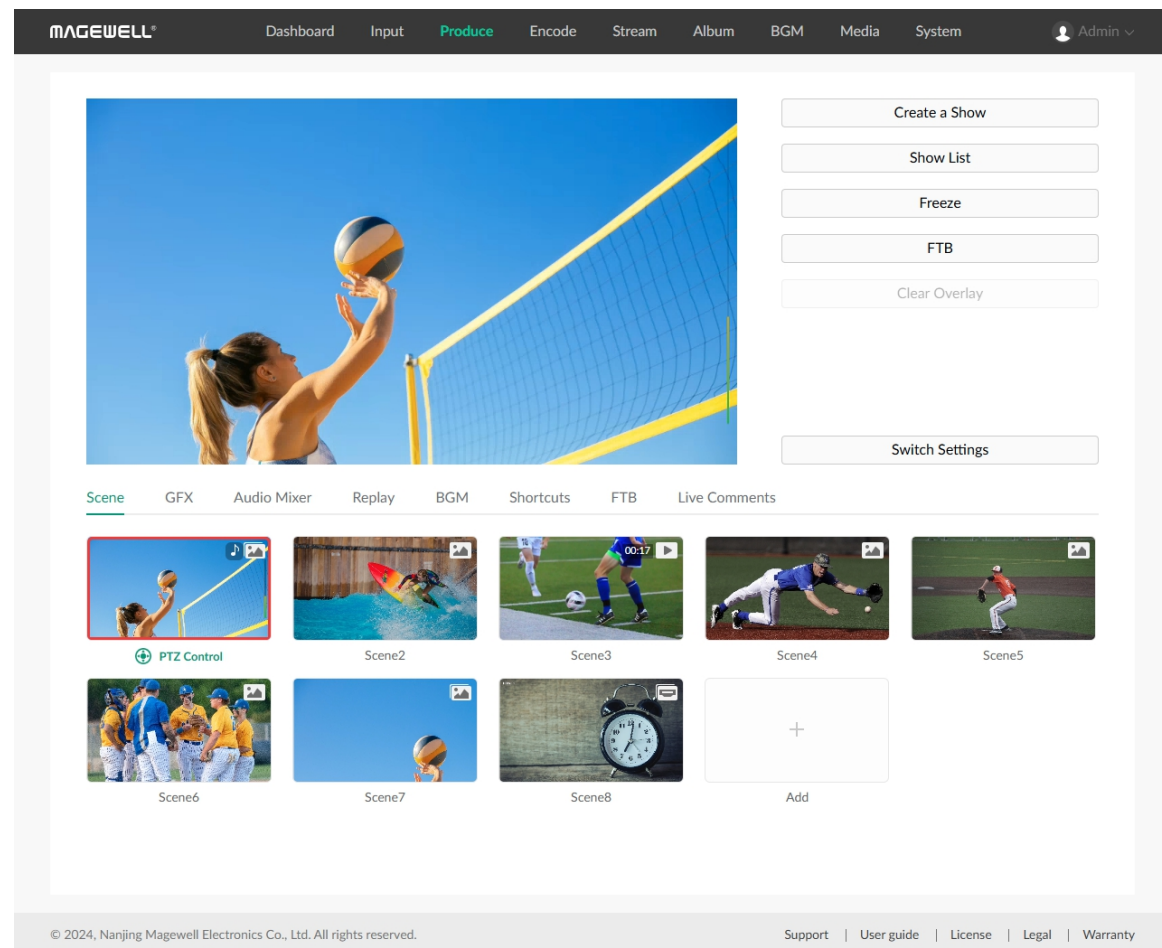
After that, when the source is no signal, it displays the selected image. If no image is selected, it displays the default one.

Delete No Signal Image

1. In the **NO SIGNAL IMAGE** area, click a source tab.
2. Move the cursor over a thumbnail, and click  .
3. Click **Delete** on the menu, and confirm to delete on the popup.
The default images cannot be deleted.






Produce Your Show

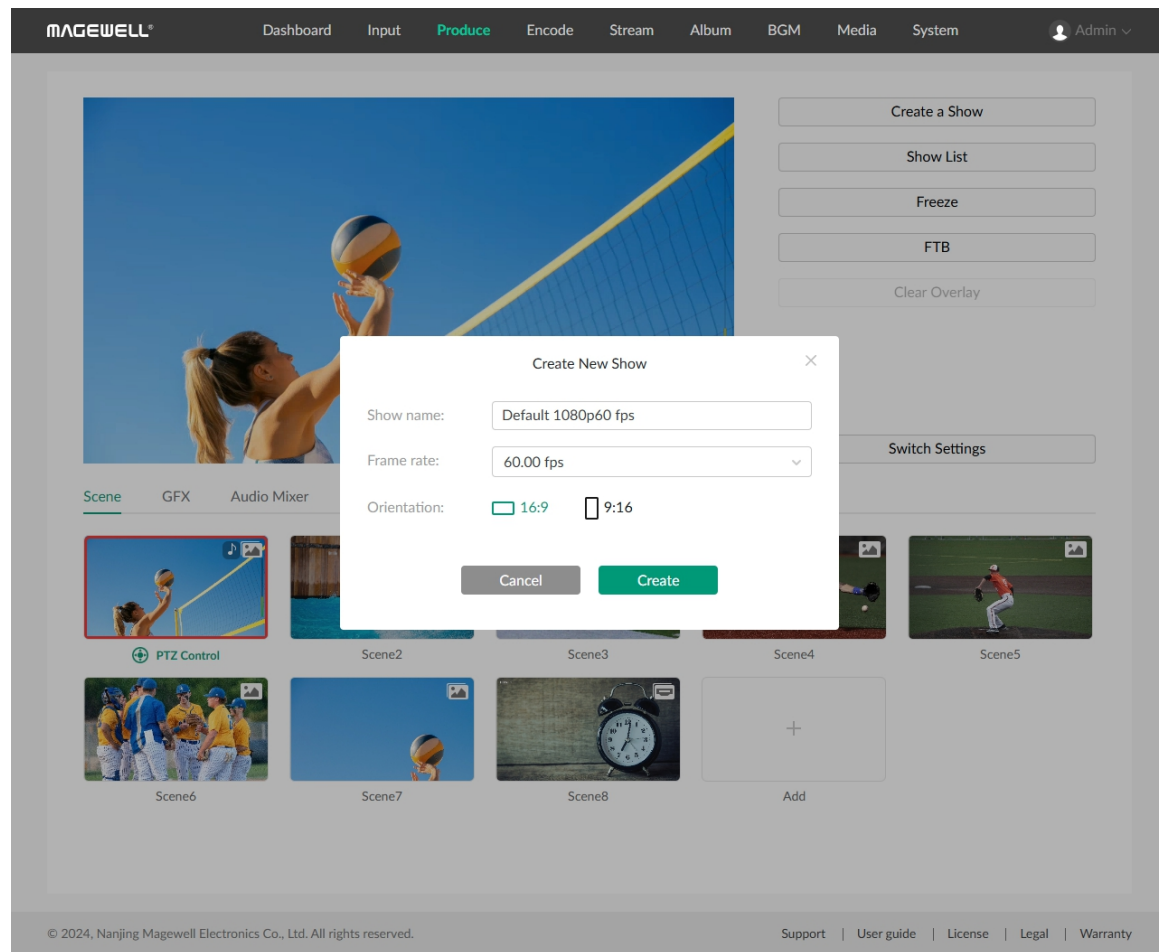
On the Produce page, you can create, manage, import and export shows, control scenes, [GFX](#) and audio, etc. You can also set shortcuts for the USB keyboard connected to the Director device for more convenient control.



Preview Show

At the preview area, it displays the name of current show and the real-time program image with the program audio level.

- Move the cursor over the preview video box, click  to monitor audio through the Web UI, and click  to mute.
- Move the cursor over the preview video box, click  to go to full screen mode, and click  to exit.
- Click **Freeze** on the right side to freeze the program image and click **Unfreeze** to unfreeze.
- Click **FTB** on the right side to fade the program image into black or the specified image and mute the audio, and click **FTB** again to bring your show back. You can [set FTB image](#) and [set FTB transition duration](#).
- Click tabs under the preview area to control scenes, [GFX](#), etc.
- Move the cursor over a tab and click  to open it as a new tab, supporting Scene, [GFX](#), Audio Mixer, Shortcuts, and Live Comments. By this way, you can customize your own preferred layout.

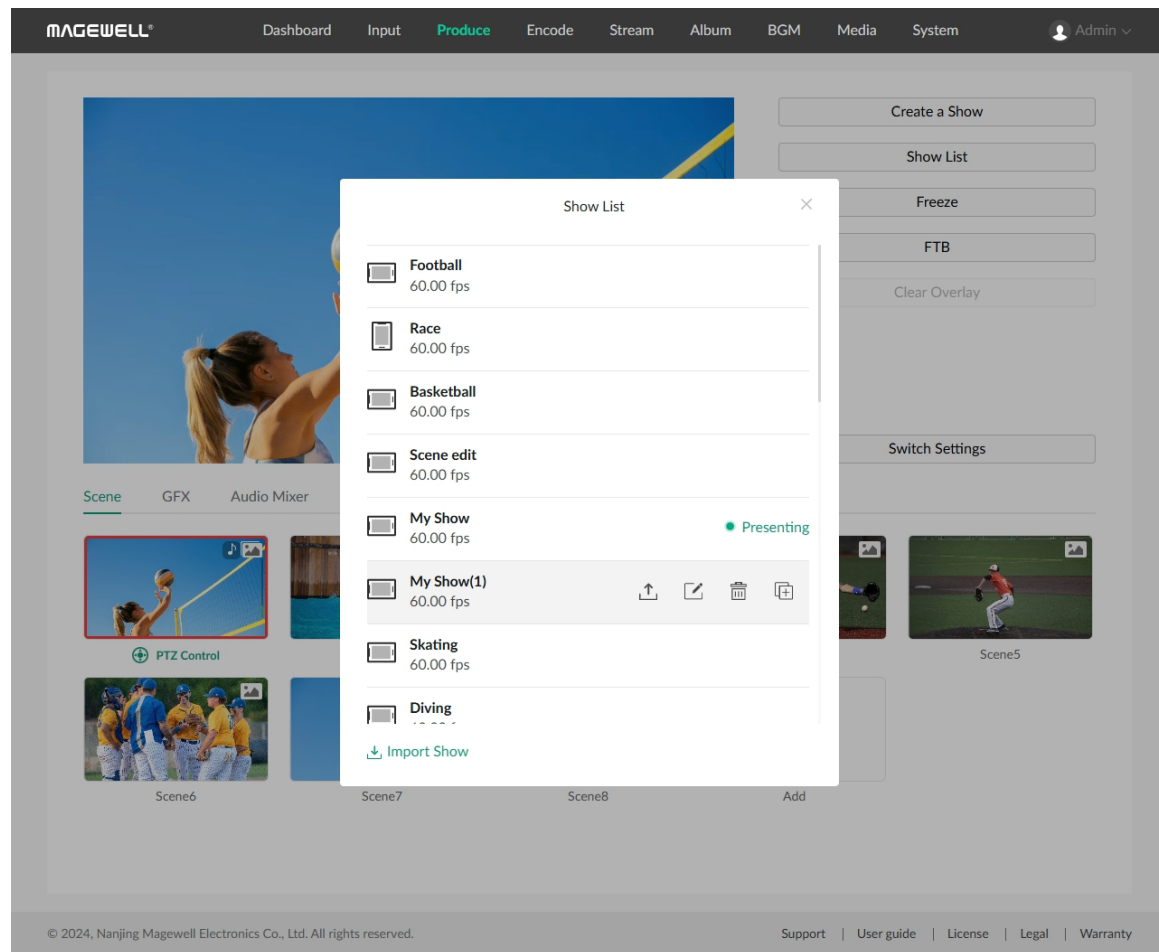


Create and Manage Shows

Create Show

1. Click **Create a Show** on the **Produce** page.
2. Enter your show name.
3. Select the frame rate. Options include 60/59.94/50/30/29.97/25/24/23.98 fps.
4. Choose the screen orientation: 16:9 (landscape), 9:16 (portrait).
5. Click **Create**.

After you create a show, the show is opened as the current show.



Manage Show

The show list displays the name and frame rate of each show, through which you can switch and manages shows.


Switch Show

1. Click **Show List** on the **Produce** page.
2. Click a show name to switch to the show.

Import Show


1. Click **Show List** on the **Produce** page.
2. Click **Import Show** at the bottom left corner.
3. Select a show file (.zip) to import.
The imported show will be added to the show list.

Export Show


1. Click **Show List** on the **Produce** page.
2. Move the cursor over a show.
3. Click .
4. Select the media files to export together with the Show Config file, or click **Select All** to select all the files, and then click **Export**.
5. Then, the show is exported as a .zip file.

Rename Show


1. Click **Show List** on the **Produce** page.
2. Move the cursor over a show.


3. Click .
4. Enter a new name, and click **Save**.

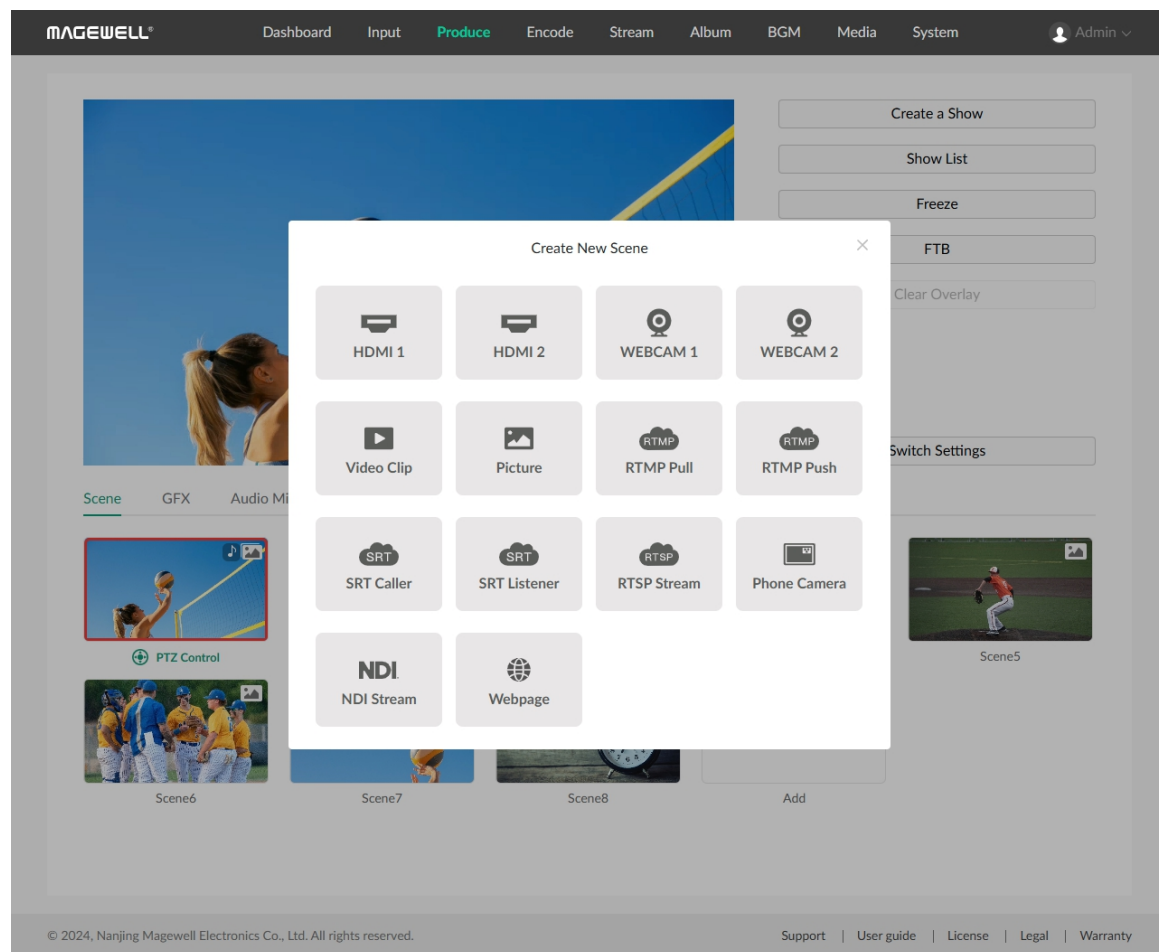
Copy Show

1. Click **Show List** on the **Produce** page.
2. Move the cursor over a show.
3. Click .
4. Enter a new name, and click **Copy**.
The new show you created inherits everything from the original show.

Delete Show

1. Click **Show List** on the **Produce** page.
2. Move the cursor over a show.
3. Click .
4. Confirm to delete on the popup.

 The current presenting show cannot be deleted.



Control Scene

Click the **Scene** tab, it displays the scene thumbnails and names of the current show. Scroll the scene list to view all the scene thumbnails.

Create Scene

You can create single-view scenes.

1. Click the **Add** button.
2. Select a source in the **Create New Scene** window to add.

- **HDMI**

A high-quality external signal from a professional camera, computer, game console, etc. Up to 4K signal input is supported.

- **WEBCAM**

A high-quality external signal from a USB device, such as webcam. Up to 1080p60 signal input is supported. For details, refer to [Add WEBCAM](#).

- **Video Clip**

Select a video file from the media, which can be up to 4K, encoded in H.264, and in MOV, MP4, or MKV format.

You can click **Upload** to add more files into the media library.

- **Picture**

Select picture file the media, which can be JPG, PNG or BMP.

You can click **Upload** to add more files into the media.

- **RTMP Pull**
A streaming source pulled via [RTMP](#) from a third-party server. Please refer to [Add RTMP Pull](#).
- **RTMP Push**
A streaming source pushed to the Director device via [RTMP](#). Please refer to [Add RTMP Push](#).
- **SRT Caller/Listener**
A streaming source supporting [SRT](#) protocol.
Please refer to [Add SRT Caller/Listener](#).
- **RTSP**
A streaming source pulled via RTSP. Please refer to [Add RTSP Stream](#).
- **Phone Camera**
A camera signal from the phone installed with the Director Utility App.
You can [Add Phone Camera](#) at first, and then use your phone to connect the device.
- **NDI Stream**
A streaming source pulled via [NDI[®] HX2](#), [NDI[®] HX3](#) or [Full NDI](#). Please refer to [Add NDI Stream](#). It supports H.264 and H.265 codec.
- **Webpage**
The content of a webpage. Please refer to [Add Webpage](#).

3. Repeat the above steps to create more scenes.

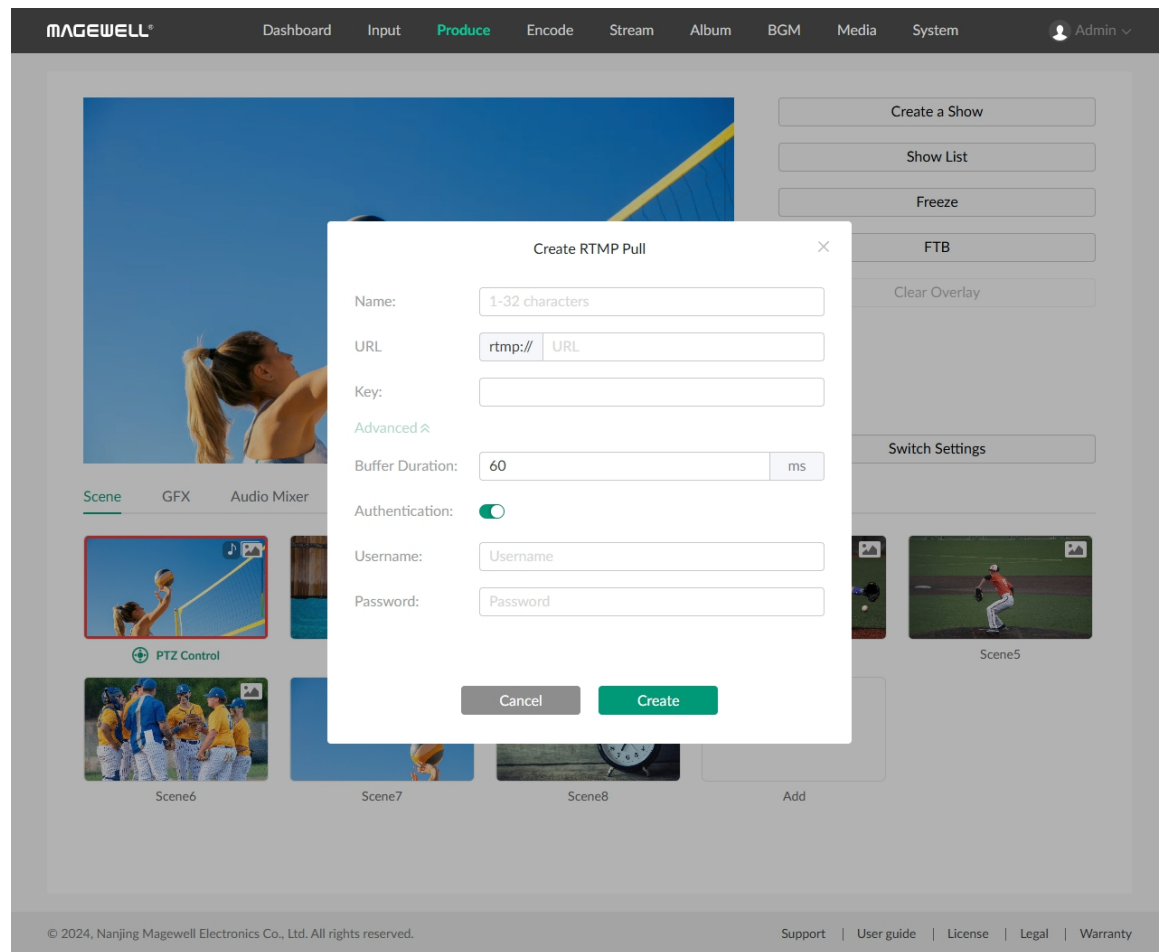
Notice:

- **In the same show**, you can create up to 3 streams, including up to 3 [NDI[®]](#) streams.
- **In the same show**, you can create up to 3 Phone Cameras.


Add WEBCAM

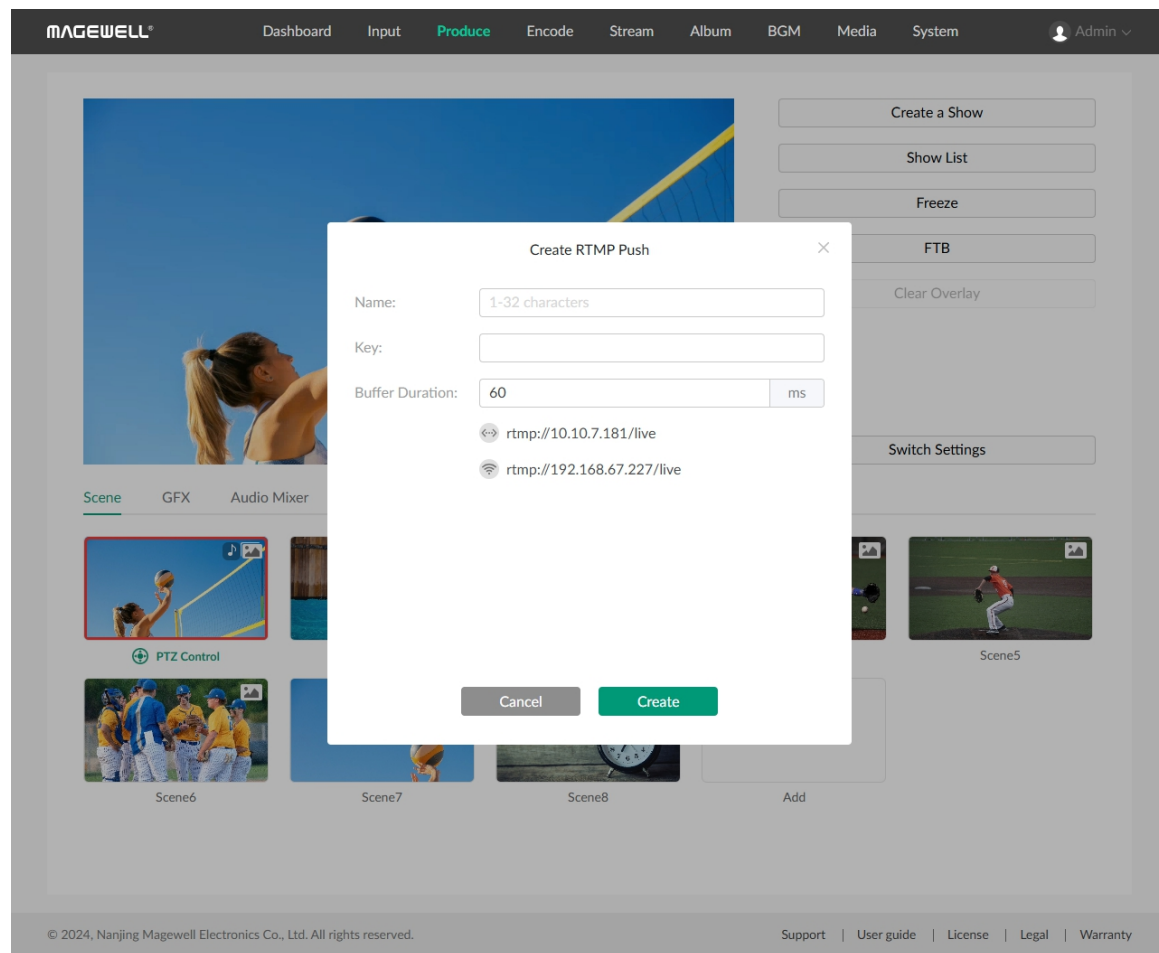
1. Click the **Add** button in the Scene tab.
2. Select **WEBCAM 1** or **WEBCAM 2** in the **Create New Scene** window.
3. Bind a webcam device to WEBCAM 1 or WEBCAM 2 according to the following situations.
 - If one USB device is connected, choose **WEBCAM 1**, then the device will be bound with WEBCAM 1 automatically. When you add **WEBCAM 2**, no-signal screen will be displayed, vice versa.
 - If two or more USB devices are connected, when adding **WEBCAM 1** or **WEBCAM 2**, please select a device on the popup to bind.

You can refer to [Edit Scene](#) to select or change the USB device bound to WEBCAM 1 or WEBCAM 2 as well set the WEBCAM's properties.



Add RTMP Pull

1. Click the **Add** button in the Scene tab.
2. Click **RTMP Pull** in the **Create New Scene** window.
3. Enter the following information.
 - **Name:** Specify an alias name for your convenience of multi-item management.
 - **URL:** Enter the **RTMP** URL of the **RTMP** server. To add a video stream from a live platform, you can get the **RTMP** URL from the platform.
 - **Key:** Enter the key set on the **RTMP** server.
4. (Optional) Click **Advanced** to set the following parameters.
 - **Buffer duration:** It ranges from 20ms to 8000ms, and the default value is 60ms. You can set a short duration when low latency matters.
 - **Authentication:** If the **RTMP** sender requires authentication, toggle on **Authentication** and enter **Username** and **Password** provided by the **RTMP** sender.
5. Click **Create**.
6. To add more **RTMP** streams, repeat step 1 and 2, click **Create Stream**, and operate as step 3 to 5 to finish creation.
7. After a stream is added, its information is recorded in the show. You can select an existing stream when you create a new scene.
8. To edit a stream, please refer to [Edit Scene](#), or you can repeat step 1 and 2 and then click  to make changes.
9. To delete a stream, you can delete all the scenes containing this stream, or delete the stream source in all the relative scenes on the device.




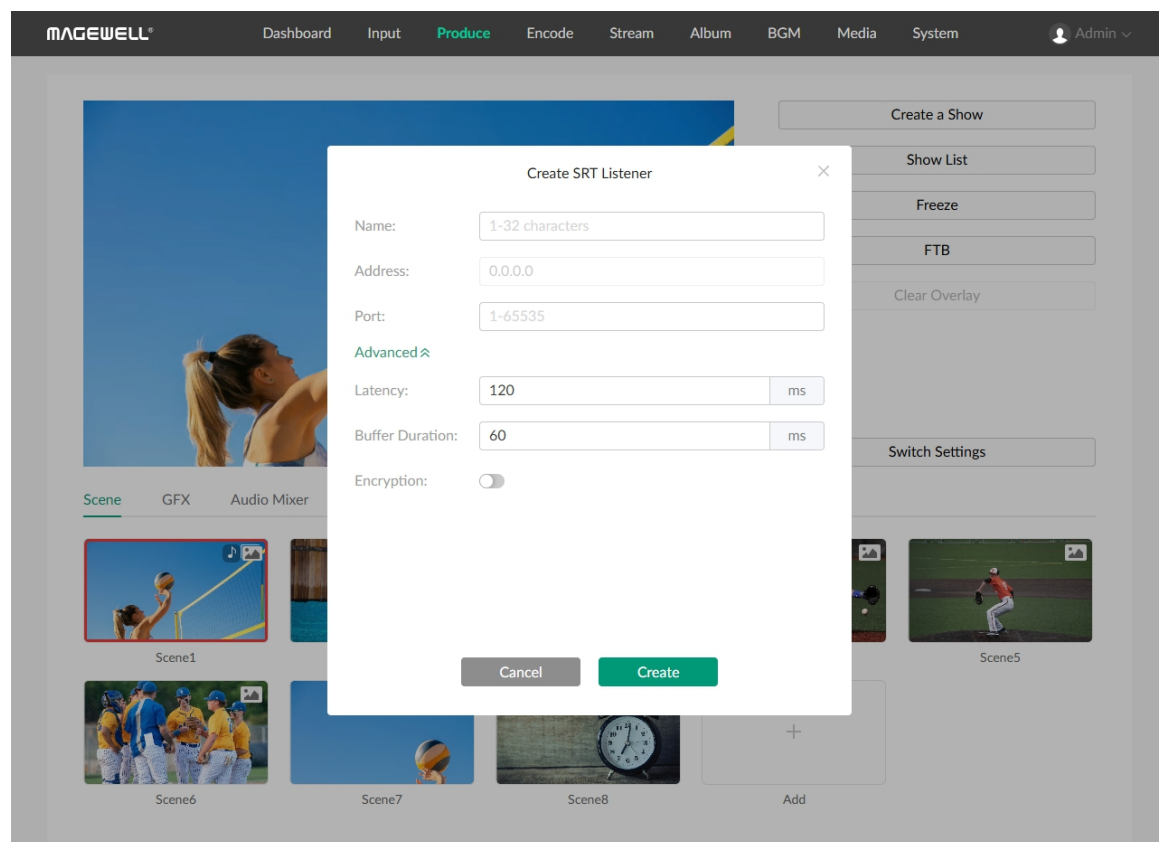
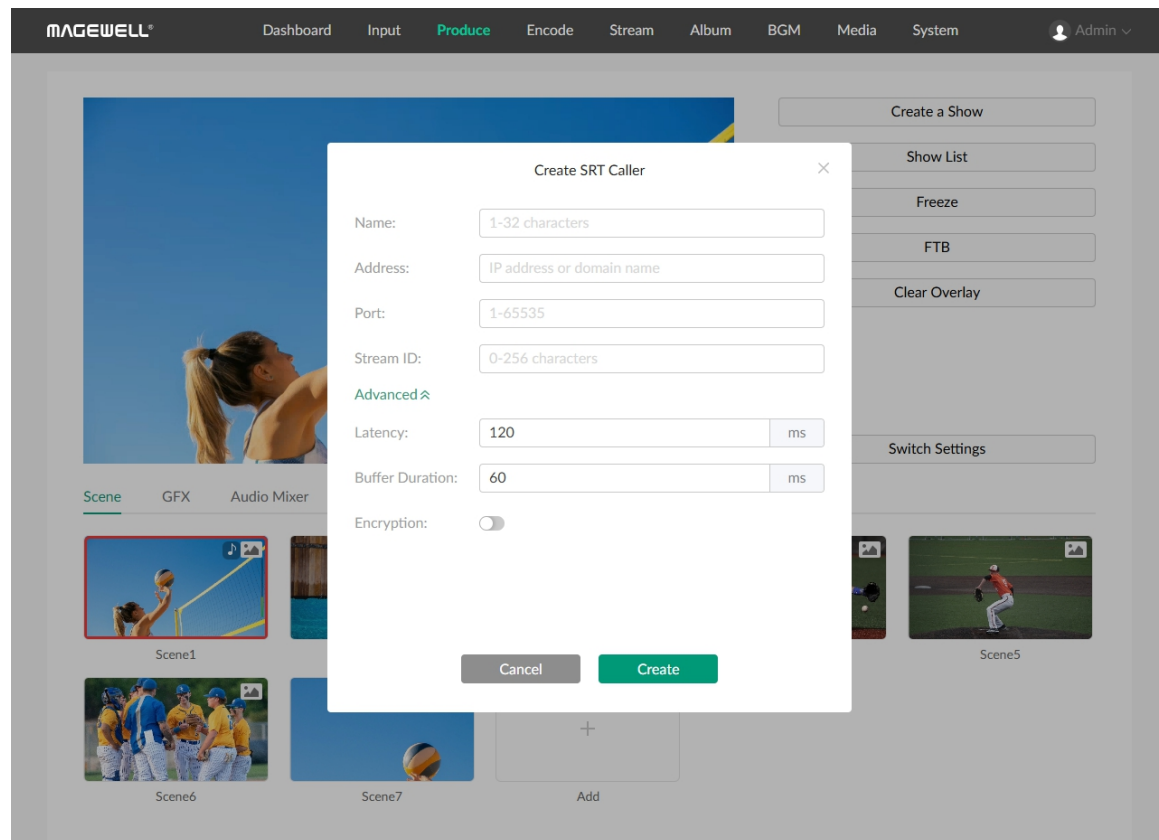
Add RTMP Push

As is to send **RTMP** streams to the Director device, the IP address of Director device is the destination.

1. Click the **Add** button in the Scene tab.
2. Click **RTMP Push** in the **Create New Scene** window.
3. Enter the following information, and click **Create**.
 - **Name:** Specify an alias name for your convenience of multi-item management.
 - **Key:** Specify a stream key.
 - **Buffer duration:** It ranges from 20ms to 8000ms, and the default value is 60ms. You can set a short duration when low latency matters.


A stream address is automatically generated at the bottom of the window, including an Ethernet address and/or a wireless network address. The sender should use this address as the destination address.

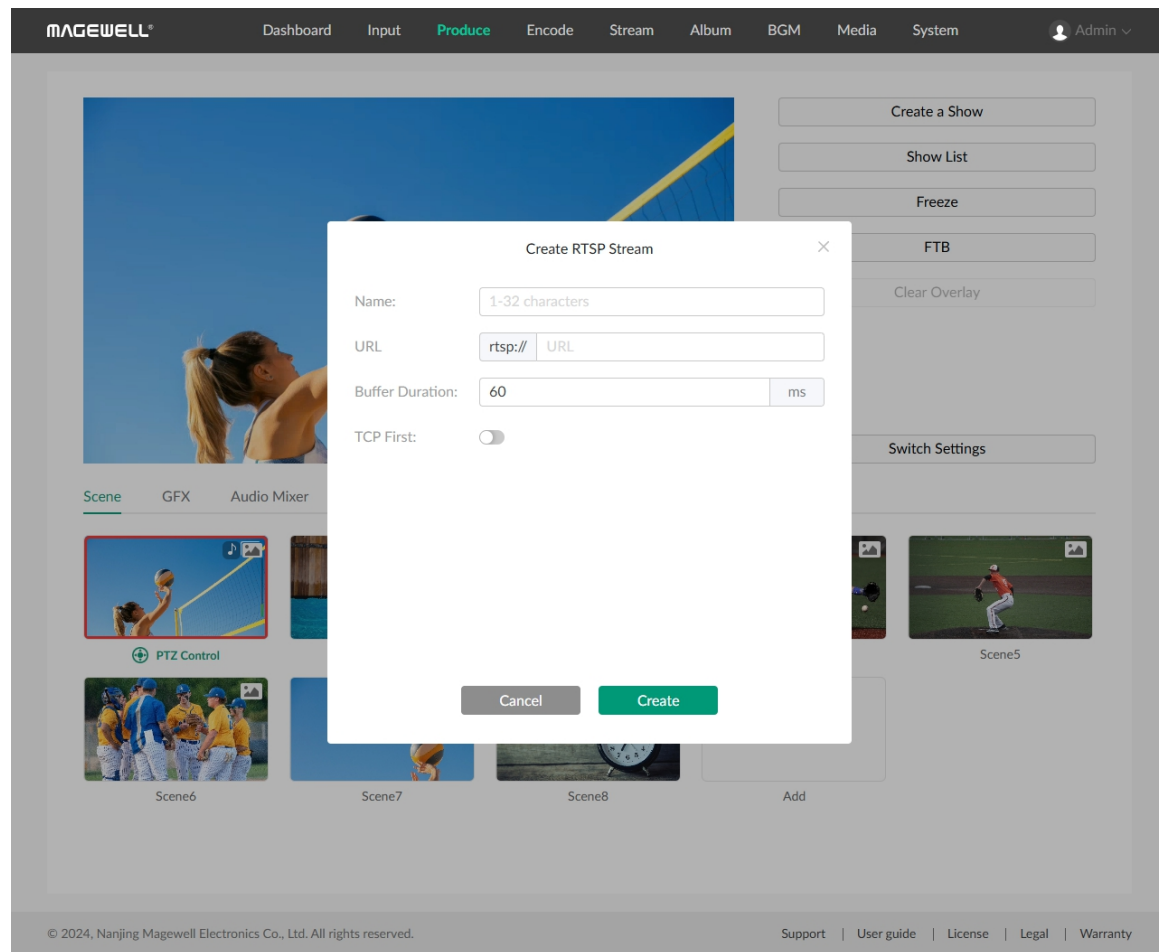
4. To add more **RTMP** streams, repeat step 1 and 2, click **Create Stream**.
5. After a stream is added, its information is recorded in the show. You can select an existing **RTMP** stream when you create a new scene.
6. To edit a stream, please refer to [Edit Scene](#), or you can repeat step 1 and 2 and then click  to make changes.
7. To delete a stream, you can delete all the scenes containing this stream, or delete the stream source in all the relative scenes on the device.




Add SRT Caller/Listener

1. Click the **Add** button in the Scene tab.
2. Click **SRT Caller** or **SRT Listener** in the **Create New Scene** window.
3. Enter the following information.
 - **Name:** Specify an alias name for your convenience of multi-item management.
 - **Address:** Available for **SRT 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 of the source. It ranges from 1 to 65535.
 - **Stream ID:** Available for **SRT Caller**. Enter the stream ID of the listener, which can contain 0 to 256 characters. You can leave it empty if the listener has no stream ID.
4. (Optional) Click **Advanced** to set the following parameters.
 - **Latency:** Enter a number between 20 to 8000. The default value is 120. It is recommended that the latency is configured the same as that of the source.
 - **Buffer duration:** The value ranges from 20ms to 8000ms. The default value is 60ms. You can set a short duration when low latency matters.
 - **Encrypted:** If the stream from the source is encrypted, toggle on **Encrypted**, select the encryption mode, which can be **AES 128**, **AES 192** or **AES 256**, and then enter the **Passphrase**.
5. Click **Create**.

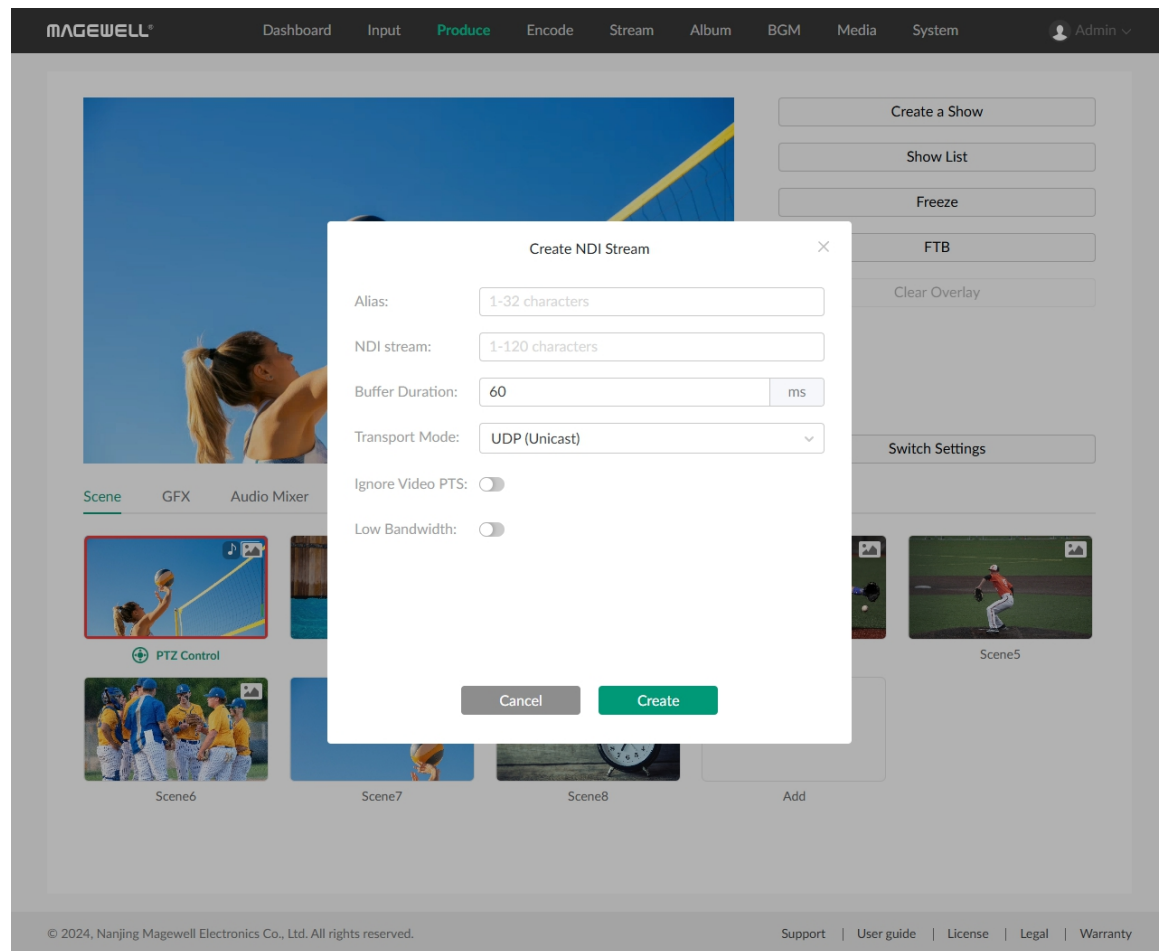
6. To add more [SRT](#) streams, repeat step 1 and 2, click **Create Stream**, and operate as step 3 to 5 to finish creation.
7. After a stream is added, its URL is recorded in the show. You can select an existing URL when you create a new scene.
8. To edit a stream, please refer to [Edit Scene](#), or you can repeat step 1 and 2 and then click  to make changes.
9. To delete a stream URL, you can delete all the scenes containing this stream, or delete the stream source in all the relative scenes on the device.



Add RTSP Stream

1. Click the **Add** button in the Scene tab.
2. Click **RTSP Stream** in the **Create New Scene** window.
3. Enter the following information.
 - **Name:** Specify an alias name for your convenience of multi-item 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:** The value ranges from 20ms to 8000ms. The default value is 60ms. You can set a short duration when low latency matters.
 - **TCP first:** It is disabled by default, which means that the device will attempt to establish a connection with the RTSP server using the UDP protocol first. If it fails, it will then switch to TCP. When it is enabled, the device will first attempt to use TCP for communication. If it fails, it will then try to use UDP instead.
4. Click **Create**.
5. To add more RTSP streams, repeat step 1 and 2, click **Create Stream**, and operate as step 3 to 4 to finish creation.
6. After a stream is added, its URL is recorded in the show. You can select an existing URL when you create a new scene.
7. To edit a stream, please refer to [Edit Scene](#), or you can repeat step 1 and 2 and then click  to make changes.
8. To delete a stream URL, you can delete all the scenes containing this



stream, or delete the stream source in all the relative scenes on the device.

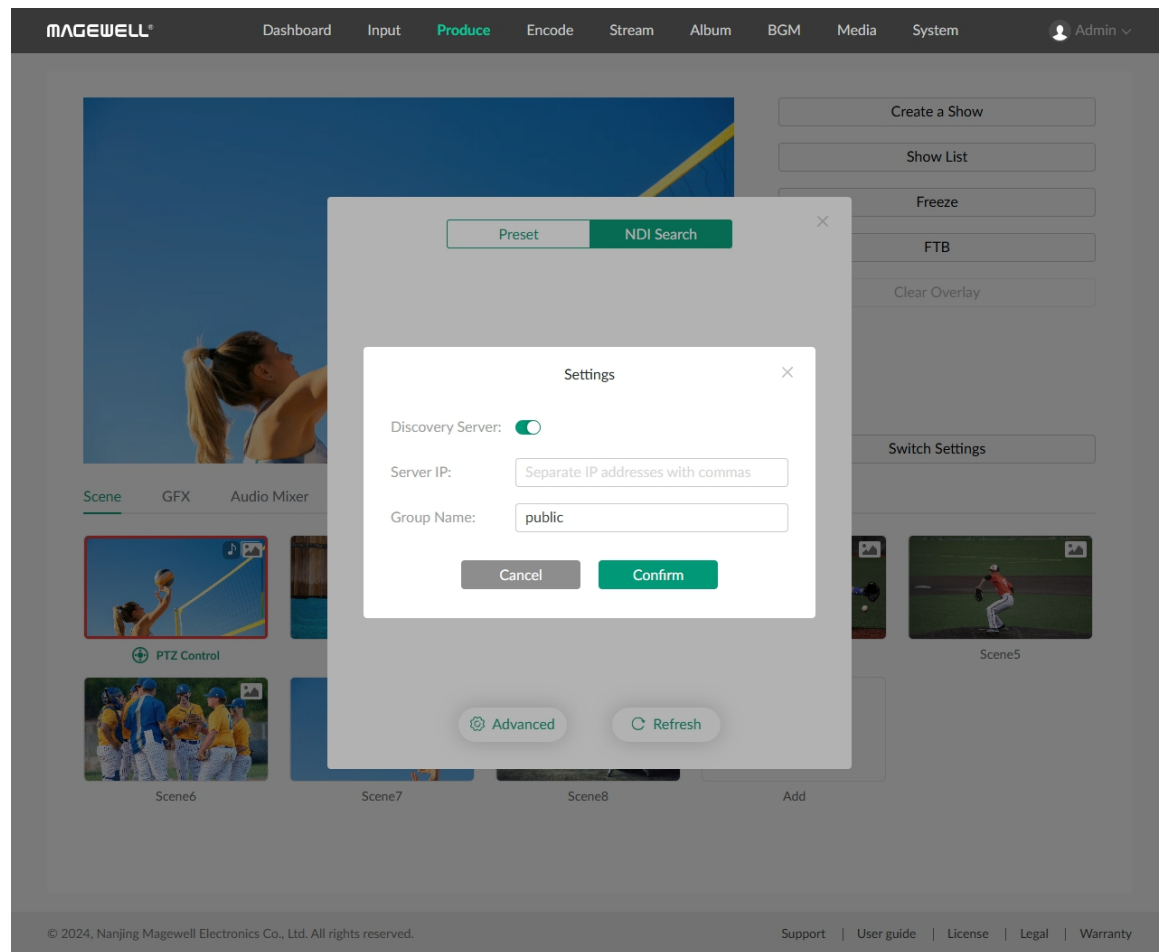


Add NDI Stream

Add NDI Stream Manually

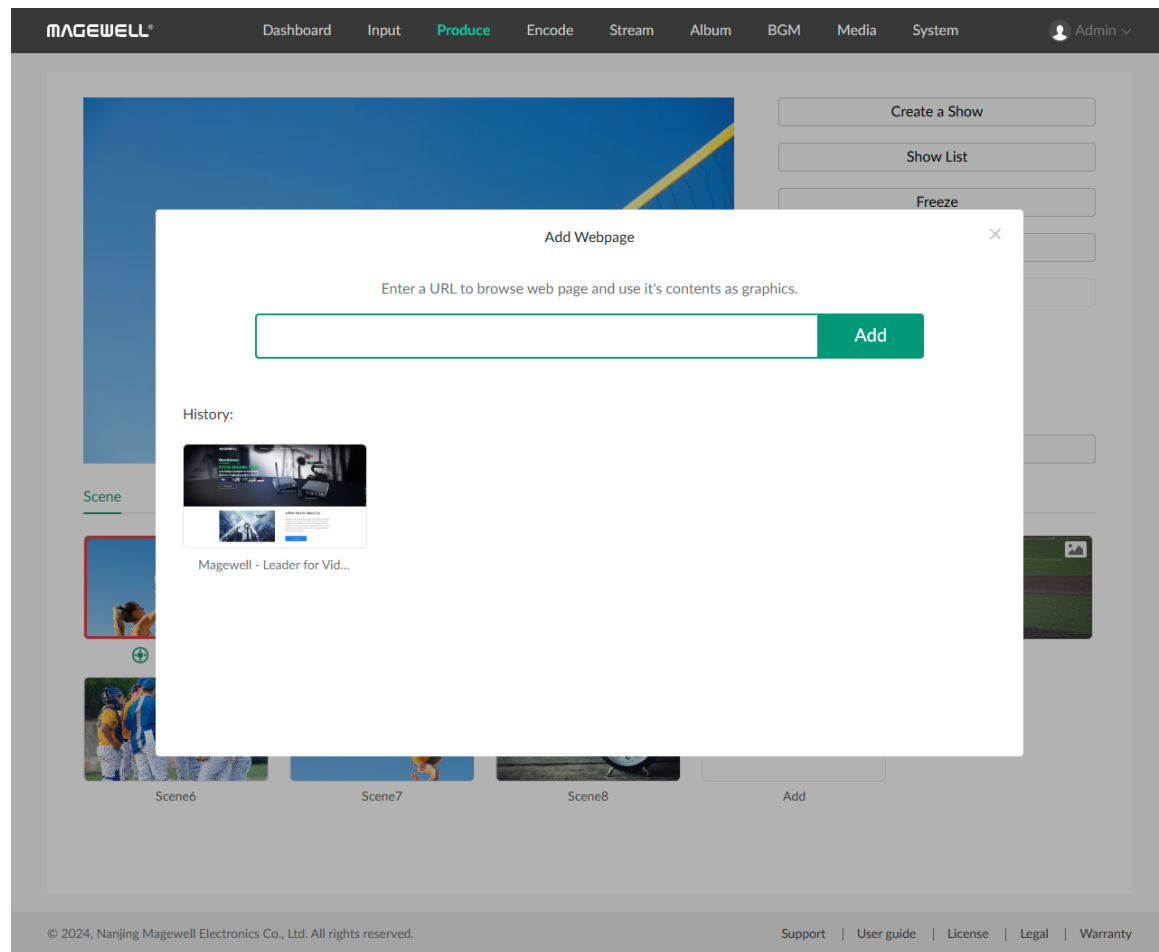
1. Click the **Add** button in the Scene tab.
2. Click **NDI Stream** in the **Create New Scene** window.
3. Click the **Preset** tab, and then click **Create NDI stream..**
4. Enter the following information.
 - **Alias:** Specify an alias name for your convenience of multi-item management.
 - **NDI stream:** Enter the stream name of NDI source, which is case-insensitive, or enter IP:Port.
 - **Buffer duration:** The value ranges from 20ms to 8000ms. The default value is 60ms. You can set a short duration when low latency matters.
 - **Transport mode:** Options include UDP (Unicast), UDP (Multicast), RUDP (Unicast), TCP (Uni-connection) and TCP (Multi-connection).
 - **Ignore video PTS:** For some video streams with wrong timestamps, toggle on this function to ensure smooth video output.
 - **Low bandwidth:** It is recommended to enable this function when the connected network speed is too low to output smooth video. When toggled on, the video stream drops to medium quality and uses significantly less bandwidth.

5. Click **Create** to add the stream to the scene.
6. Repeat the steps above to create more NDI streams.
When multiple NDI streams are created, you can select one to add to a scene.
7. To edit a stream, please refer to [Edit Scene](#), or you can repeat step 1 and 2 and then click  to make changes.
8. To delete an stream, repeat step 1 and 2 and then click  .
If a NDI stream is in one or more scenes, it cannot be deleted. Please delete the source in relative scenes on your device at first, and then delete it.




Search NDI Stream Automatically

1. Click the **Add** button in the Scene tab.
2. Click **NDI Stream** in the **Create New Scene** window.
3. Click **NDI Search**, and it starts searching NDI sources in the same LAN. By default, it searches NDI sources of the public group.
4. Click **Advanced**, enter **Group name**, and Click **Confirm**. Then it starts searching sources in corresponding group(s).
Group name is case-insensitive, and should contain A to Z, a to z, 0 to 9 and special characters like `_`-. The group name entry can contain comma-separated values, allowing the device search all the groups listed here.
5. If you toggle on **Discovery server**, it can auto-detect a source sender in different network segment but be able to ping. And the Server IP should be the IP address of the server running discovery server software.
6. Select a detected NDI source in the list to add to the scene. And it is added to the **Preset** list at the same time.

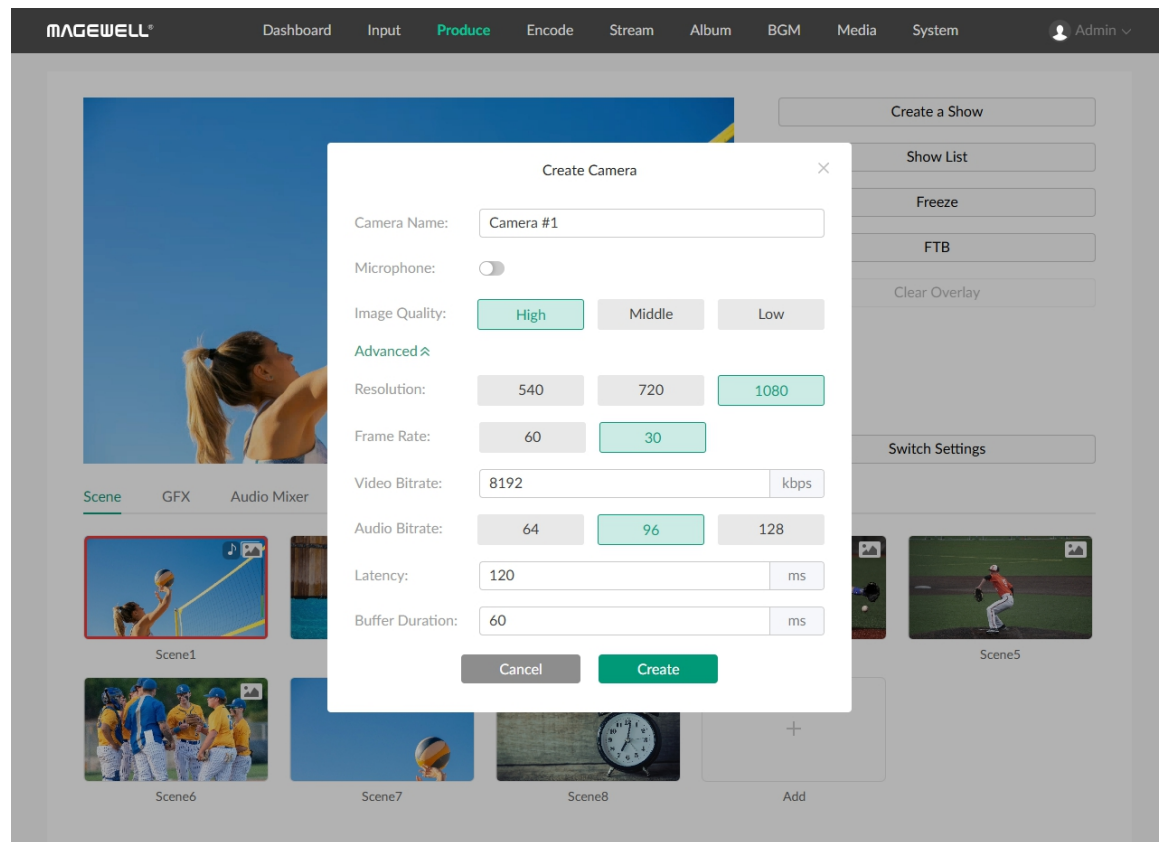


Add Webpage

1. Click the **Add** button in the Scene tab.
2. Click **Webpage** in the **Create New Scene** window.
3. Enter a URL and click **Add**.
4. Click **+ Add** to add more.

The History lists all the added URLs, and you can click one thumbnail to add it as a scene. Move the cursor over a thumbnail, click  and click **Delete** on the menu to delete the URL.

- You can add up to 3 webpages as scene sources in a show.
- It is not recommended to add a video URL as it will consume a lot of system resources.



Add Phone Camera


To use the image from your phone's camera as a source, you have to create Phone Camera on the device at first.

1. Click the **Add** button in the Scene tab.
2. Click **Phone Camera** in the **Create New Scene** window.
3. Enter the camera name (1 - 32 bytes).
4. Toggle on Microphone, so that the Director device can capture audio from your phone's microphone.
5. Select the image quality: High, Middle, Low.
6. (Optional) Click **Advanced** to set relative properties.
 - **Resolution:** 540, 720, 1080
 - **Frame rate:** Options change along with the frame rate of the show, which can be 60/59.94/50/30/29.97/25/24/23.98/15 fps.
 - **Video bitrate:** enter your preferred value.
 - **Audio bitrate:** 64, 96, 128
 - **Latency:** enter a number between 20 to 8000. The default value is 120. It is recommended that the latency is configured the same as that of the source.
 - **Buffer duration:** The value ranges from 20ms to 8000ms. The default value is 60ms. You can set a short duration when low latency matters.
7. Click **Create**.
8. To create more cameras, repeat step 1 and 2, and then click **Create camera** in the **Select Phone Camera** window to add a new camera.
9. To edit an existing phone camera, please refer to [Edit Scene](#), or you can


repeat step 1 and 2 and then click  to make changes.

10. Connect the device with you phone installed with Director Utility App.
Please refer to [Director Utility App User Manual](#).

Rename Scene


1. Move the cursor over a scene, and click .
2. Click **Rename** on the menu.
3. Enter the new scene name, and click **Save**.

Copy Scene

1. Move the cursor over a scene, and click .
2. Click **Copy** on the menu.
3. Enter the new scene name, and click **Copy**.

Edit Scene

You can edit the properties of WEBCAM, Phone Camera, Stream and webpage sources.

1. Move the cursor over a scene containing WEBCAM, Phone Camera, Stream or webpage source, and click .
2. Click **Edit** on the menu.
3. Select a source if there are multiple editable sources.
4. Make your changes and click **Save**.

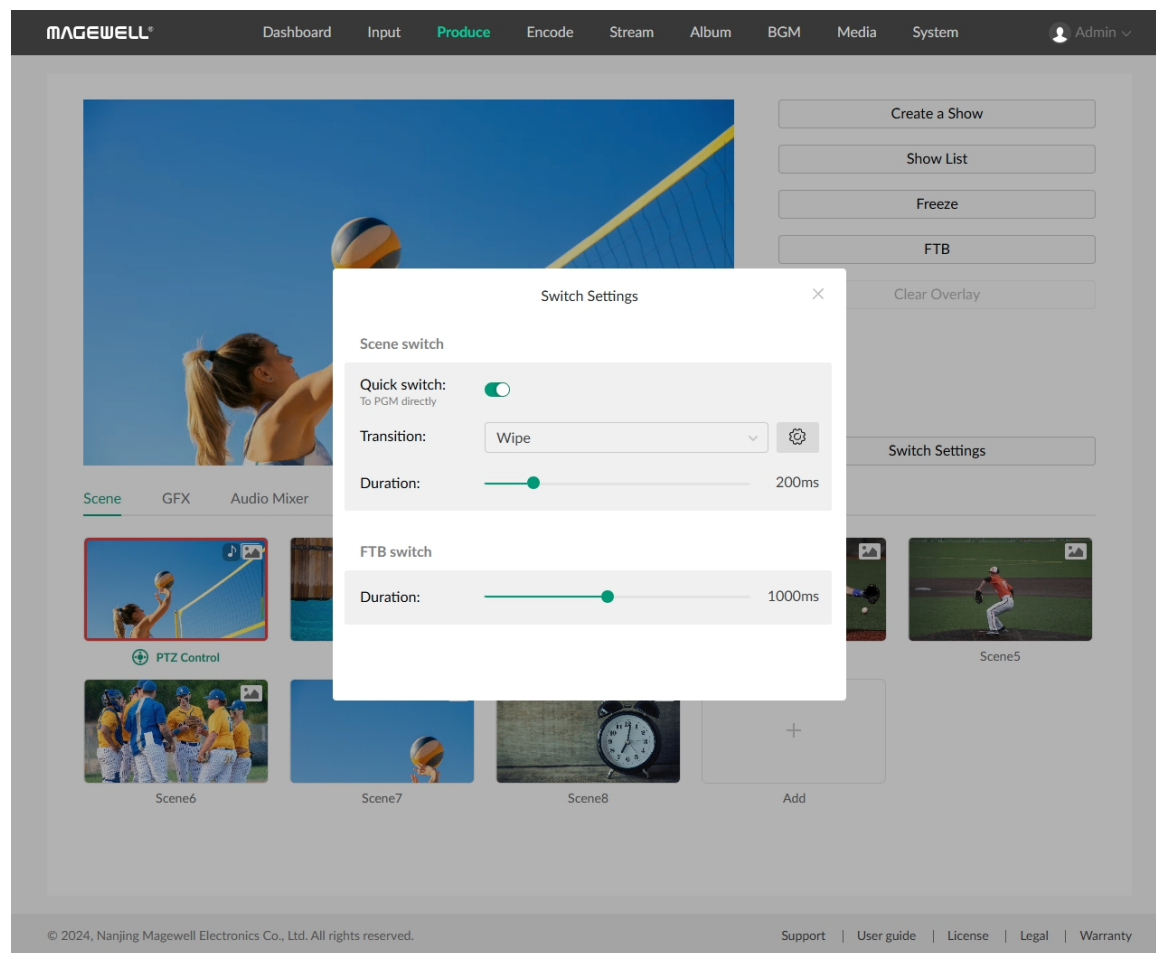
Delete Scene

1. Move the cursor over a scene, and click .

2. Click **Delete** on the menu.
3. Confirm to delete on the popup.




Re-order Scene


Drag and drop a scene thumbnail to the desired position.




Switch Scenes

Switch Settings

1. Click **Switch Settings** on the **Produce** page.
2. In the **Scene switch** area, set scene switch mode and transition effect.
 - **Quick switch:** Toggle off the switch, it goes to the manual switch mode. To enable the quick switch mode, toggle on the switch.
 - **Transition:** Select the transition effect.
 - **Cut:** Scenes switch directly. (Default)
 - **Fade:** Scenes switch with the fade effect.
 - **DIP:** Scenes switch with a two-step transition with a color flash in the middle of the transition. Click  for more settings.
 - **Wipe:** One scene is replaced by another gradually sweeping across the screen. Click  for more settings.
 - **DVE:** One scene is replaced by another according to a 2D DVE pattern. Click  to select a DVE effect.
 - **Stinger:** A stinger with chroma key enabled is played over the top to

cover the transition. Click  to select a stinger, and click it again to replace the default stinger with your own one.

- **3D:** One scene is replaced by another according to a 3D pattern. Click  to select a 3D pattern.


- **Duration:** Drag the slider to set the transition effect duration, ranging from 50ms to 1000ms.

3. In the **FTB switch** area, drag the slider of **Duration** to set the transition duration for **FTB**, ranging from 200ms to 2000ms.
4. Click X to exit.

DIP Settings

- **Onset:** Duration from the current scene to the color flash.
- **Offset:** Duration from the color flash to the next scene.
- **Hold:** Duration that the color flash is held. This value is the residual of the total transition duration minus the onset and offset.
- **Color:** Select a preferred color.

Wipe Settings

- **Angle:** Set the angle of linear wipe.
- **Line 1/2/3:** By default, the line is invisible. Toggle on the switch to display the line and click  to set thickness, color and transparency.

Quick Switch

When **Quick switch** is toggled on, click scene thumbnails in the scene list to switch scenes directly.

The screenshot displays the MAGEWELL Produce interface. At the top, there is a navigation bar with the following menu items: Dashboard, Input, Produce (highlighted), Encode, Stream, Album, BGM, Media, System, and Admin. The main content area is divided into two sections. The upper section features a large preview window showing a woman in a blue sports top reaching for a volleyball against a clear blue sky. To the right of this window is a vertical stack of control buttons: 'Create a Show', 'Show List', 'Freeze', 'FTB', 'Clear Overlay', and 'Switch Settings'. Below the preview window is a horizontal menu with tabs for 'Scene', 'GFX', 'Audio Mixer', 'BGM', 'Shortcuts', 'FTB', and 'Live Comments'. The 'Scene' tab is active, showing a grid of scene thumbnails labeled 'Scene1' through 'Scene8'. 'Scene1' is the current scene, indicated by a red border. 'Scene2' has a red 'Cut' button and a grey 'Auto' button overlaid on its thumbnail. 'Scene3' has a play/pause button. 'Scene4' and 'Scene5' have play/pause buttons. 'Scene6' through 'Scene8' have play/pause buttons. 'Scene8' has a plus sign and the word 'Add' below it. At the bottom of the interface, there is a footer with the copyright notice '© 2024, Nanjing Magewell Electronics Co., Ltd. All rights reserved.' and a row of links: Support, User guide, License, Legal, and Warranty.

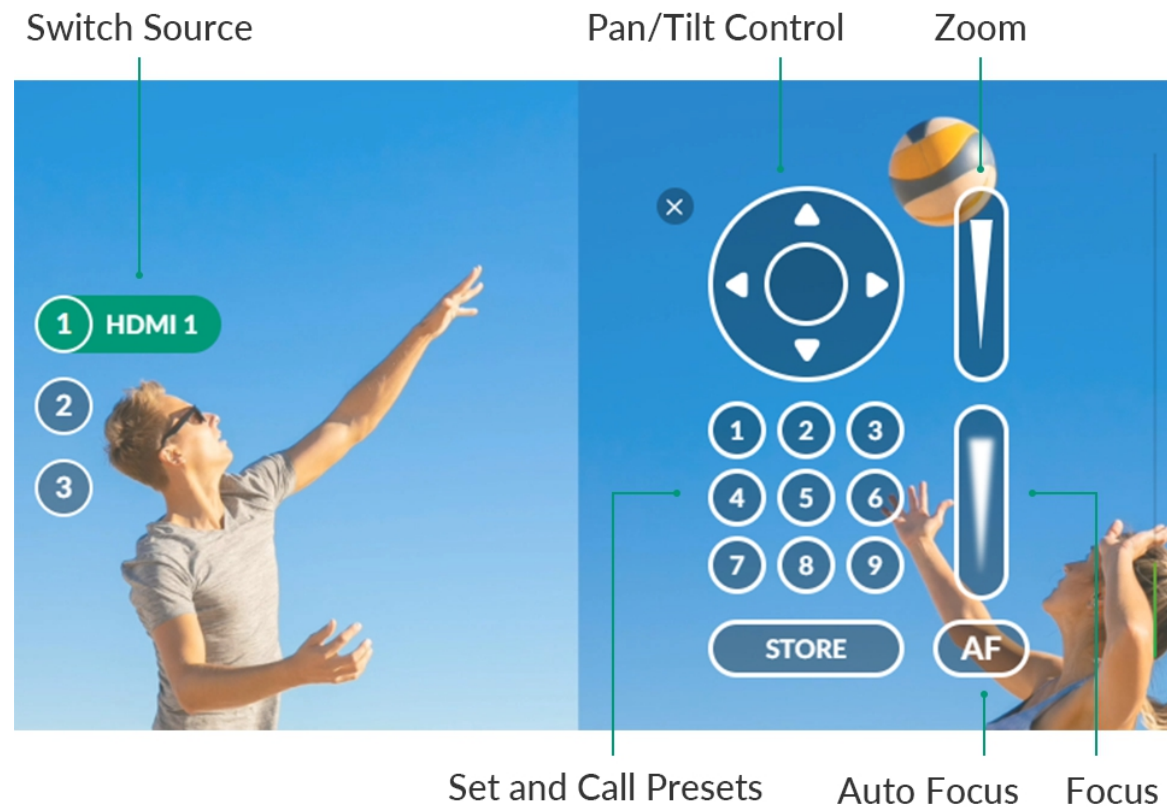
Manual Switch

When **Quick switch** is toggled off, it goes to manual switch mode. You can set and preview the content to program. After you confirm everything is OK, you can program the scene.

1. Click the thumbnail of next scene to program in the scene list. The main screen of the device displays the preview image. The program scene thumbnail has a red frame, while the the preview scene thumbnail has a grey frame and displays **Cut** and **Auto** buttons.
2. Check everything to program is OK.
3. Click the **Cut** or **Auto** button on the preview scene thumbnail, and the scene goes to program directly or with the selected transition effect.

Play Video

If a scene contains a video clip, you can click the play/pause button on the scene thumbnail to view the video.



Control PTZ Camera

When a source supports UDP-based or NDI-based PTZ function, you can control the PTZ camera on the preview area.

1. Click **PTZ Control** under the thumbnail to enter the PTZ control mode, by which you can also enter phone camera control mode.
2. If there are multiple PTZ sources or phone camera sources in the scene, select a source on the popup. After that, you can click numbers on the left in the preview area (at the bottom for portrait mode) to switch sources.
3. Click and hold any blank area on the PTZ control panel and drag it to the desired position.
4. Click X to exit.

Pan/Tilt Control

- On the Pan/Tilt Control panel, click the center of the circle and drag the green dot to move the camera. The closer to the center of the circle, the slower the camera moves; The farther away from the center of the circle, the faster the camera moves.
- Click the arrows to pan/tilt the camera.

Zoom

Slide on the slide bar at the upper right to zoom.

- Slide up, and the lens zooms in.
- Slide down, and the lens zooms out.

Focus

Slide up and down on the slide bar at the lower right to focus. You can also click **AF** for auto-focus.

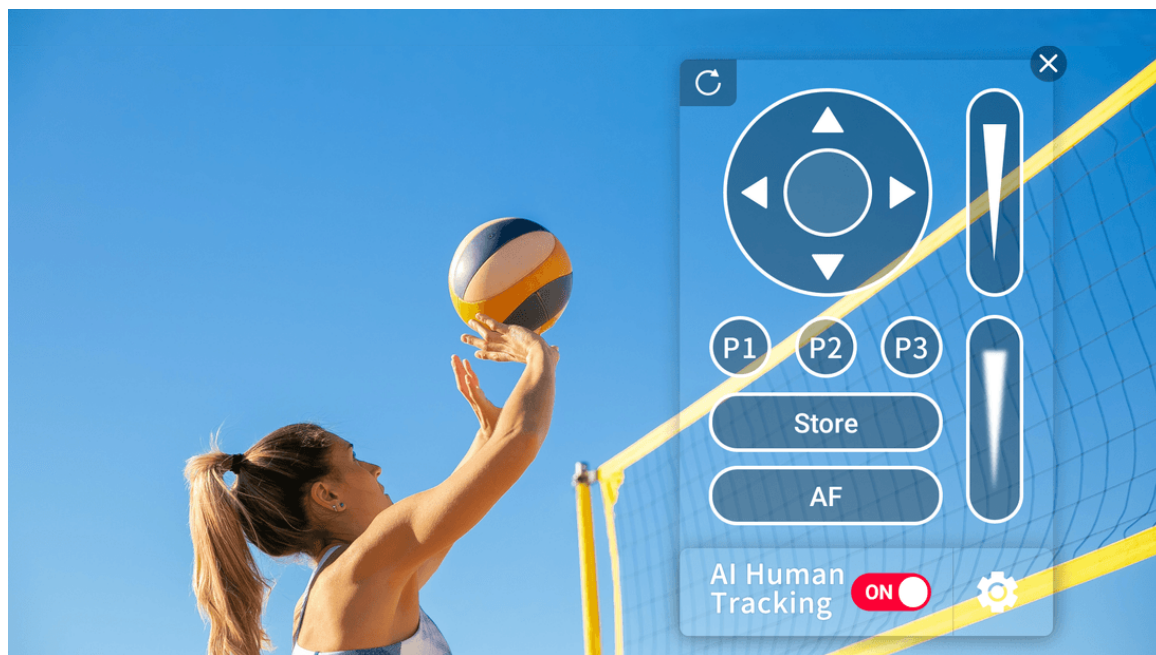
- Slide up, and then the lens focuses near and the nearby object gets clear.
- Slide down, and then the lens focuses far and the distant object gets clear.

Presets

A preset is a predefined image position which contains information of pan, tilt, zoom, etc. After the preset is configured, you can move the camera to your desired position quickly by calling the preset.

1. Move the camera to your desired position and adjust zoom and focus.
2. Click **STORE** and then click a number to save. For example, if you click No.1, it will be saved as Preset 1.
3. Repeat the steps above to add more presets.
4. Click a preset No. to call the preset.

It supports to add up to 9 presets.





Control OBSBOT WEBCAM

Director device is compatible with OBSBOT WEBCAMs. Besides [Pan/Tilt Control](#), [Zoom](#), [Focus](#), and [Presets](#), the PTZ control center for OBSBOT supports the following features.



For OBSBOT webcam, it supports adding up to 3 presets, and the preset numbers change to P1, P2 and P3.

AI Human Tracking

1. Click  to open the setting page.
2. Set tracking speed. Options may change with OBSBOT webcam modules.
3. Set tracking mode. Options may change with OBSBOT webcam modules.
4. Click  again to close the setting page.
5. Toggle on the switch of AI Human Tracking to start.
6. Toggle off the switch of AI Human Tracking to stop.

Record Webcam

If your OBSBOT webcam supports recording, such as OBSBOT Tail Air, you can record videos to the SD card installed in the webcam.

- Click **Record** to start recording.
- Click **Recording** to stop.
- Click  to view recorded files.
 - Click a thumbnail to preview.
 - Hover your mouse over a thumbnail, click  and then click **Download**



to download a file to local or click **Delete** to delete the file.

Reset Webcam


Click  to reset the OBSBOT webcam to its initial position.

Wake Up Webcam

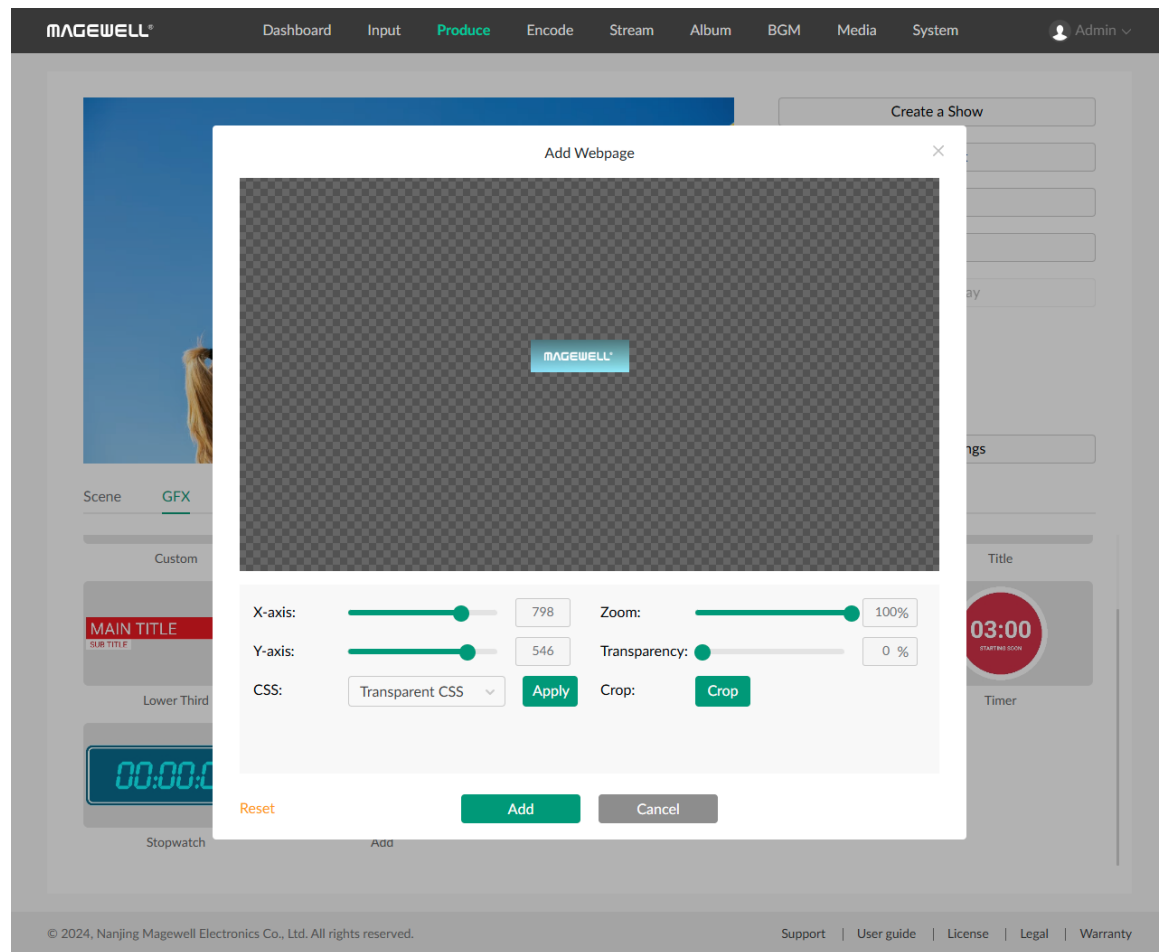
If the OBSBOT webcam has gone to sleep, click **Wake Up** to bring it back to work.

Control Phone Camera

You can control the zoom and focus of phone camera.

1. Switch a phone camera scene to program view.
2. Click **PTZ Control** under the scene thumbnail to enter the phone camera control mode, by which you can also enter the PTZ control mode. If there are multiple PTZ sources or phone camera sources in the scene, select a source on the popup. After that, you can click numbers on the left in the preview area (at the bottom for portrait mode) to switch sources.
3. Drag  in the preview area to control the phone camera to zoom in or out.
4. Click a place on the phone camera image to focus.
5. Click x to exit.

For some phones, they may not support the focus function due to their own limitation.



Control GFX

Click the **GFX** tab, and it displays **GFX** thumbnails and names. Scroll the **GFX** list to view all the **GFX**s. You can apply, control and manage **GFX**s.

Besides, you can add a URL and use the content on the webpage as a **GFX**.

Add Webpage GFX

1. On the **GFX** tab page, click **+ Add**.
2. Enter a URL and click **Go**.
3. Edit the **GFX**, and click **Add**.
 - Move the slider of **X-axis** or **Y-axis** to change its position.
 - Move the slider of **Zoom** to zoom out or in.
 - Move the slider of **Transparency** to change its transparency.
 - Select **CSS** and click **Apply** to change the background of the webpage.
 - Default CSS: Use the default background of the webpage.
 - Transparent CSS: Change the background to transparent.
 - Custom CSS: Enter your own CSS.
 - To crop the webpage, click **Crop**.
 - i. Select a cropping aspect ratio. By default, the Free aspect ratio is used, which allows you to crop at any aspect ratio.
 - ii. Drag a corner of the crop frame to select the part you want to retain.
 - iii. Drag with the crop frame to move around.
 - iv. If you want to cancel the current cropping, tap **Reset** to revert to

the original size.

v. Click **Save**.

- Click **Reset** to clear all the changes.


4. Click **+ Add** to add more.

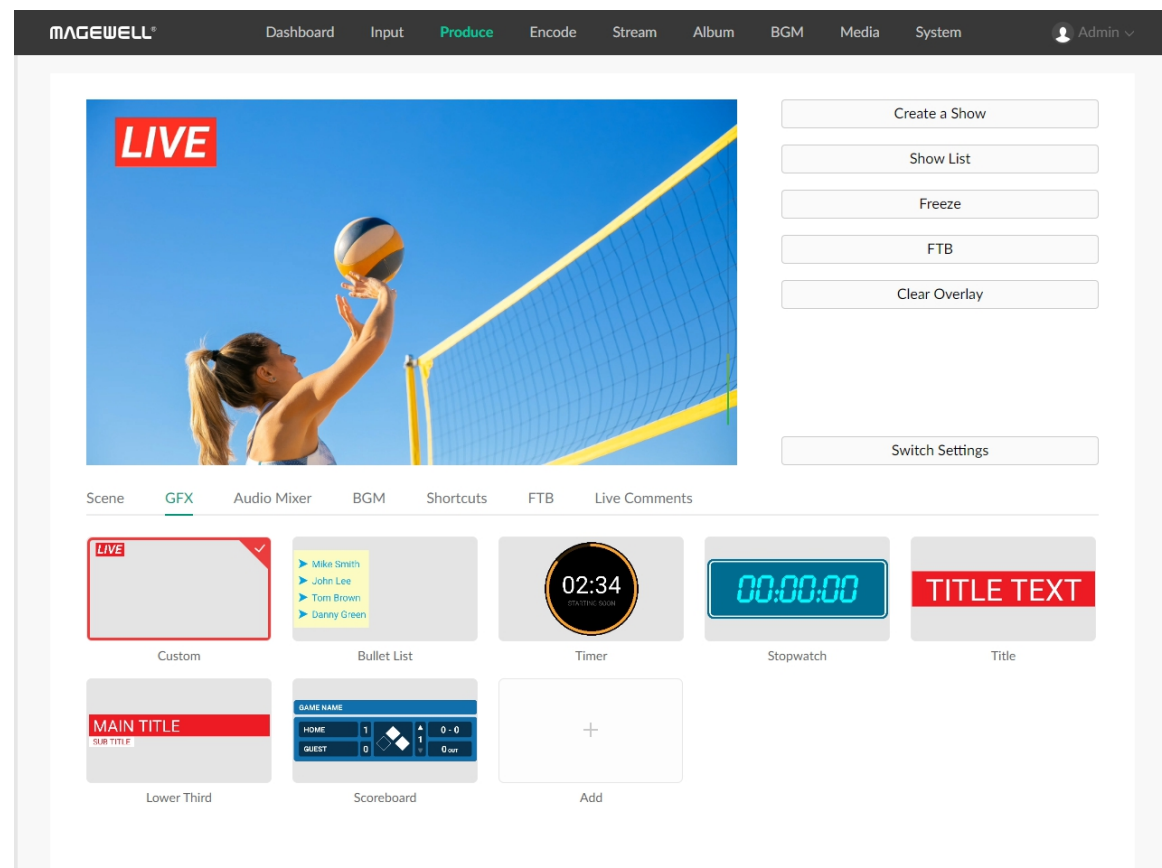
The History lists all the added URLs, and you can click one thumbnail to edit.

It is not recommended to add a video URL as it will consume a lot of system resources.

You can add up to 7 webpage GFXs.

Delete URL

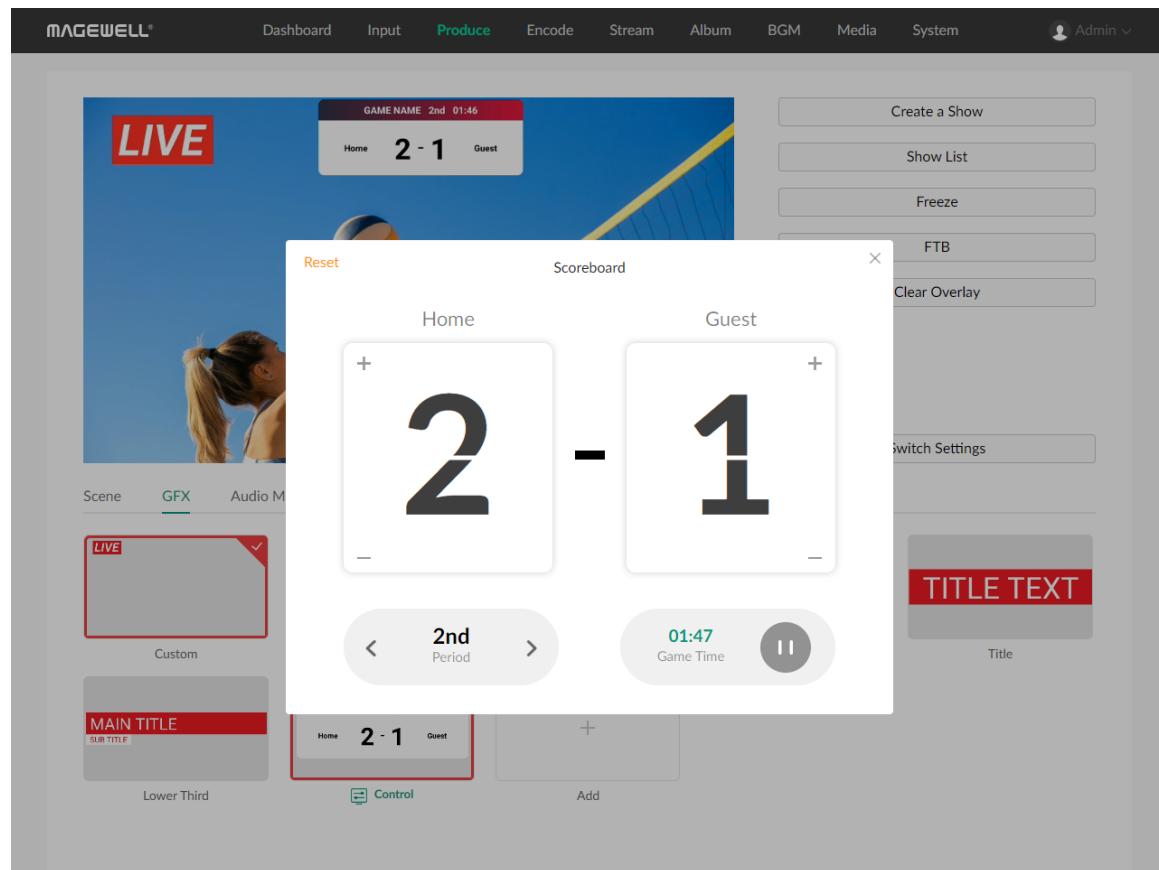
1. On the **GFX** tab page, click **+ Add**.
2. Move the cursor over a thumbnail in the **History**, click .
3. Click **Delete** on the menu, and confirm to delete on the popup.



Apply GFX

- Select one or more GFXs in the **GFX** list, and then the selected **GFX(s)** is applied in the program scene. A red frame around the thumbnail indicates the **GFX** is displayed.
- If a bullet list is applied and it is set to manual play mode, you can click **Next** under the thumbnail to display the next line.
- Unselect one **GFX**, and then the **GFX** disappears from the program scene.
- Click **Clear Overlay** to hide all the GFXs.





You can apply up to 8 GFXs at the same time.

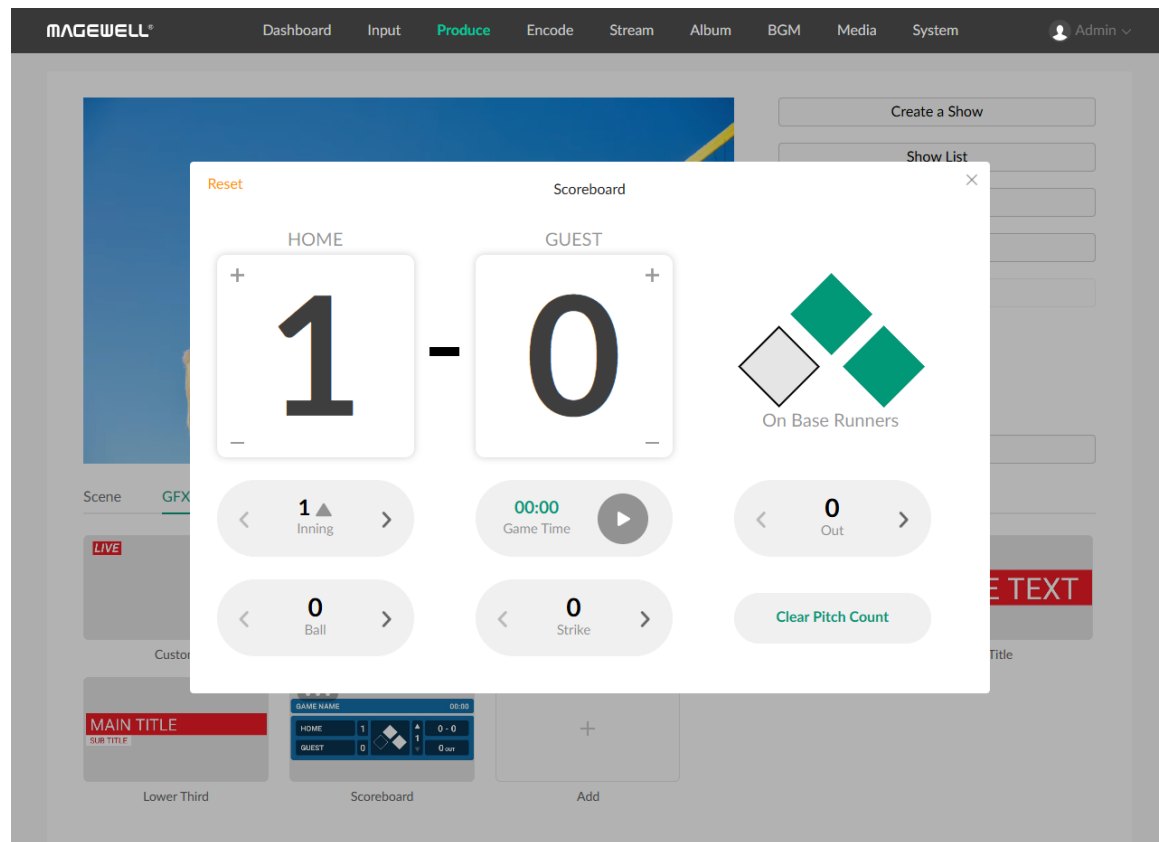


Control Scoreboard






You can only apply one scoreboard, but you can control all the scoreboards separately.

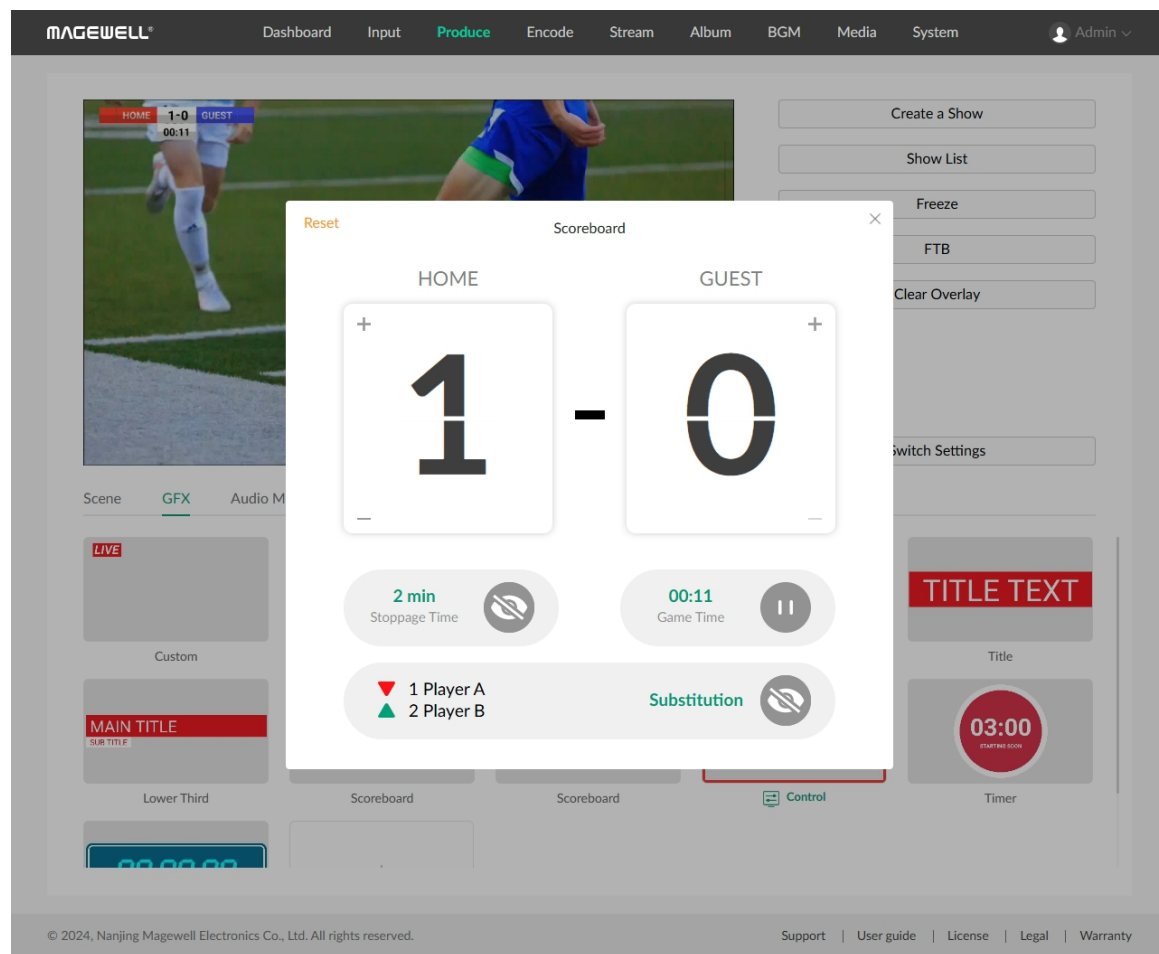
Control General Scoreboard

1. Apply a general scoreboard, and click **Control** under the thumbnail.
2. Or move the cursor over a thumbnail, click , and select **Control** on the popup menu.
3. Click the upper part of the number to increase the score, and click the lower part of the number to decrease the score.
4. Click the left or right arrow at the bottom left to select a period. If the period is not set to be shown, you can click "Show" to display it.
5. Control game time:
 - Click  at the bottom right to start counting; click  to pause counting.
 - If the game time is not set to be shown, you can click "Show" to display it.
 - Click the time number, and then select time in the time box to adjust time, or click "Reset" to reset the game time to zero or the preset duration.
6. Click "Reset" to restore the score to 0:0, reset the game time to zero or reset to the set duration.
You can also move the cursor over a thumbnail, click , and select "Reset" on the popup menu.
7. Click "x" to go back.










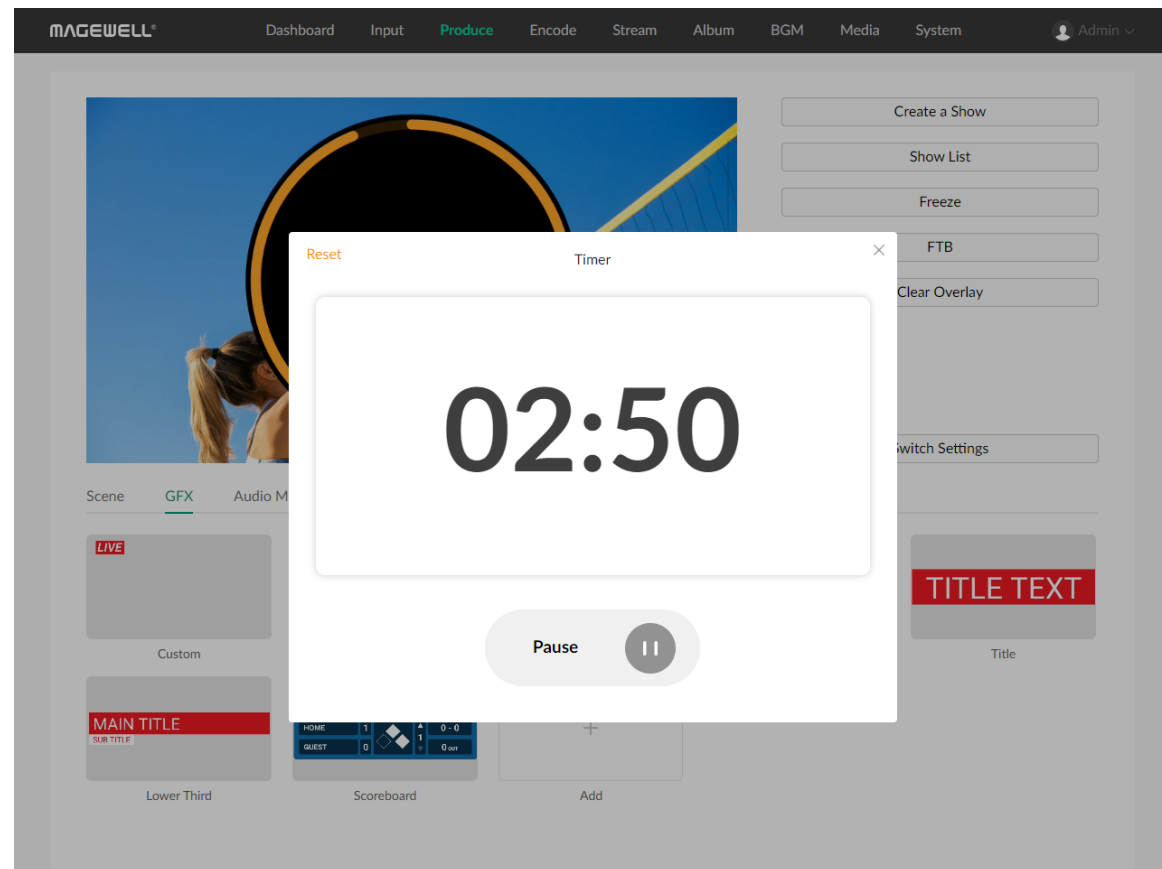
Control Baseball Scoreboard


1. Apply a baseball scoreboard, and click **Control** under the thumbnail.
2. Or move the cursor over a thumbnail, click , and select **Control** on the popup menu.
3. Click the upper part of the number to increase the score, and click the lower part of the number to decrease the score.
4. Click  to indicate runners on 1st Base, 2nd Base, and 3rd Base.
5. Click the left or right arrow of **Inning** to set inning number and the "top" or "bottom" half. And confirm whether to also clear settings of on-base runners, outs, balls and strikes on the popup.
6. Control game time:
 - Click  to start counting; click  to pause counting.
 - Click the time number, and then select time in the time box to adjust time, or click "Reset" to reset the game time to zero or the preset duration.
7. Click the left or right arrow of **Out** to indicate outs as numbers or shapes.
8. Click the left or right arrow of **Ball** to indicate balls as numbers.
9. Click the left or right arrow of **Strike** to indicate strikes as numbers.
10. Click **Clear Pitch Count** to make balls and strikes both zero.
11. Click **Reset** to clean all the sets.
You can also move the cursor over a thumbnail, click , and select "Reset" on the popup menu.
12. If some element is set to be hidden, click "Show" to display it.
13. Click "x" to exit.



Control Soccer Scoreboard

1. Apply a soccer scoreboard, and click **Control** under the thumbnail.
2. Or move the cursor over a thumbnail, click , and select **Control** on the popup menu.
3. Click the upper part of the number to increase the score, and click the lower part of the number to decrease the score.
4. Click the left or right arrow at the bottom left to select a period. If the period is not set to be shown, you can click "Show" to display it. (Not available for soccer scoreboards)
5. Show stoppage time:
 - Click the time number to select the stoppage time, and you can click "Reset" to reset the stoppage time to zero.
 - Click  to show the stoppage time, and click  to hide.
6. Control game time:
 - Click  at the bottom right to start counting; click  to pause counting.
 - Click the time number, and then select time in the time box to adjust time, or click "Reset" to reset the game time to zero.
7. Show substitution:
 - Click "Substitution" to enter the information of the players to enter and leave the field.
 - Click  to show the substitution, and click  to hide.
8. Click "Reset" to restore the score to 0:0, reset the game time to zero.







You can also move the cursor over a thumbnail, click , and select "Reset" on the popup menu.

9. Click "x" to go back.





Control Timer

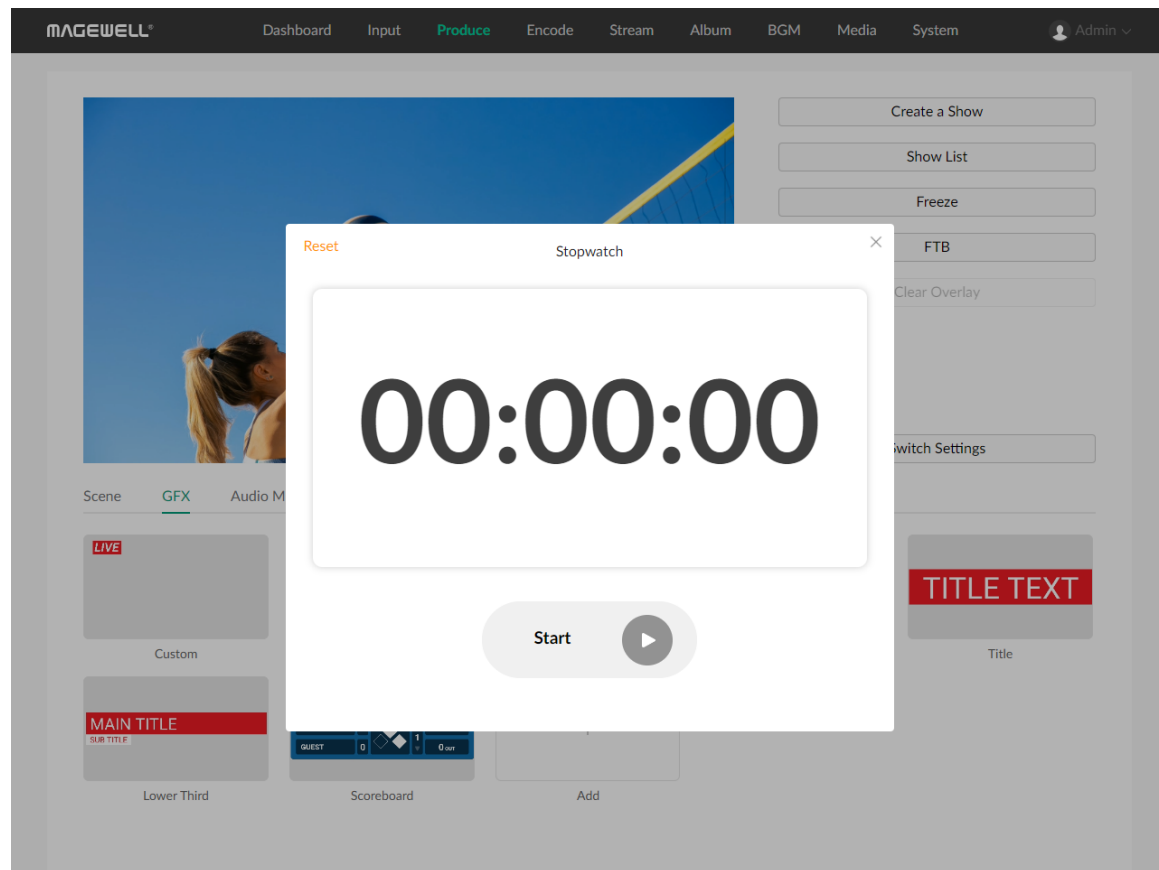
You can only apply one timer, but you can control all the timers separately.

Way 1

1. Apply the Timer.
2. Under the thumbnail, click  to start counting, click  to pause counting, click  again to resume counting.
3. Move the cursor over a thumbnail, click  and click **Reset** to restore the timer to the preset duration.

Way 2





1. Move the cursor over a thumbnail, click  and click **Control** on the popup.
2. Click  to start counting, click  to pause counting, click  again to resume counting.
3. Click **Reset** to restore the timer to the preset duration, and you can re-select the duration.
4. Click "x" to go back.







Control Stopwatch

You can only apply one stopwatch, but you can control all the stopwatches separately.

Way 1


1. Apply a stopwatch.
2. Under the thumbnail, click  to start counting, click  to pause counting, click  again to resume counting.
3. Move the cursor over a thumbnail, click  and click **Reset** to restore the stopwatch to zero.

Way 2


1. Move the cursor over a thumbnail, click  and click **Control** on the popup.
2. Click  to start counting, click  to pause counting, click  again to resume counting.
3. Click **Reset** to restore the stopwatch to zero.
4. Click "x" to go back.

Manage GFX


Rename GFX

1. Move the cursor over a thumbnail, click .
2. Click **Rename** on the menu.
3. Enter the new name, and click **Save**.


Delete GFX

1. Move the cursor over a thumbnail, click .
2. Click **Delete** on the menu.
3. Confirm to delete on the popup.

Copy GFX

1. Move the cursor over a thumbnail, click .
2. Click **Copy** on the menu.
3. Confirm to copy on the popup.

Edit GFX

1. Move the cursor over a thumbnail, click .
2. Click **Edit** on the menu.
3. Edit text content, replace pictures in the popup, etc.
4. Click **Save**.

Re-order GFX

Drag and drop a [GFX](#) thumbnail to the desired position.

Control Audio

Click the **Audio Mixer** tab to control the output and input audio of the show.

Audio Type

Scroll the audio mixer to view all the audio sources.

- **PROGRAM:** Output audio of the program scene, for streaming or recording.
- **MONITOR:** Audio output for monitoring.
- **Audio Input Sources:**
 - **MIC:** Audio of global microphone.
 - **Bluetooth:** Audio from a Bluetooth device, which is displayed when the device is connected with the Director device.
 - **USB AUDIO:** Audio from a USB device, which is displayed when the device is connected with the Director device.
 - **HDMI:** Audio from an HDMI source, which is displayed on the audio mixer by default.
 - **RTMP:** Audio from the **RTMP** stream source, displayed with the self-defined name.
 - **SRT:** Audio from the **SRT** stream source, displayed with the self-defined name.
 - **RTSP Stream:** Audio from the RTSP stream source, displayed with the self-defined name.
 - **NDI:** Audio from the NDI stream source, displayed with the self-defined alias.

- **Phone Camera:** Audio from the phone, displayed with the self-defined name.
- **VIDEO CLIP:** Audio embedded in the video clip source, which appears when the video clip is in program view. It displays the file name under VIDEO CLIP to distinguish different files.
- **BGM:** Audio of the background music. Usually, it displays the global BGM. When the current scene has private BGM, the global BGM is overridden by the private one.
- **Webpage:** Audio from a webpage source.
- **GFX:** Audio from a webpage or NDI **GFX**, which appears when a webpage or NDI **GFX** is displayed in the show.

Audio Meter

Except the monitor, each audio has its audio meter showing the real-time level. The range of the audio meter is -88 dB to 0 dB. It displays the peak value on the top of the audio meter. Colored blocks and scales indicate the danger of clipping, as shown in the table below.

Color	Scale Range	Description
Green	-88 ~ -40	Audio device is connected.
Green	-40 ~ -20	Audio volume is low.
Yellow	-20 ~ -10	Audio is at normal levels.
Red	-10 ~ 0	Audio is in danger of clipping.



Adjust Audio Level

Each audio has a fader for adjusting the maximum level.

- Move the fader to set the gain on the audio level. The range is from -40dB to 10dB.
- The current adjusted value is displayed on the top of the fader. Double-click the value to restore the fader to 0dB.

Set Program Audio

Click the button at the bottom to turn on or turn off the program output audio.

-  : indicating the program output audio is turned on.
-  : indicating the program output audio is turned off.

Set Monitor

The monitor has an independent audio level with the default gain of -15 dB. You can set monitor audio without effecting the program output audio.

Set Monitor Properties



Click **MONITOR** to set the following properties.

- **Select Device:** select a device as the monitor.
 - Headphone Jack: device connected to the headphone jack.
 - Bluetooth Device: device connected through BT.
 - *USB device:* device(s) connected to the USB 3.0 port(s). The system automatically lists device name(s).
- **Monitor Option:**



Toggle on/off the switch of **MIC Input** to set whether to monitor the microphone. It is toggled on by default.

Enable/Disable Monitor

Click the button at the bottom to enable or disable audio monitoring.





-  : indicating audio monitoring is enabled.
-  : indicating audio monitoring is disabled.

Solo Monitor

- Click  to only monitor this audio input.
- Click  to cancel.

Set Audio Input Sources

Audio Association State









- When an audio input source is added to multiple scenes, its name is displayed in green on the audio mixer, and you can click the name to change its association state. It also applies to global audio including Mic, Bluetooth and USB audio.
 -  : indicating the audio input is associated with multiple scenes. The settings to this audio input will take effect to all the scenes.
 -  : indicating the audio input is not associated with other scenes. You can customize the audio mixing mode and adjust audio level for each scene.
- When the state changes from  to , the settings to this audio input will take effect to the whole show.




- When an audio input source is only contained in one scene, its name is displayed in black on the audio mixer and cannot be clicked. The settings to this audio input will take effect to all the scenes.

When a webpage's audio is added into different scenes or GFXs, it is treated as separate audio input sources, serving as the private audio for each scene or [GFX](#).

Set Audio Mixing Mode

Click the icon to set the audio mixing mode of each audio input source.





- When the audio input source is in  state, or is only added in one scene, or is a webpage source,
 -  : Audio-follow-video. The audio will only be sent to the program output when the input is in program view.
 -  : Always ON. An audio input will be permanently mixed into the program output.
 -  : Always OFF. An audio input will be permanently not mixed into the program output.
- When it is private BGM, Video Clip, or other audio input source in  state.
 -  : ON. When the current scene is in program view, the audio will be sent to the program output.
 -  : OFF. When the current scene is in program view, the audio will not be sent to the program output.
- When it is global BGM,
 -  : ON. It will be permanently mixed into the program output.

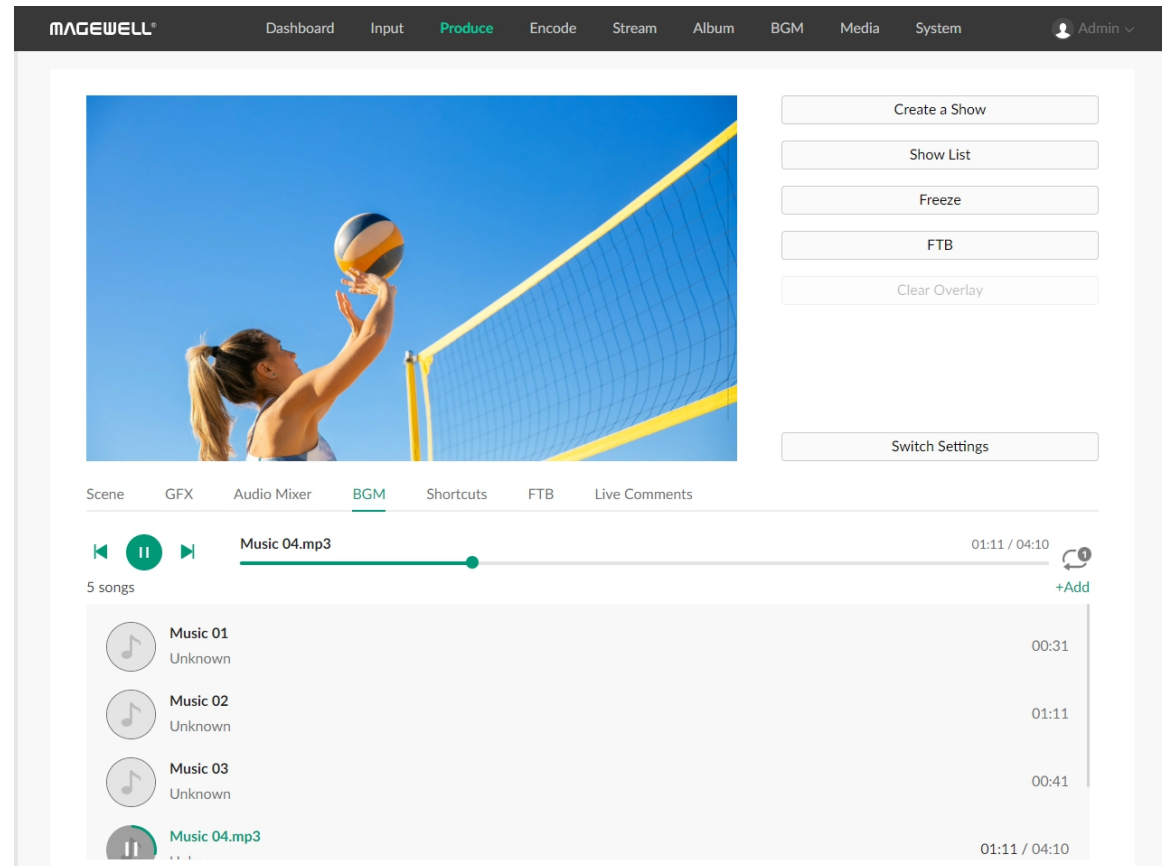
-  : OFF. It will be permanently not mixed into the program output.
- When it is webpage **GFX** audio,
 -  : ON. When the **GFX** is applied, the audio will be sent to the program output.
 -  : OFF. When the **GFX** is applied, the audio will not be sent to the program output.

If you connect a Magewell USB Capture device to the Director device, the USB audio supports AFV. For other USB devices, they do not support AFV.

Use Magewell USB Capture

When a Magewell USB Capture is connected to the Director device, you can control the embedded audio from the input signal and microphone/Line In audio.

- Embedded audio from the input signal: support setting  and  state. Please refer to [Set Audio Input Sources](#).
- Microphone/Line In audio:
 -  : ON. The audio input will be permanently mixed into the program output.
 -  : OFF. The audio input will be permanently not mixed into the program output



Control BGM



Click the **BGM** tab, and then you can add and control private background music for the current program scene.

You can also add global background music to play throughout the entire show by referring to the [Global BGM](#).


Add BGM

1. Click the **+ Add** button.
2. Click **+ Upload** at the lower right corner to import local audio files to media. Supported formats are MP3, M4A, WAV files.
3. In the **Media** list, click an item to add it to the current scene.








Rearrange BGM

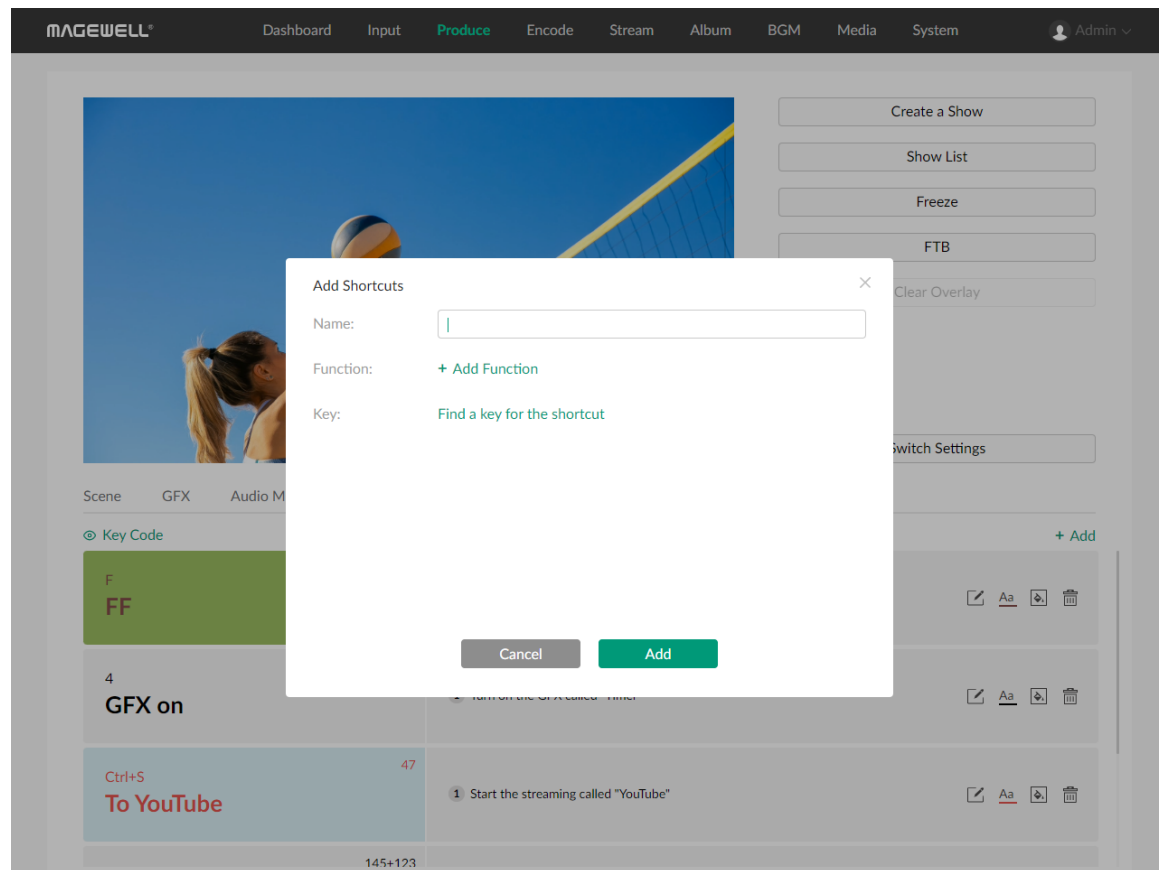
1. Hover your mouse over a BGM item.
2. Click  to move upward or click  to move downward.

Delete BGM

1. Hover your mouse over a BGM item.
2. Click , and click **Delete** on the popup dialog box.

Play BGM

1. Click the song name to switch.
2. Click buttons on the playback bar to control the BGM playback.
 - Click  to play or  to pause.
 - Click  to play the previous song or  to play the next song.
 - Drag the playhead to a specified position.
 - Set the loop policy:
 -  : Repeat the playlist
 -  : Repeat the song
 -  : Shuffle the playlist

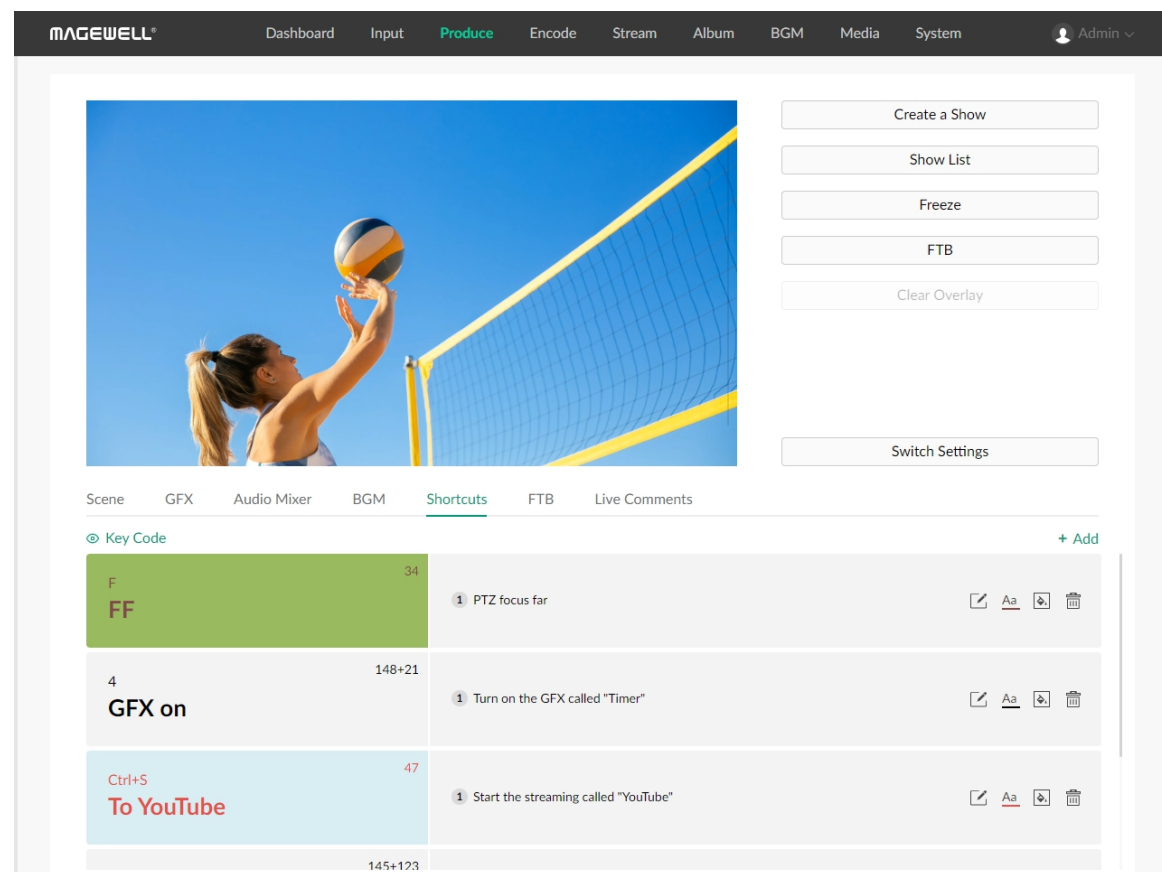


Set Shortcuts

You can connect a USB keyboard or Bluetooth keyboard with the Director device, such as X-Keys and NumberPad, and then set shortcuts on the Web UI for more convenient control.






Add Shortcuts

1. Click the **Shortcuts** tab on the **Produce** page.
2. Click **Add**.
3. Enter a custom name for your shortcut.
4. Click **Add Function**, and then click the drop-down box of **Function** to select a function. As some functions may need more selections or operations, follow the on-screen guide to continue. Click **Add**.
5. To add more functions for the shortcut, repeat step 4.
 - You can add up to 3 functions for one shortcut. When you press the key, it executes all the functions at the same time.
 - Besides, the Director device provides the extra 'Wait' function which can be added between each two functions. By setting the wait duration, a group of functions can be activated sequentially with a single press, allowing them to take effect one by one.
6. Click **Find a key for the shortcut**.
 - i. Press a key on the USB keyboard to help find the key code, or you can enter a key code number. You can also press two or more keys at the same time.
 - ii. Enter the key text on the key to help identify the key. You can also customize the text.





- iii. Click **Add** to confirm.
7. Click **Add** to finish adding this shortcut.
8. Repeat step 2 to 7 to add more shortcuts.
9. The shortcut list displays all the shortcut keys (including key text and the custom name) and their functions. Click a shortcut or press a key to test whether the shortcut works normally.
10. (Optional) Click **Key Code** at the upper left corner to display or hide key code.


Edit Shortcuts

1. Click the **Shortcuts** tab on the **Produce** page.
2. Click  on the right, and then you can change the following properties.
 - Rename the shortcut.
 - Reselect functions by hovering the cursor over a function and then clicking .
 - Reorder functions by hovering the cursor over a function and then clicking  or .
 - Delete a function by hovering the cursor over a function and then clicking .
 - Add more functions by clicking **Add Function**.
 - Change the key by clicking **Change**.
3. Click **Save** to save your changes.

Set Text and Background Color for Key

1. Click the **Shortcuts** tab on the **Produce** page.
2. Click  to set the text color of shortcut key.
3. Click  to set the background color of shortcut key.

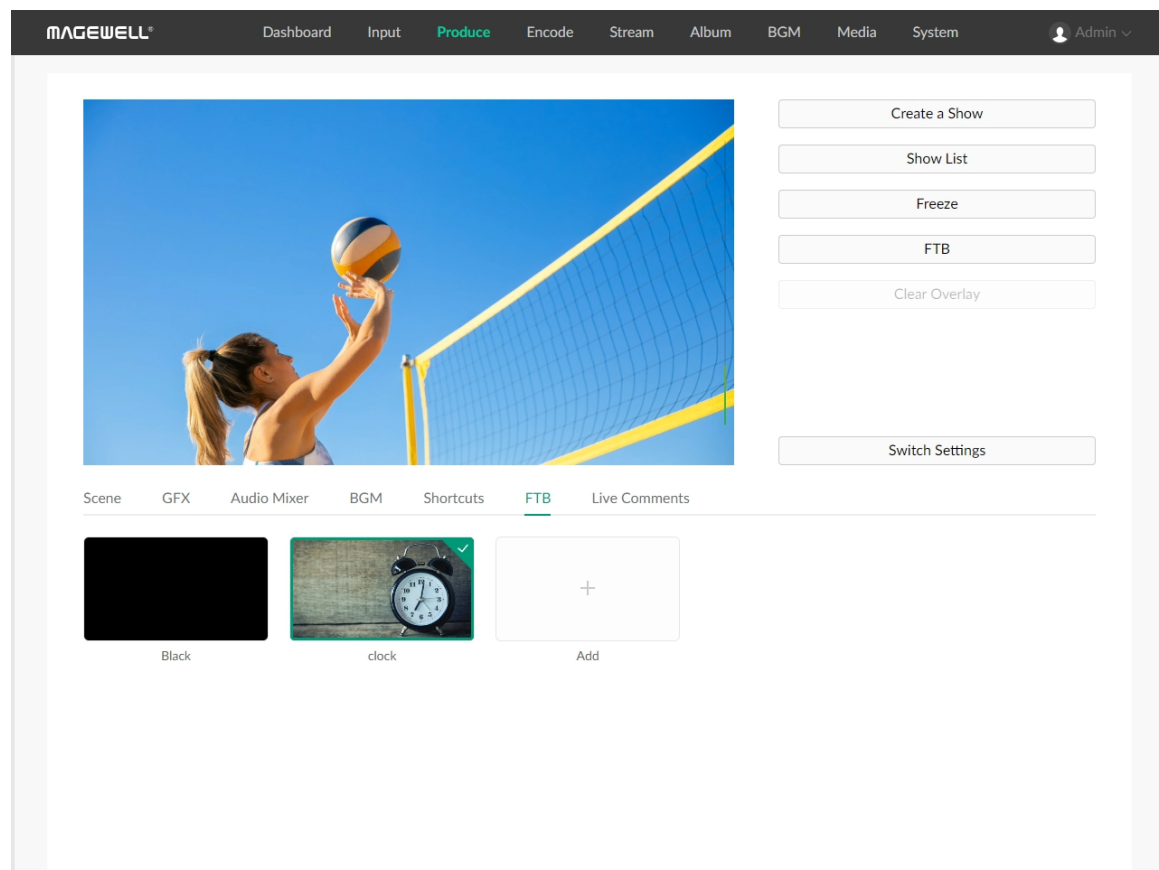
Delete Shortcuts

1. Click the **Shortcuts** tab on the **Produce** page.
2. Click  on the right of a shortcut.
3. Click **Delete** to confirm.

Re-order Shortcuts

1. Click the **Shortcuts** tab on the **Produce** page.
2. Drag and drop one shortcut to the desired position.

 For the full list of shortcuts, please refer to [Shortcuts for Director](#).



Set FTB Image

The **FTB** function allows your program image to fade to black or an assigned image, with all audio muted.

Add and Specify Image


1. Click the **FTB** tab on the **Produce** page.
2. In the **FTB** tab page, click **+ Add** button.
3. Click one picture in the Media. You can also click **Upload** to import pictures on your local computer.

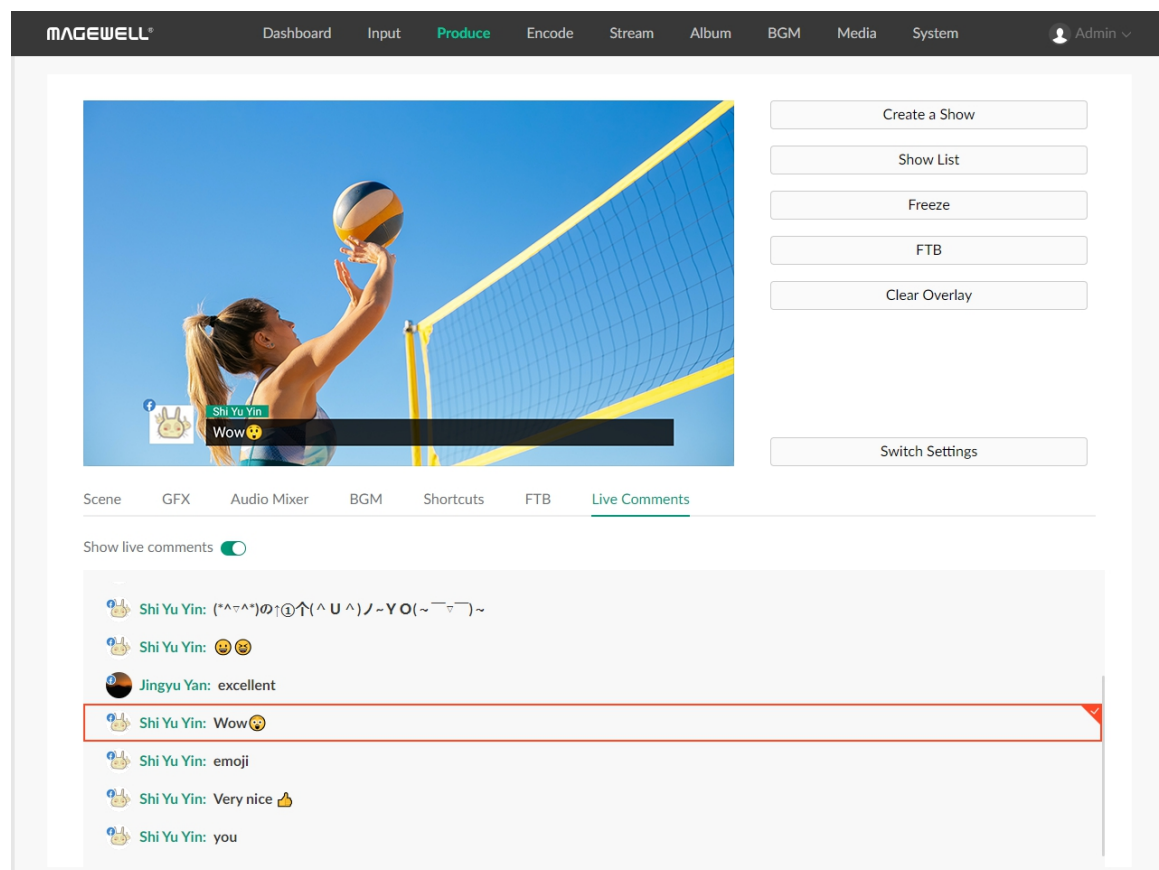
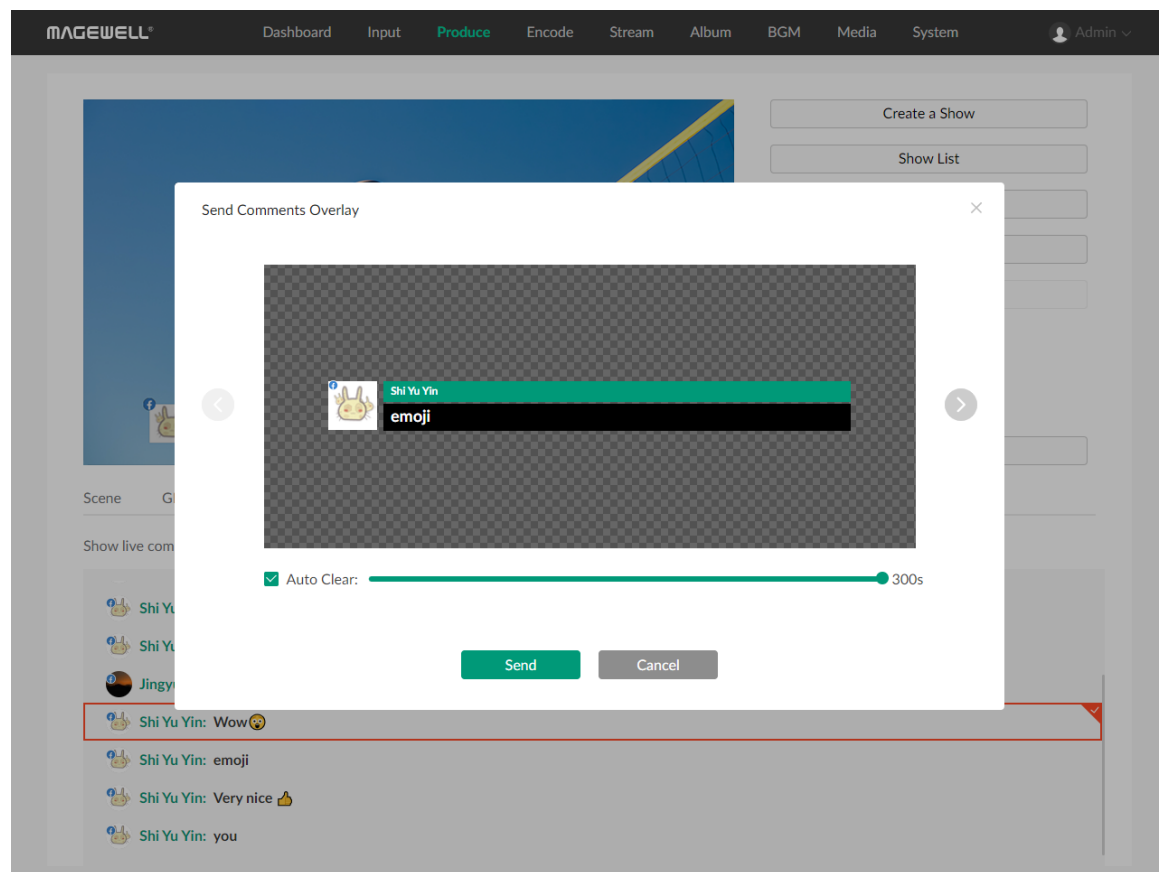
Supported image files are JPEG, PNG, BMP.

4. Click **+ Add** to add more images.
5. Click one image to specify. When you enable **FTB**, the scene fades to this image. If you select **Black**, it will fade to black.

It is recommended to use a 16:9 or 9:16 image to fill the screen with its original aspect ratio.


Delete FTB Image

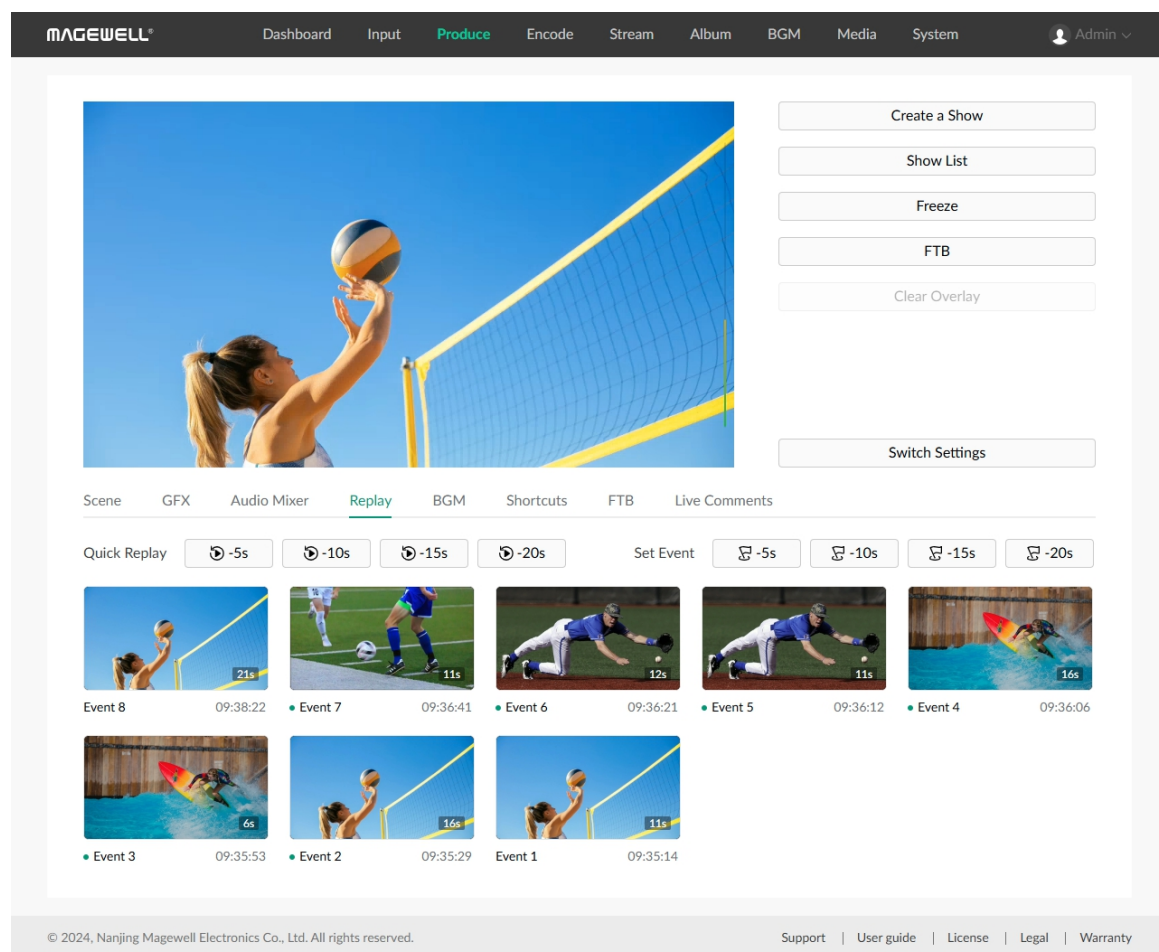
1. Click the **FTB** tab on the **Produce** page.
2. Move the cursor over a thumbnail, and click .
3. Click **Delete** on the menu.
4. Confirm to delete on the popup.



Show Live Comment

You can view live comments when streaming to YouTube, Twitch or Facebook, and select one comment as an overlay inside the video feed.

1. Click the **Live Comments** tab on the **Produce** page.
2. Toggle on the switch to receive live comments, including profile pictures with the platform logo, accounts and comments.
3. Scroll up to view earlier comments, and scroll down to view the most current comments.
4. Send one comment as an overlay by double clicking or through the following way.
 - i. Move the cursor over one comment, and click .
 - ii. Click the arrows to select an overlay style.
 - iii. (Optional) Check **Auto Clear**, and drag the slider to set the duration after which the overlay automatically disappears, ranging from 2s to 300s.
 - iv. Click **Send** to send the current comment as an overlay to the Program view.
5. Click the displaying comment to clear.
You can also click **Clear Overlay** to clear all the **GFX** overlays as well as the comment overlay.







Replay

Replay allows you capture some of the greatest moments, slow down the action and save your highlights.

Please enable the Replay function on the device, the "Replay" tab will appear in the Produce page. Click the "Replay" tab to start.

Quick Replay

Quick Replay allows you to review the recent live content.








- Click  -5s to replay the live content from 5 seconds ago.
- Click  -10s to replay the live content from 10 seconds ago.
- Click  -15s to replay the live content from 15 seconds ago.
- Click  -20s to replay the live content from 20 seconds ago.

If you have enabled two replay cameras, select which camera to replay first on the popup window.

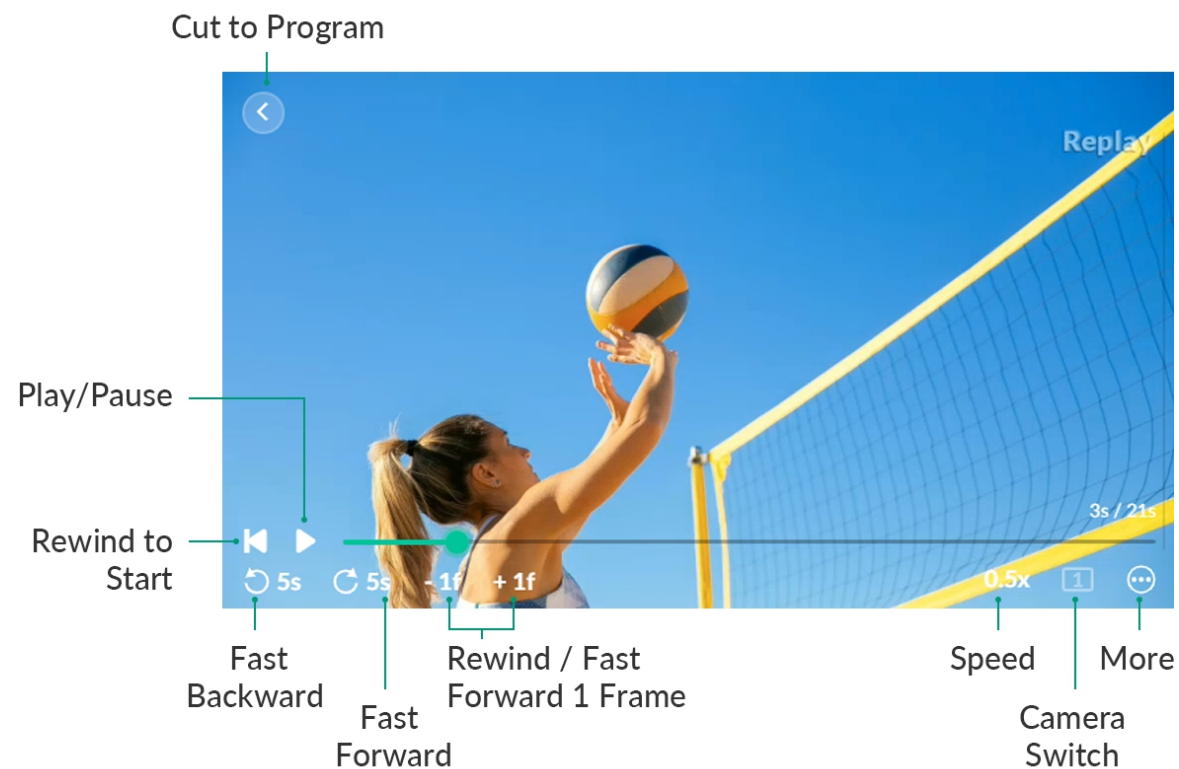
Event Replay

You can also save events during live program, and replay the events later.

1. Set events through the following ways.
 - Double-click at the preview area to set an event.
 - If you have set **Duration of event replay** to a specific duration on the device, it will directly save the event.
 - If you have set **Duration of event replay** to "Ask me when setting" on the device, select the duration in the popup window, and then it save the event.

- Click  **-5s** to quickly save an event backtracked 5 seconds.
 - Click  **-10s** to quickly save an event backtracked 10 seconds.
 - Click  **-15s** to quickly save an event backtracked 15 seconds.
 - Click  **-20s** to quickly save an event backtracked 20 seconds.
2. Events are chronologically sorted from newest to oldest. Under the thumbnail, it displays event title on the left and event timestamp on the right.
- Move the cursor over a thumbnail, and click  and then click the following items to manage the event.
- **Rename:** Enter a new name to better distinguish the event.
 - **Play Range:** Click the play button to preview the event. Then, drag  and  to define start and end points, and select to save it directly or save as a new video.
 - **Delete:** Confirm to delete the event on the popup.
3. Click an event thumbnail to enter the replay mode. If you have enabled two replay cameras, select which camera to replay first on the popup window.


Events are saved into the Album, you can click the [Album](#) tab to view.



Control Replay

At the preview area, you can control the replay.

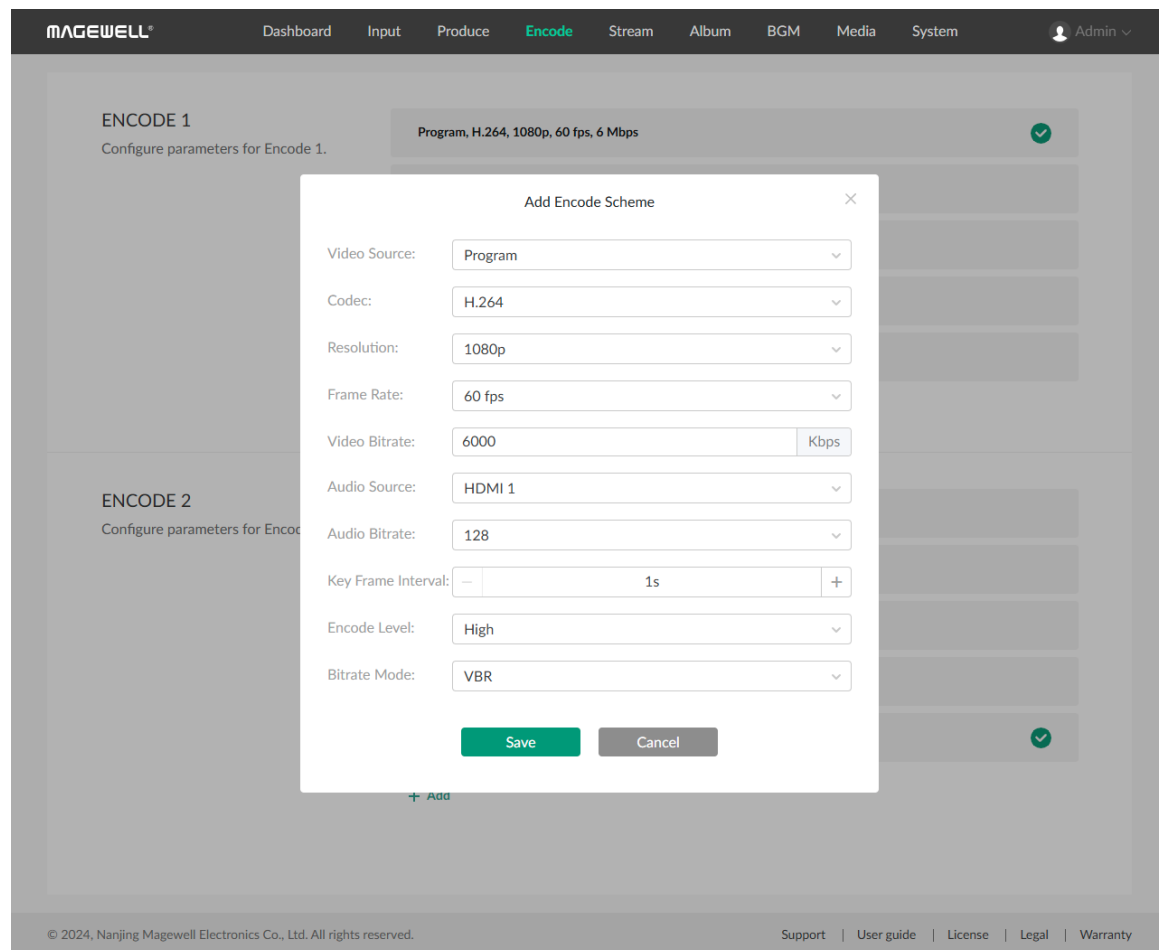
- Drag the playhead of progress bar to adjust the progress.
- Click to rewind to the start.
- Click or to play or pause the replay.
- Zoom in the image:
 1. Double-click one position at the preview area to zoom in the image to 2x.
 2. Scroll the mouse wheel to zoom in or out. The zoom range is 1x to 8x.
 3. Drag the preview area to change the displayed area.
 4. To exit, double-click the preview area again or zoom out to 1x.
- Click or to fast backward or forward at a faster pace, such as 5s, which is set on the device.
- Click **- 1f** to rewind one frame, or click **+ 1f** to fast forward one frame. And the replay will be paused at the same time.
- Click the speed button to change the playback rate. Options include 0.1x, 0.25x, 0.33x, 0.5x, 0.75x, and 1.0x (default).
- Click the camera switch button to switch the replay content.
 - **1**: Camera 1
 - **2**: Camera 2
 - **12**: Camera 1 and 2 in side-by-side layout
- Click for more features.

- **Save event:** save the content of quick replay to the Album.
- **Mute/Unmute sound:** click to mute or unmute the sound of replay.
- Click  to cut back to program view.



Or, as the relay image is added to the scene list as a temporary scene, you can exit the replay mode by switch scenes.

Set Encode

Each show has two encoders for selection when you configure stream servers and record parameters. You can customize encoding parameters and select encoding source for Encode 1 and Encode 2.

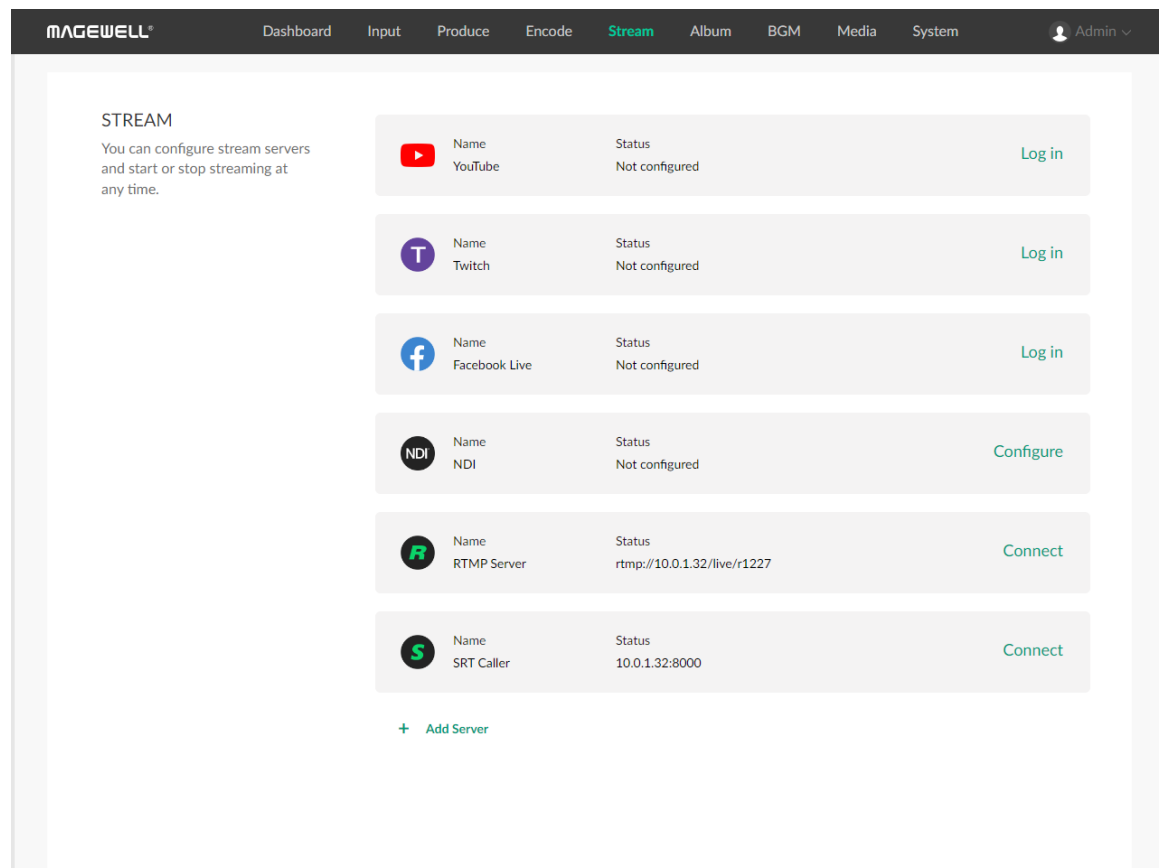


1. On the **Encode** page, click **Add** in ENCODE 1 or ENCODE 2 area.
2. Customize the encode scheme with the following parameters:
 - Video source: Program, HDMI 1, HDMI 2, Webcam 1, Webcam 2, Multi-view.
 - Codec: H.264, H.265
 - Resolution: 1080p, 720p, 540p.
 - Frame rate: options change along with the frame rate of the show, which can be 60/59.94/50/30/29.97/25/24/23.98/15 fps.
 - Video bitrate: enter a custom value.
 - Audio source: Program, HDMI 1, HDMI 2, MIC, available USB MIC, and None
 - Audio bitrate: 64, 96, 128.
 - Key frame interval: click + or - to set
 - Encode level: Baseline, Main, High
 - Bitrate mode: VBR, CBR
3. Click **Save**.
4. Click one encode scheme from system options or custom options. System options use Program as the default encoding source.



5. To edit a scheme, hover the cursor over a scheme and then click  to enter the edit page.
6. To delete a scheme, hover the cursor over a scheme and then click  .

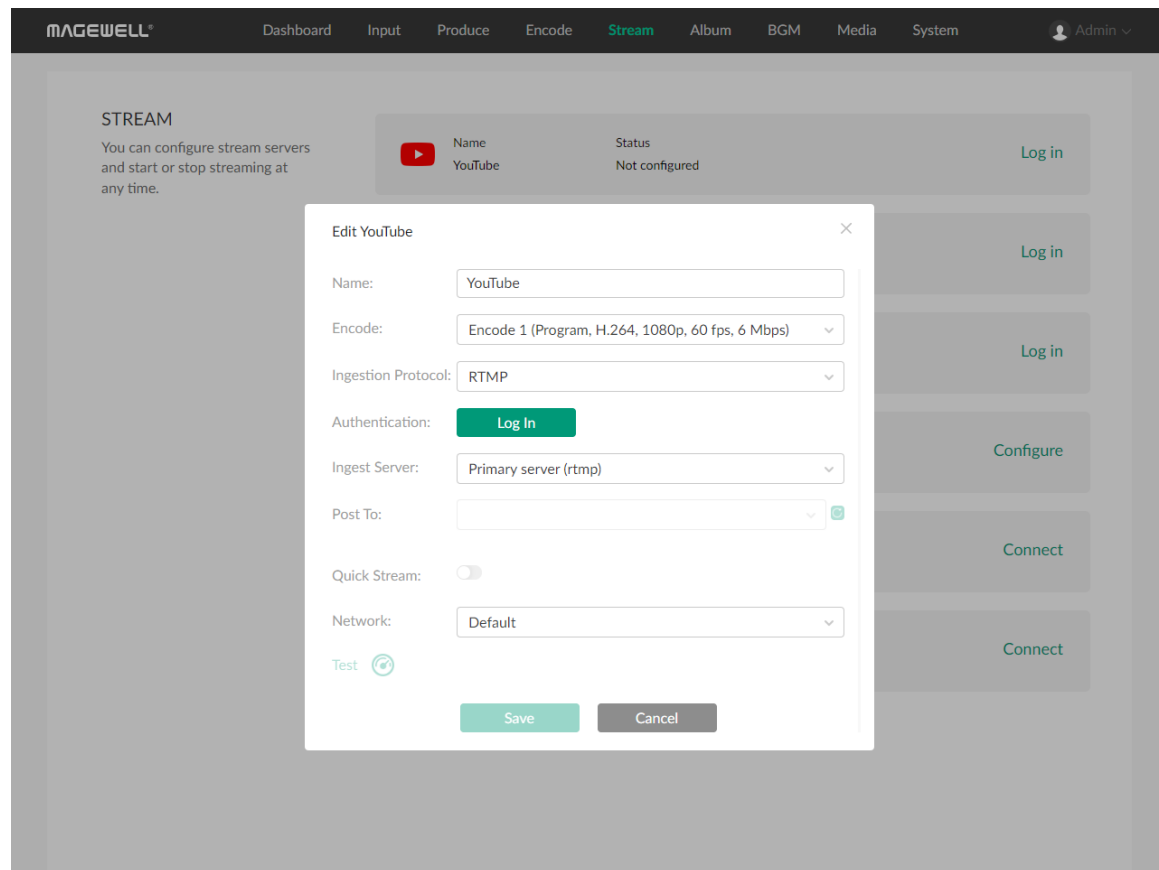
Control Streaming

On the **Stream** page of the Web UI, you can configure stream servers and start or stop streaming at any time.



Configure Stream Servers

- Click **Log in** or **Configure** behind the server name to start configuring server parameters. Please refer to the following contents.
 - Configure YouTube Server
 - Configure Twitch Server
 - Configure Facebook Live Server
 - Configure NDI[®] Server
 - Configure RTMP Server
 - Configure SRT Caller
- Click **Add Server** to add more servers.
- To edit a server, move the cursor to the server, and click  to enter the edit page. After you change the settings, click **Save**. If you click **Cancel**, all the changes will be discarded.
- To delete a server, move the cursor to the server, and click .



Configure YouTube Server

On the Stream page, click **Log in** behind YouTube, and then start to configure.

- **Name:** enter a new name.
- **Encode:** select an encode scheme. Encoding parameters can be customized on the [Encode](#) page.
- **Ingestion Protocol:** select [RTMP](#) or [HLS](#).
- **Authentication:** click **Log In**, and then follow the instructions to log into your account.

Your username and profile image will be displayed after login.

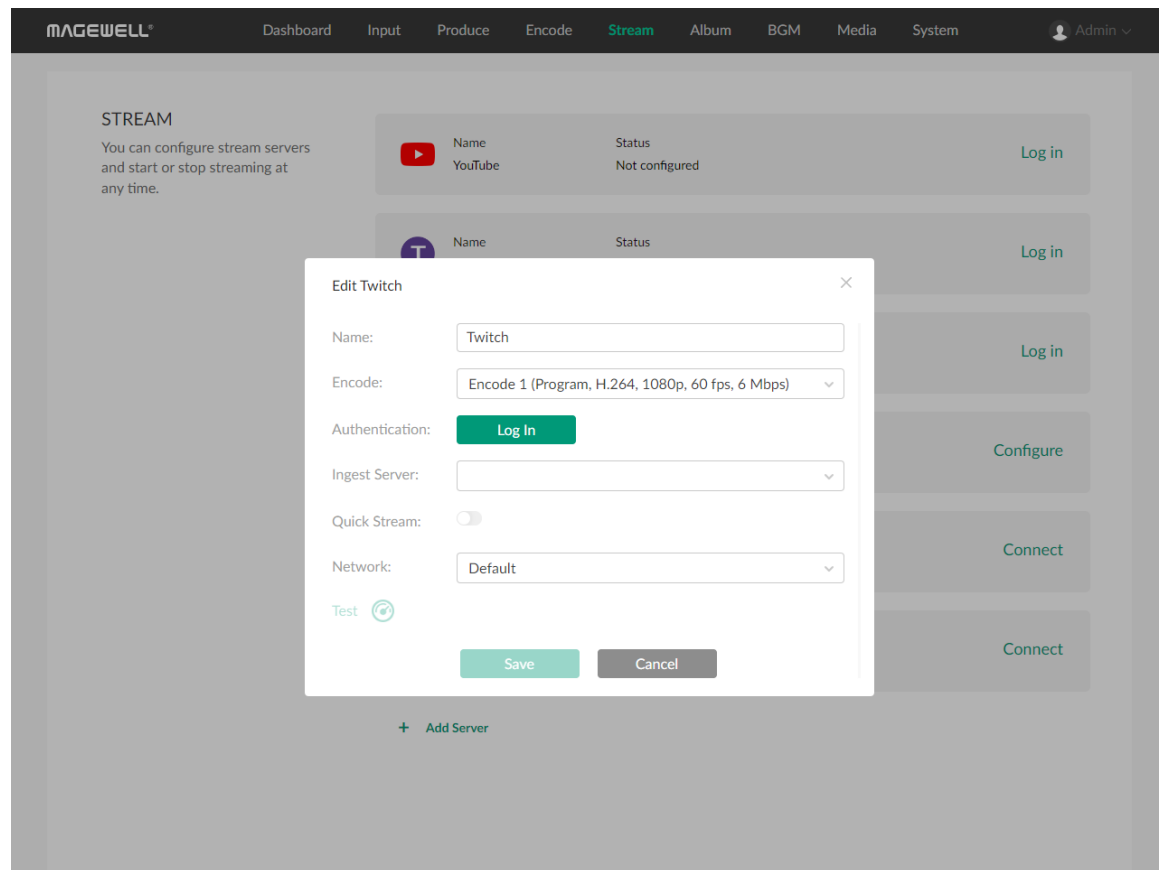
Your nickname, user avatar images and authorization token will be stored encrypted in the Director device after a successful authorization. When you [delete the YouTube server](#) or remove the Director device from trusted apps from your [Google account's security setting](#), we will follow the policies of Google to clear saved data in 0 to 24 hours.

If you have not enabled live streaming for your YouTube account, your YouTube login will fail. Also note that you need to have live streaming enabled 24 hours before starting streaming. For details, see [Why can't I log in to my YouTube account](#).

- **Ingest Server:** You can select **Primary server (rtmp)**, **Primary server (rtmps)**, **Backup server (rtmp)**, or **Backup server (rtmps)**.
- **Post To:** select a channel, event, or **New stream**.
If you select **New stream**, you need to set **Title** (mandatory), **Description**, and **Privacy**.
 - **Privacy** options are:

- **Public:** The stream is visible to all people.
- **Private:** The stream is visible only to you and people selected by you.
- **Unlisted:** The stream is visible only through a link.
- **Quick Stream:** optional. When it is enabled, you can start streaming quickly on the device screen.
- **Network:** You can set the network priority for streaming. Options include:
 - Default: The system's default network priority, that is Ethernet > WLAN > Cellular.
 - Cellular First
 - WLAN First
 - Ethernet First
- **Test:** click to test whether the previous configurations are working properly.

After configuration, the "Status" area of the YouTube server will display your account information.

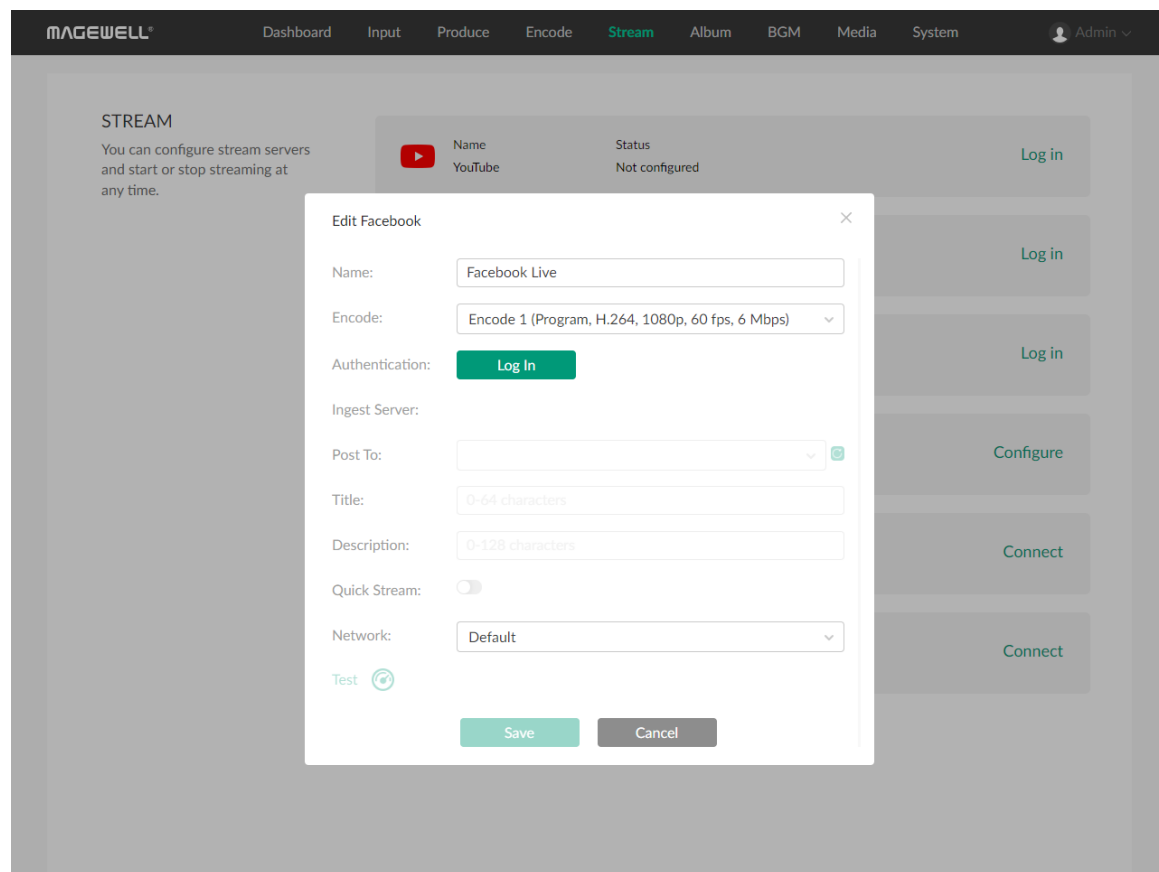


Configure Twitch Server

On the Stream page, click **Log in** behind Twitch, and then start to configure. After everything is OK, save your configuration.

- **Name:** enter a new name.
- **Encode:** select an encode scheme. Encoding parameters can be customized on the [Encode](#) page.
- **Authentication:** click **Log In** and then follow the instructions to log into your account.
- **Ingest Server:** The system lists available servers. You can select a nearby server for an optimal network path.
- **Quick Stream:** optional. When it is enabled, you can start streaming quickly on the device screen.
- **Network:** You can set the network priority for streaming. Options include:
 - Default: The system's default network priority, that is Ethernet > WLAN > Cellular.
 - Cellular First
 - WLAN First
 - Ethernet First
- **Test:** click to test whether the previous configurations are working properly.

After configuration, the "Status" area of the Twitch server will display your account information.



Configure Facebook Live Server

On the Stream page, click **Log in** behind Facebook Live , and then start to configure. After everything is OK, save your configuration.

- **Name:** enter a new name.
- **Encode:** select an encode scheme. Encoding parameters can be customized on the [Encode](#) page.
- **Authentication:** click **Log In** and then follow the instructions to log into your account.

Your username and profile image will be displayed after login.

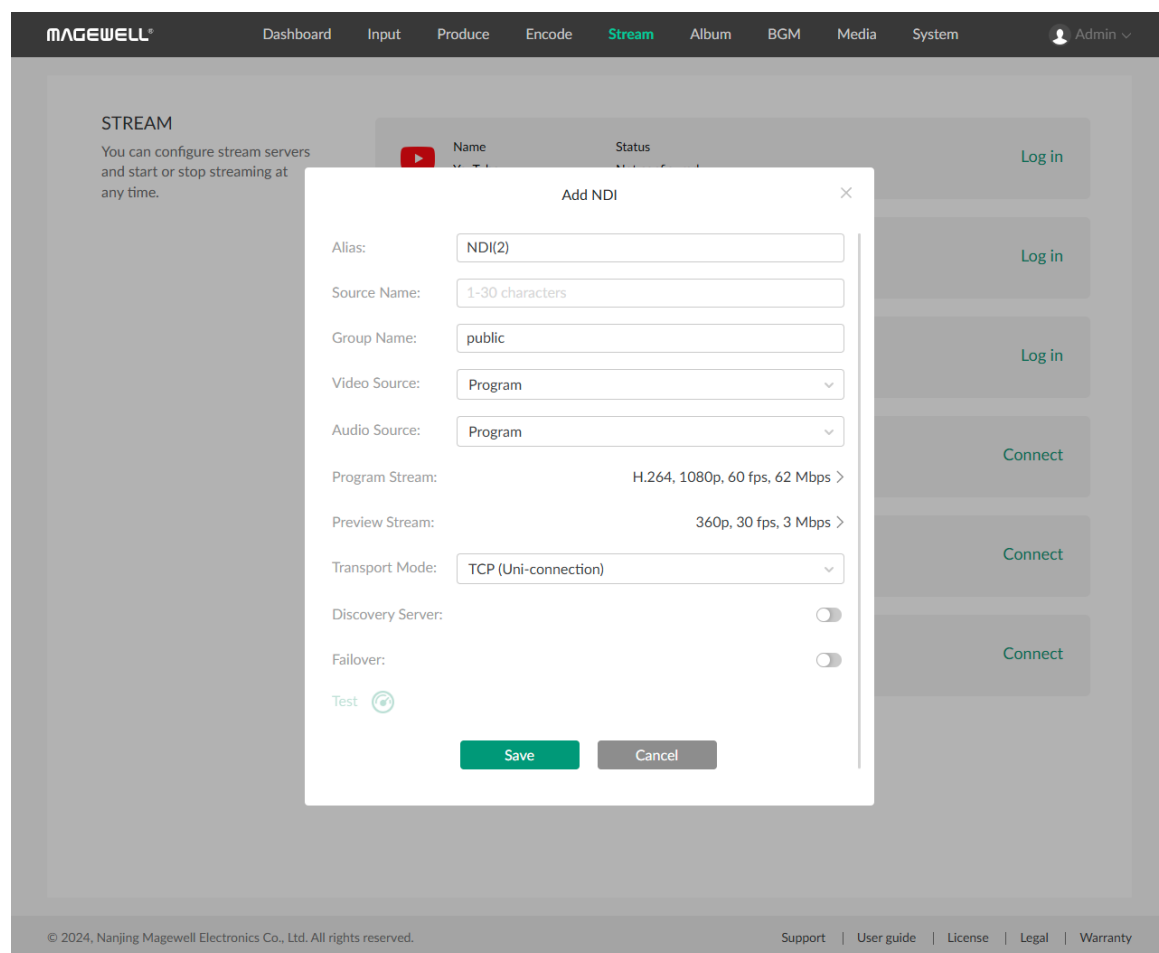
Your nickname, user avatar images and authorization token will be stored encrypted in the Director device after a successful authorization. To delete your information, you can [delete the created server](#) or you can remove the Director device from trusted apps from [Facebook](#). Your personal data will be deleted upon request in 0 to 24 hours.

After you log in successfully, the system automatically selects a ingest server for you, which you cannot change.

- **Post To:** select Timeline or a Page as the streaming destination.
- **Title:** set the title of the video stream (optional).
- **Description:** set the description of the video stream (optional).
- **Quick Stream:** optional. When it is enabled, you can start streaming quickly on the device screen.
- **Network:** You can set the network priority for streaming. Options include:
 - Default: The system's default network priority, that is Ethernet > WLAN > Cellular.
 - Cellular First

- WLAN First
- Ethernet First
- **Test:** click to test whether the previous configurations are working properly.

After configuration, the "Status" area of the Facebook Live server will display your account information.



Configure NDI Server

On the Stream page, click **Configure** behind NDI, and then start to configure. After everything is OK, save your configuration.

- **Alias:** enter an alias name for your convenience of multi-item management.
- **Source Name:** enter a name, which is the name of the output NDI stream for the receiver to recognize. It supports 1-30 characters, which contain A-Z, a-z, 0-9 and _-#()%.
- **Group Name:** enter a name to specify the client group receiving the NDI stream. It supports 1-64 characters, contain A-Z, a-z, 0-9 and _-,. Multiple group names can be comma-separated. The default group name is public. If you do not want other devices on the network to be able to search for it at will, you can set a private group name, and other devices need to use the private group name to search for this device.
- **Video Source:** select the source to encode. Options include Program, HDMI 1, HDMI 2, Webcam 1, Webcam 2 and Multi-View.
- **Audio source:** Program, HDMI 1, HDMI 2, MIC, available USB MIC, and None
- **Program Stream:** set the following parameters.
 - **Codec:** Options include H.264 and H.265.

- **Resolution:** Options include 640x360, 960x540, 1280x720, and 1920x1080.
- **FPS:** Options change along with the frame rate of the show, which can be 60/59.94/50/30/29.97/25/24/23.98/15 fps.
- **Bitrate:** It automatically changes according to resolution and FPS options.
- **Profile:** Options include Baseline Profile, Main Profile, and High Profile.
- **Bitrate Mode:** It is fixed at CBR.
- **Preview Stream:** set the following parameters.
 - **Resolution:** It is fixed at 640x360.
 - **FPS:** It changes along with the frame rate of the show.
 - **Bitrate:** It automatically changes according to the settings of Program Stream.
 - **Profile:** Options include Baseline Profile, Main Profile, and High Profile.
 - **Bitrate Mode:** It is fixed at CBR.
- **Transport Mode:** select a mode and set parameters if needed.
 - **UDP (Unicast):** The device sends a UDP stream directly to the receiver. It is used where lower latency matters. And multiple simultaneous streams will work independently for multiple receivers.
 - **UDP (Multicast):** The device sends the UDP stream to a multicast group. It is used for one-to-many broadcast for lower CPU usage. Parameters in a multicast configuration include:
 - **Multicast IP:** IP ranges from 224.0.0.0 to 239.255.255.255.
 - **Subnet Mask:** The legitimate value ranges from 255.0.0.0 to 255.255.255.252.

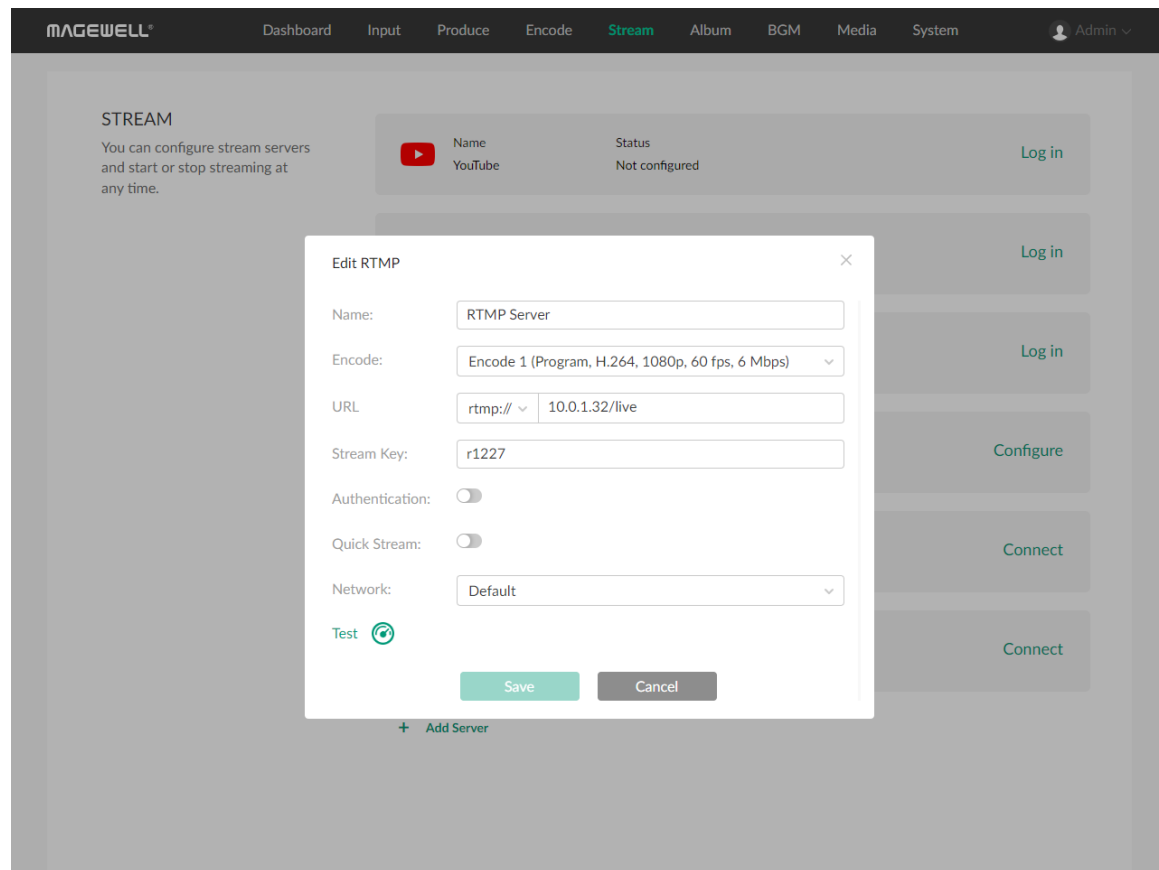
- **Time to live:** It ranges from 1 to 255. The default value is 4.
- **RUDP (Unicast):** Reliable User Datagram Protocol, is a connection-oriented and unicast protocol. RUDP helps to maintain the flow control and reliability of data transfer. The transmission control algorithms on both sending and receiving sides guarantee the RUDP capable of recovering from data loss, duplication, delay and reordering.
- **TCP (Uni-Connection):** It indicates to establish single TCP connection between the device and the receiver, and transfer all A/V packets via one port. Compared with UDP (Unicast) or TCP (Multi-Connection), it has lower CPU usage. It is used where reliable data transfer matters, which makes it suitable for 4K NDI streams.
- **TCP (Multi-Connection):** It indicates to establish multiple TCP connections between the device and receivers, but transfer audio packet and video packet via different ports. It usually works in a complicated networking studio. It is used where reliable transmission of data matters, which makes it suitable for 4K NDI streams.
- **Discovery Server:** optional. When it is enabled, the device can only be received by the specified receiver, and the mDNS auto-discovery function is unavailable.
 1. Ensure that the receiver and device can ping each other.

This function works between device and receiver that can ping each other even from differential network segment. After setting, the output stream of your device can be received by specified server.
 2. Specify the **Server IP** to the IP address of the discovery server.
 3. Set a same IP address of the discovery server on the NDI stream receiver.

For example, launch the **NDI Access Manager** tool installed in the receive computer, enter the **Advanced** tab, uncheck **Multicast Sending Enabled** , and check **Use Discovery Server**, and then specify **Server IP** to the IP address of the receiver server running discovery service function. Note: The Server IP of NDI Access Manager and Director device should be the same.

- **Failover:** optional. When it is enabled, it can protect your NDI transmission from failure. If the source video fails, the backup device begins to provide a service. The initial source will be restored after it recovers.
 - **Source name** shows the backup NDI channel name. Click **Change** and select the failover (backup) video device within the same NDI group as the initial source.
 - **IP address** shows the IP Address of the backup NDI channel, which is automatically obtained after you select the backup NDI source.
- **Test:** click to test whether the previous configurations are working properly.

After configuration, the "Status" area of the NDI server will display the configured Source Name.

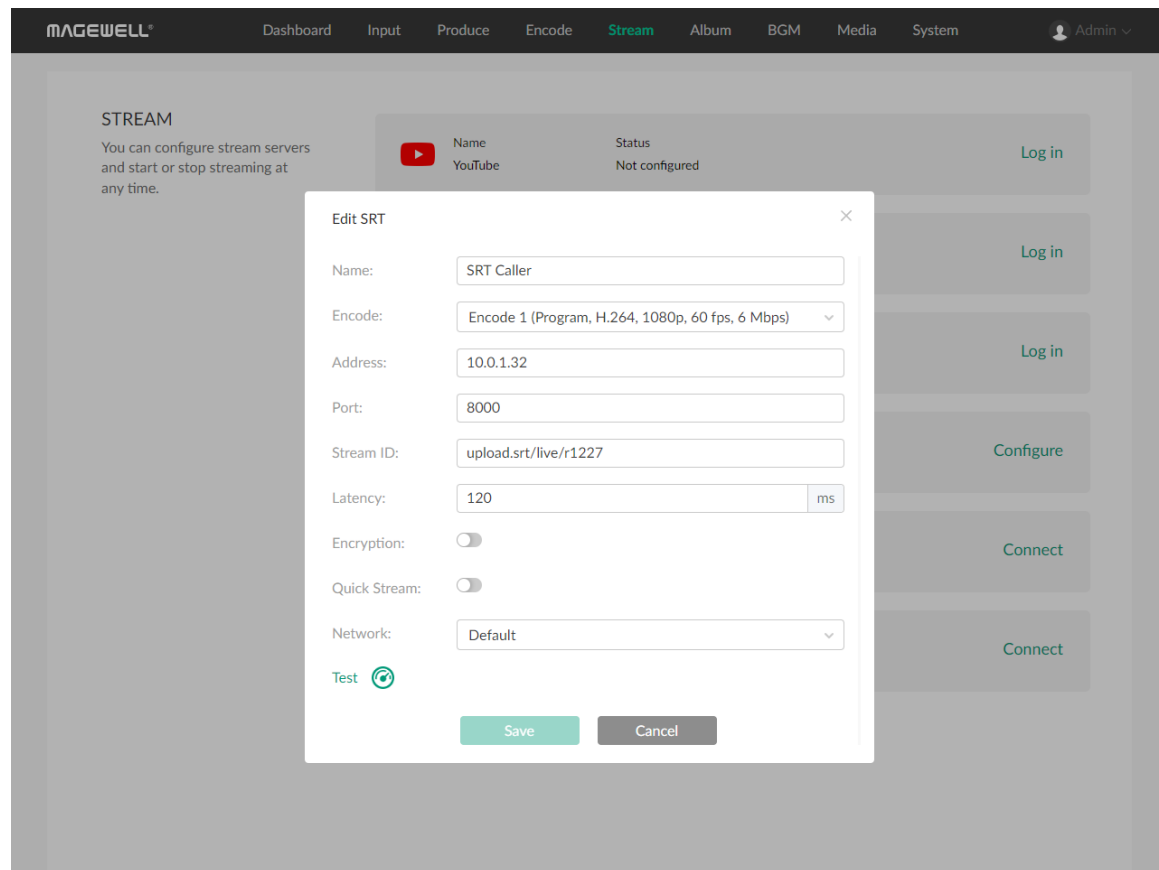


Configure RTMP Server

On the Stream page, click **Configure** behind **RTMP** Server, and then start to configure. After everything is OK, save your configuration.

- **Name:** enter an alias name for your convenience of multi-item management.
- **Encode:** select an encode scheme. Encoding parameters can be customized on the [Encode](#) page.
- **URL:** select "rtmp://" for **RTMP** streaming or "rtmps://" for RTMPS streaming, and then enter the URL of the stream destination. You can also paste a URL directly, it will automatically recognize the protocol.
- **Stream Key:** enter the key got from the stream destination.
- **Authentication:** if required, enter your **Username** and **Password** at the third-party live streaming platform.
- **Quick Stream:** optional. When it is enabled, you can start streaming quickly on the device screen.
- **Network:** You can set the network priority for streaming. Options include:
 - Default: The system's default network priority, that is Ethernet > WLAN > Cellular.
 - Cellular First
 - WLAN First
 - Ethernet First
- **Test:** click to test whether the previous configurations are working properly.

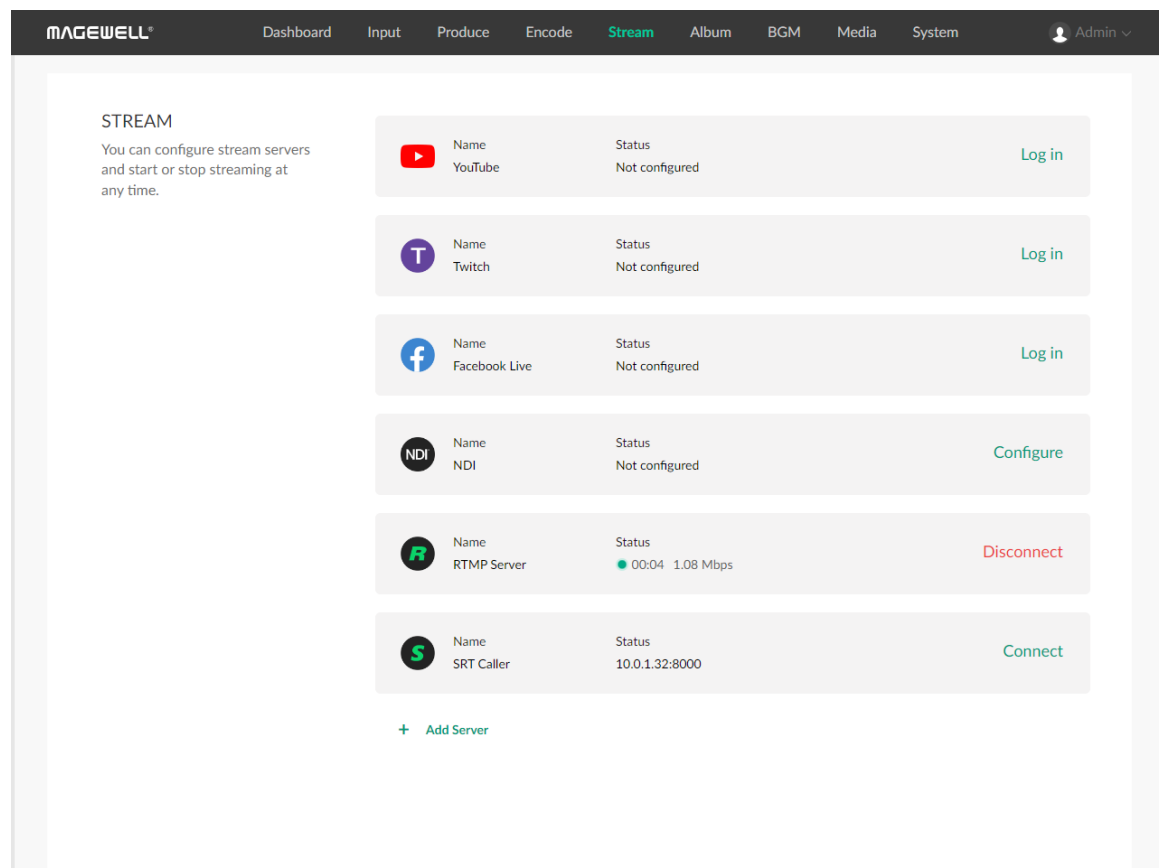
After configuration, the "Status" area of the **RTMP** server will display the configured URL.



Configure SRT Caller

On the Stream page, click **Configure** behind **SRT Caller**, and then start to configure. After everything is OK, save your configuration.

- **Name:** enter an alias name for your convenience of multi-item management.
- **Encode:** select an encode scheme. Encoding parameters can be customized on the [Encode](#) page.
- **Address:** enter the address of receiver.
- **Port:** enter the port number of receiver. Value ranges from 1 to 65535.
- **Stream ID:** enter a custom ID, which can contain 0-256 characters.
- **Latency:** enter a number between 20 to 8000. The default value is 120ms. We recommend that the latency is configured the same as that of the receiver.
- **Encryption:** optional. You can select an encryption algorithm, which can be [AES 128](#), [AES 192](#) or [AES 256](#). And enter the Password, which can contain 10 to 79 characters.
- **Quick Stream:** optional. When it is enabled, you can start streaming quickly on the device screen.
- **Network:** You can set the network priority for streaming. Options include:
 - Default: The system's default network priority, that is Ethernet > WLAN > Cellular.
 - Cellular First
 - WLAN First
 - Ethernet First
- **Test:** click to test whether the previous configurations are working properly.



After configuration, the "Status" area of the SRT Caller will display the configured address and port, for example, 10.10.1.10:80.

Start Streaming

You can simultaneously stream to two destinations at most.

1. Click **Connect** next to a configured server to start streaming to this server. Under the server name, it displays streaming duration and real-time streaming rate.

For YouTube streaming, if you have enabled Auto-start in your studio, the stream goes live at once. If not, you need to select to go live at once or stream only for preview, which goes live when reaching the scheduled time.

2. (Optional) Click **Connect** next to another configured server to stream to this server simultaneously.
3. Click **Disconnect** of a working server to stop streaming to the server.

For YouTube streaming, if you have enabled Auto-stop in your studio, the stream ends live at once. If not, you need to select to end live or pause streaming but keep live.







View Album and Control Recording

On the **Album** page of the Web UI, you can manage recording, replay event and screenshot files, control recording, and take screenshots.

The screenshot shows the Magewell Web UI Album page. The top navigation bar includes Dashboard, Input, Produce, Encode, Stream, Album (selected), BGM, Media, System, and Admin. Below the navigation bar are tabs for Record, Replay, and Screenshot. The main content area is titled "RECORD" and contains a grid of video thumbnails. The first thumbnail is dated 2024-8-13 and shows a person playing basketball. Below it are six thumbnails dated 2024-7-26, showing various sports scenes. At the bottom of the page, there is a "RECORD & SCREENSHOT" section with a "Free space: 20.7 GB" indicator, a red recording button, a camera icon for screenshots, and a "Time left: 07h 20m" display. The footer contains copyright information and links for Support, User guide, License, Legal, and Warranty.

- Click **Record**, **Replay** and **Screenshot** tab to view your recordings, replay events and screenshots.
- Click video clips or pictures to preview.

For the H.265 video file, some web browsers may not support to preview. You can upgrade the browser and try again.

- Move the cursor over a thumbnail, click  and then click **Download** to download the file to your computer, or click **Delete** to delete the file.
- In the **RECORD & SCREENSHOT** area on the "Record" page:
 - View current save path ( indicates the SD card, and  indicates the internal storage), free space and time left for recording.
 - Click  to start recording, and click  to stop recording.
 - Click  to take screenshots.

When the recording time is less than 1s, the recording file will not be saved.

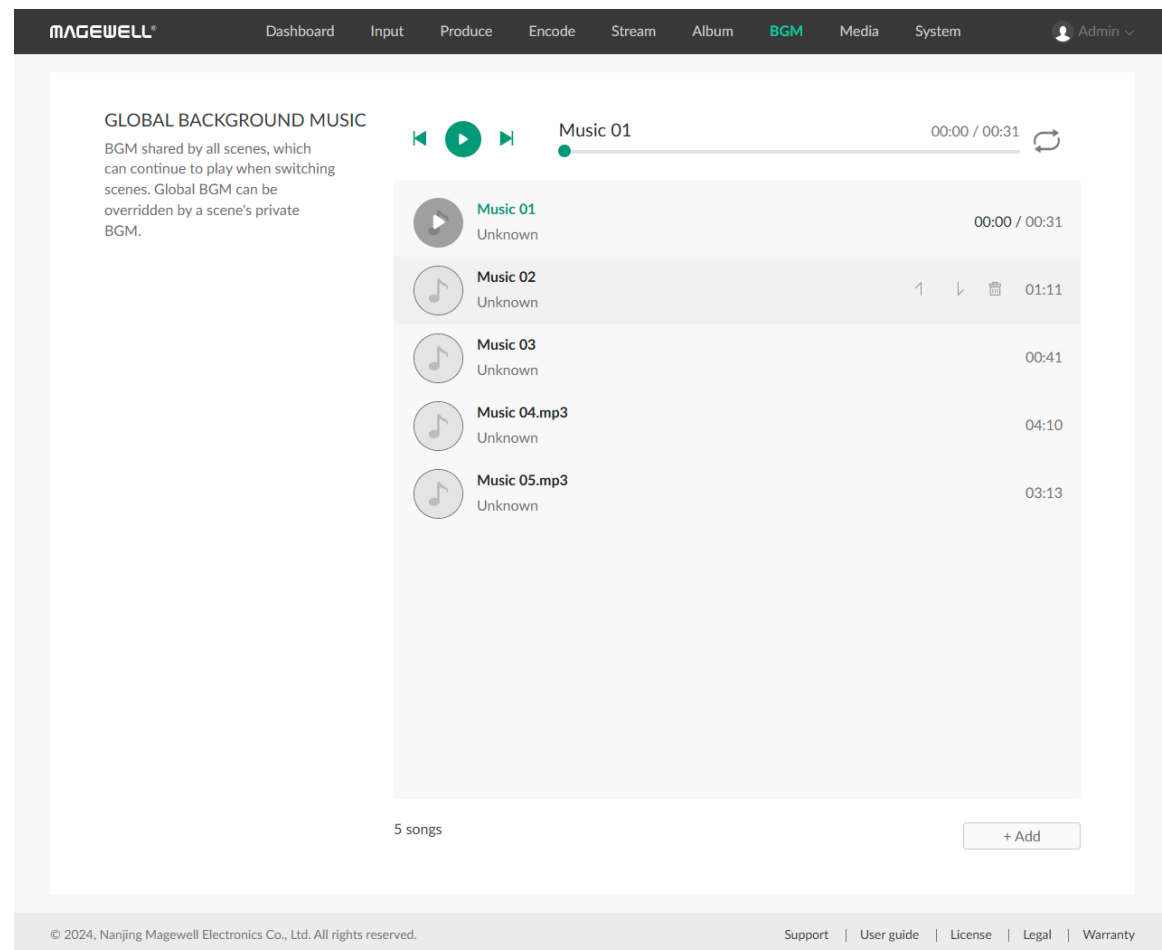
When the remaining free space is insufficient, the device will stop recording automatically.

ISO recording does not support Full NDI source.

Global BGM

Click the **BGM** tab on the top bar, and then you can add and play global background music.



The global BGM will be overridden by a scene's private BGM.




Add BGM

1. Click the **+ Add** button.
2. Click **+ Upload** at the lower right corner to import local audio files to media. Supported formats are MP3, M4A, WAV files.
3. In the **Media** list, click an item to add it as global BGM.

Rearrange BGM








1. Hover your mouse over a BGM item.
2. Click  to move upward or click  to move downward.

Delete BGM

1. Hover your mouse over a BGM item.
2. Click , and click **Delete** on the popup dialog box.

Play BGM

1. Click the song name to switch.
2. Click buttons on the playback bar to control the BGM.

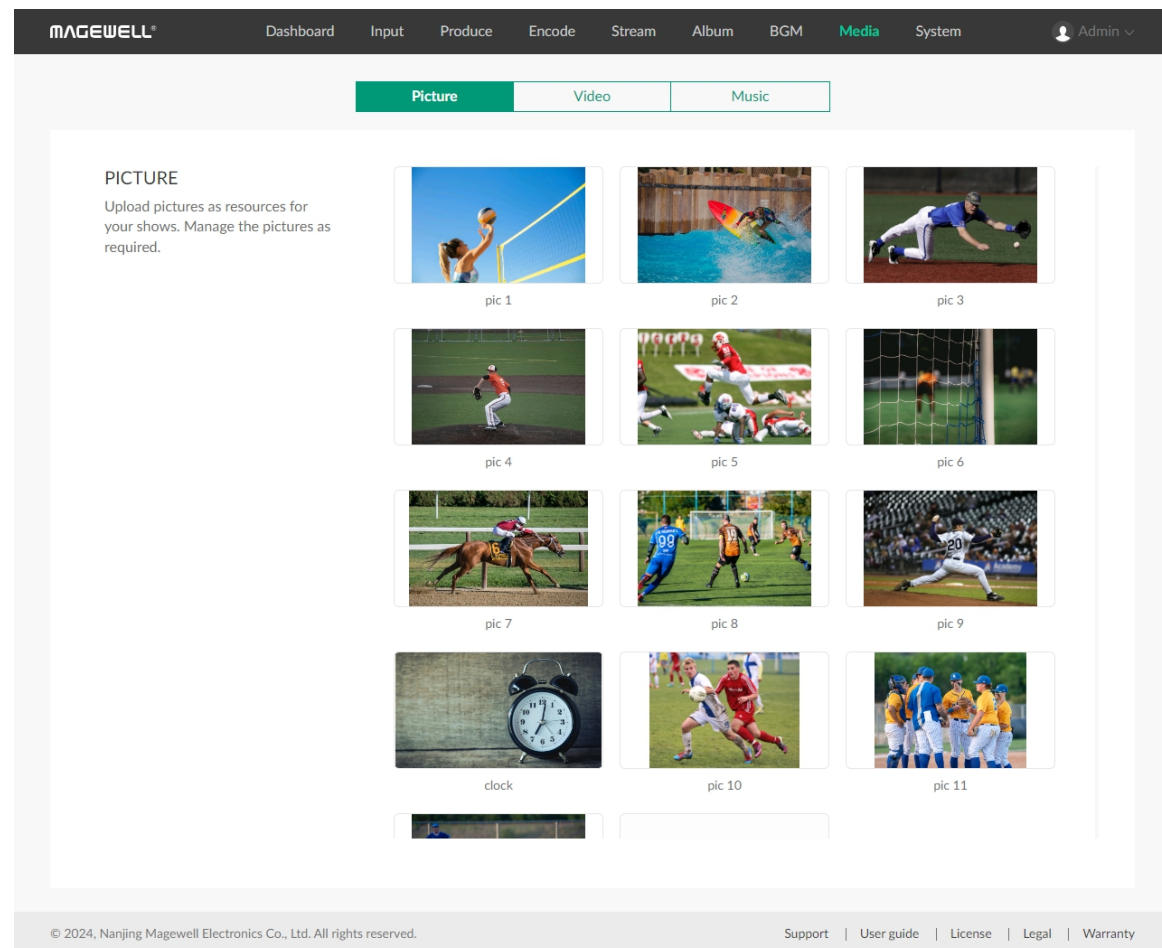
- Click  to play or  to pause.
- Click  to play the previous song or  to play the next song.
- Drag the playhead to a specified position.
- Set the loop policy:
 -  : Repeat the playlist
 -  : Repeat the song
 -  : Shuffle the playlist

Tips for using global and private BGM:

1. The global BGM needs to be started manually.
2. When you switch to a scene with private BGM, the global BGM will be paused. And the private BGM can be started manually or automatically, which can be set in the scene editor on the device. When you switch to a scene without private BGM, the global BGM resumes to play.
3. If you have paused the global BGM manually, you need to resume it manually after you switch scenes.

Manage Media Files

On the **Media** page of the Web UI, you can upload pictures, video clips and music files as resources for your shows, and you can manage these files.



Manage Pictures


Import Pictures

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Picture** tab at the upper part of the page.
3. On the **Picture** tab page, click the **+ Upload** button, and import a picture from the local computer.
Supported formats are JPEG, PNG, BMP image files.
The resource will be imported to the Director device.

Preview Pictures

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Picture** tab at the upper part of the page.
3. On the **Picture** tab page, click a thumbnail to preview the picture.
4. On the preview page, click the left and right arrows to switch pictures.


Rename Pictures

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Picture** tab at the upper part of the page.
3. On the **Picture** tab page, move the mouse over a thumbnail, click the 

icon, and click **Rename**.


4. Enter a new name (1-32 characters) and click **Rename**.

Download Pictures

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Picture** tab at the upper part of the page.
3. On the **Picture** tab page, move the mouse to a thumbnail, click the  icon, and click **Download**.

The picture will be downloaded to the local computer.

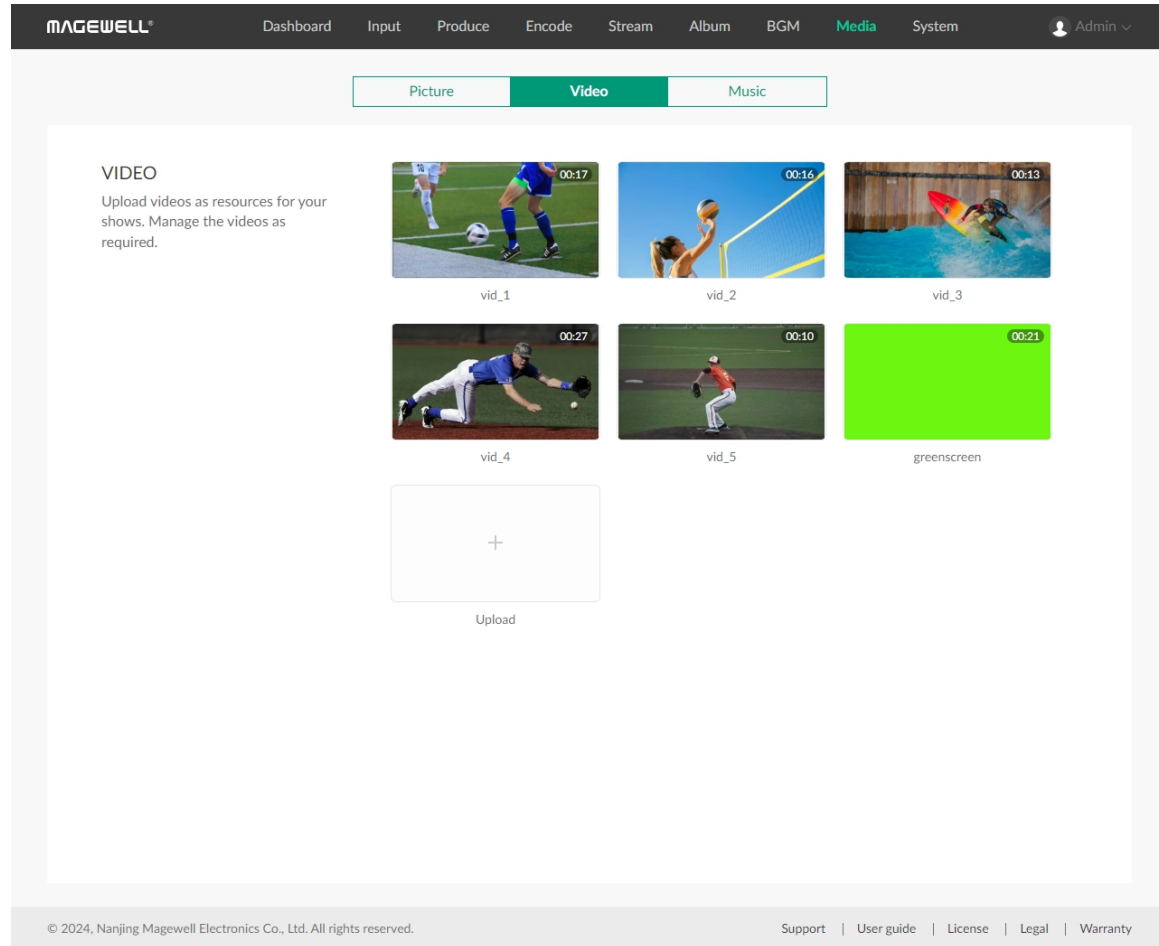
Delete Pictures

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Picture** tab at the upper part of the page.
3. On the **Picture** tab page, move the mouse to a thumbnail, click the  icon, and click **Delete**.

4. On the displayed dialog box, click **Delete**.

The picture will be removed from the Director device.

The resource used by any shows cannot be deleted.



Manage Video Clips


Import Video Clips

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Video** tab at the upper part of the page.
3. On the **Video** tab page, click the **+ Upload** button, and import a video from the local computer.
Supported formats are MOV, MP4, MKV video files.
The resource will be imported to the Director device.

Preview Video Clips

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Video** tab at the upper part of the page.
3. On the **Video** tab page, click a thumbnail to preview the video.
4. On the preview page, click the left and right arrows to switch pictures.
5. Move the mouse over the video, and a playback control bar will appear at the bottom. You can play/pause the video, drag the playback progress bar, and adjust the volume.


Rename Video Clips

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Video** tab at the upper part of the page.
3. On the **Video** tab page, move the mouse to a thumbnail, click the 

icon, and click **Rename**.


4. Enter a new name (1-32 characters) and click **Rename**.

Download Video Clips

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Video** tab at the upper part of the page.
3. On the **Video** tab page, move the mouse to a thumbnail, click the  icon, and click **Download**.

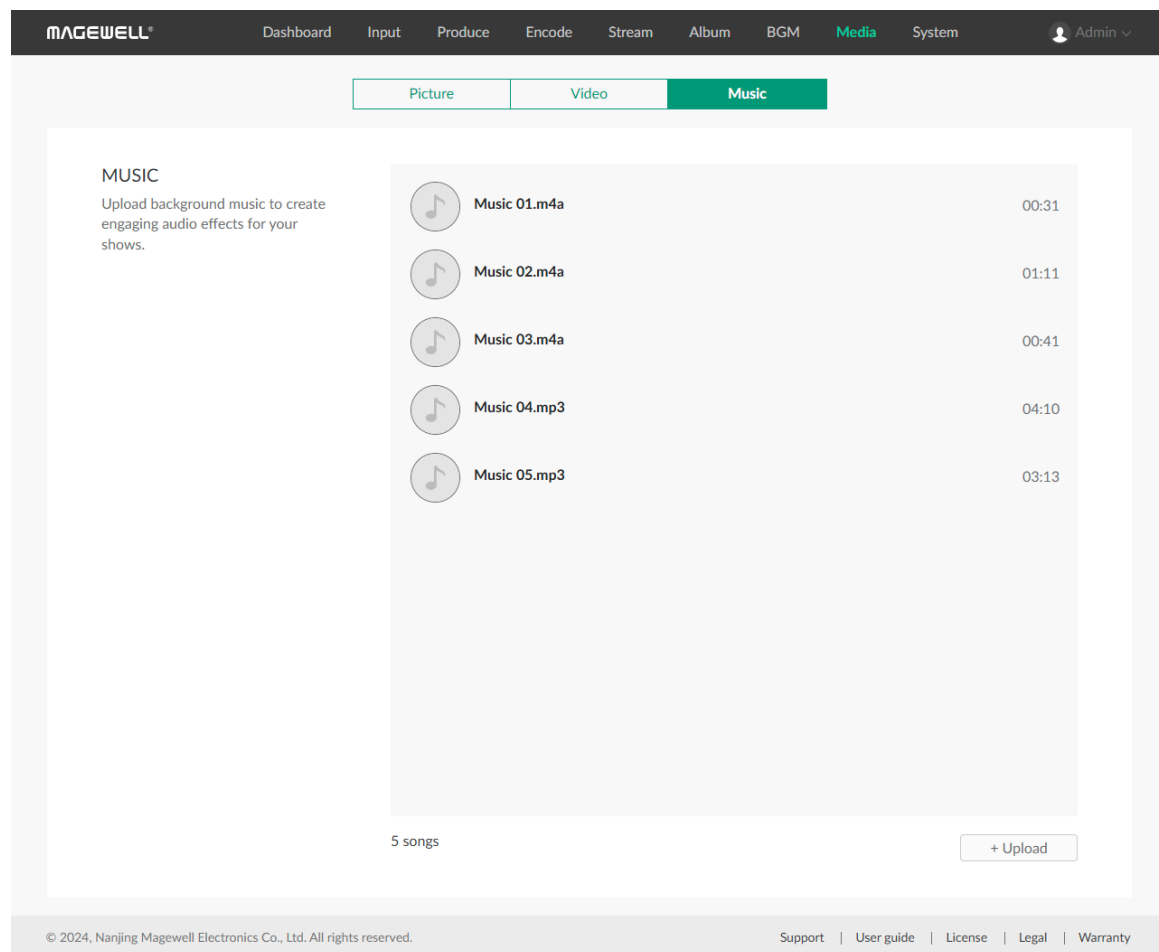
The video will be downloaded to the local computer.

Delete Video Clips

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Video** tab at the upper part of the page.
3. On the **Video** tab page, move the mouse to a thumbnail, click the  icon, and click **Delete**.
4. On the displayed dialog box, click **Delete**.

The video will be removed from the Director device.

The resource used any shows cannot be deleted.



Manage Music

Import Music

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Music** tab at the upper part of the page.
3. On the **Music** tab page, click the **+ Upload** button at the lower right part of the page, and import music from the local computer.
Supported formats are MP3, M4A, WAV files.
The resource will be imported to the Director device.


Preview Music

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Music** tab at the upper part of the page.
3. On the **Music** tab page, click any music to preview.

Download Music

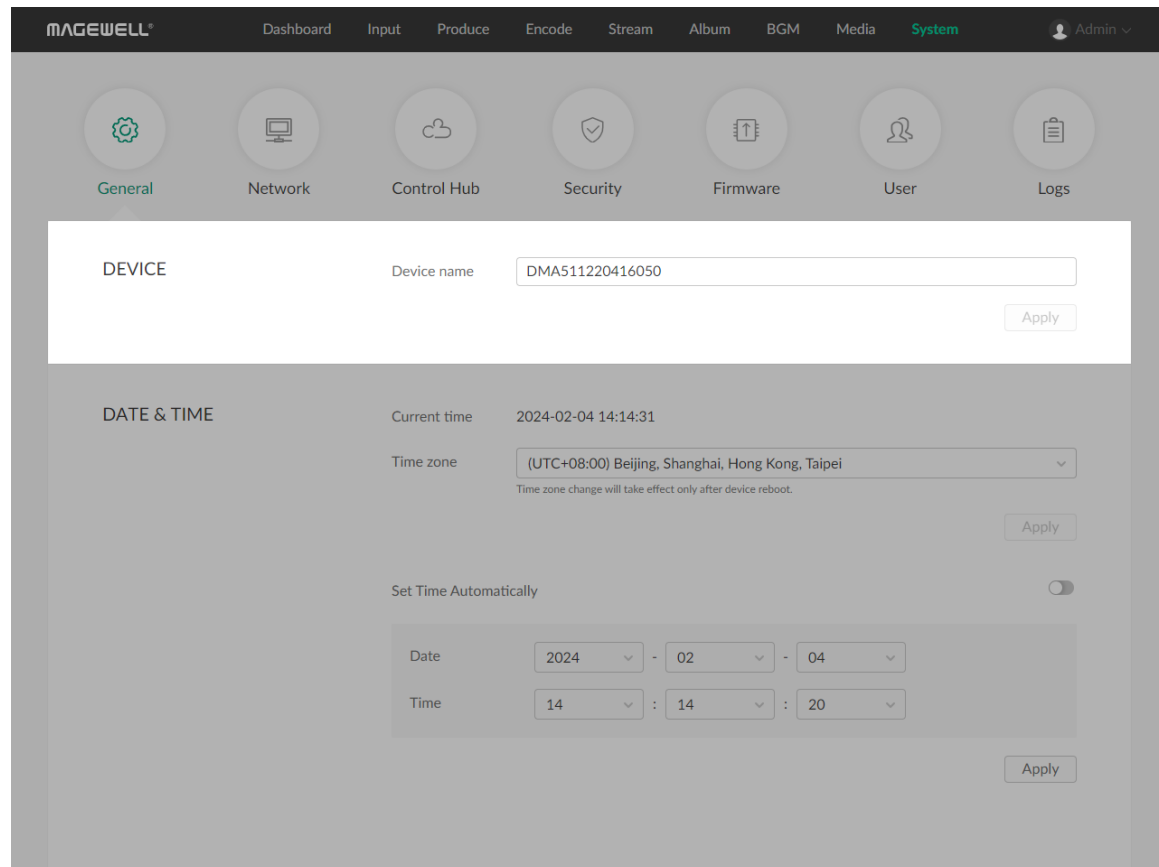
1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Music** tab at the upper part of the page.
3. On the **Music** tab page, move the mouse over an item and click ↓ to download.
The music will be downloaded to the local computer.

Delete Music

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **Music** tab at the upper part of the page.
3. On the **Music** tab page, move the mouse over an item and click the delete button  on the right.
4. On the displayed dialog box, click **Delete**.
The music will be removed from the Director device.

The resource used any shows cannot be deleted.

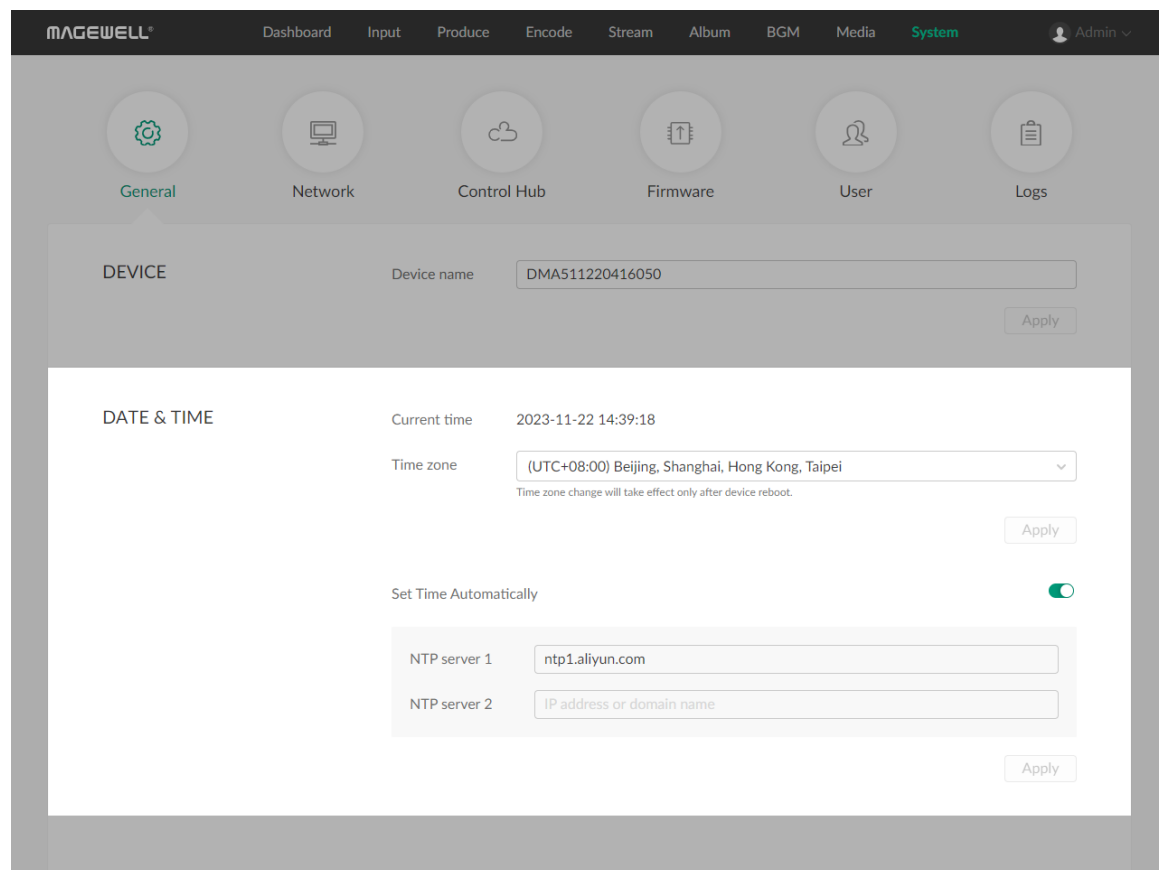
System Settings



Set Device Name

The device name is the **Device name** parameter displayed on the **Dashboard** page, and the device name shown in network discovery as well as in Director Utility App.

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System** > **General**.
3. In the **DEVICE** area, set **Device name**. By default, it is the serial number. The device name can consist of 1-32 characters. Supported characters: A-Z, a-z, 0-9, spaces and `_`. Spaces cannot be at the start or end.
4. Click **Apply**.
5. Click **Dashboard** in the navigation bar. Check whether **Device name** is changed to the new name. The device name displayed in network discovery and in Director Utility App will also change accordingly.



Set System Time

Director device uses the system time for time-stamping the A/V input as well as logging and naming files.

Before using this device, you need to select your time zone and adjust time to ensure time accuracy.

Select Time Zone

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **General**.
3. (Optional) In the **DATE & TIME** area, view **Current time**.
4. In the **DATE & TIME** area, select a time zone from the **Time zone** drop-down list box.
5. Click **Apply**.
6. On the displayed dialog box, click **Reboot**.
The device will reboot. If you click **Later**, your configuration change will not apply until after next reboot.

Set Time Automatically

You can automatically synchronize time from the network.

By default, the Director device automatically synchronizes time from NTP servers. Network Time Protocol (NTP) servers provide network-based time synchronization service.

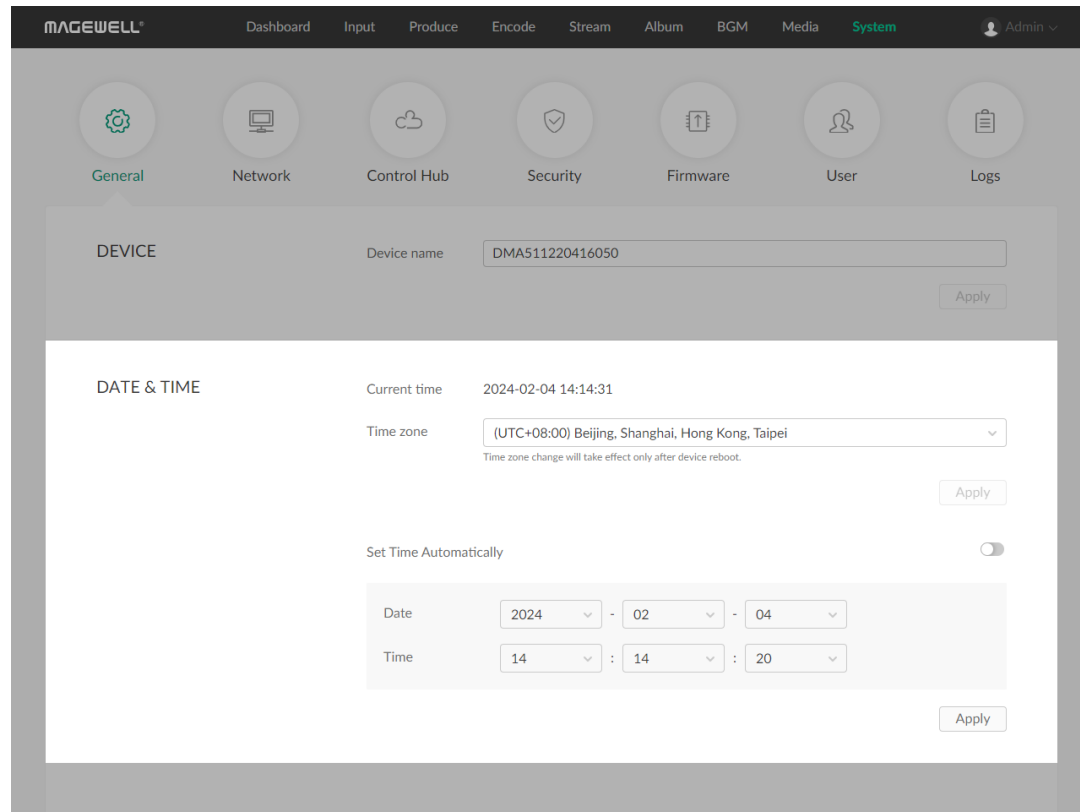
There are many NTP servers available on the Internet. You may also deploy your own ones. Director device uses the NTP1 servers provided by ntp1.aliyun.com by default. You can change these NTP servers as needed. For example, you may change to nearer servers to reduce network latency and improve time accuracy.

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System > General**.
3. In the **DATE & TIME** area, enable **Set Time Automatically**.

The **Set Time Automatically** switch is enabled by default. If it is disabled, you need to first enable it.

4. Set domain names for NTP servers.
 - **NTP server 1:** Domain name for NTP server 1, mandatory. The default is **ntp1.aliyun.com**. Make sure you enter a valid domain name.
 - **NTP server 2:** Domain name for NTP server 1, optional. Make sure you enter a valid domain name.
5. Click **Apply**.

Make sure you click this button after configuring. Otherwise, your configuration will become invalid.



Set Time Manually

You can also manually calibrate your system time.

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System** > **General**.
3. In the **DATE & TIME** area, disable **Set Time Automatically**.
4. Set **Date** and **Time**, and click **Apply**.
Select data and time from the drop-down list boxes.
5. Click **Apply**.

Make sure you click this button after configuring. Otherwise, your configuration will become invalid.

The screenshot shows the MAGEWELL web interface with the 'System' menu open and 'Network' selected. The 'ETHERNET' section displays the following configuration:

Status	1.0 Gbps
IP address	10.10.12.127
Subnet mask	255.255.240.0
DNS	10.0.1.3
Gateway	10.10.0.1
IPv6 address	fe80::6cb5:4648:6273:48ea
MAC address	d0:c8:57:80:e6:c4
Send	3.26 Mbps
Receive	121 Kbps

The 'Wi-Fi' section displays the following configuration:

Status	USB-Fusion_8456_5G
IP address	192.168.67.227
Subnet mask	255.255.255.0
DNS	192.168.67.1
Gateway	192.168.67.1
IPv6 address	fe80::5ad3:91ff:fe4c:b3a6
MAC address	58:d3:91:4cb3:a6

Configure Network

After connected to a network, the Director device can add IP sources as scenes and stream to destinations.

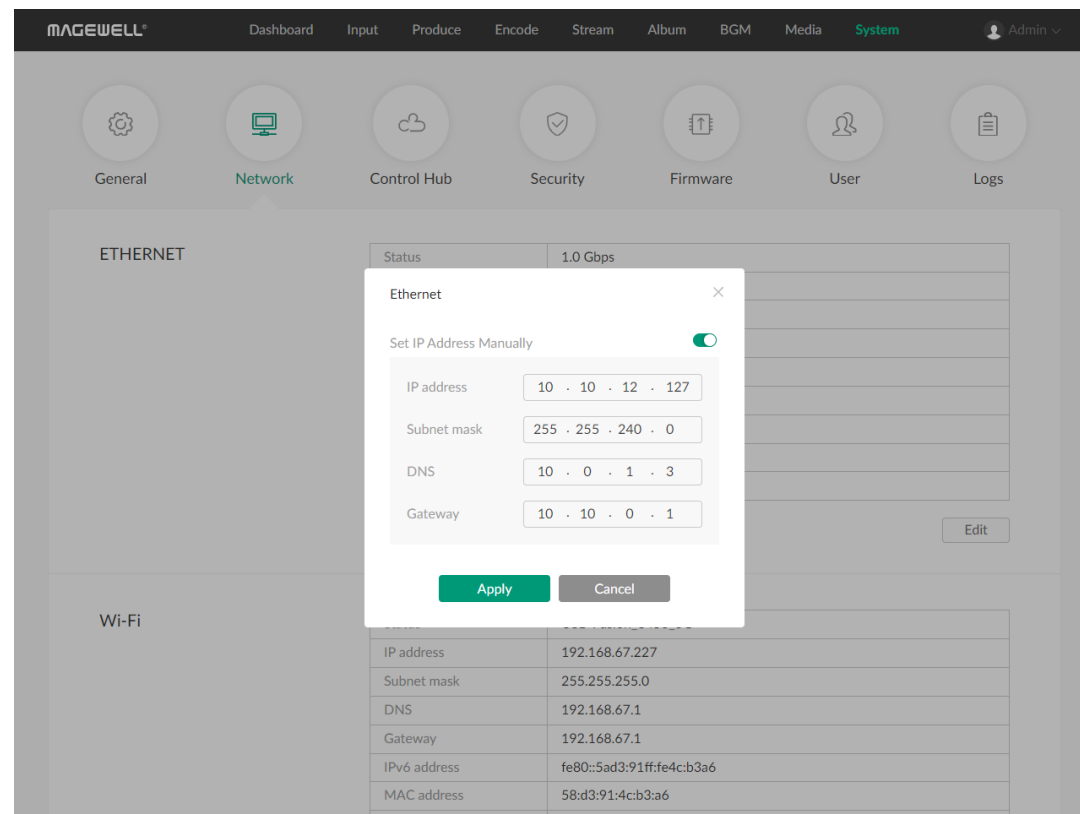
Configure Ethernet

View Network Information

After the Director device connects to an Ethernet network through the ETHERNET 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. Choose **System** > **Network**.
3. In the **ETHERNET** area, view Ethernet connection information.
 - **Status:** Ethernet connection status
 - **Down:** The network port is down.
 - **Disconnected:** No network is connected.
 - 10 Mbps, 100 Mbps, 1.0 Gbps, 2.5 Gbps, 5 Gbps, 10 Gbps: Ethernet connection speed
 - **IP Address:** IP address of the Director device
 - **Subnet Mask:** a 32-bit mask that divides an IP address into two parts, network address and host address
 - **DNS:** the current DNS
 - **Gateway:** IP address of the gateway, which connects different networks
 - **IPv6 address:** the current IPv6 address

- **MAC address:** MAC address of the current network adapter
- **Send:** data sending speed of Director device
- **Receive:** data receiving speed of Director device



Configure a Static IP Address for Ethernet

Director 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 for Director device. 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, DNS and Gateway**.

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.

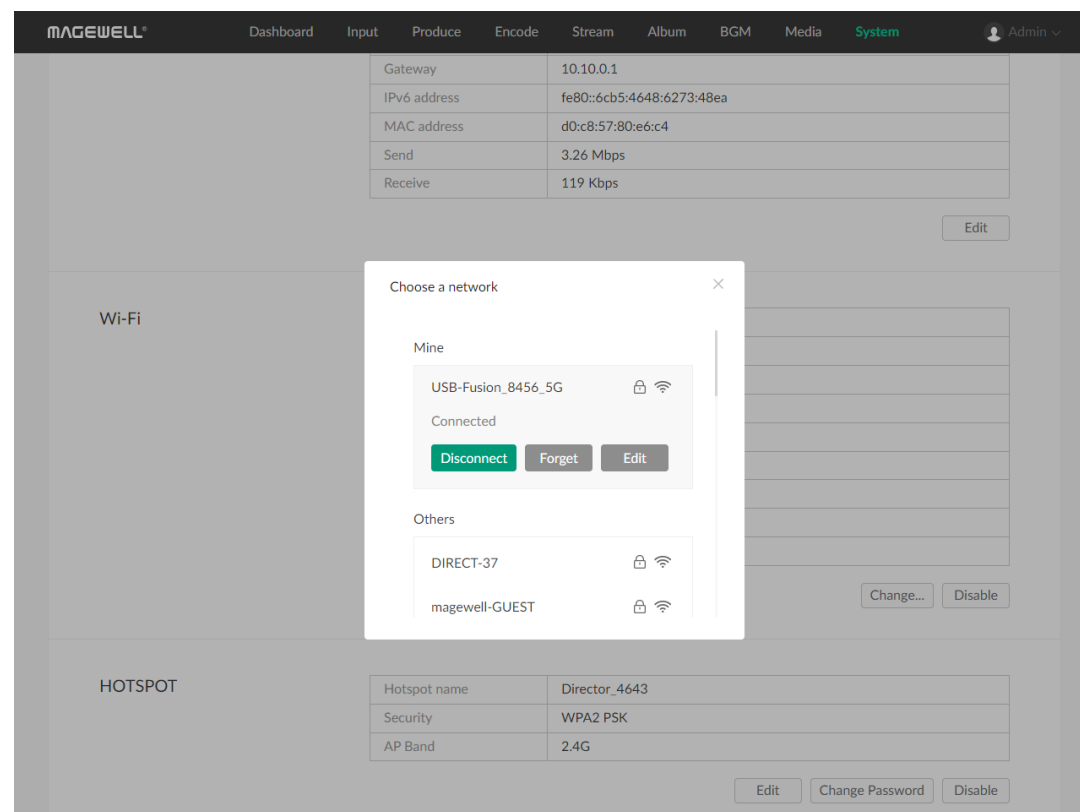
5. Click **Apply**.

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 Director device.

Configure Wi-Fi

On the Web UI, you can configure the Wi-Fi connection for Director device.



Connect to a Wi-Fi Network

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System** > **Network**.
3. In the **Wi-Fi** area, click **Enable**, and then click **Connect....**

A list of available Wi-Fi networks are displayed.

- **Mine:** lists all networks that has been connected previously. The currently connected network will display at the top.
- **Others:** lists other available networks.
A lock icon indicates that the network requires a password to connect. The Wi-Fi icon indicates the network connection strength.

4. In the Wi-Fi list, click a network and click **Connect**. If a network requires a password, you need to first enter the password.

The connected network will be shown in the **Mine** area. You can:

- Click **Disconnect** to disconnect from the network.

The next time you connect to the network that requires password, you no

longer need to enter the password.

- Click **Forget** to forget the network.
After this, the network will be removed from the **Mine** list. If the network requires password, next time you will need to enter a password when connecting to it.
- Click **Edit** to set IP address manually. For details, refer to [Configuring a Static IP Address for Wi-Fi](#).

After you disconnect or forget one network, the device will automatically connect another network in the **Mine** area.

5. Click the close button at the upper right corner.
The **Wi-Fi** area will show the current Wi-Fi connection information.
6. To change to another Wi-Fi, click **Change....**

The screenshot displays the Magewell Web UI. At the top, there is a navigation bar with the following menu items: Dashboard, Input, Produce, Encode, Stream, Album, BGM, Media, System, and Admin. The main content area is divided into two sections: Wi-Fi and HOTSPOT.

Wi-Fi Section:

MAC address	d0:c8:57:80:e6:c4
Send	3.26 Mbps
Receive	121 Kbps

Wi-Fi Configuration Table:

Status	USB-Fusion_8456_5G
IP address	192.168.67.227
Subnet mask	255.255.255.0
DNS	192.168.67.1
Gateway	192.168.67.1
IPv6 address	fe80::5ad3:91ff:fe4c:b3a6
MAC address	58:d3:91:4c:b3:a6
Send	3 Kbps
Receive	6 Kbps

HOTSPOT Section:

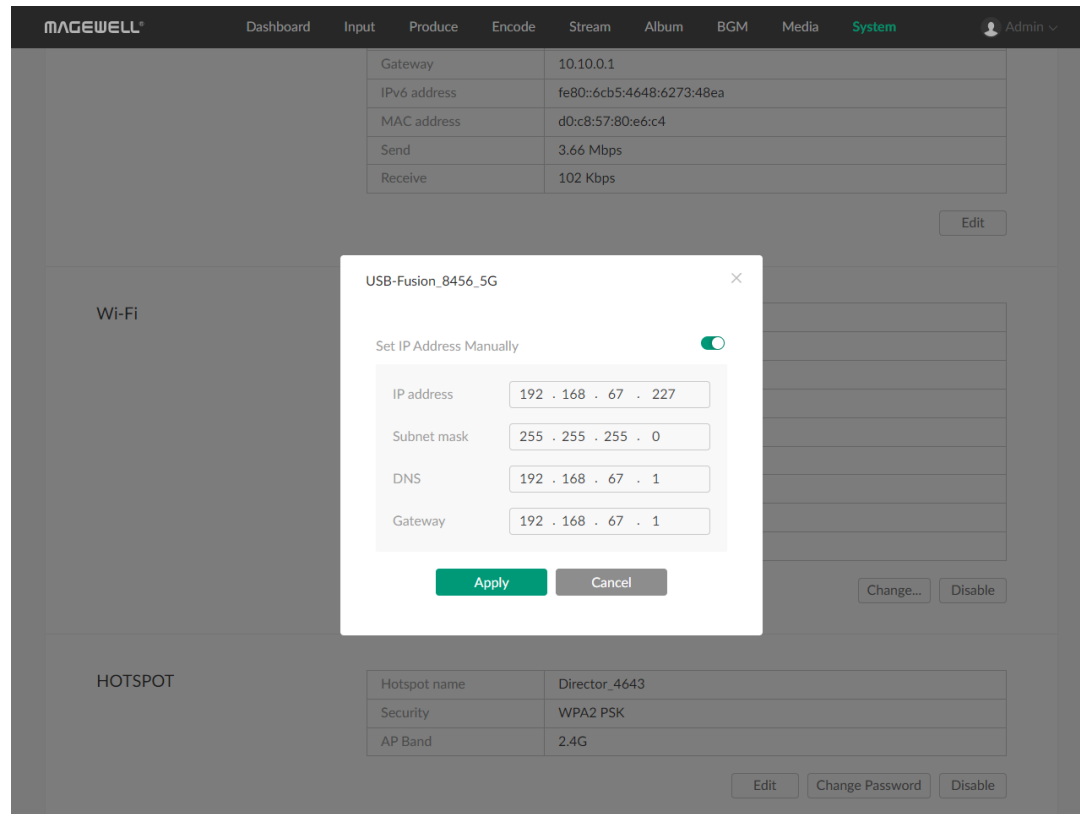
Hotspot name	Director_4643
Security	WPA2 PSK
AP Band	2.4G

At the bottom of the page, there is a footer with the following text: © 2024, Nanjing Magewell Electronics Co., Ltd. All rights reserved. Support | User guide | License | Legal | Warranty

View Wi-Fi Connection Information

You can view the Wi-Fi connection information in the **Wi-Fi** area.

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System > Network**.
3. In the **Wi-Fi** area, view Wi-Fi connection information:
 - **Status:** Wi-Fi connection status
 - **Down:** The network port is down.
 - **Disconnected:** No network is connected.
 - *Network name:* Name of the connected network
 - **IP Address:** IP address of Director device
 - **Subnet Mask:** a 32-bit mask that divides an IP address into two parts, network address and host address
 - **DNS:** the current DNS
 - **Gateway:** IP address of the gateway, which connects different networks
 - **IPv6 address:** the current IPv6 address
 - **MAC address:** MAC address of the current network adapter
 - **Send:** data sending speed of Director device
 - **Receive:** data receiving speed of Director device



Configure a Static IP Address for Wi-Fi

Director 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 for Director device. 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 **Wi-Fi** area, click **Change...**
4. Click **Edit** in the **Mine** area.
5. On the displayed window, enable **Set IP Address Manually**, and set **IP Address**, **Subnet mask**, **DNS** and **Gateway**.

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.

6. Click **Apply**.

If you are currently accessing the Web UI using a Wi-Fi IP address, since the original IP address can no longer be used for access, the device will log you out.

7. In the address bar of a browser, enter the new IP address to ensure it can be used to access the Director device.

The screenshot displays the Magewell Web UI interface. At the top, there is a navigation bar with the following menu items: Dashboard, Input, Produce, Encode, Stream, Album, BGM, Media, System (highlighted), and Admin. Below the navigation bar, there are three main sections:

- Network Statistics:** A table showing MAC address (d0:c8:57:80:e6:c4), Send speed (3.26 Mbps), and Receive speed (121 Kbps). An "Edit" button is located below this table.
- Wi-Fi:** A table showing various network parameters: Status (USB-Fusion_8456_5G), IP address (192.168.67.227), Subnet mask (255.255.255.0), DNS (192.168.67.1), Gateway (192.168.67.1), IPv6 address (fe80::5ad3:91ff:fe4c:b3a6), MAC address (58:d3:91:4c:b3:a6), Send speed (3 Kbps), and Receive speed (6 Kbps). "Change..." and "Disable" buttons are at the bottom right of this section.
- HOTSPOT:** A table showing Hotspot name (Director_4643), Security (WPA2 PSK), and AP Band (2.4G). "Edit", "Change Password", and "Disable" buttons are at the bottom right of this section.

At the bottom of the page, there is a footer with the text: "© 2024, Nanjing Magewell Electronics Co., Ltd. All rights reserved." and links for Support, User guide, License, Legal, and Warranty.

Configure Hotspot

Director device can serve as a hotspot, which can be configured on the Web UI.

Enable Hotspot

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System** > **Network**.
3. Click **Enable** in the **HOTSPOT** area.
4. To disable hotspot, click **Disable**.

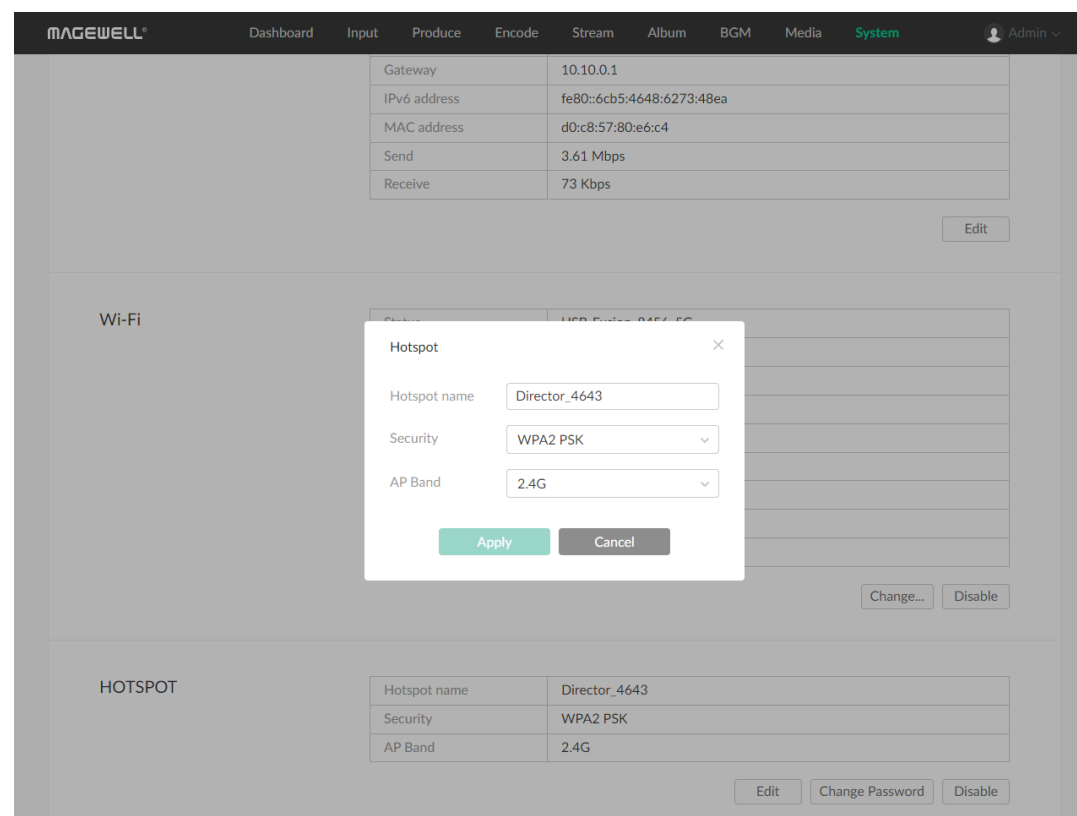
View Hotspot Information

After hotspot is enabled, you can view its information.

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System** > **Network**.
3. View hotspot information in the **HOTSPOT** area.
 - **Hotspot name:** the unique name that identifies your Director device's hotspot network. It is what appears when you search for available networks on your device.
 - **Security:** the measures taken to safeguard the connection between your device and the hotspot network. It ensures that your data transmission remains confidential and protected from unauthorized access.
 - **WPA2 PSK:** Other device need a password to access the hotspot.
 - **No authentication:** Other device can access the hotspot freely.
 - **AP Band:** the frequency band on which the hotspot operates. The AP Band determines the range and performance of your hotspot connection.
 - **2.4G:** the 2.4 GHz band offers wider coverage but with slower speeds.

- **5G:** the 5 GHz band provides faster speeds but with shorter range.

To ensure the connection effect, when 5G is selected, the recommended optimal connection distance is within 5 meters, and a maximum of 5 devices can be connected. When 2.4G is selected, the recommended optimal connection distance is within 5 meters, and a maximum of 2 devices can be connected.



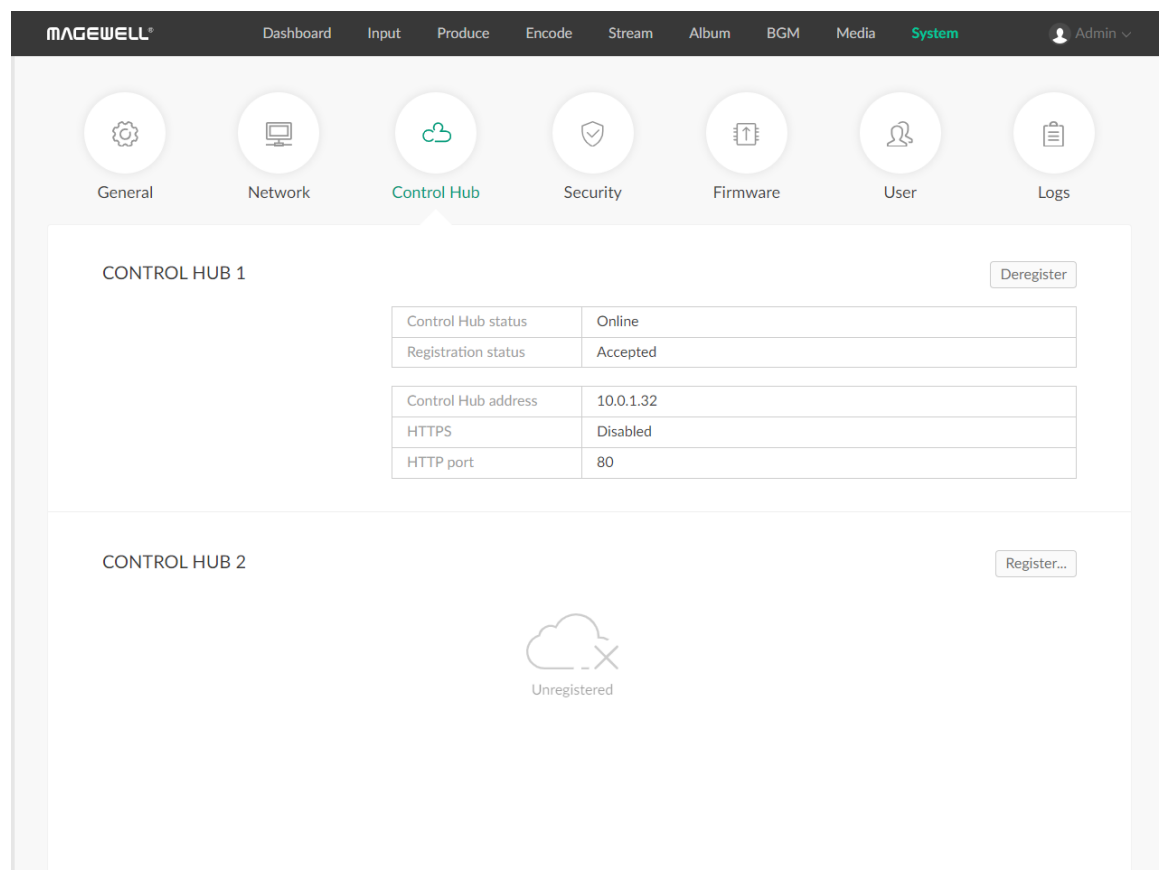
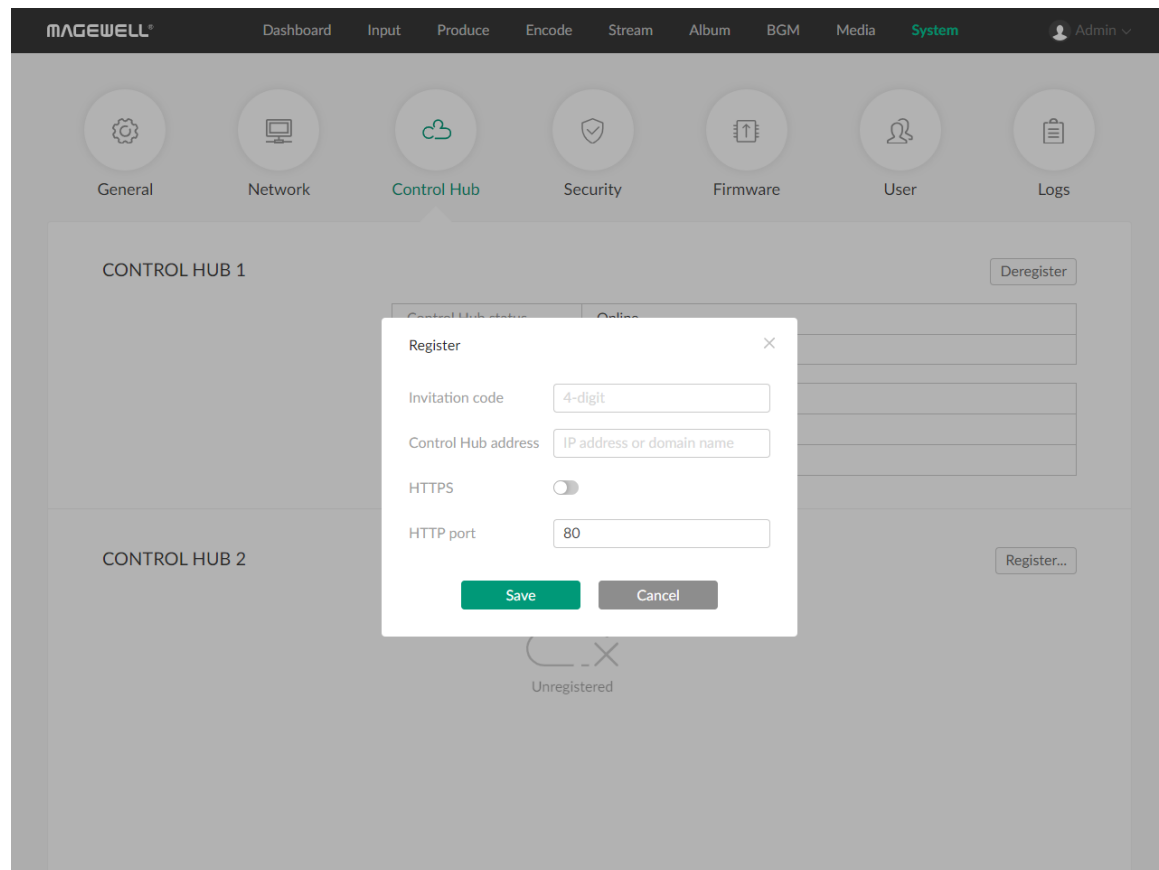
Edit Hotspot

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System > Network**.
3. Click **Edit** in the **HOTSPOT** area.
4. Enter a hotspot name.
5. Select the security mode. If you select WPA2 PSK, the device will generate a default password which you can view on the device. You can [change the password](#).
6. Select the AP band. You may refer to [Which AP band should I choose for hotspot](#).
7. Click **Apply**.

Change Hotspot Password

When you set the hotspot security to WPA2 PSK, a password is required for accessing the hotspot network. You can change the default password.

1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System > Network**.
3. Click **Change Password** in the **HOTSPOT** area.
4. In the displayed window, enter a password, and confirm the 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 **OK**.
The password will take effect immediately



Join Magewell Control Hub

Director device supports joining Magewell Control Hub (V2.1.20 and later), so that administrators can remotely view device parameters, trigger operational functions, 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 [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, and click **Save**.
 - **Invitation code:** a 4-digital numbers security code enabled on Control Hub. If not enabled, leave it empty.
 - **Control Hub address:** input IP address or domain name of Control Hub.
 - **"HTTPS":** turn it on when data security matters, and Control Hub enables HTTPS at the same time. It is off by default.
 - **"HTTPS port":** input HTTPS port number between 1 and 65535, which should be consist with that of Control Hub. Port 443 is used by default.
 - **HTTP port:** input HTTP port number, which should be consist with that of Control Hub. The default number is 80.
5. In the **CONTROL HUB 1** area, check parameters related to Control Hub management.
 - **Control Hub status:** **Online** or **Offline**. Online indicates that the

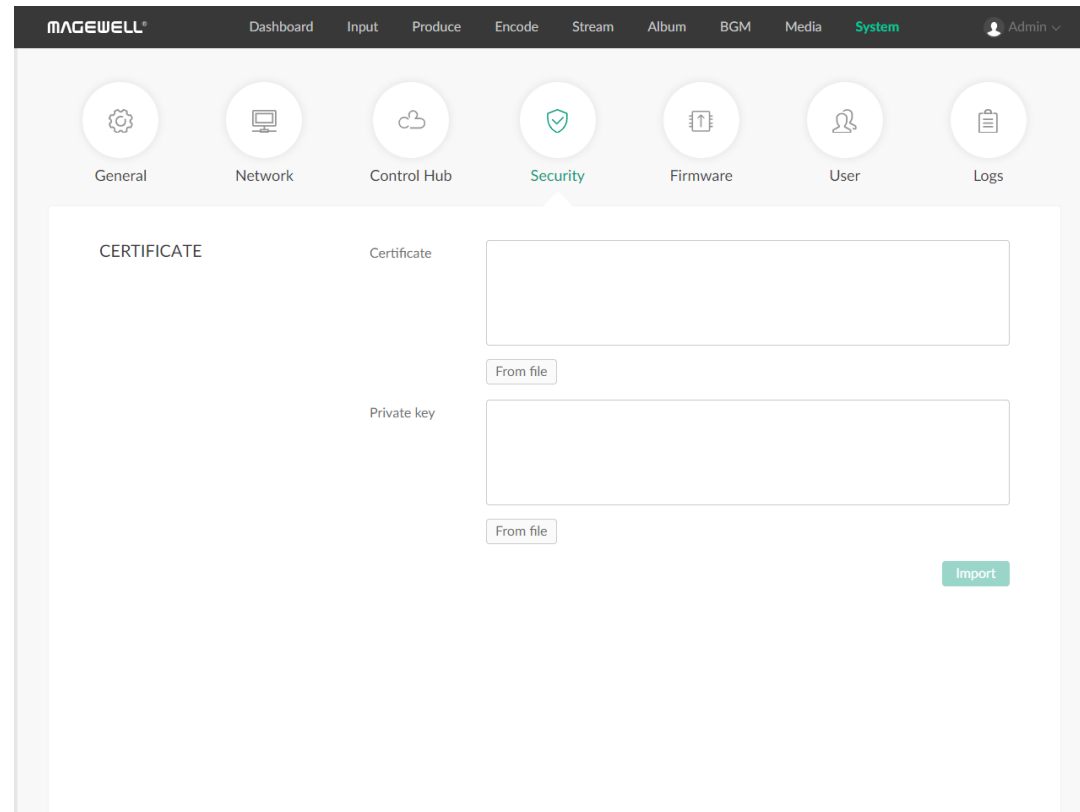
communication between device and Control Hub goes well. On the other hand, Offline indicates the communication is interrupted.

- **Register status:** shows current status of cloud-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:** shows the HTTPS port of device used to communicate with Control Hub, when HTTPS is enabled.
- **HTTP port:** shows the HTTP port of device used to communicate with Control Hub .

6. Manage the device on Control Hub.

7. To deregister from Control Hub, click **Deregister**.

Do not import files larger than 1G through the Control Hub, as it is not supported now.



Enable HTTPS

By default, you can log into the Web UI via HTTP. You can also enable HTTPS.

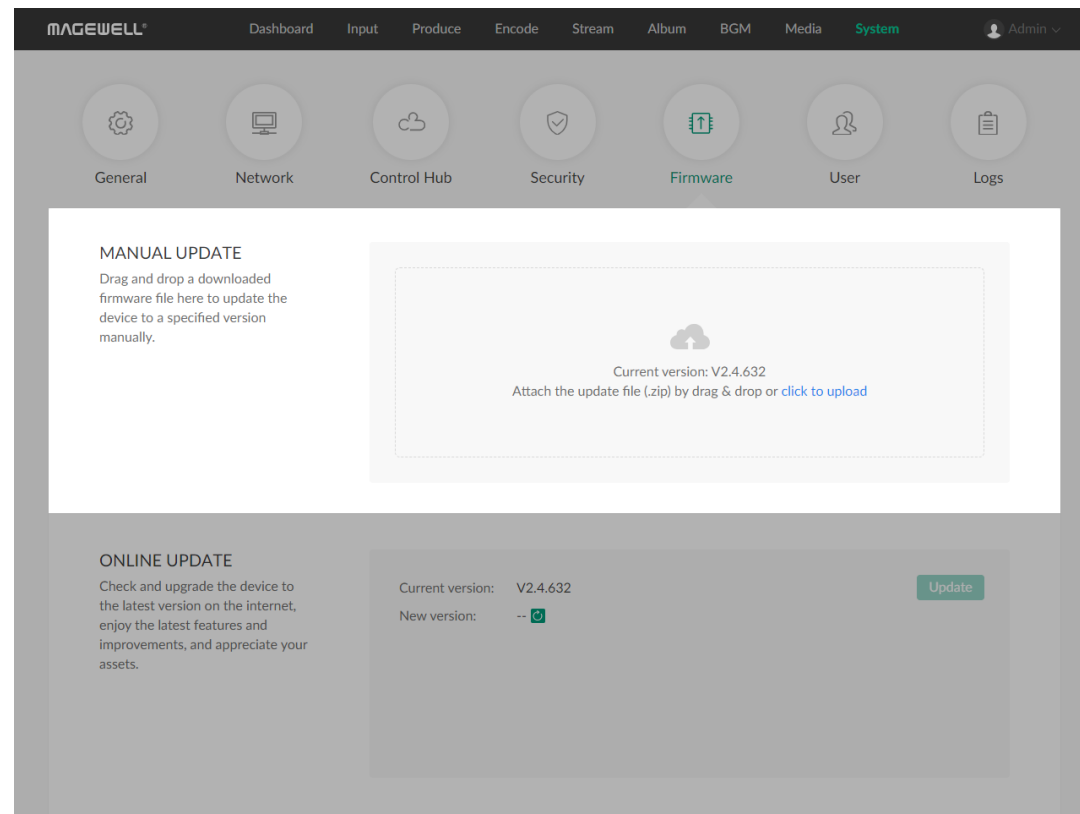
1. [Log in to the Web UI as the Admin user.](#)
2. Choose **System** > **Security**.
3. Add HTTPS certificate.
 - i. Click **From file** of **Certificate** and select the certificate file.
 - ii. Click **From file** of **Private Key** and select the private key file.
 - iii. Click **Import**. The certificate information will be displayed on the page.
4. Click **Enable** and reboot the device to make the configuration take effect.
5. Enter the IP address prefixed with https:// into your browser, revisit the Web UI, and log in.
6. To change the certificate, click **Change** to re-import.
7. To delete the certificate, click **Delete**, and then reboot the device to make the configuration taking effect.
8. To disable HTTPS login, click **Disable**, and then reboot the device to make the configuration taking effect.

Update Firmware

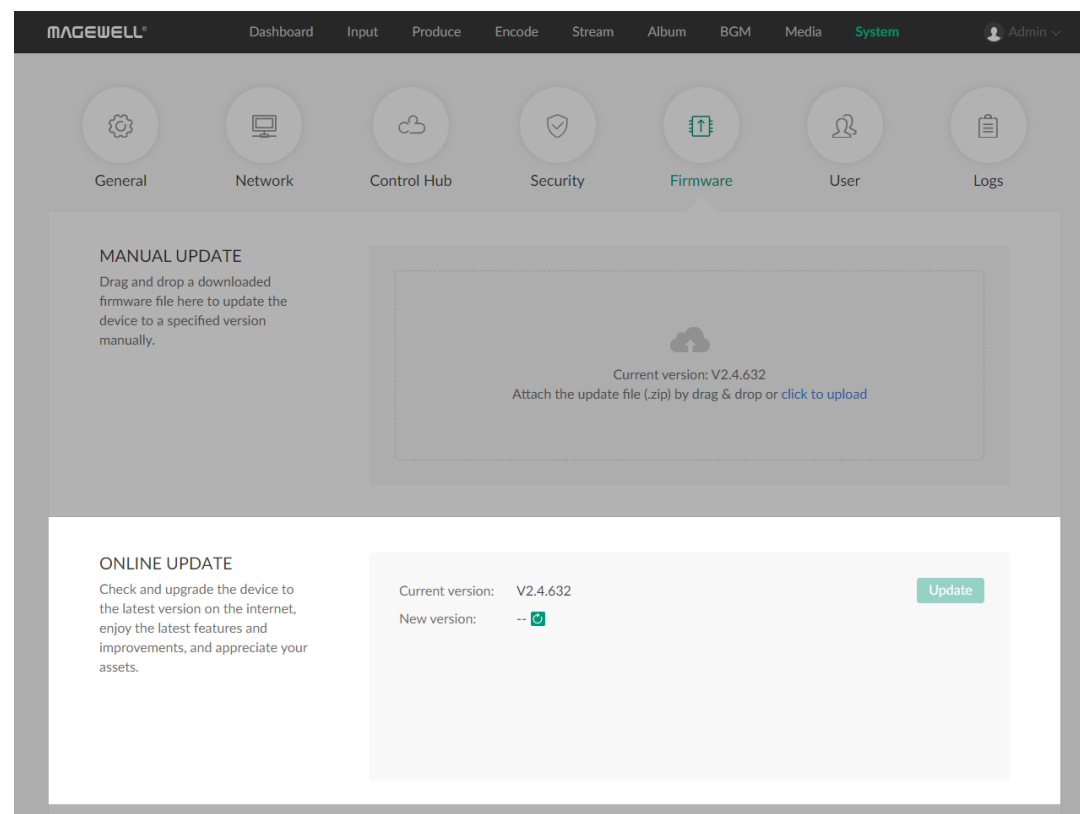
Both manual update and online update are supported. Manual update allows you to import any version while online update automatically updates to the latest version.

Manually Update 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**.
In the **MANUAL UPDATE** area, you can view the current firmware version.
3. In the **MANUAL UPDATE** 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. In the **Manual Update** window, 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 **Software** in the **Version** area on the **Dashboard** page.
The software version should be the one you just updated to.

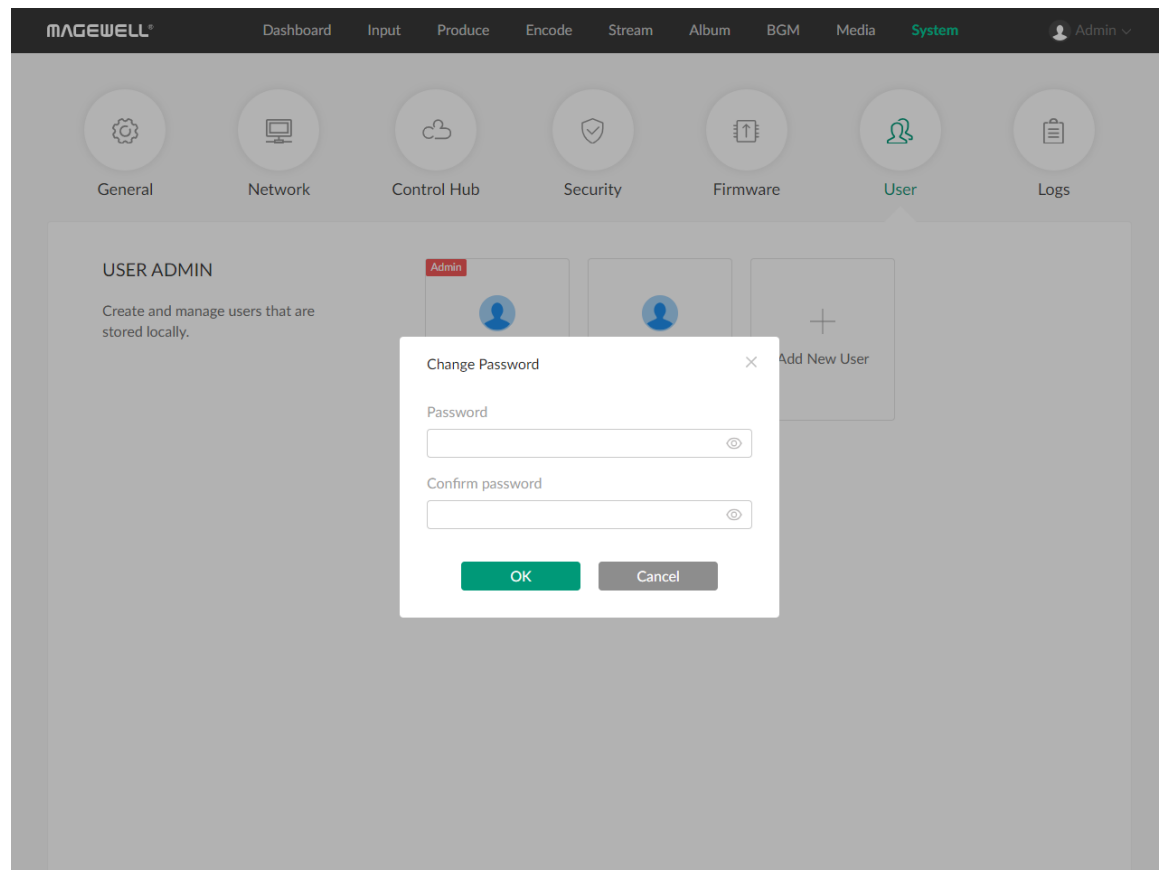
Update Firmware Online

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Firmware**.
3. In the **ONLINE UPDATE** area, check if any update is available.
You can click the update icon  next to **New version** to refresh.
4. If update is available, click the **Update** button.
 - 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 **Software** in the **Version** area on the **Dashboard** page.

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

Online update does not support version rollback. If you need to roll back, use manual update.



Reset 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, please refer to *User Manual for Director*.

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.

MAGEWELL Dashboard Input Produce Encode Stream Album BGM Media **System** Admin

General Network Control Hub Security Firmware User **Logs**

SYSTEM LOG
Track important events generated by the device and export them as a file for technical support.

Total : 2718 events All Information Warning Error

Level	Date & Time	Details
Information	2024/02/04 14:43:21.251	Request start preview. client: 1707017972946, Exist:true. client list size: 2
Information	2024/02/04 14:43:21.250	Request start preview. client: 1707017972946, Exist:true. client list size: 2
Information	2024/02/04 14:43:21.250	Request start preview. client: 1707017972946, Exist:true. client list size: 2
Information	2024/02/04 14:42:48.209	Request start preview. client: 1707017972946, Exist:true. client list size: 2
Information	2024/02/04 14:42:48.207	Request start preview. client: 1707017972946, Exist:true. client list size: 2
Information	2024/02/04 14:42:48.201	Request start preview. client: 1707017972946, Exist:true. client list size: 2
Information	2024/02/04 14:39:06.712	Request start preview. client: 1707017972946, Exist:true. client list size: 2
Information	2024/02/04 14:39:06.712	Request start preview. client: 1707017972946, Exist:true. client list size: 2

Clear Export...

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Manage 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**.

The screenshot shows the MAGEWELL web interface. At the top, there is a navigation bar with the MAGEWELL logo and several menu items: Dashboard, Input, Produce, Encode, Stream, Album, BGM, Media, System, and Admin. The main content area is divided into several sections:

- DIRECTOR MINI:** Displays device name (DMA511220416050), serial number (A511220416050), and power status (Power cable connected).
- VERSION:** Displays firmware (1.20), software (3.0.856), and hardware (A).
- STATUS:** Displays CPU usage (22.49%), memory (47%), temperature (48.89°C), up time (1 h 12 m), free space (49.7 GB), fan speed (3502 rpm), and kernel (313).
- NETWORK:** Displays cellular, bluetooth, USB-Fusion_8456_5G (192.168.67.227), ethernet (10.10.7.181), and hotspot.

In the top right corner, there is a user profile dropdown menu with the name 'Admin' and three options: Change password, Sign out, and Reboot.

Reboot Device

When the Director device cannot run properly, you can reboot the device for troubleshooting.

⚠ Rebooting will not make the current device settings invalid.

1. [Log in to the Web UI as the Admin user.](#)
2. At the upper right corner of the Web UI, click the user name, and click **Reboot**.
3. In the displayed window, 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.

Shortcuts for Director

You can [set shortcuts](#) on the Produce page, and then call the following functions.

Function Name	Description	Remark
Show		
Switch to the specific show	Switch to a specific show	Specify a show by selecting show name
Switch to the first show	Switch to the first show	
Switch to the last show	Switch to the last show	
Switch to the next show	Switch to the next show	
Switch to the previous show	Switch to the previous show	
Scene		
Switch to the specific scene	Switch to a specific scene	Specify a scene by selecting scene name
Switch to the first scene	Switch to the first scene	
Switch to the last scene	Switch to the last scene	
Switch to the next scene	Switch to the next scene	
Switch to the previous scene	Switch to the previous scene	
Switch preview to PGM	Switch the preview scene to live program	
GFX		
Turn on GFX	Display a GFX	Specify a GFX by selecting GFX name
Turn off GFX	Undisplay a GFX	Specify a GFX by selecting GFX name

Function Name	Description	Remark
Turn on/off GFX	Display/Undisplay a GFX	Specify a GFX by selecting GFX name
Clear overlay	Undisplay all displayed GFXs and live comment	
Transition		
Turn on quick switch	Turn on quick switch	
Turn off quick switch	Turn off quick switch	
Turn on/off quick switch	Turn on/off quick switch	
Set transition effect	Set transition effect. Options include Cut, Fade, DIP, Wipe, DVE, Stinger and 3D.	
Set transition duration	Set transition duration, ranging from 50ms to 1000ms	
Set FTB transition duration	Set FTB transition duration, ranging from 200ms to 2000ms	
Stream		
Start live streaming	Start live streaming to a specific destination	Specify the destination by selecting stream name
Stop live streaming	Stop live streaming to a specific destination	Specify the destination by selecting stream name
Start/Stop live streaming	Start/Stop live streaming to a specific destination	Specify the destination by selecting stream name
Stop all live streaming	Stop all live streaming	

Function Name	Description	Remark
Record		
Start recording	Start recording	
Stop recording	Stop recording	
Start/Stop recording	Start/Stop recording	
Screenshot	Take a screenshot of the program scene	
Video		
Play video	Play video in program view	
Pause video	Pause video in program view	
Play/Pause video	Play/Pause video in program view	
Rewind to start	Rewind to start	
Fast forward to end	Fast forward to end	
Rewind by seconds	Rewind at a set step size, ranging from 1s to 10s	
Fast forward by seconds	Fast forward at a set step size, ranging from 1s to 10s	
Jump to a specific time	Jump to a specific time, ranging from 0s to infinity	
BGM		
Play BGM	Play BGM in program view	

Function Name	Description	Remark
Pause BGM	Pause BGM in program view	
Play/Pause BGM	Play/Pause BGM in program view	
Go to the first song	Go to the first song	
Go to the last song	Go to the last song	
Go to the next song	Go to the next song	
Go to the previous song	Go to the previous song	
Go to the song	Go to a specified song	Specify a song by selecting song name
Audio Mixer		
Set PROGRAM option	Turn on/off PROGRAM audio	
Set PROGRAM volume	Set the gain of PROGRAM audio, ranging from -40dB to 10dB	
Set PREVIEW option	Turn on/off PREVIEW audio	
Set PREVIEW volume	Set the gain of PREVIEW audio, ranging from -40dB to 10dB	
Set MONITOR option	Turn on/off MONITOR audio	
Set MONITOR volume	Adjust MONITOR volume, ranging from -40dB to 10dB	
Select MONITOR device	Set MONITOR device	Specify the device by selecting Microphone Jack, Bluetooth device (if connected) or USB device (if connected)

Function Name	Description	Remark
Set MIC option	Turn on/off MIC audio	
Set MIC volume	Set the gain of MIC audio, ranging from -40dB to 10dB	
Set Bluetooth option	Turn on/off Bluetooth audio	
Set Bluetooth volume	Set the gain of Bluetooth audio, ranging from -40dB to 10dB	
Set USB AUDIO option	Turn on/off a specific USB audio	Specify the USB audio by selecting device name
Set USB AUDIO volume	Set the gain of a specific USB AUDIO, ranging from -40dB to 10dB	Specify the USB audio by selecting device name
Set HDMI 1 action scope	Apply HDMI 1 audio settings to global or per scene	
Set HDMI 1 global option	Set global option of HDMI 1 audio, which can be AFV, Always On or Always Off	
Set HDMI 1 scene option	Set scene-based option of HDMI 1 audio, which can be Audio On or Audio Off	
Set HDMI 1 volume	Set the gain of HDMI 1 audio, ranging from -40dB to 10dB	
Set HDMI 2 action scope	Apply HDMI 2 audio settings to global or per scene	
Set HDMI 2 global option	Set global option of HDMI 2 audio, which can be AFV, Always On or Always Off	

Function Name	Description	Remark
Set HDMI 2 scene option	Set scene-based option of HDMI 2 audio, which can be Audio On or Audio Off	
Set HDMI 2 volume	Set the gain of HDMI 2 audio, ranging from -40dB to 10dB	
Set STREAM action scope	Apply STREAM audio settings to global or per scene	Select stream by name, including SRT , RTMP , NDI and Phone Camera
Set STREAM global option	Set global option of STREAM audio, which can be AFV, Always On or Always Off	Select stream by name, including SRT , RTMP , NDI and Phone Camera
Set STREAM scene option	Set scene-based option of STREAM audio, which can be Audio On or Audio Off	Select stream by name, including SRT , RTMP , NDI and Phone Camera
Set STREAM volume	Set the gain of STREAM audio, ranging from -40dB to 10dB	Select stream by name, including SRT , RTMP , NDI and Phone Camera
Set VIDEO action scope	Apply VIDEO CLIP audio settings to global or per scene	Select video clip by name
Set VIDEO option	Turn on/off VIDEO CLIP audio	Select video clip by name
Set VIDEO volume	Set the gain of VIDEO CLIP audio, ranging from -40dB to 10dB	Select video clip by name
Set WEBPAGE scene option	Set scene-based option of WEBPAGE audio, which can be Audio On or Audio Off	Select webpage by name
Set WEBPAGE scene volume	Set the gain of WEBPAGE audio, ranging from -40dB to 10dB	Select webpage by name

Function Name	Description	Remark
Set GFX option	Turn on/off GFX audio	Select GFX by name
Set GFX volume	Set the gain of GFX audio, ranging from -40dB to 10dB	Select GFX by name
Set audio input delay	Adjust the input delay of Microphone Jack, HDMI 1, HDMI 2 or USB device, ranging from 0ms to 400ms	
Output microphone sound to monitor device	Enable or disable outputting microphone sound to monitor device	
Output microphone sound to USB-C	Enable or disable outputting microphone sound to external device connected to the USB-C port	
Solo monitor	Only monitor one audio input	Select audio input by name
Scoreboard		
Reset Scoreboard	Reset scoreboard to initial settings	
Adjust team score	Adjust the score of home team or guest team with a value ranging from -100 to 100	
Go to the first period/inning	Go to the first period/inning	Inning is for baseball scoreboard
Go to the last period	Go to the last period	
Go to the next period/inning	Go to the next period/inning	Inning is for baseball scoreboard
Go to the previous period/inning	Go to the previous period/inning	Inning is for baseball scoreboard
Play game time	Start counting game time	

Function Name	Description	Remark
Pause game time	Pause counting game time	
Play/Pause game time	Start/Pause counting game time	
Adjust game time	Adjust game time, ranging from -100s to 100s	
Reset game time	Reset game time	
Adjust Out (Baseball)	Adjust outs, ranging from -2 to 2	For baseball scoreboard
Adjust Ball-Strike (Baseball)	Adjust ball number and strike number, ranging from -3 to 3	For baseball scoreboard
Set on base runners (Baseball)	Set on-base runner indicators for 1st Base, 2nd Base, 3rd Base	For baseball scoreboard
Clear pitch count (Baseball)	Clear balls and strikes to zero	For baseball scoreboard
Set stoppage time (Soccer)	Set stoppage time, ranging from 0 to 59, in minutes	For soccer scoreboard
Reset stoppage time (Soccer)	Reset stoppage time	For soccer scoreboard
Show stoppage time (Soccer)	Show stoppage time	For soccer scoreboard
Hide stoppage time (Soccer)	Hide stoppage time	For soccer scoreboard
Show/Hide stoppage time (Soccer)	Show/Hide stoppage time	For soccer scoreboard
Show substitution (Soccer)	Show substitution	For soccer scoreboard
Hide substitution (Soccer)	Hide substitution	For soccer scoreboard
Show/Hide substitution (Soccer)	Show/Hide substitution	For soccer scoreboard

Function Name	Description	Remark
Timer		
Reset timer	Restore the timer to the preset duration	
Start or resume timer	Start or resume counting	
Pause timer	Pause counting	
Start/Pause timer	Start/Pause counting	
Stopwatch		
Reset stopwatch	Restore the stopwatch to zero	
Start or resume stopwatch	Start or resume counting	
Pause stopwatch	Pause counting	
Start/Pause stopwatch	Start/Pause counting	
PTZ		
Select PTZ device	Select PTZ device	Specify the PTZ device by selecting device name
Call preset	Call preset by number	
Store preset	Store preset by number	
PTZ zoom in	Start to zoom in at a set speed, ranging from 1 to 10	
PTZ zoom out	Start to zoom out at a set speed, ranging from 1 to 10	

Function Name	Description	Remark
PTZ stop zooming	Stop zooming	
PTZ auto focus	Apply autofocus	
PTZ focus far	Focus far	
PTZ focus near	Focus near	
PTZ home	Move back to the center of the Pan/Tilt	NDI PTZ does not support this function.
PTZ move up	Move upwards	
PTZ move up left	Move upwards and leftwards	
PTZ move left	Move leftwards	
PTZ move down left	Move downwards and leftward	
PTZ move down	Move downwards	
PTZ move down right	Move downwards and rightwards	
PTZ move right	Move rightwards	
PTZ move up right	Move upwards and rightwards	
PTZ stop moving	Stop moving	NDI PTZ does not support this function.
PTZ start recording (OBSBOT)	Start recording	For OBSBOT Tail Air
PTZ stop recording (OBSBOT)	Stop recording	For OBSBOT Tail Air
PTZ start/stop recording (OBSBOT)	Start/stop recording	For OBSBOT Tail Air
Start AI human tracking (OBSBOT)	Start AI human tracking	For OBSBOT Webcam

Function Name	Description	Remark
Stop AI human tracking (OBSBOT)	Stop AI human tracking	For OBSBOT Webcam
Start/Stop AI human tracking (OBSBOT)	Start/Stop AI human tracking	For OBSBOT Webcam
Set AI human tracking mode (OBSBOT)	Set AI human tracking mode. Options include Normal, Upper Body, Close-up.	For OBSBOT Webcam
Set AI human tracking speed (OBSBOT)	Set AI human tracking speed. Options include Slow, Fast, Standard.	For OBSBOT Webcam
Set AI human tracking type (OBSBOT)	Set AI human tracking type. Options include Standard and Motion.	For OBSBOT Tiny 2
Wake up Camera (OBSBOT)	Wake up the camera	For OBSBOT Webcam
Reset (OBSBOT)	Reset the webcam to its initial position	For OBSBOT Webcam
Replay		
Replay from start of buffer	Replay from start of buffer	
Replay from N seconds ago	Replay from N seconds ago, ranging from 3s to 60s	
Replay the last event	Replay the last event	
Replay event N	Replay event N	Specify the event by selecting the Event No.
Exit replay	Exit replay	
Pause replay	Pause replay	
Play or resume replay	Play or resume replay	
Play/Pause replay	Play/Pause replay	

Function Name	Description	Remark
Fast forward	Fast forward at a set step size, ranging from 2s to 8s	
Fast backward	Fast backward at a set step size, ranging from 2s to 8s	
Go to a specific position	Go to a specific position on the process bar, ranging from 0s to 60s.	
Rewind to start	Rewind to start	
Go to the next frame	Go to the next frame	
Go to the previous frame	Go to the previous frame	
Add replay event	Add a replay event	
Delete all events	Delete all events	
Delete the last event	Delete the last event	
Set the replay speed	Set the replay speed. Options include 0.1x, 0.25x, 0.33x, 0.5x, 0.75x and 1.0x.	
Unmute replay sound	Unmute replay sound	
Mute replay sound	Mute replay sound	
Mute/Unmute replay sound	Mute/Unmute replay sound	
Unmute mic sound	Unmute mic sound	
Mute mic sound	Mute mic sound	
Mute/Unmute mic sound	Mute/Unmute mic sound	

Function Name	Description	Remark
Switch replay camera	Switch replay camera. Options include Camera 1, Camera 2 and Side by Side.	
Webpage		
Go back	Go back	
Go forward	Go forward	
Zoom out	Zoom out	
Zoom in	Zoom in	
Reset	Reset the webpage content to 100%	
Reload	Reload	
Page top	Scroll to the webpage top	
Page bottom	Scroll to the webpage bottom	
Page up	Scroll up a screen	
Page down	Scroll down a screen	
Up	Scroll up	
Left	Scroll left	
Down	Scroll down	
Right	Scroll right	
Others		
Reboot	Reboot the device	

Function Name	Description	Remark
Power off	Power off the device	
Screenshot	Take a screenshot of the device	
Adjust display brightness	Adjust display brightness	
Freeze current scene	Freeze current scene	
Unfreeze current scene	Unfreeze current scene	
Freeze/Unfreeze current scene	Freeze/Unfreeze current scene	
Turn on FTB	Turn on FTB	
Turn off FTB	Turn off FTB	
Turn on/off FTB	Turn on/off FTB	
Set USB-C DP output	Set content displayed on the external screen connected to USB-C port	Options include Clean Program, Preview, Multi-view, Duplicate Screen, Loop HDMI 1, Loop HDMI 2
Wait	Set a duration between two functions, ranging from 50ms to 10000ms	Only add one Wait between two functions of one shortcut, and one shortcut can add up to two Wait.

FAQ

How to start a stream scheduled later for YouTube

When streaming to YouTube, you may need to preview the stream at first and then goes live as scheduled. You can follow the guide below.

1. Create a channel in your YouTube studio, and set the schedule.
2. Ensure that you have **NOT** enabled Auto-start.
3. Tap **Stream** tap to open the stream server list, and start configuring YouTube.
4. When configuring **Post To**, select the channel you have created in Step 1.
5. Save your configurations.
6. Start streaming to YouTube.
7. On the popup window, select **Only Preview** to preview the stream at first.
8. In Live Control Room of YouTube, wait for the stream preview to show up, and then click **Go live**.

If you select **Go Live** in step 7, it streams to YouTube and goes live at once.


Besides, when you stop streaming, usually it ends live at once. If you want to pause streaming and keeps live, you can refer the following steps.

1. Go to your YouTube studio.
2. Ensure that you have **NOT** enabled Auto-stop.
3. Tap **Stream** tab to open the stream server list, and stop streaming to YouTube.
4. On the popup window, select **Pause Streaming** to pause stream but keeps live. You can use the **END STREAM** button in Live Control Room of YouTube to end live.

If you select **End Live**, it stop streaming to YouTube and ends live at once.

Why can't I log in to my YouTube account?

When you try to log in to your YouTube account, your login may fail with a message indicating that your account is not enabled for live streaming. In this case, you need to go to YouTube to enable live streaming for your account.

1. Log in to [YouTube](#) on your computer.
2. At the upper right corner on the YouTube home page, click  > Go live.
3. If you haven't, follow the prompts to verify your account.
You will be prompted to enter your country and phone number.

After your account is verified, it takes 24 hours to activate your account for live streaming.

Once live streaming is activated, you can then successfully log in to your YouTube account and stream to YouTube.

For other information such as what you can stream to YouTube, you can go to the [YouTube official website](#).

It does not show live comments from Twitch?

The live comments from Twitch are got via SDK. Twitch's SDK does not support binding network card, that is, it does not support setting network priority.

When the device is connected with multiple networks, to use one preferred network for streaming to Twitch while view live comments at the same time, please ensure that all these networks can access the official website of Twitch.

It does not show live comments from Facebook?

To show live comments from Facebook, you need to share your content to Public audience. You can refer to [Choose who can see your post on Facebook](#).

Which AP band should I choose for hotspot?

1. The advantage of 2.4GHz is that it has a wider coverage area and stronger capability to penetrate solid objects. The main advantage of 5.0GHz is that the transmission rate is faster, which is 2~3 times that of the traditional 2.4GHz. And its anti-interference ability is stronger, which can avoid the interference of various electromagnetic waves in the daily environment.
2. Since most wireless devices currently use the 2.4GHz frequency band, they are often interfered in the daily environment. The signal will not be as good as 5.0GHz, and the network speed will also be affected. At present, most devices already support 5.0GHz. It is recommended to turn on 5.0GHz, so that it is not easy to be interfered, but at the same time, the power consumption of the device will be accelerated.

3. However, if your devices are separated by a distance, it is recommended to choose 2.4GHz, so that you can receive a better signal even across obstacles.

Note: When the Wi-Fi connected to the Director device is 5.0GHz, the AP band can only be selected as 2.4GHz; when the Wi-Fi is 2.4GHz, the AP band can only be selected as 5.0GHz.

Support

Get the Latest Information

If you have any problems using Magewell products or need more technical information, please visit the official website www.magewell.com for product introduction, user manual, and more.

Technical Support

- Go to the [Knowledge Base](#) to find answers to your problem. If you cannot find an answer, click **Contact Us** at the bottom to contact the support team.
- Submit your questions in the online Ticket System: tickets.magewell.com, or contact the Magewell Technical Support Team at support@magewell.net.

Glossary and Abbreviations

AES

Advanced Encryption Standard (AES) is a specification for the encryption of electronic data.

FTB

Fade to black. FTB allows your show to slowly disappear into a black, usually indicating the end of a scene or show.

GFX

Graphic overlays. Graphics overlay are text and graphics that are displayed in a stream over the actual content (such as game or video) during a live stream.

RTMP

RTMP stands for "Real-Time Messaging Protocol". It is an efficient way to transmit large chunks of audio, video, and data from a server to the Internet via an encoder. Most live video streaming relies on RTMP to deliver smooth, real-time playback.

SRT

SRT stands for "Secure Reliable Transport". It is an open source video transport protocol that utilizes the UDP transport protocol. It supports packet recovery while maintaining low latency. SRT also supports encryption using AES.