MAGEWELL®

USB Fusion

User Manual, Reference and FAQs



Firmware Version: 2.6.58 *Date: 08/22/2025*

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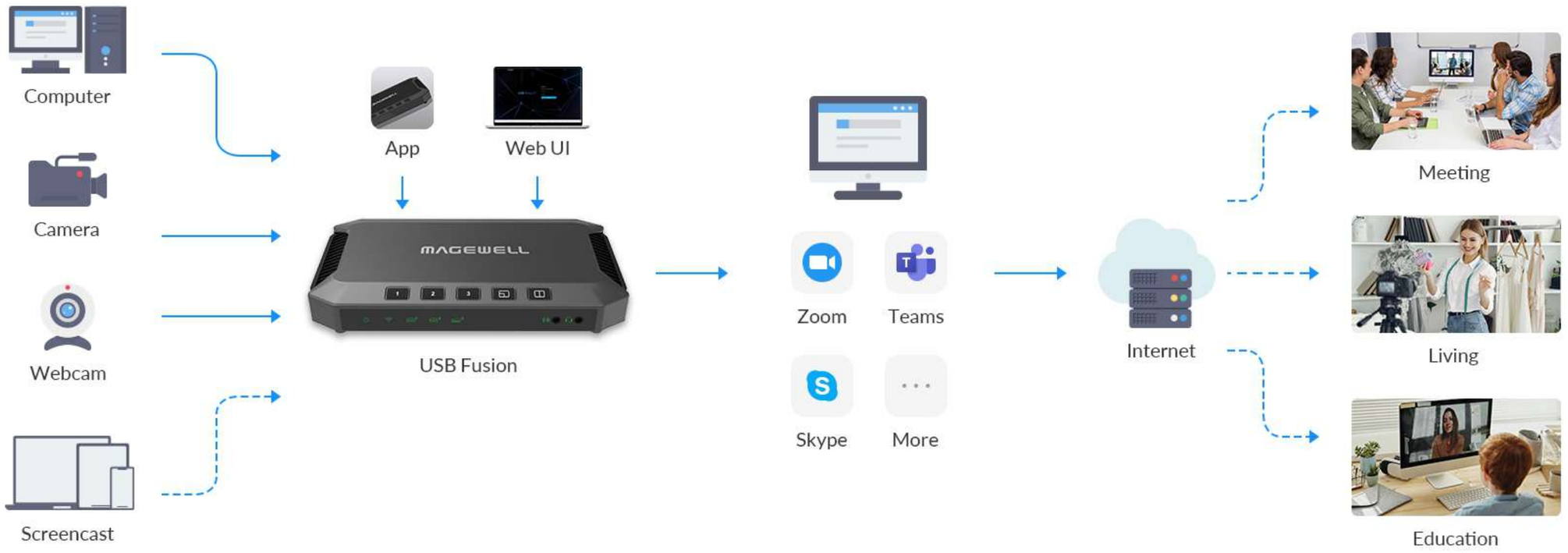
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Product Overview



USB Fusion makes your online lectures and virtual events more engaging. Our USB Fusion hardware lets you combine camera and wired screenshare inputs into attractive live presentations for remote education, webinars, live streaming and more.

USB Fusion is a multi-input USB video capture device with integrated source switching and layout control. Offering two HDMI inputs and one USB webcam input, USB Fusion can switch between sources or combine two inputs simultaneously into one output (picture-in-picture or side-by-side) for capturing into popular software via its USB 3.0 interface. Supporting screencast, it makes your presentation more flexible.

As a standard UVC/UAC device with automatic, driver-free installation, USB Fusion is immediately compatible with a wide range of operating systems and software applications. Users or administrators can configure and manage the hardware through its built-in Web UI, while the free USB Fusion companion tablet App provides additional features to augment your presentations.

Using the USB Fusion companion App, teachers and event hosts can create presentation playlists in advance and incorporate pre-recorded audio and other media files into their sessions. The App's annotation tools can be used to mark up presentation materials, and the annotations can be exported to a file for sharing after the class or event. Sessions can also be recorded to the USB Fusion hardware's built-in storage for subsequent playback.



USB Fusion features the following:

- Two HDMI inputs and one USB webcam input with support for signals up to 1080p at 60fps
- Support screencast, including AirPlay, Miracast and Google Cast, and support up to four devices sharing content simultaneously
- Support multiple scene display modes, such as single view, picture in picture, and side by side
- High-quality video processing with zero CPU usage
- Support importing multimedia files and browsing web pages to enrich presentations
- Support more operations and settings through the companion App and Web UI
- Support USB 3.0 interface for super-speed data transferring
- HDMI output for conveniently monitoring source or program
- Support one-channel live streaming via RTMP
- Standard UVC/UAC device offering broad compatibility with popular software
- Automatic, driver-free installation with support for Windows®, Mac® and Linux® operating systems
- Registration with Magewell Control Hub for centralized management

What's New

Firmware version: 2.6.58

- Annotate on Web UI

  When presenting, you can use various tools to annotate in the preview area on the Presentation page.

Firmware version: 2.6

- Add Arrow Pen and Flashlight for annotation

  An arrow pen is a hand-drawn line ending in an arrow, and the flashlight can focus the audience's attention on the target.

- Set no signal image for HDMI input and Web Camera

  You can select a default or custom image for no signal display.

Firmware version: 2.5

- App login role supports Watcher

  The number and permissions of watcher can be set on the Web UI. Once set up, users can sign in to the app as an operator or watcher. All app functions are available to the operator, and only some functions are available to the watcher.

- Add GFX when editing a scene

  When you edit a scene, you can add a GFX created on the Web UI to the scene, so as to bind it to the scene.

- HDMI source supports PTZ control

  When the HDMI source is connected to a PTZ camera that supports the Visca protocol, you can enable the PTZ control function, and then control PTZ camera on the app.

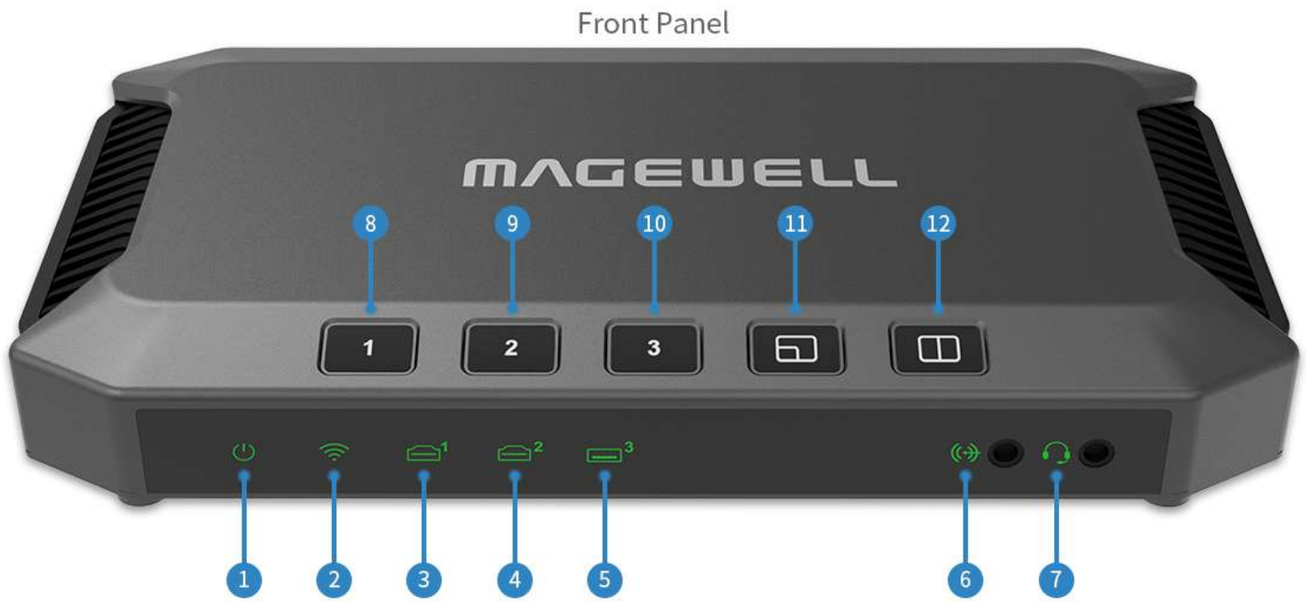
- Fade to Black or Image

  You can set the FTB function to fade to black or a specified image on the Web UI.

Getting to Know USB Fusion

This chapter covers USB Fusion's indicators, buttons, ports, app download, web login, and system requirements.

USB Fusion Device



Indicators

1 Power
On: power on Off: power off

2 Wi-Fi

3 HDMI 1

4 HDMI 2

5 WEB CAMERA 3
On: connected Off: not connected

6 Line in
On: connected

7 Headset
Pulsing: not connected

Buttons

8 Switch to HDMI 1 source
* For "Pairing to login" mode, hold for 2 seconds to start or stop pairing.

9 Switch to HDMI 2 source
* Hold to switch screencast images.

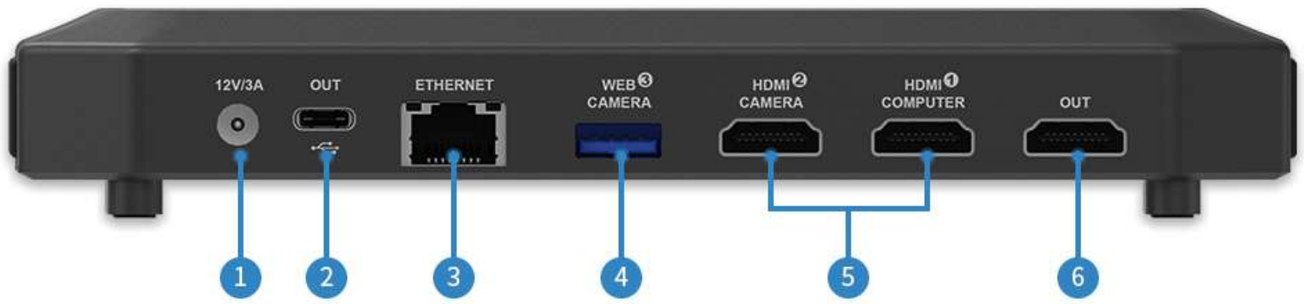
10 Switch to WEB CAMERA 3 source

11 Make a picture-in-picture scene

12 Make a side-by-side scene

* Press any button to wake up the device when it is sleeping.

Rear Panel

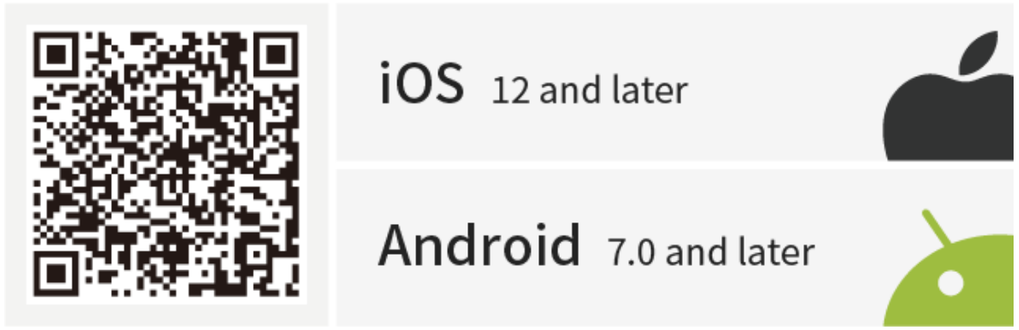


Front Panel



Ports:

1. Power (12V/3A): connect to power
2. USB OUT: connect a computer to output to 3rd-party software
3. ETHERNET: connect the Ethernet
4. WEB CAMERA 3: connect a webcam or other USB A/V devices
5. HDMI 1, HDMI 2: connect a computer, HDMI camera or other HDMI devices
6. HDMI OUT: connect a monitor, HDTV, projector or other devices
7. Line in: connect a line-in device
8. Headset: connect a headset

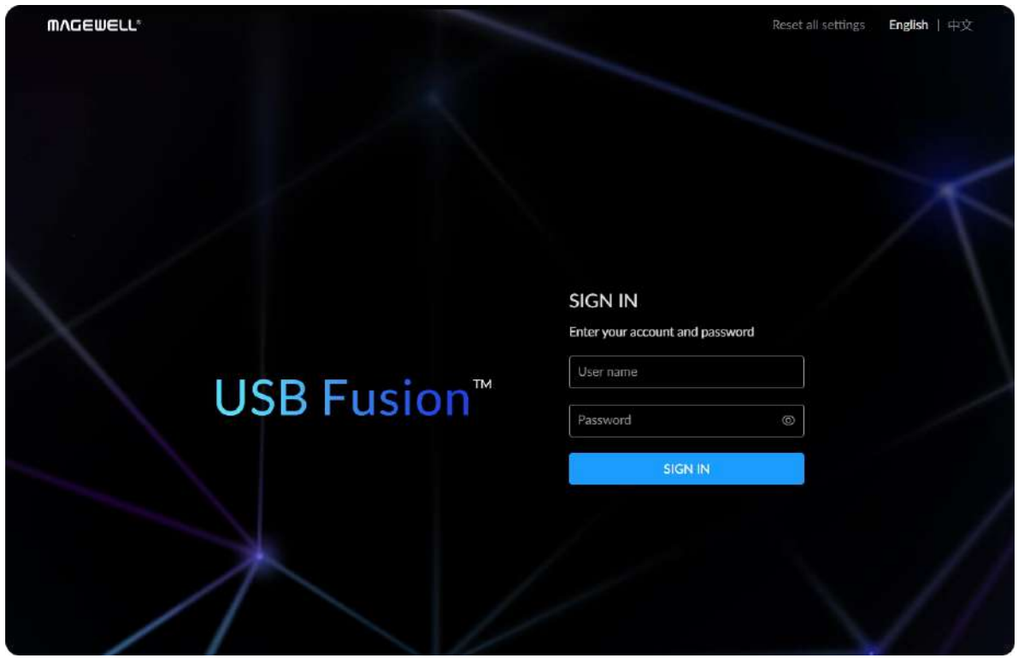


USB Fusion App

With the USB Fusion App, you can create presentations, switch scenes, make annotations, and record your presentations. You can make flexible presentations easily.

The USB Fusion App supports iOS 12 and later and Android 7.0 and later. You can search for **USB Fusion** in the app store or scan the QR code to download.

> Currently the App is available only on tablets.



Web UI

USB Fusion provides a Web UI for user to check device status, configure device functions, create and manage presentations, and more.

1. On the computer connected to the USB OUT port, open a browser and access 192.168.66.1.

   > Linux, macOS 10.12 and later, and Windows 10 19H1 and above are supported

2. Enter the default username Admin and password Admin to log in.

You can also access the Web UI through other ways. Refer to Accessing the Web UI.

System Requirements

Computer Configuration

Operating System Versions

- Windows

  Windows 7 and later, Server 2008 and later (x86 & x64)
- Linux

  Linux system with kernel 2.6.35 and later (x86, x64 & ARM)
- Mac

  OS X 10.9 and later, macOS 10.12 and later

Computer Port

To connect the USB OUT port of the USB Fusion, to receive PROGRAM scenes output from the USB Fusion

- USB 3.0 port (recommended)

Tablet Version

To install the USB Fusion App for making presentations

- iOS 12 and later
- Android 7.0 and later

Browsers Compatible with Web UI

To log in the Web UI for more advanced settings and presentation operating

- Google Chrome version 49 and later
- All Microsoft Edge versions
- Apple Safari 11.1 and later
- Opera 55.0.2994.44 and later

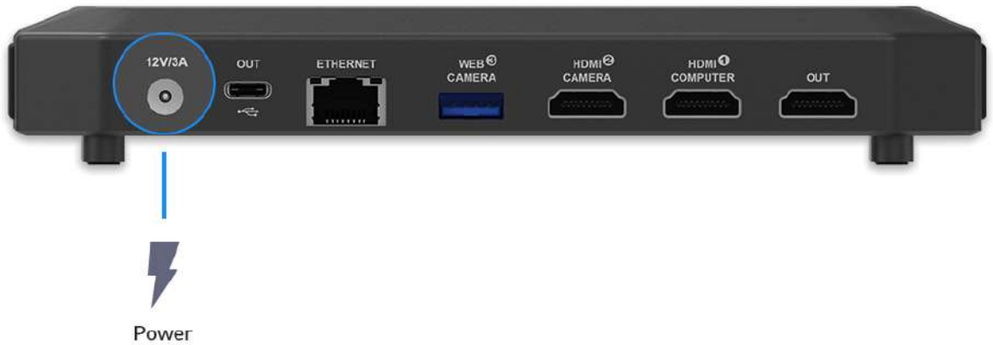
Compatible Software

The software to connect the USB Fusion and use PROGRAM scenes output from the USB Fusion for online classes, meeting or live streaming.

- Skype
- Zoom
- Microsoft Teams
- Google Meet
- Other UVC/UAC-compliant software

Getting Started

USB Fusion is easy to use. No complicated configuration is required to implement high-quality capture and production. This chapter tells you how to use USB Fusion and App for your presentation.



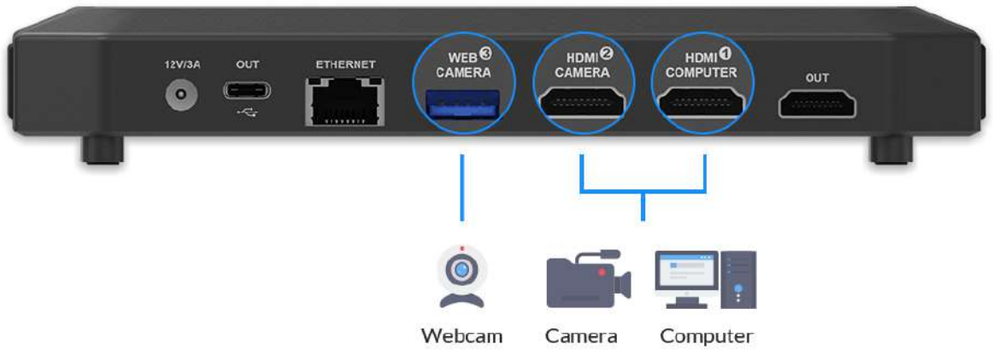
Connecting Devices

To use USB Fusion, you need to first connect power, network and various video/audio devices. USB Fusion supports the following connections:

Connecting to Power

Use the supplied power adapter to connect the power port on USB Fusion and power supply. After connected, the power indicator lights up.

> The device starts working after connected to power.



Connecting Video Inputs

USB Fusion can simultaneously connect three video inputs (two HDMI inputs and one USB input), such as a computer, an HDMI camera, and a webcam.

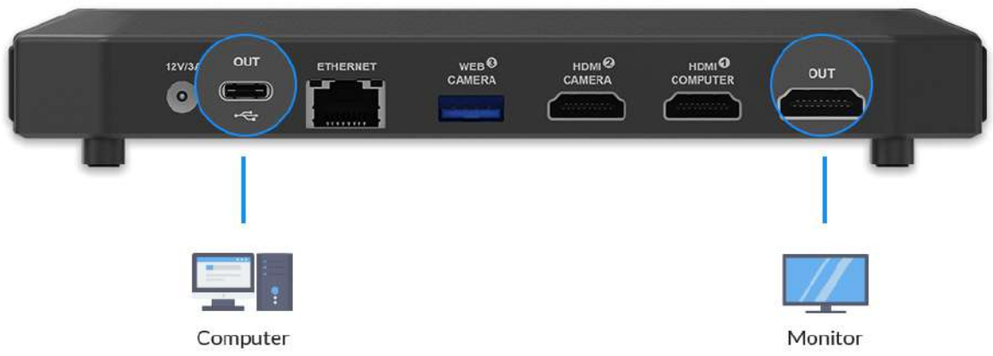
The video inputs can be used separately or composited into a picture-in-picture or side-by-side layout.

Connecting HDMI Input Sources

Use an HDMI cable to connect your computer or/and HDMI camera to the HDMI 1 or/and HDMI 2 input port on the USB Fusion. The input computer is called source computer. After connected, the HDMI 1 / HDMI 2 indicator lights up.

Connecting a USB Input Source

Use a USB cable to connect your USB A/V device (e.g. a webcam) to the WEB CAMERA 3 port on the USB Fusion. After connected, the WEB CAMERA 3 indicator lights up.



Connecting Video Outputs

USB Fusion delivers video to a streaming computer via the USB OUT port through a USB Type-C cable, and to a monitor, HDTV or projector via the HDMI OUT port.

Connecting a Streaming Computer

Connect the supplied USB Type-C cable from the USB OUT port to the streaming computer.

- If you use one computer as both the streaming computer and the source computer, you need some extra configurations to make the video and audio normal.
- To show only the presentation PPT and no other irrelevant software (such as the meeting software in use), you need to set up dual monitors on your computer.
- To use the computer audio, you need to select the device whose name contains **USB Fusion** (instead of **USB Fusion USB-C**) as your audio output device in your computer system settings.

Taking Windows 10 as an example, click or press the Windows key, and select camera. Then you can see the landing scene of USB Fusion.

- The USB OUT port supports USB 3.0 for high frame rate, high resolution video. It is also compatible with USB 2.0. However, since the limited bandwidth of USB 2.0 might lead to frame drop, blurry image or other exceptions, you are advised to use a USB 3.0 port on the streaming computer.
- The actual output of USB OUT is determined by the negotiation between USB Fusion and the receiving software.
- This port outputs two-channel audio along with the video.



Connecting a Monitor (optional)

Connect an HDMI cable from the HDMI OUT port on USB Fusion to a monitor, HDTV or projector.

Then the landing scene is displayed in the monitor.

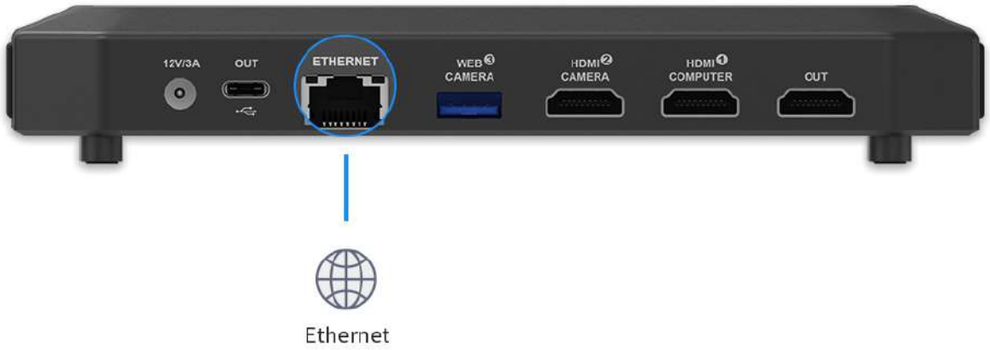
- By default, this port outputs the same content as the USB OUT port. You can also select the output content on the Web UI.
- This port can output two-channel audio for monitoring.

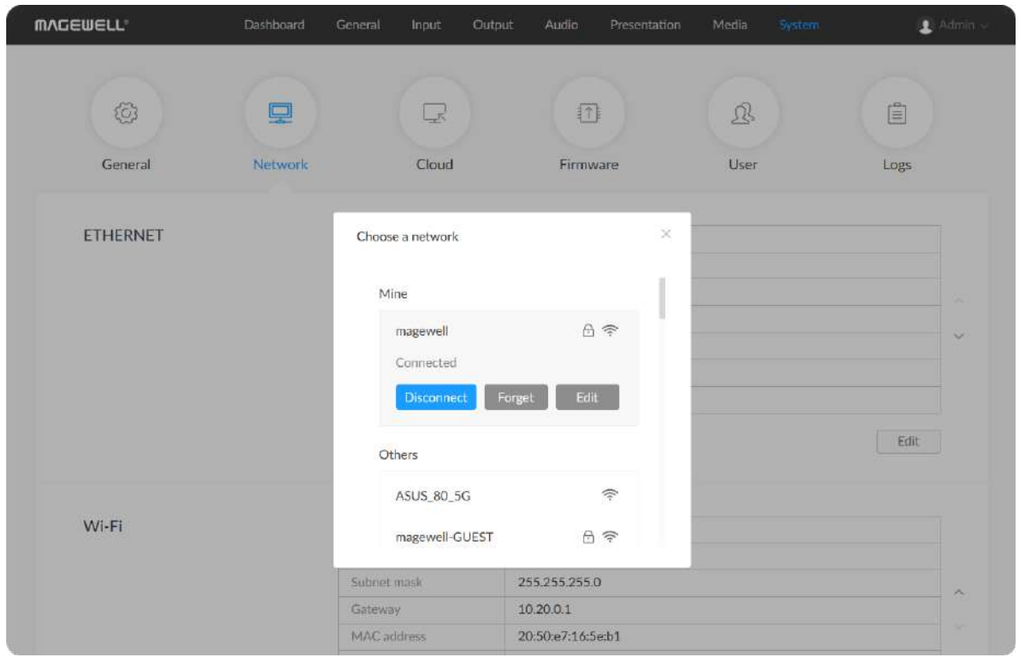
Connecting Audio

- Connect a headset to the headset port on the USB Fusion.
- Connect a line-in device to the line-in port on the USB Fusion. (Optional)

After connected, the line-in and headset indicators light up.

- The line-in port supports two-channel audio input.
- The headset port supports two-channel audio input and output (for monitoring).
- The headset port uses the CTIA standard. For an OMTP-compliant device, you need to connect it through an OMTP-CTIA adapter.





Connecting to Network

USB Fusion provides an App and Web UI for more operations and settings. You need to connect the USB Fusion to the network. You can select the following ways.

Connecting to Ethernet

Connect an Ethernet cable to the Ethernet port on USB Fusion. This port supports Gigabit Ethernet. After connected, the ETHERNET port is blinking.

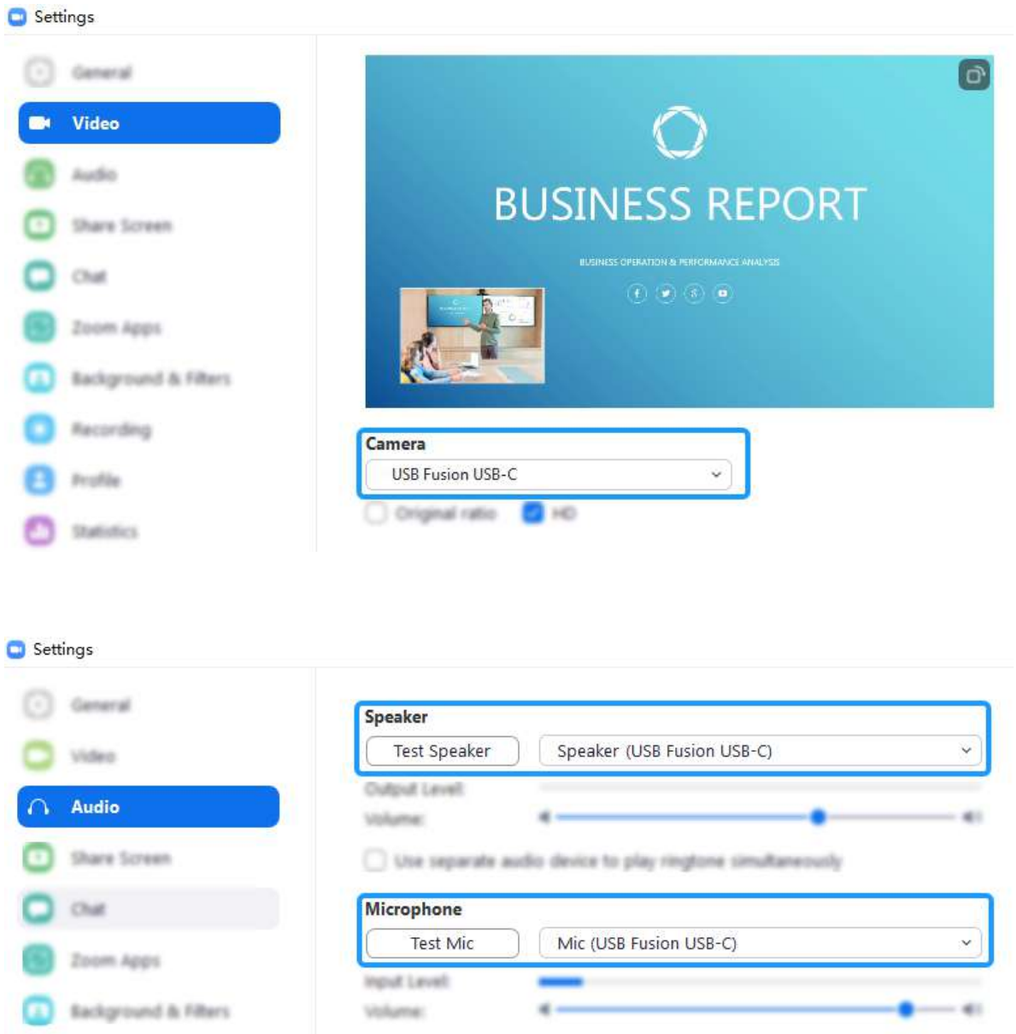
Connecting to Wi-Fi

To connect the USB Fusion to a Wi-Fi for the first time, you need to log in the Web UI. Please refer to the following steps.

1. On the computer connected to the USB OUT port, open a browser and enter the USB network IP address (192.168.66.1) of USB Fusion to access the Web UI login page.
2. Log into the Web UI.
   The default user name / password is Admin / Admin.
3. Choose **System** > **Network**.
4. In the **Wi-Fi** area, click **Connect...**.
5. In the Wi-Fi list, click a network and click **Connect**.
   - If a network requires a password, you need to first enter the password.
   - If you want to automatically connect to the network, check **Connect automatically**.

A connected network will show in the **Mine** area with the **Connected** status.

6. Click the close button at the upper right corner.
   The **Wi-Fi** area will show the current Wi-Fi connection information.
   The Wi-Fi indicator on the USB Fusion lights up.



Connecting to a Third-party Software

Once USB Fusion is connected to the streaming software, it is recognized as a webcam. Therefore, you can use the device in almost any software that supports webcam, as long as you select USB Fusion as the video and audio device in the software, as you will do for a webcam. This makes USB Fusion really flexible. It is friendly to video conferencing/education software that accepts only a single source, like Skype and Zoom. The following tells you how to use USB Fusion in Zoom.

Connecting to Zoom

Zoom is a widely used video conferencing software.

The following uses Zoom for Windows to illustrate how to use USB Fusion in Zoom.

1. You have completed Connecting Devices.
2. Open the Zoom client and log in.
   If not installed, you can go to Zoom website to download the software.
3. Select USB Fusion as the video input device.

i. In the upper right corner, click **Settings**, and then click the **Video** tab.

ii. On the **Video** tab, select **USB Fusion USB-C** or a similar name from the **Camera** drop-down box.
The preview area will show the video output by USB Fusion.

4. Select USB Fusion as the audio input device.

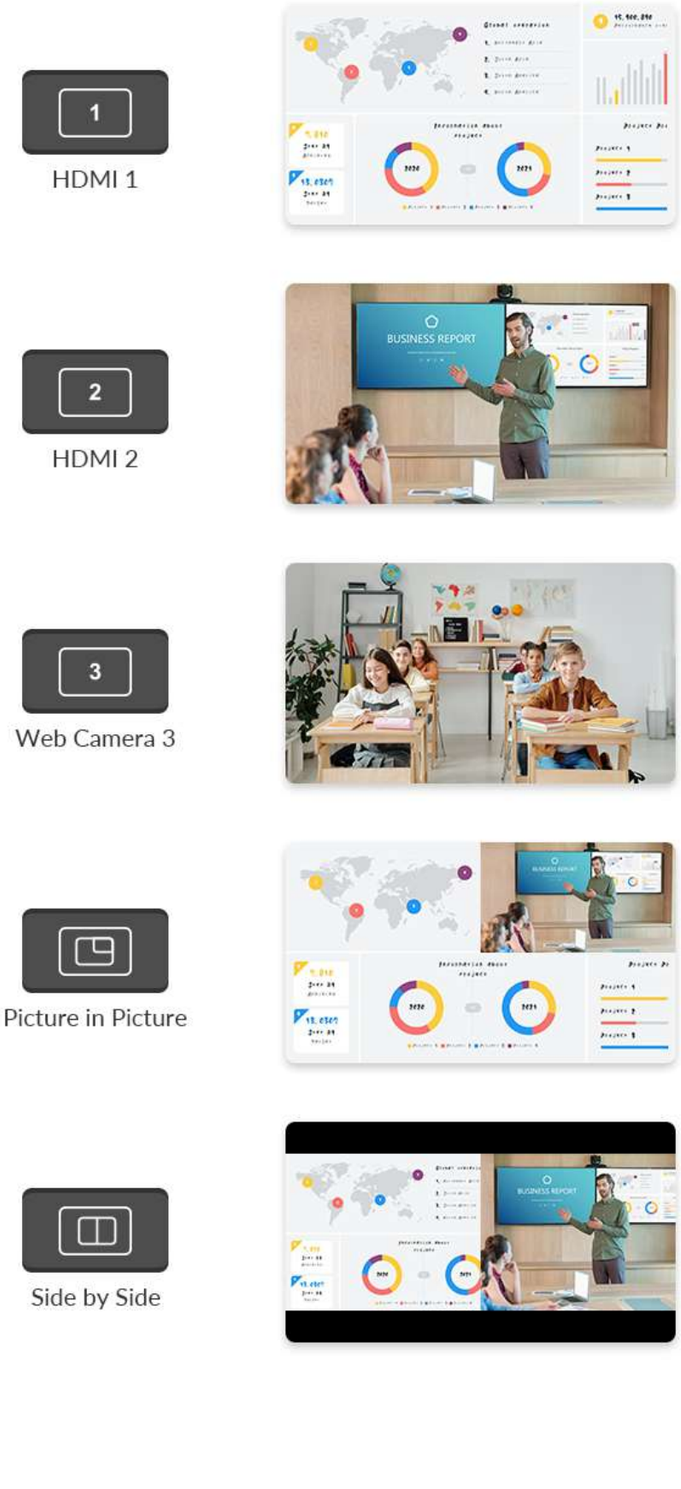
i. On the **Settings** page, click the **Audio** tab.

ii. If you need to hear the speech from other meeting attendees on USB Fusion, on the **Audio** tab page, select **USB Fusion USB-C** or a similar name from the **Speaker** drop-down box.
You can click **Test Speaker** to test. You will hear the test audio if everything works.

iii. If you need to send out the audio from USB Fusion, on the **Audio** tab page, select **USB Fusion USB-C** or a similar name from the **Microphone** drop-down box.
You can click **Test MIC** to test. Record your speech first and then play it. If everything works, you will hear your speech.

After the settings are complete, Zoom will use USB Fusion for video conferencing.

> Before the meeting, make tests to ensure that the system runs properly.



Producing a Presentation

A presentation is the collection of audio/video content you create on USB Fusion, consisting of scenes, notes, and background music. You have the following ways to produce your presentation:

- Use the buttons on the USB Fusion device.
- Use the USB Fusion App to perform more diversified operations, such as switching scenes, adjusting volume, and making annotations.
- Use the Web UI to switch scenes and adjust volume. Refer to Creating and Managing Presentations.

Using Buttons

On the USB Fusion device, press the following buttons to switch between sources or composite sources:

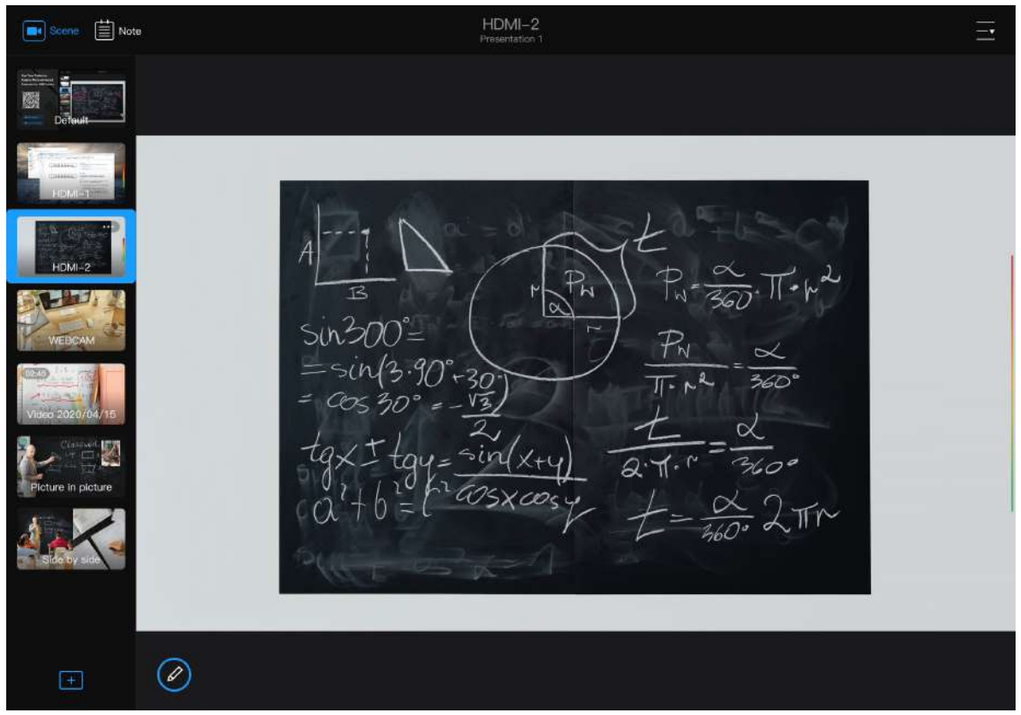
- 1 : switch to the scene of the device connected to the HDMI 1 port.
- 2 : two switch modes as follows.
  - **Short press**: switch to the scene of the device connected to the HDMI 2 port.
  - **Long press**: switch to the screencast scene. Follow the guide displayed on the screen connected to the HDMI OUT port to start casting the content on your phone, tablet or laptop computer.
    It supports up to 4 uses casting simultaneously. Press and hold the button to switch cast images in turn.
- 3 : switch to the scene of the device connected to the WEB CAMERA 3 (WEBCAM in short) port, such as the output of a webcam.

-  : picture in picture.
  - **Short press**: cycle through combinations in picture-in-picture layout, including , , , , , .
  - **Long press**: change the location of the small frame, including , , , . The small frame will retain the aspect ratio of the source.
-  : side by side.
  - **Short press**: cycle through combinations in side-by-side layout, including , , , , , .
  - **Long press**: change the location of separator, and also change the ratio of two sources in side-by-side layout, including , , , , .

- If only one HDMI input is connected and no WEBCAM is connected, it selects the other HDMI port for compositing a PIP or SBS scene, and the corresponding window displays "No Signal".
- If only WEBCAM is connected and no HDMI input is connected, it selects the HDMI 1 port for compositing a PIP or SBS scene, and the corresponding window displays "No Signal".
- If two video sources are connected, it only selects the two sources for compositing a PIP or SBS scene.
- Using buttons to composite scenes, it composites only HDMI and WEBCAM images, but not the screencast image.

iOS 12 and later

Android 7.0 and later



Using the App

1. Download the USB Fusion App.

   The USB Fusion App supports iOS 12 and later and Android 7.0 and later. You can search for **USB Fusion** in the app store or scan the QR code to download.

   > Currently the App is only available on tablets.

2. Connect to the USB Fusion.

   Ensure that your tablet is connected to the same network as the USB Fusion device. Open the USB Fusion App, select a USB Fusion device, and click **Connect**.

   After connected, you will enter the default presentation.

   - The default presentation contains the default picture, HDMI 1 input scene, HDMI 2 input scene, and the WEBCAM input scene.

3. Perform presentation operations. For example:

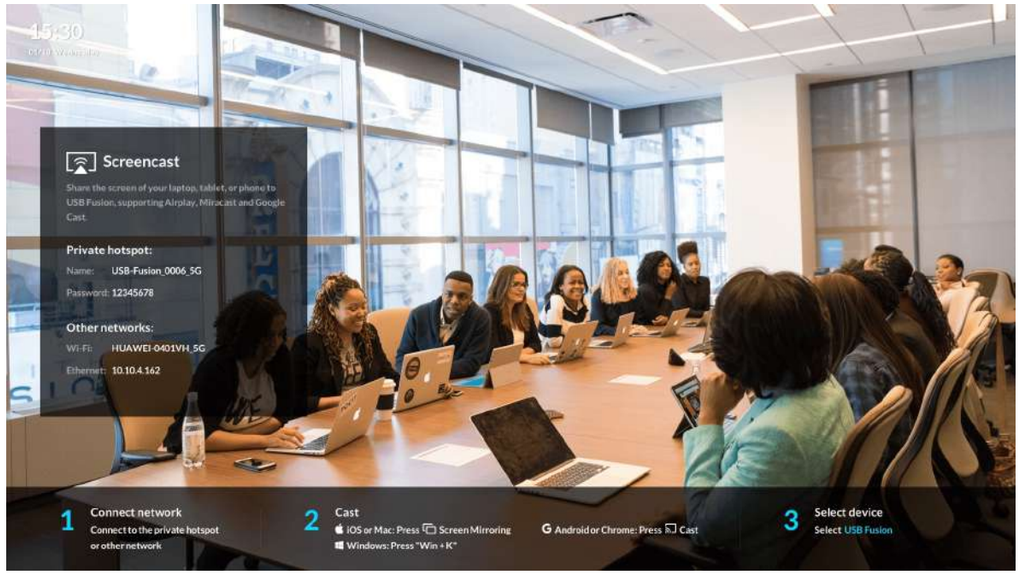
   Tap thumbnails in the left scene list to switch scenes.

4. Refer to App Tutorials for basic operations.

Screencast

USB Fusion supports AirPlay, Miracast and Google Cast protocols. You can share the content of your phone, tablet or computer to USB Fusion, to greatly enrich your presentation.

You can set screencast input on the Web UI, including protocols, security, layout, etc. For details, refer to Setting the Screencast Input.



Starting Casting

You can add the screencast scene through the following ways.

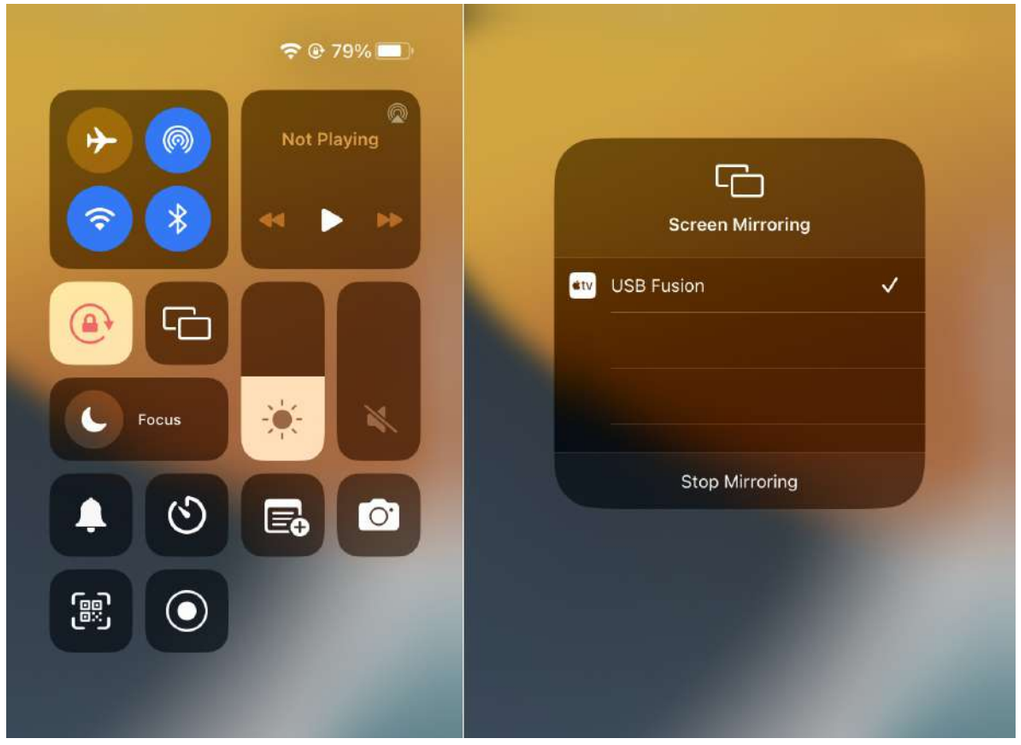
- Press and hold 2 for 2 seconds.
- At the lower left corner of the App, tap + , and select **Screencast**.
- On the Web UI, click **Presentation** > **Scenes** > **Add**, select **Screencast**, and select the added screencast scene.

The current scene will display the screencast guide. You can see the clear guide on the screen connected to the HDMI OUT port.

The guide displays the following information:

- The device's private hotspot name and password.
- The Wi-Fi and Ethernet that the device is connected to.
- The screencast steps and device name.

Then, select a way to cast your content according to your device type.



AirPlay

You can use Apple or other devices supporting AirPlay to cast.

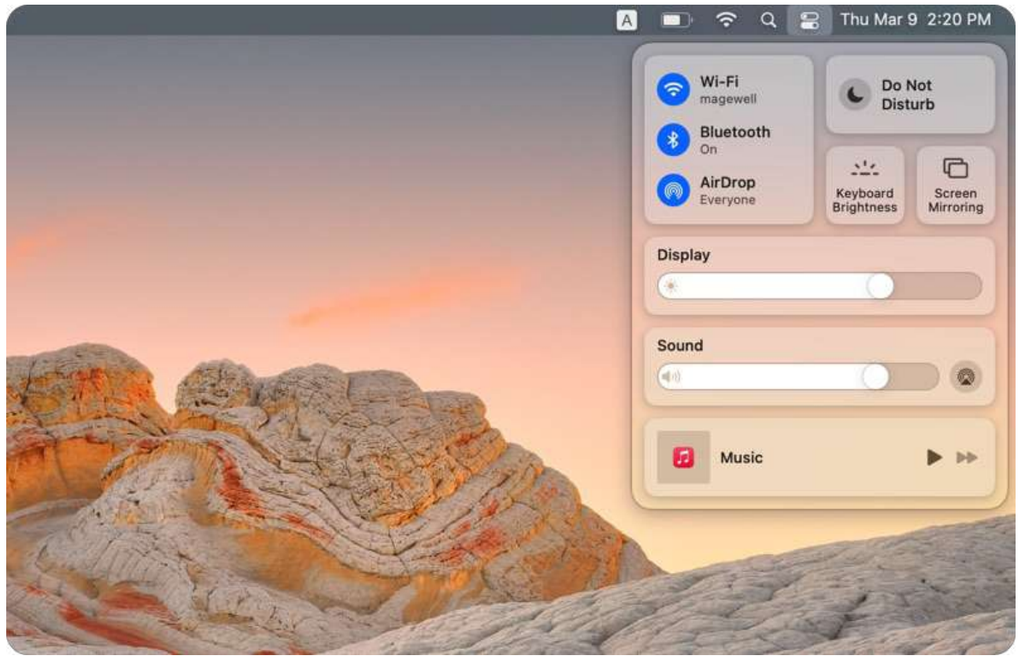
iPhone or iPad

You use an iPhone or iPad with iOS 12.3 or higher version for screencast.

1. Connect your device to the same network as USB Fusion, or to the USB Fusion's AP.
2. Open Control Centre on your device, and tap **Screen Mirroring**.
3. Select the USB Fusion device.
4. If you set a password or onscreen code on the Web UI, enter the code. The onscreen code is displayed on the screen connected to the HDMI OUT port.

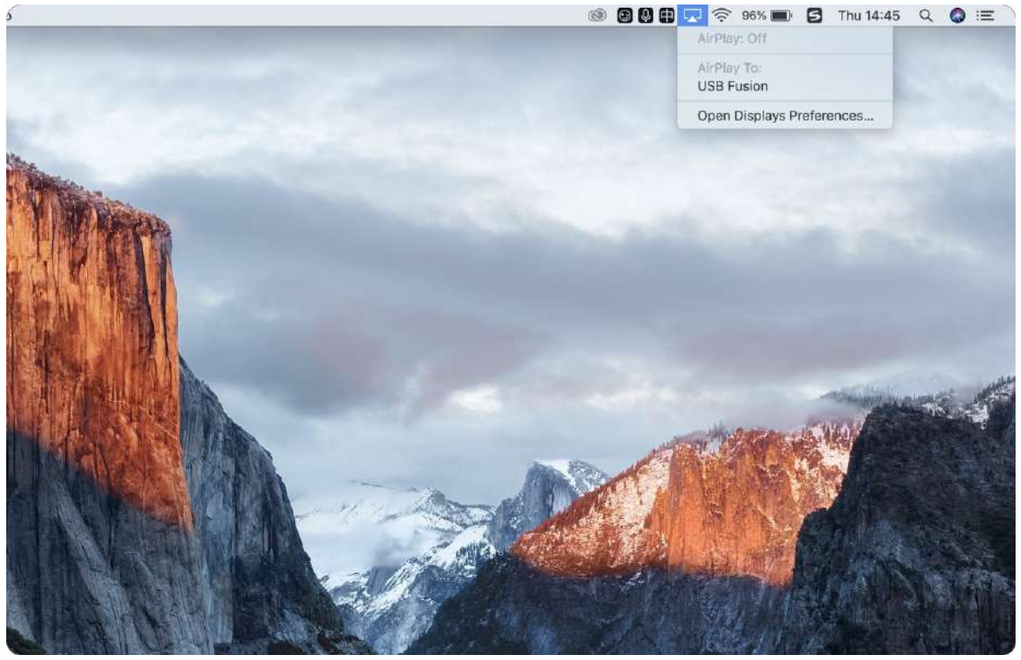
MacBook

You can use a MacBook with macOS Mojave 10.14.5 or higher version for screencast.



Mac with macOS Monterey or higher version

1. Connect your MacBook to the same network as USB Fusion, or to the USB Fusion's AP.
2. Click **Control Centre** in the menu bar.
3. Click **Screen Mirroring**
4. Select the USB Fusion device.
5. If you set a password or onscreen code on the Web UI, enter the code. The onscreen code is displayed on the screen connected to the HDMI OUT port.

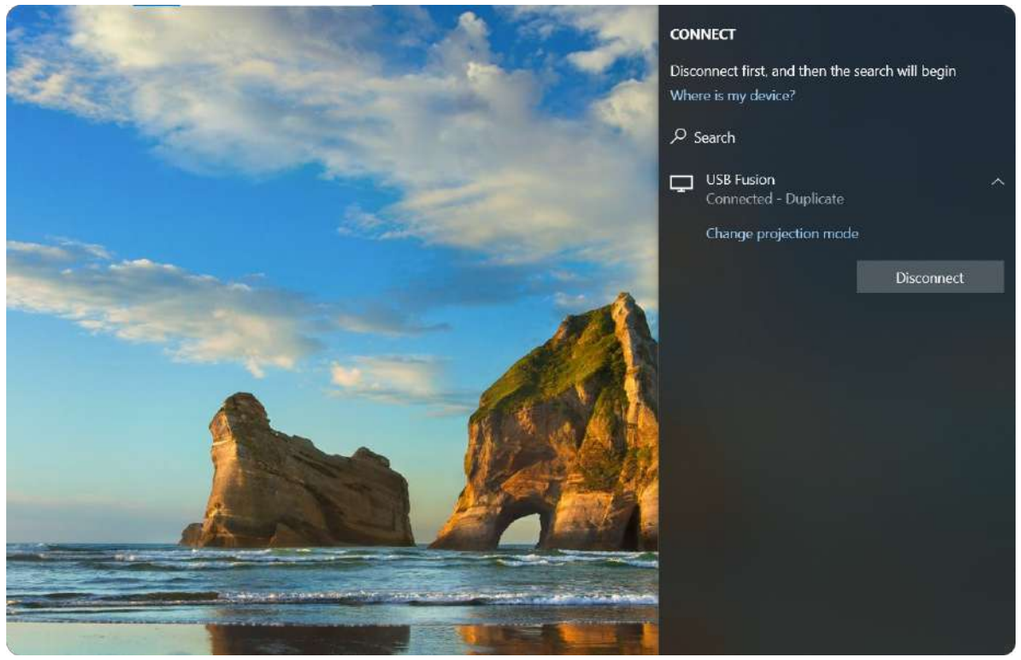


Mac with macOS Mojave/Catalina/Big Sur

1. Connect your MacBook to the same network as USB Fusion, or to the USB Fusion's AP.
2. Click the AirPlay status icon in the menu bar.

   > If you don't see the icon, click the System Preferences icon in the Dock or choose Apple menu > System Preferences, select **Displays** and check on **Show mirroring options in the menu bar when available**.

3. Select USB Fusion device in the AirPlay device list.
4. If you set a password or onscreen code on the Web UI, enter the code. The onscreen code is displayed on the screen connected to the HDMI OUT port.



Miracast

You can use Windows or Android devices supporting Miracast to cast.

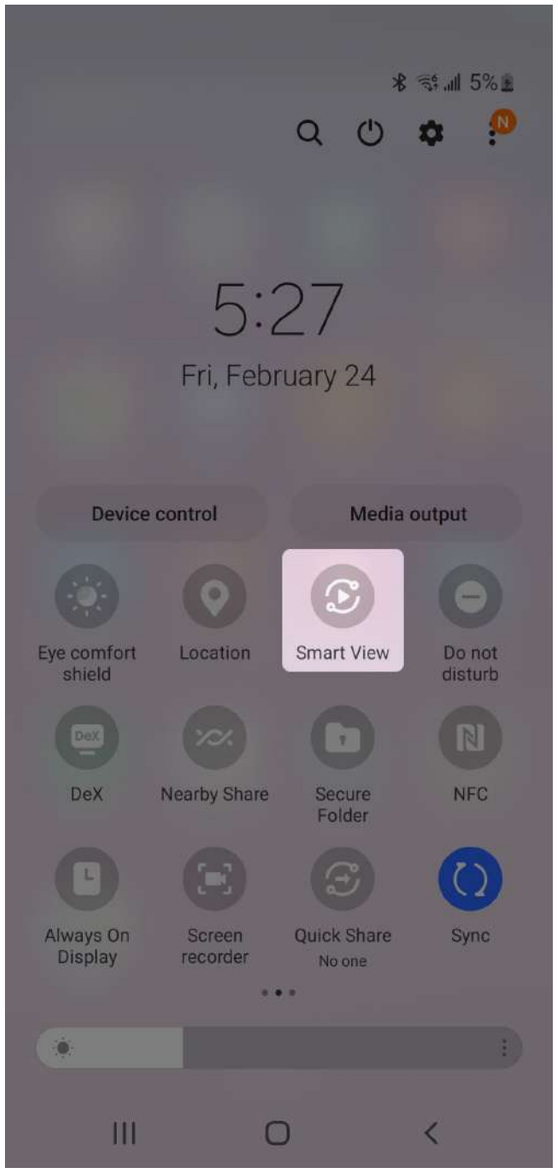
Windows

You can use a laptop computer with Windows 10 or higher version for screencast.

Taking Windows 10 as an example:

1. Enable the Wireless LAN (WiFi) function on your computer, and you can cast no matter whether you connect to a wireless network or not. It is suggested to connected to USB Fusion's AP for better experience.
2. Press “ + K”, and select USB Fusion device in the displayed list.
3. If you set a password or onscreen code on the Web UI, enter the code. The onscreen code is displayed on the screen connected to the HDMI OUT port.

> For Miracast over Infrastructure, it currently does not support password or onscreen code.

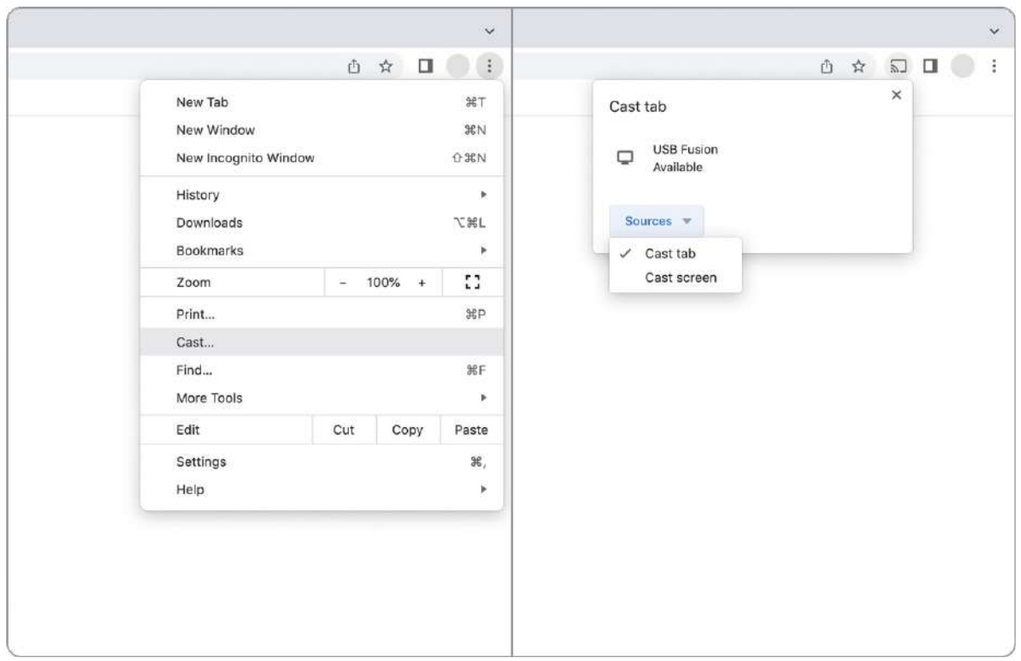


Android

As Android devices vary much, please refer to your device introduction for screencast.

Taking Samsung Galaxy S10 as an example:

1. Enable the WiFi function on your phone, and you can cast no matter whether you connect to a wireless network or not. It is suggested to connected to USB Fusion's AP for better experience.
2. Open the quick settings panel by swiping down from the top of the screen. Then, swipe to and tap the **Smart View** icon .
3. Select USB Fusion device in the available device list.
4. You may need to allow access to complete the connection.
5. If you set a password or onscreen code on the Web UI, enter the code. The onscreen code is displayed on the screen connected to the HDMI OUT port.



Google Cast

You can use software or devices supporting Google Cast to cast, such as Chrome Book or Chrome browser.

Taking the Chrome browser as an example.

1. Connect your computer to the same network as USB Fusion, or to the USB Fusion's AP.

   > For the first time using Google Cast, please connect USB Fusion to the Internet.

2. On your computer, open the Chrome browser.
3. At the top right, click ⋮ **More** > **Cast...**.
4. (Optional) Click **Sources** ▾, and select **Cast Tab** or **Cast Screen**. It casts the tab by default.
5. Choose USB Fusion device in the available device list.

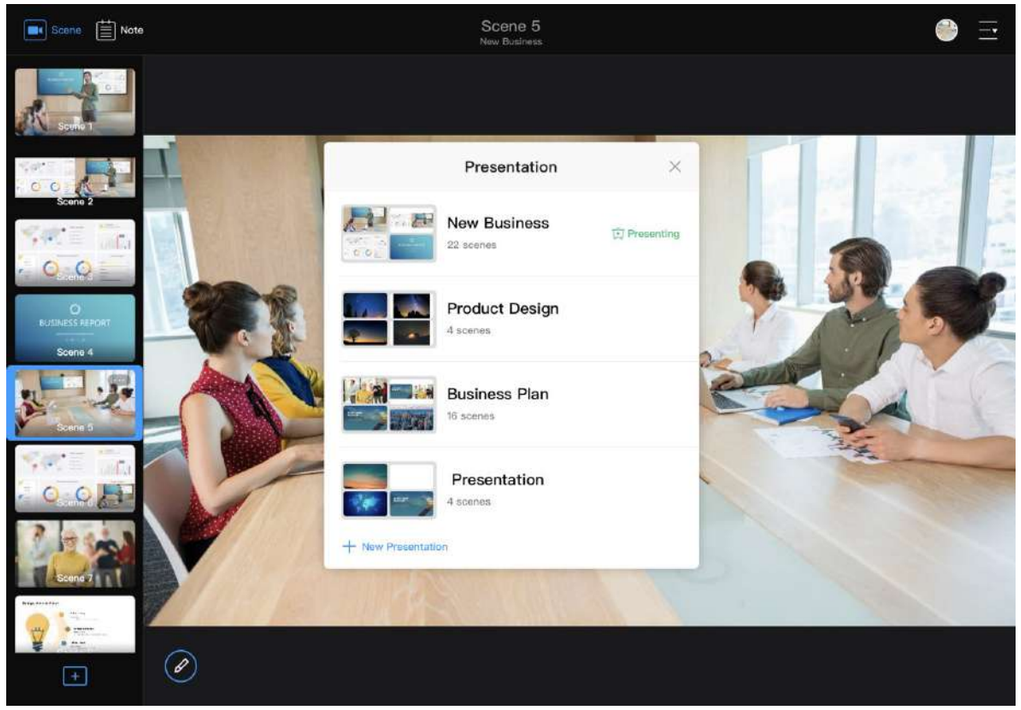
Switching Cast Images

USB Fusion supports up to 4 devices casting simultaneously, displaying in single-view or multi-view. You can set single-view or multi-view mode on the Web UI by referring to Setting the Screencast Input.
When multiple users are casting, hold 2 to switch cast images.

- When single-view mode is selected, it switches single-view images in turn.
- When multi-view mode is selected, it switches the multi-view image and single-view images in turn.
- At same time, screencast information, including hotspot name, password and device name, will be displayed on the screen connected to the HDMI OUT port and disappears in 5 seconds after you release the button.

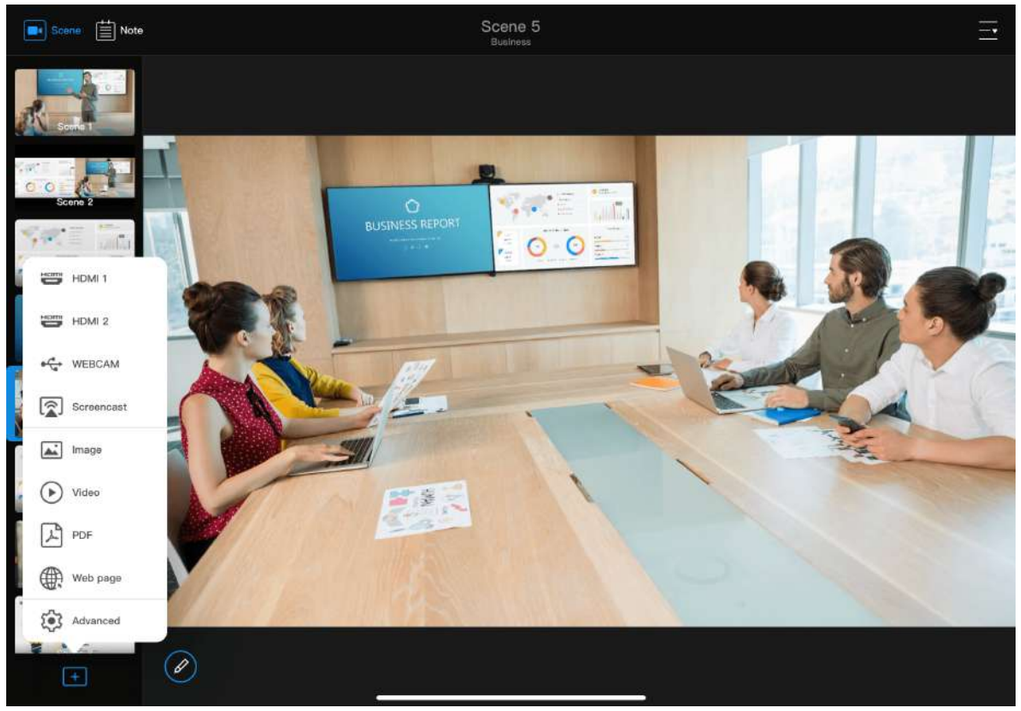
App Tutorials

The following tutorials will enable you to master the major functions of USB Fusion App. To know more about the App functions, see App Guide.



Adding a Presentation

1. At the upper right corner of the App, tap > **Presentation**.
2. At the lower left corner of the presentation list, tap **+ New Presentation**.
3. In the **New Presentation** dialog box, enter a name for the presentation.
   The name allows 1 to 32 characters, and cannot contain special characters #¥$.
4. Tap **Create**.



Creating Scenes

1. At the lower left corner of the App, tap [+].
2. Select a source in the prompted menu.
   - Captured images: tap **HDMI 1**, **HDMI 2**, **WEBCAM**.
   - Screencast images: tap **Screencast**. If no screencast signal is connected, start casting in accordance with the guide displayed on the current scene or the screen connected to the HDMI OUT port.
   - Image/Video/PDF: tap **Image**, **Video** or **PDF** to open the corresponding media page. Tap **+ Upload** at the bottom to import files, and then select a file in the media page.
   - Web page: tap **Web page**, enter a URL in the address bar and then tap the Enter key.
3. (Optional) Tap **Advanced** to open the scene editing page, to implement more operations such as creating scenes, editing scenes and importing resources.
   a. Tap **Add** at the lower right corner to import more media files and add more web pages.
   b. Tap a thumbnail under the canvas to add it as the scene content.
   c. Use tools on the top of the canvas to create single-view scene, picture-in-picture scene, or side-by-side scene, and edit the scene, such as scale, rotate, flip, crop, change scene background, and edit frame/separator/video.
   d. Tap **Done** at the upper right corner.
4. Repeat above steps to create more scenes.

Switching Scenes

- In the scene list on the left, scroll up & down the scene list to view the scene thumbnails, and tap a scene to switch to it.
- If the scene contains a video, you can control the playback of the video.
- If the scene contains a PDF, you can view the PDF with gestures or toolbar on the top of the scene, such as turning pages, adjusting display ratio and visiting hyperlinks.
- If the scene contains a web page, you can browse the web page with gestures or toolbar on the top of the scene, such as scrolling the web page, adjusting display ratio and visiting hyperlinks.



Annotating in Real Time

1. On the main UI, tap  at the lower left corner, and select a tool to annotate on a scene. Tap pen, arrow pen, highlighter, shape (line by default) or eraser twice to set their properties.
2. To save the annotation, tap  **Save**.
3. To switch to the saved annotation, tap  **Note** at the upper left corner, and tap the corresponding annotation thumbnail in the notes list.

Adding a Note

In the App, you can add a note in real time and in advance.

1. On the App Main UI, tap  **Note** at the upper left corner. It creates a blank note automatically.

   > If there is a scene saved with annotation, no blank note will be created.

2. Tap  to use annotation tools to annotate on the note page.
3. Under the note list, tap  to add more notes.

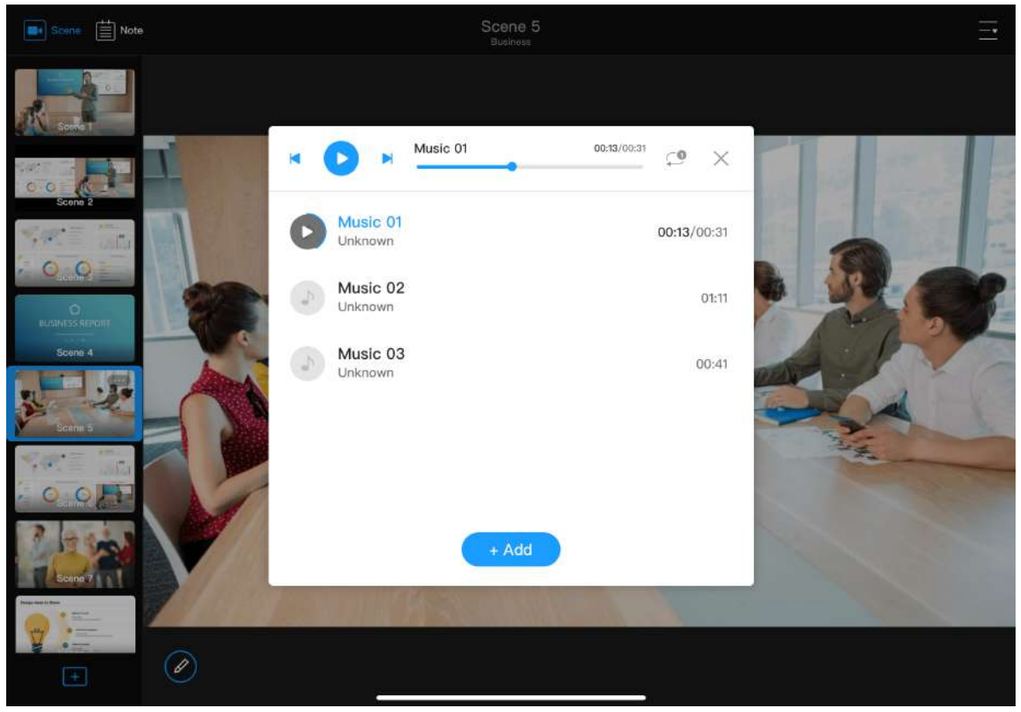


Using Background Music

Adding Background Music

In order to add background music, you need to first import the music to USB Fusion, and then add the music to your presentation.

1. At the upper right corner of the main UI, tap > **BGM**.
2. At the bottom of the playlist, tap **+ Add**.
   This opens the media page, which shows the music that has been imported to the connected USB Fusion device.
3. At the bottom of the music list, tap **+ Upload**.
4. Select the category where your file is stored.
   Use importing from the local system as an example. On an iOS device, tap **iPod**; on an Android device, tap the menu button at the upper left corner and select the local location where music is stored.
5. Tap a resource to import.
   Supported formats: MP3, M4A, WAV
   The imported resource will appear in the imported music list. And the same resource cannot be imported for a second time.
6. In the media page, tap the imported item.
   The item will be added to the playlist.

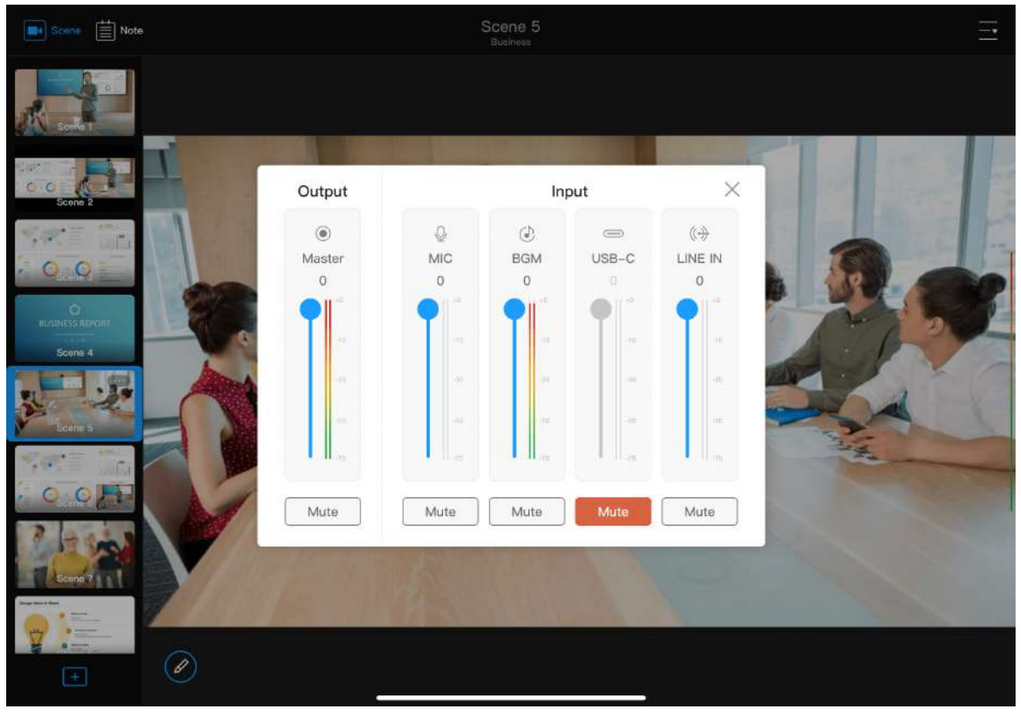


Playing Background Music

1. At the upper right corner on the main UI, tap > **BGM**.
2. In the playlist, tap an item to play.

   The audio will not play out on the device with the App installed.

3. Above the playlist:
   - Tap to play or to pause.
   - Tap to play the previous song or to play the next song.
   - Drag the playhead to a specified position.
   - Tap the button next to the playback progress bar to set the playback policy:
     - : play by order
     - : shuffle the list
     - : repeat the list
     - : repeat a single song

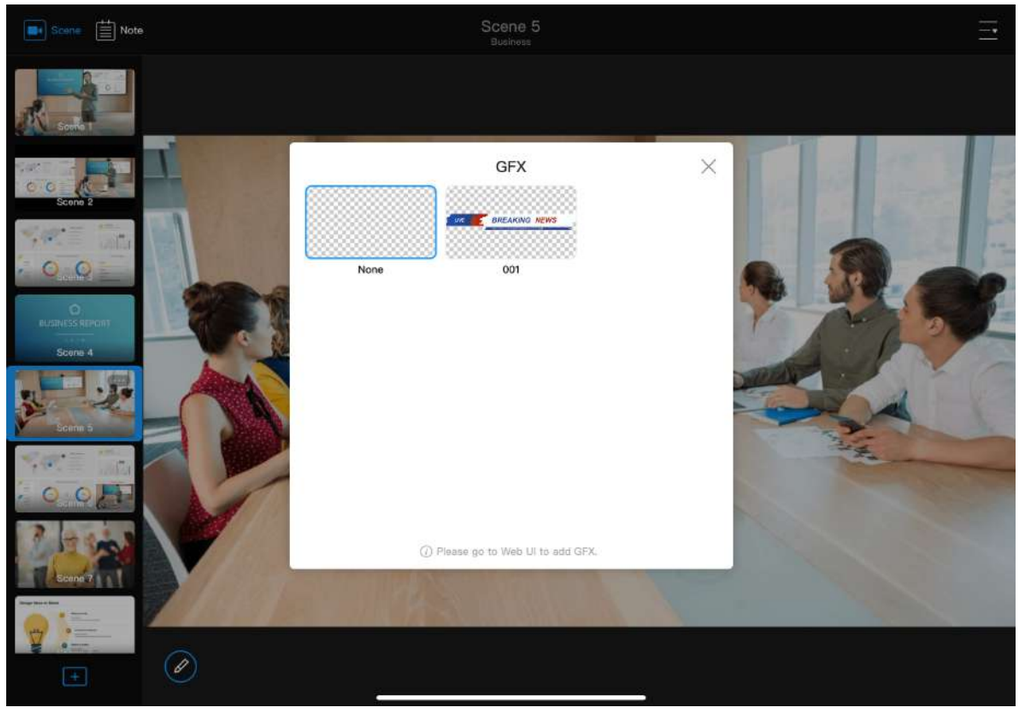


Adjusting Volume

Each scene has its independent audio mixer.

1. In the scene list, tap a scene thumbnail.
2. At the upper right corner of the main UI, tap > **Volume**.
3. On the audio mixer:
   - Tap the mute button to mute or unmute.
   - Drag the fader to adjust volume.

For more details on audio, see Controlling Audio.



Applying GFX

1. At the upper right corner of the main UI, tap > **GFX**.
2. Select a GFX in the popup window.
   If no GFX is added, please go to Web UI to add GFX. Please refer to Creating GFX.
3. To remove the current GFX, tap > **GFX**, and then select the thumbnail named as "None".



Recording and Screenshots

- Start recording: At the upper right corner of the main UI, tap > **Record**.

  The recording status and duration will show at the upper part of the page.

- Stop recording: At the upper right corner of the main UI, tap .

  The recording will be saved to the USB Fusion album.

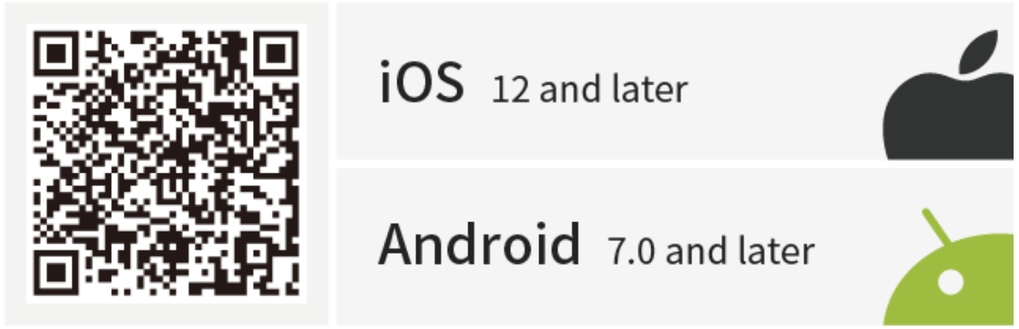
- Take screenshots: At the upper right corner of the main UI, tap > **Screenshot**.

App Guide

USB Fusion comes with an App that allows easy and flexible operations while you are presenting. The USB Fusion App can be used to create presentations, switch scenes, make annotations, and more.

App UI

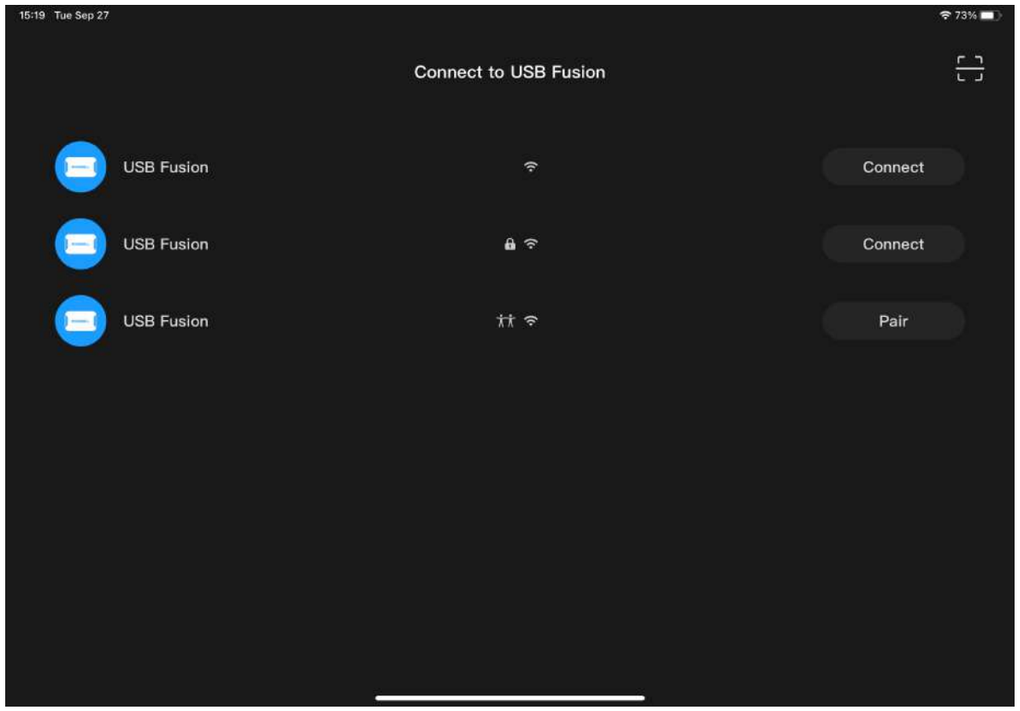




Downloading the USB Fusion App

The USB Fusion App supports iOS 12 and later and Android 7.0 and later. You can search for **USB Fusion** in the app store or scan the QR code to download.

> Currently the App is available only on tablets.



Connecting to a USB Fusion Device

When using the USB Fusion App, you need to first connect to the USB Fusion device for communication.

The first time you use the USB Fusion App, you need to manually establish the connection. When you later use the app, if you have not logged out from the connected device, the app will automatically make the connection; if you have logged out, you need to manually connect again.

1. Make sure your mobile device where the USB Fusion App is installed has connected to the same network as USB Fusion.
   The most direct way to connect USB Fusion to a network is plugging an Ethernet cable to the ETHERNET port. You can also use other ways for flexible and convenient network connection. For details, see Configuring Network.
2. Open the USB Fusion App on your mobile device.
   The App will automatically search for and display the list of USB Fusion devices in the same network. The list consists of two parts:
   - **Previously Connected Devices**: devices that have been connected.

If a device is not online, the device is greyed out, and you can swipe to the left to delete it.

- **Other Online Devices**: devices not connected before.

Relative information of the device:

- Device information: device name, and last connection time. If the device goes to sleep, it displays "Device is sleeping".
- Network type: network used by USB Fusion.  indicates Ethernet, while  indicates Wi-Fi.

3. In the device list, select a device to login, and please refer to the following introduction.

   - **Free login**

     The App can connect the device directly.

     If the device is online and available, you can tap **Connect** to log in.

     If the device is in use or offline, the **In use** or **Offline** status is displayed.

   - **Password to login**

      indicates that a password is required for connecting to the device. To set the password, see Password to login.

     If the device is online and available, tap **Connect**, and enter the password and tap **Connect** in the popup.

     The input password is hidden by default. You can tap  at the upper right corner on the popup box to display the password.

   - **Pairing to login**

      indicates that is a pairing code is required for connecting to the device.

Not in pairing mode indicates that the device is set as the **Pairing to login** mode but has not started pairing yet. Now, no App can log into the device.

a. Hold the 1 button on the device for 2 seconds, or click **Start Pairing** on the Web UI, by referring to Pairing to Login. Then, on the monitor connected to USB Fusion, you can see the pairing code, the network name that the device connected to, the device name, and a QR code.

> You can also check the pairing code on the Web UI. Refer to Pairing to Login.

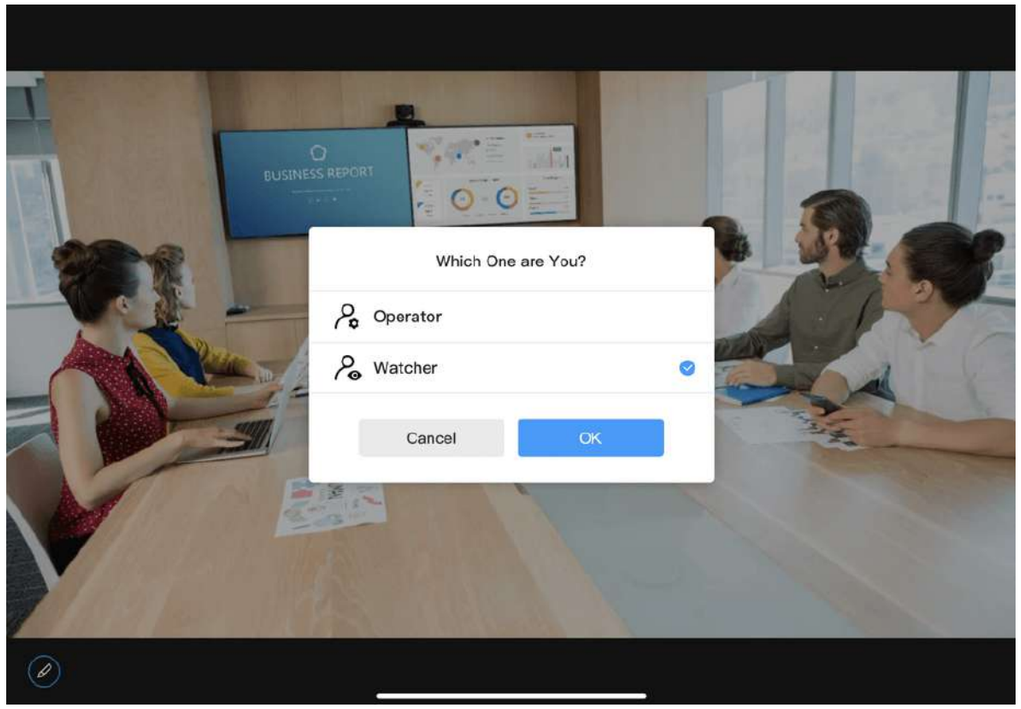
b. Tap **Pair** on the App, enter the pairing code and tap **Pair** in the popup box.

c. Or tap at the upper right corner of the App and scan the QR code.

indicates that an App has connected to the device with a pairing code. The device status is displayed as **Paired. In use.**

i. To connect to this device, hold the 1 button on the device for 2 seconds, or click **Re-Pairing** on the Web UI, by referring to Pairing to Login.
The device will be disconnected with the App.

ii. On your App, you can see the pairing icon of this device changes to and the **Pair** button is displayed. Now, you can use your App to connect this device.



4. You will log into the app as the operator by default. If you enables the Watcher mode in the "General > APP" page on the Web UI, please select your login role on the popup and then tap **OK**.

   - **Operator**: Having the permissions to use all the function of the app.
   - **Watcher**: Only having the permissions to use part of functions of the app.

Available Functions for Watcher	Remark
View the current presenting scene.	
Check device information and get online help through the menu at the upper right corner of the App Main UI.	It can be enabled/disabled on the Web UI.
Use some of Annotation tools, including Pen, Arrow Pen, Highlighter, Flashlight, Shape, Text, Eraser, Undo, Redo, and Clean.	It can be enabled/disabled on the Web UI.

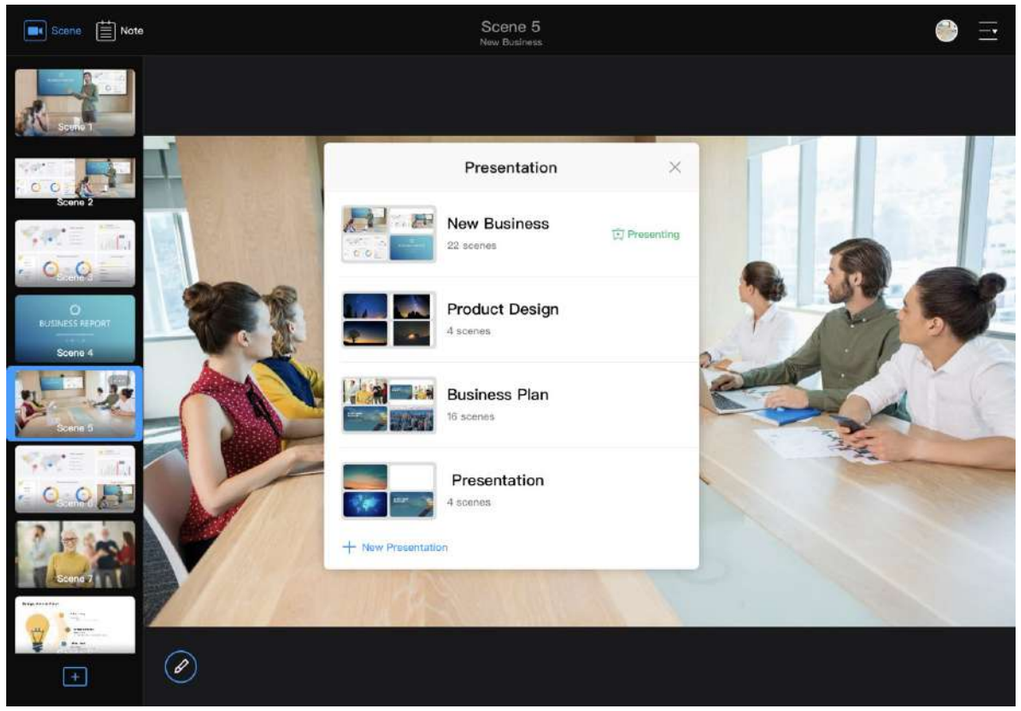
For the details of how to set the number and permissions of watcher on the Web UI, please refer to Setting Watcher.

Creating a Presentation

A presentation is the collection of audio/video content you create on USB Fusion as a complete production for output. You can create multiple presentations on USB Fusion. Each presentation can comprise as many scenes, notes, and background music as your use case needs.

- Scene: A scene can be in a single, picture-in-picture, or side-by-side view. It can come from the following sources:
  - Imported media files: files imported to USB Fusion through the App or Web UI
  - Captured images: images captured from the connected computer, HDMI camera, or webcam source
  - Screencast: images casted from a phone, tablet or computer
  - Web page: web pages added through the App or Web UI
- Note: annotations made in real time during presentation, such as marking certain areas or listing key points
- Background music: music or audio imported to USB Fusion through the App or Web UI
- GFX: Lower-thirds, Logo, or watermark added through the Web UI.

The following describes how to use the App to create a presentation. You can also create presentations on the Web UI. For details, see Creating and Managing Presentations.

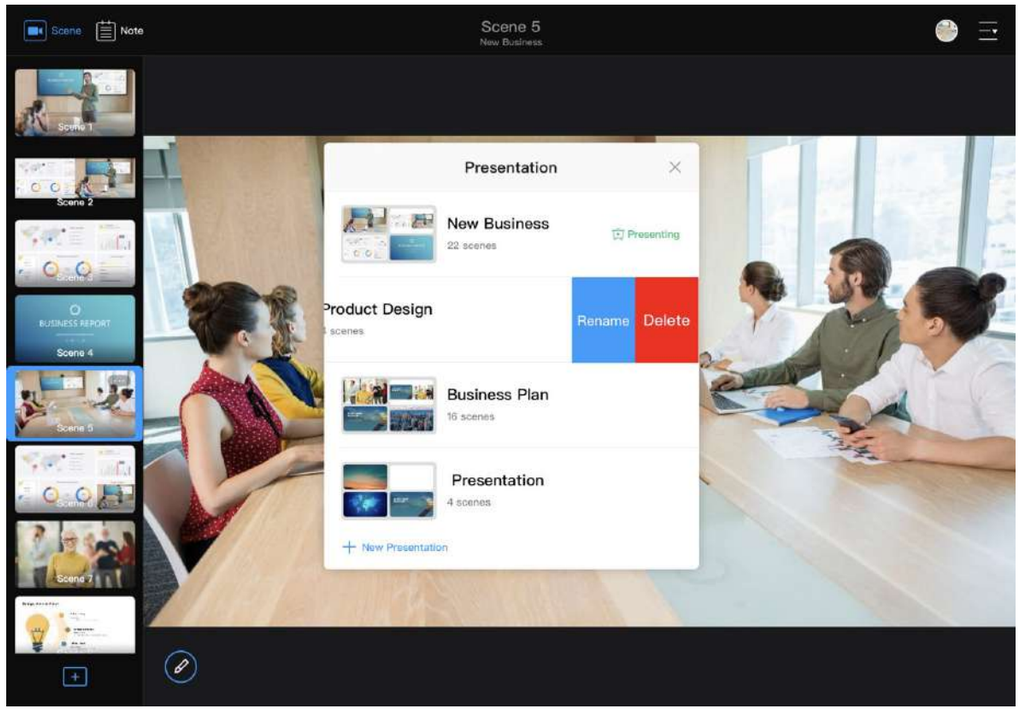


Adding a Presentation

The USB Fusion App comes with a default presentation which contains the default image and the HDMI 1, HDMI 2, and WEBCAM sources. You can use the default presentation directly with no configuration. Or you can create your own presentation.

1. At the upper right corner of the App, tap > Presentation.
2. At the lower left corner of the presentation list, tap **+ New Presentation**.
3. In the **New Presentation** dialog box, enter a name for the presentation.
   The name allows 1-32 characters, and cannot contain special characters #¥$.
4. Tap **Create**.
   The new presentation is displayed. You can then tap + at the lower left corner to add scenes for the presentation.

> You can create up to 50 presentations.



Renaming Presentations

1. At the upper right corner of the App, tap > Presentation.
2. In the presentation list, swipe a presentation to the left and tap **Rename**.
3. In the prompt dialog box, enter a new presentation name (1-32 characters, not containing special characters #¥$).
4. Tap **Done**.

Deleting Presentations

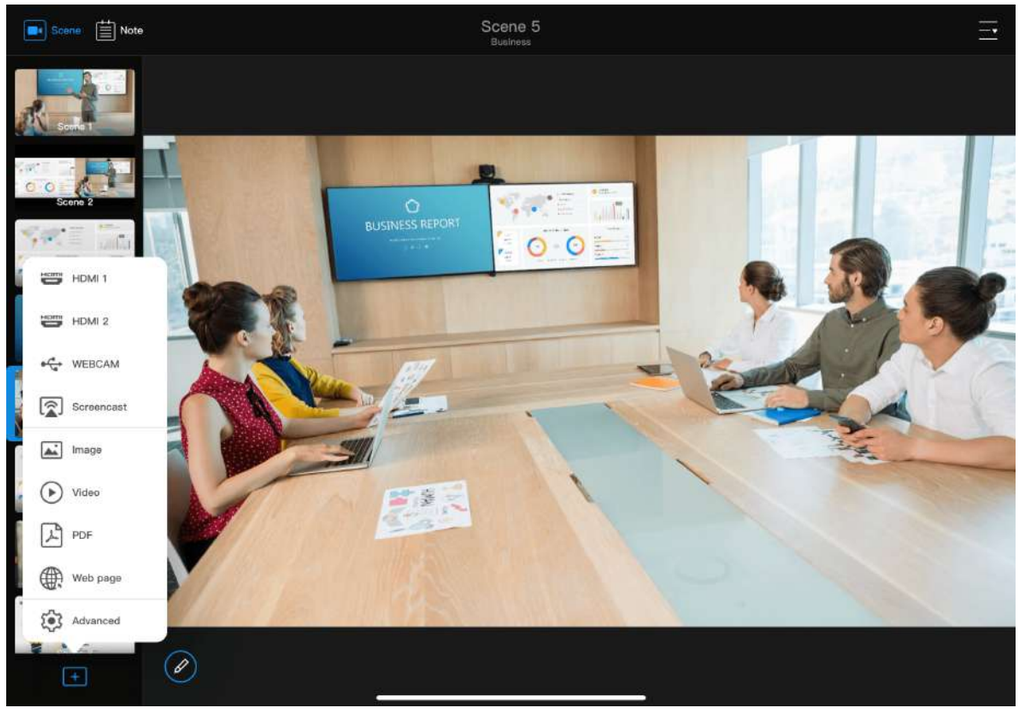
1. At the upper right corner of the App, tap > Presentation.
2. In the presentation list, swipe a presentation to the left and tap **Delete**.
3. In the popup, tap **Delete**.

- This operation only deletes the presentation, but does not delete any source.
- The presentation being presented cannot be deleted.

Switching Presentations

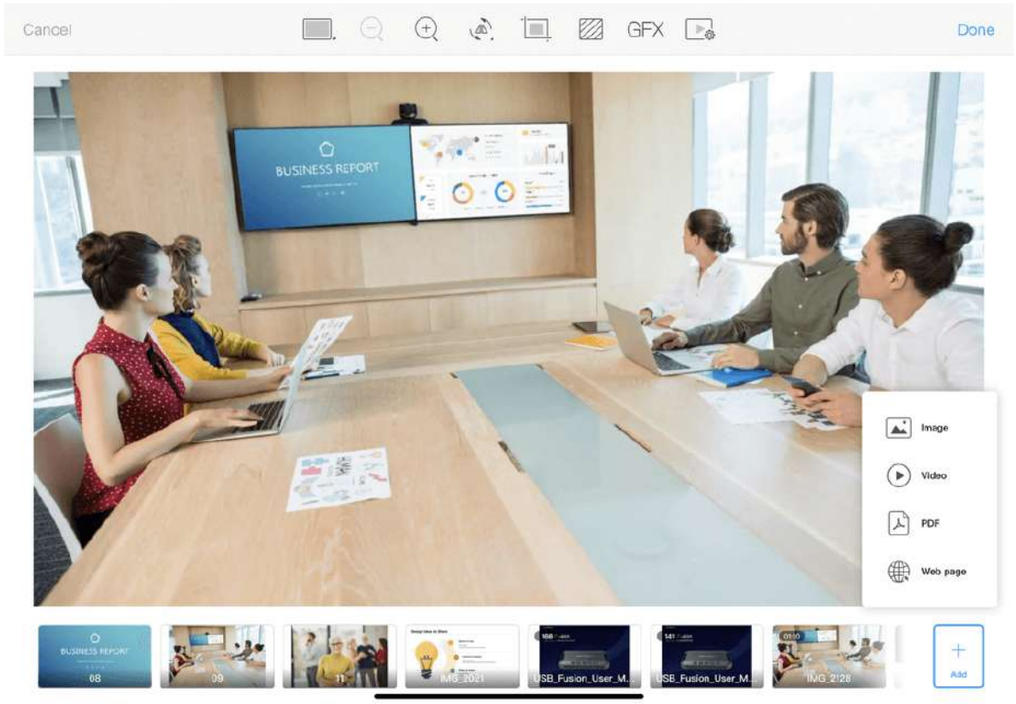
While presenting, you can seamlessly switch from one presentation to another.

1. At the upper right corner of the App, tap > Presentation.
2. In the presentation list, tap a presentation to switch to it.



Creating Scenes Quickly

1. At the lower left corner of the App, tap [+].
2. Select a source in the prompted menu to add. Then, the current scene displays the selected input source and a thumbnail appears in the scene list.
   - Captured images: tap HDMI 1, HDMI 2 or WEBCAM. The scene is named as HDMI 1, HDMI 2 or WEBCAM.
   - Screencast images: tap **Screencast**. The scene is named as Screencast.
     - If there is no screencast source connected, the current scene displays the screencast guide, following which you can start casting. A clearer guide will be displayed on the screen connected to the HDMI OUT port. For details, refer to Screencast.
     - If some screencast source is connected, the current scened displays the screencast content.
   - Image/Video/PDF: tap **Image**, **Video** or **PDF** to open the Media page. Tap **+ Upload** at the bottom to import files, and then select a file in the Media page. The scene is named with the name of the corresponding media file.
     Tap **Image**, **Video** or **PDF** tab to switch.
   - Web page: tap **Web page**, enter a URL in the address bar and then tap the Enter key. The scene is named as "Scene X".
   - More functions: tap **Advanced**, then you can import more videos/pictures/PDFs, add more webpages, create more scenes,



including single-view scene, picture-in-picture scene and side-by-side scene, and also edit scenes, such as scale, crop, and flip.

3. Repeat above steps to create more scenes.

Importing Video/Picture/PDF

Video/picture/PDF files must first be imported to USB Fusion before you can use them in your presentations.

In the App, you can import files from the local system album or other supported locations (such as cloud storage). Imported videos/pictures/PDF can be added to different presentations.

> You can also use the Web UI to import video/picture/PDF resources to USB Fusion. For details, see Managing the Media Files.

Importing on iOS Devices

On an iOS device, you can import files from the local system album and other locations including cloud storage, file server, and connected devices.

1. At the bottom of the scene list, tap [+].
2. Select **Image**, **Video** or **PDF** to open the corresponding Media page.
   Tap **+ Upload** at the bottom.
   Tap **Image**, **Video** or **PDF** tab to switch.
3. Or tap **Advanced** to open the scene editing page, tap **Add** at the lower right corner, and select **Image**, **Video** or **PDF**.
4. Tap one of the following to access files:
   - **Album**: videos or pictures in the iOS system album

- **Imported**: files already imported to the USB Fusion App

  > If you need to delete a resource, long-press the resource and tap the delete button. It only deletes the file in the App, but does not delete the file from the USB Fusion device.

- **Locations**: other files that can be accessed by the iOS system, including files on the iPad, cloud storage (such as Box, Dropbox), file servers and connected devices (such as USB flash drives and SD cards). The following describes how to access cloud storage. For methods to access other locations, see Apple Website.
  When importing files from cloud storage, tap **Browse** (at the top or bottom, depending on the iOS version), and tap a cloud storage app under **Locations** to select a file.
  - If you import from iCloud Drive, you need to first enable iCloud Drive. For details, see How to import a resource from iCloud Drive.
  - If you import from other cloud storage, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

    > Only the cloud storage apps that allow the system to manage will be displayed under **Locations**. If a cloud storage app does not grant the management right to the File App, you cannot import files from the cloud storage using this method.

5. Tap a file to import.
   Supported formats: MOV, MP4 video file; JPEG, PNG, BMP image file
   The files will be imported to the storage of the connected USB Fusion device. Imported files will be appended to the rightmost of the thumbnail list at the bottom of the scene editing page.

   > The same resource cannot be imported for a second time.

6. (Optional) Repeat the above steps to import more files.

Importing on Android Devices

On an Android device, you can import a local file or a file from cloud storage.

1. At the bottom of the scene list, tap ＋.
2. Select **Image**, **Video** or **PDF** to open the corresponding Media page.
   Tap **+ Upload** at the bottom.
   Tap **Image**, **Video** or **PDF** tab to switch.
3. Or tap **Advanced** to open the scene editing page, tap **Add** at the lower right corner, and select **Image**, **Video** or **PDF**.
4. Tap the menu icon at the upper left corner, and tap an item in the **Open File** list.
   The **Open File** list contains local files and cloud storage services.
   When importing from a cloud storage service, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

> Only the cloud storage apps that allow the system to manage will be displayed under the **Open File** list. If a cloud storage app does not grant the management right to the File App, you cannot import files from the cloud storage using this method. The interface may change with different device type.

5. Tap a file to import.
   Supported formats: MOV, MP4 video file; JPEG, PNG, BMP image file
   The files will be imported to the storage of the connected USB Fusion device. Imported files will be appended to the rightmost of the thumbnail list at the bottom of the scene editing page.

   > The same resource cannot be imported for a second time.
   > If you want to cancel importing files, tap the system back button to go back.

6. (Optional) Repeat the above steps to import more files.

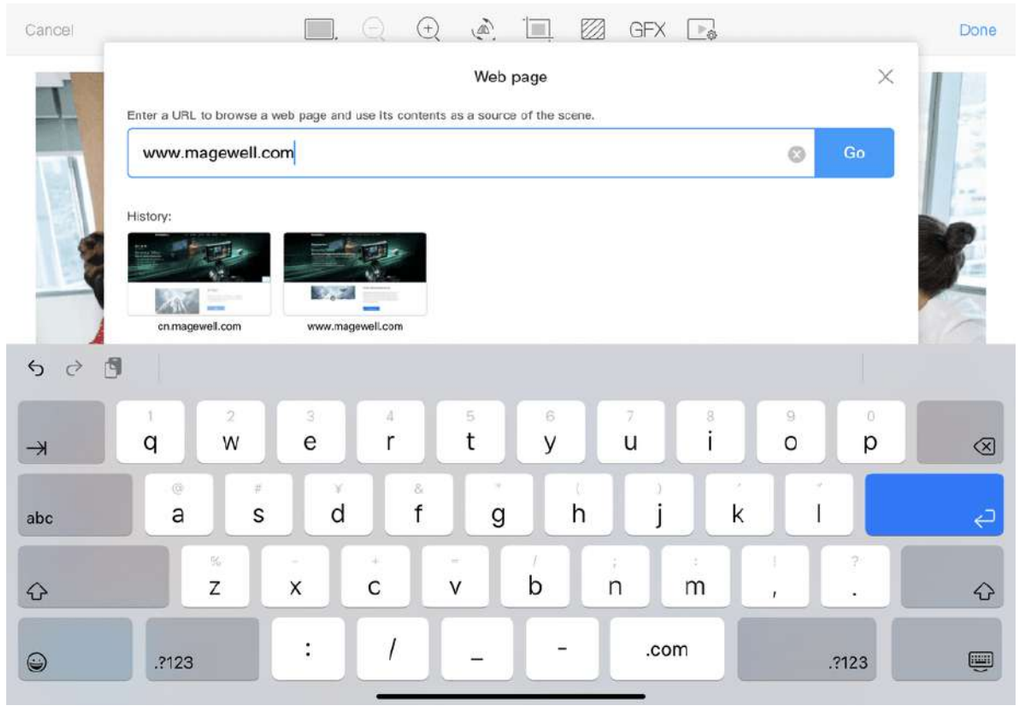
Deleting Video/Picture/PDF

You can delete the imported video/picture/PDF resource on the App.

1. At the bottom of the scene list, tap .
2. Select **Image**, **Video** or **PDF** to open the corresponding Media page.
   Tap **Image**, **Video** or **PDF** tab to switch.
3. Long press a file thumbnail, and tap .
4. Tap **Delete** on the popup.

> You cannot delete the system resource and the resource which is

being used by the current scene.



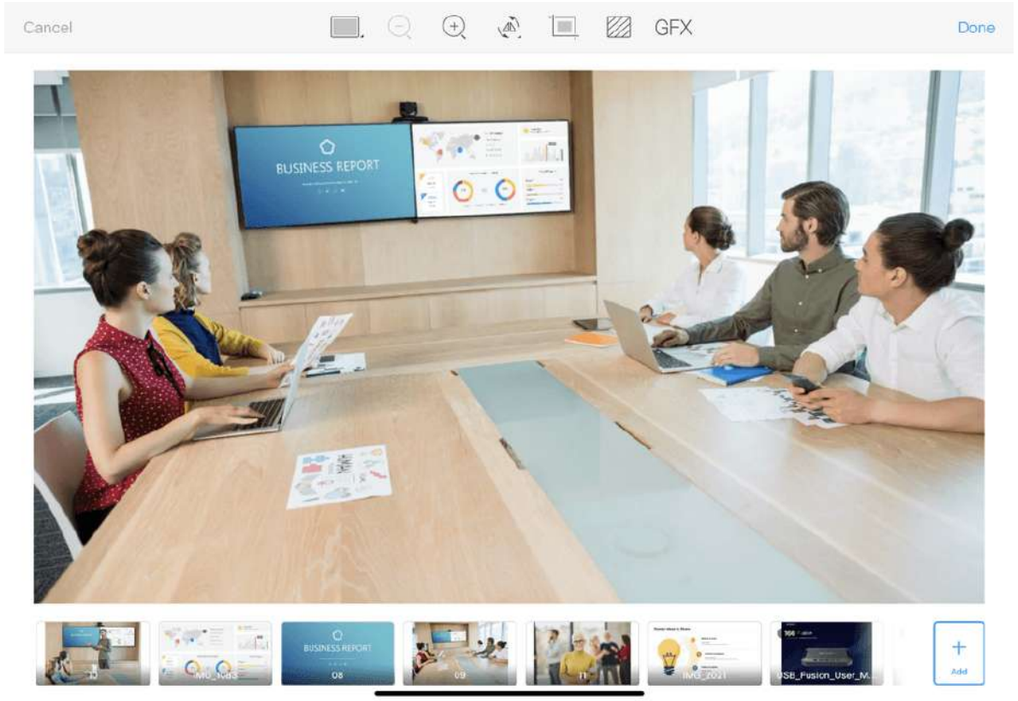
Adding Web Pages

To use web pages in your presentation, you can add web pages through creating scenes quickly or through the following way.

1. At the bottom of the scene list, tap ＋.
2. Tap **Advanced** on the popup menu to open the scene editing page.
3. Tap **Add** at the lower right corner, and select **Web page**.
4. Enter a URL in the popup window, and tap **Go** or the Enter key. The added web page will be appended to the rightmost of the thumbnail list at the bottom of the scene editing page.
5. (Optional) Repeat steps above to add more web pages.

   History lists all the web pages added through creating scenes quickly and the method above. You can select one history web page to add.
6. To delete, long press a history web page, tap , and then tap **Delete** on the popup.

You cannot delete the resource which is being used by the current scene.

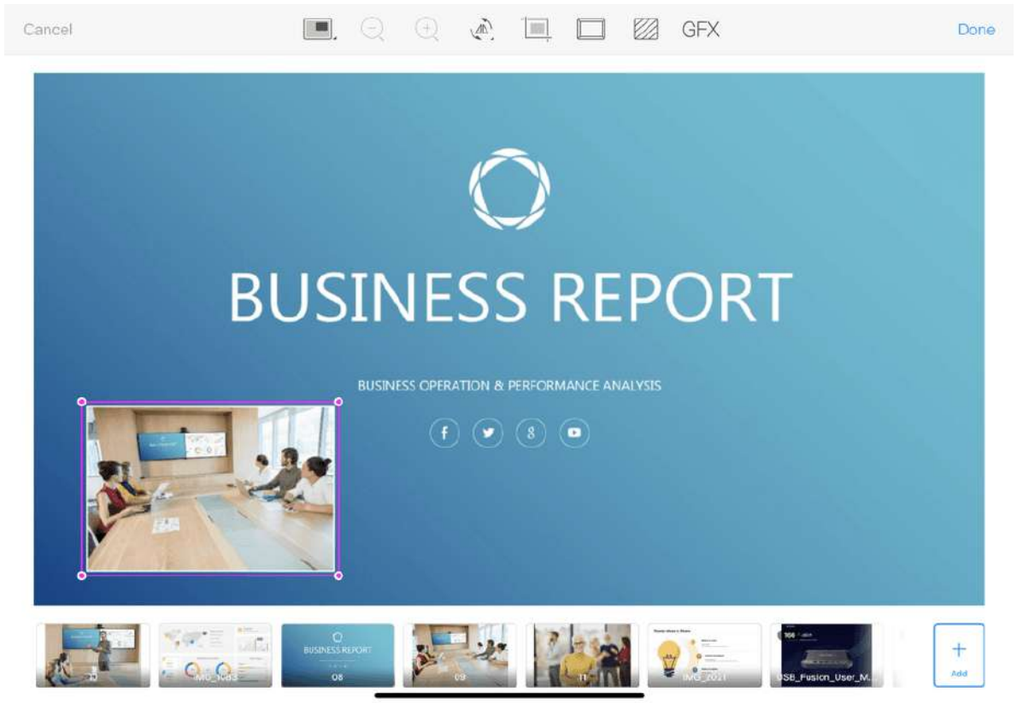


Creating Scenes

USB Fusion App supports to make presentations with captured images, imported video, picture and PDF files, as well as added web pages. You can tap [+] at the lower left corner of the App, and select a source to creat scenes quickly, or tap **Advanced** to open the scene editing page to create single-view, picture-in-picture, and side-by-side scenes.

Creating a Single-View Scene

1. At the bottom of the scene list, tap [+].
2. Tap **Advanced** on the popup menu.
3. On the scene editing page, tap a thumbnail at the bottom, or drag the thumbnail to the canvas area. You can also tap [▭] on the top, select [▭] Single View, and then select a source at the bottom.
4. Use gestures or the tools at the upper part of the page to edit the scene, such as scaling, rotating, flipping, and cropping.
   For details, see Editing a Scene.
5. Tap **Done** at the upper right corner.
   The added scene will be displayed in the scene list and named as **Scene X**.
6. (Optional) Repeat the above steps to add more scenes.

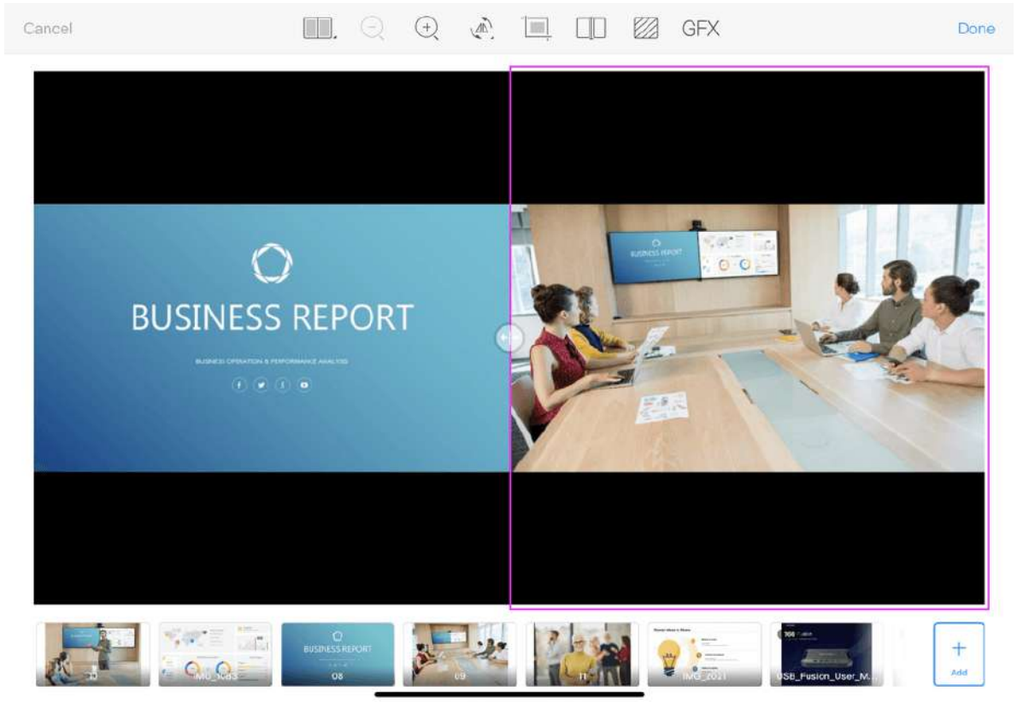


Creating a Picture-in-picture (PIP) Scene

1. At the bottom of the scene list, tap [+].
2. Tap **Advanced** on the popup menu.
3. At the top of the scene editing page, tap [▭] and then tap [▣].
4. Tap within the big frame in the canvas, and tap a thumbnail at the bottom to add it as the big picture.
   You can also drag the thumbnail to the big frame.
5. Tap within the small frame, and tap a thumbnail at the bottom to add it as the small picture.
   You can also drag the thumbnail to the small frame.
   The small picture is at the lower left corner by default and retains the aspect ratio of the source.

   > In one scene, a source can be added to only one frame. Only one of the two frames can contain a video file, PDF or web page sources. It means that any two of video file, PDF or web page sources cannot be combined as a picture-in-picture scene.
6. Tap within either frame, and use gestures or the tools at the upper part of the page to edit the scene.
   For editing details, see Editing a Scene.

1. Tap **Done** at the upper right corner.
   The added scene will be displayed in the scene list and named as **Scene X**.
2. (Optional) Repeat the above steps to add more scenes.



Creating a Side-by-side Scene

1. At the bottom of the scene list, tap [+].
2. Tap **Advanced** on the popup menu.
3. At the top of the scene editing page, tap [▭], and then tap [▭▭].
   By default the scene is evenly divided into two frames, with a [⇹] button in between.
4. Tap within either frame, and tap a thumbnail at the bottom.
   You can also drag the thumbnail to the frame.

   > In one scene, a source can be added to only one frame. Only one of the two frames can contain a video file, PDF or web page sources. It means that any two of video file, PDF or web page sources cannot be combined as a side-by-side scene.

5. Tap within either frame, and use gestures or the tools at the upper part of the page to edit the scene.
   For editing details, see Editing a Scene.

1. Tap **Done** at the upper right corner.
   The added scene will be displayed in the scene list and named as **Scene X**.
2. (Optional) Repeat the above steps to add more scenes.



Editing a Scene

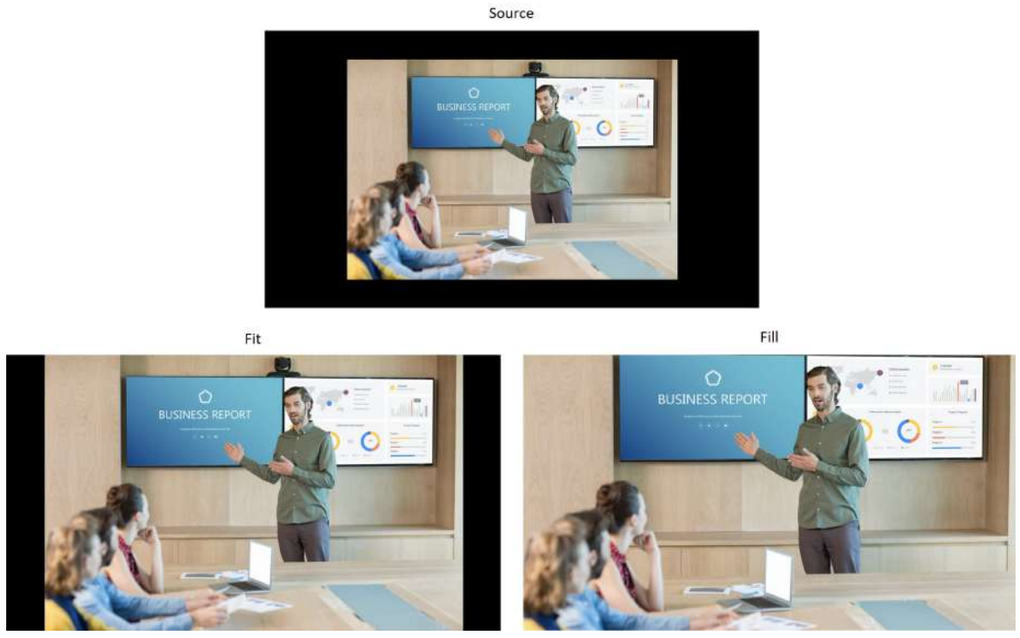
USB Fusion provides common editing tools. You can edit a scene when you are creating it through the **Advanced** option, or after you added it.

1. In the scene list, long press a thumbnail or tap ••• at the upper right corner of the thumbnail.
2. In the displayed menu, tap **Edit**.
3. Use gestures or the scene editing tools at the upper part of the page to edit the scene. Supported tools include:

   - Fit & Fill
   - Scale Up & Down
   - Rotate
   - Flip
   - Crop
   - Change Scene Background
   - Add GFX
   - Edit the Small Frame
   - Scale the Small Picture
   - Change the Small Picture Position
   - Edit the Separator
   - Change the Side-by-side Ratio
   - Edit the Video
   - Enable PTZ Control

4. Tap **Done** at the upper right corner to save the editing.

> For a PDF or web page source, the Rotate, Flip and Crop tools are not available.



Fit & Fill

The canvas size is 1920x1080, and its aspect ratio is 16:9. When a source has black borders around or at both sides, you can double-tap to switch between the Fit and Fill modes.

- Fit means that the source will be proportionally scaled to the maximum that can be completely contained in the canvas. There might still be black borders at the upper/down side or left/right side.
- Fill means that the source will be proportionally scaled so that it exactly fills the canvas with no black border, and its excess part outside the canvas will be cropped.

Scale Up & Down

You can use scaling tools or gestures to scale sources.

- When a source is larger than the canvas (1920x1080), it will be automatically scaled down to be fully shown in the canvas.
- The small picture in a PIP layout does not support this operation. If you need to scale the small picture, you can refer to scale the small picture.

Using the Scaling Tools

1. On the canvas, tap a source. Skip this step for a single-view scene.
2. Tap or long press the scaling tools above the canvas.

-  : scale up. Tapping once scales up by 1%, while long pressing continuously scales up the source.
  After scaling up, you can scroll up/down or right/left to choose the section you want to show.
-  : scale down. Tapping once scales down by 1%, while long pressing continuously scales down the source.
  You cannot further scale down when the source reaches its initial size on the canvas.

Using Gestures

Place two fingers on the source to be scaled, and move the two fingers apart to scale up. After scaling up, you can scroll up/down or right/left to choose the section you want to show.

Pinch the two fingers to scale down. You cannot further scale down when the source reaches its initial size on the canvas.

Before Flip



After Flip



Rotate

You can rotate a source by 90 / 180 / 270 degrees.

1. On the canvas, tap a source to rotate. Skip this step for a single-view scene.
2. Tap the  button above the canvas.
3. Select rotating tools in the popup menu.
   -  : Each tap rotates the source to the left by 90 degrees.
   -  : Each tap rotates the source to the right by 90 degrees.

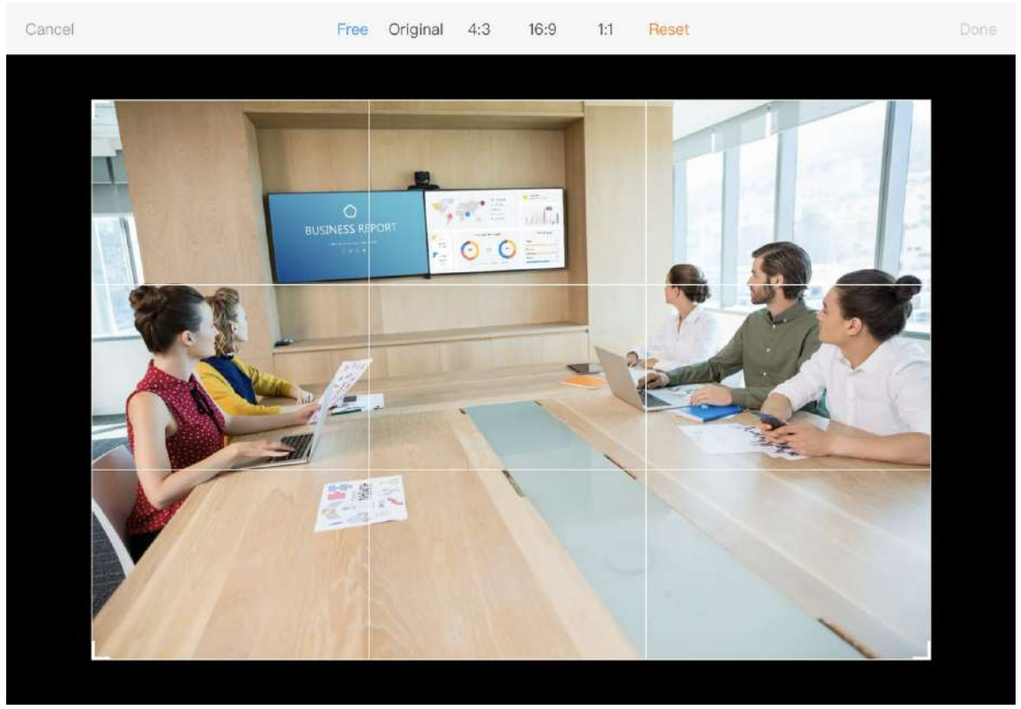
> For a PDF or web page source, this tool is not available.

Flip

When the text in your source is in reverse order, you can use the flip tools to revert the source.

1. On the canvas, tap a source to flip. Skip this step for a single-view scene.
2. Tap the  button above the canvas.
3. Select flip tools in the popup menu.
   -  : flip horizontally
   -  : flip vertically

> For a PDF or web page source, this tool is not available.

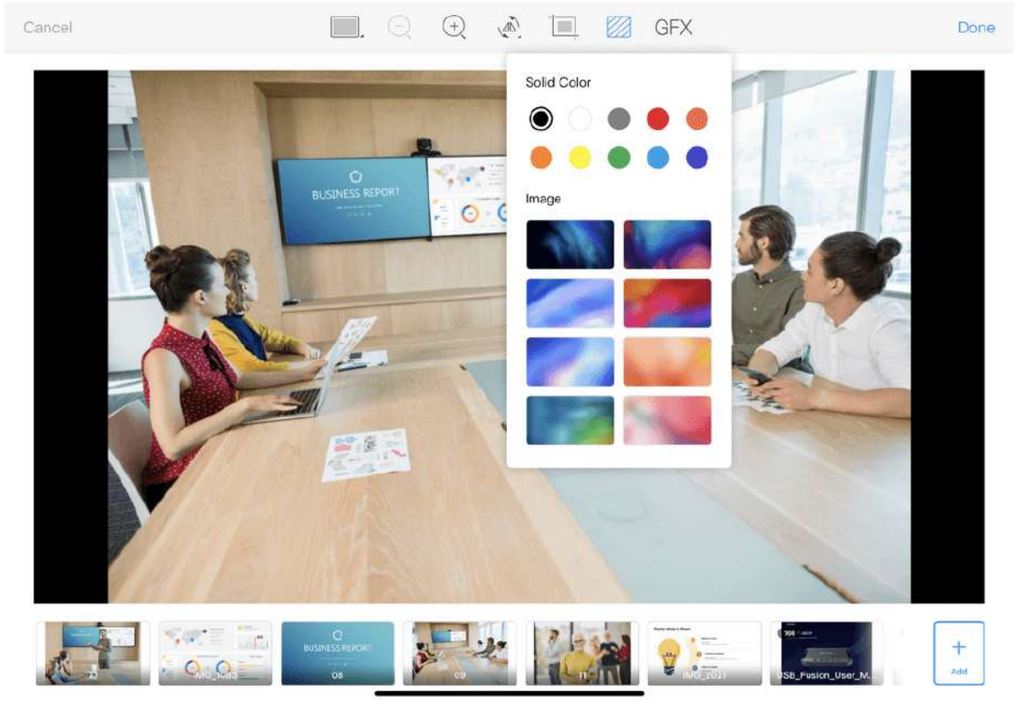


Crop

The cropping tool can crop out unnecessary parts of a source or crop the source to a desired aspect ratio.

1. On the canvas, tap a source to crop. Skip this step for a single-view scene.
2. Tap the cropping tool above the canvas to access the cropping page.
3. At the upper part on the cropping page, select a cropping aspect ratio. By default, the **Free** aspect ratio is used, which allows you to crop at any aspect ratio.
4. Drag a corner or border of the crop frame to select the part you want to retain.
   You can also drag within the crop frame to move the crop frame around.
   If you want to cancel the current cropping, tap **Reset** to revert to the original source.
5. Tap **Done** at the upper right corner.

- When you enter the cropping page for a second time after first cropping, you still crop based on the original source.
- For a PDF or web page source, this tool is not available.



Change Scene Background

By default, a scene has a black background. You can change the background.

1. Tap the background tool above the canvas.
2. In the drop-down box, select a color or image.
   You can add more images, and please refer to the following content

Importing Background Images on iOS Devices

On an iOS device, you can import files from the local system album and other locations including cloud storage, file server, and connected devices.

1. Tap the background tool above the canvas.
2. In the drop-down box, scroll up the image list to the bottom, and tap the add button **+**.
3. Tap one of the following to access files:
   - **Album**: pictures in the iOS system album
   - **Imported**: pictures already imported to the USB Fusion App

     > If you need to delete a resource, long-press the resource and tap the delete button. It only deletes the file in the App, but does not delete the file from the USB Fusion device.

   - **Locations**: other files that can be accessed by the iOS, including files on the iPad, cloud storage (such as Box, Dropbox), file servers and connected devices (such as USB flash drives and SD cards). The following describes how to access cloud storage. For methods to access other locations, see Apple Website.
     When importing files from cloud storage, tap **Browse** (at the top or

bottom, depending on the iOS version), and tap a cloud storage app under **Locations** to select a file.

- If you import from Cloud Drive, you need to first enable iCloud Drive. For details, see How to import a resource from iCloud Drive.
- If you import from other cloud storage, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

  > Only the cloud storage apps that allow the system to manage will be displayed under **Locations**. If a cloud storage app does not grant the management right to the File App, you cannot import files from the cloud storage using this method.

4. Tap a file to import.
   Supported formats: JPEG, PNG, BMP
   The files will be imported to the storage of the connected USB Fusion device. The imported resource will show in the image list. You can manage the imported files on the Web UI. For details, see Managing Pictures.

   > The same resource cannot be imported for a second time.

5. (Optional) Repeat the above steps to import more files.

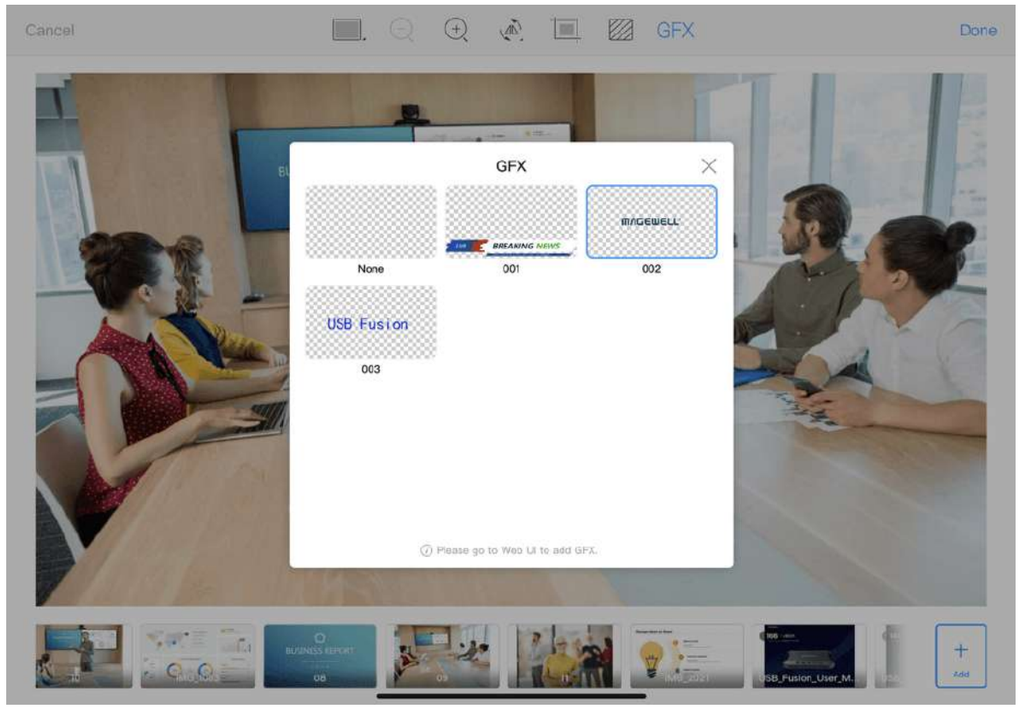
Importing Background Images on Android Devices

On an Android device, you can import a local file or a file from cloud storage.

1. Tap the background tool  above the canvas.
2. In the drop-down box, scroll up the image list to the bottom, and tap the add button **+**.
3. Tap the menu icon at the upper left corner, and tap an item in the **Open File** list.
   The **Open File** list contains local files and cloud storage services. When importing from a cloud storage service, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

   > Only the cloud storage apps that allow the system to manage will be displayed under the **Open File** list. If a cloud storage app does not grant the management right to the File App, you cannot import files from the cloud storage using this method. The interface may change with different device type.

4. Tap a file to import.
   Supported formats: JPEG, PNG, BMP
   The files will be imported to the storage of the connected USB Fusion device. The imported resource will show in the image list. You can manage the imported files on the Web UI. For details, see Managing Pictures.



> The same resource cannot be imported for a second time.
> If you want to cancel importing files, tap the system back button to go back.

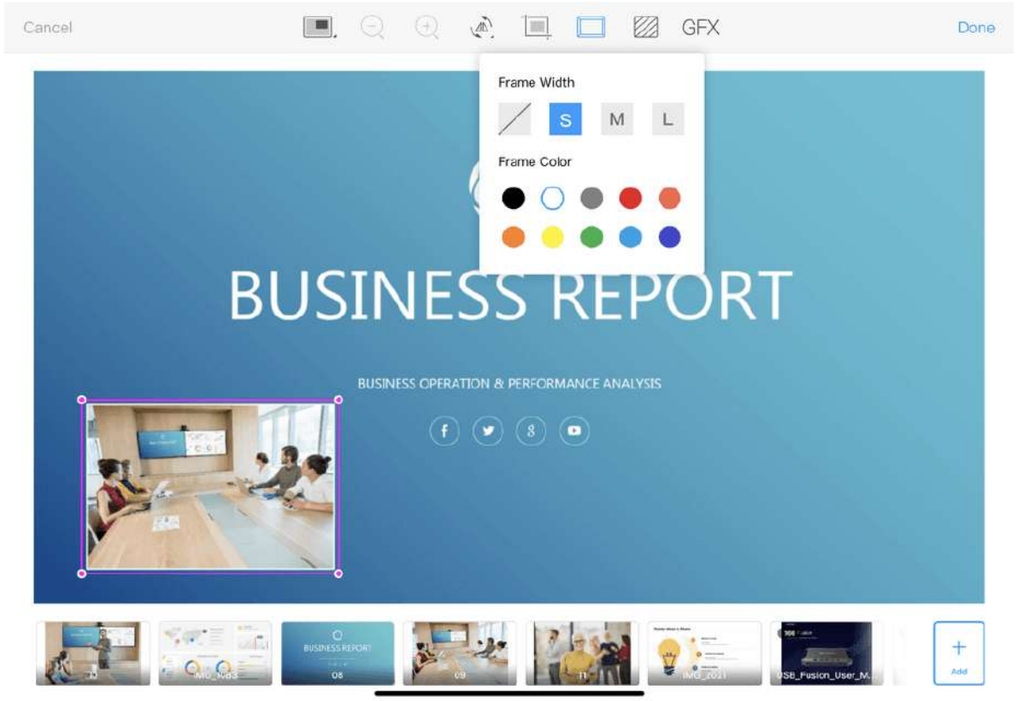
5. (Optional) Repeat the above steps to import more files.

Add GFX

You can add a GFX created on the Web UI to the editing scene, so as to bind it to the scene.

1. Tap the GFX button above the canvas.
2. Select a GFX on the popup page. The selected GFX is bound to the scene.
   If no GFX is created yet, you can create on the Web UI.
3. To cancel GFX binding, tap the GFX button and then select the thumbnail named as "None".

> The GFX bound to a scene will be displayed along with the scene. When you apply other GFX through the menu on Main UI or Web UI, it will not affect this GFX.



Edit the Small Frame

You can edit the frame of the small picture in a PIP layout. By default, the small frame is used.

1. Tap the small picture in a PIP layout.
2. Tap the frame tool above the canvas.
3. In the drop-down box, select the frame width. By default, the S (small) frame is used.
4. Select a frame color. The default color is white.
5. Tap outside the drop-down box to complete the editing.

Scale the Small Picture

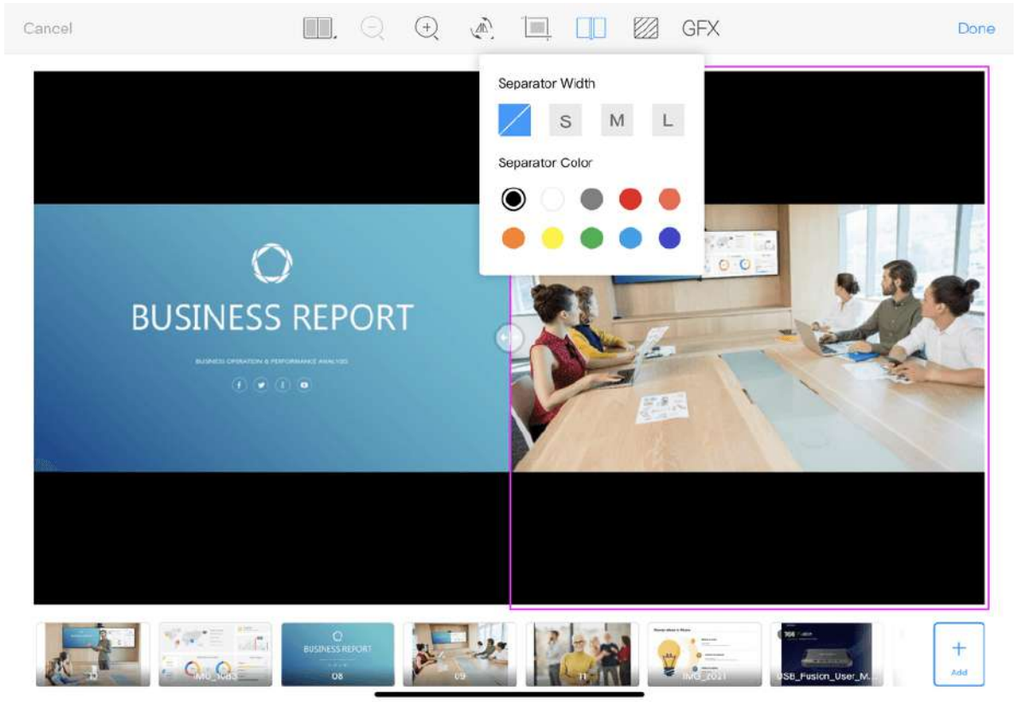
The small picture is 1/16 the size of the canvas by default. You can scale the picture to 1/4 the canvas size at most and 1/256 the canvas size at least.

1. Tap the small picture in a PIP layout.
2. Drag any of the four corners to scale up/down the picture.

Change the Small Picture Position

By default, the small picture is placed at the lower left corner of the canvas. You can drag the small picture to move it to any place within the canvas.

> You can also change the position of the small picture on the main UI page. Such change will not be saved, and it restores when you swiching scenes.



Edit the Separator

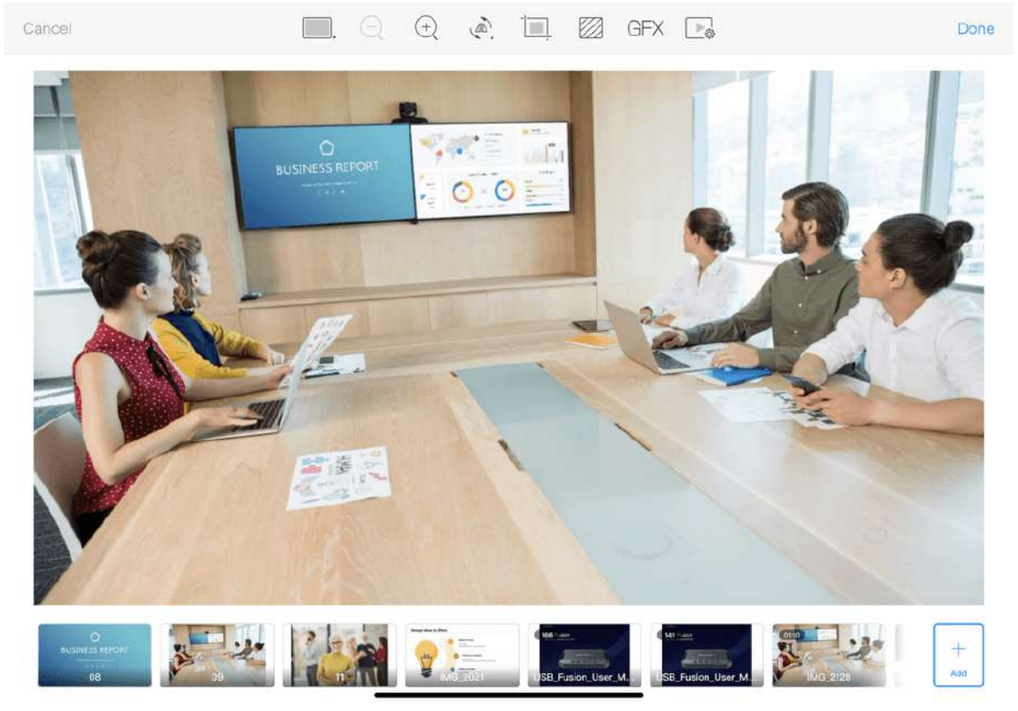
You can edit the separator for a side-by-side scene.

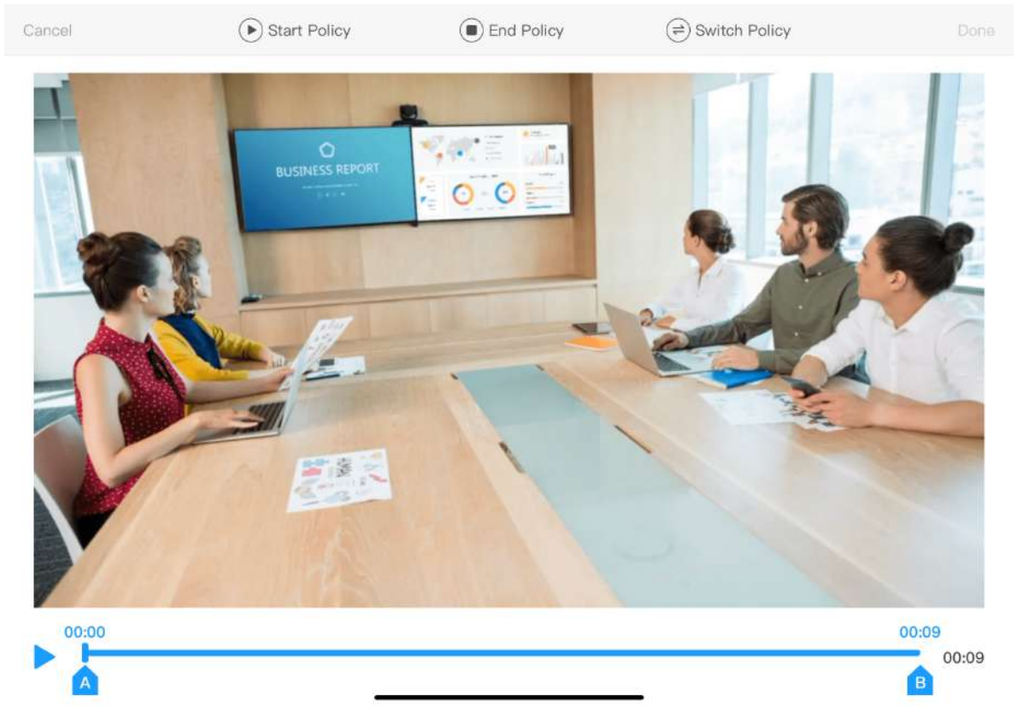
1. On a side-by-side scene, tap the left or right source.
2. Tap the separator tool above the canvas.
3. In the drop-down box, select a width for the separator. By default the separator is invisible.
4. Select a color for the separator. The default color is black.
5. Tap outside the drop-down box to complete the editing.

Change the Side-by-Side Ratio

By default, a side-by-side scene is evenly divided into two frames. You can drag the button to the left or right to change the ratio of the two sources. A source is at least 1/16 wide as the canvas.

> You can also change the proportion of the two side-by-side sources on the main UI page. Such change will not be saved, and it restores when you switching scenes.





Edit the Video

You can set playback policy and set in/out the video.

1. Select a single-view scene with a video source, or tap the video in a PIP or SBS scene.
2. Tap  above the canvas to open the video editing page.

Preview the video

- Tap  at the bottom to play the video.
- Tap  to pause the video.

Set in/out the video

- Drag  to set where the video should start.
- Drag  to set where the video should end.

Set playback policy

You can set the start policy, end policy and switch policy on the top of the video editing page.

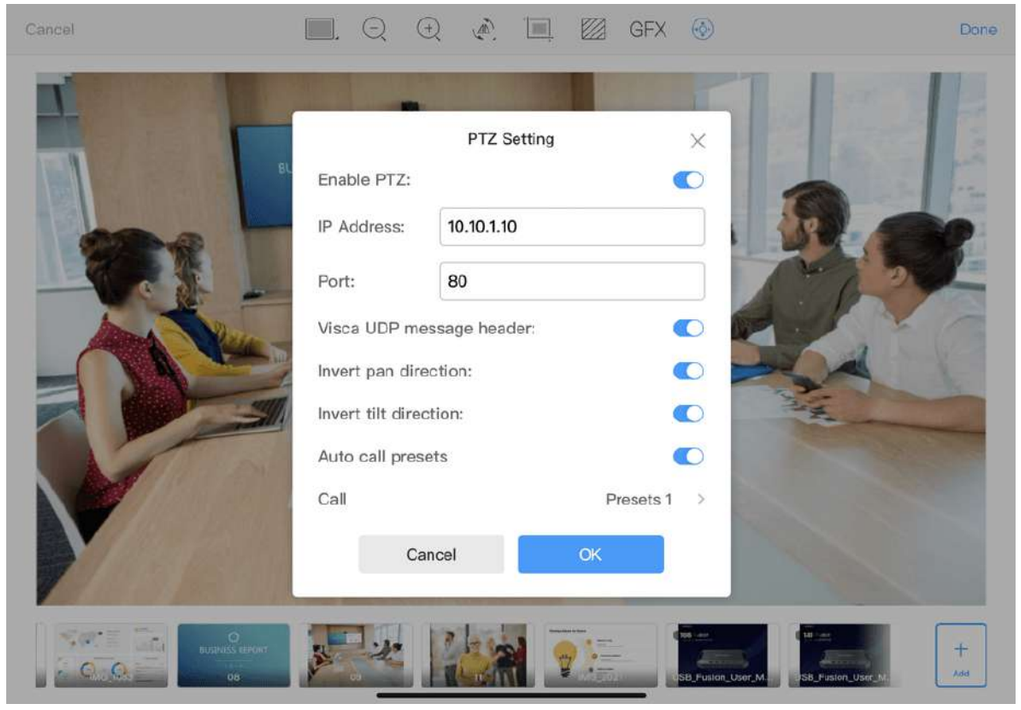
- **Start Policy**: Defines how video playback is started.
  - **Auto start**: Start to play the video automatically.
  - **Manual start**: Start to play the video when you tap the Play button.
- **End Policy**: Defines the action to take when the video playback is over.
  - **Go to black**: Video area turns black.
  - **Repeat video**: Plays the video repeatedly.
  - **Show last frame**: Stops the video and displays the last frame.
  - **Show first frame**: Stops the video and displays the first frame.
  - **Hide video**: Hides the video, which makes the video disappear from

the screen.

- **Switch to scene X**: Switches to the specified scene.

- **Switch Policy**: Defines how the video is continued if the scene is switched out to another scene and then back before the video playback ends.
  - **Pause video**: Keeps the progress where you left off.
  - **Rewind to start**: Rewinds to the start of video.

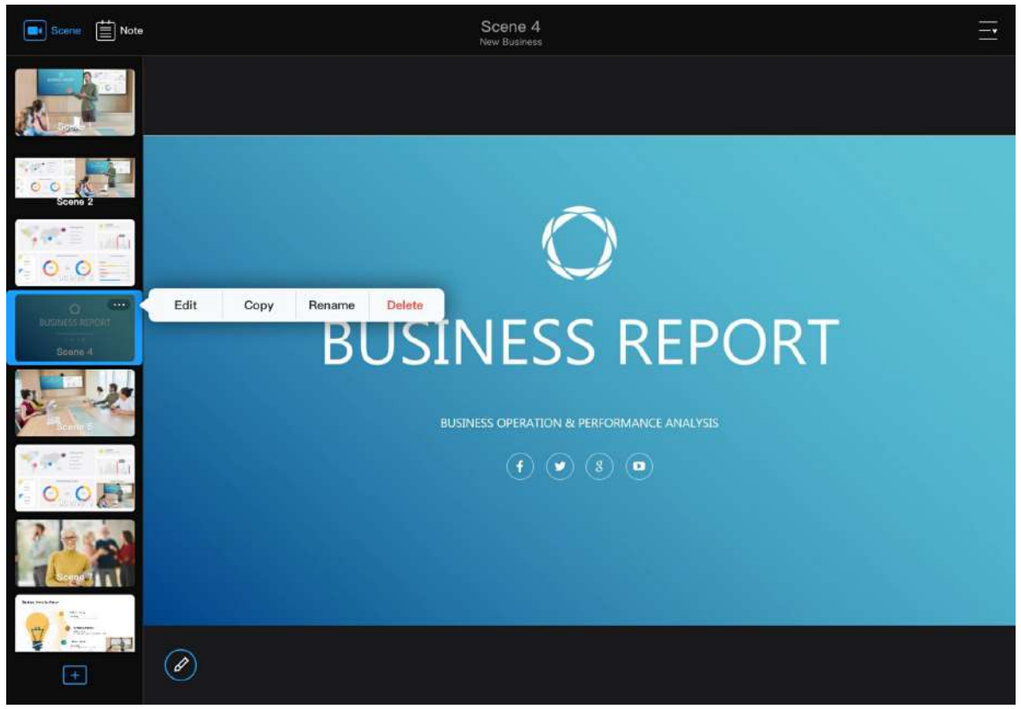
After you finish editing the video, tap **Done** at the upper right corner to go back to the scene editing page.



Enable PTZ Control

When the HDMI source is connected to a PTZ camera that supports the Visca protocol, you can enable the PTZ control function.

1. Tap the PTZ tool above the canvas.
2. Set the following properties on the popup page.
   - **Enable PTZ**: Toggle on to enable PTZ control.
   - **IP Address**: The IP address of your camera.
   - **Port**: Your camera's Visca protocol network port (Check the user manual of the camera or contact the manufacturer to get it).
   - **Visca UDP message header**: Toggle on this option if your camera's (e.g. SONY camera) communication protocol contains the Visca UDP header. Or else, the Director device may not be able to control the PTZ camera.
   - **Invert pan direction**: Toggle on to reverse the pan-direction movement. You can enable this option to make control more intuitive when the camera is not installed in the normal position.
   - **Invert tilt direction**: Toggle on to reverse the tilt-direction movement. You can enable this option to make control more intuitive when the camera is not installed in the normal position.
   - **Auto call presets**: Toggle on and select a preset. When the scene is switched to program, the camera moves to the selected preset position automatically. For how to set presets, please refer to Controlling PTZ Camera.



Copying a Scene

You can copy a scene to create a new scene. The new scene will retain the properties of the original scene.

1. In the scene list, long press a thumbnail or tap ••• at the upper right corner of the thumbnail.
2. In the displayed menu, tap **Copy**.
   The new scene will be copied next to the original scene and named *Source scene name (number)*.

Renaming a Scene

1. In the scene list, long press a thumbnail or tap ••• at the upper right corner of the thumbnail.
2. In the displayed menu, tap **Rename**.
3. In the **Rename** dialog box, enter a new name (32 characters at most).
   If you set it as null, it is named as "Scene X".
4. Tap **Done**.

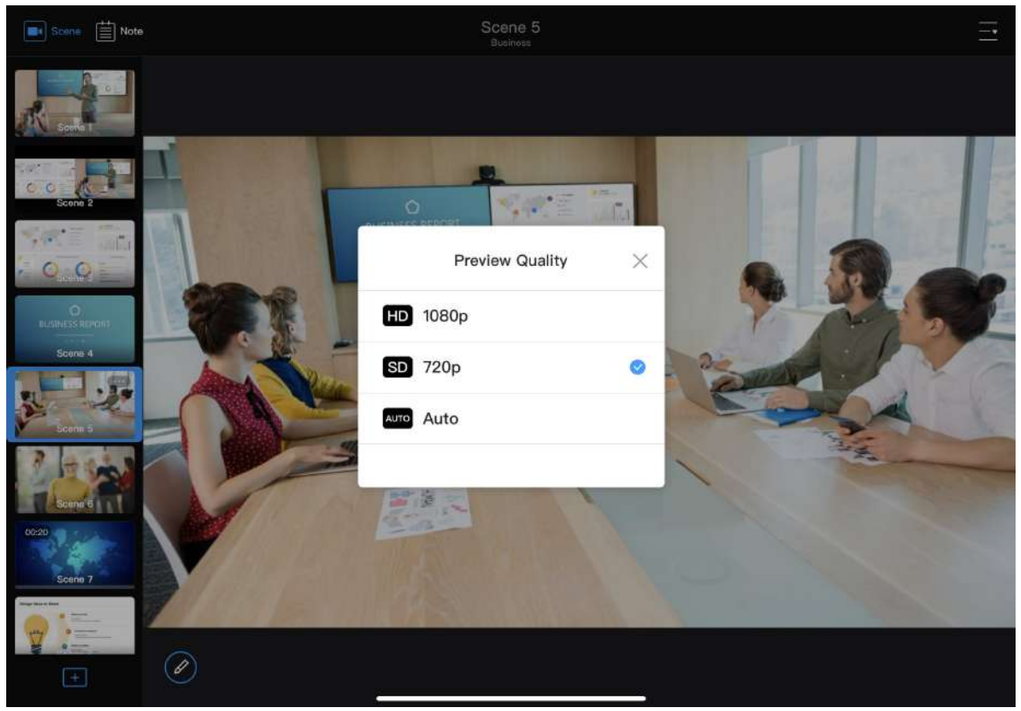
Deleting a Scene

1. In the scene list, long press a thumbnail or tap ••• at the upper right corner of the thumbnail.
2. In the displayed menu, tap **Delete**.
3. In the displayed dialog box, tap **Delete**.

Sorting Scenes

The scenes are ordered by their creation time by default. You can also sort the scenes.

1. Scroll up and down the scene list to view thumbnails.
2. Long press a thumbnail and drag it to a desired position.



Selecting Preview Quality

Preview Quality is the quality of scenes you see on the App. You can select according to the network condition. A higher quality requires more network bandwidth.

You can also set preview quality on the Web UI.

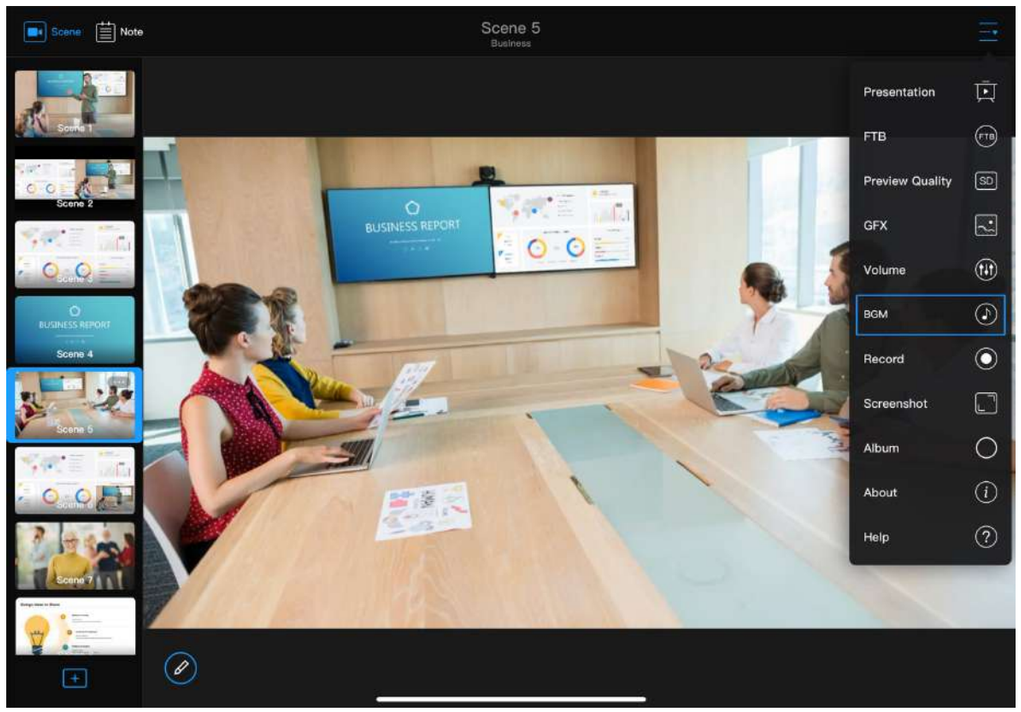
1. On the upper right corner of the App, tap > **Preview Quality**.
2. On the popup, select **1080p**, **720p** (default) or **Auto** (Automatically adjust the quality according to the network condition).

> If you set a custom quality on the Web UI, the preview quality on the App will also change accordingly. You cannot select or set custom quality on the App.

Creating Background Music

You can add background music to your presentation. You can also add other audio materials, such as listening materials for a lesson.

When creating background music, you need to first import the music into USB Fusion, and then add them to your presentation. All the scenes in a presentation share the same background music list.



Importing Background Music

In the App, you can import music to the connected USB Fusion device. Imported music can be added to different presentations.

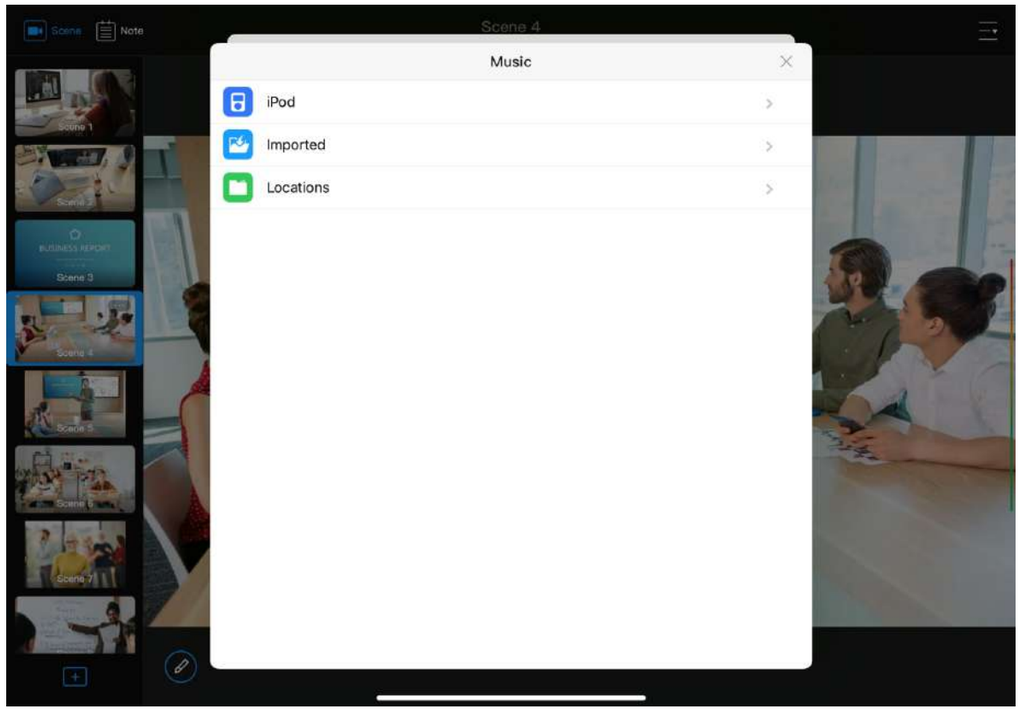
> You can also import music on the Web UI, and manage the imported files. Please refer to Managing Music.

Importing on iOS Devices

On an iOS device, you can import files from the local system and other locations including cloud storage, file server, and connected devices.

1. At the upper right corner of the App, tap > **BGM**.
2. At the bottom of the playlist, tap **+ Add**.
   This opens the **Media** list, which shows the music that has been imported to the connected USB Fusion device.
3. At the bottom, tap **+ Upload**.
4. Tap one of the following to access files:
   - **iPod**: music stored in the local iOS system
   - **Imported**: music that has been imported to the App

   > If you need to delete a music item, swipe an item to the left



and tap the delete button. It only deletes the file in the App, but does not delete the file from the USB Fusion device.

- **Locations**: other files can be accessed by the iOS, including files on the iPad, cloud storage (such as Box, Dropbox), file servers and connected devices (such as USB flash drives and SD cards). The following describes how to access cloud storage. For methods to access other locations, see Apple Website.
  When importing files from cloud storage, tap **Browse** (at the top or bottom, depending on the iOS version), and tap a cloud storage app under **Locations** to select a file.
  - If you import from Cloud Drive, you need to first enable iCloud Drive. For details, see How to import a resource from iCloud Drive.
  - If you import from other cloud storage, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

    Only the cloud storage apps that allow the system to manage will be displayed under **Locations**. If a cloud storage app does not grant the management right to the File App, you cannot import files from the cloud storage using this method.

5. Tap a file to import.
   Supported formats: MP3, M4A, WAV
   The source will be imported to the storage of the connected USB

Fusion device. The imported file will show on the media list. You can manage imported music on the Web UI. For details, see Managing Music.

> The same resource cannot be imported for a second time.

6. (Optional) Repeat the above steps to import more files.

Importing on Android Devices

On an Android device, you can import a local file or a file from cloud storage.

1. At the upper right corner of the App, tap  >  **BGM**.
2. At the bottom of the playlist, tap **+ Add**.
   This opens the **Media** list, which shows the music that has been imported to the connected USB Fusion device.
3. At the bottom, tap **+ Upload**.
4. Tap the menu icon at the upper left corner, and tap an item in the **Open File** list.
   The **Open File** list contains local files and cloud storage services. When importing from a cloud storage service, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

   > Only the cloud storage apps that allow the system to manage will be displayed under the **Open File** list. If a cloud storage app does not grant the management right to the File App, you

> cannot import files from the cloud storage using this method.
> The interface may change with different device type.

5. Tap a file to import.
   Supported formats: MP3, M4A, WAV
   The file will be imported to the storage of the connected USB Fusion device. The imported file will show on the media list. You can manage imported music on the Web UI. For details, see Managing Music.

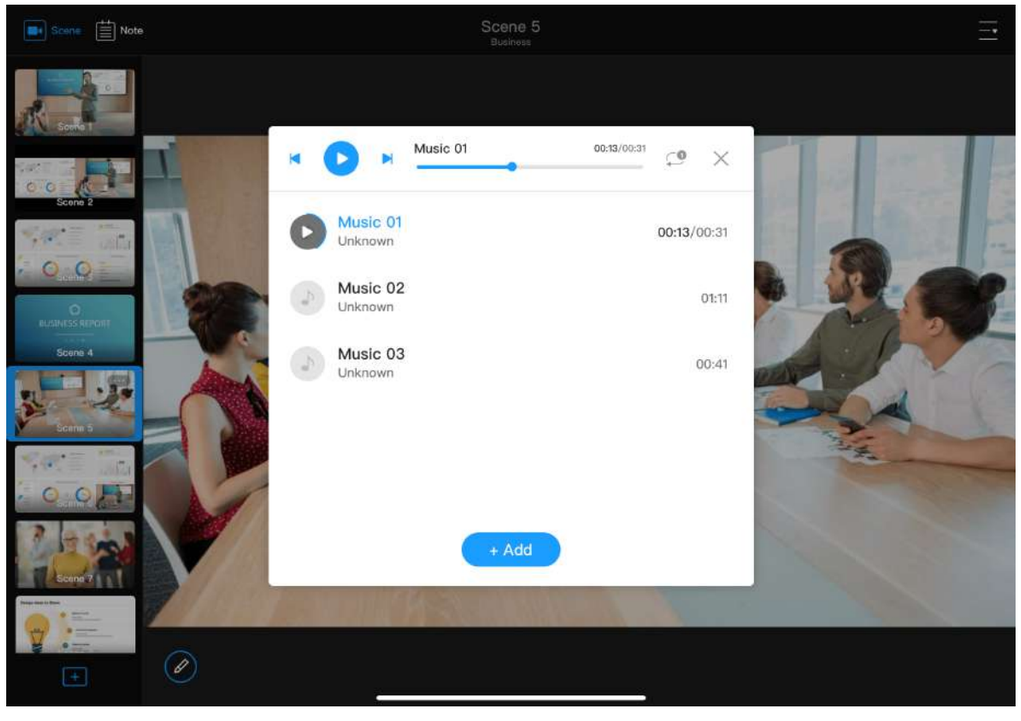
   > The same resource cannot be imported for a second time.
   > If you want to cancel importing files, tap the system back button to go back.

6. (Optional) Repeat the above steps to import more files.

Deleting Music File

1. At the upper right corner of the App, tap > **BGM**.
2. At the bottom of the playlist, tap **+ Add**.
   This opens the **Media** list, which shows the music that has been imported to the connected USB Fusion device.
3. Swipe an item to the left and tap the **Delete** button.
4. Tap **Delete** on the popup.

> The resource which is being played cannot be deleted.



Adding Background Music

You can add music imported to the USB Fusion to your presentation.

1. At the upper right corner of the App, tap > **BGM**.
2. At the bottom of the playlist, tap **+ Add**.
   This opens the **Media** list, which shows the music that has been imported to the connected USB Fusion device.
3. In the **Media** list, tap an item. This item will be added to the playlist.

Controlling Background Music Playback

While presenting, you can control the playback of background music, including selecting songs, pause/resume, previous/next song, and setting the playback policy.

1. At the upper right corner on the App Main UI, tap > **BGM**.
2. In the playlist, tap a song to play.
3. In the playback control bar above the playlist, you can:
   - Tap to play or to pause.
   - Tap to play the previous song or to play the next song.
   - Drag the playhead to a specified position.
   - Tap the button next to the playback progress bar to set the playback policy:
     - : play by order
     - : shuffle the list
     - : repeat the list
     - : repeat a single song

Sorting Background Music

1. At the upper right corner of the App, tap > **BGM**.
2. In the playlist, long-press an item and move it up or down.

Deleting Background Music

1. At the upper right corner of the App, tap > **BGM**.
2. In the playlist, swipe an item to the left and tap the **Delete** button.

> It will not delete the imported source.

Producing a Presentation

When using the USB Fusion to present, you can perform a series of operations to produce your presentation, such as switching scenes, annotating, and playing music.

The following describes how to use the App to produce a presentation. Some functions are also available on the Web UI. For details, see Creating and Managing Presentations.



Switching Scenes

You can use the USB Fusion App to switch between scenes in a presentation in real time.

Tap a thumbnail in the left scene list to switch to it.

> You can also switch scenes on the Web UI. For details, see Switching Scenes.

Hiding/Showing the Scene List

You can flexibly choose whether to hide the scene list, which allows a larger preview area to display a scene more fully.

- Hide the scene list: Tap  at the upper left corner, or swipe the scene list to the left.
- Show the scene list: Tap  at the upper left corner, or swipe from the leftmost of the page to the right.

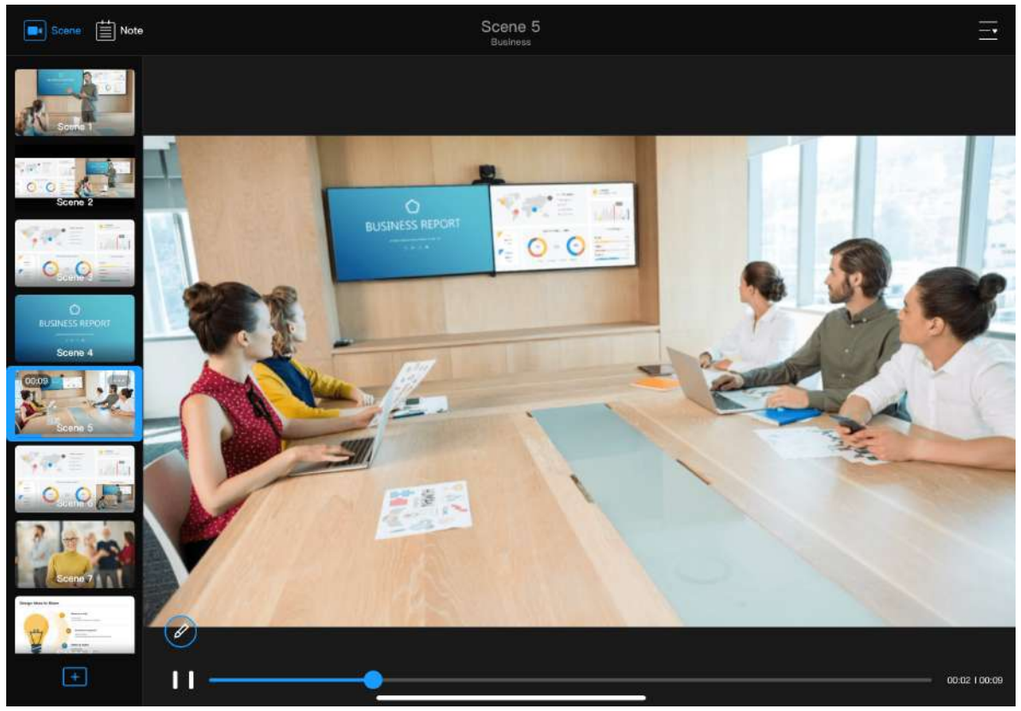
Adjusting a Multi-view Scene

While presenting, you can change the layout of a PIP or side-by-side scene. Such changes will not be saved, and the layout restores after you switch scenes.

- **Change the position of the small picture**: In the preview area on the main UI, drag the small picture in a PIP scene to move it to any place within the canvas.
- **Swap the pictures in a PIP scene**: In the preview area on the main UI, tap within the small picture to exchange the positions of the two sources. The small picture will automatically adapt to the aspect ratio of the source.

  > If the small picture in the PIP scene is a video file which is set with the "Hide video" policy, when the video ends, the small picture will disappear, and you cannot tap to change the positions of the two sources.

- **Change the proportion of the two sources in a side-by-side scene** In the preview area on the main UI, drag at the separator of a side-by-side scene to the left or right to change the size of the two sources. A source is at least 1/16 wide as the canvas.



Controlling Video Playback

When the current scene contains a video file, you can control its playback.

- Check the playback progress: At the bottom of the preview area, there will be a blue progress bar to indicate the playback progress.
- Fast-forward/fast-backward: On the scene, swipe left to fast backward and swipe right to fast forward.
- Seek: Tap the scene in the preview area to reveal the playback controls at the bottom. Drag the playhead to a desired position on the progress bar.
- Pause/resume: Tap the scene in the preview area to reveal the playback controls at the bottom. Tap the ❚❚ or ▶ button to pause or resume playback.



Viewing PDF

When the current scene contains a PDF source, you can control the PDF with gestures or the toolbar at the top of the scene.

Gestures

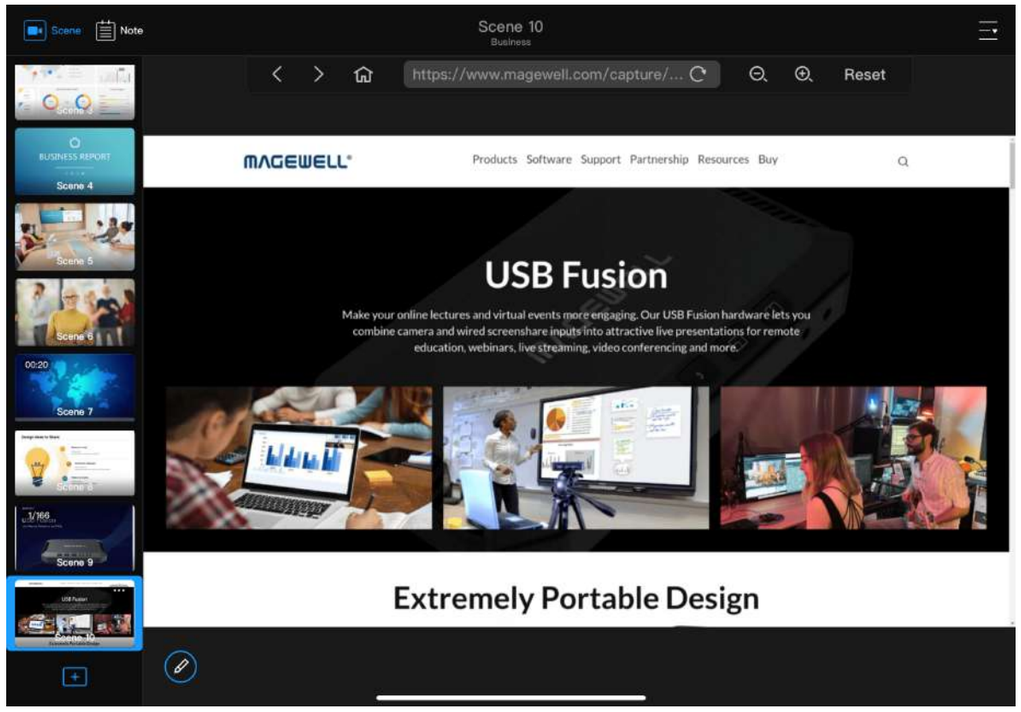
- Slide with one finger to scroll the page.
- Pinch in or stretch out with two fingers to zoom in or out.
- Tap a hyperlink in the PDF to visit. If jumping to a web page, you can tap ^ / v or select a page number to go back to the PDF.

> For a PDF in the small window in a picture-in-picture layout, you cannot slide with one finger nor visit any hyperlink.

Toolbar

- Tap to resize the page to fit the width of the window.
- Tap to resize the page to fit entirely in the document pane.
- Tap or to zoom in or out.
- Tap **Reset** to display the page at 100% magnification.
- Tap ^ or v to go to the previous or next page.
- Tap the Page Number, scroll numbers in the drop-down box, and select a page number to jump.
- Swipe the toolbar to the up to hide it, and a mini bar displays. Tap the mini bar to bring the toolbar back.

> When the PDF in a scene is adjusted, such as zooming the page, all scenes containing the same PDF source will also change accordingly.



Browsing Web Page

When the current scene contains a web page source, you can browse the web page with gestures or the toolbar at the top of the scene. Besides, a remote keyboard will help you enter information in the web page.

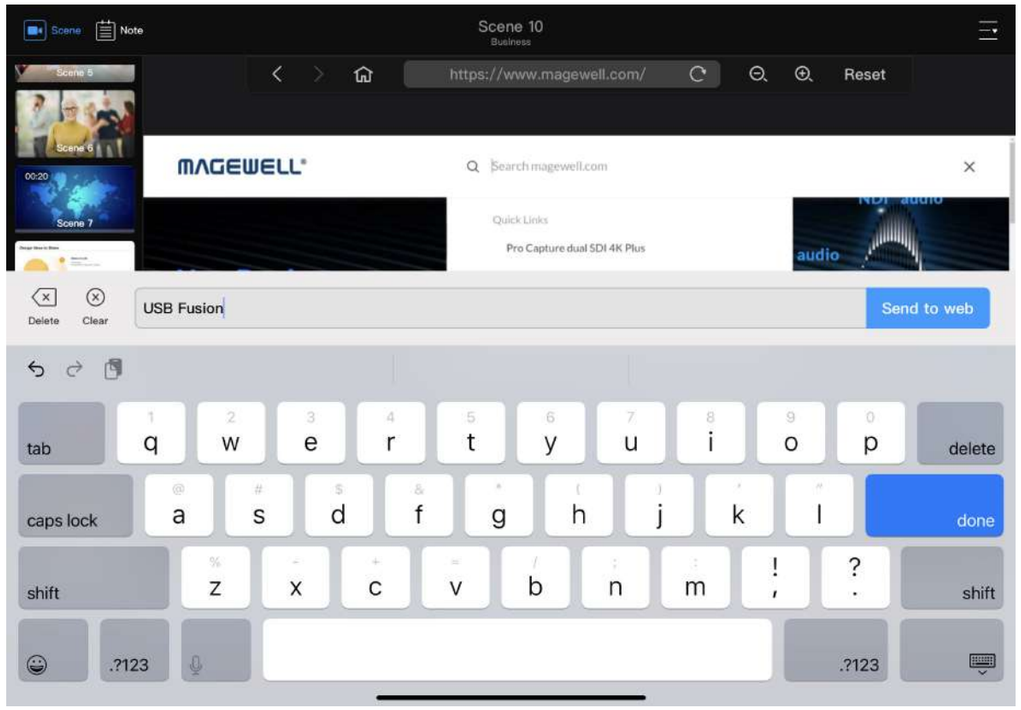
> For a web page in the small window in a picture-in-picture layout, you cannot slide with one finger nor visit any hyperlink, and the remote keyboard is unavailable.

Gestures

- Slide with one finger to scroll the page.
- Pinch in or stretch out with two fingers to zoom in or out.
- Tap a hyperlink in the web page to visit.

Toolbar

- Tap < or > to go back or forward.
- Tap to go back to the home page, which is the original web page you have added.
- Tap the address bar at the top, enter a URL and tap the Enter key to jump to a new web page.
- Tap to refresh the web page.
- Tap or to zoom in or out.
- Tap **Reset** to display the web page at 100% magnification.
- Swipe the toolbar to the up to hide it, and a mini bar displays. Tap the mini bar to bring the toolbar back.



Remote Keyboard

Tap an input box in the web page, and the remote keyboard appears.

- Enter content in the input box at the top of the keyboard, and then tap **Send to web** or tap the Enter key to send content to the web page.
- Tap the input box in the web page, and then tap **Delete** at the upper left corner of the keyboard, to delete the character to the left of the cursor.
- Tap the input box in the web page, and then tap **Clear**, to clear all the content in the input box.

> When the web page in a scene is adjusted, such as zooming the page, all scenes containing the same web page source will also change accordingly.



Annotating

When presenting, you can annotate on the scenes or notes. Tap the button at the lower left corner and you can use various tools to annotate.

> The annotation toolbar is placed at the lower part of the page. You can move it to the upper part of the page.

Annotate on a Scene or a Note Page

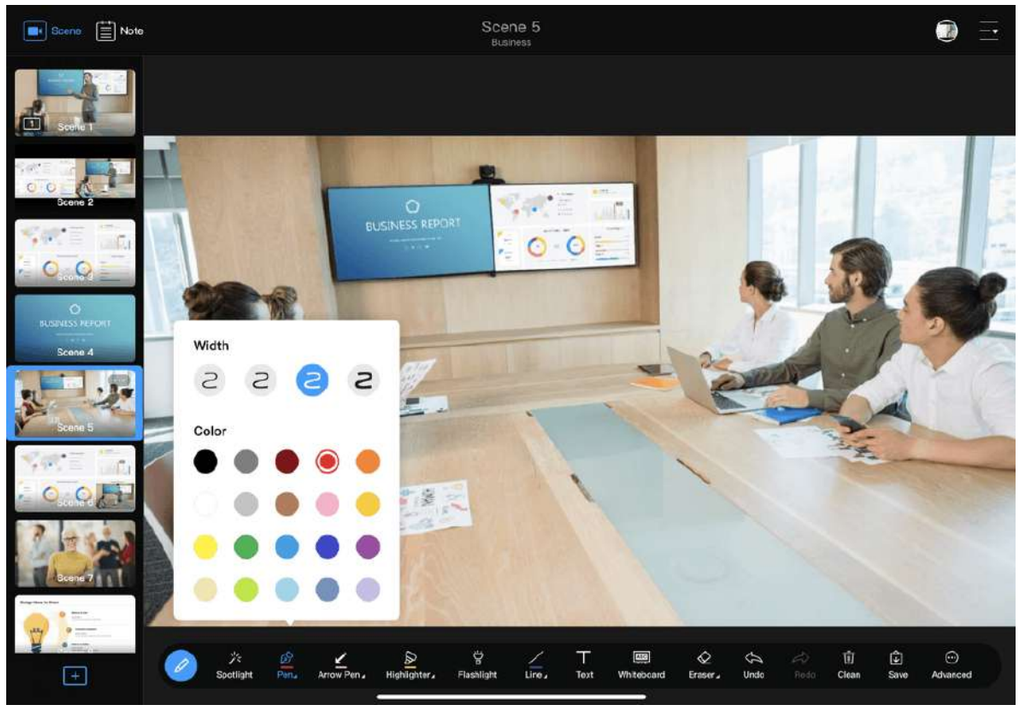
You can annotate not only on a scene but also on a note page. The differences are as follows:

- A scene does not support setting the Background, while a note page does not support the Auto Dismiss, Whiteboard and Flashlight.
- The annotations on a scene must be manually saved, while those on a note page are saved automatically.
- You can annotate on a scene only in real time, while you can annotate on a note page in advance or in real time.

Spotlight

Spotlight can mark a position obviously.

Tap and then tap any place on the scene or note page. A spotlight will appear at the corresponding place.



Pen

A pen is used for writing or marking.

- Tap to use a pen. The color line under the icon indicates the current color.
- Tap again to set width and color.

Arrow Pen

An arrow pen is a hand-drawn line ending in an arrow.

- Tap to use the arrow pend. The color line under the icon indicates the current color.
- Tap again to set width and color.

Highlighter

A highlighter is quite suitable for highlighting content.

- Tap to use the highlighter. The color line under the icon indicates the current color.
- Tap again to set width and color.

Flashlight

The flashlight can focus the audience's attention on the target.

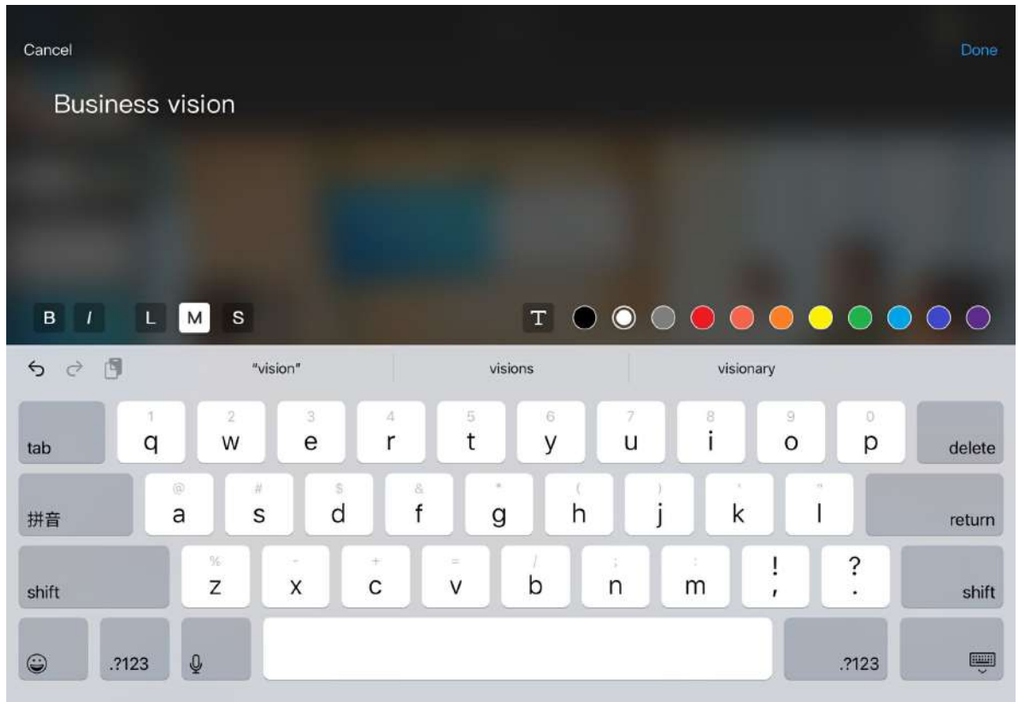
> This tool is available only when you annotate on a scene.

1. Tap "Flashlight".
2. Tap an area to light it up, while other areas will be greyed out.
3. Drag your finger to expand the lighted area.

Shape

You can use different shapes to annotate, including line, arrow, rectangle, and circle. By default, it displays Line.

- Tap **Line** and then you can draw lines. The color line under the icon indicates the current color.
- Tap **Line** again, and then you can select other shapes, and the icon changes as the selected shape. You can also set width and color. For rectangle or circle, you can set the border color and fill color separately.



Text

You can add text on a scene or note page, and configure its style, size and position.

1. On the annotation toolbar, tap T.
2. On the text editing page, type in text.
   You can type in a maximum of 1024 characters.
3. Set text style.
   - B: bold
   - *I*: italic
   - Large, medium, small: font size
   - T: text background color
   - Color: This sets the text color when text background color is disabled. Otherwise, it sets the text background color (in which case the text color remains white).

4. Tap **Done** at the upper right corner.
   The text will be displayed on the scene or note page with a text box.
   You can:
   - Tap within the text box to edit the text again.
   - Tap  at the upper left corner of the text box to delete the text.
   - Drag  at the lower right corner to scale the text.
   - Drag the text box to change the position of the text.
5. Tap outside the text box to complete the editing.
   After this, you can no longer do any of the operations in the above step.

Whiteboard

Using a whiteboard or blackboard can highlight your annotations.

> This tool is available only for annotating on a scene.

1. In the annotations toolbar, tap  to open a whiteboard.
2. Tap the  button on the right to switch between a whiteboard and blackboard.
3. Use other annotation tools to annotate on the whiteboard/blackboard.
4. Tap  on the right to close the whiteboard/blackboard.

Eraser

- Tap  **Eraser** to erase various annotations.
- Tap  **Eraser** again to set the width.

Undo, Redo, and Clean

The Undo, Redo, and Clean tools are used to delete or recover annotations.

-  **Undo**: Undo the last step. Tapping once undoes one step.
-  **Redo**: Redo an undone step. Tapping once redoes one step.
-  **Clean**: Clean all annotations on the scene or annotations page.

> For a scene, the annotations automatically clean when you switch to another scene/note page. For a note page, the annotations are automatically saved when you switch to another note page/scene; when you switch back to the note page, you can clean the annotations, but not undo/redo.

Save

You can save the annotations on a scene. The annotations are saved to the notes list.

> This tool is available only when you annotate on a scene.

1. Annotate on the current scene.
2. On the annotation toolbar, tap  **Save**.
   The scene and the annotations on it will be saved to the annotation list.



Using a Stylus

On stylus-enabled devices, you can use a stylus to annotate instead of just gestures. Compared to gestures, a stylus is much more similar to our daily writing experience and can provide more fluent and more precise annotation.

USB Fusion also optimizes your annotation experience using a stylus, allowing you to set strokes, enable stylus only, and directly annotate even when the annotation toolbar is not open.

Stroke

When using a stylus, you can enable the stroke feature to have more personalized writing style.

> This feature does not apply to writing using fingers.

1. On the annotation toolbar, tap **Advanced**.
2. Enable **Stroke**.

After enabled, this feature will generate strokes based on your writing speed and force.

Stylus Only

When using a stylus, your fingers may accidentally touch the screen and generate unwanted annotations. To prevent this, you can enable the **Stylus Only** function, so that you can only use a stylus to annotate, not gestures.

1. On the annotation toolbar, tap **Advanced**.
2. Enable **Stylus Only**.

Annotate Directly

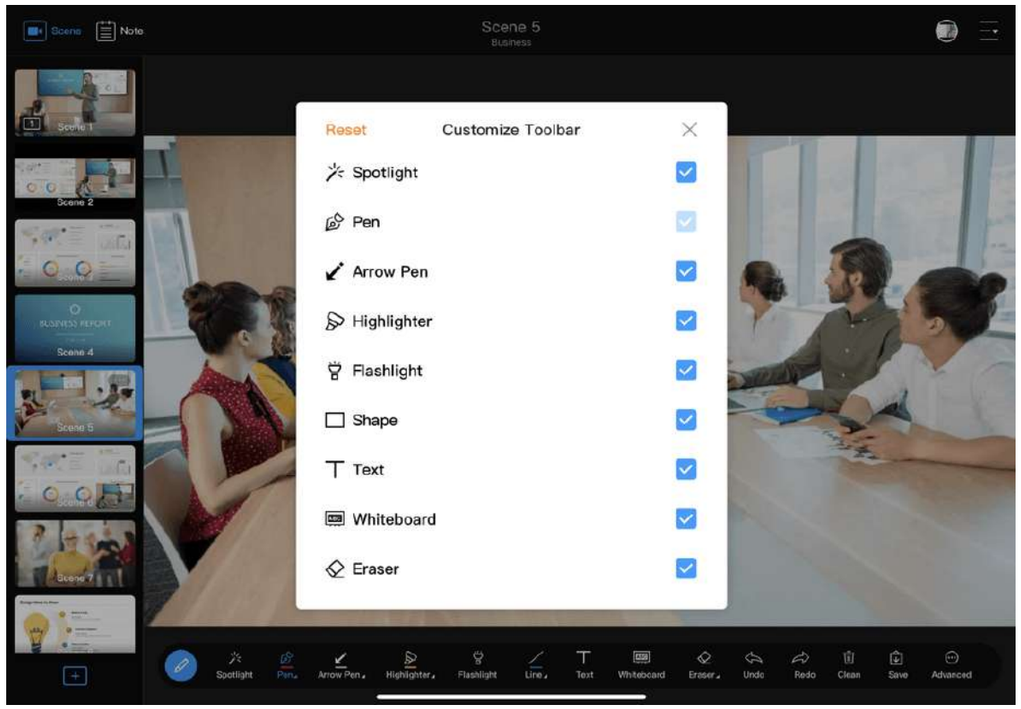
Before using gestures to annotate, you need to open the annotation toolbar. When you collapse the toolbar, you cannot make annotations using gestures. However, this is not the case for a stylus. A stylus can annotate even when the toolbar is collapsed. And the tool used for annotating is the one selected on the toolbar.

Auto Dismiss

By default, annotations do not dismiss automatically. You need to manually clear them. You can also enable the **Auto Dismiss** feature for the annotations to disappear automatically after a specified period.

> This feature does not apply to spotlight, text and flashlight, which need to be manually cleared.

1. On the annotation toolbar, tap **Advanced**.
2. Enable **Auto Dismiss**, and set the duration for the annotations to stay before they automatically dismiss.
   The time range is 2 to 10 seconds.



Customizing the Toolbar

You can select to only show the preferred annotation tools and hide the tools you do not need.

1. On the annotation toolbar, tap **Advanced**.
2. Tap **Customize Toolbar**.
3. Check or uncheck a tool.
   - ☑ : show the tool.
   - ☐ : hide the tool.
4. To recover to the default settings, tap **Reset** at the upper left corner.

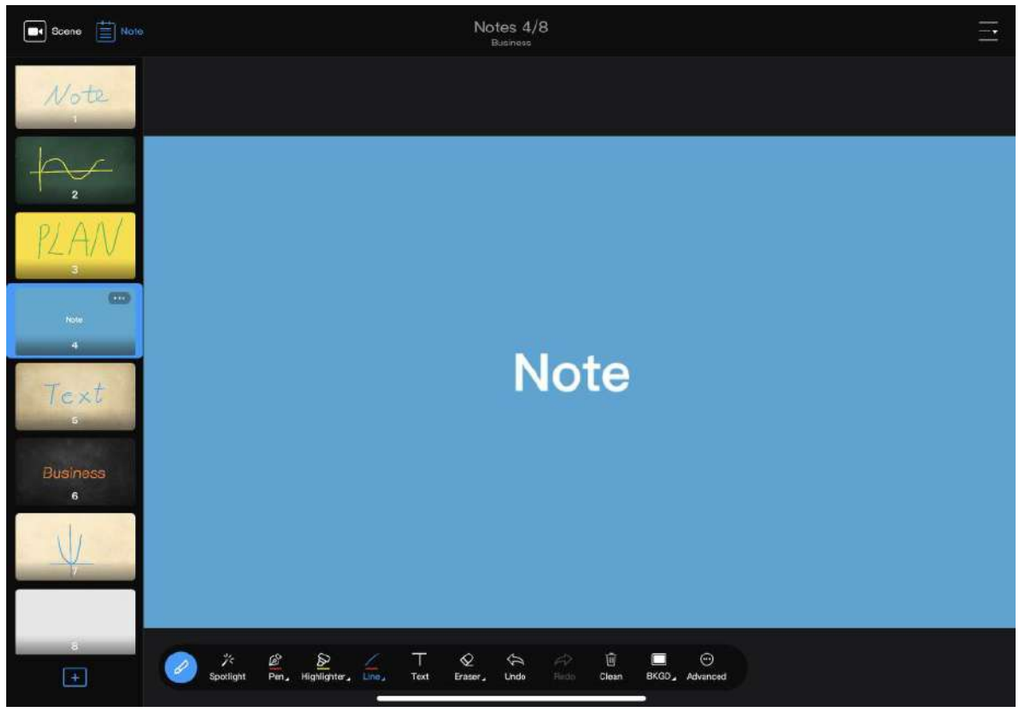
> **Pen** cannot be hidden.

Freezing a Scene

Annotations can be made not only on a static scene but also on a dynamic one such as a captured video. When the video source is in rapid motion, you can also freeze the source to better annotate.

> This function is available only when you use gestures, not a stylus. Before using this function, make sure that the annotation toolbar is collapsed.

- Freeze a scene: On a source consisting of a video file, PDF file, web page or captured video, double tap to freeze image, that is, a video file will pause, the toolbar of PDF or web page will be hidden and no gesture control is allowed, and a captured video will stop at the current frame.
- Unfreeze a scene: Double tap the scene to unfreeze.



Using Notes

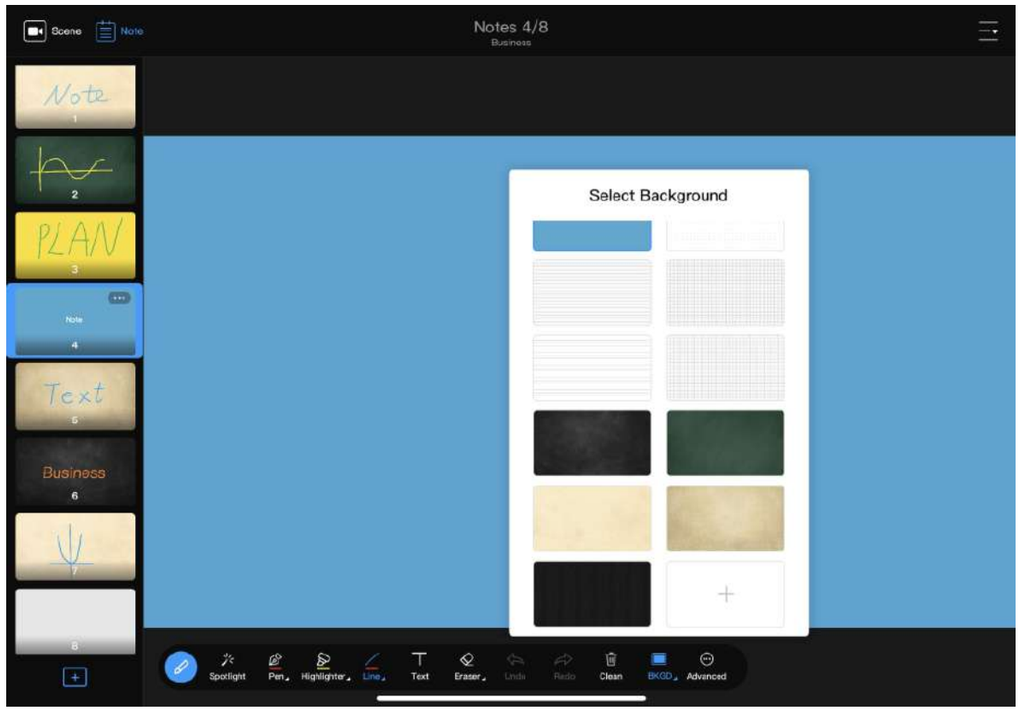
Notes are used to add or save annotations. Using the notes function, you can also switch back to annotations you have made previously, and export annotations for sharing.

Saving Scene Annotations as a Note

1. On a scene, open the annotation toolbar to annotate.
2. Tap **Save** on the annotation toolbar.
   The scene and the annotations on it will be saved to the notes list.

Adding a Blank Note Page

1. On the App Main UI, tap at the upper left corner.
2. Under the notes list, tap + to add a blank note page.
   You can also long press a note thumbnail and tap **Manage**. On the notes management page, tap **+ Add Notes** at the bottom.
   A new note page will be added to the notes list and automatically numbered.
   A new note page will automatically use the background of the note page proceeding it. The default background is grey.
   You can change the background of the note. Please refer to Background.
3. Use the annotation tools to annotate on the note page.
   The annotations will be automatically saved.



Background

The note page has a grey background by default. You can change the background to other colors or textures. Besides the background images provided in the App, you can also import other background images of your choice.

> This tool is available only when you annotate on a created note page, not one saved from a scene.

Selecting a Background

1. On the annotation toolbar, tap **BKGD**.
2. In the background image list box, scroll up/down to view the background images, and tap one to select it.

Importing Background Images on iOS Devices

On an iOS device, you can import files from the local system album and other locations including cloud storage, file server, and connected devices.

1. On the annotation toolbar, tap **BKGD**.
2. In the background image list box, scroll up to the bottom, and tap the add button **+**.
3. Tap one of the following to access files:
   - **Album**: pictures in the iOS system album
   - **Imported**: pictures already imported to the USB Fusion App

> If you need to delete a resource, long-press the resource and tap the delete button.

- **Locations**: non-local pictures that can be accessed by the iOS system, including files on cloud storage (such as Box, Dropbox), file servers and connected devices (such as USB flash drives and SD cards). The following describes how to access cloud storage. For methods to access other locations, see Apple Website.
  When importing files from cloud storage, tap **Browse** (at the top or bottom, depending on the iOS version), and tap a cloud storage app under **Locations** to select a file.
  - If you import from Cloud Drive, you need to first enable iCloud Drive. For details, see How to import a resource from iCloud Drive.
  - If you import from other cloud storage, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

    > Only the cloud storage apps that allow the system to manage will be displayed under **Locations**. If a cloud storage app does not grant the management right to the File App, you cannot import files from the cloud storage using this method.

4. Tap a file to import.
   Supported formats: JPEG, PNG, BMP

The files will be imported to the storage of the connected USB Fusion device. The imported background will show in the background list. You can manage the imported files on the Web UI. For details, see Managing Pictures.

> The same resource cannot be imported for a second time.

5. (Optional) Repeat the above steps to import more files.

Importing Background Images on Android Devices

On an Android device, you can import a local file or a file from cloud storage.

1. On the annotation toolbar, tap **BKGD**.
2. In the background image list box, scroll up to the bottom, and tap the add button **+**.
3. Tap the menu icon at the upper left corner, and tap an item in the **Open File** list.
   The **Open File** list contains local files and cloud storage services. When importing from a cloud storage service, you need to first install and log in to the cloud storage app. The operations to access different cloud storage services are similar. For details, see How to import a resource from Google Drive.

   > Only the cloud storage apps that allow the system to manage will be displayed under the **Open File** list. If a cloud storage app does not grant the management right to the File App, you cannot import files from the cloud storage using this method.

> The interface may change with different device type.

4. Tap a file to import.
   Supported formats: JPEG, PNG, BMP
   The files will be imported to the storage of the connected USB Fusion device. The imported background will show in the background list. You can manage the imported files on the Web UI. For details, see Managing Pictures.

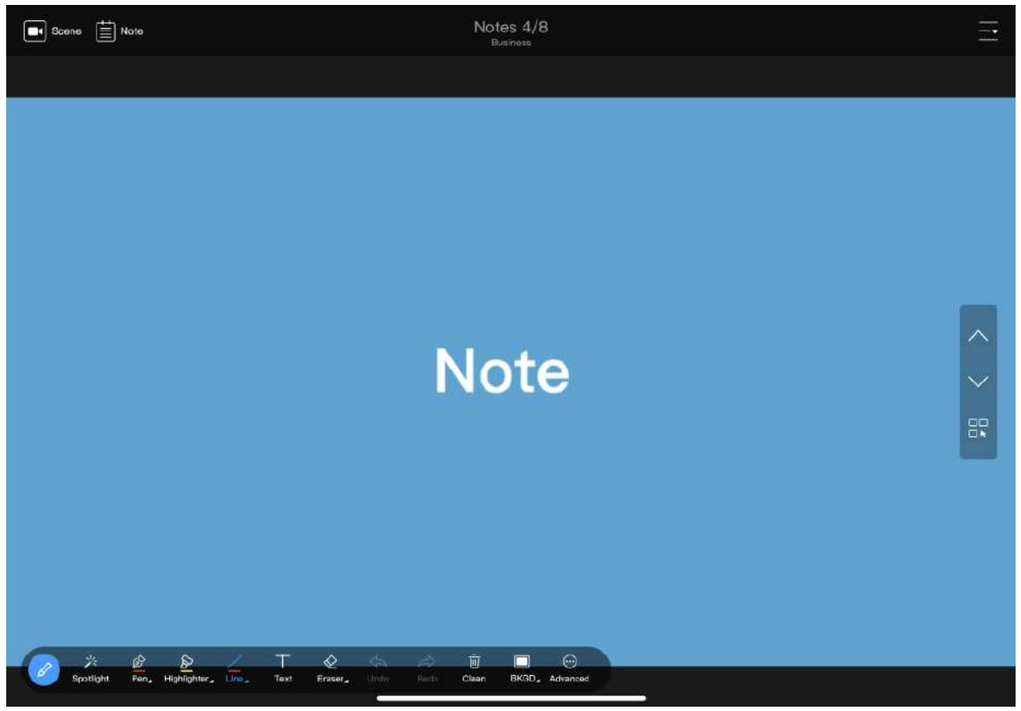
   > The same resource cannot be imported for a second time.
   > If you want to cancel importing files, tap the system back button to go back.

5. (Optional) Repeat the above steps to import more files.

Switching Notes

While presenting, you can switch to the annotations that you have saved to the notes list.

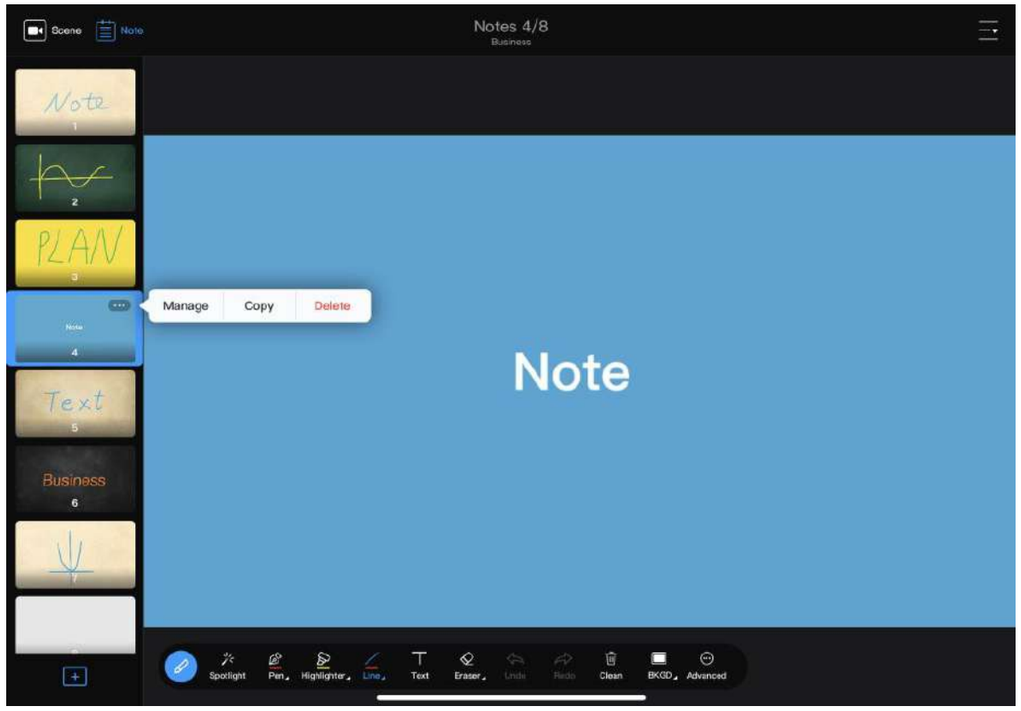
1. On the App Main UI, tap  at the upper left corner.
2. In the notes list, scroll up/down to view the notes and tap one to switch to it.



Hiding/Showing the Notes List

The notes list can be hidden for the preview area to display a note page more fully.

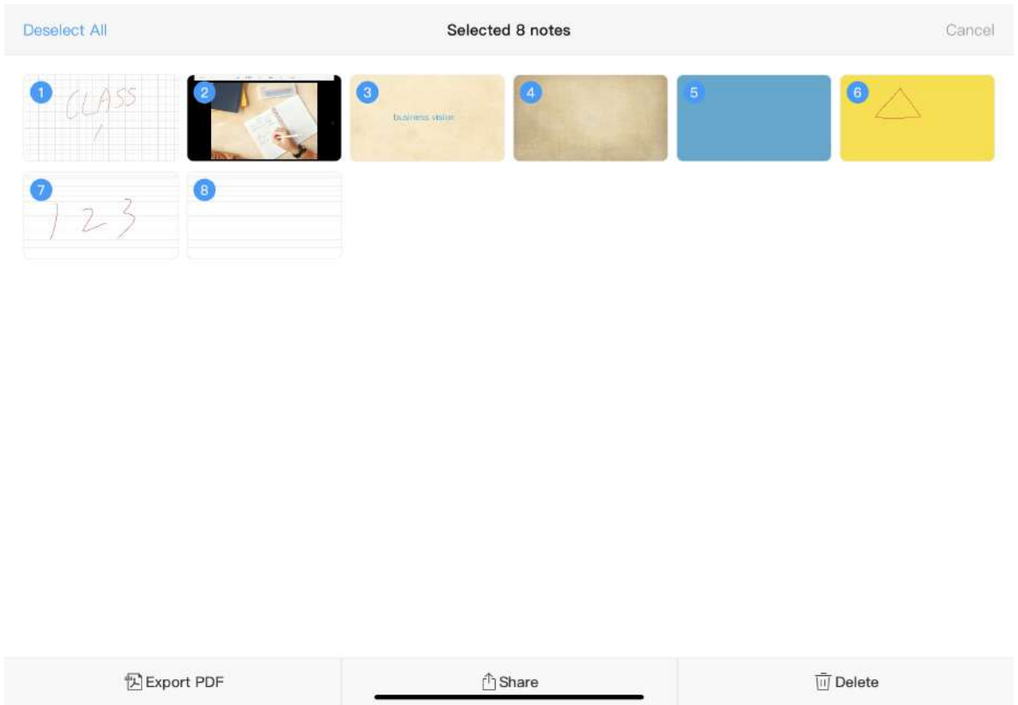
- Hide the notes list: Tap  at the upper left corner, or swipe the notes list to the left.
  In this mode, you can switch notes or access the notes management page on the right of the page:
  - Tap  to switch to the previous note page or  to switch to the next note page.
  - Tap  to access the notes management page.
- Show the notes list: Tap  at the upper left corner, or swipe from the leftmost of the page to the right.



Copying Notes

You can create a new note page by copying.

1. On the App Main UI, tap  at the upper left corner.
2. In the notes list, long press a note thumbnail or tap  at its upper right corner. In the displayed menu, tap **Copy**.
   The new note page will be generated under the source note page.



Managing Notes

You can view, export, and share notes.

View Notes

1. On the App Main UI, tap  at the upper left corner.
2. In the notes list, long press a note thumbnail or tap ··· at its upper right corner. In the displayed menu, tap **Manage**.
3. On the notes management page, view all notes.

Export Notes

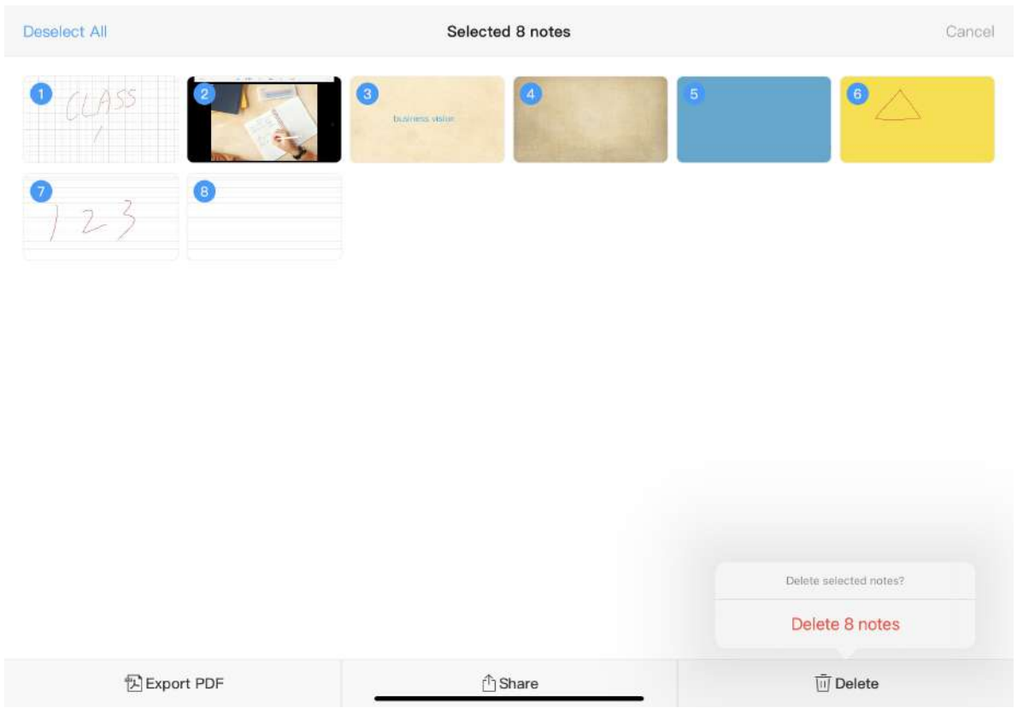
Export multiple notes to a PDF file.

1. On the App Main UI, tap  at the upper left corner.
2. In the notes list, long press a note thumbnail or tap ··· at its upper right corner. In the displayed menu, tap **Manage**.
3. On the notes management page, tap **Select** at the upper left corner.
4. Tap **Select All** at the upper left corner, or tap notes thumbnails to select.
5. Tap **Export PDF** at the bottom.
6. On the export preview page, scroll up/down to preview the PDF file to be exported, and tap **Export** at the upper right corner.
7. Select an application to receive the PDF file.

Share Notes

Share notes as separate images.

1. On the App Main UI, tap  at the upper left corner.
2. In the notes list, long press a note thumbnail or tap ··· at its upper right corner. In the displayed menu, tap **Manage**.



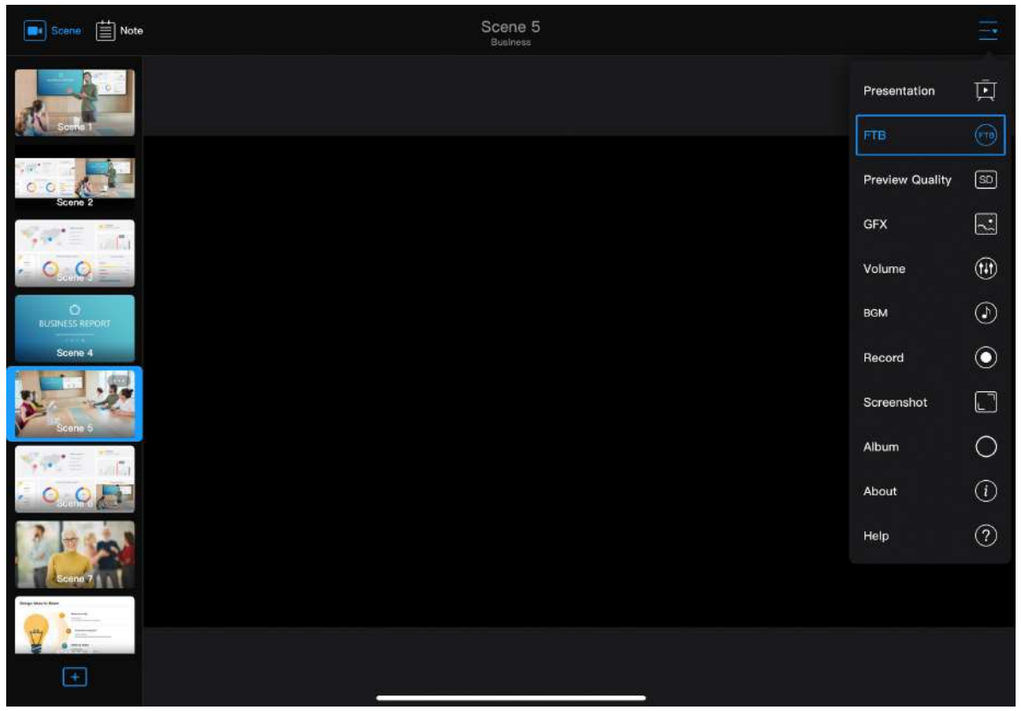
3. On the notes management page, tap **Select** at the upper left corner.
4. Tap **Select All** at the upper left corner, or tap notes thumbnails to select.
5. Tap **Share** at the bottom.
6. Select the application to receive the notes.
   The notes will be shared in PNG format in the Android system, and in JPEG format in the iOS system.

Deleting Notes

1. On the App Main UI, tap  at the upper left corner.
2. Use any of the following methods to delete notes:

- In the notes list on the main UI:
  i. Long press a note thumbnail or tap ··· at its upper right corner. In the displayed menu, tap **Delete**.
  ii. In the **Delete Note** dialog box, tap **Delete**.
- On the notes management page:
  i. In the notes list, long press a note thumbnail or tap ··· at its upper right corner. In the displayed menu, tap **Manage**.
  ii. On the notes management page, tap **Select** at the upper left corner.
  iii. Tap **Select All** at the upper left corner, or tap notes thumbnails to select.
  iv. Tap **Delete** at the bottom.

v. In the dialog box at the lower right corner, tap **Delete X notes**.

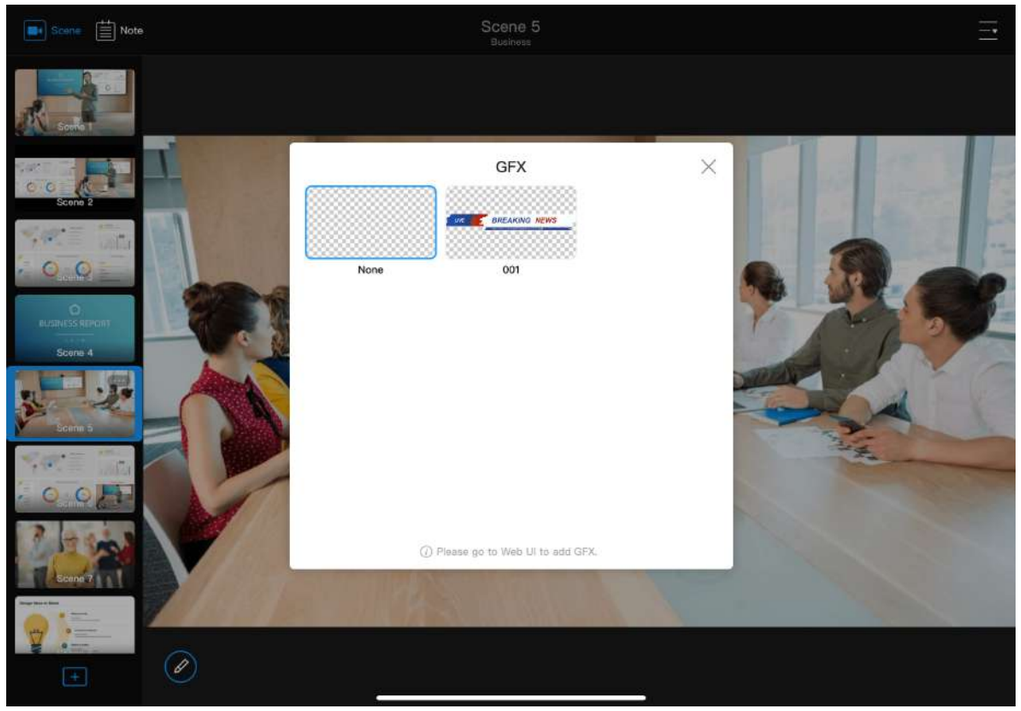


Fading to Black (FTB)

The Fading to Black (FTB) feature fades everything you are presenting into black or the specified image, and mutes the audio. You can set FTB properties on the Web UI.

At the upper right corner on the App Main UI, tap > FTB.

To bring back the presentation, tap FTB again. When you switch to another scene or note, it automatically cancels FTB.



Applying GFX

1. At the upper right corner of the main UI, tap > **GFX**.
2. Select a GFX in the popup window. The GFX is applied in the current presentation.
   If no GFX is added, please go to Web UI to add GFX. Please refer to Creating GFX.

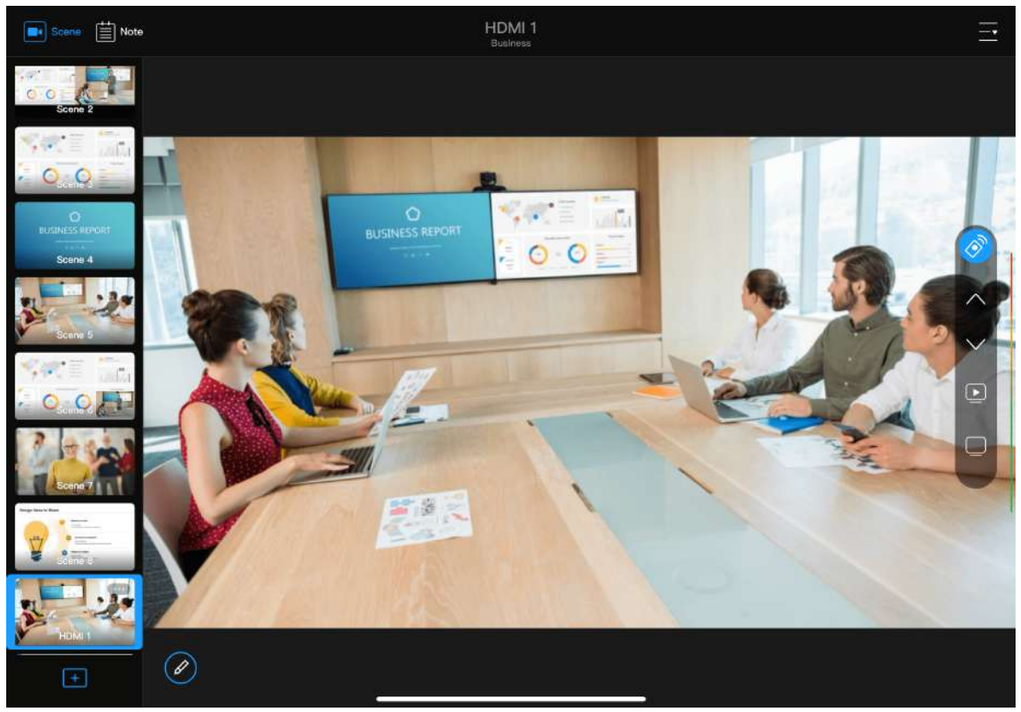
   > Only one GFX can be applied in a presentation. You can select another GFX to switch.

3. To remove the current GFX, tap > **GFX**, and then select the thumbnail named as "None".

> If you add a GFX when you edit a scene, the GFX is bound to the scene. You cannot replace or cancel it by this way.

Using USB Clicker

You can use USB Clicker to control the PowerPoint (hereinafter referred to as PPT) on the computer connected to the USB OUT port.



1. Connect the computer with the PPT to present to the USB OUT port.
2. Switch to a scene with HDMI image on the APP. The icon appears on the right of the scene.
3. Tap to show remote control buttons.
4. Tap the buttons to control the PPT.
   - : Page up
   - : Page down
   - : Fullscreen / Exit fullscreen
   - : Black screen on / off
5. Drag to change its position.
6. If you do not need this tool, tap **Advanced** on the annotation toolbar, and toggle off **USB Clicker** on the popup menu.

To view the real-time controlling effect, it is suggested to connect the computer with the PPT to an HDMI port and use the USB Clicker in the corresponding scene.
When you are using the **Whiteboard** tool, **USB Clicker** is not available.

Controlling PTZ Camera

When a HDMI source is connected to a PTZ camera and has enabled the PTZ control function, you can control the PTZ camera on the App.



1. Switch to the scene containing the HDMI source.
2. Tap  at the upper right corner of the scene to open the PTZ Control Center.
   If there are multiple PTZ source in the scene, select a source in the popup window.
3. Control the camera via the Control Center.
   - **Pan/Tilt Control**
     - On the Pan/Tilt Control panel, tap the center of the circle and slide your finger across the screen 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.
     - Long-press 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 on the slide bar at the lower right to 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.

- Tap AF for auto focus.

- **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.

  i. Move the camera to your desired position and adjust zoom and focus.

  ii. Tap STORE and then tap a number to save. For example, if you tap No.1, it will be saved as Preset 1.

  iii. Repeat the steps above to add more presets.

  iv. Tap a preset No. to call the preset.

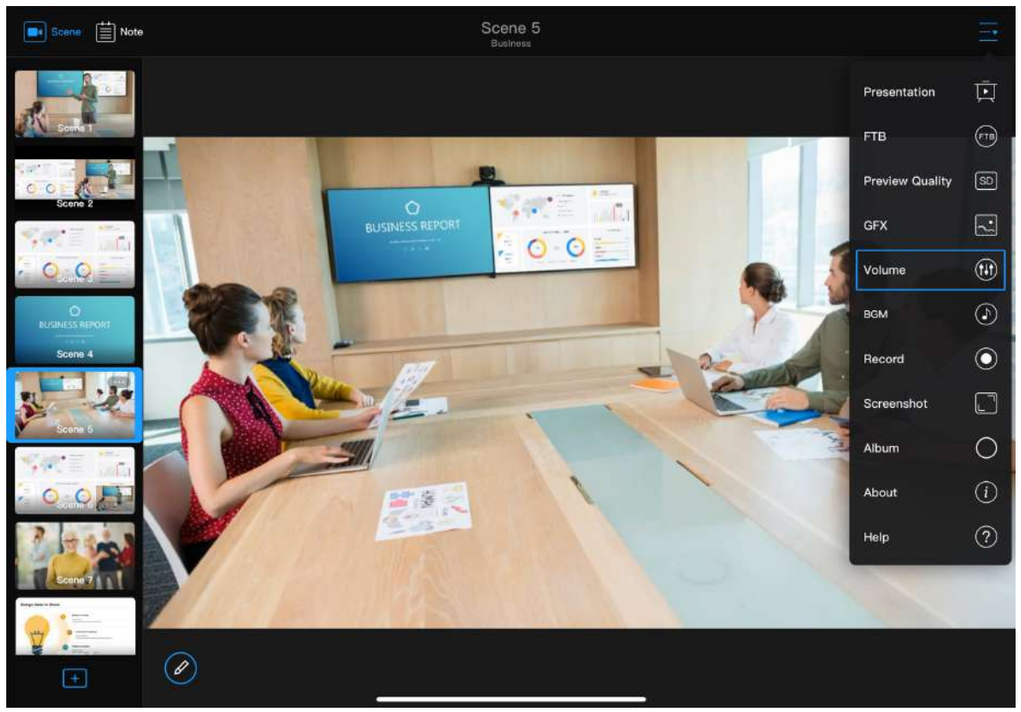
- **Move the PTZ Control Center**: Long-press any blank area on the PTZ control center window and drag it to the desired position.

4. Tap again to close the PTZ control center.
5. Drag to change its position.

Controlling Audio

USB Fusion allows you to adjust and monitor the input/output audio, both before and during your presentation.

The following describes how to use the App to adjust volume. You can also adjust volume and configure other audio-related settings on the Web UI. For details, see Setting the Audio.



Getting to Know the Audio Mixer

Each scene has its independent audio mixer.

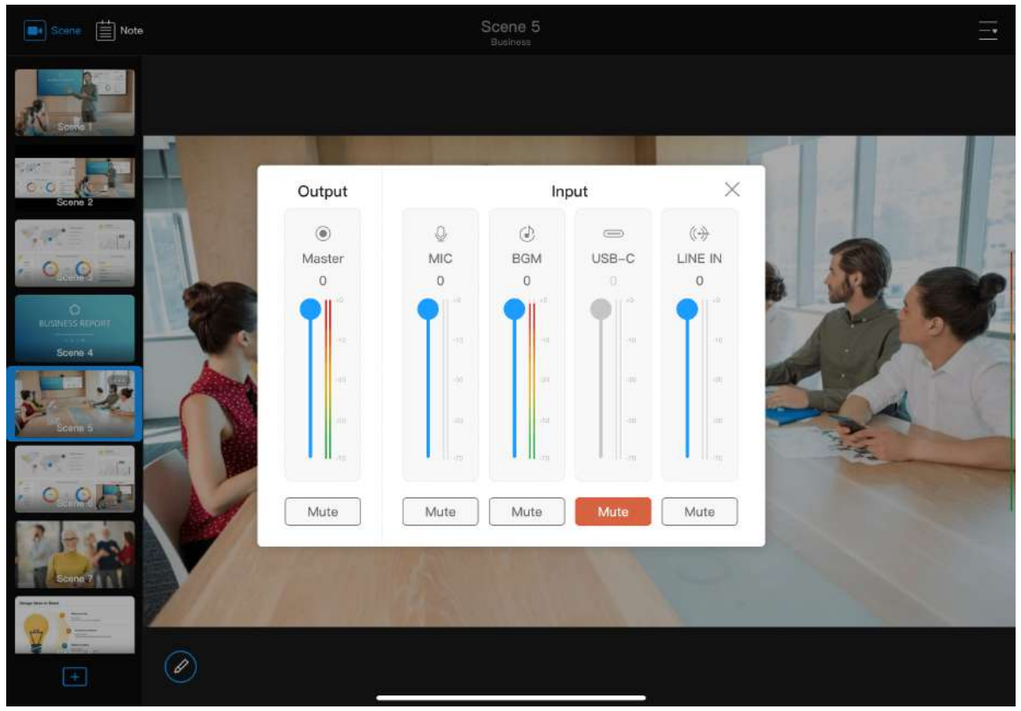
When a scene is selected, at the upper right corner of the App Main UI, tap > **Volume** to open the audio mixer for the current scene.

The mixer will display the audio inputs and output involved in the current scene:

Output

: The master audio, that is, USB OUT audio to the computer, and audio for monitoring, which is output through the headset port, WEB CAMERA port, HDMI OUT port.

- By default, the monitored audio does not include the global microphone audio. If you need to monitor this audio, you need to enable microphone monitoring on the Web UI.
- By default, the WEB CAMERA port does not output monitoring audio. To enable output, you need to select an USB audio output device on the Web UI.
- When the HDMI OUT port loops the HDMI 1 or HDMI 2 audio, it retains the original audio volume and remains unaffected by the volume settings here.



Input:

- **Global audio**: audio present across a presentation. Adjustment to such audio applies to the whole presentation.
  - : audio input of global microphone. Microphones connected to the headset port, HDMI port and WEB CAMERA port can be used as global microphones, and their volume are adjusted here. The microphone plugged into the headset port can be used immediately. For the microphone connected to the HDMI or WEB CAMERA port, you need to first select one as a global microphone on the Web UI before it can be used. The selected microphone can work simultaneously with the headset microphone.
  - : background music.
  - : audio from the computer connected to the USB OUT port. It will not output through the USB OUT port.
  - : audio from the line-in port.
- Scene audio: audio specific to a scene, which switches in/out along with the scene. Adjustment to such audio applies only to the current scene. The following audio types are supported, but only the audio used in the current scene will be displayed.
  - : audio from the HDMI port.
  - : audio from the WEB CAMERA port. The audio is disabled by default. To enable it, you need to set WEB CAMERA audio on the Web UI.
  - : audio from a video file.

-  : audio from a web page.
-  : audio from a screencast source.

> If you switch to a notes page, there will be only global audio inputs, no scene audio inputs.

Checking Real-time Volume

On the mixer, you can check the volume meter for the real-time volume. The left and right volume meters correspond to left and right audio channels. When an audio input is detected, the volume meter jumps up/down to show the real-time volume of the audio. When only one channel is input, only one volume meter jumps.

After you exit the mixer, you can also view the real-time output volume on the right of the main UI. If there is no audio output, there will be no volume meter.

Muting/Unmuting

Tap  to unmute, and  to mute.

Each audio input can be separately muted/unmuted.

Adjusting Volume

Drag along the volume bar to adjust volume.

- Input volume: Each audio enters USB Fusion at 100% its original volume, which corresponds to the position 0 in the volume bar. You can adjust the volume down. If the original volume is too low, you can make adjustments in Advanced Settings on the Web UI.

Separately setting the audio inputs can create rich audio effects. For example, you can lower the volume of the background music while raising the volume of your speech.

- Output volume: The output volume is adjusted based on the input volume.

> The App does not play out audio.

Using the WEB CAMERA Audio Input/Output

The WEB CAMERA port supports two-channel audio input and output, which are disabled by default. The audio cannot be enabled on the App. You need to enable it on the Web UI.

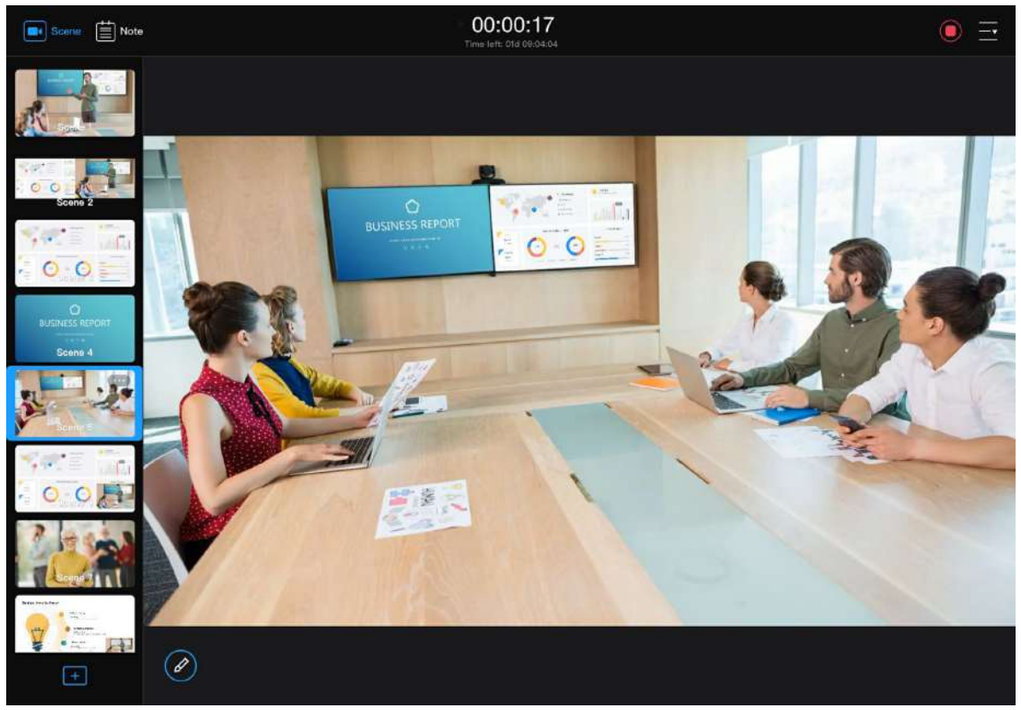
- Audio input: can be used as a global microphone or WEB CAMERA audio
  - Global microphone: audio that is used throughout a presentation and does not switch along with any scene. For configuration details, see Selecting a Global Microphone.
  - WEB CAMERA audio: audio that switches in and out along with the WEB CAMERA video. For configuration details, see Setting WEB CAMERA Audio.

    > The same audio input device can be selected as either the global microphone or the WEB CAMERA audio. If multiple audio devices are connected, then different devices can be selected for different purposes.

- Audio output: The audio output can be used for monitoring. For configuration details, see Selecting a USB Audio Output Device.

Recording and Taking Screenshots

When the USB Fusion is streaming your presentation, you can also record the presentation and take screenshots for later usage. The recordings and screenshots will be saved to the USB Fusion album, which you can view and manage in the App.



Recording

By default, it records the program content and audio, at 1080p, 60fps, 8Mbps, saved as an MP4 file.
On the Web UI, you can configure recording parameters. You can select to record the content of Program, HDMI 1, HDMI 2 or WEBCAM, and select whether to record the corresponding audio. Whatever it is recording, it does not impact the current program content. Besides, you can set encoder parameters, file split mode, schedule recording and so on.
You cannot change the recording parameters during the recording.

Manual Recording

- Start recording: At the upper right corner of the App Main UI, tap > **Record**.

  If there is a recording schedule on the current day, there will be a pop-up indicating the plan information. If you want to continue recording, please tap **Continue**.

  - When the recording starts, the upper part of the main UI will show a pulsing red light indicating that recording is ongoing, and the

recording duration. Underneath is displayed **Time left: xxd xx:xx:xx**, indicating the available recording time allowed by the storage of the connected USB Fusion device.

  - When the recording duration lasts less than 1 second, the recording will fail.
  - When the available disk space of USB Fusion can support only less than 10 minutes of recording, the time left text will become orange; when it reaches less than 5 minutes, the time left text will become red; when it reaches 10 seconds, the recording will stop automatically.

- Stop recording: At the upper right corner of the App Main UI, tap .

Schedule Recording

If there is an unexecuted recording schedule, the countdown information will be displayed on the upper right corner of the App.

- If the scheduled start time is greater than or equal to 1 hour from the current time, it displays "Start recording at xx".
  - If the scheduled start time is less than 1 hour from the current time, it displays "Start recording in xx". When it reaches the last 10 seconds, large countdown numbers will be displayed in the preview area.
  - After the schedule recording starts, it displays "Stop recording in xx".

Stop recording:

- It stops recording when the end time is reached.
- When it is executing the schedule recording, you can stop recording manually by tapping  at the upper right corner of the App and then tapping **Stop** on the popup.

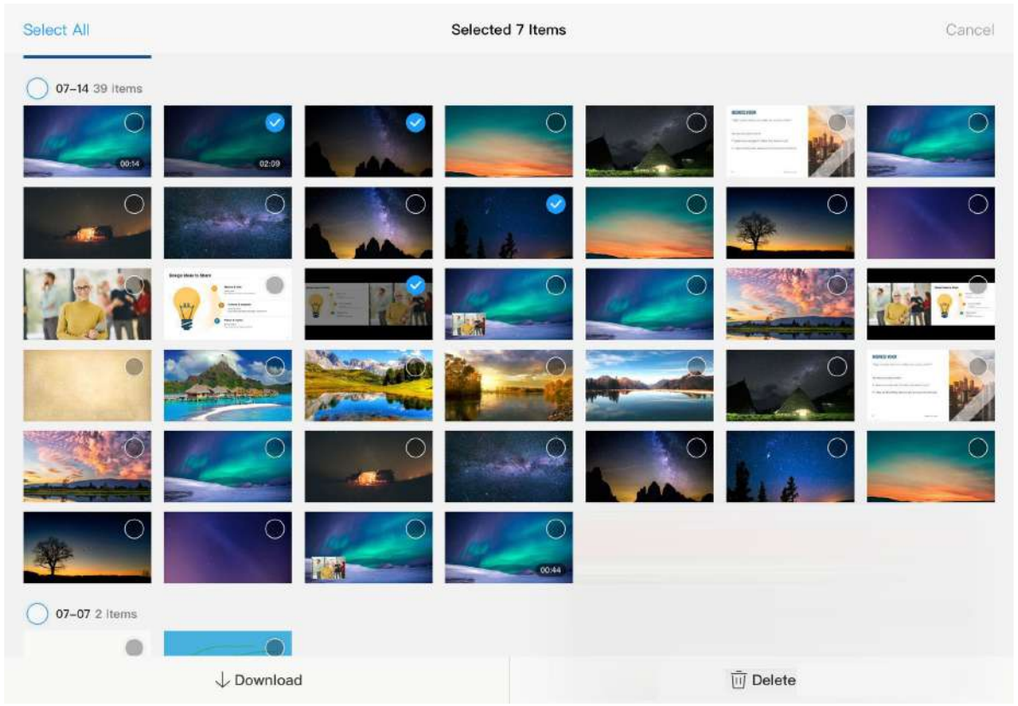
When the recording stops, you can tap the album button before to view and download the recording.

The recording can be also exported and uploaded to Google Drive from the Web UI. For details, see Managing the Album.

Taking Screenshots

At the upper right corner of the App Main UI, tap > **Screenshot**.

The screenshot is saved to the disk of USB Fusion as a JPEG file with the resolution of 1920x1080. You can tap the album button before to view and download the screenshot.



Managing the Album

The album stores the recordings and screenshots. You can view, download, and delete the files in the album.

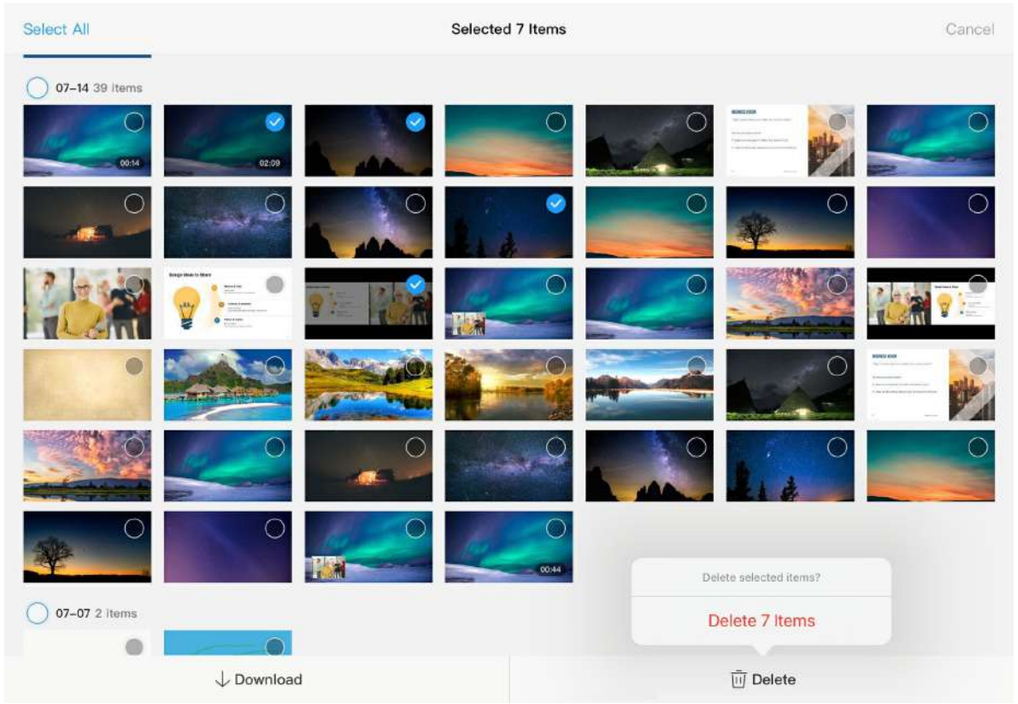
> You can also manage the album on the Web UI. For details, see Managing the Album.

Viewing the Album

1. After you have recorded some content or taken a screenshot, tap the album button before  to access the album.
   You can also tap  > **Album** to access the album.
2. View the files in the album.
   The videos and pictures in the album are sorted by date. Video files will show their duration on their thumbnails.
   - Tap a picture to view it in full screen.
   - Tap a video to play it in full screen, during which you can perform playback control.

Downloading Files from the Album

1. After you have recorded some content or taken a screenshot, tap the album button before  to access the album.
   You can also tap  > **Album** to access the album.
2. Tap **Select** at the upper left corner.
3. Tap to select a file. Or tap **Select All** at the upper left corner to select all files.



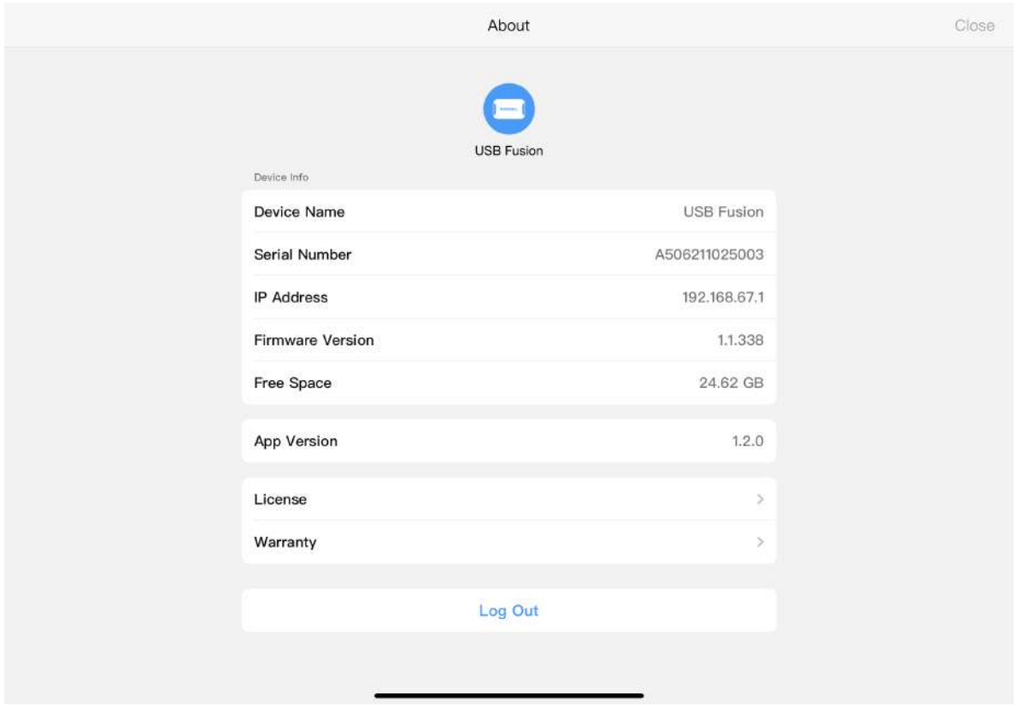
4. Tap the **Download** button at the lower left corner.
   The file will be downloaded from the USB Fusion device to the system album of your iOS or Android device.

Deleting Files from the Album

1. After you have recorded some content or taken a screenshot, tap the album button before  to access the album.
   You can also tap  > **Album** to access the album.
2. Tap **Select** at the upper left corner.
3. Tap to select one or more files. Or tap **Select All** at the upper left corner to select all files.
4. Tap the **Delete** button at the lower right corner.
5. Tap **Delete X items** in the dialog box displayed at the lower right corner.
   If one selected file is being uploaded to Google Drive, tap **Delete** on the popup.
   The file(s) will be removed from the USB Fusion device.

Others

Tap the menu at the upper right corner of the App Main UI, you can check device information and get online help.



Checking Device Information

At the upper right corner of the main UI, tap > to check basic information about the USB Fusion device and App.

- **Device Name**: name of the connected USB Fusion device
- **Serial Number**: serial number of the connected USB Fusion device
- **IP Address**: IP address of the connected USB Fusion device
- **Firmware Version**: firmware version of the connected USB Fusion device
- **Free Space**: available disk space on the connected USB Fusion device
- **App Version**: current version of USB Fusion App
- **License**: end user license agreement for USB Fusion App
- **Warranty**: product warranty for USB Fusion hardware

Logging Out from a Device

On the **About** page, tap **Log Out** at the bottom.

After logging out, you need to manually connect to a device next time you use the app.

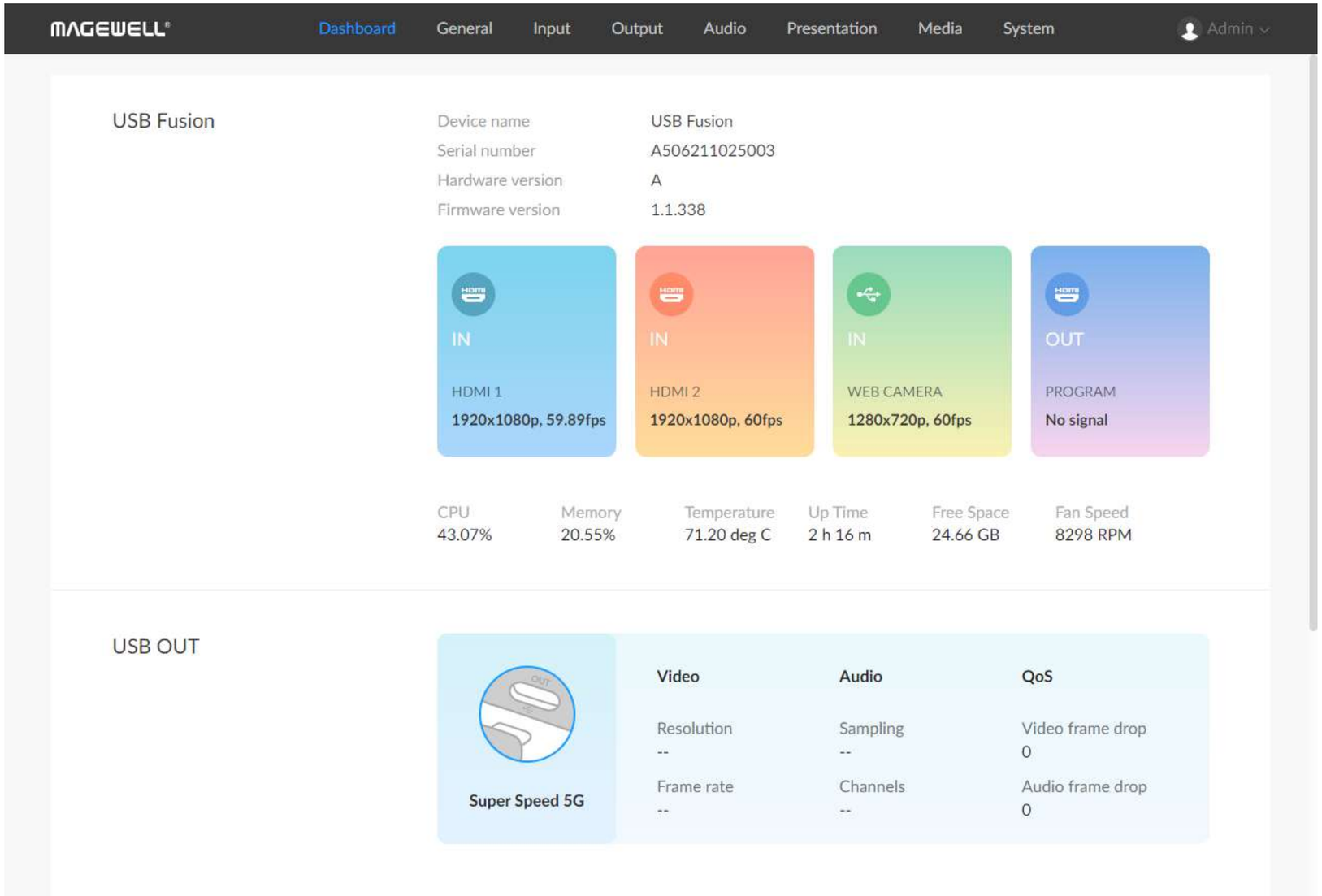
Getting Help

At the upper right corner of the main UI, tap > to get online help.

Web UI Guide

USB Fusion provides a Web UI for user to check device status, configure device functions, create and manage presentations, and more. After a computer connects to the same network as USB Fusion, the computer can access the Web UI of USB Fusion.

Web UI Layout



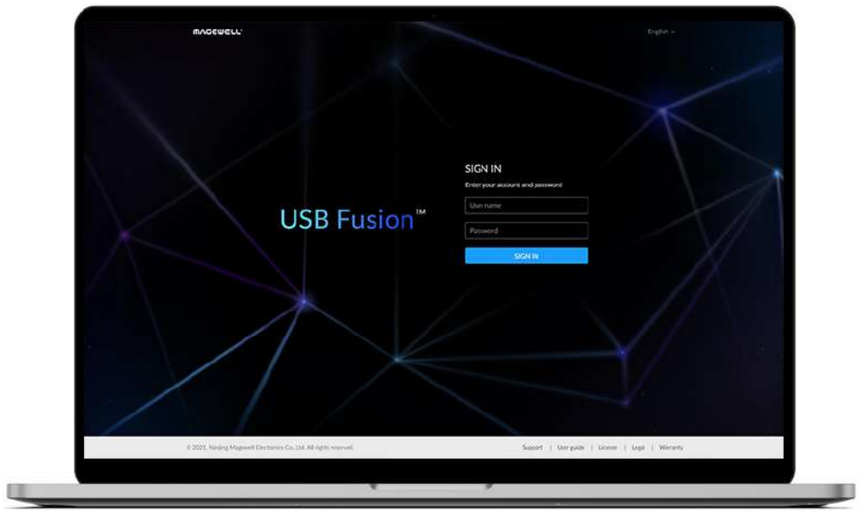
You can use the tabs at the upper part of the Web UI to navigate:

- **Dashboard**: View basic device information, including device status, USB output status, and network status. This is the page displayed when you access the Web UI.
- **General**:
  - DEVICE: Set the landing page, auto switchover, USB OUT mirroring, sleep and auto backup.
  - APP: Set the App login mode, watcher number and permissions, preview quality, and communication ports.
- **Input**:
  - HDMI 1: View the HDMI 1 signal information, set video properties, view and set the EDID.
  - HDMI 2: View the HDMI 2 signal information, set video properties, view and set the EDID.
  - WEB CAMERA: Set the basic properties for a webcam.
  - Screencast: Set the basic properties for screencast.
- **Output**:
  - HDMI: Configure HDMI output, view the output EDID.
  - USB: View the USB output specification.
  - REC: Configure recording parameters, and manage the recordings and screenshots
  - Stream: Configure and manage streaming servers
- **Audio**: Set the input/output volume, microphone-related functions, advanced audio functions, and select audio devices
- **Presentation**: Create and manage presentations and perform switchover.
- **Media**: Upload and manage pictures, videos, PDF and music.
- **System**: Configure and maintain the system, including general settings, network configuration, registration with Magewell Control Hub, 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.



Accessing the Web UI

Accessing the Web UI through a Network Connection

USB Fusion can connect to a network via Ethernet, Wi-Fi, or USB network. For details about the connection methods, see Configuring Network.

After USB Fusion is connected to network, you can use flexible methods to access its Web UI, including:

Access Method	Requirements
Use a USB network IP address	The computer is connected to USB Fusion with the supplied USB cable.
Use Windows network discovery	On a Windows Operating system.
Use an Ethernet/Wi-Fi IP address	The Ethernet/Wi-Fi IP address of USB Fusion has been obtained.



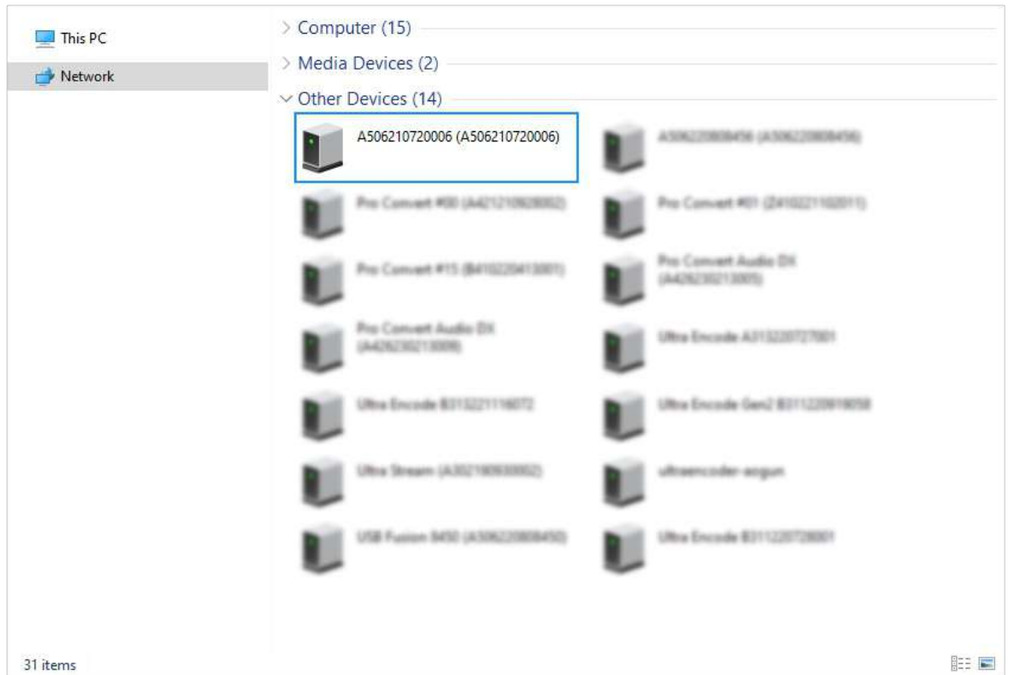
Using a USB Network IP Address

USB network provides a virtual network connection. Using this technology, you only need to connect USB Fusion and your computer with a USB cable so that your computer can access USB Fusion. Linux, macOS 10.12 and later, and Windows 10 19H1 and above are supported.

When no Ethernet/Wi-Fi network connection is available, you can conveniently use this method to access the Web UI.

1. Make sure that USB Fusion has connected to power.

2. Connect a USB cable from the USB OUT port of USB Fusion to a computer.
   The cable connection will establish a network connection between your computer and USB Fusion through USB network.
3. Open a browser on the computer, enter the static IP address for USB network, and press **Enter**.
   The default address for USB network is 192.168.66.1.



Using Windows Network Discovery

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

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

The following uses Windows 10 as an example.

1. Ensure that USB Fusion has connected to power.
2. Connect your computer and USB Fusion to the same network.
   The most direct way to connect USB Fusion to a network is by plugging an Ethernet cable to the ETHERNET port.
   Besides, USB Fusion supports other ways for flexible and convenient network connection, including Wi-Fi and USB networking. For details, see Configuring 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, find your USB Fusion device based on the **Serial number**.
   - The default device name is the Serial number. You can set the device name on the Web UI.
   - The serial number of USB Fusion is the one that can be found on the device, for example A506210720006.
6. Double-click the device icon to access the Web UI login page.

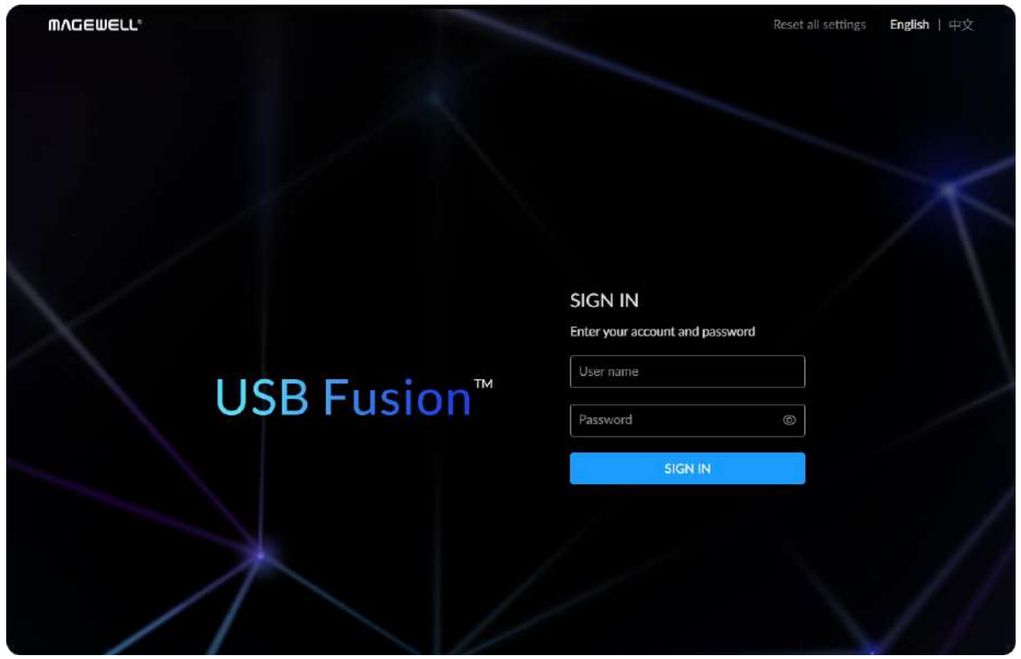
Using an Ethernet/Wi-Fi IP Address

> This method does not apply to the first-time access to the Web UI, because the Ethernet/Wi-Fi IP Address is unknown in this case.

USB Fusion uses a DHCP-assigned IP address by default, which can effectively avoid IP address conflict, but can also result in constant IP address changes. USB Fusion also supports Ethernet using a static IP address and Wi-Fi using a static IP address , so that the IP address remains stable.

If you have obtained the dynamic or static Ethernet IP address, or the dynamic or static Wi-Fi IP address, you can use the address to access the Web UI of USB Fusion. This method applies to Windows, Linux, and macOS.

1. Ensure that USB Fusion has connected to power.
2. Connect your computer and USB Fusion to the same network.
   To connect USB Fusion to a network:
   - Use Ethernet: Connect an Ethernet cable to the ETHERNET port of USB Fusion.
   - Use Wi-Fi: On the Web UI, connect USB Fusion to a network through Wi-Fi.
3. On the computer, open a browser, enter the IP address, and press **Enter**.



Logging Into the Web UI

To ensure system stability and security, USB Fusion 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, network configuration, firmware update. 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.

USB Fusion 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:

If you forget the login password:

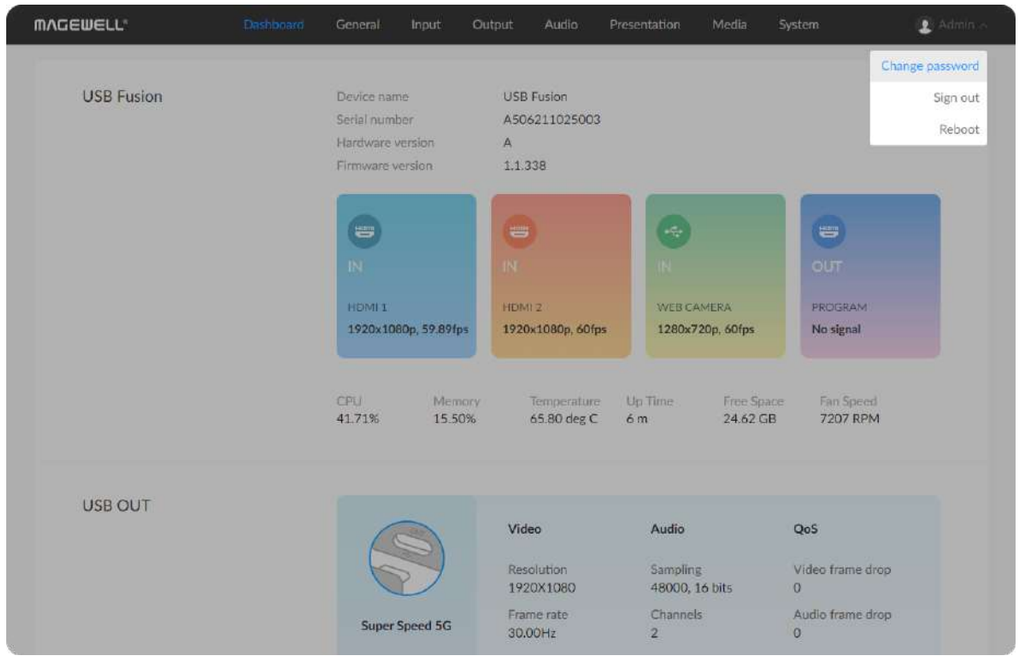
- For a common user: Use the admin account to reset your password. For details, see Resetting the Password.
- For the administrator: Reset the device, and use the default admin account to log in. For details about device resetting, see Resetting USB Fusion.

- **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.

Changing the Web UI Language

The Web UI supports two languages, English (default) and Chinese. At the upper right corner of the Web UI login page, you can click the current language to select a different language.



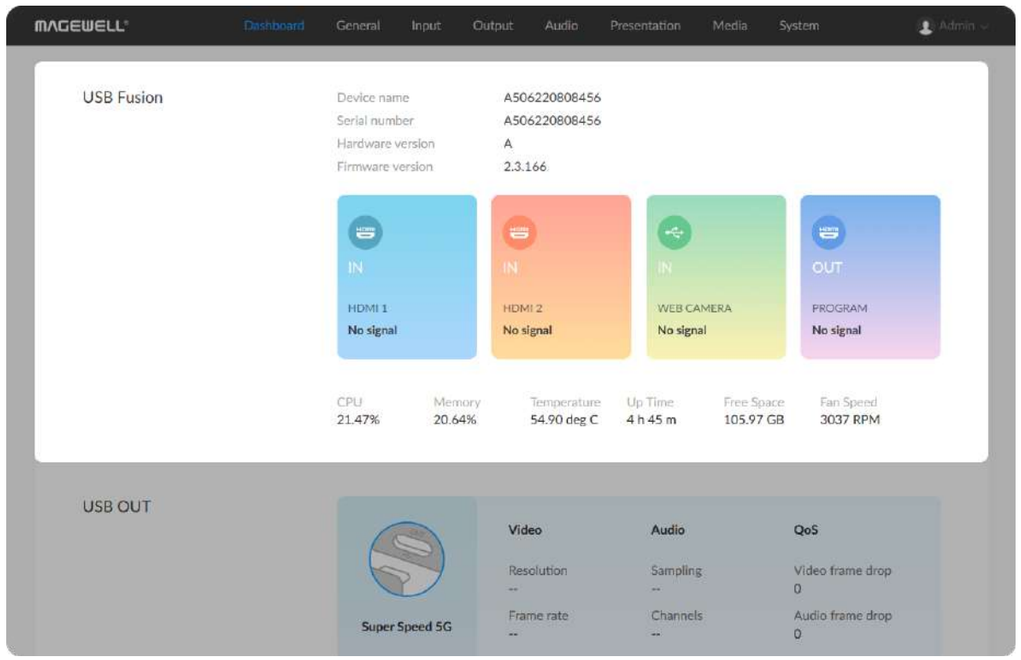
Changing the Login Password

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 using an account.
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 Resetting the Password.



Viewing Device Information

When using USB Fusion, you can learn about the device status on the **Dashboard** page of the Web UI, including:

- Basic device information
- Real-time device status
- USB output status
- Network connection status

Basic Device Information

- **Device name**: USB Fusion device name, which is the serial number by default

  This name can be changed on **System > General**. Only the Admin user can set the device name on the Web UI.

- **Serial number**: serial number of the connected USB Fusion device. The serial number can also be found on the device.
- **Hardware version**: hardware version of the connected USB Fusion device
- **Firmware version**: firmware version of the connected USB Fusion device. Only the Admin user can update the firmware on **System > Firmware**. For details, see Updating Firmware.

Real-time Device Status

- **IN (HDMI 1)**: input status of the HDMI 1 port
  - **No signal**: no input

- *Resolution/frame rate*: input resolution and frame rate, such as 1920x1080p, 60fps

> Click in this area to jump to **Input** > **HDMI 1**.

- **IN (HDMI 2)**: input status of the HDMI 2 port
  - **No signal**: no input
  - *Resolution/frame rate*: input resolution and frame rate, such as 1920x1080p, 60fps

> Click in this area to jump to **Input** > **HDMI 2**.

- **IN (WEB CAMERA)**: input status of the WEB CAMERA port
  - **No signal**: no input
  - *Resolution/frame rate*: input resolution and frame rate, such as 1920x1080p, 60fps

> Click in this area to jump to **Input** > **WEB CAMERA**.

- **OUT**: output content and output status of the HDMI OUT port

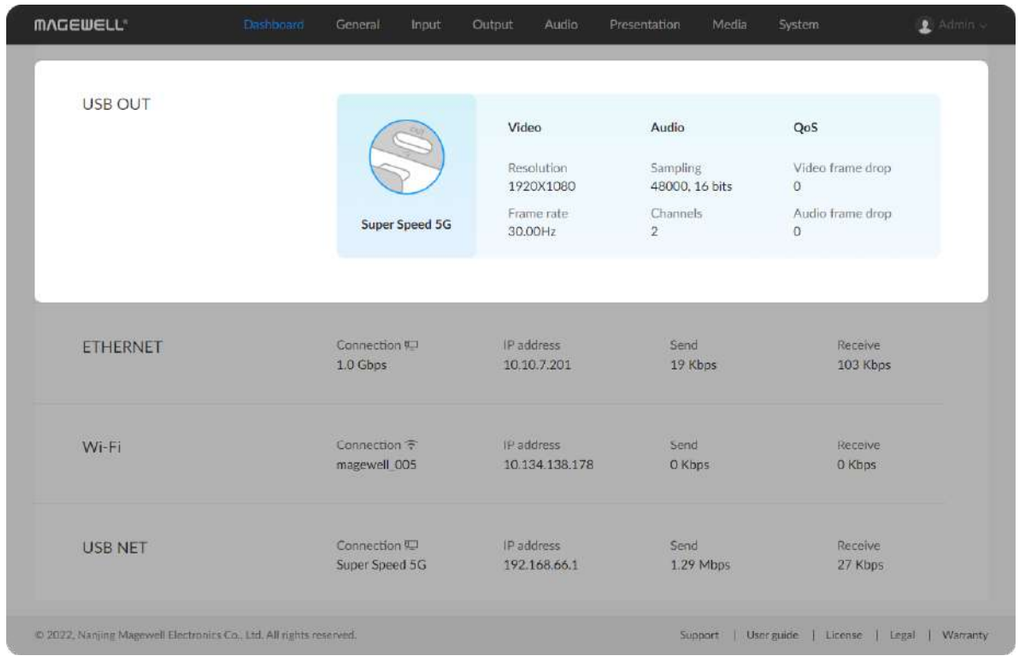
  Output content of the HDMI OUT port includes:
  - **HDMI 1**: output the video captured from the HDMI 1 port
  - **HDMI 2**: output the video captured from the HDMI 2 port
  - **PROGRAM**: output the program, namely the same content as that output through the USB OUT port

  Output status of the HDMI OUT port includes:
  - **No signal**: no output

- *Resolution/frame rate*: input resolution and frame rate, such as 1920x1080p, 60fps

> Click in this area to jump to **Output**.

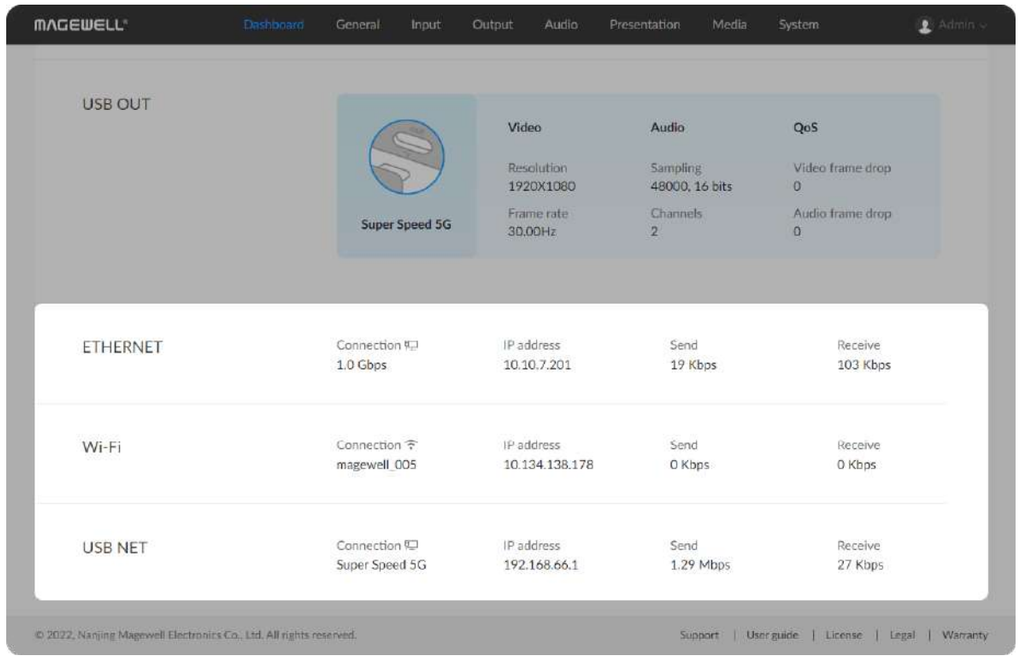
- **CPU**: CPU usage of USB Fusion, in percentage.
  More complex video will require higher CPU usage.
- **Memory**: memory usage of USB Fusion, in percentage.
- **Temperature**: temperature of the chipset on USB Fusion.
  To avoid overheat, ensure that USB Fusion is working in a well-aired environment with proper temperature. When the temperature approaches 100 degrees, you need to reduce the temperature, such as by using a fan.
- **Up Time**: duration that USB Fusion keeps running since last startup.
- **Free Space**: available storage of USB Fusion.
- **Fan Speed**: rotation speed of the fan per minute. This changes based on the temperature of USB Fusion.



USB Output Status

The Video, Audio, and QoS data is displayed only when USB Fusion is selected as the camera and being used in the receiving software.

- **Connection**: connection status of the USB OUT port
  - **Disconnected**: no device connected.
  - **Full Speed**: USB 1.1 speed at 12 Mbps
  - **High Speed**: USB 2.0 at 480 Mbps
  - **Super Speed 5G**: USB 3.0 speed at 5 Gbps
- **Video**: basic information about video output
  - **Resolution**: resolution of the video output
  - **Frame rate**: frame rate of the video output
- **Audio**: basic information about audio output
  - **Sampling**: sampling rate and depth for the audio output
  - **Channels**: number of channels for the audio output
- **QoS**: frame drop statistics of the previous second
  - **Video frame drop**: number of video frames dropped in the previous second
  - **Audio frame drop**: number of audio frames dropped in the previous second



Network Connection Status

Ethernet, Wi-Fi, and USB network are supported for network connections.

- **Connection**: connection status.

  Ethernet:

  - **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

  Wi-Fi (displayed when enabled):

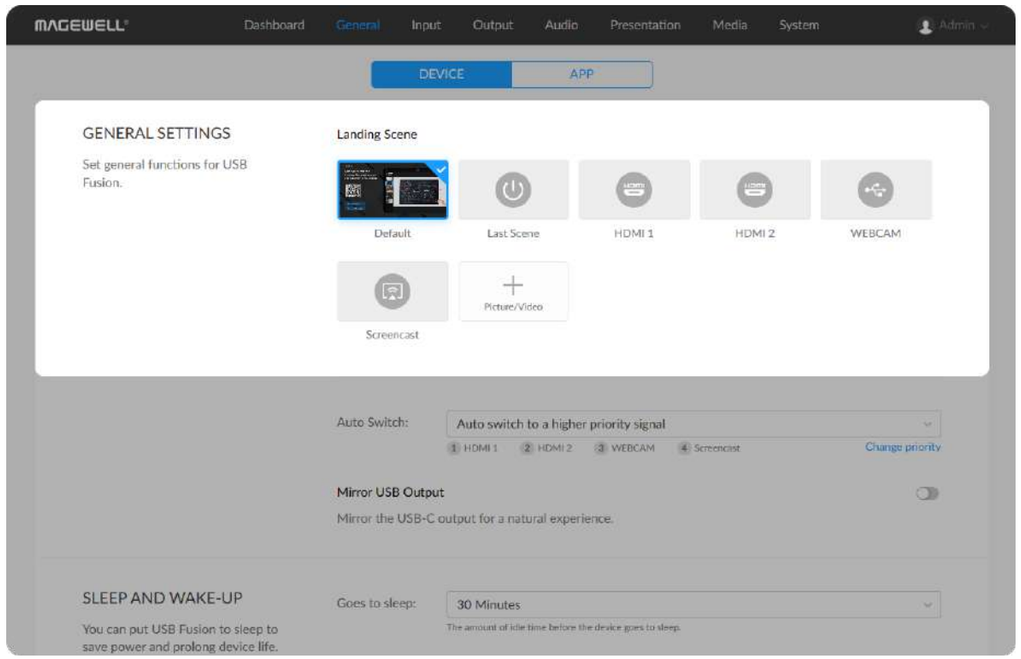
  - **Down**: The network port is down.
  - **Disconnected**: No network is connected.
  - *Network name*: name of the connected network

  AP (displayed when enabled):

  - *SSID*: AP network name

  USB NET:

  - **Down**: The network port is down.
  - **Disconnected**: No network is connected.
  - **Full Speed**: USB 1.1 speed at 12 Mbps
  - **High Speed**: USB 2.0 at 480 Mbps
  - **Super Speed 5G**: USB 3.0 speed at 5 Gbps
- **IP Address**: IP address of USB Fusion
- **Send**: speed for sending data
- **Receive**: speed for receiving data



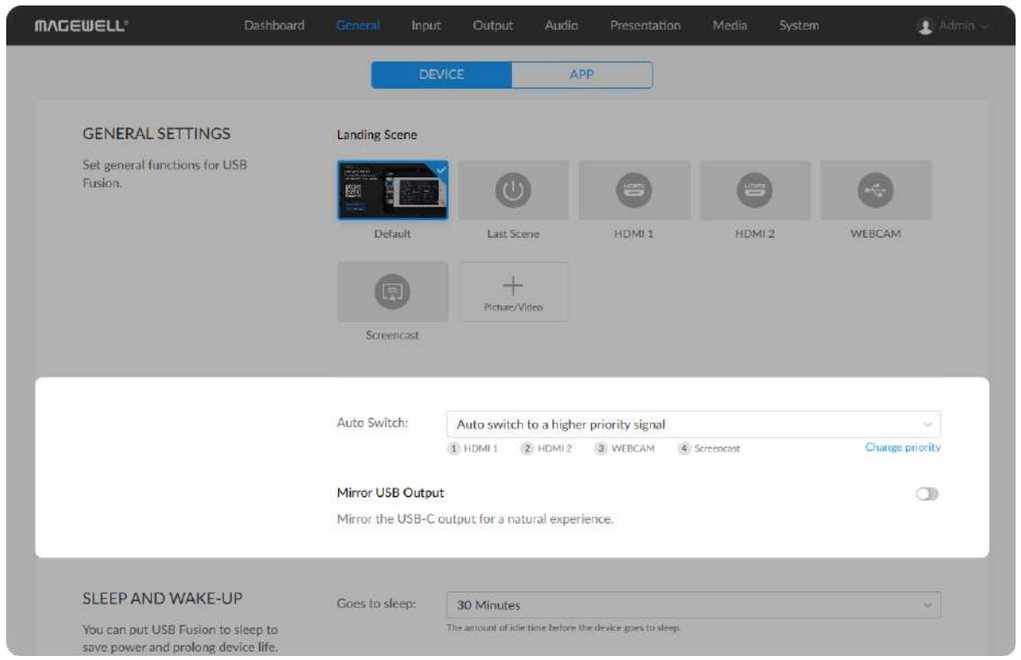
Setting General Functions

General functions include scene-related functions and App-related functions.

Setting the Landing Scene

The landing scene is the scene output by USB Fusion after it is started. By default, a built-in default image is output. You can also define your own landing scene.

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **DEVICE** at the upper part.
3. (Optional) If you need to add custom pictures or videos as a landing scene, click the + button in the **GENERAL SETTINGS** > **Landing Scene** area.
   The pictures and videos displayed for adding are the media files imported into USB Fusion. For details about how to import these files, see Importing Pictures and Importing Videos.
   You can add 3 custom files at most. When you add extra files, the earliest files will be deleted.
4. In the **GENERAL SETTINGS** > **Landing Scene** area, select an item.
   - **Default**: built-in default image
   - **Last scene**: scene switched to when the device powers off last time
   - **HDMI 1**: image from the source connected to the HDMI 1 port
   - **HDMI 2**: image from the source connected to the HDMI 2 port



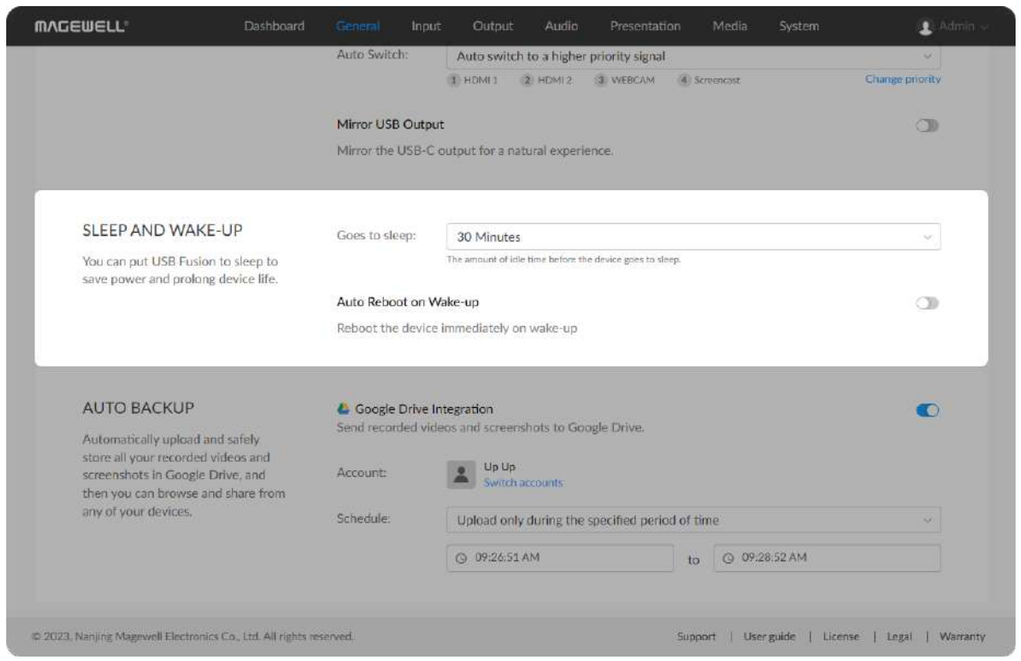
- **WEBCAM**: image from the source connected to the WEB CAMERA port
- **Sceencast**: image from the screencast source
- Custom image: custom pictures or video files

The selected item will have a ✔ mark on it. When you power on USB Fusion next time, the selected item will be first scene output by the device.

Setting Auto Switchover

You can set the scene switch policy when a source is connected.

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **DEVICE** at the upper part.
3. In the **GENERAL SETTINGS** area, disable or enable **Auto Switch**.
   - **Disabled**: USB Fusion does not perform automatic switchover. You can switch scenes manually.
   - **Auto switch to new signal**: USB Fusion will automatically switch to an HDMI, WEBCAM, or screencast source when it is connected, and switch back to the previous one when it is disconnected.
   - **Auto switch to a higher priority signal**: The default priority is ① HDMI 1, ② HDMI 2, ③ WEBCAM, ④ Screencast.
     You can change priority as needed: Click **Change priority**, move the mouse pointer over one signal type, and then click the up or down arrow to adjust its priority.



Setting USB Output Mirroring

When the video output from the USB OUT port appears unnatural, such as with text in reverse order, you can mirror the output for a natural experience.

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **DEVICE** at the upper part.
3. In the **GENERAL SETTINGS** area, enable **Mirror USB Output**.
   The output video will be mirrored immediately.

Setting Sleep

USB Fusion can go to sleep after being idle for a period of time. Thus it not only saves power, but also prolongs device life.

Go to sleep

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **DEVICE** at the upper part.
3. In the **SLEEP AND WAKE-UP** area, select the idle time in the drop-down box of **Goes to sleep**.
   Options include: NEVER, 30 Minutes, 1 Hour, 2 Hours, 4 Hours, 8 Hours, and 12 Hours. The default options is NEVER, that is, the device never goes to sleep.
4. After being idle for the specified time period, USB Fusion goes to sleep.
   Idle means that USB Fusion should meet the following conditions at the same time.

- No one is pressing any button on the device. -and-
- No App is trying to connect the device. -and-
- No one is operating the App. -and-
- No one is trying to log on the Web UI. -and-
- No one is operating the Web UI. -and-
- No recording, uploading or downloading is ongoing. -and-
- No one is trying to connect or disconnect devices to USB Fusion. -and-
- No UVC/UAC capturing is ongoing. -and-
- No live streaming is ongoing. -and-
- No screencast is ongoing.

After going to sleep, USB Fusion does not send signal to the device connected to the HDMI OUT port, such as TV, projector and monitor. Such device goes to power-saving mode (if supported).
App log outs to the login page, and it displays "Device is sleeping" under the device name.
Web UI log outs to the login page, and it displays "Device is sleeping" on the top.

Wake up device

You can wake up USB Fusion device by performing any of the following operations.

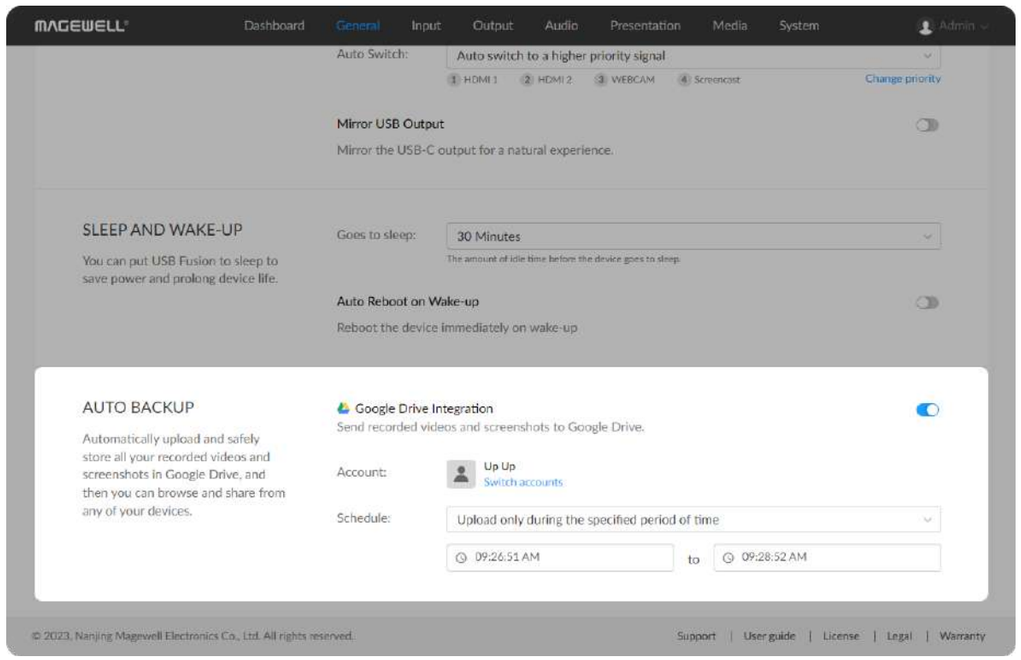
- Press any button on the device. -or-
- Connect the device with the App. -or-

- Log on the Web UI. -or-
- Connect or disconnect a video or audio device. -or-
- Connect to third-party software and start UVC/UAC capturing. -or-
- Start casting to the device. -or-
- If you have set schedule recording or auto backup, when it reaches the planned start time, the device wakes up automatically and implements schedule recording or auto backup.

After USB Fusion wakes up, it starts sending signals again to the device connected to the HDMI OUT port. Such device exits power saving mode (if supported).

Auto Reboot on Wake-up

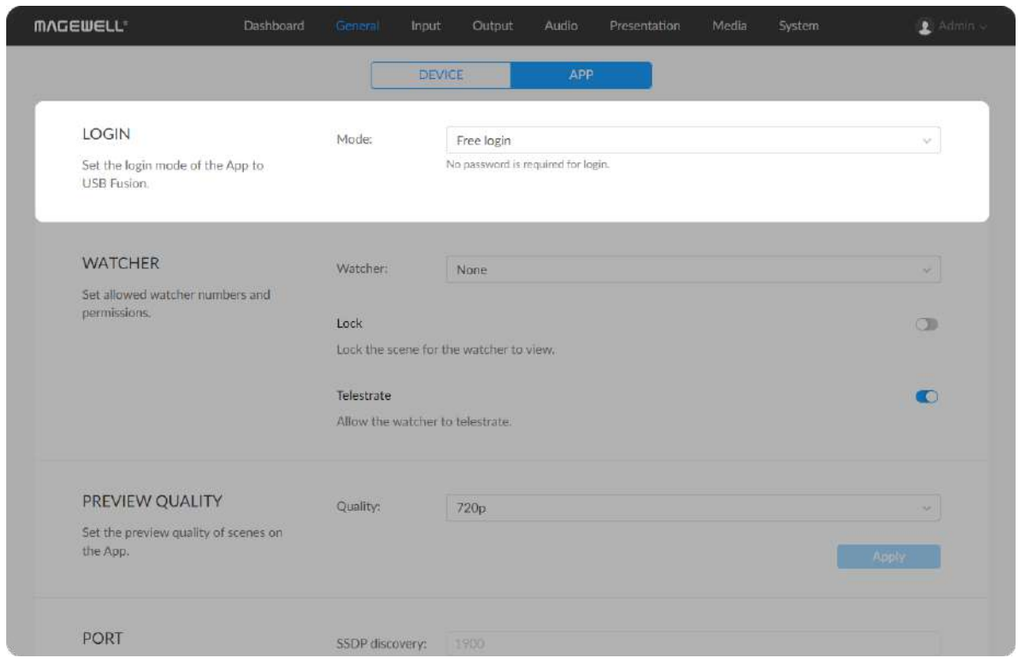
If needed, you can toggle on **Auto Reboot on Wake-up** to reboot the device immediately on wake-up.



Setting Auto Backup

USB Fusion can automatically upload and safely store all your recorded videos and screenshots in Google Drive, and then you can browse and share from any of your devices.

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **DEVICE** at the upper part.
3. In the **AUTO BACKUP** area, toggle on the switch of Google Drive Integration.
4. The popup shows the verification code. Please copy this code, tap **Go to Google Drive**, and complete login authentication. After authentication is finished, your account information will be displayed.
   If needed, you can click **Switch accounts** to switch to other account.
   If you cancel authentication, a **Login** button will be displayed after **Account**. You can click the button to log in.
5. Select an auto backup mode in the drop-down box of Schedule.
   - Upload always: as long as there is new recorded video or screenshot file, it starts upload. It is the default option.
   - Upload only during the specified period of time: select start time and end time, and click OK.
     When the planned start time is reached, it starts uploading files to Google Drive.
     When the end time is reached, it stops uploading files.
     It is suggested to select a time period during which the network is idle.



> The time control of timer supports 12-hour clock.
> You can only select the time period in the same day. It cannot span to the next day.

6. To disable auto backup, toggle off the switch of Google Drive Integration.

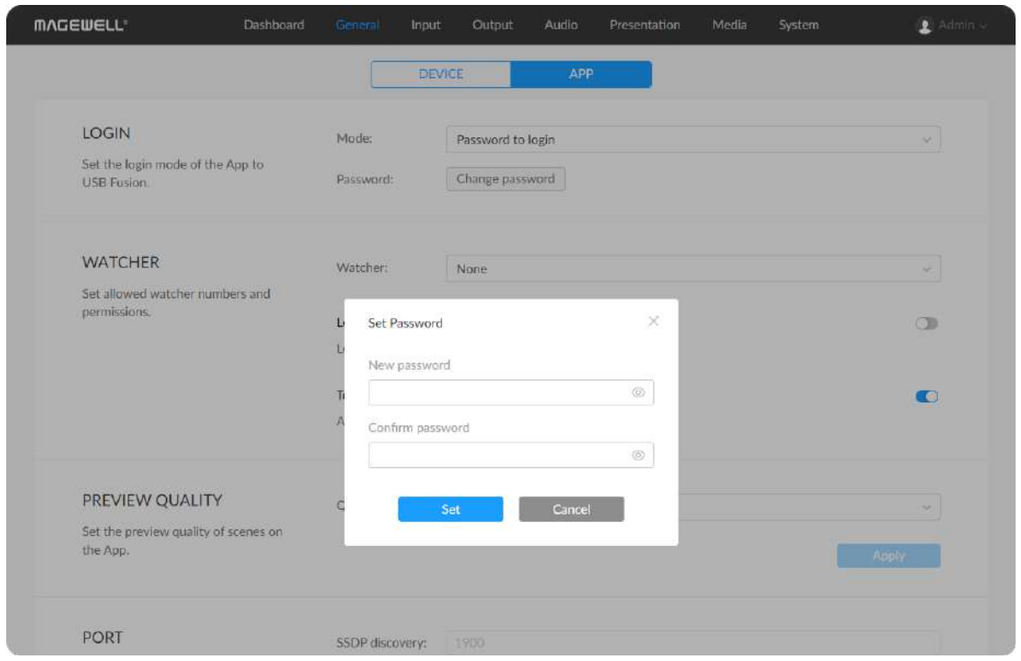
For the file being uploaded, you can cancel uploading. Please refer to Uploading Videos/Screenshots.

Setting the App Login Mode

You can set the login mode for the App to connect to the USB Fusion device to meet diversified security requirements in different scenarios. USB Fusion supports three login modes, including free login, password to login and pairing to login.

Free login

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **APP** at the upper part.
3. In the **LOGIN** area, click the drop-down box of **Mode**, and select **Free login**.
   "Free login" is the default login mode, and the App can directly connect to the device.



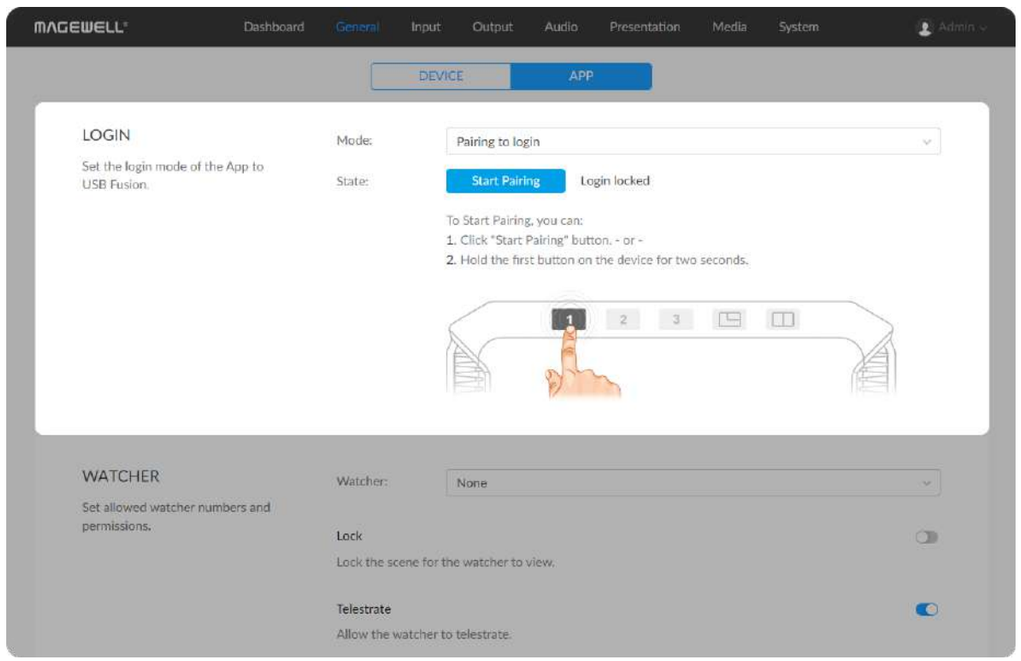
Password to login

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **APP** at the upper part.
3. In the **LOGIN** area, click the drop-down box of **Mode**, and select **Password to login**.
4. In the **Set Password** dialog box, enter a password, and click **Set**.
   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 _~!@#$%^&*-+=

> The connected App will be logged out.

After setting the password:

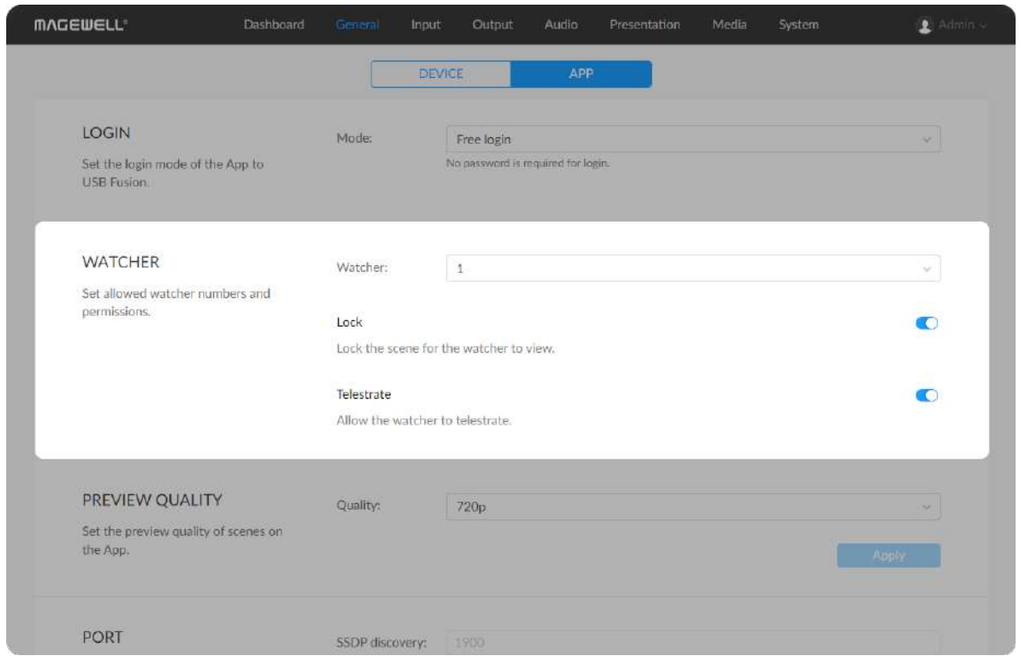
- If you forget the password, click **Change password** to make the change.
- If you reselect **Password to login** after you selected another mode, you need to set the password again.



Pairing to login

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **APP** at the upper part.
3. In the **LOGIN** area, click the drop-down box of **Mode**, and select **Pairing to login**.
   Now, the device goes into the **Login locked** status, and no App can log in. The connected App will be logged out.
4. Click **Start Pairing**, or long-press the 1 button on the device for 2 seconds.
   Now, the device goes into the **Waiting for pairing** status, and a pairing code is displayed on the Web UI.
5. Use you App to log in. Refer to Pairing to login.
   Now, the device goes into the **Paired** status.
6. To disconnect the current App, click **Re-Pairing**, or long-press the 1 button on the device for 2 seconds.
   Now, the device goes into the **Waiting for pairing** status again, and a new pairing code is displayed on the Web UI. The connected App will be logged out.
   If an App logs in with this new pairing code, the device goes into the **Paired** status again.
7. Click **Stop Pairing**, or long-press the 1 button for 2 seconds.
   Now, the device goes into the **Login locked** status gain.

> Switching to other login modes is not allowed when the device is in the **Waiting for pairing** status.



Setting Watcher

The App supports two login roles, Operator and Watcher. The default role is Operator. By setting Watcher, you can enable two roles logging into the app with different permissions.

Setting the Number of Watcher

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **APP** at the upper part.
3. In the **Watcher** area, select the number of watcher from the drop down box of **Watcher**.
   - None (default): No watcher. The default login role is Operator.
   - 1: Only allows one Watcher to log in.
   - 2: Allows two Watchers to log in.

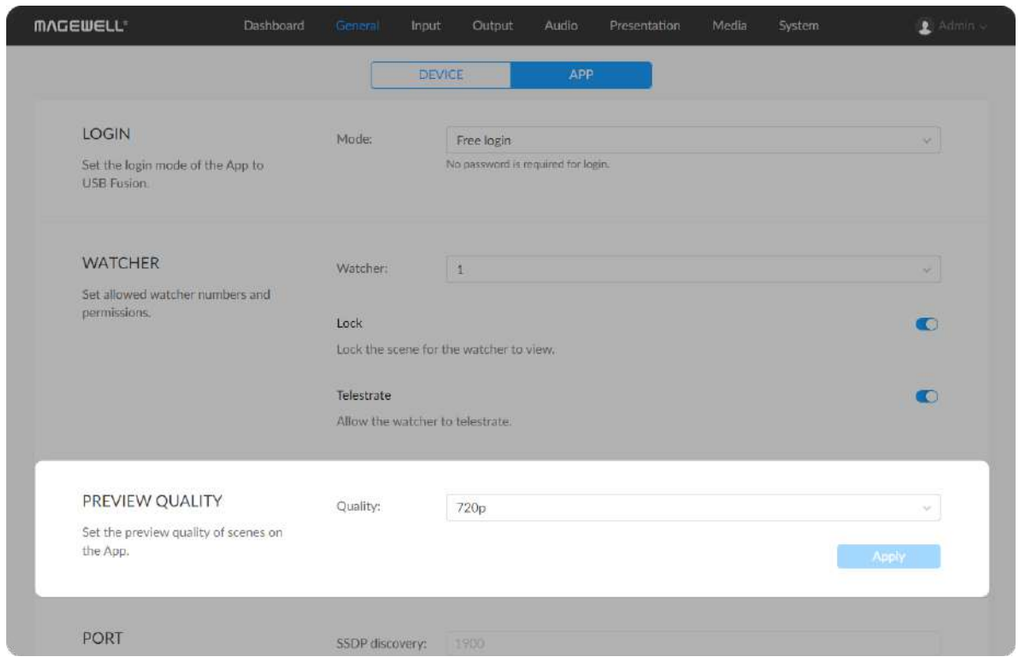
> When there are two Watchers logging in, if you change the number to 1, the two will log out automatically. **When there are one or two Watchers logging in, if you chang the number to None, all of them will log out automatically.**

Setting the Permissions of Watcher

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **APP** at the upper part.
3. In the **Watcher** area, set the permissions of Watcher.
   - **Lock**: To lock the scene for the watcher to view. When it is toggled on, the watcher can only view the presenting scene. When it is

toggled off, the watcher can also view **About** and **Help**.

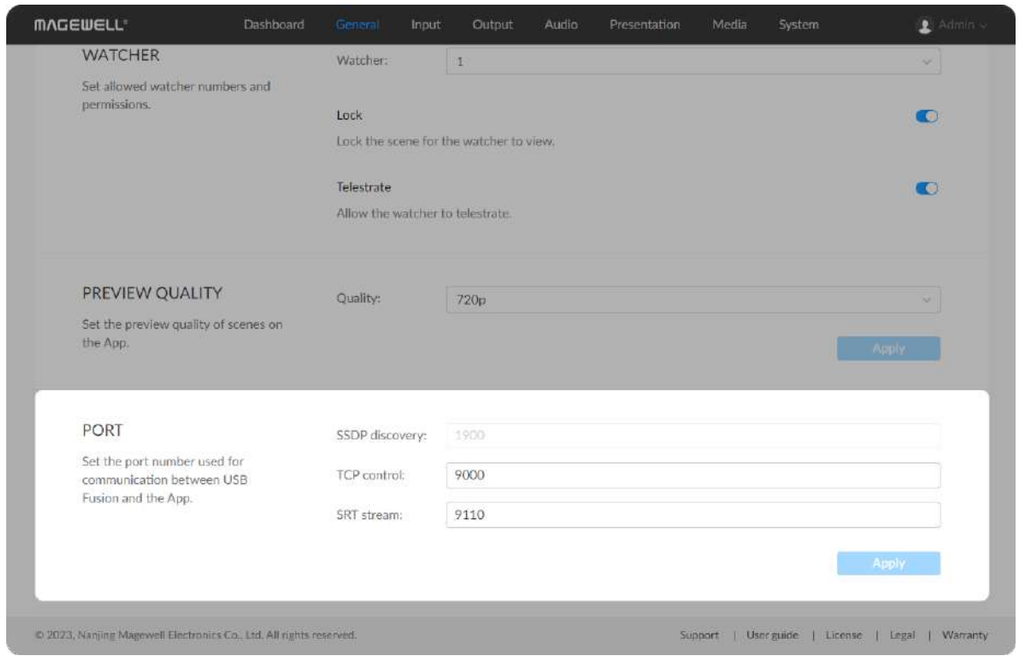
- **Telestrate**: To allow the watcher to telestrate. When it is toggled on, the watcher can use some of annotation tools to telestrate. When it is toggled off, the watcher cannot telestrate.



Setting the Preview Quality

You can set the preview quality of scenes on the App according to the network condition. A higher quality requires more network bandwidth.

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **APP** at the upper part.
3. In the **PREVIEW QUALITY** area, set **Quality**.
   - 720p: standard definition (SD)
   - 1080p: high definition (HD)
   - Auto: adjusting quality automatically according to the network condition
   - Customize: setting resolution as needed
     - **Resolution**: supports 720P and 1080P. The default is 720P.
     - **Frame rate**: supports 10 FPS, 15 FPS, 24 FPS, 30 FPS and 60 FPS. The default is 30FPS.
     - **Bit rate**: supports 256 Kbps through 20 Mbps. The default is 2 Mbps.
4. Click **Apply**.

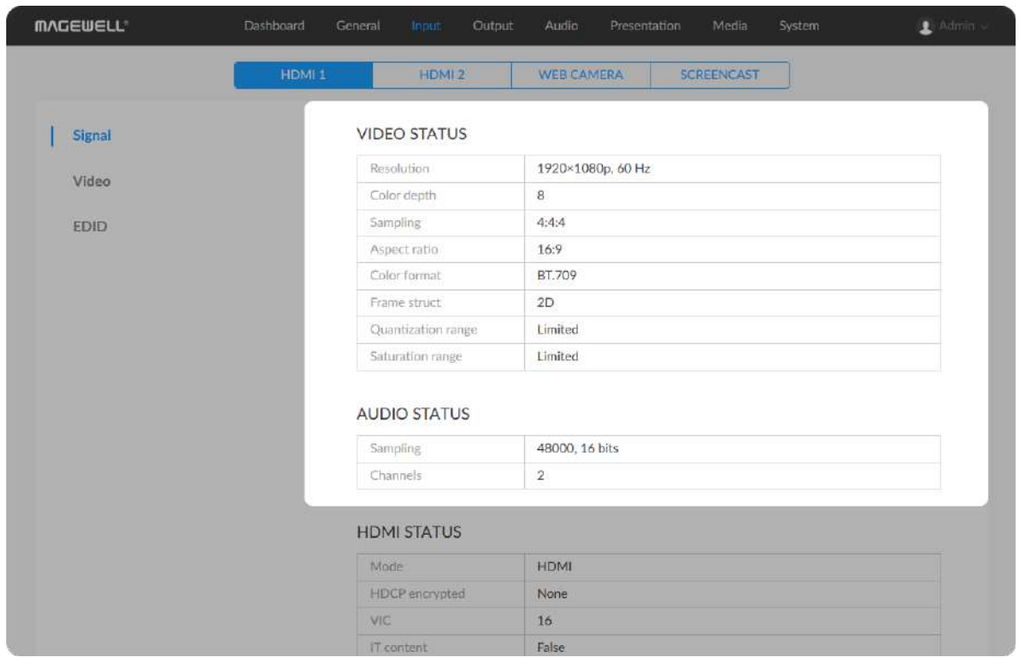


Setting Communication Ports

Set the ports used for communication between the USB Fusion device and the App, for example, when a default port number is disabled in the network.

1. In the navigation bar at the upper part of the Web UI, click **General** .
2. Click **APP** at the upper part.
3. In the **PORT** area, set the communication ports.
   - **SSDP discovery**: network discovery port. The SSDP protocol is used. The default is 1900 and cannot be changed.
   - **TCP control**: port for delivering control instructions. The TCP protocol is used. The default port is 9000 and can be modified. The value range is 1 to 65535.
   - **SRT stream**: port for delivering video streams to the App. The SRT protocol is used. The default port is 9110 and can be modified. The value range is 1 to 65535.
4. Click **Apply**.

> After a port number is changed, the connection between the USB Fusion device and USB Fusion App will be interrupted. You need to manually connect the app to the device.



Viewing and Setting the Input

USB Fusion can capture from computers, HDMI cameras, and webcams. When a source device is connected to USB Fusion, the Web UI automatically discovers the source signals and displays their basic information. The Web UI also allows you to configure the input signals.

Viewing and Setting HDMI Input

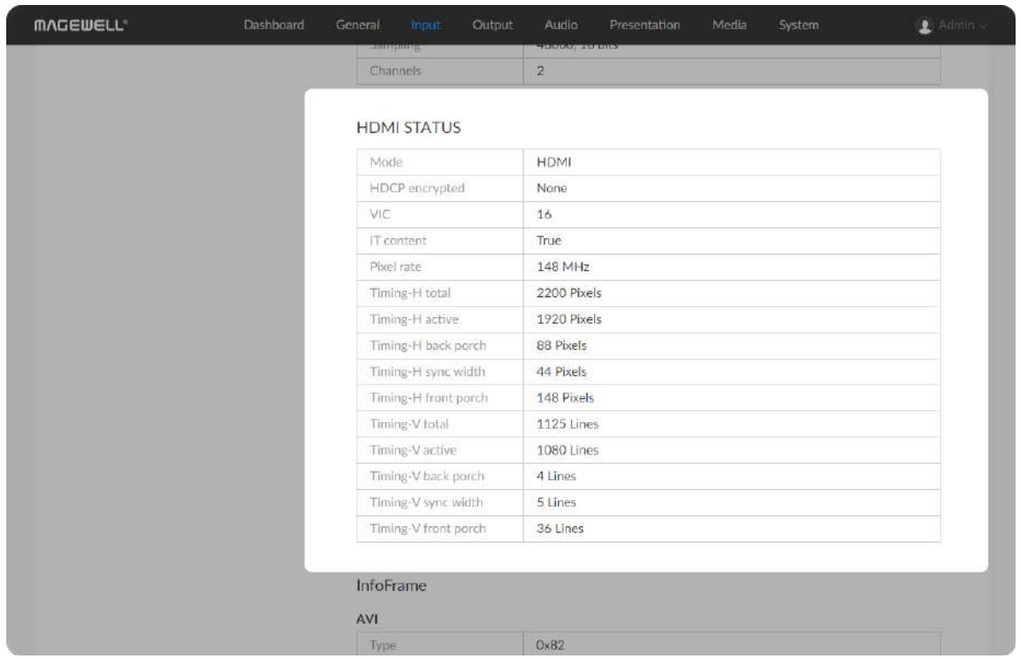
Supports viewing signal information of HDMI 1 and HDMI 2 ports, setting video properties, and changing EDID.

Viewing Signal Information

1. In the navigation bar at the upper part of the Web UI, click **Input** .
2. Click **HDMI 1** or **HDMI 2** at the upper part, and then click **Signal** on the left to view the signal information.
   If **Disconnected** is displayed, the source device is not connected.

Viewing Video Status

- **Resolution**: resolution and frame rate of the video input
- **Color depth**: color depth of the video input, in bit
- **Sampling**: sampling rate of the video input, such as 4:4:4
- **Aspect ratio**: aspect ratio of the video input
- **Color format**: color space of the input video, such as RGB
- **Frame struct**: The frame structure can be 2D or 3D.
- **Quantization range**: The quantization range can be Full or Limited.



- **Saturation range**: The saturation range can be Full, Extended, or Limited.

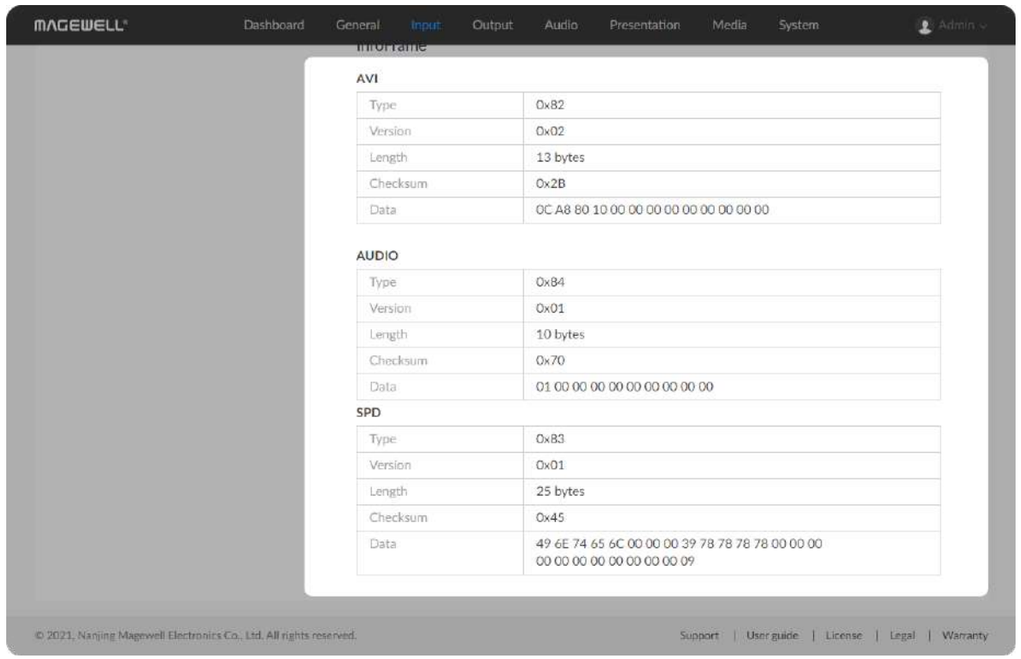
Viewing Audio Status

- **Sampling**: sampling rate and depth of the audio input
- **Channels**: number of channels of the audio input

Viewing HDMI Status

- **Mode**: Input signal type.
- **HDCP encrypted**: whether the signal is HDCP-encrypted. If yes, the corresponding HDCP version is displayed. If no, **None** is displayed. To conform to laws, the device does not support HDCP-encrypted signal.
- **VIC**: CEA-specified video identifier. Different values indicate different combinations of resolution, frame rate, aspect ratio and etc.
- **IT content**: whether the picture content is composed according to common IT practice. If yes, the content is unsuitable for analog reconstruction or filtering.
- **3D struct**: layout of the two views of a 3D video frame, including Side by side half, Top and bottom, Frame packing. This parameter is displayed only for a 3D signal.
- **3D sub-sampling**: Sub-sampling method for a 3D video. This parameter is displayed only for a 3D signal in the Side by side half mode.
- **Pixel rate**: pixel clock rate, which indicates the maximum number of pixels that can be written to local storage per second.
- **Timing - H total**: total number of horizontal pixels

- **Timing - H active**: number of horizontal active pixels, namely the horizontal pixels of the current video
- **Timing - H back porch**: number of horizontal back porch pixels
- **Timing - H sync width**: number of horizontal sync pixels
- **Timing - H front porch**: number of horizontal front porch pixels
- **Timing - V total**: number of vertical total pixels
- **Timing - V active**: number of vertical active pixels, namely the vertical pixels of the current video
- **Timing - V back porch**: number of vertical back porch pixels
- **Timing - V sync width**: number of vertical sync pixels
- **Timing - V front porch**: number of vertical front porch pixels

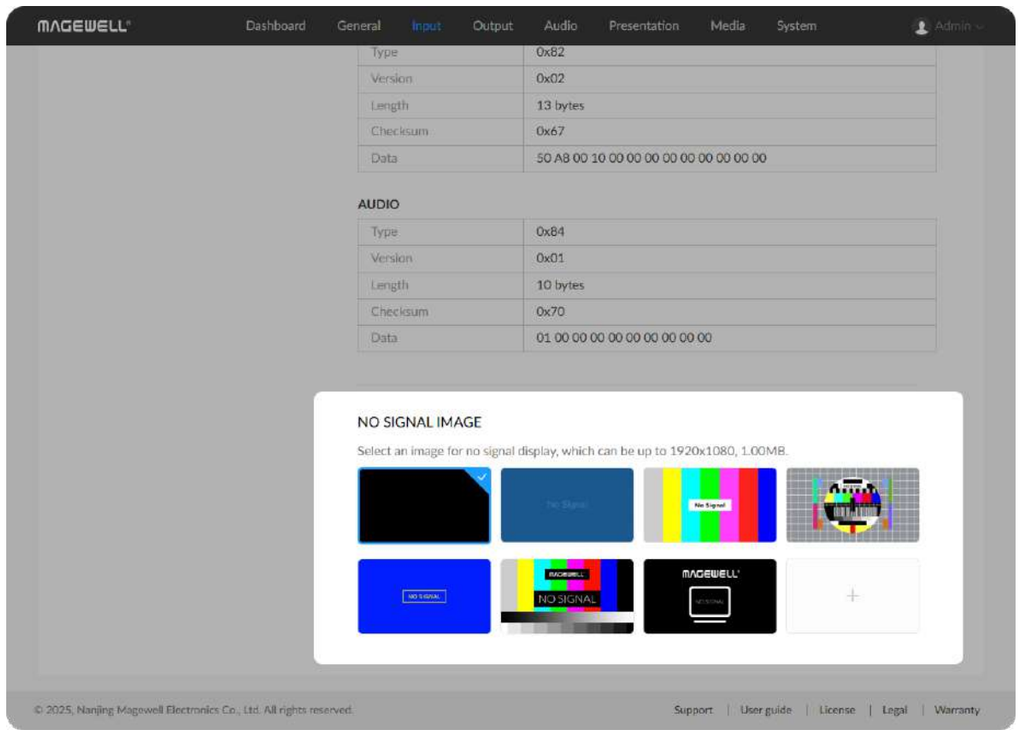


Viewing InfoFrame Information

> The following parameters are displayed only when the input signal is HDMI signal.

InfoFrame information includes AVI, Audio and many other data types. For details, you can refer to the CEA-861-x standard. This page only displays the data types that are present in InfoFrame. Each data includes the following parameters:

- **Type**: InfoFrame data type. For example, the value for the AVI frame is 0x82.
- **Version**: InfoFrame data version
- **Length**: length of the InfoFrame



- **Checksum**: checksum of the InfoFrame
- **Data**: data in the InfoFrame

Setting No Signal Image

In the **NO SIGNAL IMAGE** area, you can a default or custom image for no signal display, which can be up to 1920x1080, 1.00MB.

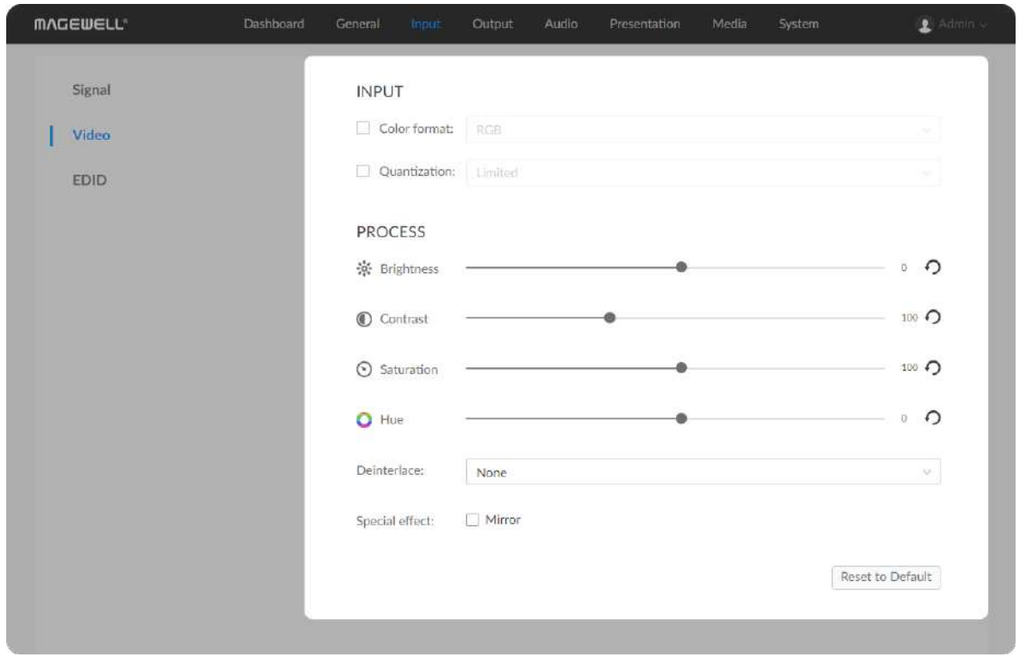
1. In the NO SIGNAL IMAGE area, click "+" to select an image from the Media. If there is no available images, you can click "+" to import an image from local.
   Supported image files are JPEG, PNG, BMP.
2. Click + again to add more images.
3. Click one image to set it as the no signal image.

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

Deleting No Signal Image

1. In the NO SIGNAL IMAGE area, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Delete**.
2. On the displayed dialog box, click **Delete**.

The default images cannot be deleted.



Setting Video

1. In the navigation bar at the upper part of the Web UI, click **Input** .
2. Click **HDMI 1** or **HDMI 2** at the upper part, and then click **Video** on the left to set the video formats.
   If **Disconnected** is displayed, the source device is not connected.

Calibrating the Video Input

Generally, USB Fusion can correctly recognize the input signal. If the input signal is non-standard or incorrectly parsed, you can manually adjust the parsing result. By default, parameters under **INPUT** are the formats parsed by USB Fusion.

- **Color format**: Different color spaces defines different image characteristics, such as supported frame rates, resolutions, color depth, color primaries, and codec.
  After you check this, you can select a color space from the drop-down list box, including:
  - RGB
  - YUV BT.601: applies to SD video
  - YUV BT.709: applies to HD video
  - YUV BT.2020: applies to UHD video
- **Quantization range**: After checking this box, you can select a range from the drop-down list box, including:
  - Full: full quantization. This usually applies to IT content.
  - Limited: limited quantization. This usually applies to TV content.

Processing Video Input

USB Fusion Web UI allows you to adjust source properties, de-interlace signal, and mirror your content.

- **Brightness**

  Drag the slider to adjust the brightness of the video source. Click  to revert to the original.

- **Contrast**

  Drag the slider to adjust the contrast of the video input. Click  to revert to the original.

- **Saturation**

  Drag the slider to adjust the saturation of the video input. Click  to revert to the original.

- **Hue**

  Drag the slider to adjust the hue of the video input. Click  to revert to the original.

- **Deinterlace**

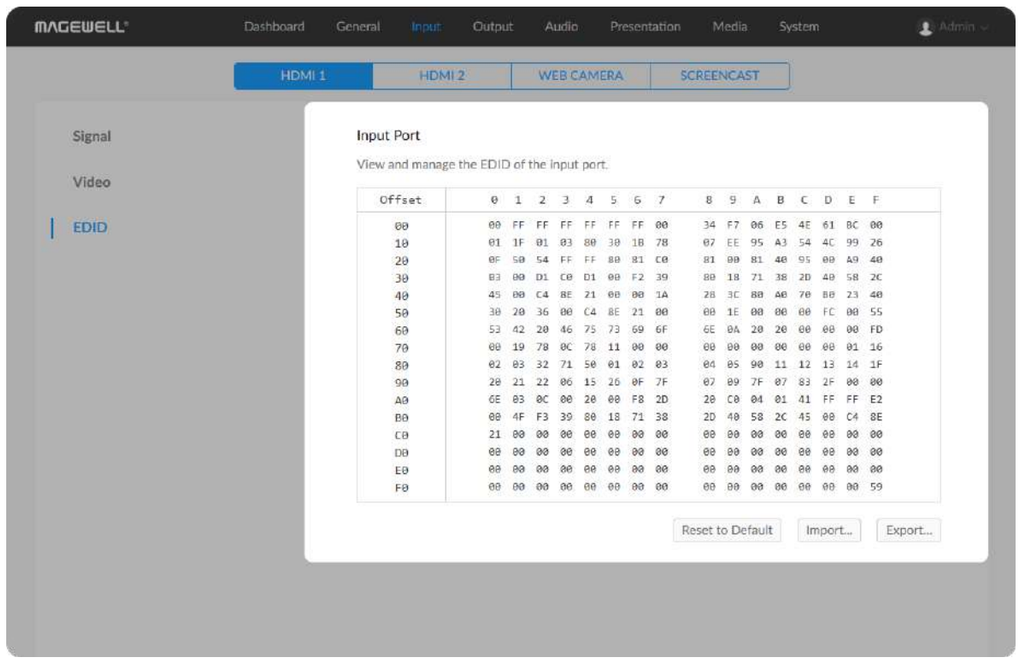
  When the video input is interlaced, it may lead to jigsaw edges or shadows, especially for dynamic videos. In this case, you can deinterlace the source to resolve the problem. Select a deinterlacing method from the drop-down list box:

  - **None** (default): No de-interlacing.
  - **Bob**: Doubles the lines of each field to make a full frame.
  - **Motion Adaptive**: Detects changes in motion and adaptively changes the deinterlacing method.
  - **Motion Compensated**: Track and analyze a group of consecutive

frames instead of just single frames to perform de-interlacing. This method usually yields the best result but also requires the most processing resources.

> This function applies only to interlaced signals, not progressive signals.

- **Special effect**
  Check this to mirror the video, namely flipping it horizontally. This is useful when you have text in reverse order in your video.



Setting the EDID

EDID is the capability description information provided by USB Fusion to the video source, including supported resolutions, frame rates, and aspect ratios. When a video source is connected to USB Fusion, it will read the EDID of the input port to determine the signal that it can send.

1. In the navigation bar at the upper part of the Web UI, click **Input** .
2. Click **HDMI 1** or **HDMI 2** at the upper part, and then click **EDID** on the left to view and set the EDID of the corresponding input port.

Viewing the EDID

You can export the EDID of the input port and use an EDID reader to view the EDID.

1. Click **Export** at the lower right corner under the EDID area.
2. (Optional) In the **Export** window, enter the EDID file name.
   The file name ranges from 1 to 64 characters.

3. In the **Export** window, click **Export** to export the current EDID into a .bin file.

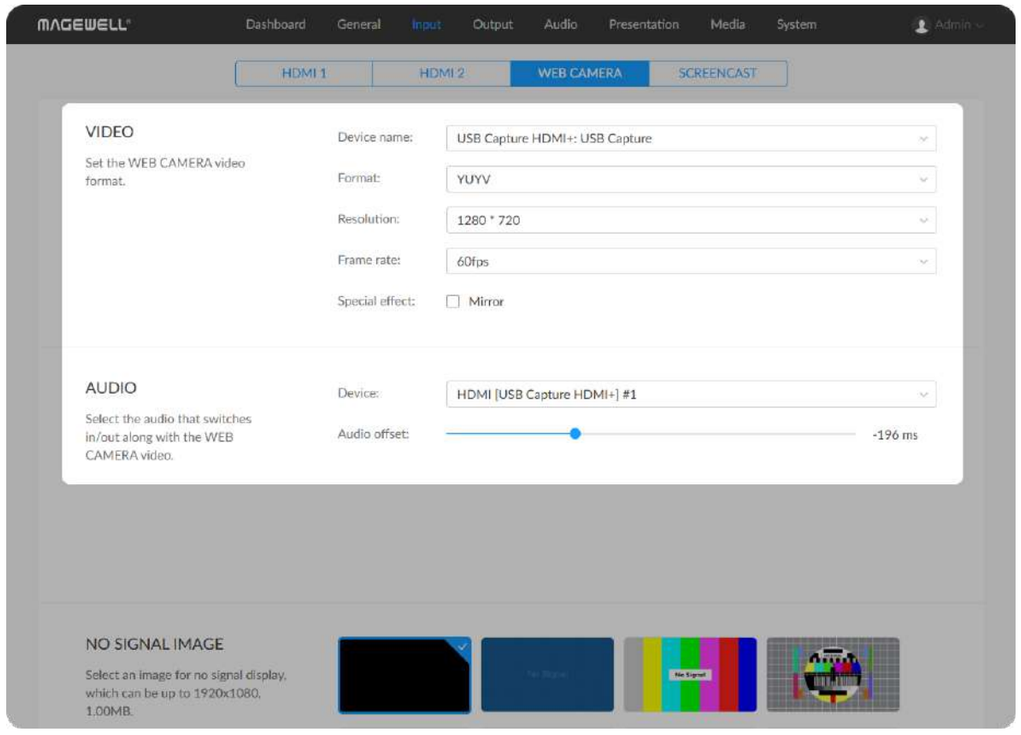
Changing the EDID

Generally, the default EDID of USB Fusion can successfully connect a video source. If you need to force the video source to output a specific format to the input port, you need to change the EDID of the input port.

Click **Import** and import a new EDID file from your local directory. The new EDID will overwrite the old EDID.

Resetting the EDID

When you need to restore the default EDID, for example, you may no longer need a custom EDID, you can click **Reset to Default** to reset the EDID of the port to the default.



Setting the WEB CAMERA Input

On the Web UI, you can set the audio input and video input connected to the WEB CAMERA port.

1. In the navigation bar at the upper part of the Web UI, click **Input**.
2. Click **WEB CAMERA** at the upper part to view and set related information about the device connected to the WEB CAMERA port.

Setting WEB CAMERA Video

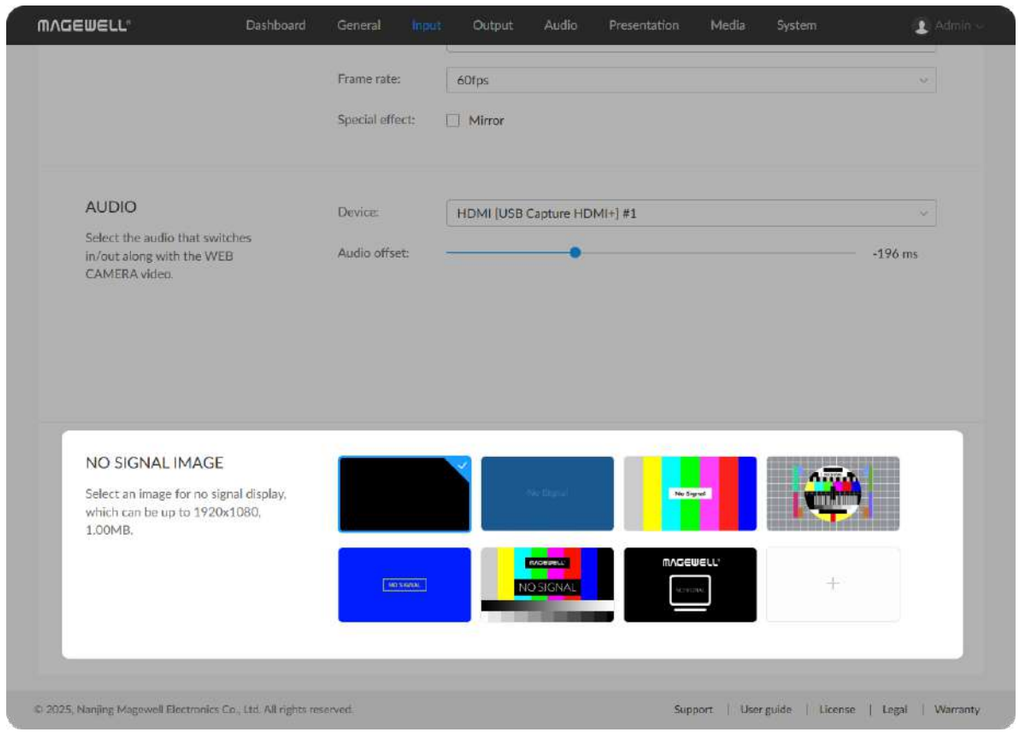
In the **VIDEO** area, you can set the following parameters for the video input connected through the WEB CAMERA port.

- **Device name**: Name of the current device connected to the WEB CAMERA port. When multiple devices are connected, you can select one from the drop-down list box.
- **Format**: Output format of the device connected to the WEB CAMERA port, such as YUYV.
  For the WEB CAMERA input, USB Fusion currently supports YUYV, H.264, MJPEG, UYUV, NV12 formats. YUYV is selected by default if available.
- **Resolution**: Select a resolution from the drop-down list box, which lists all the resolutions supported by the connected device. 720p is selected by default if available.
- **Frame rate**: Select a frame rate from the drop-down list box, which lists all the frame rates supported by the connected device. 30fps is selected by default if available.
- **Special effect**: Check this to mirror the input, namely, flip the video horizontally.

Setting WEB CAMERA Audio

In the **AUDIO** area, you can select an audio device as the WEB CAMERA audio, that is, the audio that switches along with the WEB CAMERA video. You can move the slider of **Audio offset** to match up the audio and video tracks. Set a positive value to delay the start of the audio track, or set a negative value to reduce the delay.

> The audio input from the WEB CAMERA port can be used as a global microphone (which is used throughout a presentation and does not switch in/out with any scene) or WEB CAMERA audio. When you select the audio input as the web camera audio, you can no longer select it as a global microphone.



Setting No Signal Image

In the **NO SIGNAL IMAGE** area, you can a default or custom image for no signal display, which can be up to 1920x1080, 1.00MB.

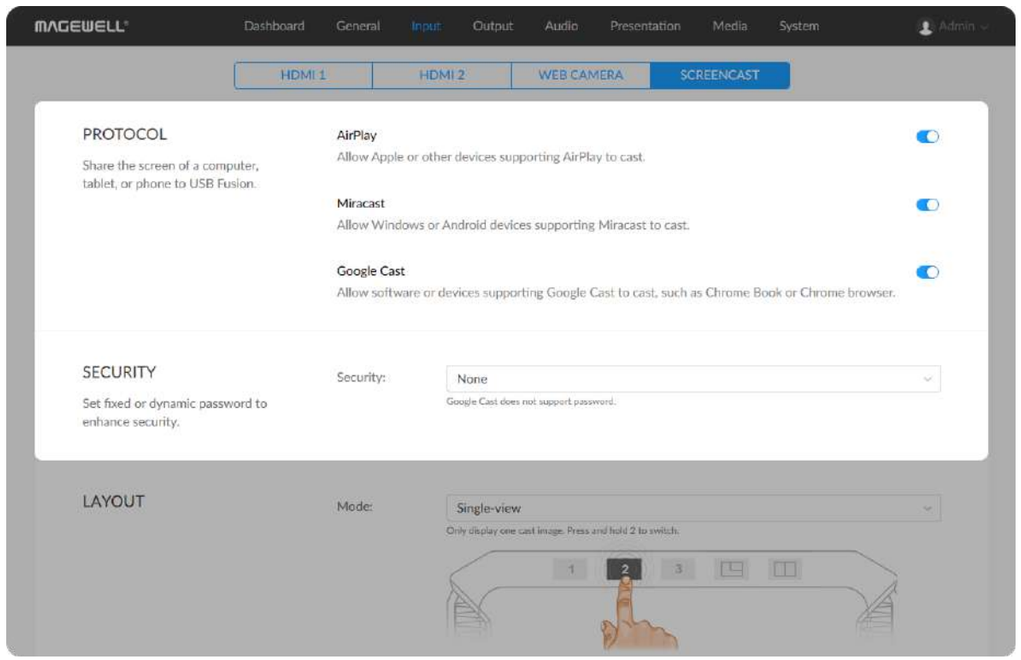
1. In the NO SIGNAL IMAGE area, click "+" to select an image from the Media. If there is no available images, you can click "+" to import an image from local.
   Supported image files are JPEG, PNG, BMP.
2. Click + again to add more images.
3. Click one image to set it as the no signal image.

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

Deleting No Signal Image

1. In the NO SIGNAL IMAGE area, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Delete**.
2. On the displayed dialog box, click **Delete**.

The default images cannot be deleted.



Setting the Screencast Input

On the Web UI, you can set the protocol, security, layout and overlay for screencast.

1. In the navigation bar at the upper part of the Web UI, click **Input**.
2. Click **SCREENCAST** at the upper part to view and set related information about screencast.

Setting Protocol

USB Fusion supports AirPlay, Miracast and Google Cast, all of which are enabled by default.

If you turn off the switch of a protocol in the **PROTOCOL** area, devices supporting this protocol will be not able to cast to USB Fusion. To enable the protocol again, turn on the switch.

- AirPlay：Allow Apple or other devices supporting AirPlay to cast.
- Miracast：Allow Windows or Android devices supporting Miracast to cast.
- Google Cast：Allow software or devices supporting Google Cast to cast, such as Chrome Book or Chrome browser.

Setting Security

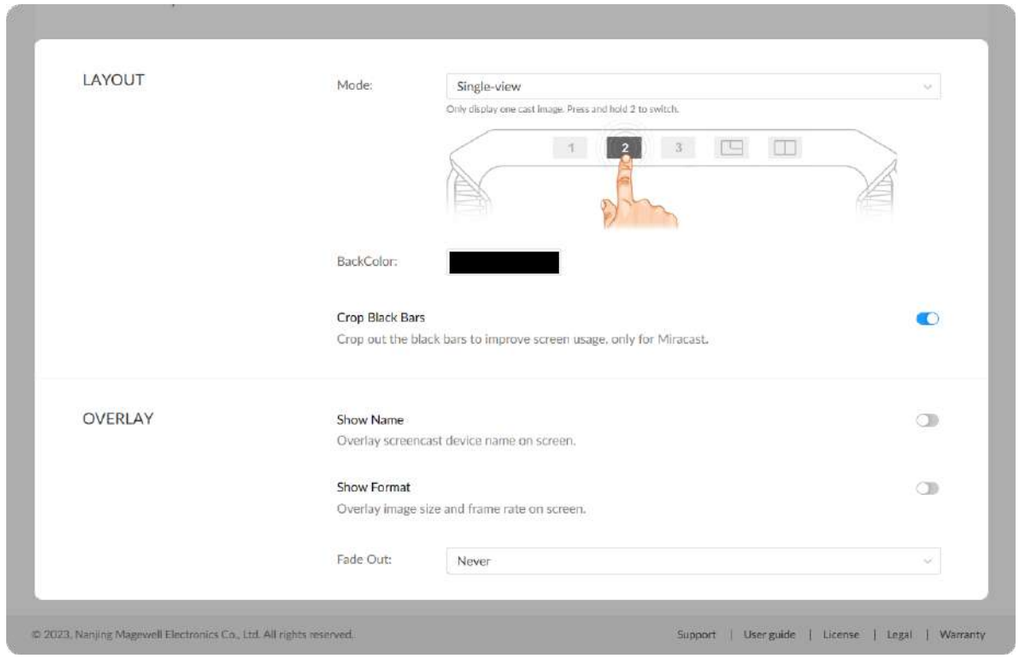
You can set fixed or dynamic password to enhance security.

In the **SECURITY** area, click the drop-down list box to set password.

- **None**: No password by default.
- **Onscreen Code**: The onscreen code will be displayed on the screen connected to HDMI OUT port.

- **Password**: a user-defined 4-digit password. Enter your password in the popup box, and click **Set**.
  After you set the password:
  - If you forget the password, click **Change Password** to set a new one.
  - If you switch to annother mode and then reselect the password mode, you need to set the password again.

> For Miracast over Infrastructure, it currently does not support password nor onscreen code.
> Google Cast does not support password nor onscreen code.



Setting Layout

In the **LAYOUT** area, you can set the follows.

- **Mode**: Select a displaying mode in the drop-down list box.
  - Single-view (default): Only display one cast image, that is, the previous user's screencast will be replaced by the next one. When multiple users are casting, press and hold 2 to switch single-view images in turn.
  - Multi-view: Display all the cast images simultaneously, that is, multiple screencast images will be combined into one scene with automatic layout. Press and hold 2 to switch the multi-view image and single-view images in turn.
- **BackColor**: Click the color box, set the background color and click "Save". The default color is black.
- **Crop Black Bars**: There will be black bars when casting with an Android

phone, tablet or other device through Miracast. This function can crop out the black bars to improve screen usage. Toggle on/off the switch to enable/disable the function, which is enabled by default.

Setting Overlay

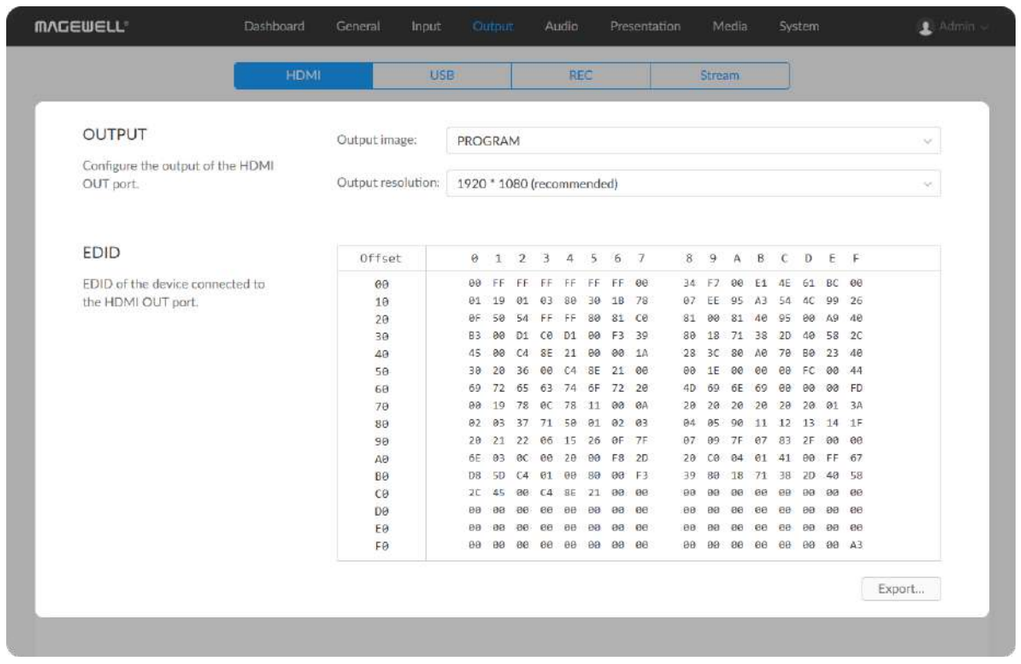
In the **OVERLAY** area, you can set to overlay screencast device name and image format, which will be displayed at the upper left corner of the screencast scene.

- **Show Name**: Toggle on/off the switch to set whether to overlay screencast device name on the screen.
- **Show Format**: Toggle on/off the switch to set whether to overlay image size and frame rate on the screen.
- **Fade Out**: Click the drop-down list box to set whether the overlay should fade out after the screencast source being connected. Options include: Never, In 5 seconds, In 10 seconds, In 20 seconds, In 30 seconds, In 60 seconds.

Viewing and Setting the Output

USB Fusion supports the following video outputs:

- HDMI OUT: output to a monitor for monitoring.
- USB OUT: output to a streaming computer for streaming.
- REC: record or take screenshots to the built-in disk of USB Fusion.
- Stream: output to stream destinations.



Setting the HDMI Output

1. In the navigation bar at the upper part of the Web UI, click **Output** .
2. Click **HDMI** at the upper part to view and configure HDMI output.
   If **Disconnected** is displayed, no device is connected to the HDMI OUT port.

Selecting the Output Content

The HDMI OUT port can output the input sources and the final output program.

In the **OUTPUT** area, select an item from the **Output image** drop-down list box.

- **HDMI 1**: HDMI 1 input
- **HDMI 2**: HDMI 2 input
- **PROGRAM** (default): final output program, namely the same output as the USB OUT port

For example, when a computer is connected to the HDMI 1 port, and an HDMI camera is connected to the HDMI 2 port, and USB Fusion switches to a PIP layout consisting of the computer image and HDMI camera image, if the **Output image** is set to **HDMI 1**, the computer image is displayed; if set to **PROGRAM**, the PIP image is displayed.

Setting the Output Resolution

By default, USB Fusion selects the best resolution supported by the connected screen to output. You can also select another resolution supported by the screen.

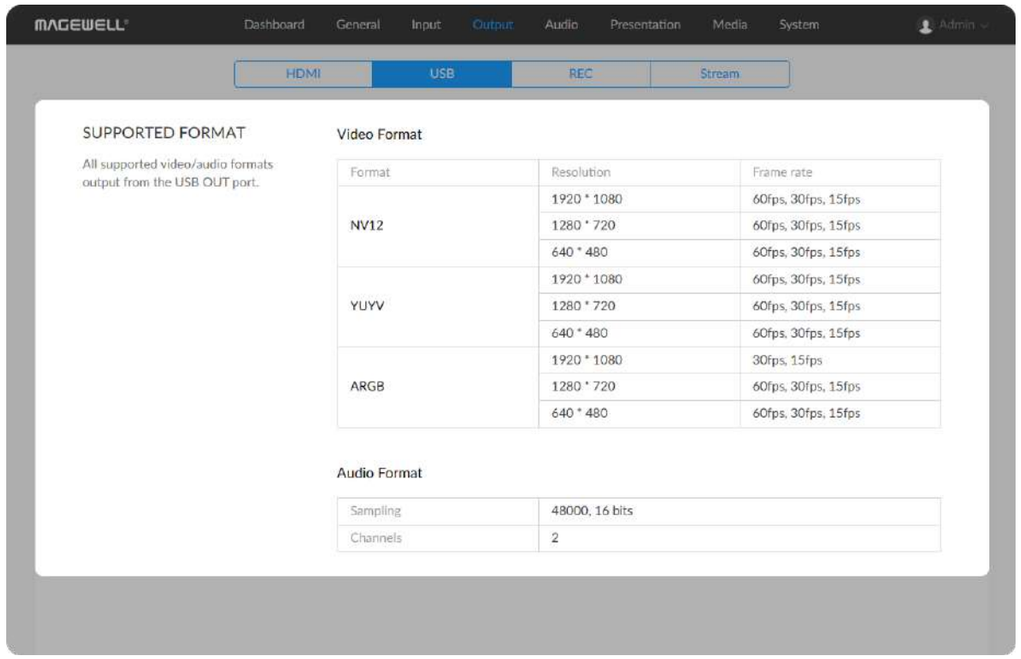
In the **OUTPUT** area, select a resolution from the **Output resolution** drop-down list box.

This drop-down list box lists all the resolutions supported by the connected screen, in which ** (recommended)* is the resolution recommended by the screen.

Exporting EDID

The EDID displayed on the HDMI output page is the EDID of the connected screen. You can export this EDID and use an EDID reader to view the capabilities of the screen.

Click **Export** at the lower right corner of the EDID area to export an EDID file in the .bin format.



Viewing the USB Output

1. In the navigation bar at the upper part of the Web UI, click **Output**.
2. Click **USB** at the upper part to view the formats supported by the USB OUT port.

   Supported USB video format:

   - Format: NV12, YUYV, ARGB
   - Resolution: 1920x1080, 1280x720, 640x480
   - Frame rate: 60fps, 30fps, 15fps

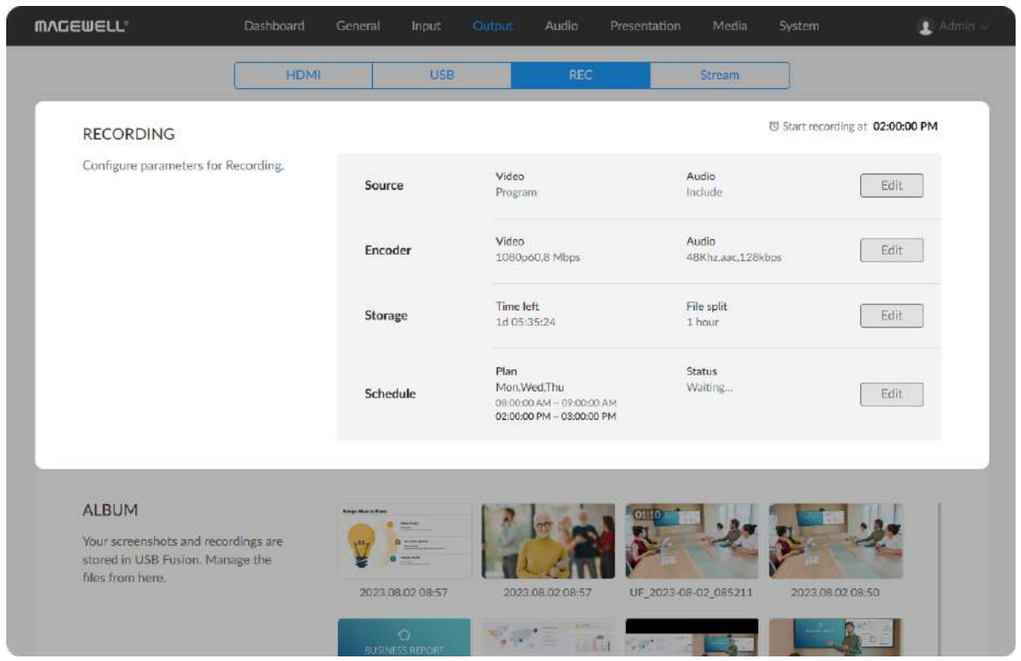
   Supported USB audio format:

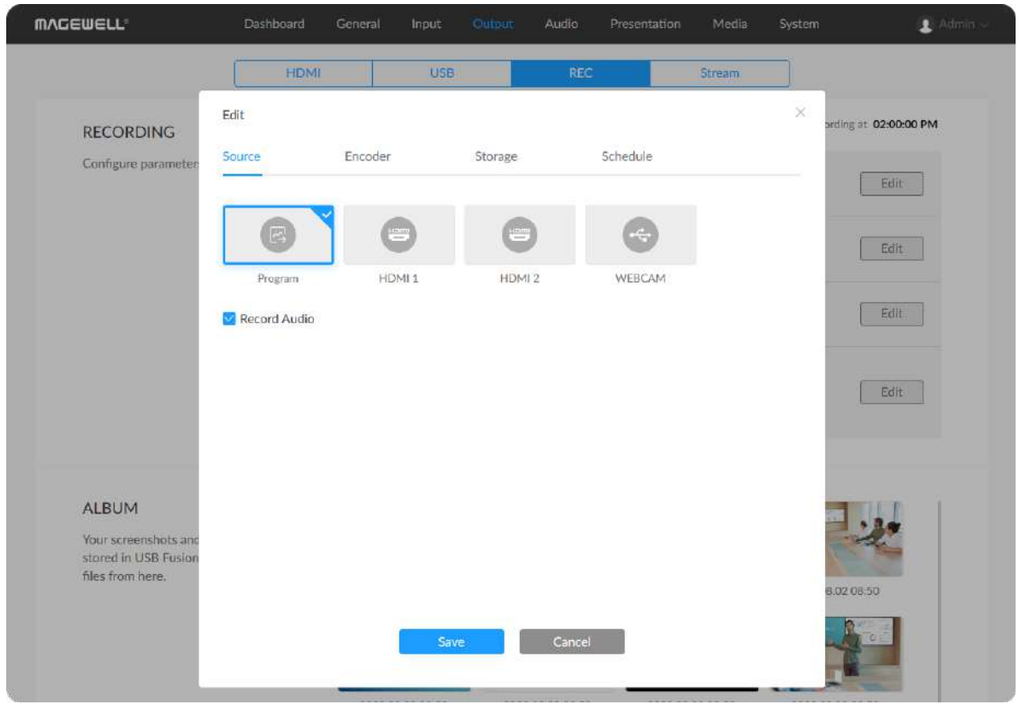
   - Sampling: 48 KHz sampling rate, 16 bit depth
   - Channels: 2 channels

> The actual output of USB OUT is determined by the negotiation between USB Fusion and the receiving software. For the real-time status of USB output, view the **USB OUT** area on the **Dashboard** page.

Managing the Recordings/Screenshots

On the Web UI, you can configure recording parameters and manage the recordings/screenshots.





Configuring Recording Parameters

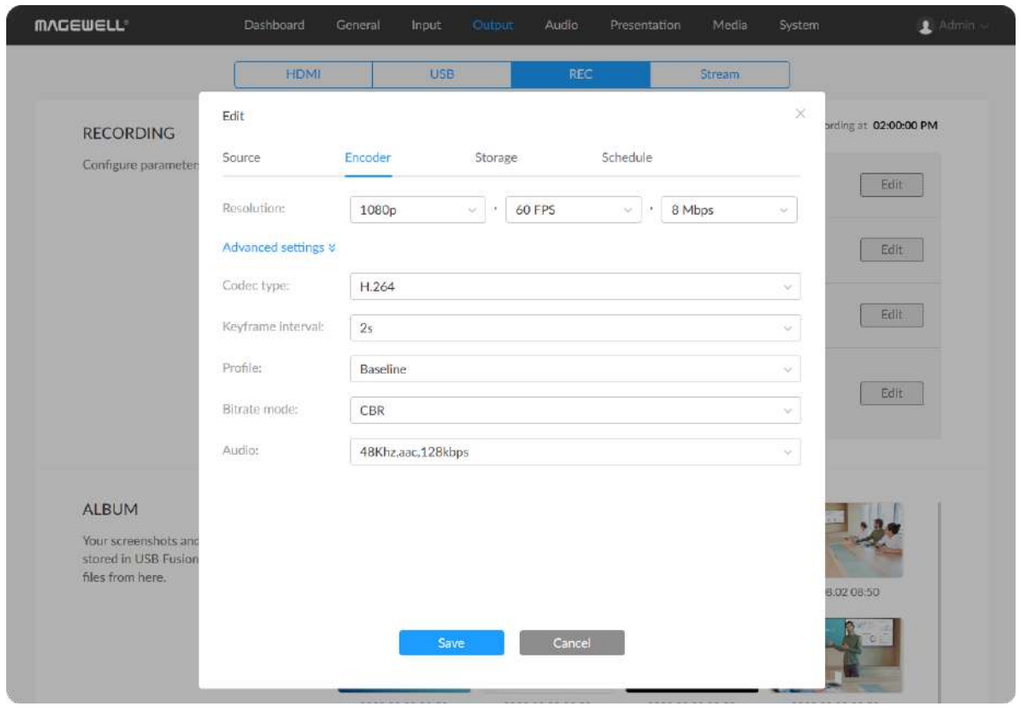
At the upper right corner of the RECORDING area, if it displays "USB Fusion is recording", it means a manual recording is ongoing; if it displays "Stop recording in xx.", it means a schedule recording is ongoing. You cannot configure recording parameters now.

1. In the navigation bar at the upper part of the Web UI, click **Output**.
2. Click **REC** at the upper part.
3. In the **RECORDING** area, you can view current recording parameters.
   - **Source**: including the information of the current selected video source to record and whether to include audio, which is the ISO recording.
   - **Encoder**: including video format and audio format.
   - **Storage**: including the time left for recording and file split information.
   - **Schedule**: including the auto recording plan and status information.
4. Click **Edit** behind **Source**, **Encoder**, **Storage** or **Schedule** and configure relative parameters. You can also click any **Edit** button and then select one tab to configure.
5. Click **Save**.

Details of recording parameters are as follows.

Source

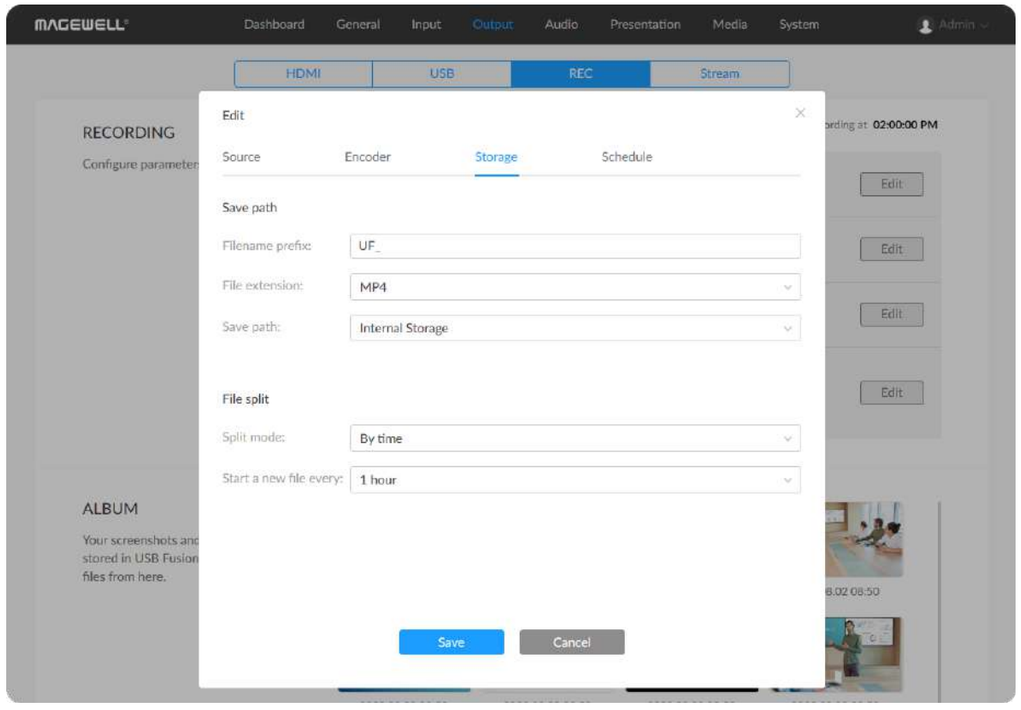
1. Select the source to record, including Program (content output through the USB OUT port, default), HDMI 1, HDMI 2, WEBCAM.



2. Check whether to record the audio. By default, it records the audio.

Encoder

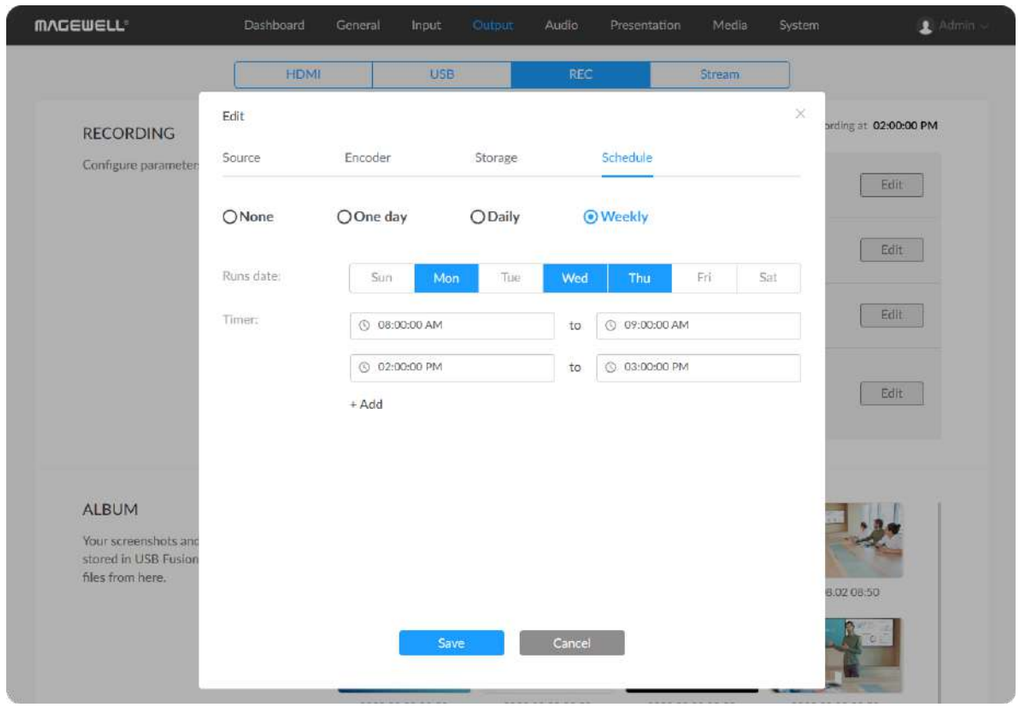
1. Set **Resolution**, which includes:
   - **Resolution**: supports 720P and 1080P. The default is 1080P.
   - **Frame rate**: supports 30 FPS and 60 FPS. The default is 60 FPS.
   - **Bit rate**: supports 512 Kbps to 20 Mbps. The default is 8 Mbps.
2. Click **Advanced settings** to configure the following parameters:
   - **Codec type**: supports H.264.
   - **Keyframe interval**: supports 1s to 30s. The default is 2s.
   - **Profile**: The default is Baseline.
     - **Baseline**: A simple profile with a low compression ratio, easier to encode and decode.
     - **Main Profile**: An intermediate profile with a medium compression ratio. It is often used for SD digital TV broadcasts.
     - **High Profile**: A complex profile with a high compression ratio. This is the most efficient and powerful profile and is for best quality video, primarily used for HDTV broadcast and disc storage.
   - **Bitrate mode**: supports CBR and VBR. The default is CBR.
   - **Audio**: includes sampling rate, encode format and bitrate of audio. The sampling rate is fixed as 48Khz. The encode format is fixed as aac. The bitrate ranges from 48kbps to 256kbps. The default is 48Khz, aac, 128kbps.



Storage

1. Set **Save path**.
   - **Filename prefix**: changes the prefix of the recording file. The default is UF_.
   - **File extension**: supports MP4 and MOV. The default is MP4.
   - **Save path**: selects the save path of the recording file. Currently, it only supports Internal Storage.
2. Set **File split**. It supports splitting the recording file by time or by size. By default, it starts a new file every 1 hour.
   - **By time**: start a new file by every x minutes or x hours.
     Select **Split mode** as **By time**, and then set **Start a new file every** as your preference. Options range from 10 minutes to 2 hours.

     The first file will start from the current time and end on the hour, and then the second file will start, so that it is more convenient for you to view your video clips. For example, when you choose to start a new file every 1 hour, if the first file starts at 8:30:03 am, it will end at 9:00:00 am. Then the second file will start at 9:00:00 am.
     It also takes effect for x minutes. For example, when you choose to start a new file every 10 minutes, if the first file starts at 8:08:03 am, it will end at 8:10:00 am, and the second file will start at 8:10:00 am.
   - **By size**: starts a new file by every x MB or x GB.
     Select **Split mode** as **By size**, and then set **Start a new file every** as your preference. Options range from 100 MB to 4 GB.



Schedule

Select a schedule type to set.

- **None**: not enable schedule recording.
- **One day**: enable schedule recording at some time periods of one day.
  a. Runs date: select a date.
  b. Timer: select the start time and end time, and click OK. Click **Add**, you can add more schedules.
  c. To delete a schedule, move the mouse over one time period, and then click .
- **Daily**: enable schedule recording at a fixed time period every day over a date range.
  a. Runs date: select the start date and end date.
  b. Timer: select the start time and end time, and click OK. Click **Add**, you can add more schedules.
  c. To delete a schedule, move the mouse over one time period, and then click .
- **Weekly**: enable schedule recording at fixed date and time period every week.
  a. Runs date: select one or more dates.
  b. Timer: select the start time and end time, and click OK. Click **Add**, you can add more schedules.
  c. To delete a schedule, move the mouse over one time period, and then click .

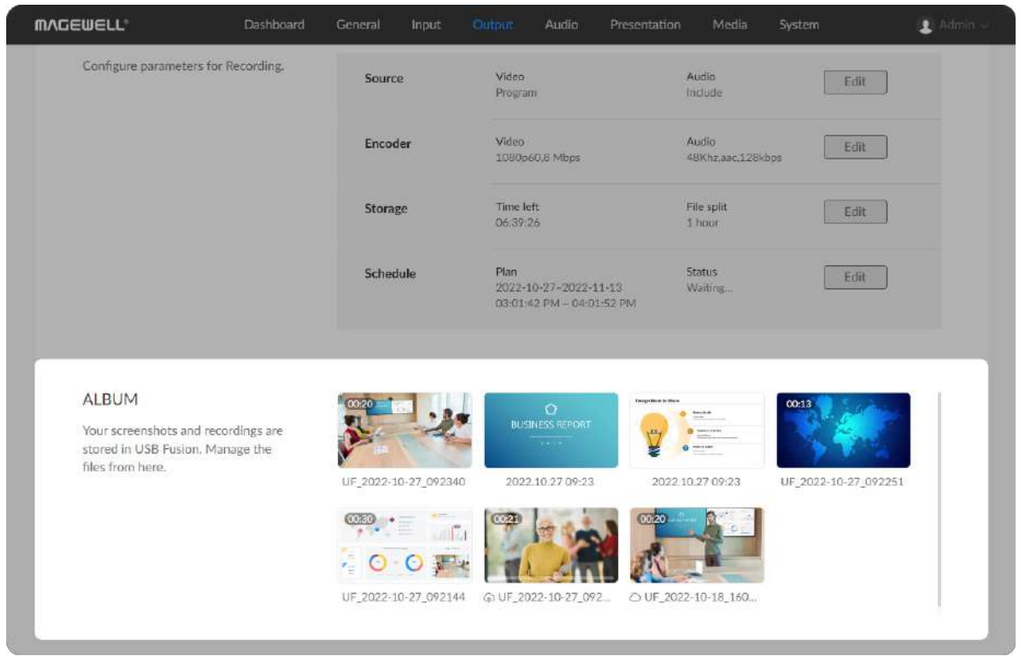
> The time control of timer supports 12-hour clock.
> When you select a start time, the default end time is set as 10 seconds later.
> You can only select the time period in the same day. It cannot span to the next day.

In the **RECORDING** area, you can see recording plan and status behind **Schedule**.

- **Plan**: including the selected date and time period. If no schedule is enabled, it shows None.
- **Status**: including following types.
  - **Waiting...**: indicates there is a schedule not executed.
  - **Recording...**: indicates a schedule recording is ongoing, or a manual recording is ongoing on the App.
  - **Passed**: indicates the schedule recording of the current day is finished.
  - **Stopped**: indicates the ongoing schedule recording is manually stopped on the App. Or, when it reaches the start time of a schedule, a manual recording is ongoing, so the schedule recording will not be triggered, and then the recording is stopped manually. Or, the schedule recording is stopped due to some unexpected event.

Meanwhile, on the upper right corner of the **RECORDING** area, if there is an unexecuted schedule, it displays the countdown information.

- If the scheduled start time is greater than or equal to 1 hour from the current time, it displays "Start recording at xx".



- If the scheduled start time is less than 1 hour from the current time, it displays "Start recording in xx".
- After the schedule recording starts, it displays "Stop recording in xx".

Managing the Album

The album stores the videos recorded and screenshots taken on the App.

Viewing Videos/Screenshots

1. In the navigation bar at the upper part of the Web UI, click **Output** tab.
2. Click the **REC** tab at the upper part of the page.
3. In the **Album** area, view the recordings and screenshots.
   The **Album** area displays both recorded videos and screenshots. The files are named by the time the video or screenshot is taken.
   A video file has a duration displayed on its thumbnail while a screenshot does not.
   A icon indicates the file has been uploaded to Google Drive.
   A icon indicates the file is being uploaded to Google Drive. At the same time, a progress bar is displayed on the thumbnail.

Downloading Videos/Screenshots

1. In the navigation bar at the upper part of the Web UI, click **Output** tab.
2. Click the **REC** tab at the upper part of the page.
3. In the **Album** area, move the mouse to a thumbnail, click the ••• icon at the upper right corner, and click **Download**.
   The video/screenshot will be downloaded to the local computer.

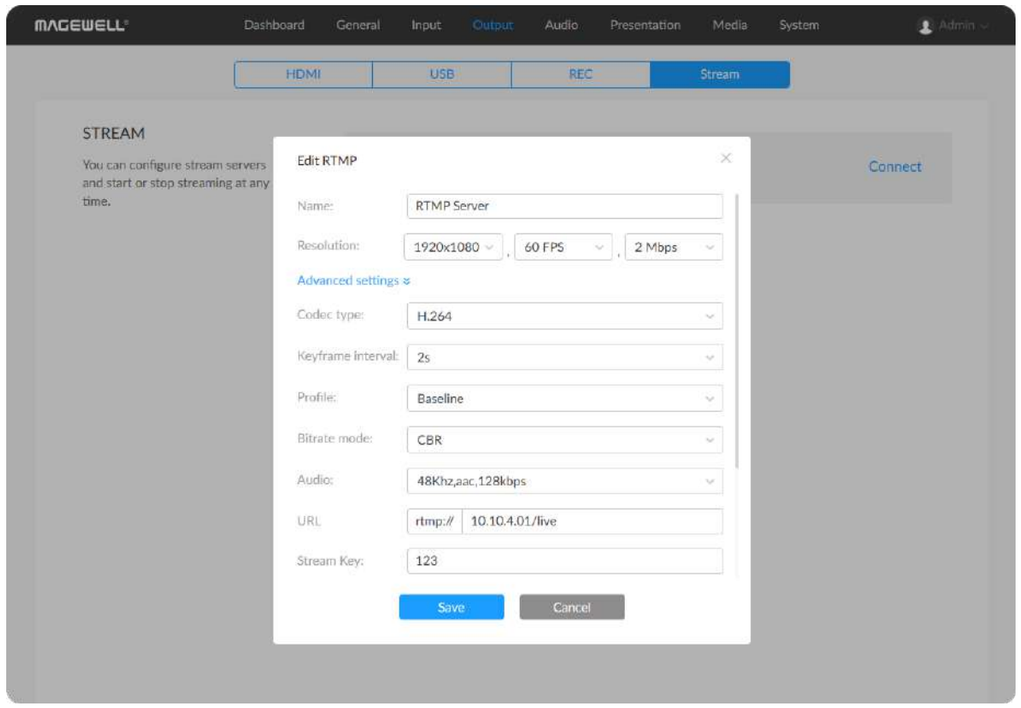
Uploading Videos/Screenshots

You can manualy upload recorded videos and screenshots to Google Drive.

1. In the navigation bar at the upper part of the Web UI, click **Output** tab.
2. Click the **REC** tab at the upper part of the page.
3. In the **Album** area, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Upload**.
   If Auto Backup is toggled on, the option is not available.
4. Click **Upload file** on the popup.
5. If you have not logged on Google Drive, a popup requires you to log on. Click **Go to log on**, copy the authentication code, and click **Go to Google Drive** to complete authentication.
6. If you have logged on Google Drive, it starts uploading the file.
   A icon appears under the thumbnail, indicating the file is being uploaded to Google Drive. At the same time, a progress bar is displayed on the thumbnail.
   After the upload succeeds, a icon appears.
7. If you want to cancel the uploading, click the ··· icon, click **Cancel**, and then Click **Sure**.
   If Auto Backup is ongoing, the device starts uploading the next file automatically.

Deleting Videos/Screenshots

1. In the navigation bar at the upper part of the Web UI, click **Output** tab.
2. Click the **REC** tab at the upper part of the page.
3. In the **Album** area, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Delete**.

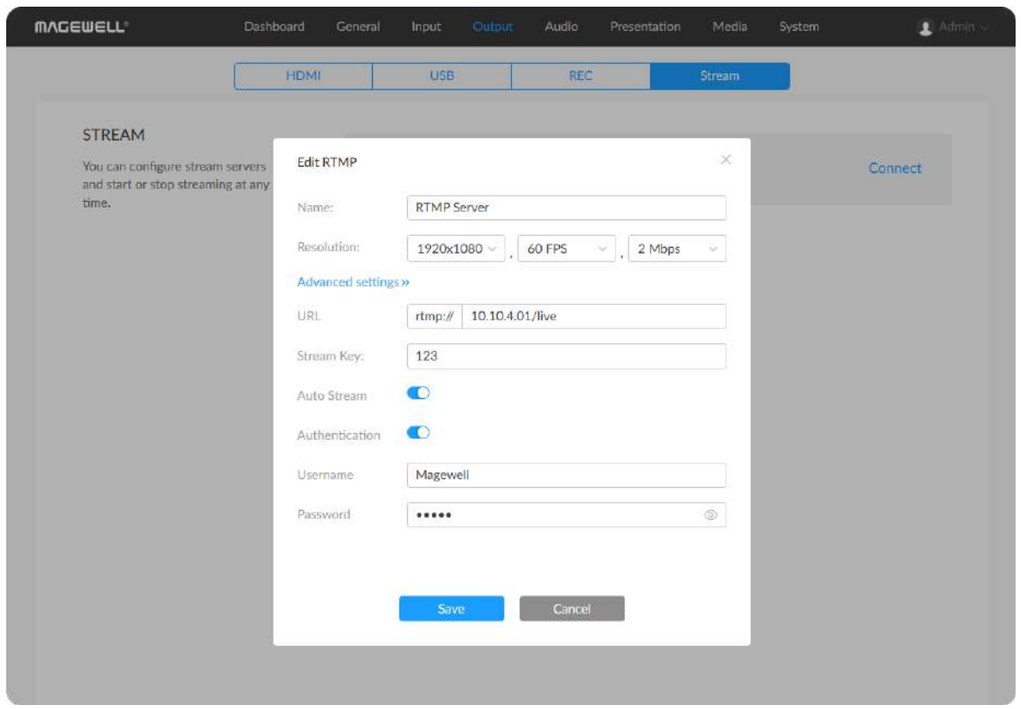


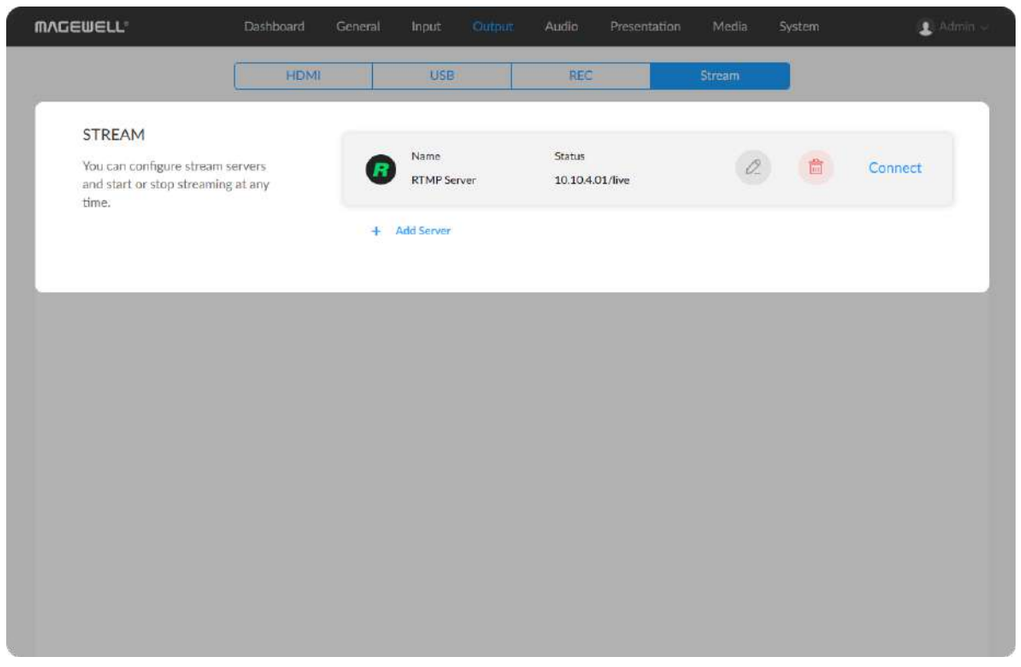
4. On the displayed dialog box, click **Delete**.

Streaming via RTMP

USB Fusion supports streaming via RTMP.

1. In the navigation bar at the upper part of the Web UI, click **Output** tab.
2. Click the **Stream** tab at the upper part of the page.
3. In the **STREAM** area, click **Configure** behind the RTMP Server to configure the following parameters.
   - **Name**: enter an alias name for your convenience of multi-item management.
   - **Resolution**: it includes the following parameters.
     - **Resolution**: supports 1920x1080 and 1280x720. The default is 1920x1080.
     - **Frame rate**: supports 30 FPS and 60 FPS. The default is 60 FPS.
     - **Bit rate**: supports 512 Kbps to 20 Mbps. The default is 2 Mbps.
   - **Advanced settings**: configure more parameters.
     - **Codec type**: supports H.264.
     - **Keyframe interval**: supports 1s to 30s. The default is 2s.
     - **Profile**: options include Baseline, Main Profile and High Profile, The default is Baseline.
     - **Bitrate mode**: supports CBR and VBR. The default is CBR.
     - **Audio**: includes sampling rate, encode format and bitrate of audio. The sampling rate is fixed as 48Khz. The encode format is



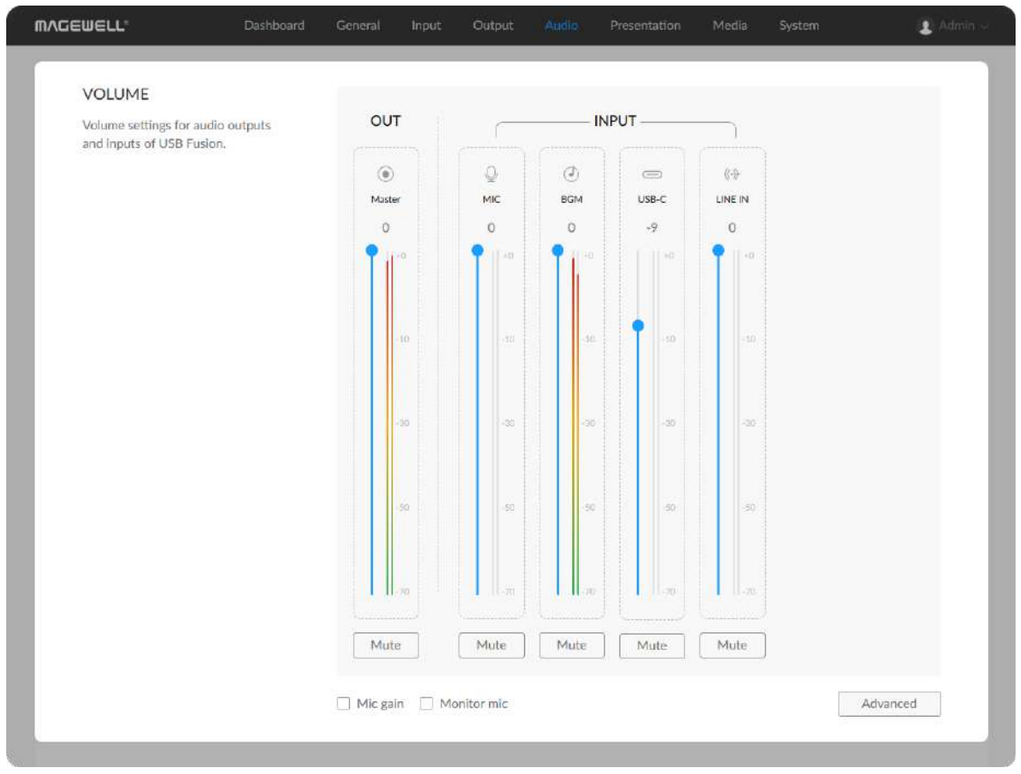


fixed as aac. The bitrate ranges from 48kbps to 256kbps. The default is 48Khz, aac, 128kbps.

- **URL**: enter the URL of the stream destination.
- **Steam Key**: enter the key got from the stream destination, which can contain 0 to 512 characters.
- **Auto Stream**: optional. When it is toggled on, you can start streaming quickly via the customized button.
- **Authentication**: if required, toggle on the function and then enter your **Username** and **Password** at the third-party live streaming platform.

4. Click **Save** to go back to the server list. The URL is displayed under **Status** of the server.
5. You can click **Add server** to add more servers.
6. To edit a server, move the mouse over a server and then click the button.
7. To delete a server, move the mouse over a server and then click the button.
8. Click **Connect** behind a server to start streaming, and streaming duration and rate are displayed under **Status**; Click **Disconnect** to stop streaming.

> USB Fusion only supports one-channel RTMP streaming.



Setting the Audio

In the navigation bar at the upper part of the Web UI, click **Audio** to configure the audio inputs and outputs.

Adjusting Volume

Various audio inputs and output of the current presentation will be displayed in the **VOLUME** area.

OUTPUT

: the master audio, that is, USB OUT audio to the computer, and audio for monitoring, which is output through the headset port, WEB CAMERA port, and HDMI OUT port.

- By default, the monitored audio does not include the global microphone audio. If you need to monitor this audio, you need to enable microphone monitoring on the Web UI.
- By default, the WEB CAMERA port does not output monitoring audio. To enable output, you need to select an USB audio playback device on the Web UI.

INPUT

- Global audio: audio present across a presentation. Adjustment to such audio applies to the whole presentation.
  - : audio input of global microphone. Microphones connected to the headset port, HDMI port and WEB CAMERA port can be used as global microphones. The microphone plugged into the headset port

can be used immediately. For the microphone connected to the HDMI or WEB CAMERA port, you need to first select it as a global USB microphone on the Web UI before it can be used, and only one can be selected. The headset microphone and the selected microphone can work simultaneously.

- : background music.
- : audio from the computer connected to the USB OUT port. It will not output through the USB OUT port.
- : audio from the line-in port.

- Scene audio: audio specific to a scene, which switches in/out along with the scene. Adjustment to such audio applies only to the current scene. The following audio types are supported, but only the audio used in the current scene will be displayed.
  - : audio from the HDMI port.
  - : audio from the WEB CAMERA port. The audio is disabled by default. To enable it, you need to set WEB CAMERA audio on the Web UI.
  - : audio from a video file.
  - : audio from a web page.
  - : audio from a screencast source.

> - If you switch to a notes page, there will be only global audio inputs, no scene audio inputs.
> - When the HDMI OUT port loops the HDMI 1 or HDMI 2 audio, it retains the original audio volume, which means it is unaffected

by the volume settings.

Each audio has a volume meter, volume slider, and mute button.

Before and during a presentation, you can:

- **Monitor audio**

  View the real-time volume on the volume meter. The left meter is for the left channel while the right is for the right channel. When an audio input is detected, the volume meter jumps up/down to show the real-time volume of the audio. When only one channel is input, only one volume meter jumps.

- **Adjust volume**

  Drag the volume slider to adjust volume. The value above the volume slider is the volume value.

  - Input volume: Each audio enters USB Fusion at 100% its original volume, which corresponds to the position 0 in the volume bar. You can adjust the volume down. If the original volume is too low, you can make adjustments in Advanced Settings.

    Separately setting the audio inputs can create rich audio effects. For example, you can lower the volume of the background music while raising the volume of your speech.

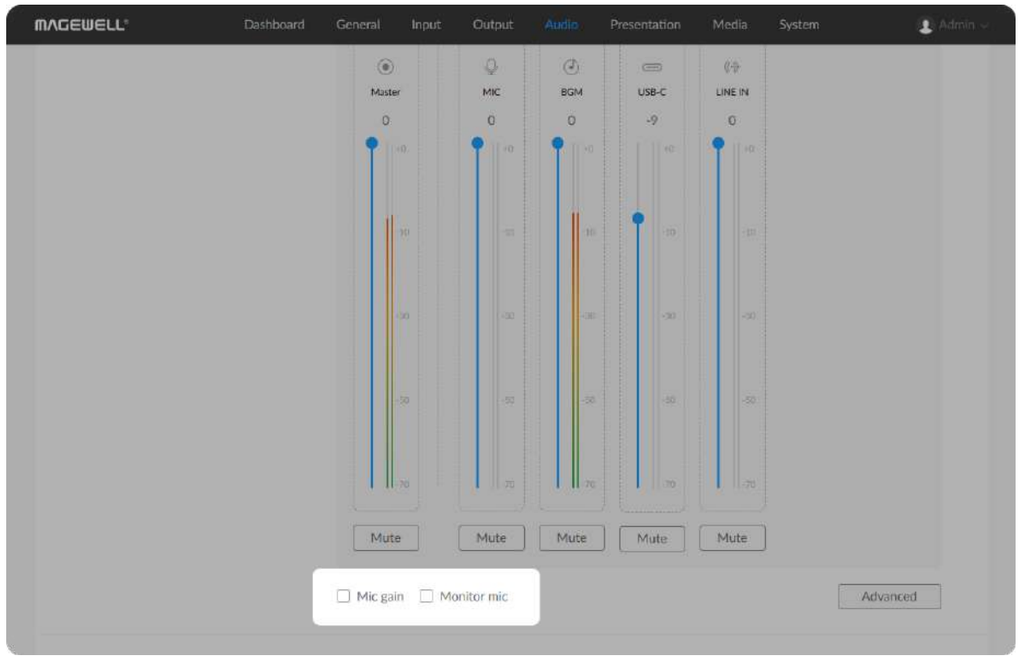
    - Output volume: The output volume is adjusted based on the input volume.

- **Mute/Unmute**

  Click the mute button under the slider to mute the audio. 

indicates muted while 

indicates unmuted.



Setting the Microphone Gain

A microphone can output audio at a relatively low volume. In this case, you can enable microphone gain for the input to raise the volume. By default, microphone gain is disabled.

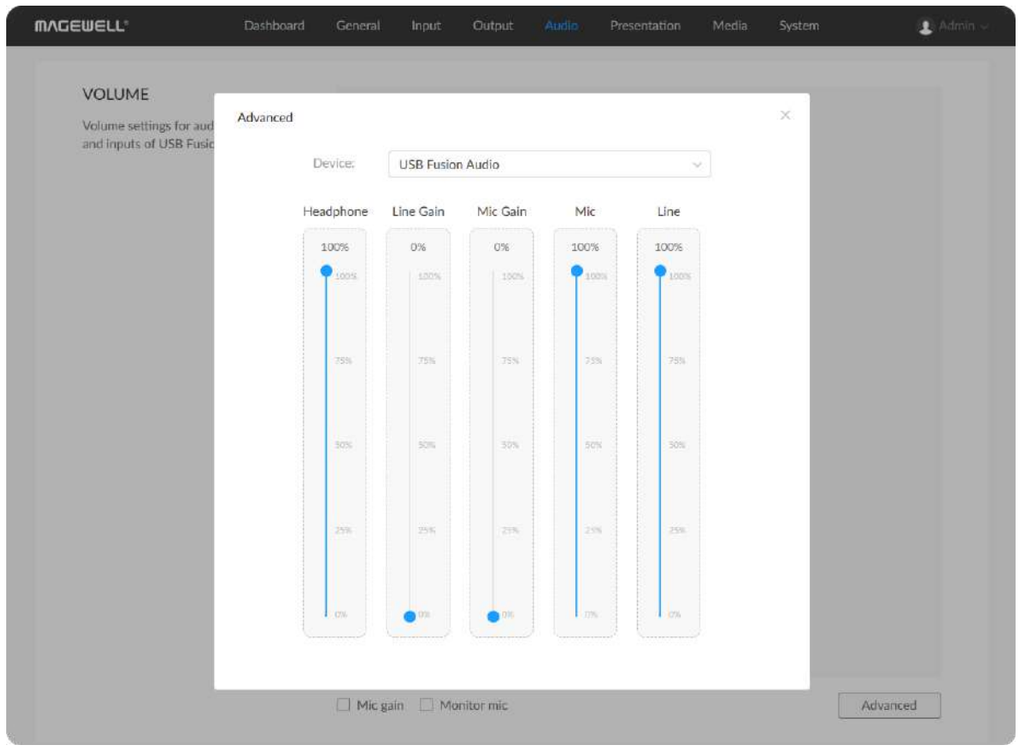
In the **VOLUME** area, check **Mic gain**. USB Fusion will automatically gain the microphone input to the maximum, namely, 40 dB. You can also adjust the gain in Advanced Settings.

> This gain currently applies only to the microphone connected through the headset port, not to the one connected through the HDMI or WEB CAMERA port.

Enabling Microphone Monitoring

To avoid that a user can hear his or her own voice, USB Fusion disables microphone monitoring by default. You can enable it if required.

In the **VOLUME** area, check **Monitor mic**. After enabled, the global microphone audio will be output to the audio devices connected to the headset port, WEB CAMERA port, and HDMI OUT port.



Advanced Settings

When the input original volume is too low, for example, the audio volume from some microphone may be low, you can increase the volume or set gain in advanced settings.

The advanced settings allows you to adjust volume or the line in device, headset device, and WEB CAMERA device.

In the **VOLUME** area, click **Advanced**. From the **Device** drop-down list box, select **USB Fusion Audio** or *Device connected to WEB CAMERA port*.

> When multiple device are connected through an USB Hub, multiple *Device connected to WEB CAMERA port* items will be displayed.

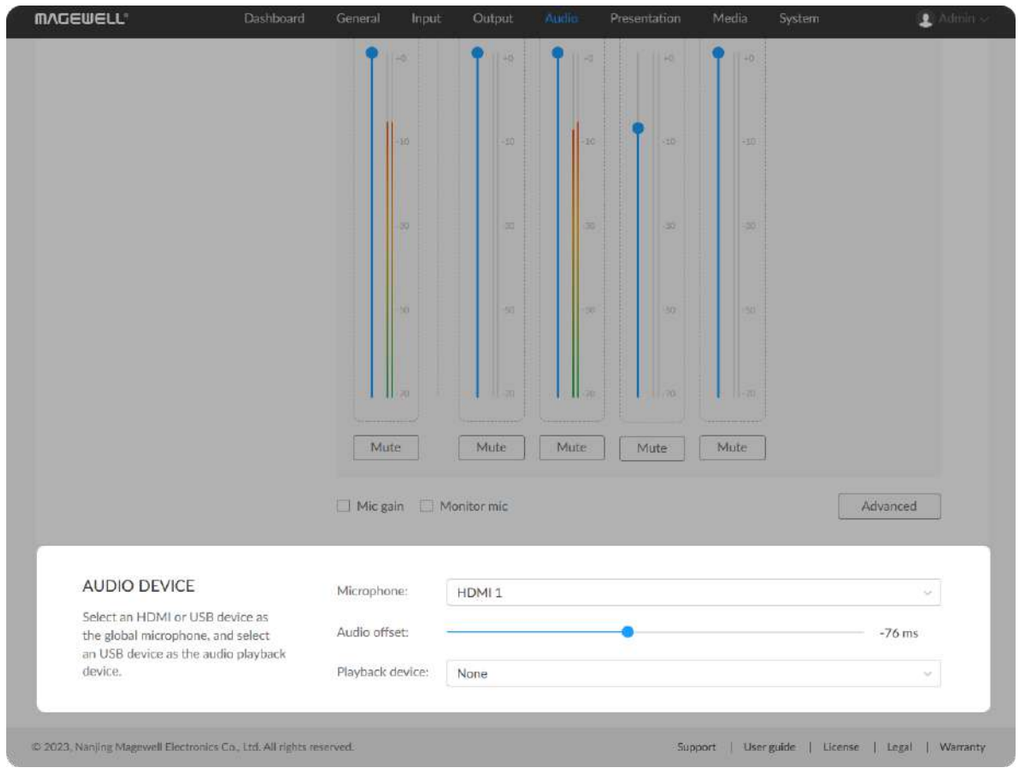
- **USB Fusion Audio**: Adjust volume for devices including the line in device and headset.
  - **Headphone**: Adjust output volume for the headset port.
  - **Mic Gain**: Set gain for the microphone connected to the headset port. By default, there is no gain.
  - **Line Gain**: Set gain for the device connected to the line in port. By default, there is no gain.

    > When you plug a microphone directly to the line in port, you may need to adjust the line gain in order to make the microphone input audible, for the microphone signal may be too low.

  - **Mic**: Adjust the original volume of the microphone connected to the headset port.

  - **Line**: Adjust the original volume of the device connected to the line in port.

- *Device connected to WEB CAMERA port*: Adjust volume for the device connected to the WEB CAMERA port.
  The item displayed varies from device to device. For example, when you connect a webcam with both a microphone and a speaker, both the microphone and the speaker can be adjusted.



Selecting Audio Devices

In the **AUDIO DEVICE** area, you can select an HDMI or USB device as the global microphones, and select an USB device as the audio playback device.

Selecting a Global Microphone

In the **AUDIO DEVICE** area, select an HDMI or USB audio device from the **Microphone** drop-down list box. The device will be used as a global microphone, which can be used throughout a presentation and does not switch in/out with any scene. By default, no input device is selected.
You can move the slider of **Audio offset** to match up the audio and video tracks. Set a positive value to delay the start of the audio track, or set a negative value to reduce the delay.

- Both this microphone and the microphone connected to the headset port work as a global microphone. Both microphones can work simultaneously.
- The audio input from the WEB CAMERA port can be used as a global microphone or WEB CAMERA audio (namely audio that

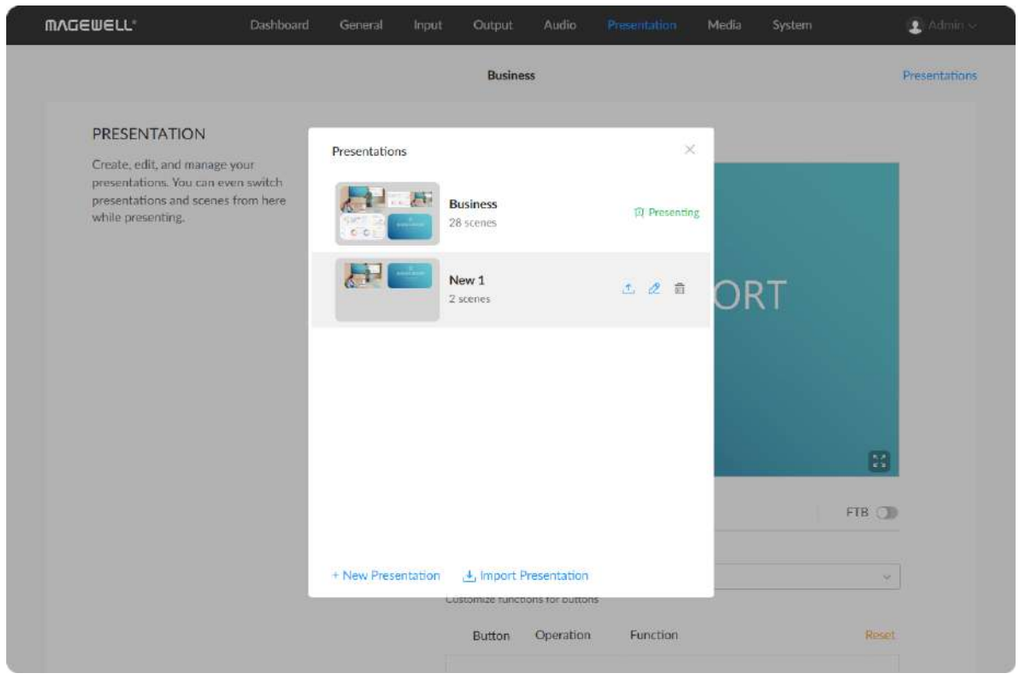
switches along with the WEB CAMERA video). When you select the audio input as the global microphone, you can no longer select it as WEB CAMERA audio .

- When the audio input from the HDMI port is selected as a global microphone, it no longer serves as the HDMI audio, that is, it does not switches along with the HDMI video.

Selecting an Audio Playback Device

In the **AUDIO Device** area, select a device from the **Playback device** drop-down list box as the audio output device, which can be used for monitoring audio. By default, no output device is selected.

Both this audio playback device and the headphone connected to the headset port work as a monitoring device. Both devices can work simultaneously.



Creating and Managing Presentations

You can create, edit, and manage presentations on **Presentation** tab page of the Web UI. You can even switch between the different content in a presentation.

Creating and Managing a Presentation

Adding a Presentation

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the upper right corner, click **Presentations**.
3. At the lower left corner of the displayed presentation list, click **New Presentation**.
4. In the **New Presentation** dialog box, enter the presentation name (1-32 characters, not containing special characters #¥$.) and click **New**. The new presentation will be displayed in the presentation list.

> You can create up to 50 presentations.

Exporting a Presentation

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the upper right corner, click **Presentations**.
3. In the displayed presentation list, hover your mouse over a presentation and click the button on the right to export. Then the

presentation is exported as a .tar file.

Importing a Presentation

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the upper right corner, click **Presentations**.
3. Under the displayed presentation list, click **Import Presentation**.
4. Select a presentation file (.tar) to import.
   The imported file will be displayed in the presentation list.

Renaming a Presentation

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the upper right corner, click **Presentations**.
3. In the displayed presentation list, hover your mouse over a presentation and click the edit button on the right.
4. Enter a new name for the presentation (1-32 characters, not containing special characters #¥$), and click **Rename**.

Deleting a Presentation

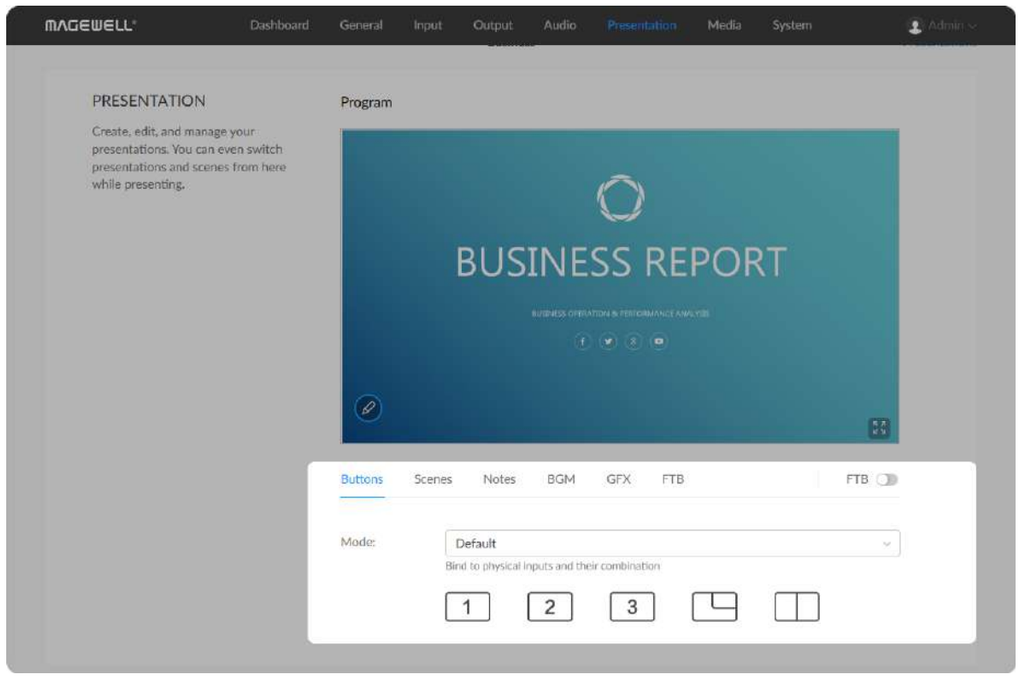
1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the upper right corner, click **Presentations**.
3. In the displayed presentation list, hover your mouse over a presentation and click the delete button on the right.

A presentation being presented cannot be deleted.

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

Switching Presentations

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the upper right corner, click **Presentations**.
3. In the displayed presentation list, use the scroll bar on the right to browse the presentations.
   The presentation with the text "Presenting" on the left is the one being presented currently.
4. In the presentation list, click a presentation to switch to it.



Setting Buttons

The physical buttons on the device can be set to bind to different scenes or functions, including default mode, custom mode and auto mode.

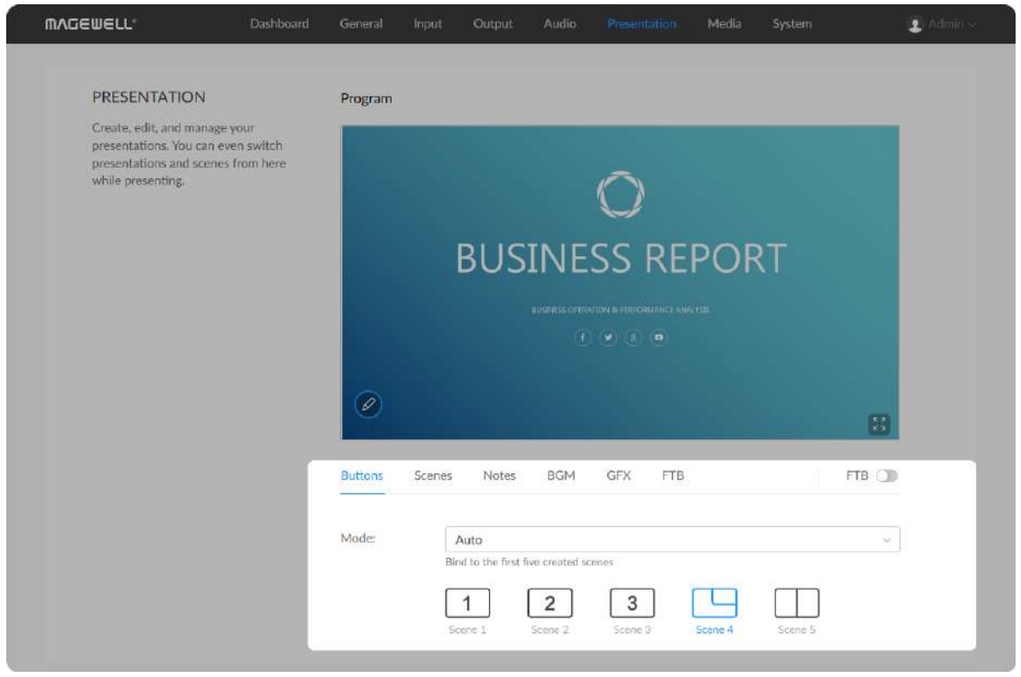
Default Mode

USB Fusion's buttons correspond to the HDMI 1, HDMI 2 and webcam sources by default. You can press buttons to switch between the scenes or composite them into a picture-in-picture or side-by-side layout.

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Buttons** tab.
3. Click the drop down box of **Mode**, and select **Default**.
4. Click button icons to switch.
   - 1 : HDMI 1 input scene
   - 2 : HDMI 2 input scene
   - 3 : WEBCAM input scene
   - : picture in picture (PIP). The small frame will retain the aspect ratio of the source.
     - **Location**: Change the location of the small frame, including Top Left, Top Right, Bottom Left, and Bottom Right.
     - **Sources**: Change the sources of PIP and their combination forms.
     - **Other**: Swap sources in the big and small frames.
   - : side by side (SBS).
     - **Location**: Change the location of the separator, including

leftmost, left-center, center, center-right and rightmost. And the ratio of two sources changes accordingly.

- **Sources**: Change the sources of SBS and their combination forms.
- **Other**: Swap sources in the left and right frames.

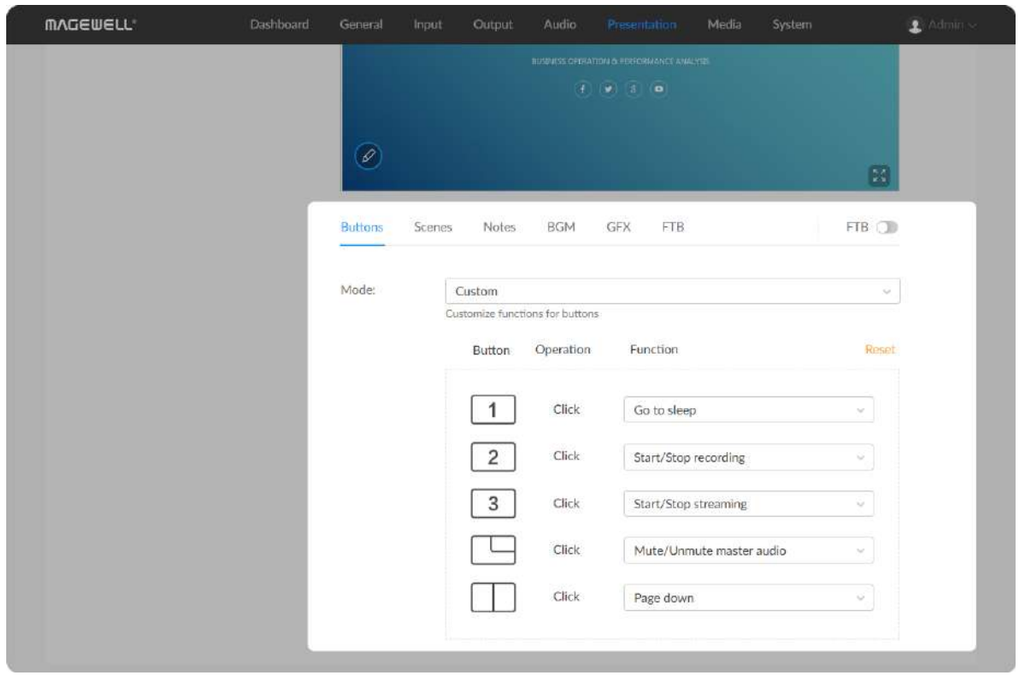


Auto Mode

Buttons can be set to bind to the first five created scenes.

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Buttons** tab.
3. Click the drop down box of **Mode**, and select **Auto**.
   You can see the corresponding button icons at the lower left corner of the scene thumbnails, both on the **Scenes** page and App.
4. Press the buttons on the device to switch scenes.
   Or on the **Buttons** tab, you can see the scene names are displayed under the corresponding buttons. Click buttons to switch scenes.

> If the created scenes are less than five, the rest button(s) will be invalid, that is, it will not switch when you press or click that button.

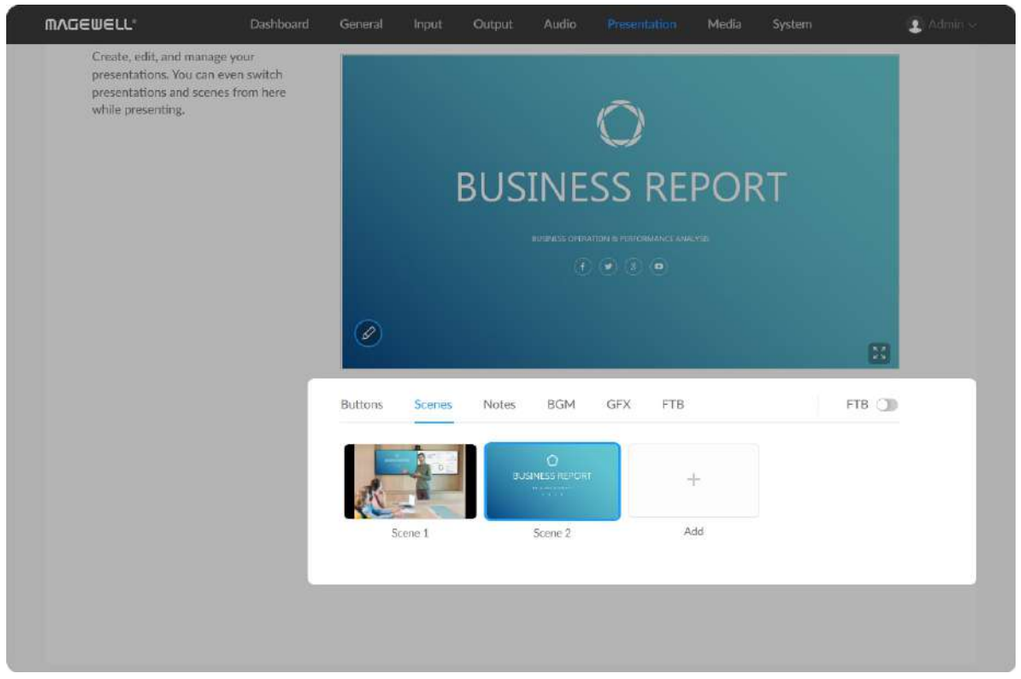


Custom Mode

You can specify functions for buttons.

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Buttons** tab.
3. Click the drop down box of **Mode**, and select **Custom**.
4. Select a function in the drop down box of each button. The button can be set to switch scenes, start/stop recording, start/stop streaming, turn PDF pages, etc.
   In which, for **Switch to the specified scene...**, select a scene in the drop drown box in the popup and click **OK**. Then, you can see the corresponding button icon at the lower left corner of the scene thumbnail, both on the **Scenes** page and App. To change the scene, click **Change...**. You can also set buttons for scenes in the **Scene** tab.
5. To clean all the custom settings, click **Reset**, and then click **Sure**.

> You can also set custom functions for buttons through APIs. For details of custom function list and APIs, please refer to API and Custom Functions of Buttons.



Creating Scenes

After adding a presentation, you can add scenes to it.

Adding a Scene

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Scenes** tab.
3. In the **Scenes** tab page, click the **+ Add** button.
4. Click the **Input**, **Media** or **Web page** tab, and then add a source as a scene according to the following introduction.
   - **Input**: Select HDMI 1, HDMI 2, WEBCAM or Screencast.
   - **Media**: Click one listed resource to add as a scene. You can also click **Upload** to import videos, pictures or PDF files on your local computer. Supported video files are MOV, MP4 and MKV, image files are JPEG, PNG, BMP.
   - **Web page**: Enter a URL and click **Go**, and the web page is added as a scene and recorded in the history at the same time. You can also click a web page in the history to add as a scene.

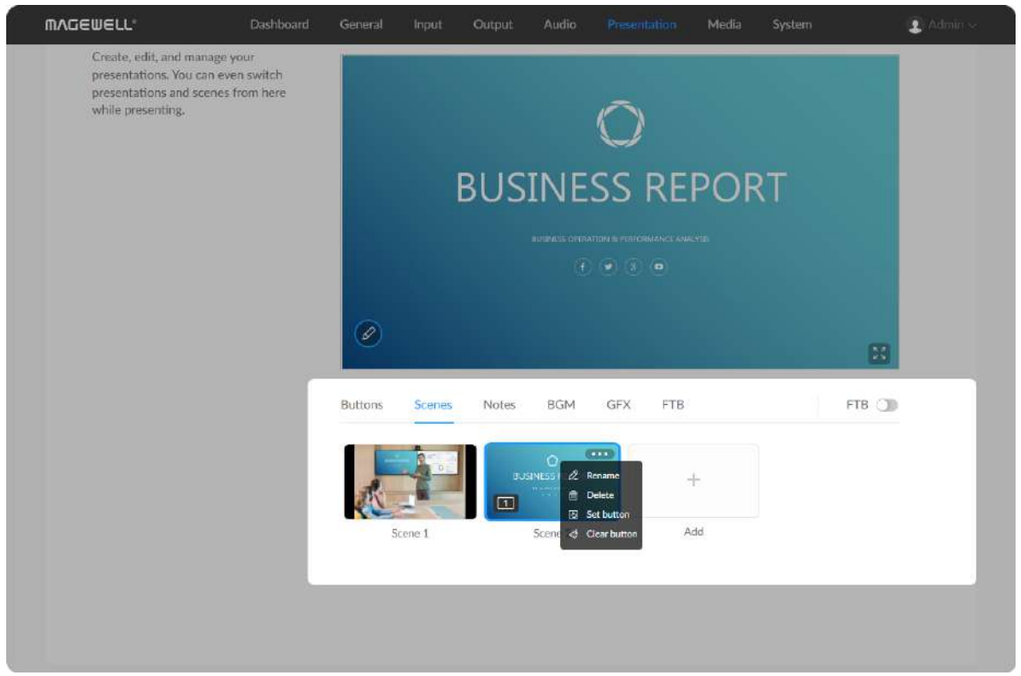
When the App is in the editing mode, you cannot select any source to add as a scene. Besides, after you enter a URL and click Go, the web page is only recorded to the history, but not added as a scene.

Delete a history web page

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Scenes** tab.
3. In the **Scenes** tab page, click the **+ Add** button.
4. Click **Web page** tab.
5. Move the mouse to a history web page thumbnail, click ••• icon at the upper right corner, and click **Delete**.
6. In the displayed dialog box, click **Delete**.

Switching Scenes

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Scenes** tab.
3. In the **Scenes** tab page, click a scene thumbnail. The clicked scene will be presented.



Renaming a Scene

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Scenes** tab.
3. In the **Scenes** tab page, move the mouse to a scene thumbnail, click ••• icon at the upper right corner, and click **Rename**.
4. Enter a new name (32 characters at most).
   If you set the name to empty, the default name **Scene X** will be used.
5. Click **Rename**.

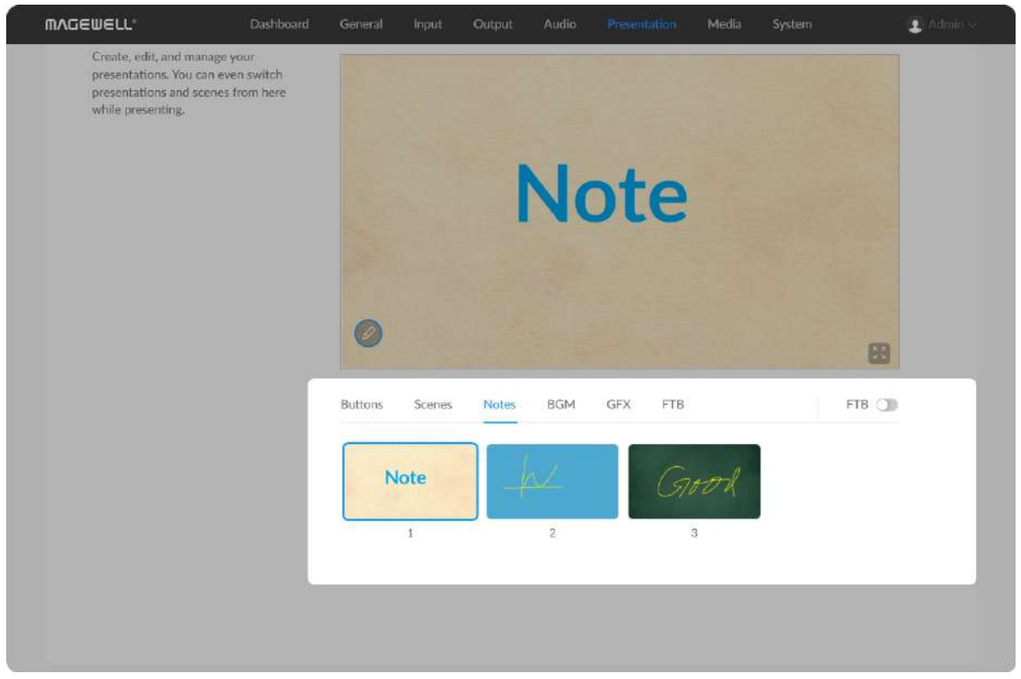
Deleting a Scene

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Scenes** tab.
3. In the **Scenes** tab page, move the mouse over a scene thumbnail, click the ••• icon at the upper right corner, and click **Delete**.
4. In the displayed dialog box, click **Delete**.

Setting Buttons for Scenes

You can specify a button for scene, so that you can switch to the scene quickly by pressing the button.

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Buttons** tab, click the drop down box of **Mode**, and select **Custom**.
3. Click the **Scenes** tab.
4. Move the mouse over a scene thumbnail, click the ··· icon at the upper right corner, and click **Set button**.
5. Select a button in the popup.
   After that, you can see the corresponding button icon at the lower left corner of the scene thumbnail, both on the **Scenes** page and App.
6. Press the button on the device to switch to the scene.
7. To clean the custom button of one scene, click the **Scenes** tab, move the mouse over a scene thumbnail, click the ··· icon at the upper right corner, click **Clear button**, and then click **Sure**.



Managing Notes

After you create notes on the App for the current presentation, you can manage the notes. Notes cannot be created on the Web UI.

Downloading Notes

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Notes** tab.
3. On the **Notes** tab page, move the mouse to a note thumbnail, click the ••• icon at the upper right corner, and click **Download**.
   The note will be downloaded to the local computer.

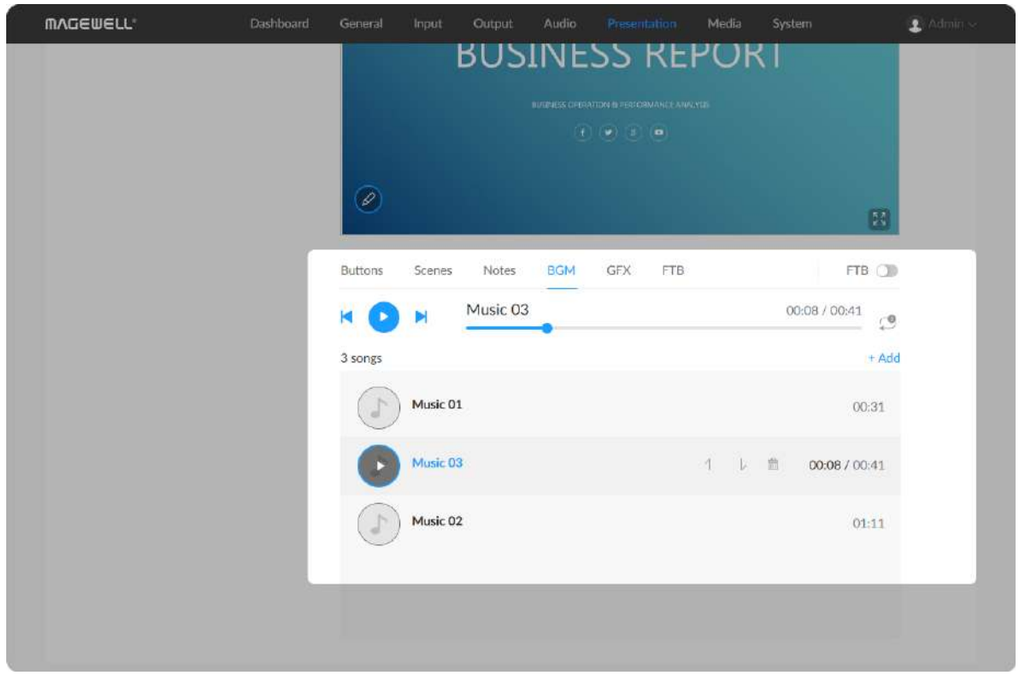
Deleting Notes

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Notes** tab.
3. On the **Notes** tab page, move the mouse to a note thumbnail, click the ••• icon at the upper right corner, and click **Delete**.
4. In the displayed dialog box, click **Delete**.

Switching Notes

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **Notes** tab.
3. On the **Notes** tab page, click a note thumbnail. The clicked note will be

presented.



Creating BGM

You can add music or other audio materials for your presentation.

Adding BGM

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **BGM** tab.
3. On the **BGM** tab page, click the **+ Add** button.
   If any BGM item exists, the **+ Add** button will be displayed at the upper right corner of the tab page.
4. In the **Media** list, click an item to add it to the presentation.
   You can also click **+ Upload** at the lower right corner to import local audio files and then add it to the presentation. Supported formats are MP3, M4A, WAV files.

Sorting BGM

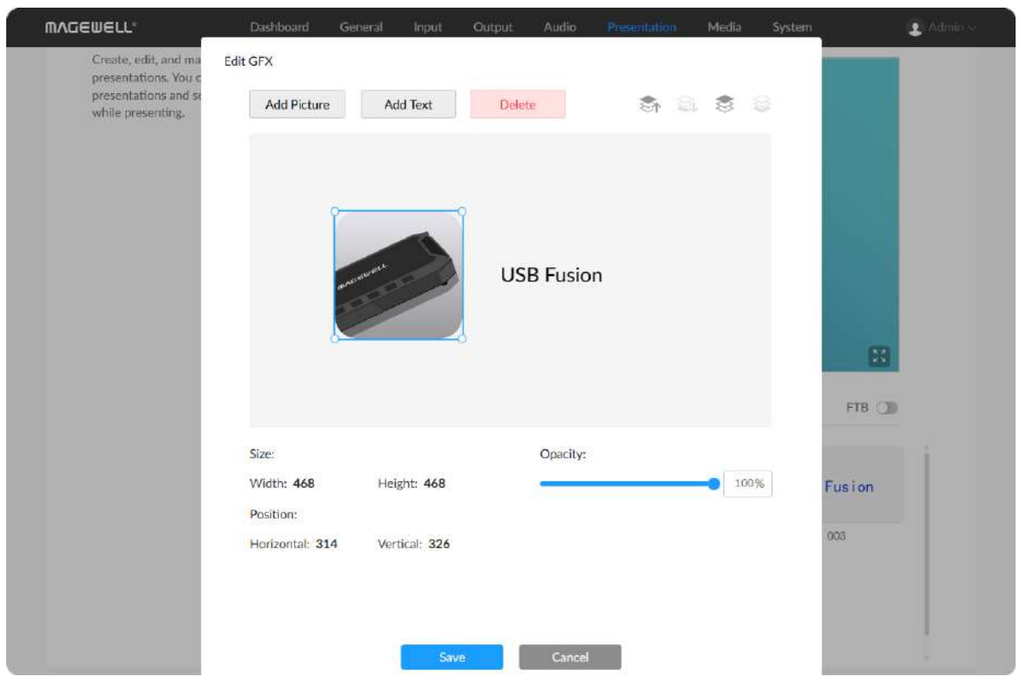
1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **BGM** tab.
3. On the **BGM** tab page, hover your mouse over a BGM item and click the Up button or Down button on the right.

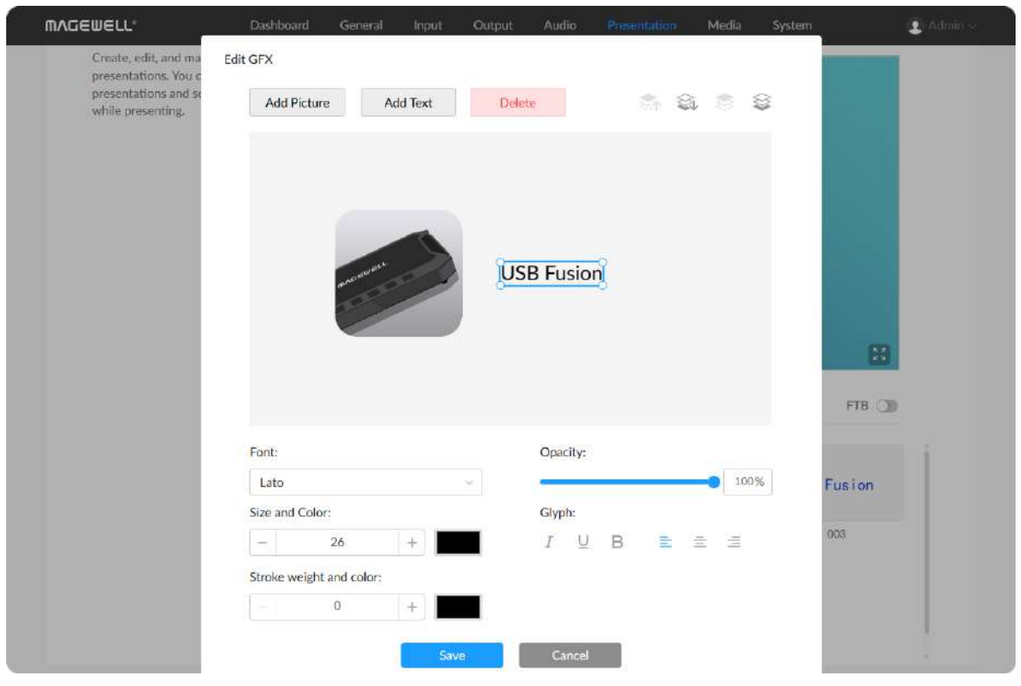
Deleting BGM

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **BGM** tab.
3. On the **BGM** tab page, hover your mouse over a BGM item and click the delete button on the right.
4. In the **Delete BGM** dialog box, click **Delete**.

Playing BGM

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **BGM** tab.
3. On the **BGM** tab page, click an item to play the music.
4. In the playback control bar above the playlist, you can:
   - Tap to play or to pause.
   - Tap to play the previous song or to play the next song.
   - Drag the playhead to a specified position.
   - Tap the button next to the playback progress bar to set the playback policy:
     - : play by order
     - : shuffle the list
     - : repeat the list
     - : repeat a single song





Creating GFX

You can add GFX for your presentations, such as lower-thirds, logo, and watermark.

Adding GFX

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **GFX** tab.
3. In the **GFX** tab page, click the **+ Add** button.
4. In the **Add GFX** page, select **New Overlay** to create a GFX from scratch, or select a template.
5. Click **Add Picture**, and select a picture from your local storage. It supports PNG, JPG and JPEG files. You can add five pictures at most.
   - Click and drag the four corners to resize the picture. The aspect ratio of the picture keeps the same. You can see the accurate width and height value of **Size** under the canvas.
   - Click and drag the picture to change its position. The **Position** under the canvas displays the horizontal and vertical position value of the picture from the top left corner.
   - Move the **Opacity** slider to adjust the transparency of picture. 0% is fully transparent, and 100% is fully opaque.
6. Click **Add Text**, and enter text in the text box. You can add five text boxes at most. To change the entered content, please double-click the text.
   - Select font, size, color, glyph and alignment.

- Select the stroke weight and color.
- Move the Opacity slider to adjust the transparency of text. 0% is fully transparent, and 100% is fully opaque.
- Click and drag the text box to change its position.
- Click and drag the four corners to resize the text box, and the size of text also changes.

> The text position and size of the template cannot be changed.

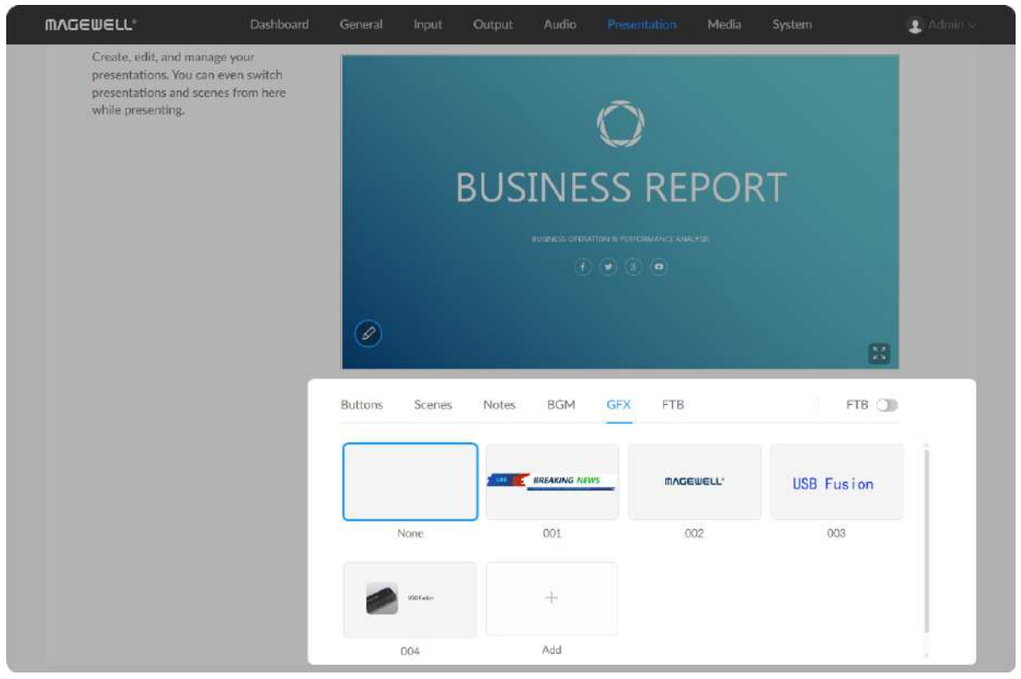
7. Adjust layers.
   - : Bring forward
   - : Send backward
   - : Bring to front
   - : Send to back

   > The template can be adjusted as a whole.

8. To delete a picture or text box, select it and click **Delete**.

   > The template cannot be deleted.

9. Click **Add**.



Applying GFX

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **GFX** tab.
3. In the **GFX** tab page, select a GFX.
   The GFX is applied in the current scene of the presentation. If you switch scenes, the GFX keeps being displayed.

   > Only one GFX can be applied in a presentation. You can select another GFX to switch.

4. To remove the current GFX, please click the thumbnail named as **None**.

> If you add a GFX when you edit a scene on the App, the GFX is bound to the scene. You cannot replace or cancel it by this way.

Editing GFX

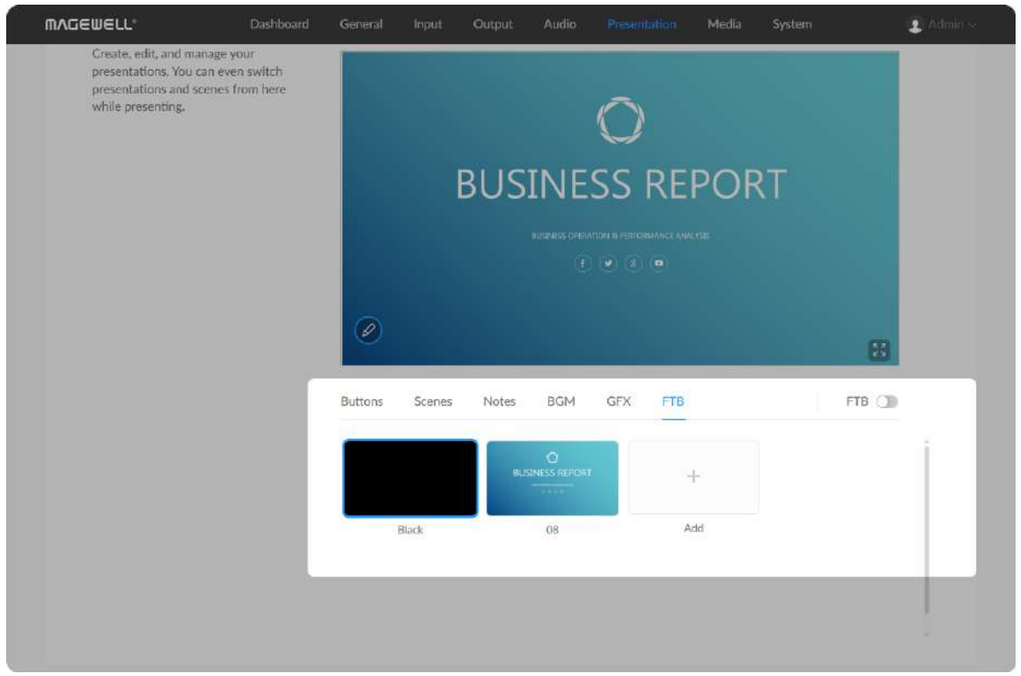
1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **GFX** tab.
3. In the **GFX** tab page, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Edit**.
4. In the displayed page, edit the existing GFX.
5. Click **Save**.

The current GFX cannot be edited.

Deleting GFX

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **GFX** tab.
3. In the **GFX** tab page, move the mouse to a thumbnail, click the ••• icon at the upper right corner, and click **Delete**.
4. In the displayed dialog box, click **Delete**.

The current GFX cannot be deleted.



Setting FTB

By default, FTB means to fade to black. It also supports fading to image. You can add and specify the image, and manage such images.

Adding and Specifying Image

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **FTB** tab.
3. In the **FTB** tab page, click **+ Add** button.
4. 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.
5. Click **+ Add** to add more images.
6. Click one image to specify. When you enable FTB, the scene fades to this image. If you select **Black**, it will fade to black.

Renaming an Image

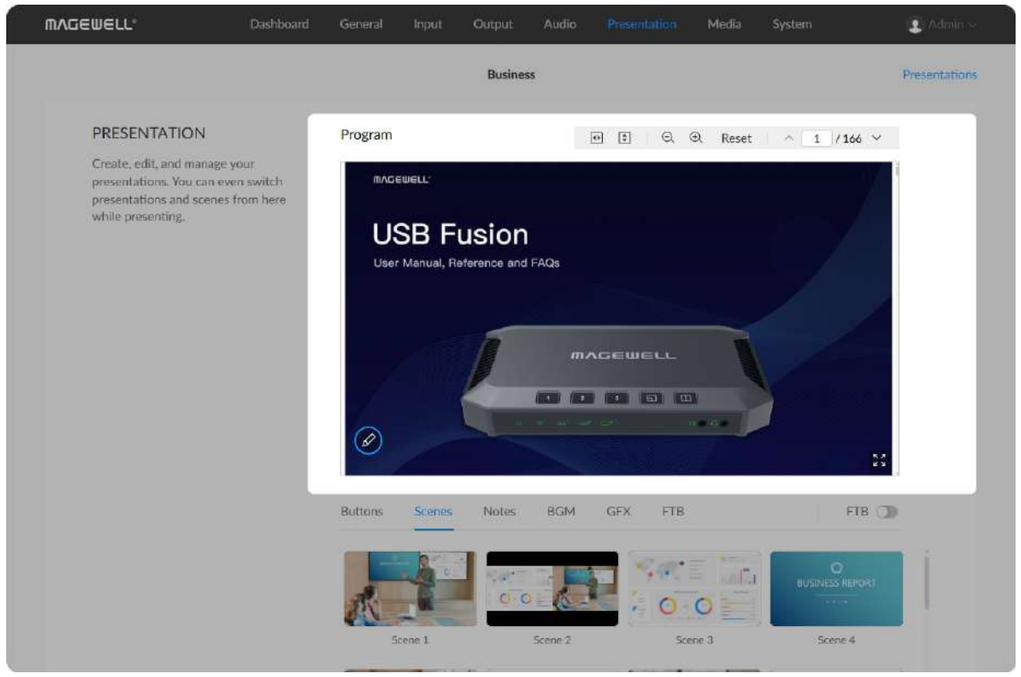
1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. At the lower part of the page, click the **FTB** tab.
3. In the **FTB** tab page, move the mouse to a thumbnail, click ••• icon at the upper right corner, and click **Rename**.
4. Enter a new name (32 characters at most).

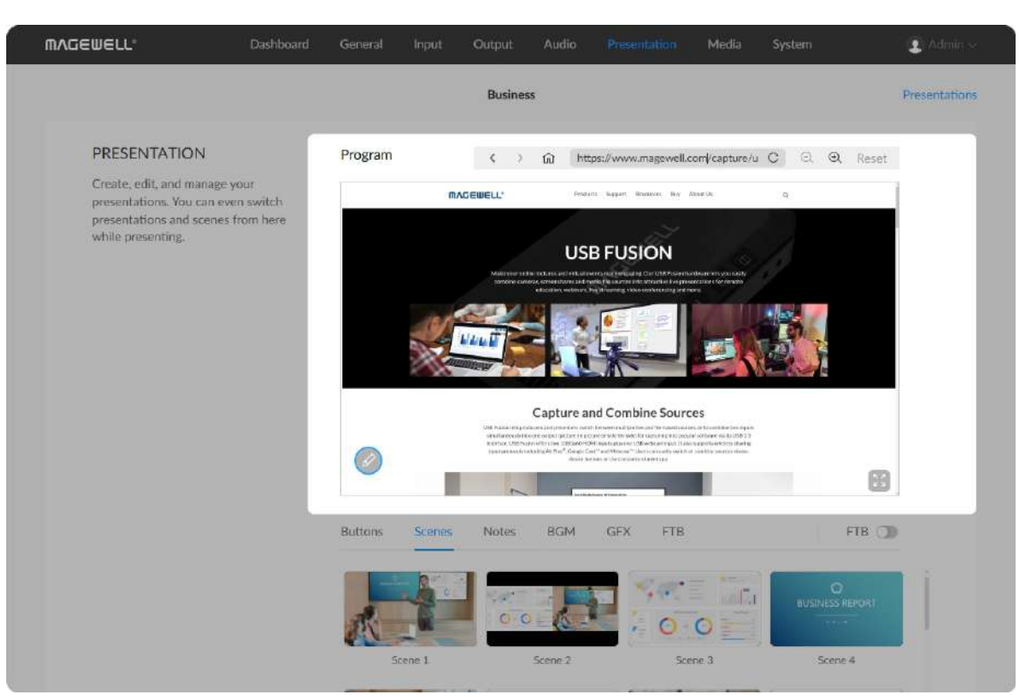
5. Click **Rename**.

Deleting an Image

1. In the navigation bar at the upper part of the Web UI, click the **FTB** tab.
2. At the lower part of the page, click the **FTB** tab.
3. In the **FTB** tab page, move the mouse over a thumbnail, click the ··· icon at the upper right corner, and click **Delete**.
4. In the displayed dialog box, click **Delete**.

> The image being selected to fade to cannot be deleted.
> **Black** cannot be deleted.





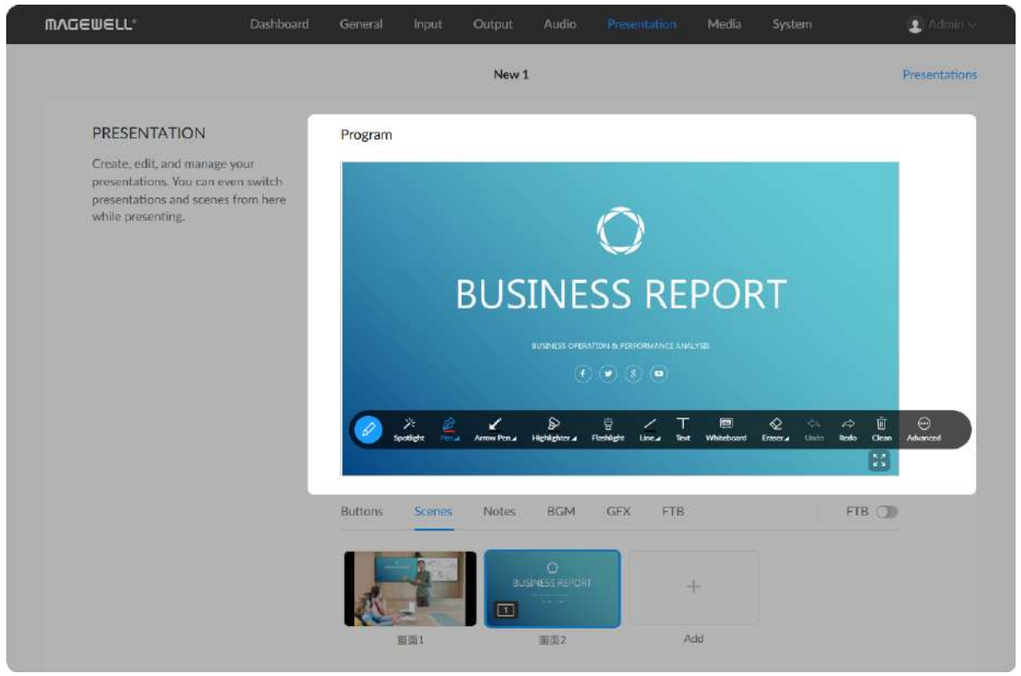
Previewing Output

1. In the navigation bar at the upper part of the Web UI, click the **Presentation** tab.
2. In the **Program** area, preview the content being presented.
   - When you switch scenes or notes, the scene/note switched to will be displayed in the preview area.
   - For a video clip, there will be a playback button and progress bar at the bottom. You can click the playback button to play or stop the video, and drag on the progress bar to seek.
   - For a PDF, there will be a toolbar displayed at the upper right corner of the preview area.
     - Click ◂▸ to resize the page to fit the width of the window.
     - Click ⇕ to resize the page to fit entirely in the document pane.
     - Click ⊕ or ⊖ to zoom in or out.
     - Click **Reset** to display the page at 100% magnification.
     - Click ∧ or ∨ to go to the previous or next page.
     - Enter a number in the Page Number box to jump.
   - For a web page, there will be a toolbar displayed at the upper right corner of the preview area.
     - Click ‹ or › to go back or forward.
     - Click ⌂ to go back to the home page, which is the original web page you have added.
     - Enter a URL in the address bar to jump to a new web page.

- Click  to refresh the web page.
- Click  or  to zoom in or out.
- Click **Reset** to display the web page at 100% magnification.

> The image in the preview area is updated once per second instead of in real time.

3. Toggle on FTB under the preview area, to fade everything you are presenting into black or the specified image and mute the audio.



Annotating

When presenting, click the button at the lower left corner of the preview area to use various tools to annotate. Click the button to enlarge the preview area.

> The annotation toolbar is placed at the lower part. You can move it to other positions.

Annotate on a Scene or a Note Page

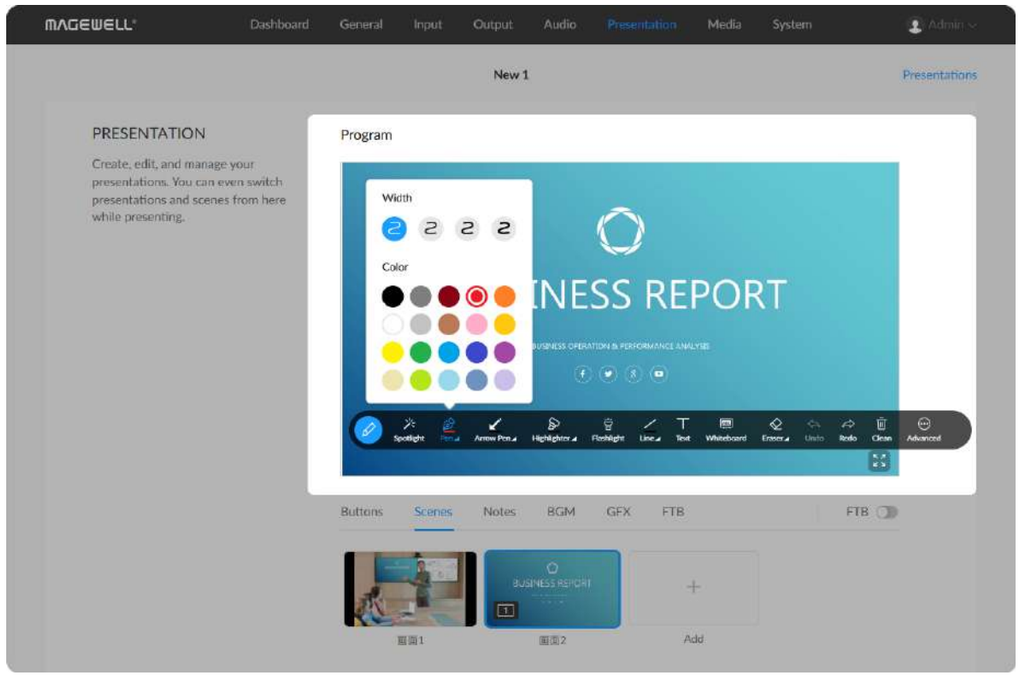
You can annotate not only on a scene but also on a note page. The differences are as follows:

- A note page does not support Auto Dismiss, Whiteboard and Flashlight.
- The annotations on a scene can only be manually saved on the App, while those on a note page are saved automatically.

Spotlight

Spotlight can mark a position obviously.

Click and then click any place on the preview area. A spotlight will appear at the corresponding place.



Pen

A pen is used for writing or marking.

- Click to use a pen. The color line under the icon indicates the current color.
- Click again to set width and color.

Arrow Pen

An arrow pen is a hand-drawn line ending in an arrow.

- Click to use the arrow pend. The color line under the icon indicates the current color.
- Click again to set width and color.

Highlighter

A highlighter is quite suitable for highlighting content.

- Click to use the highlighter. The color line under the icon indicates the current color.
- Click again to set width and color.

Flashlight

The flashlight can focus the audience's attention on the target.

> This tool is available only when you annotate on a scene.

1. Click "Flashlight".
2. Click an area to light it up, while other areas will be greyed out.
3. Hold down the left mouse button and drag to expand the lighted area.

Shape

You can use different shapes to annotate, including line, arrow, rectangle, and circle. By default, it displays Line.

- Click **Line** and then you can draw lines. The color line under the icon indicates the current color.
- Click **Line** again, and then you can select other shapes, and the icon changes as the selected shape. You can also set width and color. For rectangle or circle, you can set the border color and fill color separately.

Text

You can add text on a scene or note page, and configure its style, size and position.

1. On the annotation toolbar, click .
2. On the text editing page, type in text.
3. Set text color, background, size and glyph.
4. Click **OK**. The text will be displayed on the preview area with a text box. You can:
   - Click within the text box to edit the text again.
   - Click at the upper left corner to delete the text.
   - Drag at the lower right corner to scale the text.
   - Drag the text box to change the position of the text.
5. Click outside the text box to complete the editing.

Whiteboard

Using a whiteboard or blackboard can highlight your annotations.

> This tool is available only for annotating on a scene.

1. In the annotations toolbar, click  to open a whiteboard.
2. Click the  button on the right to switch between a whiteboard and blackboard.
3. Use other annotation tools to annotate on the whiteboard/blackboard.
4. Click  on the right to close the whiteboard/blackboard.

Eraser

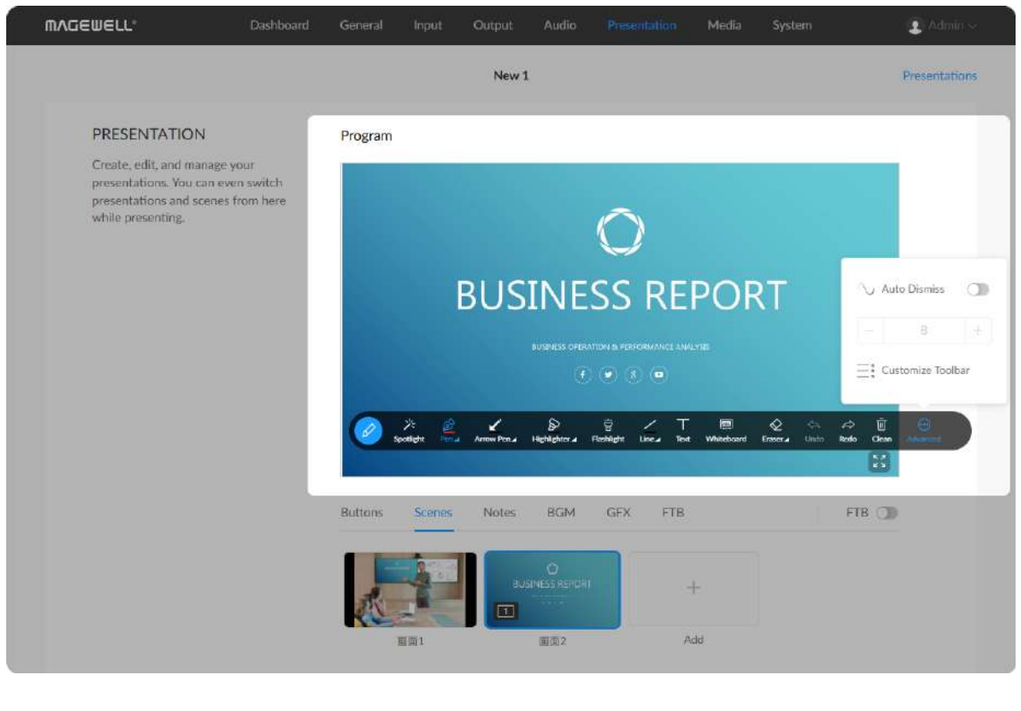
- Click  **Eraser** to erase various annotations.
- Click  **Eraser** again to set the width.

Undo, Redo, and Clean

The Undo, Redo, and Clean tools are used to delete or recover annotations.

-  **Undo**: Undo the last step. Clicking once undoes one step.
-  **Redo**: Redo an undone step. Clicking once redoes one step.
-  **Clean**: Clean all annotations on the scene or annotations page.

> For a scene, the annotations automatically clean when you switch to another scene/note page. For a note page, the annotations are automatically saved when you switch to another note page/scene; when you switch back to the note page, you can clean the annotations, but not undo/redo.



Auto Dismiss

By default, annotations do not dismiss automatically. You need to manually clear them. You can also enable the **Auto Dismiss** feature for the annotations to disappear automatically after a specified period.

> This feature does not apply to spotlight, text and flashlight, which need to be manually cleared.

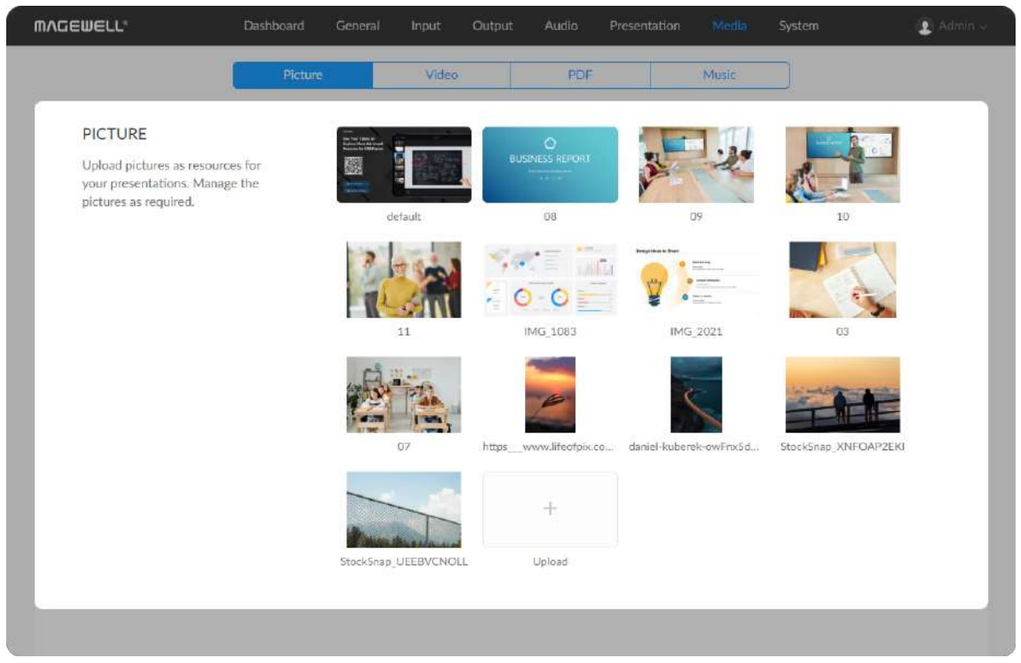
1. On the annotation toolbar, click **Advanced**.
2. Enable **Auto Dismiss**, and set the duration for the annotations to stay before they automatically dismiss.
   The time range is 2 to 10 seconds.

Customizing the Toolbar

You can select to only show the preferred annotation tools and hide the tools you do not need.

1. On the annotation toolbar, click **Advanced**.
2. Click **Customize Toolbar**.
3. Check or uncheck a tool.
   - : show the tool.
   - : hide the tool.
4. To recover to the default settings, click **Reset** at the upper left corner.

> **Pen** cannot be hidden.



Managing the Media Files

On the Web UI, you can manage the media files in USB Fusion. Media files include the pictures, videos, PDF and music imported to USB Fusion.

Managing Pictures

Importing 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 USB Fusion.

Previewing 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.

Renaming 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 at the upper right corner, and click **Rename**.
4. Enter a new name (1-32 characters) and click **Rename**.

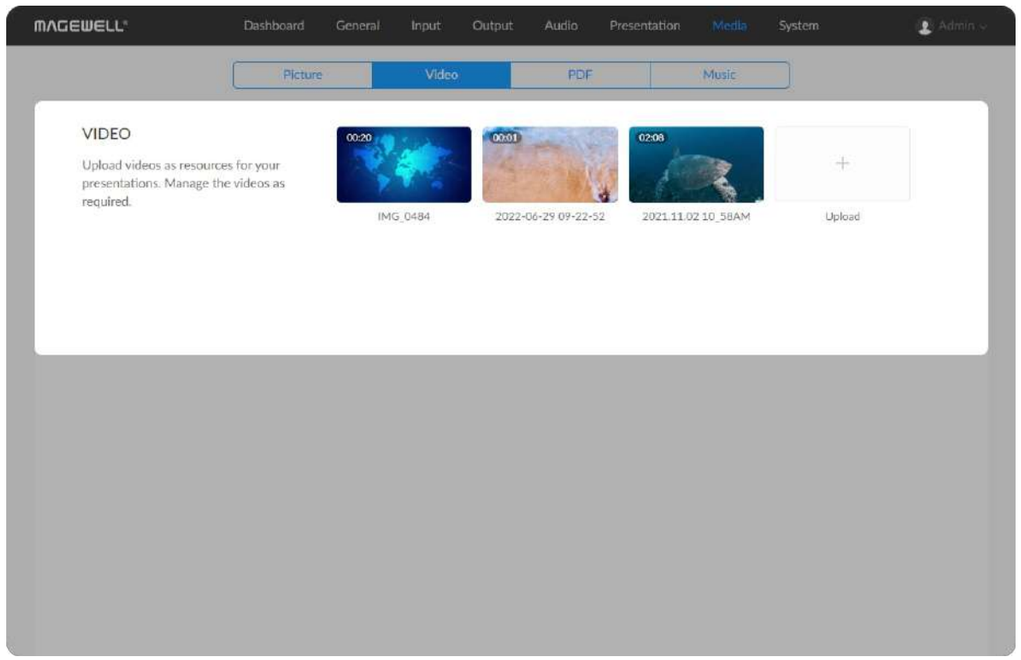
Downloading Pictures

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 at the upper right corner, and click **Download**.
   The picture will be downloaded to the local computer.

Deleting 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 at the upper right corner, and click **Delete**.
4. On the displayed dialog box, click **Delete**.
   The picture will be removed from USB Fusion.

> The resource currently being presented cannot be deleted.



Managing Videos

Importing Videos

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 USB Fusion.

Previewing Videos

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.

Renaming Videos

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 at the upper right corner, and click **Rename**.
4. Enter a new name (1-32 characters) and click **Rename**.

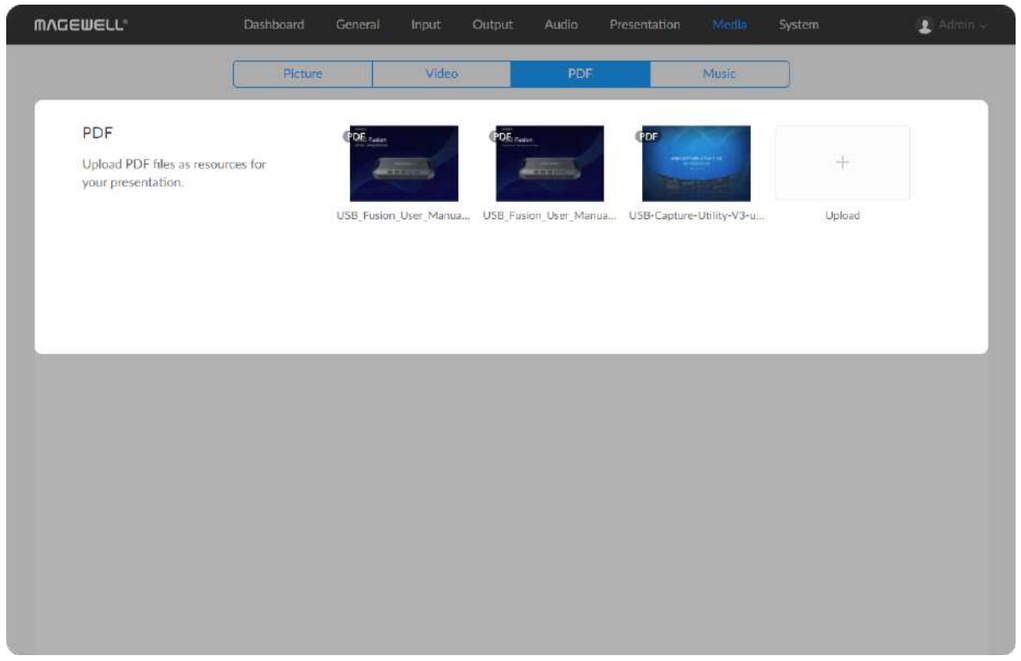
Downloading Videos

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 at the upper right corner, and click **Download**.
   The video will be downloaded to the local computer.

Deleting Videos

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 at the upper right corner, and click **Delete**.
4. On the displayed dialog box, click **Delete**.
   The video will be removed from USB Fusion.

> The resource currently being presented cannot be deleted.



Managing PDF

Importing PDF

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **PDF** tab at the upper part of the page.
3. On the **PDF** tab page, click the **+ Upload** button, and import a PDF from the local computer.
   The resource will be imported to USB Fusion.

Previewing PDF

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

Renaming PDF

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **PDF** tab at the upper part of the page.
3. On the **PDF** tab page, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Rename**.
4. Enter a new name (1-32 characters) and click **Rename**.

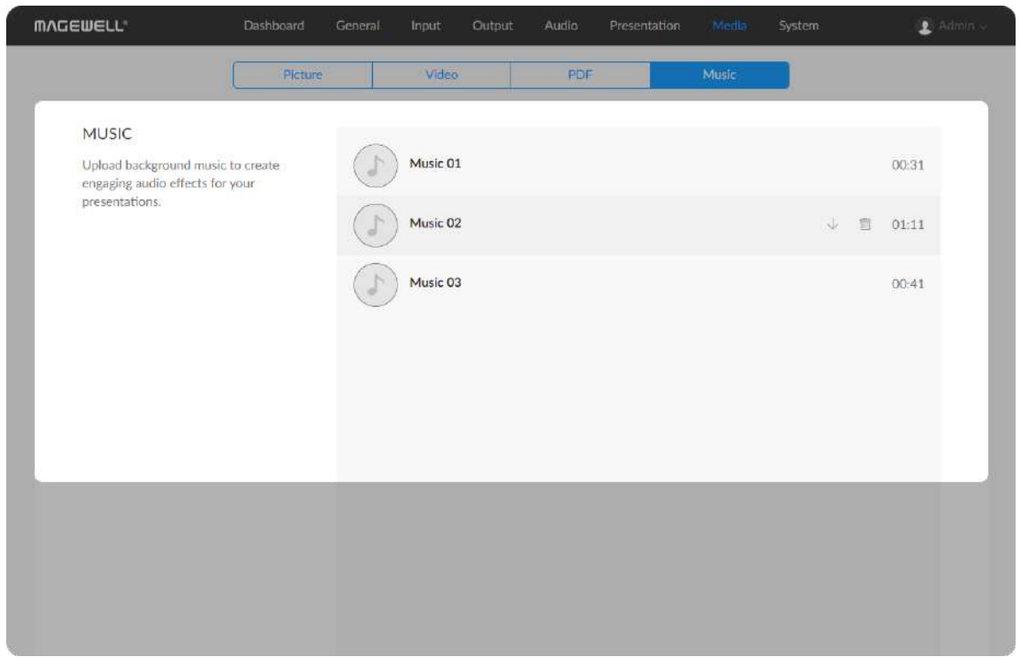
Downloading PDF

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **PDF** tab at the upper part of the page.
3. On the **PDF** tab page, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Download**.
   The PDF will be downloaded to the local computer.

Deleting PDF

1. In the navigation bar at the upper part of the Web UI, click the **Media** tab.
2. Click the **PDF** tab at the upper part of the page.
3. On the **PDF** tab page, move the mouse to a thumbnail, click the ··· icon at the upper right corner, and click **Delete**.
4. On the displayed dialog box, click **Delete**.
   The PDF will be removed from USB Fusion.

> The resource currently being presented cannot be deleted.



Managing Music

Importing 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 USB Fusion.

Previewing 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.

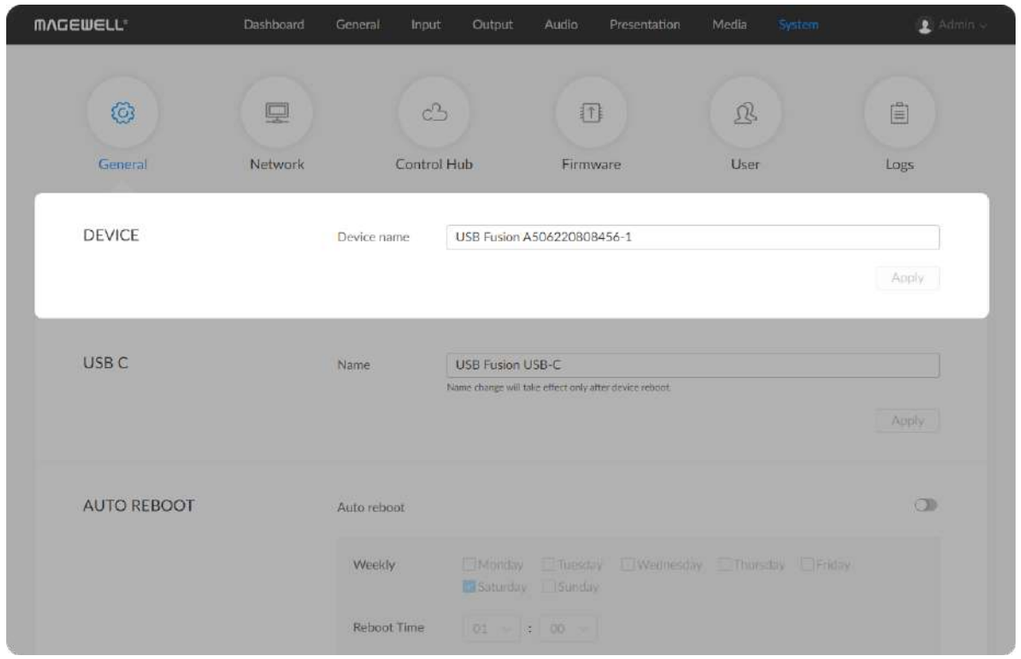
Downloading Music

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 download button ↓ on the right.
   The music will be downloaded to the local computer.

Deleting 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 USB Fusion.

> The resource currently being presented cannot be deleted.

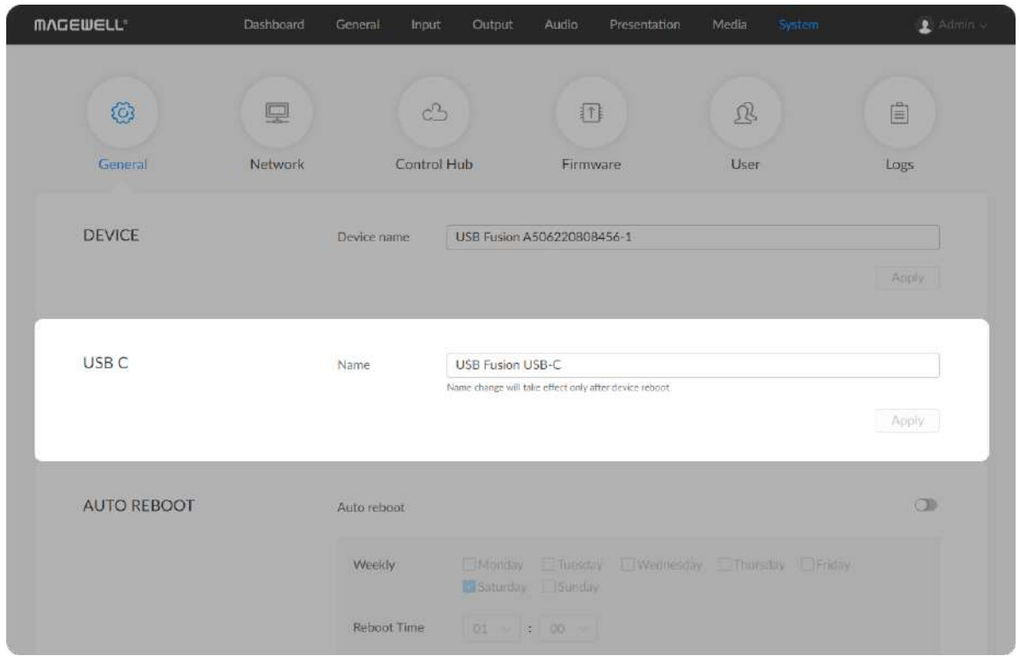


Setting the Device Name

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 USB Fusion 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**.

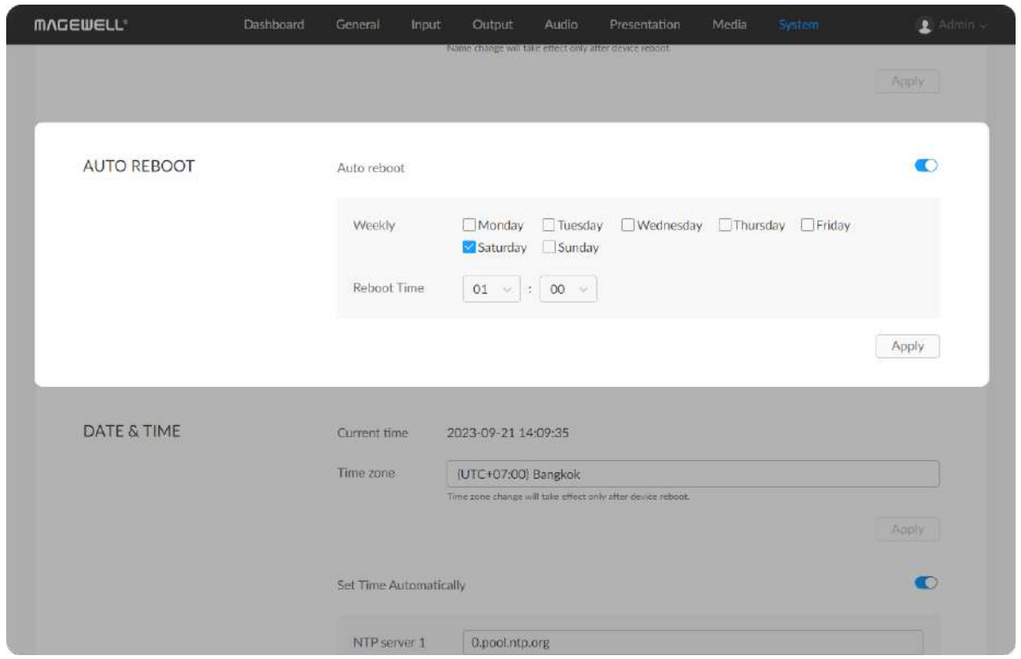
   After you change the device name, reboot the device to make the change taking effect.
5. Click **Dashboard** in the navigation bar. Check whether **Device name** in the **USB Fusion** area is changed to the new name.
   The device name displayed in network discovery and in USB Fusion App will also change accordingly.



Setting USB-C Connection Name

USB-C connection name is the name of USB Fusion displayed on the computer after it is connected with the computer through the USB OUT port. By default, it is USB Fusion USB-C.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **General**.
3. In the **USB C** area, change the **Name**.
   The 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** and reboot the device.
5. On the computer that USB Fusion is connected, you need to uninstall USB Fusion and then re-scan the device.
   Taking Windows 10 as an example:
   i. Press " + X" on your keyboard or right-click the button, the Power User menu will appear. Select **Device Manager** from the list.
   ii. Click **Sound, video and game controllers**, right-click **USB Fusion USB-C**, click **Uninstall device**, and click **OK**.
   iii. Click **Cameras**, right-click **USB Fusion USB-C**, click **Uninstall device**, and click **OK**.
   iv. Click **Action** and then click **Scan for hardware changes**.
   v. Click **Sound, video and game controllers** and **Cameras** respectively, and you will find USB Fusion with the new name.

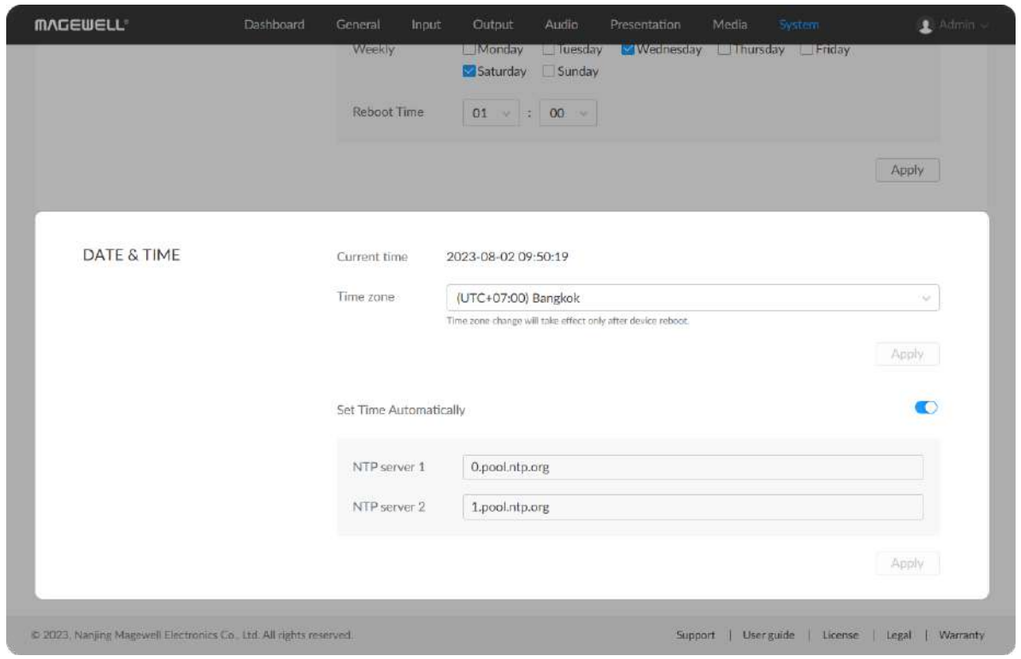


Setting Auto Reboot

You can set to reboot the device automatically at a fixed time.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **General**.
3. Toggle on the switch of **Auto reboot**.
4. Select date and reboot time (24-hour clock).
5. Click **Apply** to finish your setting. The device will reboot automatically at the set time.

⚠ Note: After auto reboot is set successfully, the device will automatically reboot when it reaches the set time, regardless of whether there are recording, streaming or any other tasks in progress.



Setting the System Time

USB Fusion 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.

Selecting a 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. USB Fusion uses **(UTC+08:00) Beijing, Shanghai, Hongkong, Taipei** by default.
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.

Setting Time Automatically

You can automatically synchronize time from the network.

By default, USB Fusion 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. USB Fusion uses the NTP servers provided by ntp.org by

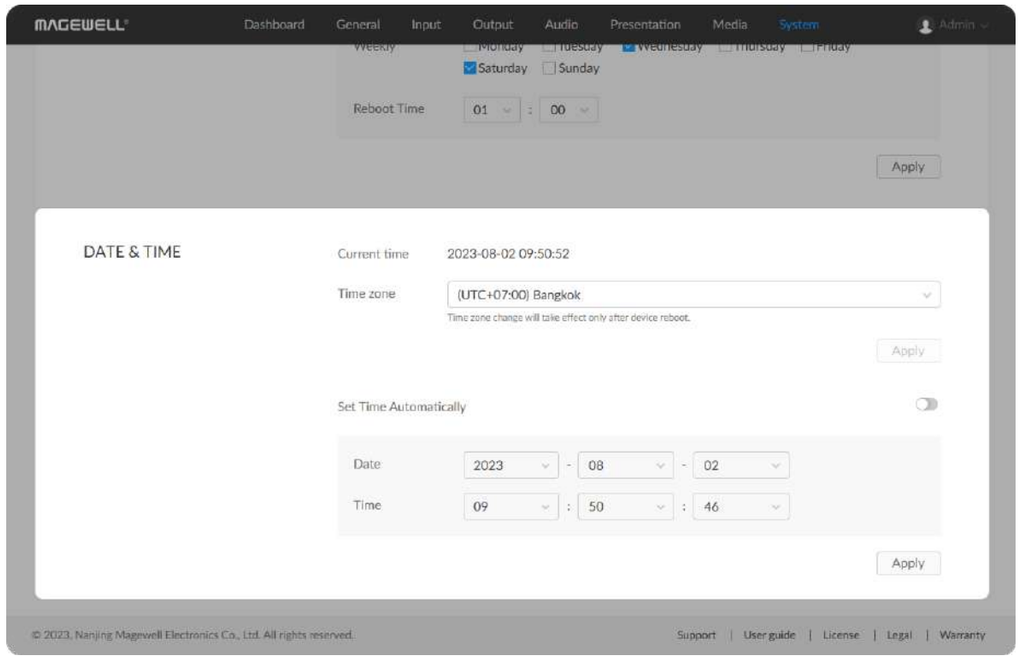
default. You can change these NTP servers as needed. For example, you may change to nearer servers to reduce network latency and improve time accuracy. ntp.org also provides recommended practices for configuring NTP servers.

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 **0.pool.ntp.org**. Make sure you enter a valid domain name.
   - **NTP server 2**: Domain name for NTP server 1, optional. The default is **1.pool.ntp.org**. 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.



Setting 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**.

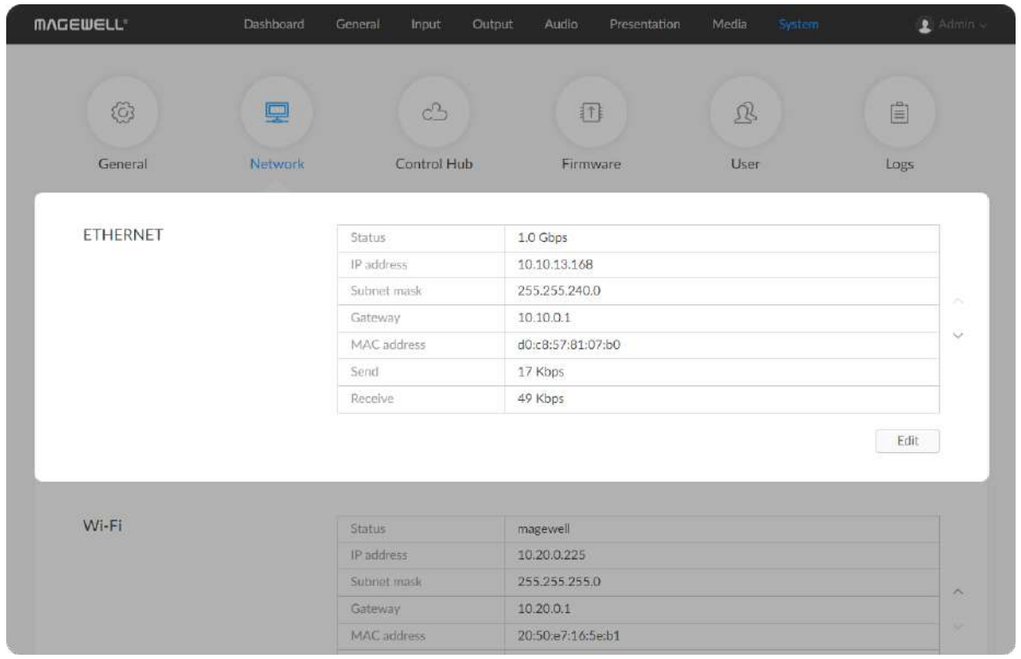
> Make sure you click this button after configuring. Otherwise, your configuration will become invalid.

Configuring Network

After connected to a network, USB Fusion can be accessed by other devices. USB Fusion supports the following network connections:

Connection	How to Connect	Requirements
Ethernet	Connect the Ethernet cable to ETHERNET port of USB Fusion.	Support access by other devices on the same network.
Wi-Fi	Connect USB Fusion to a Wi-Fi network on the Web UI.	Support access by other devices on the same network.
AP	Enable the AP mode of USB Fusion on the Web UI.	Other devices need to connect to the AP to access USB Fusion. Keep the devices close to USB Fusion when connecting. AP and P2P together allow up to 8 devices connecting simultaneously.
WiFi Direct (P2P)	Enabled automatically when you enable Miracast on the Web UI > Input > SCREENCAST page	Only used for Miracast screencast. AP and P2P together allow up to 8 devices connecting simultaneously.

Connection	How to Connect	Requirements
USB network	Connect the supplied USB cable from the USB OUT port of USB Fusion to a computer.	Only the computer connected through the USB cable can access USB Fusion. Linux, macOS 10.12 and later, and Windows 10 19H1 and later are supported.



Configuring Ethernet

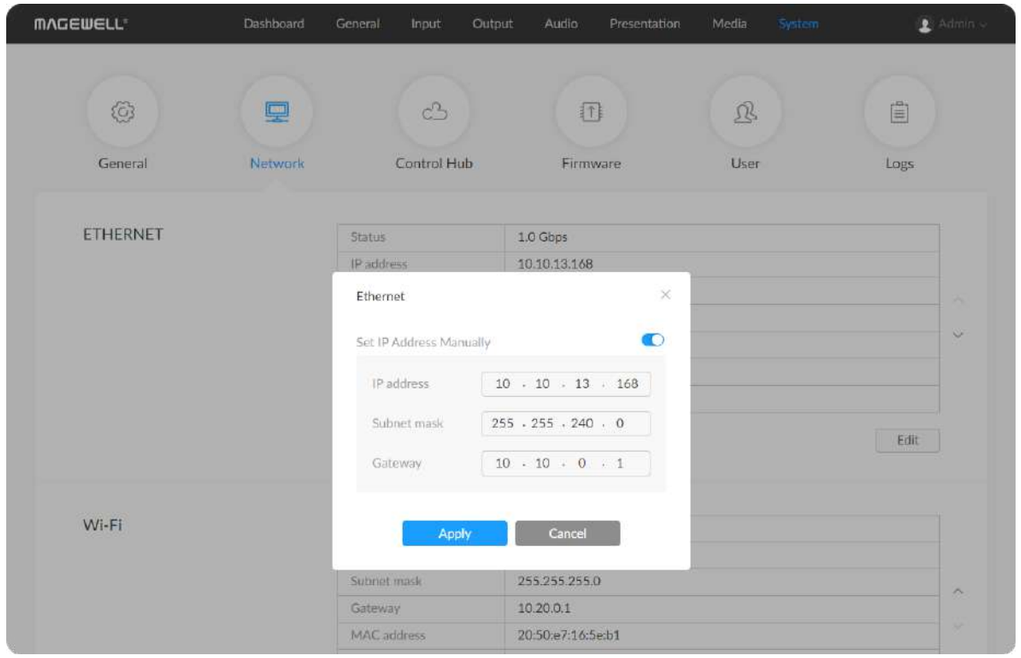
Viewing Network Information

After USB Fusion 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 USB Fusion device
- **Subnet Mask**: a 32-bit mask that divides an IP address into two parts, network address and host address
- **Gateway**: IP address of the gateway, which connects different networks
- **MAC address**: MAC address of the current network adapter
- **Send**: data sending speed of USB Fusion
- **Receive**: data receiving speed of USB Fusion



Configuring a Static IP Address for Ethernet

USB Fusion 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 USB Fusion. 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**, and **Gateway**.

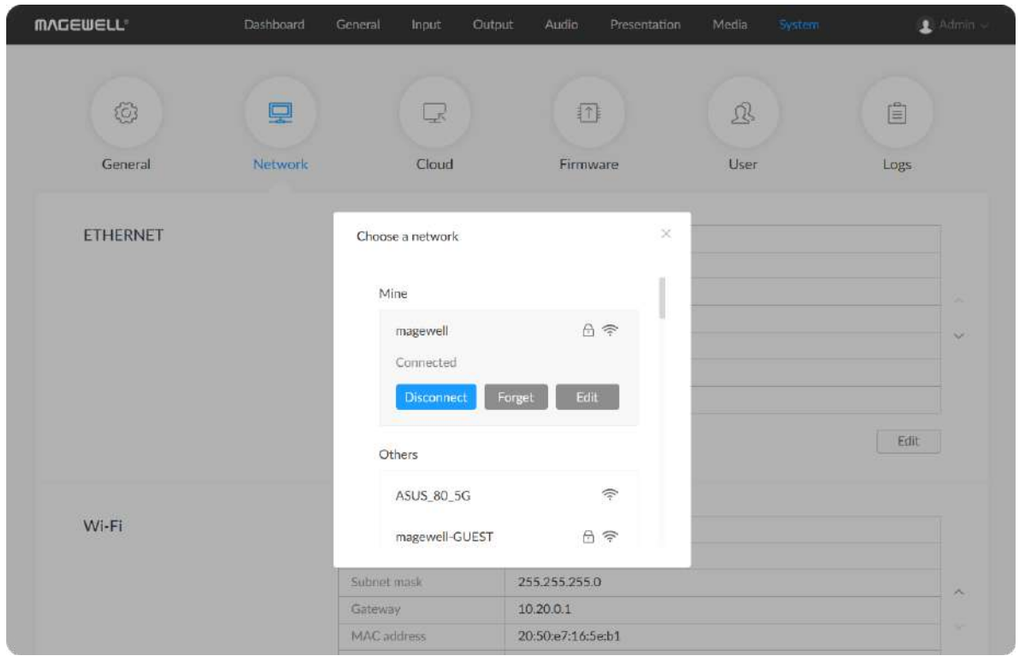
The current network settings are used by default. Only IPv4 addresses are supported, while IPv6 address are not.

> 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 USB Fusion.



Configuring Wi-Fi

USB Fusion enables the Wi-Fi function by default. On the Web UI, you can configure the Wi-Fi connection.

Connecting to a Wi-Fi Network

USB Fusion enables Wi-Fi by default. You can configure Wi-Fi connection through the Web UI.

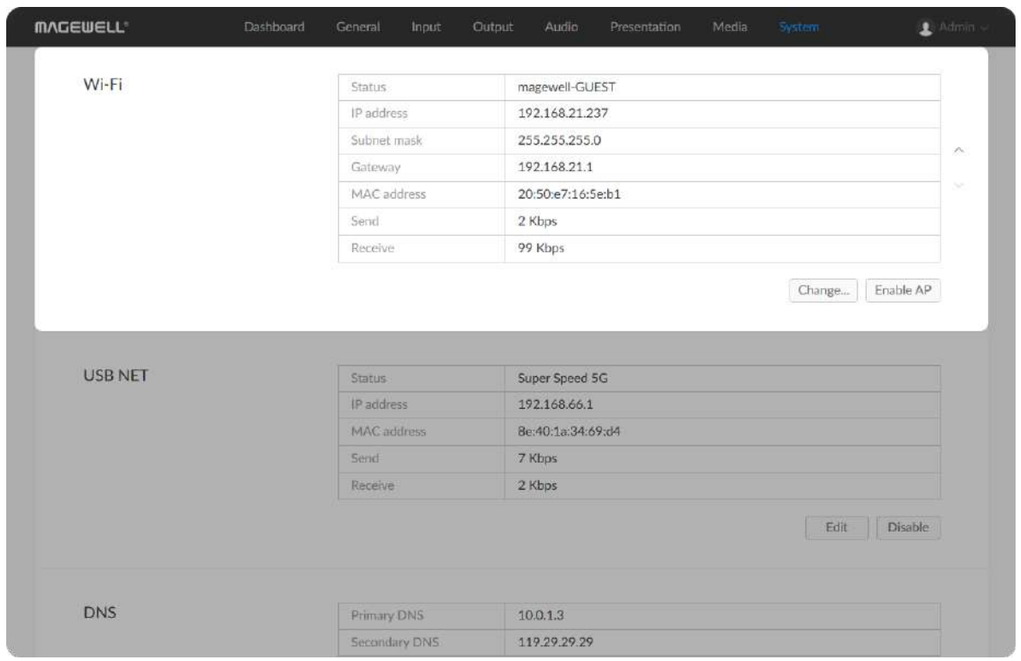
1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **Wi-Fi** area, click **Connect...**.
   A list of available Wi-Fi networks are displayed.
   - **Mine**: lists all networks that has been connected previously. The currently connected network will display at the 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.
   - If you want to automatically connect to the network, check **Connect automatically**.
     If the current Wi-Fi is disconnected, USB Fusion will automatically attempt to connect to the network with **Connect automatically** enabled. If this is enabled for multiple networks, it will connect to the first detected one.

> If no Wi-Fi network is checked the "Connect automatically" option, the device cannot automatically connect to a Wi-Fi network after device reboot or Wi-Fi disconnection.

A connected network will show in the **Mine** area with the **Connected** status. 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.

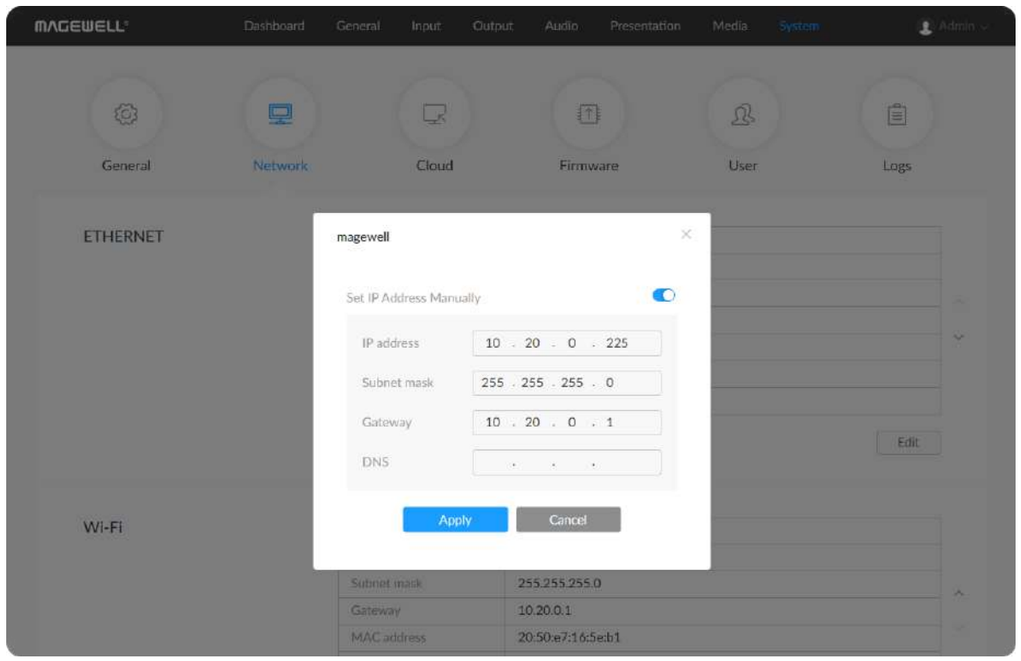
5. Click the close button at the upper right corner.
   The **Wi-Fi** area will show the current Wi-Fi connection information.
6. To change to another Wi-Fi, click **Change...**.



Viewing 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 the USB Fusion device
   - **Subnet Mask**: a 32-bit mask that divides an IP address into two parts, network address and host address
   - **Gateway**: IP address of the gateway, which connects different networks
   - **Send**: data sending speed of USB Fusion
   - **Receive**: data receiving speed of USB Fusion



Configuring a Static IP Address for Wi-Fi

USB Fusion 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 USB Fusion. 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**, and **Gateway**.
   The current network settings are used by default. Only IPv4 addresses are supported, while IPv6 address are not.

   > 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**.

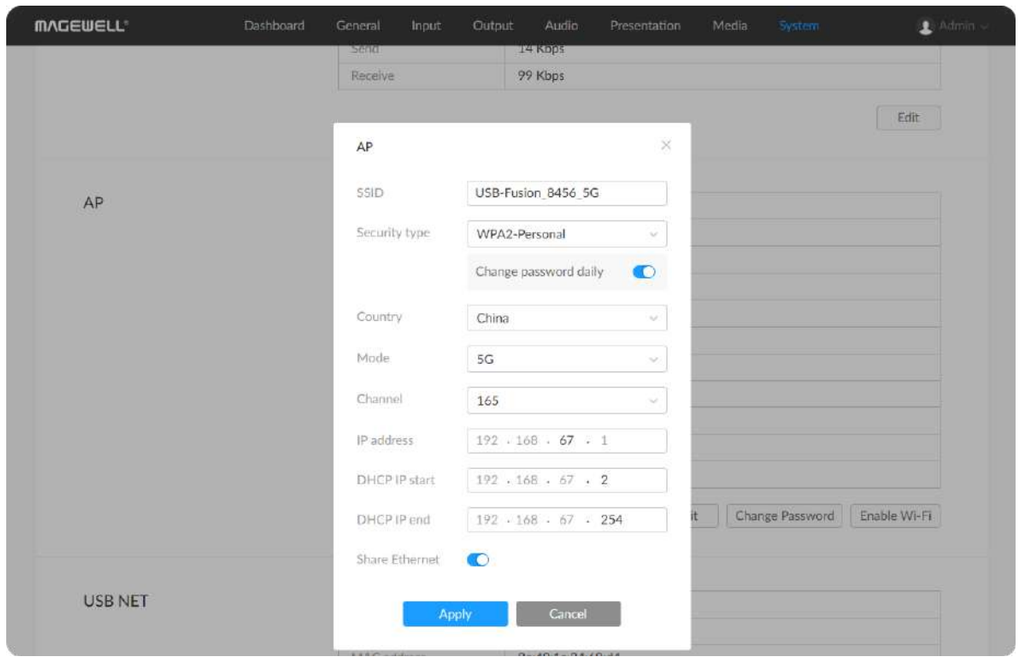
   > If you are currently accessing the Web UI using a Wi-Fi IP address, since the original IP address can no longer be used for access, the device will log you out.

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

Changing Network Priority

By default, Ethernet routing takes precedence. You can change the priority of Ethernet and Wi-Fi networks.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. Click the up and down arrows in the **ETHERNET** or **Wi-Fi** erea to change their positions. The network on the top will take precedence.



Configuring AP

With the AP mode enabled, other devices can conveniently set up network connections with USB Fusion by connecting to its AP.

Enabling AP

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **Wi-Fi** area, click **Enable AP**, and click **Yes** in the popup.

> Enabling AP requires device reboot to take effect.

Viewing and Editing AP

After the AP is enabled, press and hold 2 on the device, and then you can see the hotspot name and password of USB Fusion on the screen connected to the HDMI OUT port.

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **AP** area, check AP parameters. To edit, click **Edit**, change as required, and click **Apply**.
   - **SSID**: AP network name, which is used for identifying the AP when you connect to it. The default is **USB-Fusion_xxxx**, where **xxxx** indicates the last four digits of device serial number. When the 5G mode is used, **_5G** will be postpended to the name. Supported characters include A-Z, a-z, 0-9, and _-, allowing 1-32 characters.
   - **Security Type**:

- "WPA2-Personal" (default), other devices need to connect to the AP with a password. The default initial password is 12345678. If you toggle on "Change password daily", USB Fusion generates a random 8-digit password at 00:00 every day, and the device connected to the AP through the old password will be automatically disconnected.
  Press and hold 2 on the device, and then you can see the password on the screen connected to the HDMI OUT port.
- "No authentication": other devices can connect the AP without a password.

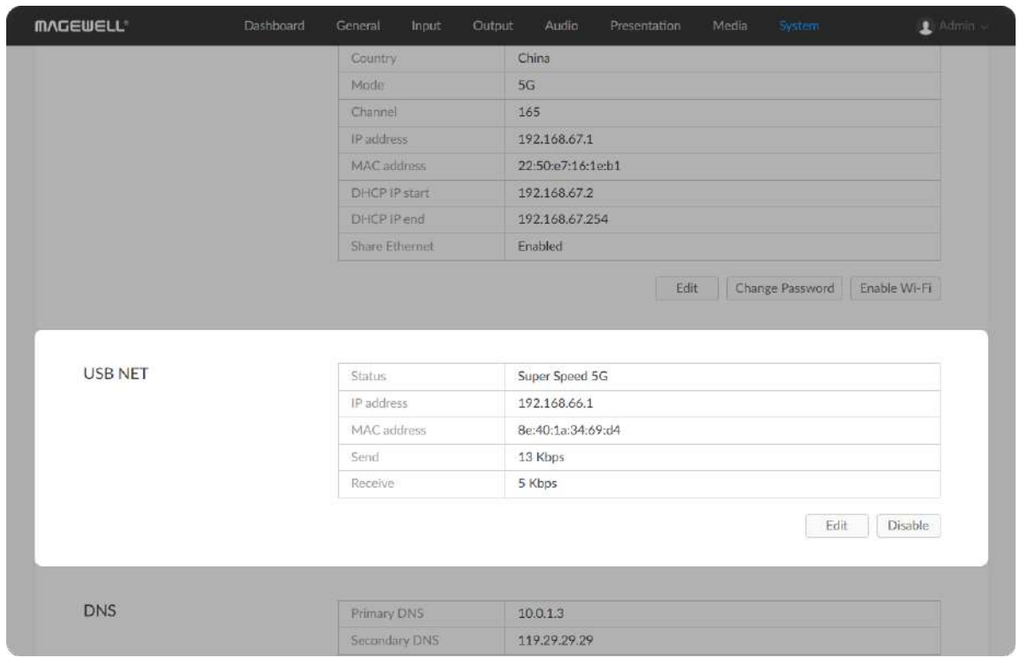
- **Country**: The default is China.
- **Mode**: The default is 5G. Note: 5G band (W52) indoor use only.
- **Channel**: The default is 165. The value range changes based on the selected country and mode. A channel with less interference will provide better communication quality.
- **IP address**: The default is 192.168.67.1. Only the third segment can be modified, ranging from 0 to 254. Ensure the IP address is unique on the local network.
  The system automatically checks whether this IP address is the same as the USB network IP address. If yes, you will be prompted with an error.
- **MAC address**: MAC address of the current network adapter (not editable).
- **DHCP IP start**: Start IP address assigned by the AP to connected devices. Only the fourth segment can be modified, which ranges from 2 to a value less than **DHCP IP end**

- **DHCP IP end**: End IP address assigned by the AP to connected devices. Only the fourth segment can be modified, which ranges from a value greater than **DHCP IP start** to 254.
- **Share Ethernet**: Whether the Ethernet connection can be shared after the AP is enabled. By default, this function is enabled, allowing devices connected to the AP to use the Ethernet connection of USB Fusion.

  > After you change **IP address** and click **Apply**, if you are currently accessing the Web UI using the IP address of the AP, since the original IP address can no longer be used for access, the device will log you out.

4. To change the AP password, click **Change Password**, enter and confirm the new AP password, and click **OK**. If you toggle on "Change password daily", the new AP password will also change after 00:00. The password should consist of 8-63 characters. Supported characters: A-Z, a-z, 0-9 and _~!@#$%^&*-+=
5. To switch to Wi-Fi mode, click **Enable Wi-Fi**.

   > Enabling Wi-Fi requires device reboot to take effect.

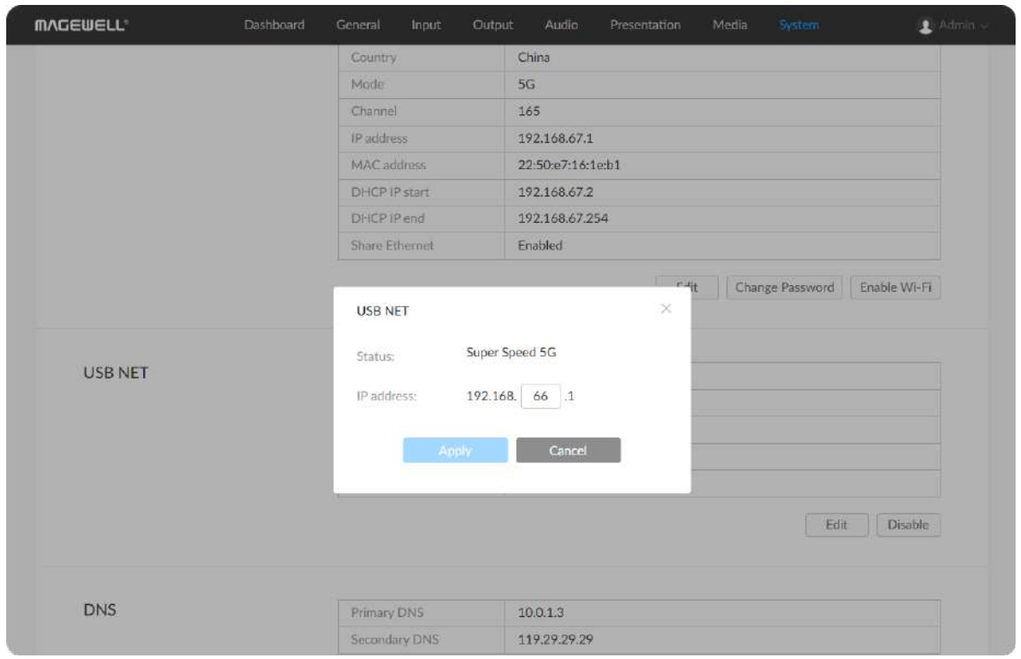


Configuring USB Network

You can use the USB network function to connect a USB cable from the USB OUT port of USB Fusion to your computer, which establishes a virtual network between the computer and USB Fusion. This connection is convenient, especially when other network connections are not available. USB Fusion comes with a default network IP, namely 192.168.66.1.

Viewing USB Network Information

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **USB NET** area, view USB network connection information:
   - **Status**: USB network connection status
     - **Down**: The network port is down.
     - **Disconnected**: No network is connected.
     - **Full Speed**: USB 1.1 speed at 12 Mbps
     - **High Speed**: USB 2.0 at 480 Mbps
     - **Super Speed 5G**: USB 3.0 speed at 5 Gbps
   - **IP Address**: IP address of the USB Fusion device
   - **MAC address**: MAC address of the current network adapter
   - **Send**: data sending speed of USB Fusion
   - **Receive**: data receiving speed of USB Fusion



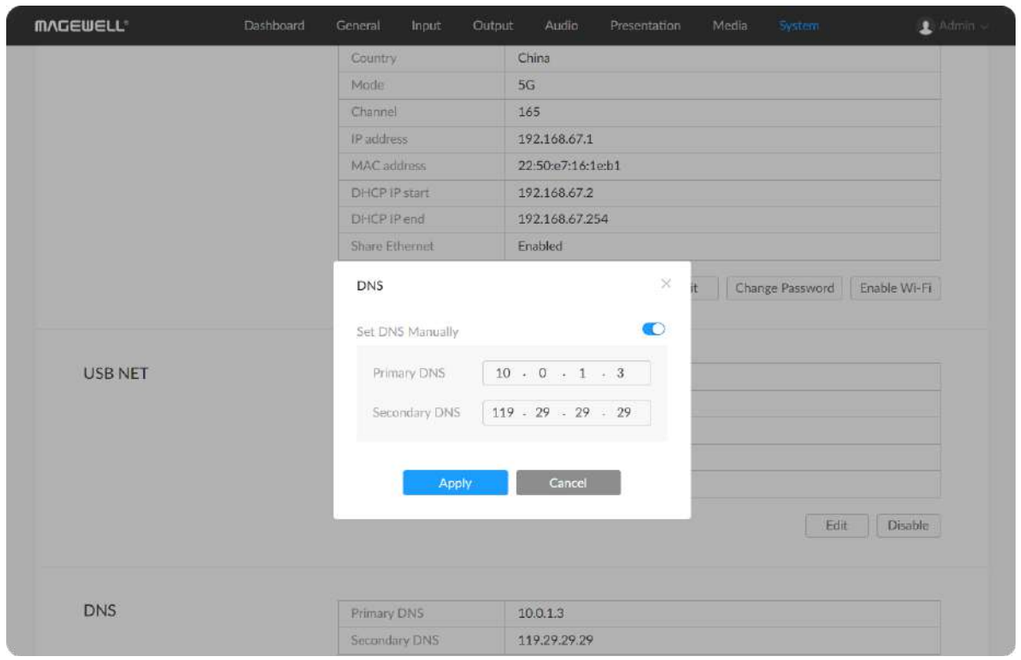
Changing the USB Network IP Address

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

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

   If you are currently accessing the Web UI using an USB network IP address, since the original IP address can no longer be used for access, the device will log you out.
6. Use USB network to access the Web UI to ensure that the new IP address can be used for access.
7. To disable the USB network, click **Disable**.

You cannot log into Web UI through the USB network after it is disabled.



Configuring DNS

A DNS server provides domain name resolution service, namely resolving a domain name to an IP address. When DHCP is used, the DHCP server will automatically obtain the DNS service. When the network does not support DHCP, you need to manually set DNS servers.

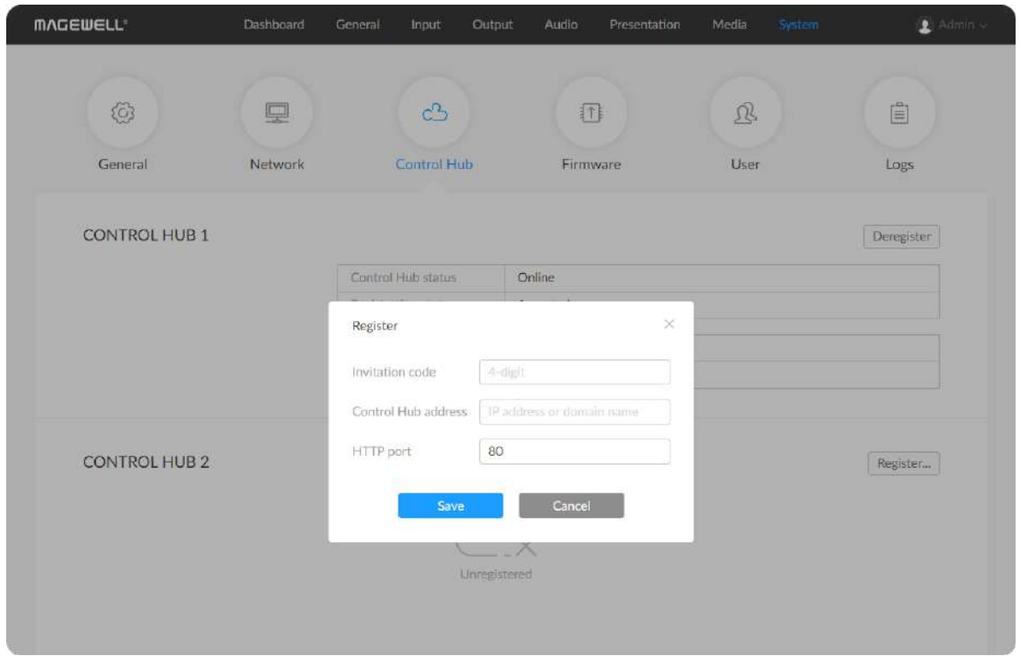
You can set primary and secondary DNS servers to enhance availability. When the primary server is down, the secondary server will take over.

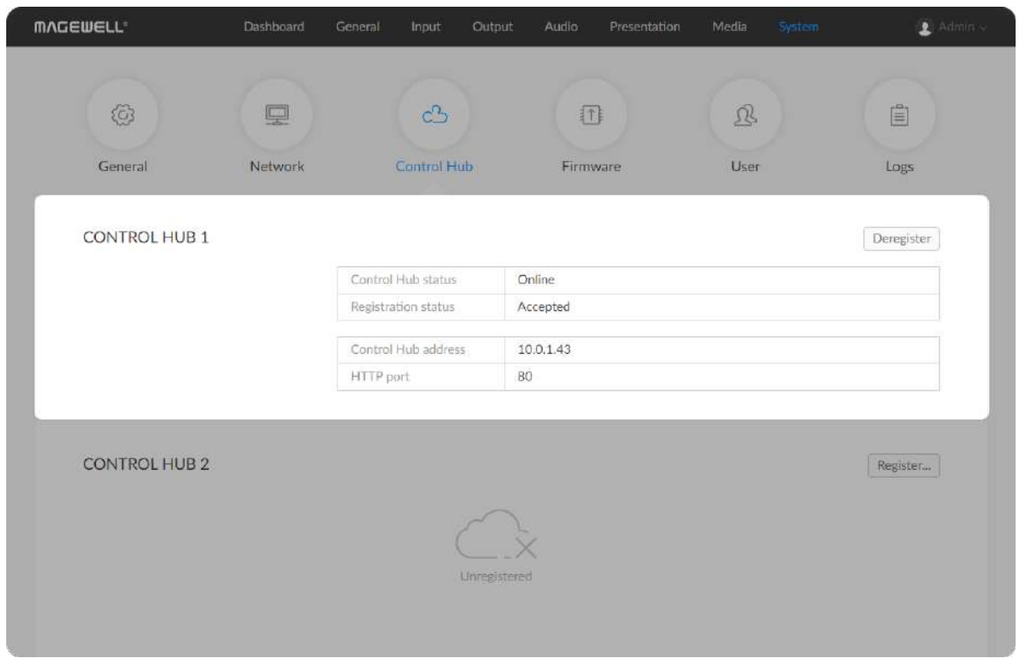
1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Network**.
3. In the **DNS** area, click **Edit**.
4. In the displayed dialog box, enable **Set DNS Manually**. Set the following parameters:
   - **Primary DNS**: IP address of the primary DNS server. Mandatory. The default is the current network setting. Ensure you enter a valid DNS server address, which must be an IPv4 address, not an IPv6 address.
   - **Secondary DNS**: IP address of the secondary DNS server. Optional. The value is left empty by default. Ensure you enter a valid DNS server address, which must be an IPv4 address, not an IPv6 address.

     To change back to using the DHCP service to obtain an IP

address, disable **Set DNS Manually** and click **Apply**. The DNS addresses will be restored to the automatically obtained ones.

5. Click **Apply**.





Joining Magewell Control Hub

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

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

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

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Control Hub**.
3. Click **Register...** in the **CONTROL HUB 1** area.
4. Input parameters in the pop-up window.
   - **Invitation code**: a 4-digital numbers security code enabled on Magewell Control Hub. If not enabled, leave it empty.
   - **Control Hub address**: input IP address or domain name of Control Hub.
   - **HTTPS**: turn it on 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

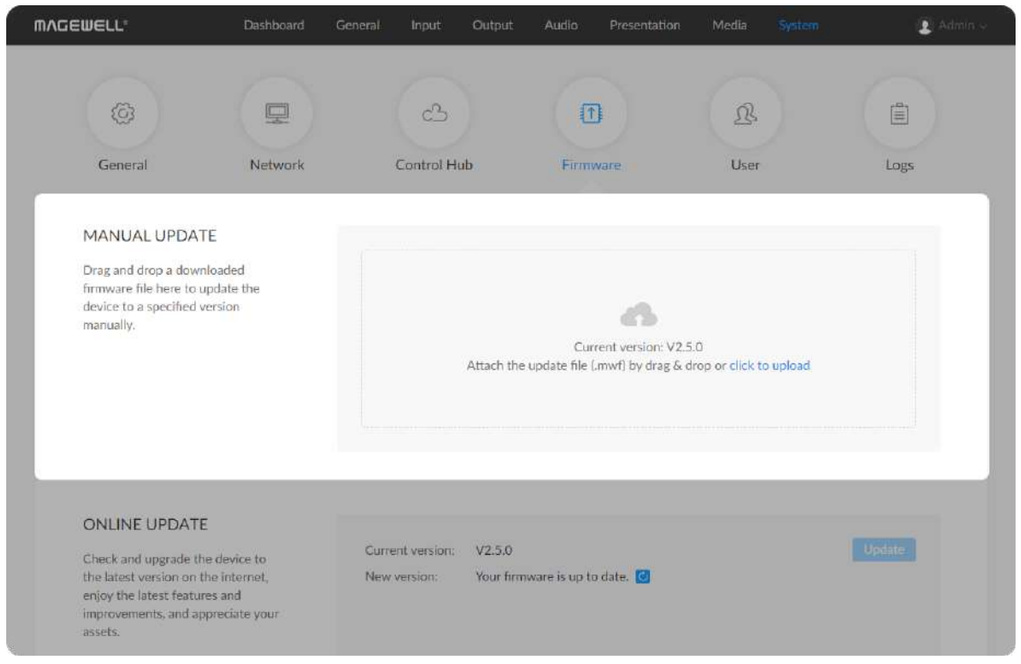
that of Control Hub. The default number is 80.

5. Click **Save**.
6. In the **CONTROL HUB 1** area, check parameters related to Control Hub management.
   - **Control Hub status**: **Online** or **Offline**. Online indicates that the communication between device and Control Hub goes well. On the other hand, Offline indicates the communication is interrupted.
   - **Register status**: shows current status of Control Hub join permission, including:
     - **Incorrect invitation code**: you need to change your registration with correct code.
     - **Waiting**: registration is successfully submitted to Control Hub and waiting for approval.
     - **Accepted**: registration is approved. This device can be remotely controlled.
     - **Rejected**: Registration is denied.
     - **Deleted**: Registration is deleted, you can re-apply for joining the Control Hub.
   - **Control Hub address**: shows IP address or domain name of Control Hub.
   - **HTTPS**: 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.
7. Manage the device on Magewell Control Hub. For details, please refer

to Magewell Control Hub User Manual.

8. To deregister from Magewell Control Hub, click **Deregister** in the **CONTROL HUB 1** area.

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



Updating 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.

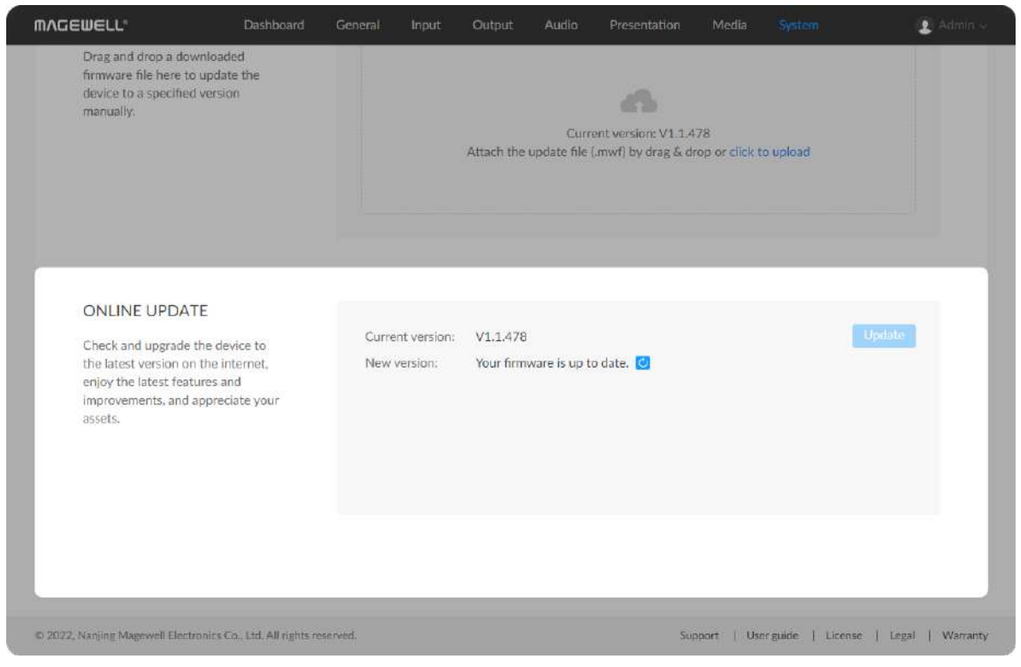
Manually Updating Firmware

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

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **Firmware**.
   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 **Firmware version** in the **USB Fusion** area on the **Dashboard** page.
   The firmware version should be the one you just updated to.



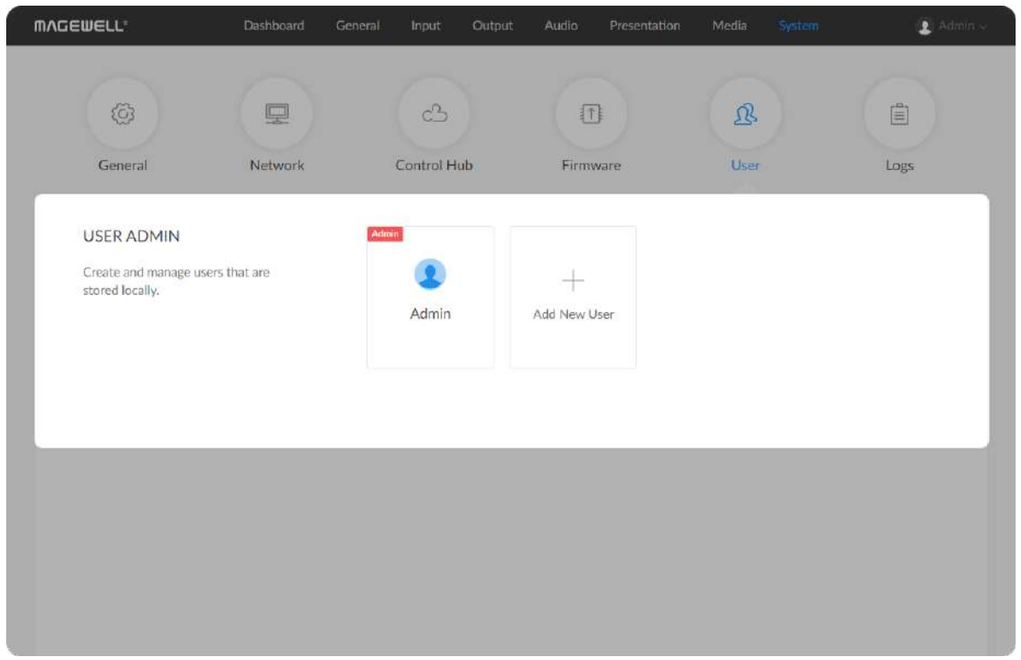
Updating Firmware Online

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 **Firmware version** in the **USB Fusion** area on the **Dashboard** page.
   The firmware 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.



Managing Users

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

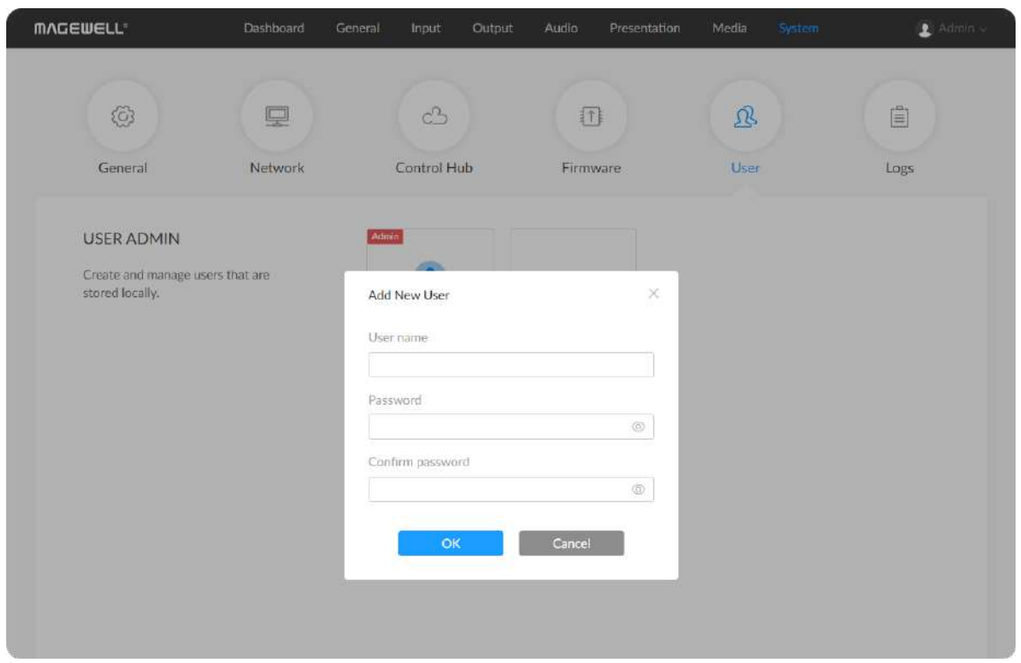
Creating Users

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

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

Deleting Users

1. Log in to the Web UI as the Admin user.
2. Choose **System** > **User**.
3. On the **User** tab page, move the mouse to a user and click the **X** icon at the upper right corner.
   The **Admin** user cannot be deleted.
4. In the displayed dialog box, click **Yes**.



Resetting the Password

1. Log in to the Web UI as the Admin user.

   If you need to reset the password of the Admin user, you need to reset the device to restore to the default Admin account. For details, see Resetting USB Fusion.

2. Choose **System** > **User**.

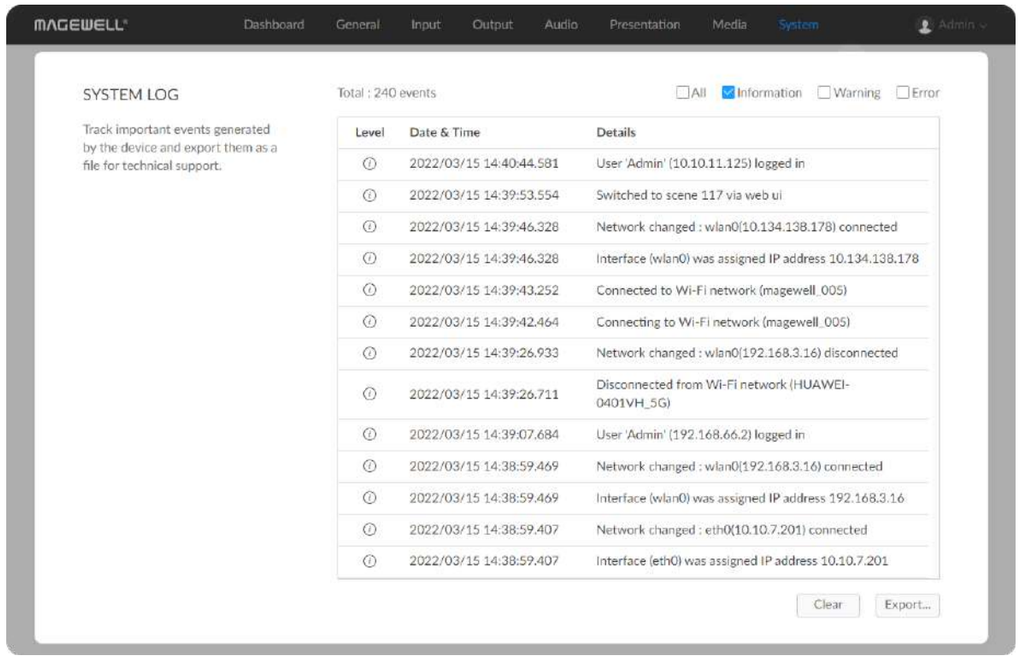
3. On the **User** tab page, move the mouse to a user and click **Set password** .

4. In the displayed window, enter the new password, and confirm the new password.

   The password is case sensitive, ranging from 1 to 32 characters consisting of A-Z, a-z, 0-9, and special characters _-~!@#$%^&*-+=

5. Click **Yes**.

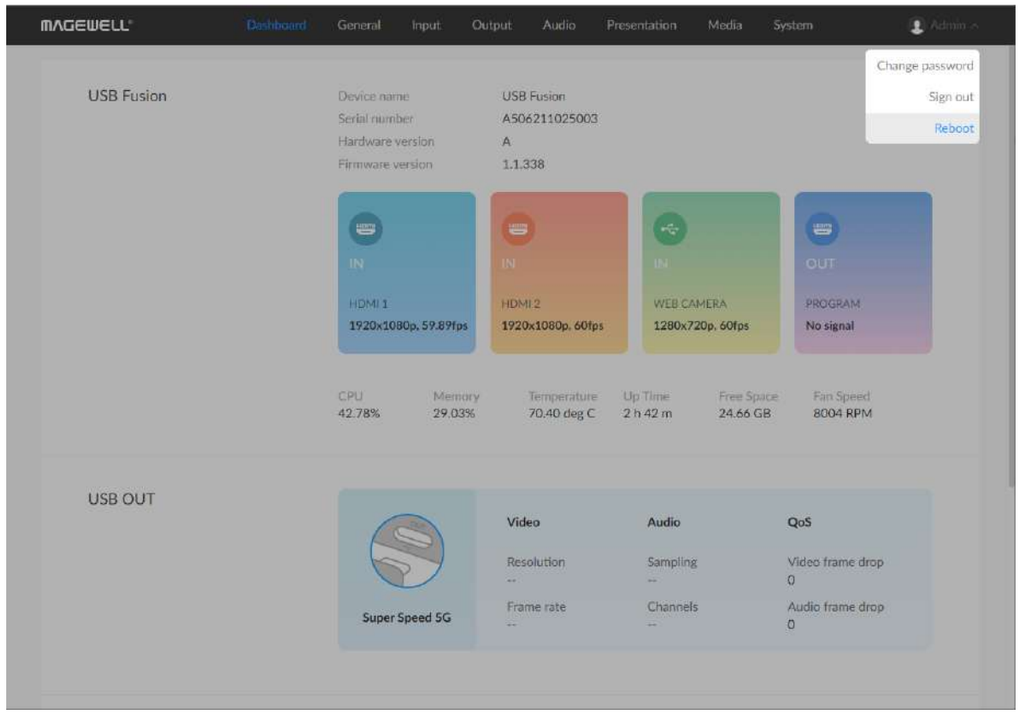
   The new password will take effect immediately.



Managing Logs

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

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



Rebooting USB Fusion

When USB Fusion 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.



Resetting USB Fusion

Both the Admin user and common users can reset USB Fusion. To avoid unintended resetting, you can only reset the device after connecting to it through USB network.

> ⚠ Note: The resetting will restore your device to default settings. You will lose your custom settings, presentations, media files, recordings, etc.

1. Use an USB cable to connect USB Fusion and your computer.
2. On the computer, open a browser and enter the USB network IP address in the address bar.
   The default IP address is 192.168.66.1. You are not advised to change this address unless IP address conflict exists in the local network.
3. Click **Reset all settings** at the upper right corner of the Web UI login page.
   In the displayed window, click **Reset**.
   Resetting may take a few minutes to complete. Do not shut down or operate the device during the resetting.

API and Custom Functions of Buttons

USB Fusion provides rich APIs for developers to interact with the device such as obtaining basic information about the device (device name, firmware version, etc.), modifying device configuration and upgrading firmware. These HTTP-based APIs are lightweight and connectionless interfaces that response data in JavaScript Object Notation (JSON) format. You can visit USB Fusion API to learn more about each API's functions and request mode.
You can customize functions for buttons of USB Fusion, which are listed in the following table. You can customize functions via the Web UI, or you can configure through APIs.

Disable	Start/Stop recording	Mute/Unmute MIC
Switch to HDMI 1	Start recording	Mute MIC
Switch to HDMI 2	Stop recording	Unmute MIC
Switch to WEBCAM	Screenshot	Freeze/Unfreeze scene
Switch to Screencast	Play/Pause video	Freeze scene
Switch to PIP/Switch PIP location	Play video	Unfreeze scene
Switch sources of PIP	Pause video	Start/Stop streaming
Switch to SBS/Switch SBS location	Play/Pause BGM	Start streaming
Switch sources of SBS	Play BGM	Stop streaming
Swap sources of the composite scene	Pause BGM	Go to the first page
Switch to the first scene	Toggle on/off FTB	Go to the last page
Switch to the last scene	Toggle on FTB	Page up
Switch to the previous scene	Toggle off FTB	Page down
Switch to the next scene	Mute/Unmute master audio	Go to sleep
	Mute master audio	Wake up
	Unmute master audio	Switch to the specified scene

FAQs

General

How is USB Fusion different from other capture devices?

USB Fusion is a member of the capture product family, but features more advanced functions compared to other capture devices, mainly:

- Enhanced capture capability: simultaneously support two HDMI HD inputs and one USB HD input
- Screencast supported: support up to 4 devices cast simultaneously through AirPlay, Miracast or Google Cast
- Production capability: support switching sources and compositing sources into a multi-view layout (picture in picture or side by side). When used in conjunction with the Web UI and App, USB Fusion allows using video/audio/PDF files, adding web pages and supports many more video processing and production functions, including video processing, recording, and annotating.

Is USB Fusion plug-and-play?

Yes, except USB audio input and output connected through the WEB CAMERA port, which needs to be set on the Web UI. Refer to How to use the WEB CAMERA port.

After connecting input and output devices to USB Fusion, you can immediately use the video/audio captured by USB Fusion on your computer, without any configuration of USB Fusion. No driver needs to be installed on the computer.

How do I produce my presentation with USB Fusion?

USB Fusion provides three ways for you to produce a presentation:

- Buttons: Directly use the buttons on the USB Fusion device to switch sources or composite them into a PIP or side-by-side layout.
- USB Fusion App: More production functions are available on the USB Fusion App. Besides switching and compositing sources, you can also edit sources, annotate on the scenes, add notes, adjust volume, create multiple presentations, record your presentation, and more.

- Web UI: More production functions are available on the Web UI. Besides switching and compositing sources, you can also process the sources, adjust the volume, create multiple presentations, configure and manage the device, and more.

How do I configure USB Fusion?

USB Fusion is easy to use. You can even use it without any configuration.

If you need to configure it to meet custom needs, you can go to the Web UI to configure the inputs, outputs, audio, presentation, media, and system.

How do I confirm the A/V inputs are successfully connected?

- Check whether the corresponding light is on.
- Check the A/V inputs on the Web UI.
  - On the **Input** tab page, check the connection status and signal information.
  - In the **Volume** area on the **Audio** tab page, check whether the corresponding volume meter jumps.

Can I use one computer as both the streaming computer and source computer?

Streaming computer means the computer connected to the USB OUT port of USB Fusion, where the meeting software or streaming software is located.

Source computer means the computer connected to the HDMI 1 or HDMI 2 port of USB Fusion, which can be used to show presentation materials.

It is common practice to use one computer as both the streaming computer and the source computer. However, you will need some extra configuration to make the video and audio normal. For example, in order for the computer to show only the presentation PPT and no other irrelevant software (such as the meeting software in use), you need to set up dual monitors on your computer. If you need to use the computer audio, you need to select the device whose name containing **USB Fusion** (instead of **USB Fusion USB-C**) as your audio output device in your computer system settings.

When the source computer and the streaming computer are the same computer, if there is an infinite loop of the computer screen in the window of the streaming software, this is because the video signal output by the computer itself returns to the capture card, and the signals overlap infinitely. The graphics card will output again, and then back again, in an infinite loop. At this time, you can minimize the streaming software and use the desktop content normally, such as PPT presentation, and the other party in the meeting can see your presentation content normally.

How to use the WEB CAMERA port?

The WEB CAMERA port is a standard USB Type-A port that can support USB A/V sources, which can accommodate a variety of usage scenarios.

Supported Devices

The WEB CAMERA port supports webcams as well as audio input and output, such as the microphones and speakers on webcams.

This port can also connect Magewell USB Capture devices, with which you can connect a wider range of A/V devices.

Moreover, beside a single device, this port also allow multiple devices to connect and work, for example, multiple webcams through a USB Hub.

Using Video

A video device can work immediately after it is connected. If multiple video devices are connected, USB Fusion will use the first one discovered.

You can select devices on the Web UI and set the video format. For details, see Setting WEB CAMERA Video.

Using Audio

The WEB CAMERA port supports two-channel audio input and output, which are disabled by default and can be enabled on the Web UI.

- Audio input: can be used as a global microphone or WEB CAMERA audio
  - Global microphone: audio that is used throughout a presentation and does not switch along with any scene. For configuration details, see Selecting a Global Microphone. When adjusting its volume, you need to adjust the volume of .
  - WEB CAMERA audio: audio that switches in and out along with the WEB CAMERA video. For configuration details, see Setting WEB CAMERA Audio. When adjusting its volume, you need to adjust the volume of .

    > The same audio input device can be selected as either the global microphone or the WEB CAMERA audio. If multiple audio devices are connected, then different devices can be selected for different purposes.

- Audio output: The audio output can be used for monitoring. For configuration details, see Selecting a Audio Playback Device.

Screencast

How to start casting?

You can add a screencast scene through the following ways.

- Press and hold 2 on the device for 2 seconds to switch to the screencast scene.
- At the lower left corner of the App, tap + , and select **Screencast**.
- On the Web UI, click **Presentation** > **Scenes** > **Add**, select **Screencast**, and select the added screencast scene.

Then, the current scene will display the screencast guide. You can see the clear guide on the monitor or HDTV connected to the HDMI OUT port.(The HDMI OUT is set to output PROGRAM, which is the default setting.)

The guide displays the following information:

- The device's private hotspot name and password.
- The Wi-Fi and Ethernet that the device is connected to.
- The screencast steps and device name.

Follow the guide to start casting.

It supports 4 devices casting simultaneously, and you can hold 2 to switch screencast images.

How to check the onscreen code?

The onscreen code is displayed on the screen connected to the HDMI OUT port.

Screencast fails through AirPlay

No USB Fusion found for AirPlay device

Refer to the following troubleshooting steps.

1. Please confirm that the casting device and USB Fusion are in the same network. For the network connection information of USB Fusion, you can press and hold 2 and check on the screen connected to the HDMI OUT port. Or, you can log into the Web UI, and check on the System > Network page.
2. On the Web UI, open Input > SCREENCAST page, and in the PROTOCOL area, toggle on AirPlay.
3. Unplug the power cable from the USB Fusion device and wait a few seconds, then plug it back in.
4. Unplug the power cable from the router and wait a few seconds, then plug it back in.
5. Make sure any firewall or antivirus software is up-to-date and don't block connections to the USB Fusion device. Please operate according to your product introduction or contact you product retailer.

Change Firewall settings on Mac

If MAC enables the firewall and turns on "Block all incoming connections", it cannot cast to USB Fusion through AirPlay.

Taking macOS Ventura13 as an example.

1. Choose Apple menu > System Settings, click Network in the sidebar, then click Firewall.
2. Check whether firewall is turned on.
3. Click Options, and turn off "Block all incoming connections".

For more firewall setting, please refer to Change Firewall settings on Mac, and select your macOS version.

Screencast fails through Miracast

No USB Fusion found for Miracast device

Refer to the following troubleshooting steps.

1. On the Web UI, open Input > SCREENCAST page, and in the PROTOCOL area, toggle on Miracast.
2. Unplug the power cable from the USB Fusion device and wait a few seconds, then plug it back in.
3. Unplug the power cable from the router and wait a few seconds, then plug it back in.
4. Make sure any firewall or antivirus software is up-to-date and don't block connections to the USB Fusion device. Please operate according to your product introduction or contact you product retailer.
5. For Miracast over Infrastructure, confirm that the casting device and USB Fusion are in the same network. For the network connection information of USB Fusion, you can press and hold 2 and check on the screen connected to the HDMI OUT port. Or, you can log into the Web UI, and check on the System > Network page.

If these steps cannot solve the problem, please further refer to the following troubleshooting ways.

Network setting of Window 10

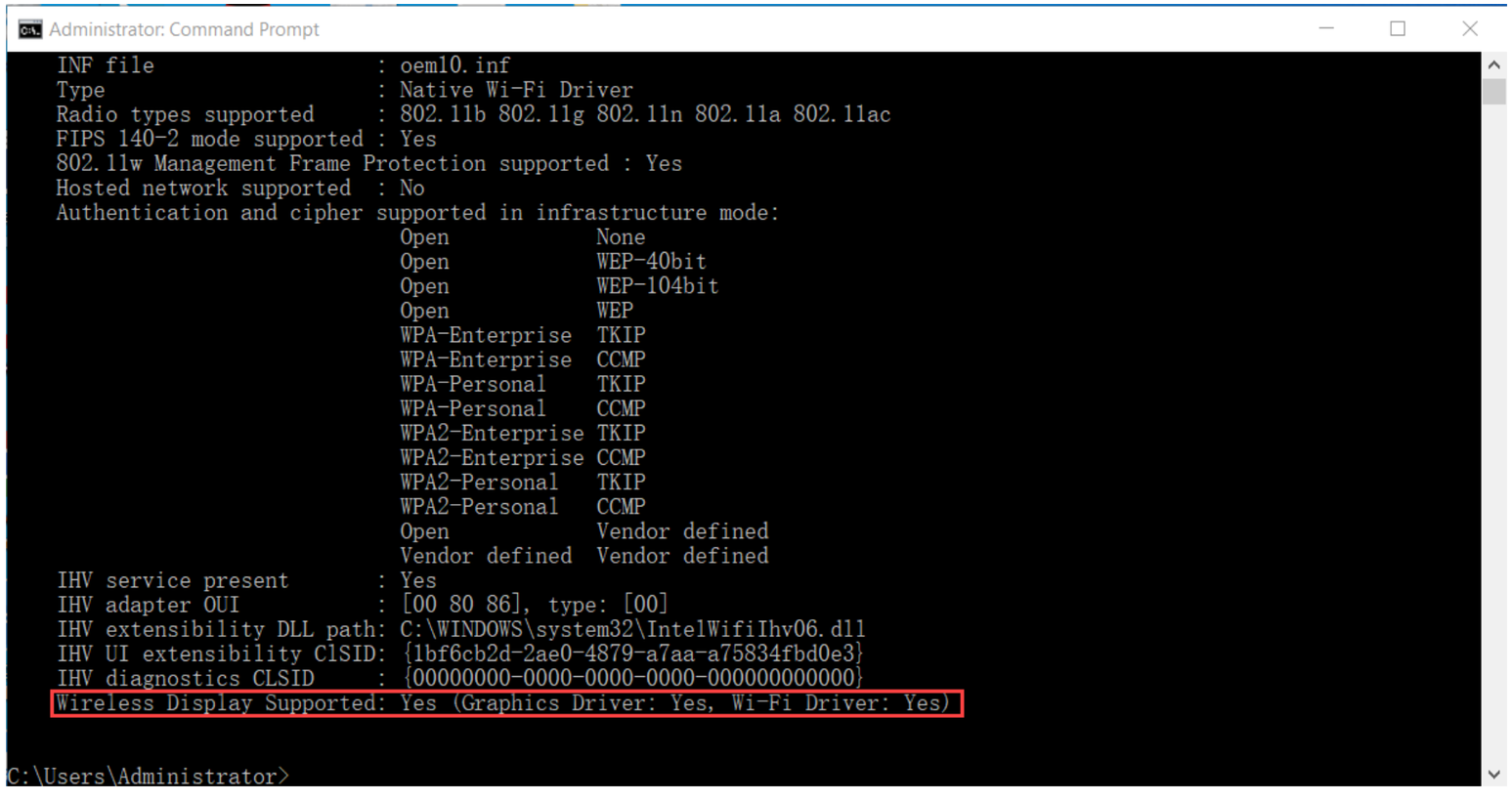
Windows 10 has to set the network as private to communicate with the USB Fusion device.

1. Click > .
2. Click **Network & Internet.**
3. Select your connection type **Wi-Fi** in the left column. Then click the name of the active connection on the right side.
4. In the "Network profile," choose **Private**.

> It is recommended turning this on for private networks at home or work, but turning it off for public networks.

Check whether the laptop with Windows OS supports Miracast

1. Confirm that the OS is Windows 10 or 11.
2. Press " + R" to open the "Run" box.
3. Type "cmd" and then click "OK" to open a regular Command Prompt.
4. Type in "netsh wlan show drivers" and press the Enter key.
5. Check whether it supports wireless display.If it displays the content in the red box as follows, it supports Miracast.



Screencast fails through Google Cast

No USB Fusion found for Google Cast device or software

Refer to the following troubleshooting steps.

1. Please confirm that the casting device and USB Fusion are in the same network. For the network connection information of USB Fusion, you can press and hold 2 and check on the screen connected to the HDMI OUT port. Or, you can log into the Web UI, and check on the System > Network page.
2. On the Web UI, open Input > SCREENCAST page, and in the PROTOCOL area, toggle on Google Cast.
3. Unplug the power cable from the USB Fusion device and wait a few seconds, then plug it back in.
4. Unplug the power cable from the router and wait a few seconds, then plug it back in.
5. Make sure any firewall or antivirus software is up-to-date and don't block connections to the USB Fusion device. Please operate according to your product introduction or contact you product retailer.

If these steps cannot solve the problem, please further refer to the following troubleshooting ways.

Using USB Fusion for the first time or after resetting

For using the USB Fusion for the first time or after resetting, connect the device with the Internet, and then you can start casting through Google Cast normally.

Issues of Chrome

1. Reboot your computer. This step can clear any temporary issues and should be done before you go deeper into the troubleshooting steps.
2. Confirm your Chrome browser is up-to-date.
3. Disconnect from Virtual Private Networks (VPNs) or proxy servers.

Clock Synchronization Issue

1. Check if your computer clock is out of sync with the current internet time. A useful site is Time.is, which reports the time difference between your computer and the actual time.
2. If you set your time manually, check it's set correctly, including the time zone. If your clock shows the correct local time, but is set to a non-local time zone, this might be the cause of the issue.
3. It's recommended you turn on automatic time synchronization so your clock is always up to date.

Video

How many video sources can USB Fusion simultaneously connect to?

USB Fusion has two HDMI input ports and one WEB CAMERA port. These ports can be simultaneously connected.

When producing a presentation, you can only use one input for a single-view scene, or composite two inputs in picture-in-picture or side-by-side layout.

What is the format output from the USB OUT port?

The actual output of USB OUT is determined by the negotiation between USB Fusion and the receiving software. The upper limit is 1920x1080p, 60fps. All supported formats are as follows:

- Resolutions: 1920x1080, 1280x720, 640x480
- Frame rates for all resolutions: 60fps, 30fps, 15fps
- Color space: YUYV, NV12, ARGB

What content does the HDMI OUT port output?

By default, the HDMI OUT port outputs the same content as the USB OUT port, namely the PROGRAM.

On the Web UI, you can configure the HDMI OUT port to loop the source connected to the HDMI 1/ HDMI 2 port. For details, see Selecting the Output Content.

The HDMI OUT port cannot simultaneously output PROGRAM and the HDMI 1 or HDMI 2 source.

How do I record my presentation and obtain the recordings?

You can use the USB Fusion App for recording. The recording will be stored in the disk embedded in USB Fusion. For details, see Recording.

You can also set schedule recording on Web UI. The device will implement recording automatically during the specified time period. For details, see Configuring Recording Parameters.

You can download the recordings by using the USB Fusion App or the Web UI. For details, see Downloading Files from the Album (App) and Downloading Videos/Screenshots (Web UI).

You can also upload the recordings to Google Drive through Web UI, which supports Auto Backup and Manual Backup.

Audio

What audio inputs/outputs does USB Fusion support?

USB Fusion supports the following audio inputs and outputs:

- Audio inputs, including global audio and scene-specific audio:
  - Global audio includes microphone input connected through the headset port, HDMI port or WEB CAMERA port, line in input, BGM, and the system audio of the streaming computer.
  - Scene-specific audio includes the HDMI 1 audio, HDMI 2 audio, WEB CAMERA audio, video file audio, web page audio and audio from screencast source.
- Audio outputs: USB OUT output audio, monitoring audio (output through the headset port, WEB CAMERA port, and HDMI OUT port).

How do I adjust volume?

You can use the Web UI or USB Fusion App to adjust volume. For details, see Adjusting Volume (Web UI) or Adjusting Volume (App).

Why is there no audio from the HDMI input source?

Check whether on the source computer connected to the HDMI 1 or HDMI 2 port, USB Fusion is selected as the audio output device. Only when USB Fusion is selected will the computer output audio to USB Fusion.

The configuration varies depending on the OS system. For example, on Windows 10, choose > , then choose **System** > **Sound**, and select the name containing **USB Fusion** (instead of **USB Fusion USB-C**) from the **Choose your output device** drop-down list box.

Why is there noise when I plug a headphone to the headset port?

Check whether your headphone uses the CTIA standard. The headset port uses the CTIA standard, so when an OMTP-compliant headphone connects to the port, there will be some anomaly. In this case, you need to connect your headphone through an OMTP-to-CTIA converter.

At present, there are two international standards for handset headphone jacks: OMTP and CTIA. In general, most international manufacturers use CTIA standards, such as iPhone headsets in the United States and other international markets, while mobile phone headsets in some other markets need to support the OMTP standard.
Pinout order of CTIA standard: left audio - right audio - ground - microphone.
Pinout order of OMTP standard: left audio - right audio - microphone - ground.

Can I hear the speech from other meeting attendees on USB Fusion?

Yes, you just need to select USB Fusion USB-C as the speaker in your meeting software.

Why do I hear an echo when monitoring audio?

Check whether the receiving software on your streaming computer has enabled monitoring. If yes, disable the monitoring, and you will no longer hear the echo.
USB Fusion can monitor a source audio, and the system audio of the streaming computer. When a source audio reaches the receiving software on a streaming computer, and the software has enabled monitoring, the source audio will become part of the system audio of the streaming computer, and sent back to USB Fusion, which means you will hear the audio a second time (the source audio itself, and the source audio returned as the system audio of the streaming computer), thereby causing the echo.

Web UI

How do I access the Web UI for the first time?

On Windows, Linux, and macOS, you can use the static IP address to access the Web UI for the first time:

1. Make sure that USB Fusion has connected to power.
2. Connect a USB cable from the USB OUT port of USB Fusion to a computer.
   The cable connection will establish a network connection between your computer and USB Fusion through USB network.
3. Open a browser on the computer, enter the static IP address for USB network, and press **Enter**.
   The default address for USB network is 192.168.66.1.

How can I access the Web UI?

USB Fusion supports flexible method for accessing its Web UI:

- Through an IP address
  - The default USB network IP address is 192.168.66.1.
  - The Ethernet or Wi-Fi IP address can be obtained from the Web UI.
- Through Windows network discovery

For details, see Accessing the Web UI.

App

USB Fusion is connected to a network, but the App cannot find it?

Check whether USB Fusion and the mobile device with the USB Fusion App installed are connected to the same network. If no, the USB Fusion device will not show or will be in the offline state on the App device connection page.

A Wi-Fi connected iOS device cannot find USB Fusion devices?

On iOS 14 and later, if the iOS device has connected to the same network as USB Fusion but still cannot find USB Fusion, you need to consider whether the required permission is enabled.

On iOS 14 and later, when you first use USB Fusion App, you will be prompted to allow the App to find and connect to devices on the local network. If you do not allow, the App will not be able to find USB Fusion devices on the local network.

To allow the App to find USB Fusion devices, go to **Settings** > **Privacy** > **Local Network**, find the USB Fusion App, and turn on the switch next to it.

Can the App control the start and end of my presentation?

The App does not have a switch for starting or ending your presentation.

When USB Fusion is connected to a computer through the USB OUT port, the device starts delivering video/audio streams to the computer. The start of your presentation depends on the receiving software on the computer.

For ending the presentation, even though there is no end button, you can use the FTB button for your presentation to fade into black and become muted, which has the same effect as an end button.

Can I set the recording format on the App?

Currently, you cannot set the recording format on the App. The default recording format is 1080P, 60 FPS, 8 Mbps. If you need to change the recording format, you can configure the settings on the Web UI, which supports more advanced settings such as ISO recording by selecting recording source, setting the encoder, setting file split, setting schedule recording. For details, see Configuring Recording Parameters.

What to do when I forget the device connection password?

By default, no password is required when your USB Fusion App connects to a USB Fusion device. If you have enabled password verification but forgot the password, you can directly set a new password on the Web UI. Specifically, you can go to the **General** > **APP** tab page on the Web UI, and click **Change Password** in the **LOGIN** area, and then enter and confirm a new password.

How to import a resource from iCloud Drive

- iCloud Drive is not available on Android phones.
- Ensure your iOS version is 12 or later.

1. Ensure you have signed in to your iPad using your Apple ID.
2. If you have not signed in, you can follow the steps below:
   i. Tap the *Settings* icon on your phone.
   ii. Tap *Sign in to your iPad* on the top of the *Settings* page.
   iii. Enter your Apple ID and password, and tap *Sign in* at the upper right corner.
3. Ensure you have enabled iCloud Drive.
   To enable iCloud Drive:
   i. Tap the *Settings* icon on your device.
   ii. Tap your Apple ID on the top of the *Settings* page.

iii. On the *Apple ID* page, tap *iCloud*.

iv. On the *iCloud* page, find *iCloud Drive* and switch it on.

4. Ensure that your iCloud Drive stores the resources you will use, like video clips, pictures, PDF and songs.

   To add resources to iCloud Drive, see relative instructions on the Apple official website.

5. In USB Fusion App, import a source from iCloud Drive.

   You can import a Video Clip, Picture, PDF or music from iCloud Drive. The following uses importing a video clip as an example.

   i. Tap + at the bottom of the scene list.

   ii. Tap **Video** on the popup menu to open the media page, and then tap **Upload**.

   iii. Or, tap **Advanced** on the popup menu to open the scene editing page, tap **Add** at the lower right corner, and then select **Video**.

   iv. Tap *Locations*.

   This opens the file system page of iOS, where you can find apps or cloud drives managed by the Files App.

   v. Tap *Browse*.

   vi. Under *Locations*, tap *iCloud Drive*.

   vii. On the *iCloud Drive* page, tap the video clip you want.

   The video clip is then imported to USB Fusion.

   - If the video clip is on the cloud, indicated by a cloud icon on the upper right corner of the video clip thumbnail, the video clip is first downloaded and then imported to USB Fusion.
   - If the video clip is already downloaded, it is directly imported to USB Fusion.

   When you import video clips, other resource types such as pictures and songs cannot be tapped, and vice versa.

How to import a resource from Google Drive

> For iPad, ensure your iOS version is 12 or later.

1. Ensure you have installed the Google Drive app on your device.
   If your have not, download the app from your app store.
2. Ensure you have signed in to your Google Drive.
   To sign in:
   i. Tap the Google Drive app on your device to open it.
      Opening the app will prompt you to sign in to Google Drive using your Google account.
   ii. On the *Sign in* page, enter your Google account.
      If you do not have a Google account yet, tap *Create account* and follow the instructions to create your Google account and sign in.
3. In USB Fusion App, import a resource from Google Drive.

You can import a Video Clip, Picture, PDF or Music from Google Drive. The following uses importing a video clip as an example.

- **On iOS:**
  i. Tap + at the bottom of the scene list.
  ii. Tap **Video** on the popup menu to open the media page, and then tap **Upload**.
  iii. Or, tap **Advanced** on the popup menu to open the scene editing page, tap **Add** at the lower right corner, and then select **Video**.
  iv. Tap **Locations**.
      This opens the Files App, where you can find files or cloud drives managed by the Files App.
  v. Tap **Browse**.
  vi. On the left sidebar, tap **Google Drive** under **Locations**. To add Google Drive to the Files App for the first time, please refer to Use third-party cloud apps in the Files app.
  vii. On the *Google Drive* page, tap the video clip you want.
      The video clip is then imported to USB Fusion.

When you import video clips, other resource types such as pictures and songs cannot be tapped, and vice versa.

- **On Android:**

  i. Tap [+] at the bottom of the scene list.

  ii. Tap **Video** on the popup menu to open the media page, and then tap **Upload**.

  iii. Or, tap **Advanced** on the popup menu to open the scene editing page, tap **Add** at the lower right corner, and then select **Video**.

  iv. Tap the menu list icon at the upper left corner.

  v. In the *Open From* list, tap the Google Drive icon.

  vi. Tap *My Drive*, *Shared with me*, or *Starred*.

  vii. Tap a video clip you want.

  The video clip is then imported to USB Fusion.

When you import video clips, other resource types such as pictures and songs cannot be tapped, and vice versa.

What are differences of App and Web UI functions?

Function	App	Web UI
Create/manage presentations	√	√
Import/export presentations	x	√
Create/manage scenes	√	√
Edit scenes	√	×
Import video/pictures/PDF/music	√	√
Manage video/pictures/PDF/music	√	√
Add/delete web pages	√	√
Add/manage GFX	x	√
Apply GFX	√	√
Create notes	√	×
Manage notes	√	√
Annotate	√	√
Switch scenes/notes	√	√

Function	App	Web UI
Add/play background music	√	√
Record	√	√
Take screenshot	√	x
Configure recording parameters	×	√
Manage the album	√	√
Back up album files to Google Drive	x	√
RTMP streaming	×	√
Adjust volume	√	√
Check device status	×	√
Configure inputs & outputs	×	√
Set App parameters	×	√
Configure/manage the system	x	√
Connect Control Hub	x	√

Others

Does USB Fusion need a network connection to work?

USB Fusion does not need a network connection to capture and video and audio to the streaming computer.

After the device is connected to a network, you can use the Web UI and App to access the device for configuration and operations. For example, you can configure the input video format and select the source for HDMI OUT output on the Web UI, and you can edit the sources and annotate on the App.

What to do when firmware update is interrupted unexpectedly?

While updating, do not shut down/reboot the device, or disconnect from the network, so as to prevent exceptions. 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.

The device does not work normally after degrading from a higher version to V2.3.1 or lower firmware versions

If you need to degrade from a higher version to V2.3.1 or lower firmware version, please enable Wi-Fi in Web UI > System > Network at first.

If you degrade with the AP enabled, the device will not work normally. You need to reset the device.

Notice: There will be data lost if you degrade with the AP enabled. Please try to degrade with the Wi-Fi enabled.

After being powered off for a long time, the device returns to the system default time.

If the USB Fusion device is not powered on for a long time, the storage power in the device is depleted, which may cause the device to return to the system default time (2009).

Please connect the device to the power supply and the network, the device will automatically synchronize the network time. After the device obtains the network time, please continue to maintain the power and network connection for more than 1 minute for the hardware to complete the time synchronization and get fully charged.

You can check **Current time** in the **DATE & TIME** area on the **Settings** > **General** page of the Web UI.

When the USB Fusion device's Ethernet and WiFi are in two different LANs with the same network segment, the screencast device, APP or Web UI fails to connect to USB Fusion

Please set the two LANs with different network segments.

Glossary and Abbreviations

CBR

Constant bit rate. Constant bit rate encoding means that the rate at which a codec's output data should be consumed is constant.

EDID

Extended display identification data. Metadata format for display devices to describe their capabilities to a video source (e.g. graphics card o r set-top box) includes manufacturer name, basic display parameters, color characteristics, timings supported by the display, etc.

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. GFX are text and graphics that are displayed in a stream over the actual content (such as game or video) during a live strea m.

PGM

Content being presented, namely, the content output from the USB OUT port.

SBS

Side by side.Two images are placed side by side on the same screen, each presenting different content.

PIP

Picture in picture. One source is displayed as a small window on another source displayed in full screen, each presenting different content. For example, in a meeting, the big window can display the presentation materials, while the small window can show the presenter.

Deinterlacing

Deinterlacing is the process of converting interlaced video into a non-interlaced or progressive form.

VBR

Variable bit rate. VBR files vary the amount of output data per time segment. VBR allows a higher bitrate (and therefore more storage space) to be allocated to the more complex segments of media files while less space is allocated to less complex segments. The advantages of VBR are that it produces a better quality-to-space ratio compared to a CBR file of the same data.

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/usb-fusion for product introduction, user manual, and more.

To access help information for the USB Fusion App, you can open the App and tap > **Help** at the upper right corner of the app main UI.

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.