USB CAPTURE UTILITY

User Manual and FAQ
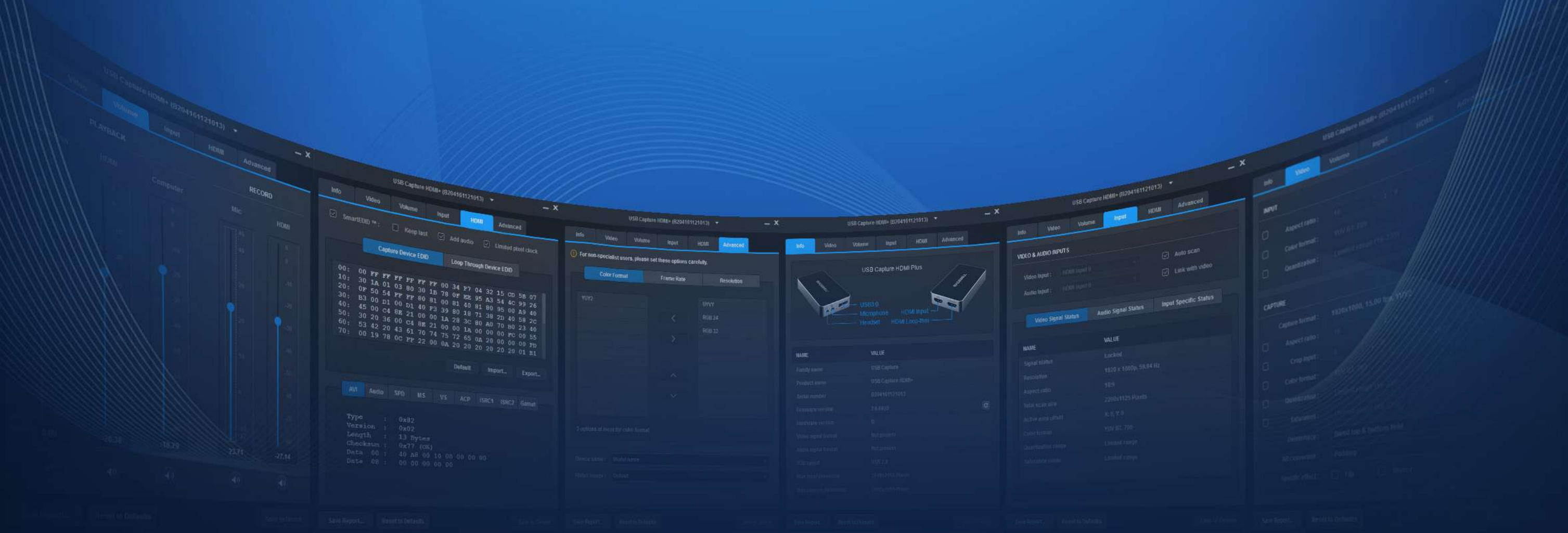
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Overview

USB Capture Utilityis a free, portable software tool which gives users extensive control of capture parameters, video processing settings and advanced functions. USB Capture Utilityis compatible with Windows/Linux/macOS. It offers functions as:

- Display of device information for the currently selected USB capture device. For example, device name, serial number, firmware version, interfaces, capture resolution, etc.

- Checking and updating the firmware to the latest version online.

- Setting various capture formats, such as de-interlacing mode, Up/down Scaling, frame rate conversion, color adjustment, cropping input, etc.

- Setting audio volume.

- Customizing the resolution, frame rate, and color format.

- Managing multiple devices on one host at the same time.

- Modifying the device names shown in a third-party software when multiple devices on one host at the same time.

Diagram of video processing
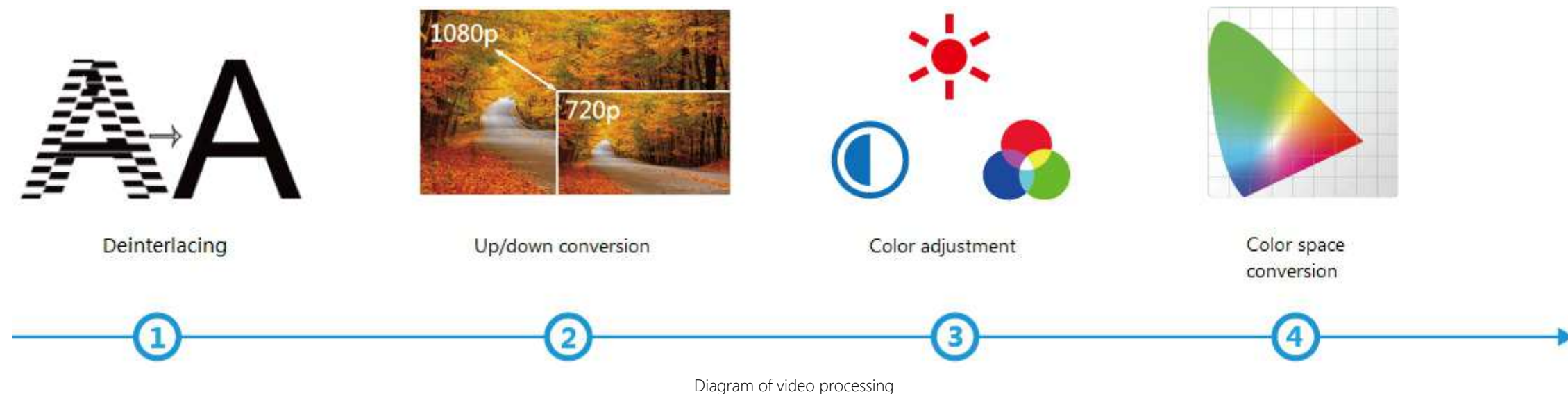
With the Utility, the USB Capture (Plus) Family can provide a cost-effective, feature-rich and easy-to-use solution for users' immediate and upcoming requirements in the evolving production landscape.

Working Environment

Supported OS

- Windows 10/11/Server 2016/Server 2019/Server 2022 (x86 & x64) and above
- Linux x86, x64 & ARM architecture, with 2.6.35 and above
- Mac OS X 10.9 and above
- macOS 10.12 and above
- Chrome OS

⚠ Users need to run command such as "xhost +" in the "Terminal" window in Linux Fedora with user access before the software installation, because X server is needed as the display server while using the tool.
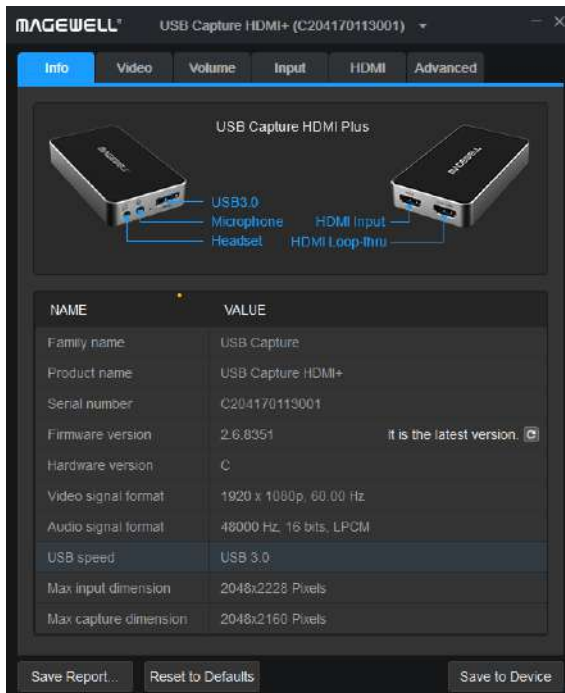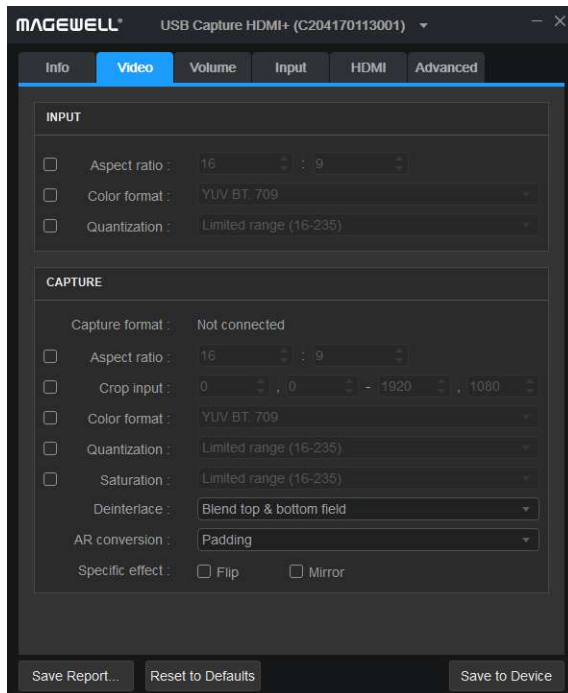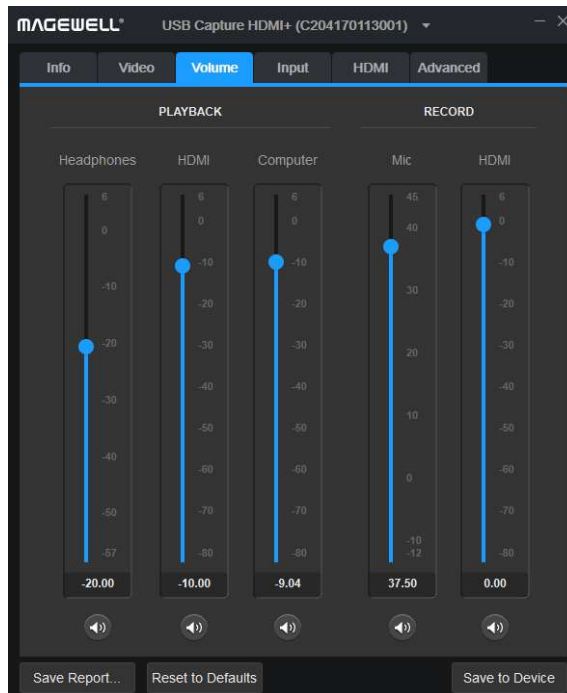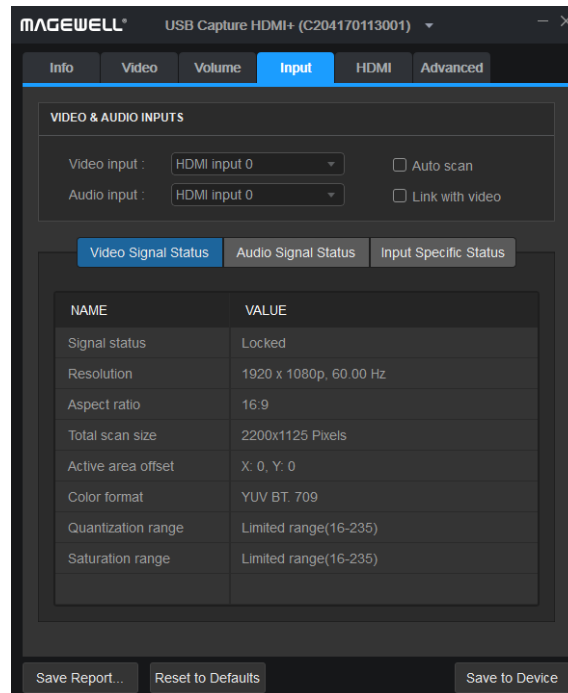
⚠ Set up and run this tool with Sudo permissions in Linux, make sure users have been added to the Sudo group.

Supported Hardwares

- USB Capture HDMI Gen 2
- USB Capture SDI Gen 2
- USB Capture AIO
- USB Capture HDMI Plus
- USB Capture SDI Plus
- USB Capture DVI Plus
- USB Capture HDMI 4K Plus
- USB Capture SDI 4K Plus
- USB Capture HDMI 4K Pro

User Interface Introduction

This chapter lists the UI and main functions of Utility. USB Capture HDMI Plus is taken as an example. For the **Timing** tab, USB Capture AIO is taken as an example.

Info	Video	Volume	Input
▪ Shows the user interfaces of the device. ▪ Shows the product information about the current device. ▪ Shows the format of input signal. ▪ Shows the max input and capture formats. ▪ Checks and updates the firmware.	▪ Shows the **INPUT** and **CAPTURE** formats, which can be manually set. ▪ Sets capture format, such as aspect ratio, color format, quantization, saturation, crop input, etc. ▪ Sets de-interlacing mode. ▪ Sets mirror and flip functions.	▪ Shows the playback and record volumes of audio devices, which can be manually adjusted.	▪ Shows the detailed information of the input audio and video signal extracted by the device. ▪ If there are multiple inputs, auto select or manually select are possible.
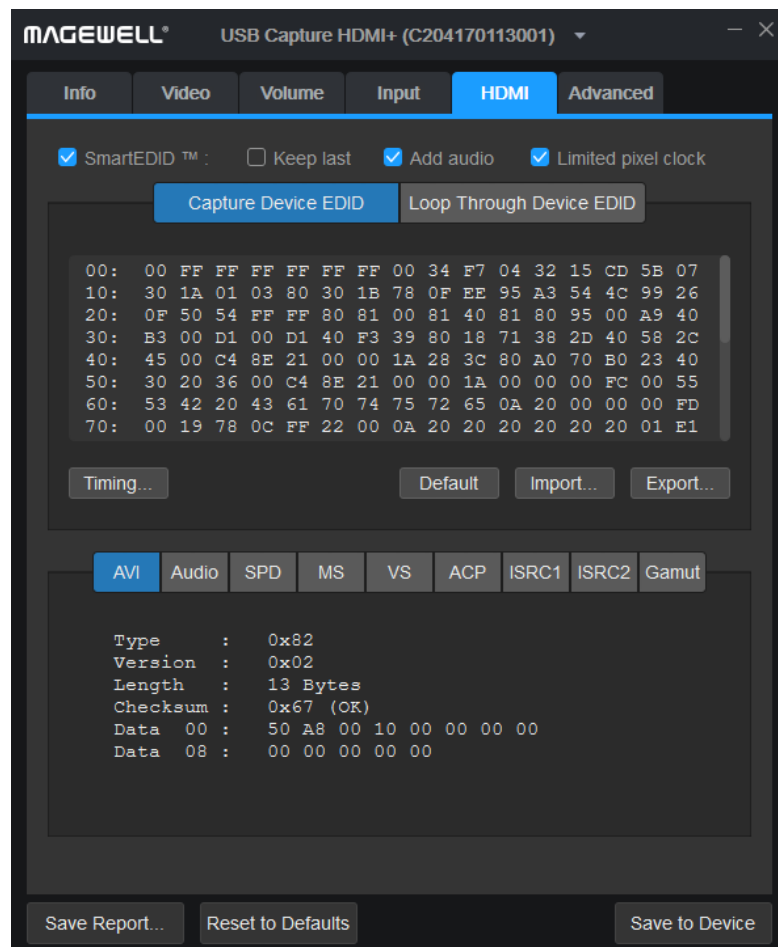
HDMI	Timing	Advanced
▪ Shows and sets the SmartEDID function of capture device which has loop-through. ▪ Shows the HDMI Info Frame.	▪ Shows the timing of signal, which can be manually adjusted. ▪ Customizes timing.	▪ Shows available choices of color spaces, frame rates, resolutions, and record and playback devices supported by the current device. ▪ Customizes color space, frame rate, resolution and record and playback devices for your tasks. ▪ Modifies device name to distinguish devices with the same model name. ▪ Modifies the status image when there is no input or the signal is not supported.
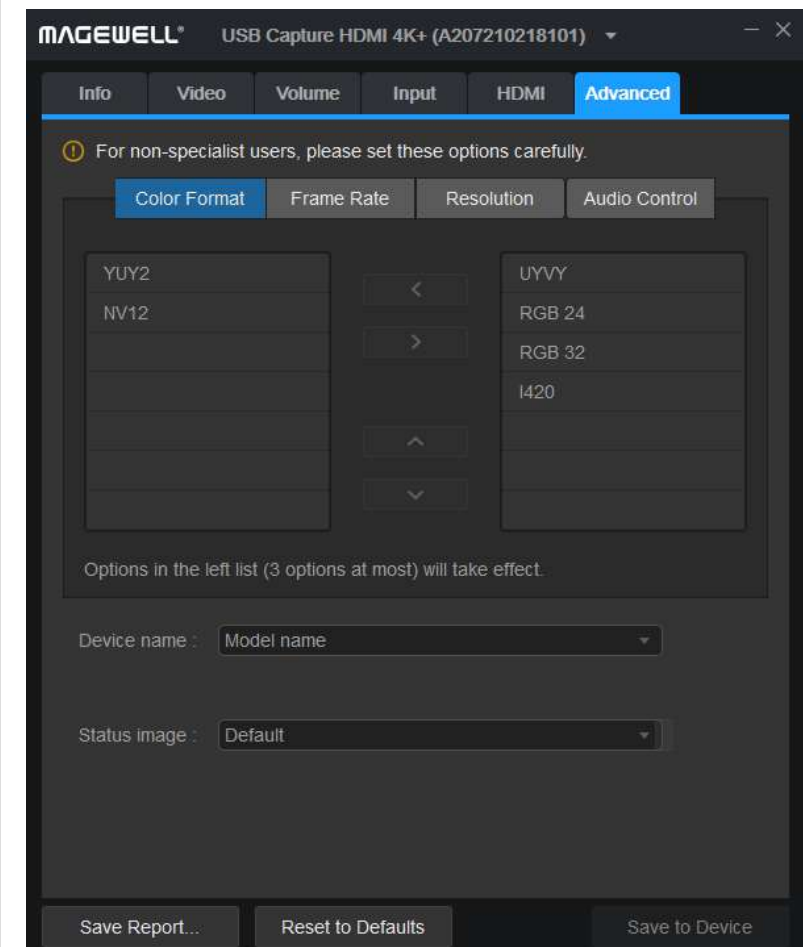
General Operation

This chapter lists general operations of the Utility. The functions may vary with different USB Capture Plus devices. USB Capture HDMI Plus is taken as an example. For the **Timing** tab, USB Capture AIO is taken as an example.

Info

Checking Info

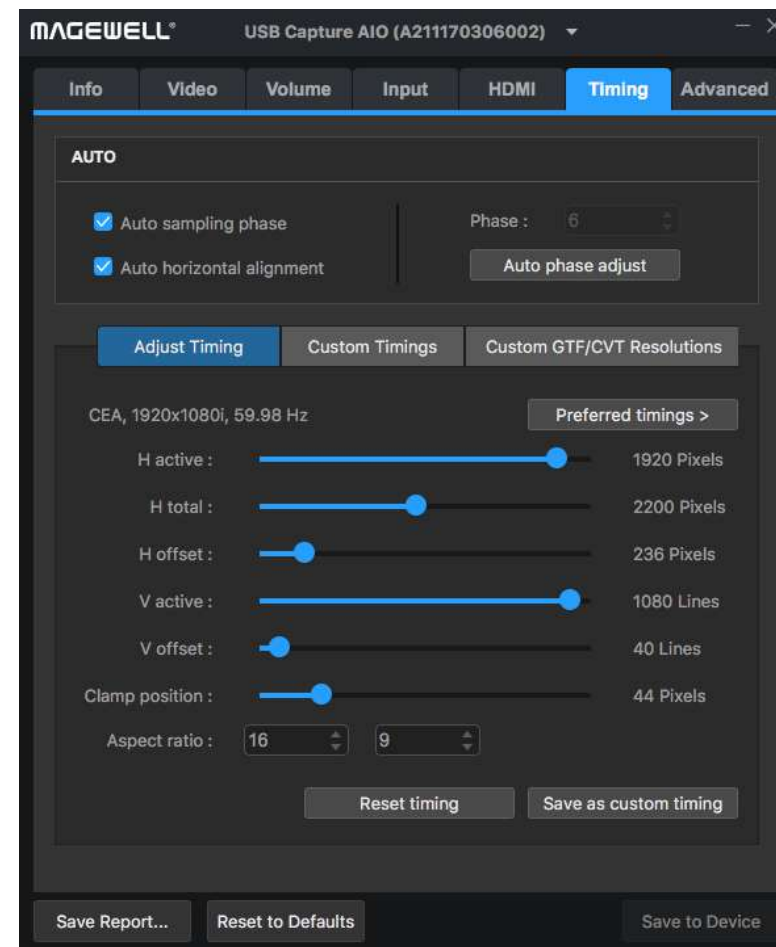After users run the USBCaptureUtility.exe, the **Info** tab will be displayed.

- Shows the signal interfaces of currently selected device.

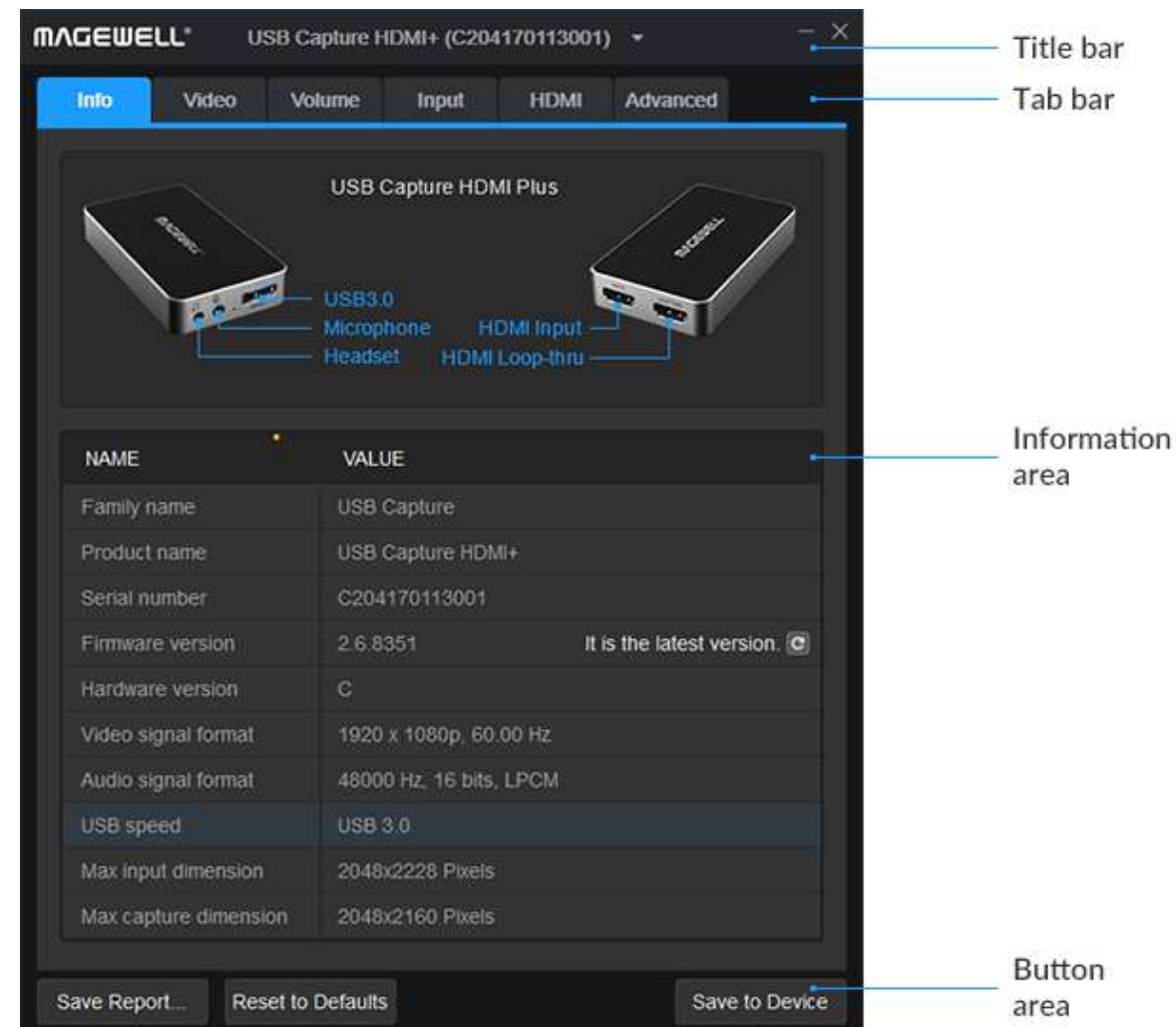- Shows the current device information, including **Family name**, **Product name**, **Serial number**, **Firmware version**, **Hardware version**, etc.

- Shows the signal format, including video signal format and audio signal format.

- Shows the current **USB speed**.

  ⚠ The USB speed depends on the interface of the device and the USB port on the computer motherboard. For example, if the device with USB 3.0 connector is connected to the USB 2.0 port on the computer, the final result displayed in the Utility is USB 2.0. The maximum speed shows the USB version for the current connection.

- Shows the max input and capture dimension.

  ⚠ The maximum input resolution of USB Capture HDMI Plus is 2048 x 2160, it can accept a 4K 4:2:0 input, but it will be automatically downscaled to 2K for processing.

- Shows core temperature for USB Capture HDMI 4K Plus and USB Capture HDMI 4K Pro.

- Shows fan speed for USB Capture HDMI 4K Pro.

- Checks and updates the firmware.

Check for updates

Updating the Firmware

When the firmware is successfully updated by USB Capture Utility, users need to reconnect the device to make it take effect. The update procedure is the same for different models. Here is an example of how to update the firmware of USB Capture HDMI Plus.

Prerequisites

▪ Make sure the Internet connection is available and stable.

▪ Make sure the device is recognized correctly by the USB Capture Utility.

▪ All 4K Pro devices support firmware upgrades via USB Capture Utility. Other models require a firmware version of 2.6.6907 or higher.

Precautions

▪ Running USBCaptureUpdate.exe is strictly prohibited during update, because the update will fail.

▪ Unplugging the device is strictly prohibited during update, because it may cause damage to the device.

▪ It is recommended not to operate device or computer during update, may cause update failed.

▪ Video capture is not allowed during firmware update of the device.

Procedures

Step 1.　Check **Firmware version** in the **Info** tab, click the 🔄 button to check for updates.

1. If there is a new version available, go to the next step.

2. If detection failed, please retry.

3. If it is the latest version, no action is needed.

In the following cases, the device will automatically detect whether there is a new firmware version available.

▪ Once an hour every during 0:00 to 5:00.

▪ Each time the device is connected.

▪ Each time the device is switched to in Utility.

Step 2.   (Optional) Click the 🛈 button to check **Release Notes**.

Step 3.   Click the ⬇ button to download the update package.

- ▪ There is a progress bar showing in the tool and the download process can be manually stopped.
- ▪ If the download succeeds, proceed to the next step.
- ▪ If the download fails, please retry.

Step 4.   Click the ⬆ button. Then click **Update** in the prompt box to install the update package.

1. There are three stages during update including **Erasing > Writing > Verifying**, and the window cannot be closed.

2. If the update succeeds, go to the next step.

3. If the update fails, please retry, or click **Help**.
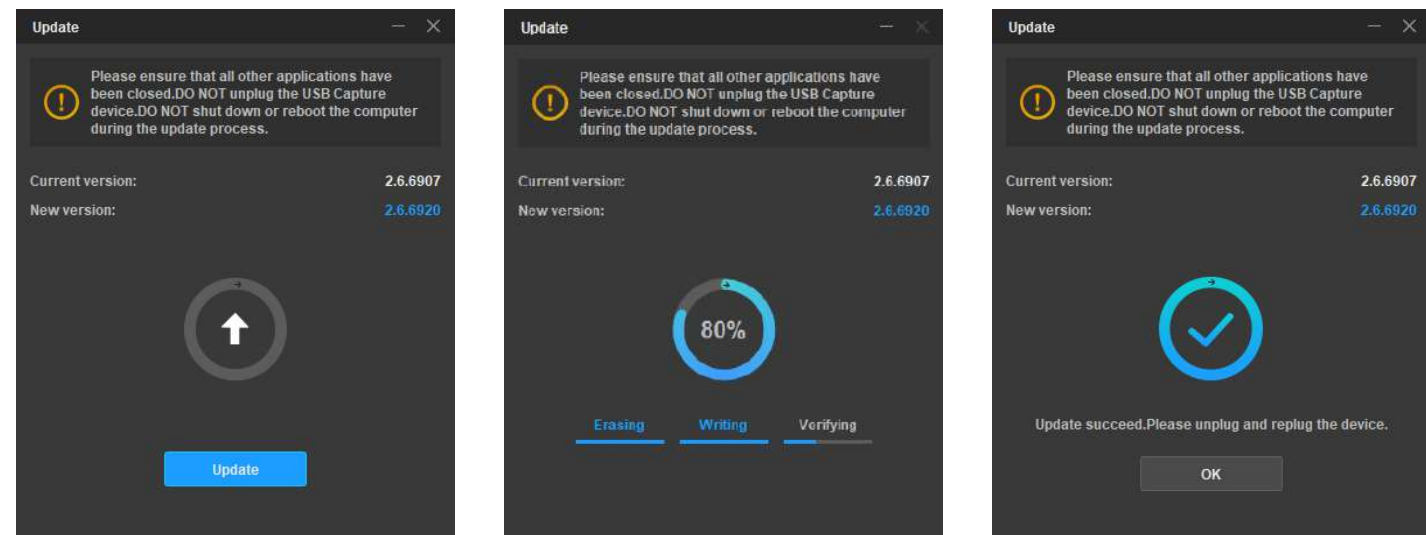
Step 5.   Click **OK** in the **Update** window.

Step 6.   Unplug and reconnect the device.

The update takes effect after unplugging and reconnecting the device. The **Info** tab will remind users to do so all the time.

Step 7.   Check **Firmware version** in the **Info** tab by clicking the ⟳ button again, the **You are already the newest version** displayed as the left figure, indicating the update is successful.

Setting Video

Setting Video Format
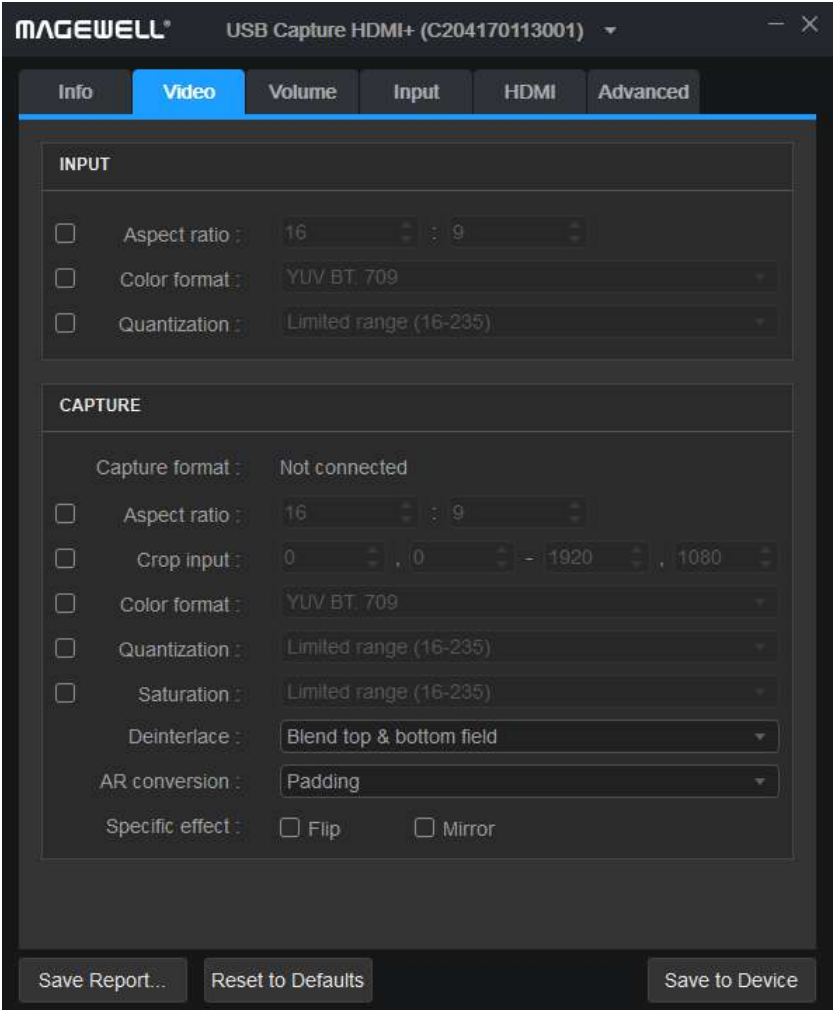
This chapter describes how to set the input and capture formats. Users need to click **Save to Device** after configuration.
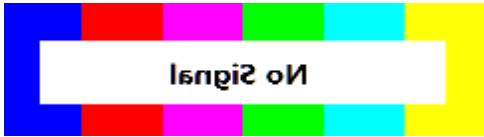
INPUT
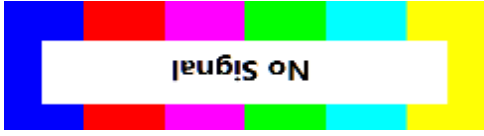
By default, **Input** shows the input information extracted from the signal. If a non-standard signal is incorrectly recognized by the capture device, users can manually adjust the **Aspect ratio**, **Color space** and **Quantization** to correct it.

Item	Description
Aspect ratio	If the box is ticked, users can adjust the aspect ratio by clicking on the arrows.
Color format	If the box is ticked, other color spaces can be chosen.
Quantization	If the box is ticked, other quantization values can be chosen.

CAPTURE

Item	Description
Capture format	Shows the current capture resolution, frame rate and color space. If no third-party capture software is accessing the device, it will show **Not Connected**.
Aspect ratio	If the box is ticked, users can adjust the aspect ratio by clicking on the arrows.

| Item	Description
Crop input	- Adjusts the capture area of the input video. Unwanted parts can be cropped out and the remaining part captured. - If the box is ticked, users can set the cropped dimensions by clicking on the arrows for each of the four values. - The default value is the input dimension. If the set value is beyond the device's capability, it will show the max supported the value of the device.
Color format	Shows the color space for capturing. If the box is ticked, other color spaces can be chosen.
Quantization	When only a limited number of colors can be displayed due to memory or other restrictions, users need to reduce the color of the image. Options include: - Full range (0-255) - Limited range (16-235)
Saturation	Shows the 8-bit saturation range options of the input signal. If the box is ticked, the saturation range can be chosen from: - Full range (0-255) - Limited range (16-235) - Extended gamut (1-254)
Deinterlace	The default value is **Blend top & bottom field**. The range of values: - Weave: Combines the top field and bottom field into a frame without any other process. Usually used to capture the original data. - Blend top & bottom field: Merges two fields together and deinterlaces via FPGA to ensure a CPU-free video processing. - Top field only: Copy the top field data in vertical direction as a full frame. - Bottom field only: Copy the bottom field data in vertical direction as a full frame. Deinterlacing is a process of converting interlaced video into a non-interlaced form, and half size the frames after processing. For example, the input signal is a 60 field/s interlace signal, the device delivers a 30 FPS progressive signal after processing.

| Item	Description
AR conversion	The default value is **Padding**. Provides three methods of conversion: • Ignore: Ignores the original aspect ratio and stretches to full-screen. • Cropping: Expands to full-screen and remove parts of the image when necessary to keep the original aspect ratio. • Padding: Fits to screen and add black borders to keep the original aspect ratio.
Specific effect	By default, no specific effect is used. Video effects are offered as follows: • Flip • Mirror • Flip and Mirror

Setting Volume

The Volume tab shows controls for all the audio devices, which can be manually adjusted with immediate effect. A right or left click of the mouse on either the slider track or the numeric value text will set the level to the nearest indicated value quickly (e.g. 0dB, -10dB, etc).
Volume settings in the Utility are synchronized with the system volume control.

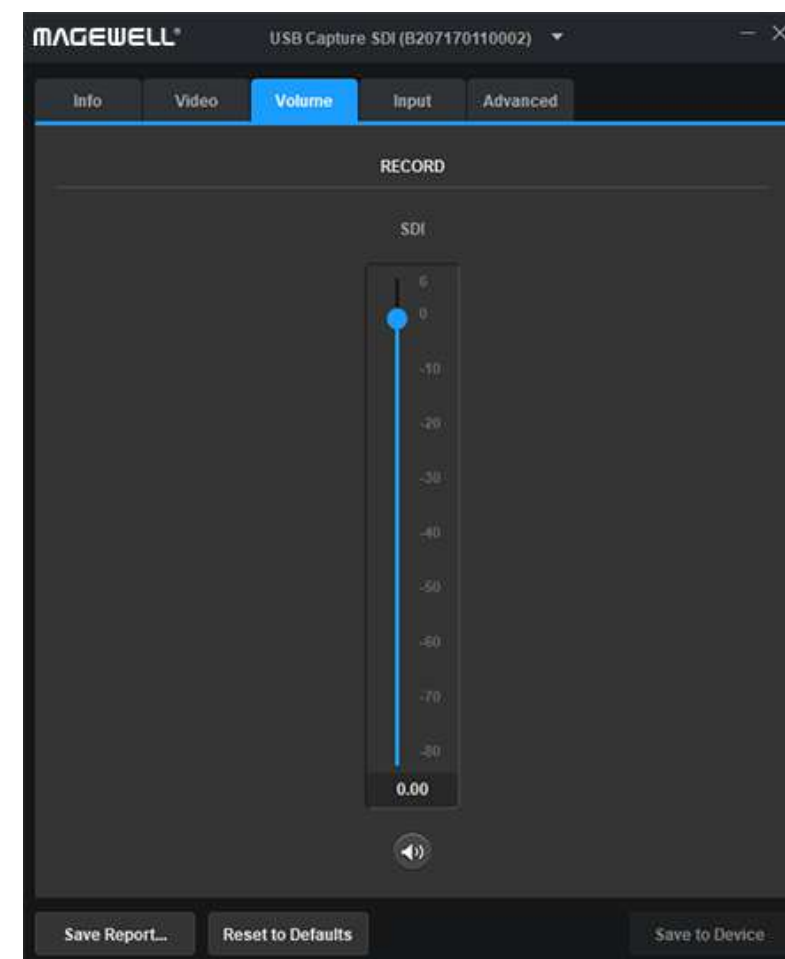| PLAYBACK	RECORD
The Playback section acts as a monitor mixer for the headphone output socket, and comprises three controls, with icons for **Headphones**, HDMI & **Computer**. The HDMI & **Computer** controls can be used to set the relative levels of each of those sources in the mixed output, whilst **Headphones** (far left) acts as the master volume control. It is not possible to include the **Mic** input in the monitor mix sent to the **Headphone** output. Note that setting all controls to maximum risks signal clipping if the sources contain high level signals. It is safer to keep individual channel gains to the values of '0' or lower unless extra gain is specifically required.	There are two volume level controls, for the **Mic** and HDMI Recording devices. There is no control here for the **Computer** input, although by default there is 0dB gain (ie. the input will be the same digital level as the audio sent to the **Headphones** Playback device). Note that there is 6dB of digital gain available, so that volume settings above '0' risk digital clipping of high level audio peaks (i.e. with the volume control set to maximum, audio input signal peaks above -6dBFS will get clipped). The **Mic** input can also act as a mono line-level input (giving 0dBFS from ~0dBV with the control at '0'), and has ~45dB of gain for handing mic-level signals.
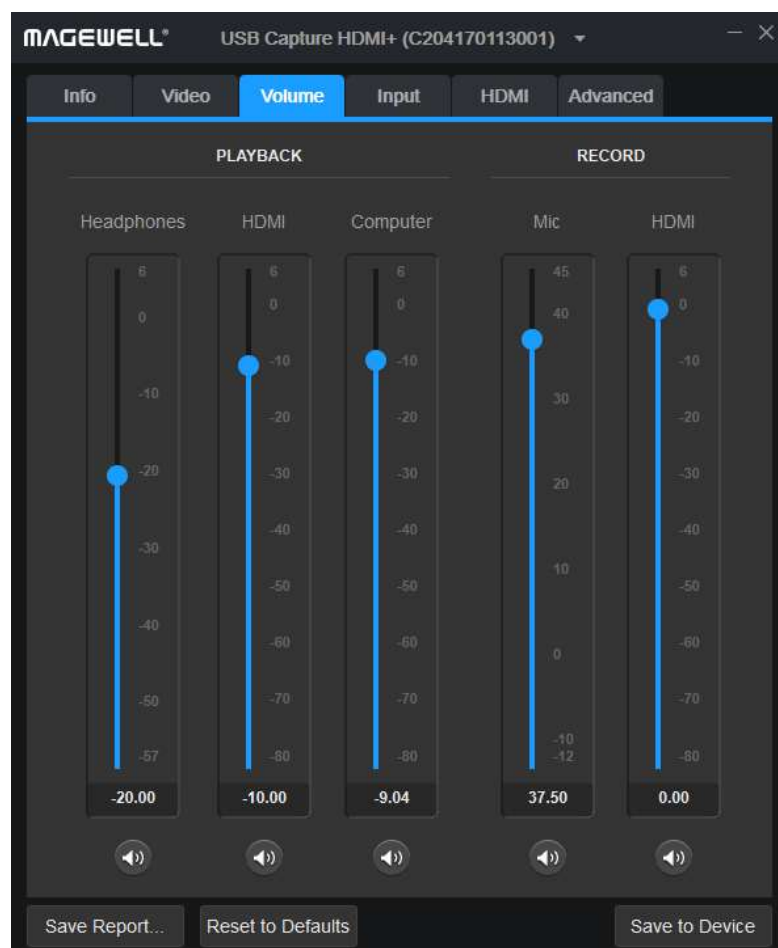
USB Capture HDMI Plus/USB Capture HDMI 4K Plus/USB Capture HDMI 4K Pro:

- Headphones (PLAYBACK): Sets the headphones volume.

- HDMI (PLAYBACK): Sets the volume of the HDMI embedded audio.

- Computer (PLAYBACK): Sets the volume of the audio output by the computer.

- Mic (RECORD): Sets the volume of the audio input from the microphone.

- HDMI (RECORD): Sets the volume of the embedded HDMI audio ,which is recorded by the device.
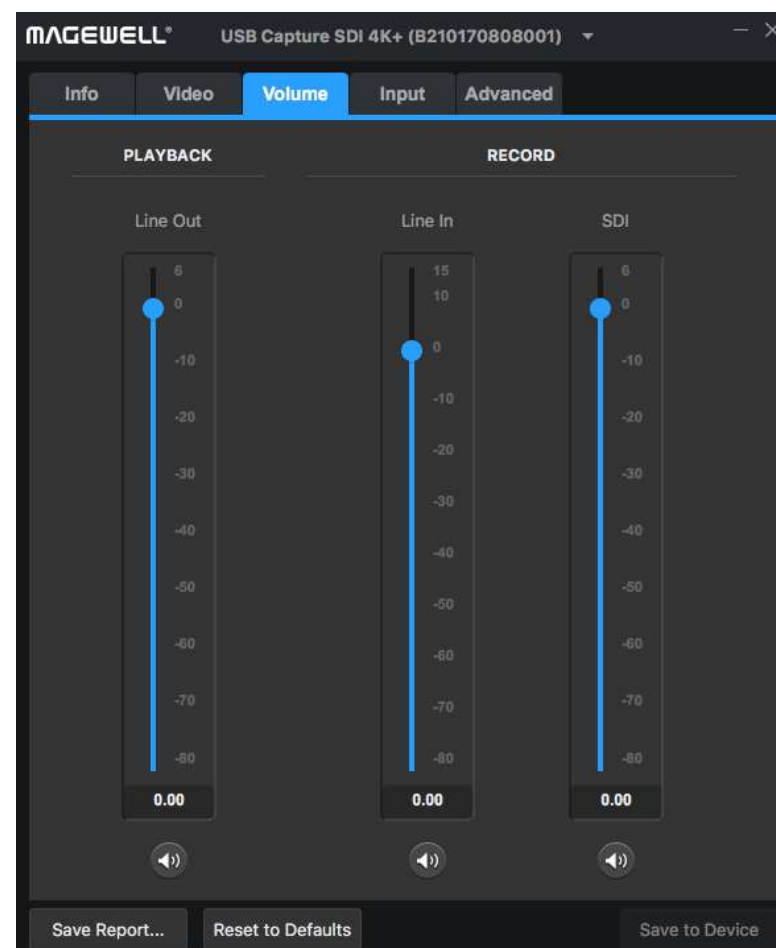
USB Capture SDI Plus/USB Capture SDI 4K Plus:

- Line Out (PLAYBACK): Sets the line out audio volume which is output by the computer.

- Line In (RECORD): Sets the volume of the audio input from Line In.

- SDI (RECORD): Sets the volume of the embedded SDI audio, which is recorded by the device.

USB Capture SDI Gen 2:

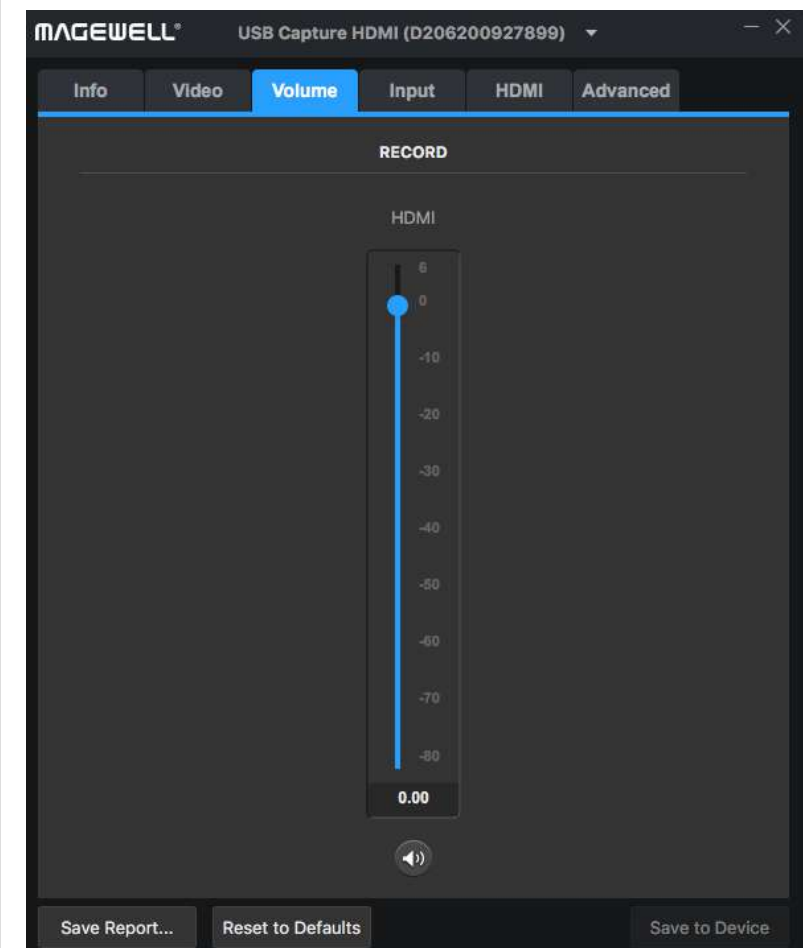SDI (RECORD): Sets the volume of the embedded SDI audio which is recorded by the device.

USB Capture DVI Plus:

- Line Out (PLAYBACK): Sets the line out audio volume, which is output by the computer.

- Line In (RECORD): Be used to control the level of stereo audio connected to the analog Line In. Note that the analog Line In is designed to work with maximum signal levels of ~0dBV (with the control at '0'), and can be overloaded by broadcast level signals which can peak to +20dBu or higher, no matter where the level control is set.

- HDMI (RECORD): This function is valid when users capture a camera/professional video device with a HDMI output, connected via an adapter to the DVI interface. If the video source is connected via DVI interface, this function is invalid.
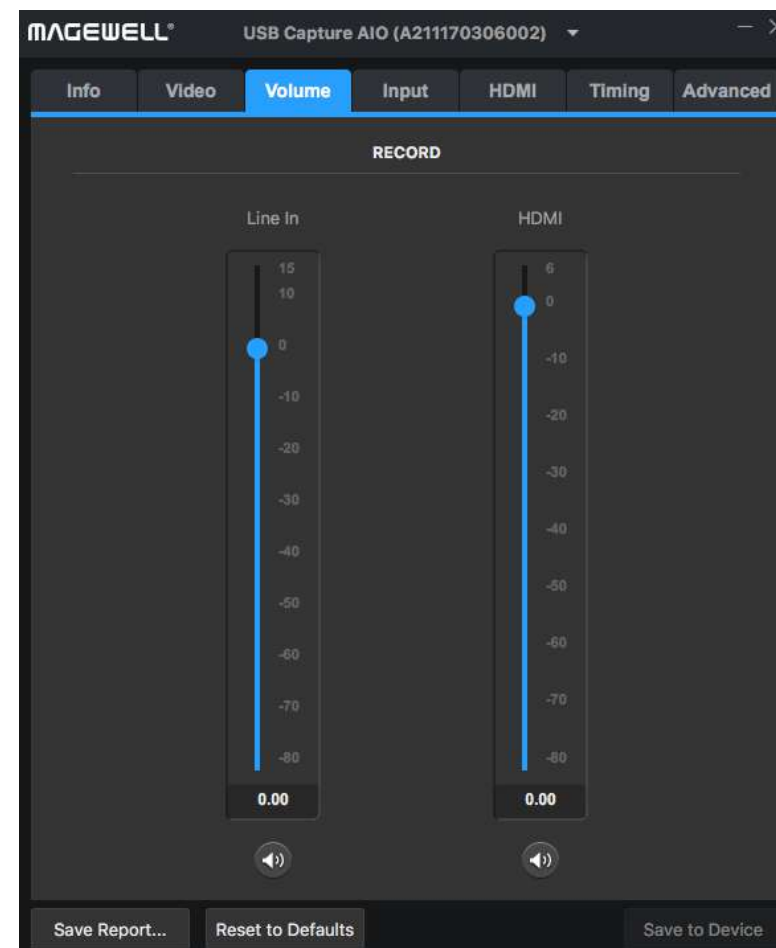
USB Capture AIO:
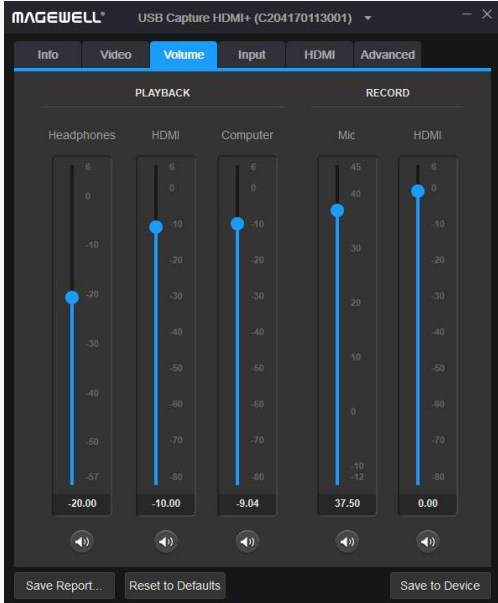
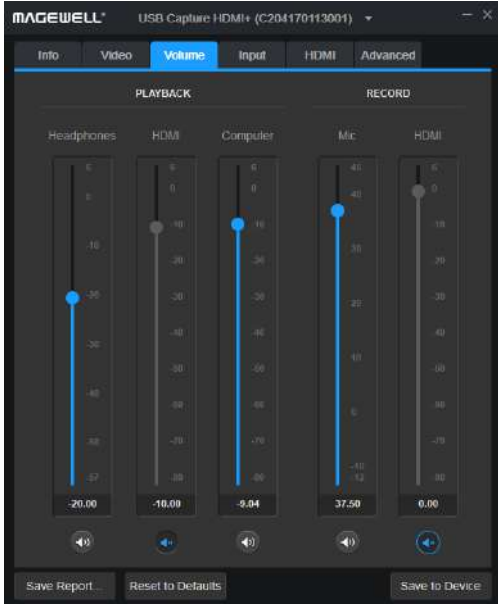- Line In (RECORD): Sets the line in audio volume.

- HDMI (RECORD): This function is valid when users capture a camera/professional video device with a HDMI output, connected via an adapter to the DVI interface. If the video source is connected via DVI interface, this function is invalid.

USB Capture HDMI GEN 2:

HDMI (RECORD): Sets the volume of the embedded HDMI audio recorded by the device.

Examples for Using USB Capture HDMI Plus

| Interface	Scenario	Procedures

	Capturing a camera/game console/video player	1. Make sure that the USB Capture **Headphones** is your system default playback device.
		
		2. Setting volume in USB Capture Utilityas follows:
		
		    ■ Headphones (PLAYBACK): Enabled
		    ■ HDMI (PLAYBACK): Enabled
		    ■ Computer (PLAYBACK): Enabled
		    ■ Mic (RECORD): Enabled if users need to record audio from the microphone, muted if a microphone is not needed.
		    ■ HDMI (RECORD): Enabled
		
		3. In the third-party software, choose **USB Capture HDMI+** as the audio input device. If users need to record audio from the microphone, they should use the **USB Capture HDMI+ Mic** device as well.

	Capturing the desktop of the recording/streaming computer	1. Make sure **Headphones**, **USB Capture HDMI+** is your system default playback device, or that the application you wish to record is sending its audio output to this device.
		
		2. Setting volume in USB Capture Utilityas follows:
		
		    ■ Headphones (PLAYBACK): Enabled
		    ■ HDMI (PLAYBACK): Muted
		    ■ Computer (PLAYBACK): Enabled
		    ■ Mic (RECORD): Enabled if users need to record audio from the microphone, muted if a microphone is not needed
		    ■ HDMI (RECORD): Muted
		
		3. In the third-party software, choose **USB Capture HDMi+ Computer** as the audio input device. If users need to record audio from the microphone, they should use the **USB Capture HDMI+ Mic** device as well.
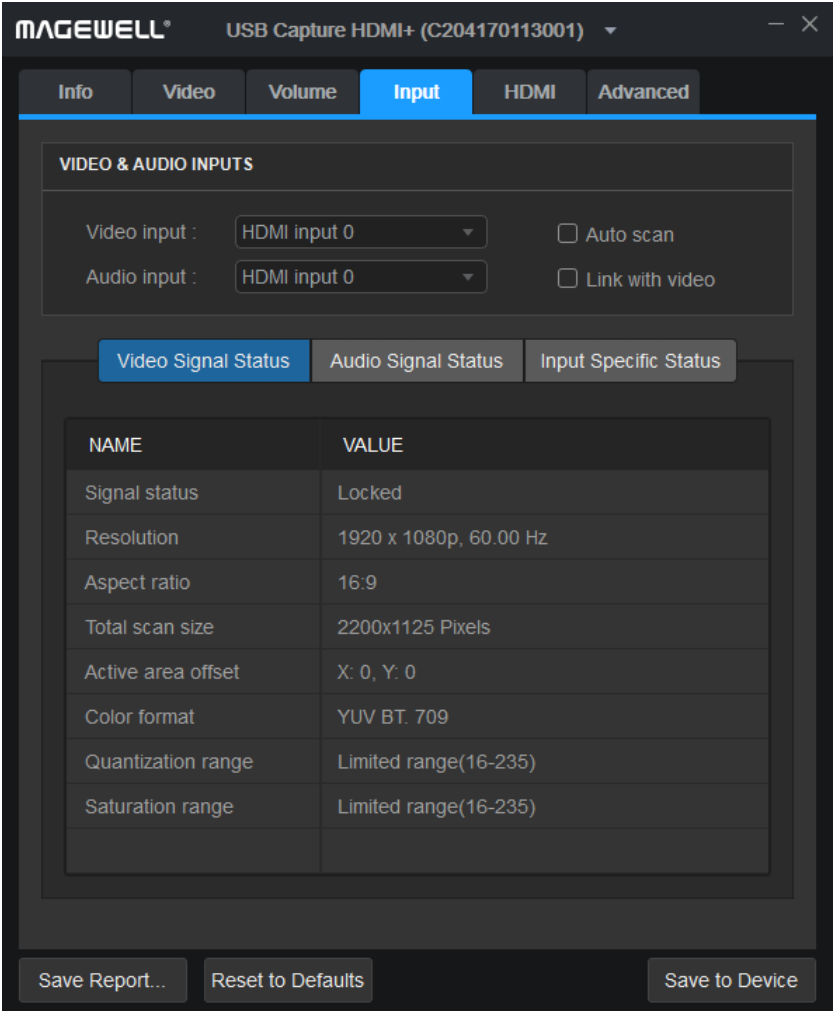
Setting Input

Setting Input

The Input tab shows detailed information about the input video and audio signal. Input signals can be auto scanned or manually selected, and take effect immediately.

VIDEO & AUDIO INPUTS

Item	Description
Auto scan	▪ Automatically scans the input signals by default. ▪ If the box is unchecked, users can manually select the input signal. ⚠ Users can manually select the Composite (CVBS) and S-Video (YC) if they are connected and supported. The tutorial for capturing composite(CVBS) refers to How to Capture a Composite (CVBS) Video Signal Using USB Capture DVI Plus
Link with video	▪ Automatically scans for an audio signal embedded in the video signal by default. If the video signal is changed, the audio signal will automatically be changed to try to match the video signal. ▪ If the box is unchecked, users can manually select the audio signal.

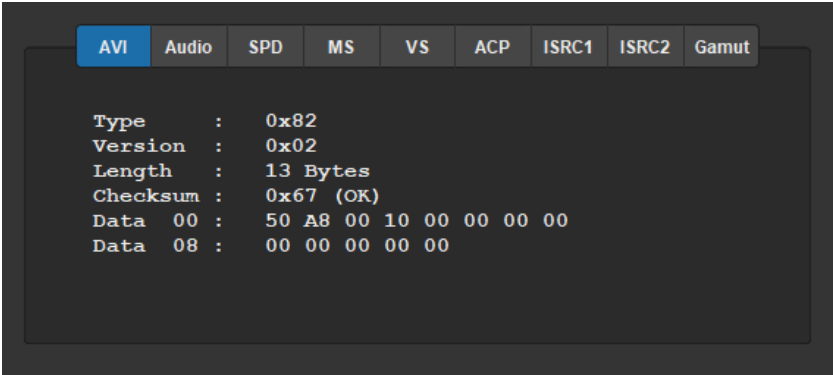| Item	Description
Video Signal Status	Shows the video input signal information parsed by the device, including: Signal status(Shown as **Locked**, **Unsupported**, **Not Present**.), Resolution, Aspect ratio, Total scan size, Active area offset, Color format, Quantization range, Saturation range, and etc. If parameters changed in **Timing** tab, the related data would be changed accordingly.
Audio Signal Status	Shows the audio signal status parsed by the device, including audio sampling frequency, bit-depth and sampling format, multi-channel audio, Channel status data, and etc.
Input Specific Status	Shows the input Specific Status. ▪ When a HDMI signal is connected, shows Signal Status, Mode, HDCP encrypted, Color depth(The common ones are: 8 Bits, 10 Bits and 12 Bits.), Pixel encoding, VIC, IT content, 3D format, timing and etc. ⚠ **HDCP encrypted** Shows whether the signal source is HDCP encrypted, "Yes" or "No". In accordance with the related laws and regulations, the USB capture device doesn't capture HDCP encrypted signals. ▪ When a VGA signal is connected, it shows Signal Status, Sync type, Frame rate, Scanning format, VS width, Total scan lines, timing, and etc. ▪ When Composite or YC is connected, it shows the TV standard of the current input signal. ▪ When an SDI signal is connected, it shows Signal Status, Type, Scanning format, Color depth, Sampling struct, and etc.
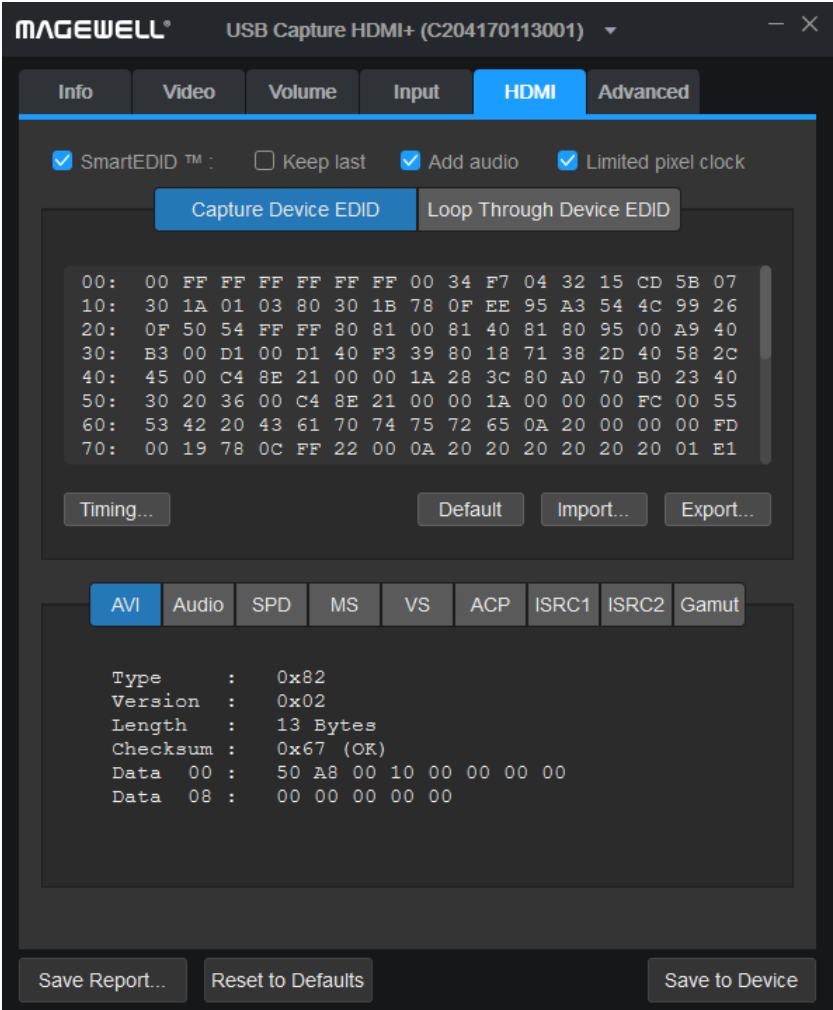
Setting SmartEDID

Setting HDMI

The HDMI tab shows the SmartEDID and EDID information. After setting, click **Save to Device** to take effect.

> ⚠ USB Capture SDI Gen 2, USB Capture SDI Plus, USB Capture SDI 4K Plus do not support HDMI signal input, the HDMI tab will not be shown.

SmartEDID

| Item	Description
SmartEDID	▪ SmartEDID is enabled by default. When it is disabled, other related functions can not be set. ▪ Depending on the input capability of the capture device and the format support of the display device connected to the loop-through, the capture device will smartly choose to send an EDID to the video source device, to ensure simultaneous capture and loop-through at the same time. For example: USB Capture HDMI 4K Plus loops out to a display that only supports 2K, while the signal source can support both 2K and 4K output. Only when SmartEDID is enabled can the 2K signal be transmitted, so that the loop-out 2K display can output normally. If SmartEDID is not enabled, the EDID of capture device is used by default. If the default EDID supports 4K, so the transmitted signal is 4K, and the looped 2K display cannot output normally. ⚠ This function is only available for capture devices with loop-through.
Keep last	▪ Keeps the last value used. ▪ By default, it is disabled. After the box is ticked, if the loop-through connection is interrupted during the video capture, the output is still continuous. After re-connecting a new loopthrough device, refreshing EDID, the output flashes once. ⚠ This function is only available for capture devices with loop-through.

Item	Description
Add audio	- Force to add audio. - If users connect a monitor to **LOOP THRU** which doesn't support audio, the device will decide not to output audio. As a result, the capture device cannot get any audio input. If **Add Audio** is enabled, the capture device will communicate with the video source device, making the source device output audio. ⚠ This function is only available for capture devices with loop-through.
Limited pixel clock	- If it is enabled, when the pixel of loop-through device beyond capability of the capture device, the capture device will smartly choose to lower the pixel to make it output normally, otherwise it will output a black screen. - The USB Capture HDMI 4K Plus is de-active, because it supports to capture videos with the maximum pixel. ⚠ This function is only available for capture devices with loop-through.
Capture Device EDID	Shows the EDID of the capture device. - Default: Click **Default** to reset the current EDID to default value. - Import: Click and choose the file location to import a local EDID file. - Export: Click and choose the file location to export the current EDID as a .bin file.
Loop Through Device EDID	Shows the EDID of the loop-through device. Export: Click and choose the file location to export the current EDID as a .bin file. ⚠ This function is only available for capture devices with loop-through.

Signal format data

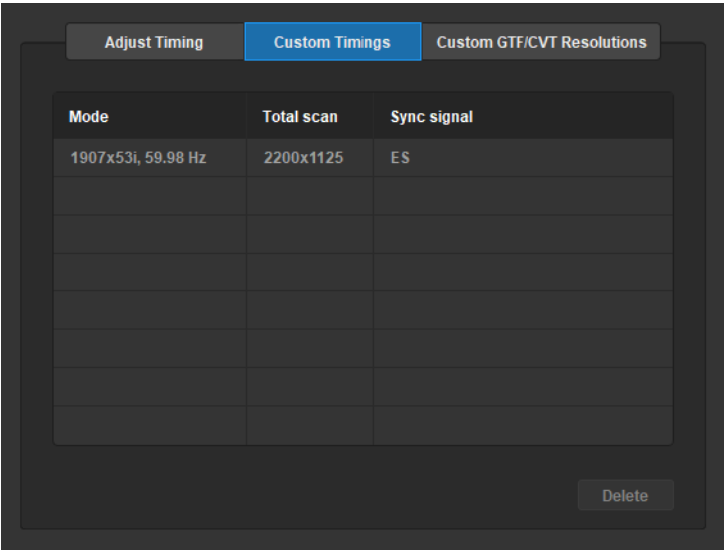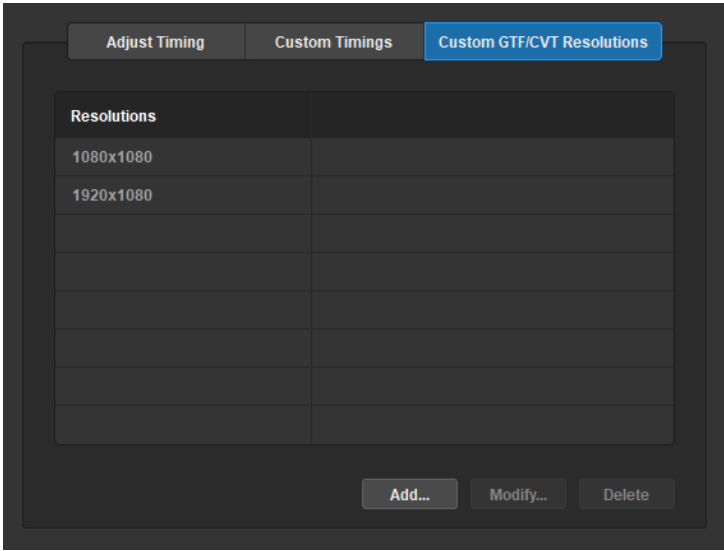| Item	Description
AVI	Shows the video stream type, version, check digits and check results.
Audio	Shows the audio stream type, version, check digits and check results.
SPD\MS\VS\ACP ISRC1\ISRC2\Gamut	Shows the HDMI Info Frame.
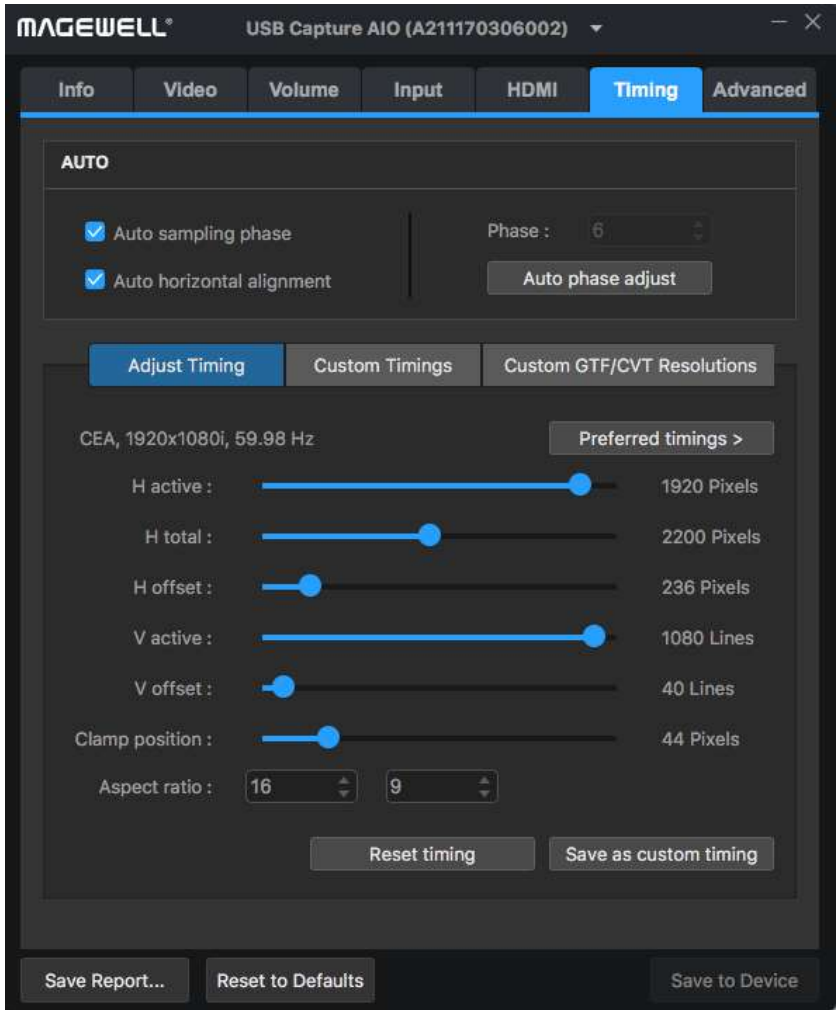
Setting Timing

Setting Timing

If the capture device has the capability to capture YUV component or VGA, the timing tab will be shown. When the input signal is VGA, the timing settings can be modified. After setting, click **Save to Device** to save configuration. Here USB Capture AIO is taken as an example.

AUTO Description

Item	Description
Auto sampling phase	It is recommended to enable **Auto sampling phase** to make slight adjustments to the video to achieve optimum clarity.
Auto horizontal alignment	The card automatically makes adjustments to try to attain the correct horizontal position of the video so that the image is clear.
Phase	• Manual and automatic adjustments are possible. The range is 0 ~ 63. • Click **Auto phase adjust** to adjust the phase automatically.

Custom Timings

Custom GTF/CVT Resolutions

Timing Parameters

Item	Description
Adjust Timing	When the signal is being captured, the device will automatically recommend one or more timings as shown in the **Preferred timings** list. The first one in the list will be shown above the timing adjustment section by default. If none of the recommended timing matches, users can drag the slider bars below to manually adjust. This method is not recommended if adjusting by adding a GTF/CVT resolution is possible. When the following data are modified, the corresponding data in the **Info** and **Input** tab would change synchronously. • H active: the number of Horizontal timing active pixels • H total: the total number of Horizontal timing pixels • H offset: Horizontal offset • V active: the number of Vertical timing active pixels • V offset: Vertical offset • Clamp position • Aspect Ratio: If **Video > INPUT > Aspect ratio** is ticked, it would keep the customize data. Otherwise, it would change as it is set here. • Customize timing: Click **Save as custom timing** to save the correct timing setting in the **Custom Timings** list. When the same video signal is connected again, the card will automatically show the video according to the previously saved setting. • Reset timing: Click **Reset timing** to set the custom timing as the current timing. If no custom timing is available, the first one in the recommended list will be set as the current timing.
Custom Timings	• Shows the custom timing list. When the same video signal is connected again, the card will automatically show the video according to the previously saved setting. • Delete: If the users want to delete the past setting(s), they can choose the setting in **Custom timings** and click **Delete**.
Custom GTF/CVT Resolutions	If adjustments made in the **Timing Adjustment** tab cannot achieve satisfactory results, users can manually add the resolution that meets GTF or CVT standards. • Add: If the recommended timings don't match the input and the input signal is in the standard GTF or CVT format, users can click **Add...** to input the resolution. USB Capture Utilityautomatically generates new timing based on added resolution, which is simpler, faster, and more recommended than dragging a slider. • Modify: Choose a resolution in the list and click the **Modify...** button. • Delete: Choose a resolution in the list and click the **Delete** button.

Advanced Settings

This tab is used to advanced settings of capture format. For non-specialist users, please set these options carefully.

Note that the settings will take effect after **Save to Device** is clicked and the device is unplugged and reconnected.

| Interface	Description
	Color Format: ■ The left hand column shows the list of available choices, and must contain at least one format. The column on the right shows other formats that can be added to the list. ■ The range of values is YUY2(default), RGB 24, RGB 32, UYVY for the USB Capture HDMI+. ⚠ Due to USB 3.0 bandwidth limitations, the RGB 32 support to capture 35 to 40 FPS signals with 4k devices, not to capture signals with 60 FPS, which require RGB 24. The range of values is YUY2 (default), RGB 24, RGB 32, UYVY for the USB Capture Family and USB Capture Plus Family devices, excluding USB Capture HDMI 4K Plus or USB Capture SDI 4K Plus; the range of values is YUY2 (default), NV12 (default), RGB 24, RGB 32, UYVY, I420 for the USB Capture HDMI 4K Plus and USB Capture SDI 4K Plus devices; the range of values is YUY2 (default), NV12 (default), RGB 24, RGB 32, UYVY, I420, P010 and Y210 for the USB Capture HDMI 4K Pro.
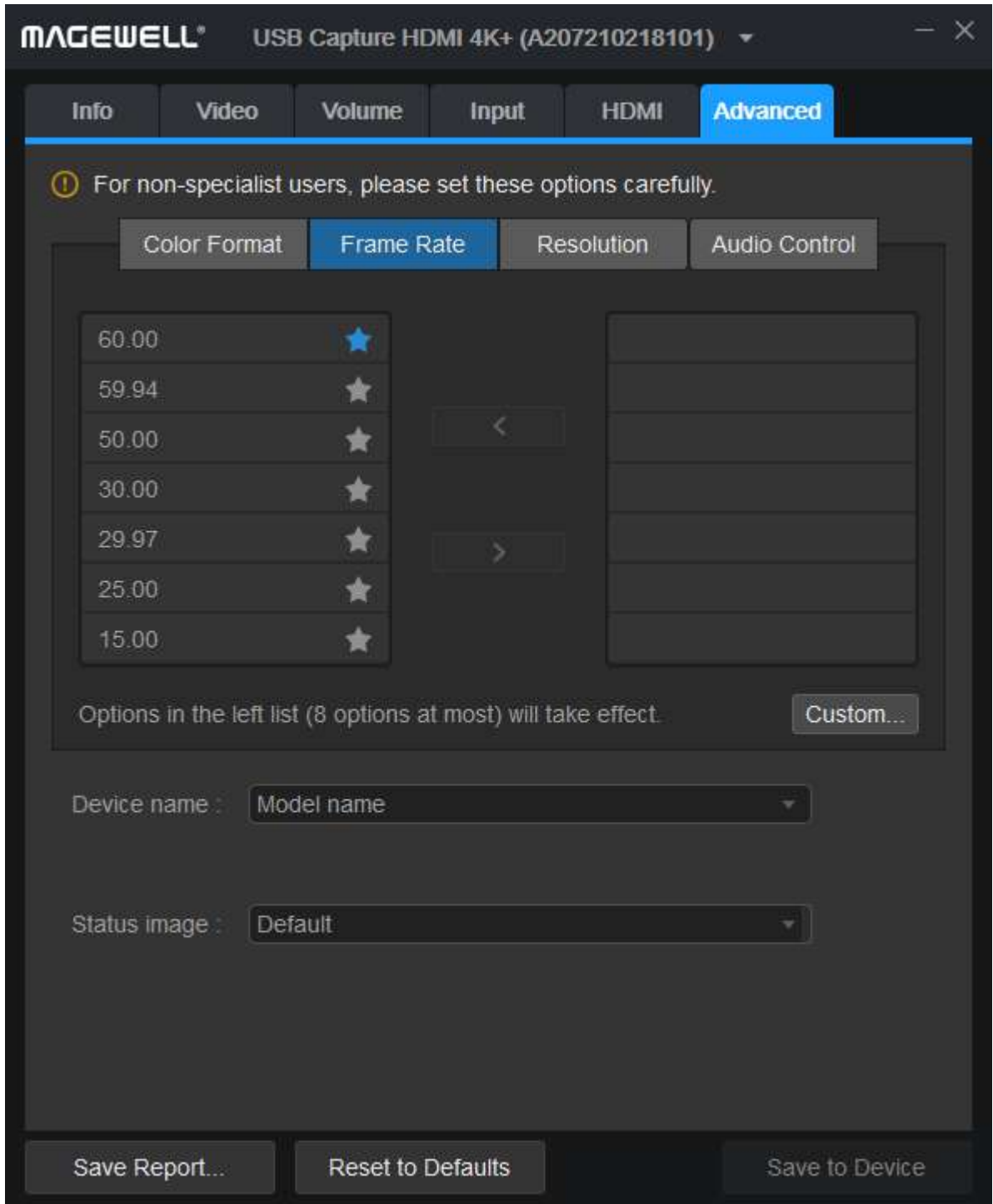
| Interface	Description
	Frame Rate: - The list shows some of available choices supported by the device, The one with the blue star is the default. - The column on the left shows the list the available choices (max: 8). The column on the right shows other frame rates that can be added to the list. - Available choices are 60.00 (default), 59.94, 50.00, 30.00, 29.97, 25.00, 15.00. - Click **Custom...** to input a new frame rate from 5 FPS to 120 FPS, accurate to 2 decimal places. - Click the red icon near the custom frame rate to delete it. If it is not a custom frame rate, it cannot be deleted.
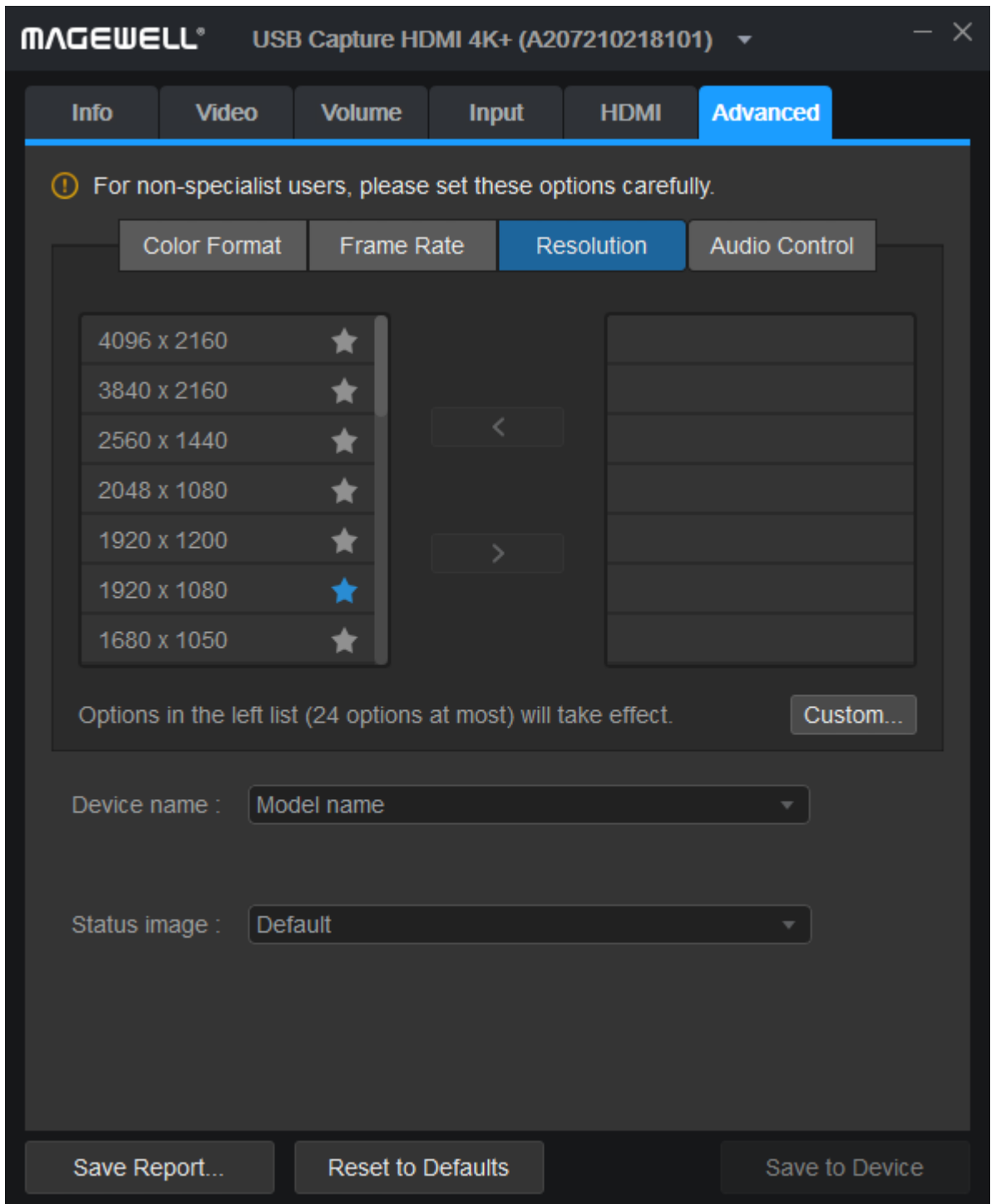
| Interface	Description
	Resolution: • The list shows some of available choices supported by the device, The one with the blue star is the default. The left ones are in the list to choose from (max: 24). The one(s) on the right means other resolution(s) that can be added to the list. • Available choices are 640 x 360, 640 x 480, 720 x 480, 720 x 576, 768 x 576, 800 x 600, 856 x 480, 960 x 540, 1024 x 576, 1024 x 768, 1280 x 720, 1280 x 800, 1280 x 960, 1280 x 1024, 1368 x 768, 1440 x 900, 1600 x 1200 (unsupported by USB Capture SDI Gen2 or USB Capture SDI Plus), 1680 x 1050, 1920 x 1080 (default), 1920 x 1200 (unsupported by USB Capture SDI Gen2 or USB Capture SDI Plus), 2048 x 1080. 4K devices also support 2560 x 1440, 3840 x 2160, 4096 x 2160. • Click **Custom...** to input a resolution, values for **Image width** must be multiples of 4, The **Image height** must be a multiple of 2. • Click the red icon near the custom resolution to delete it. If it is not a custom resolution, users cannot delete it.
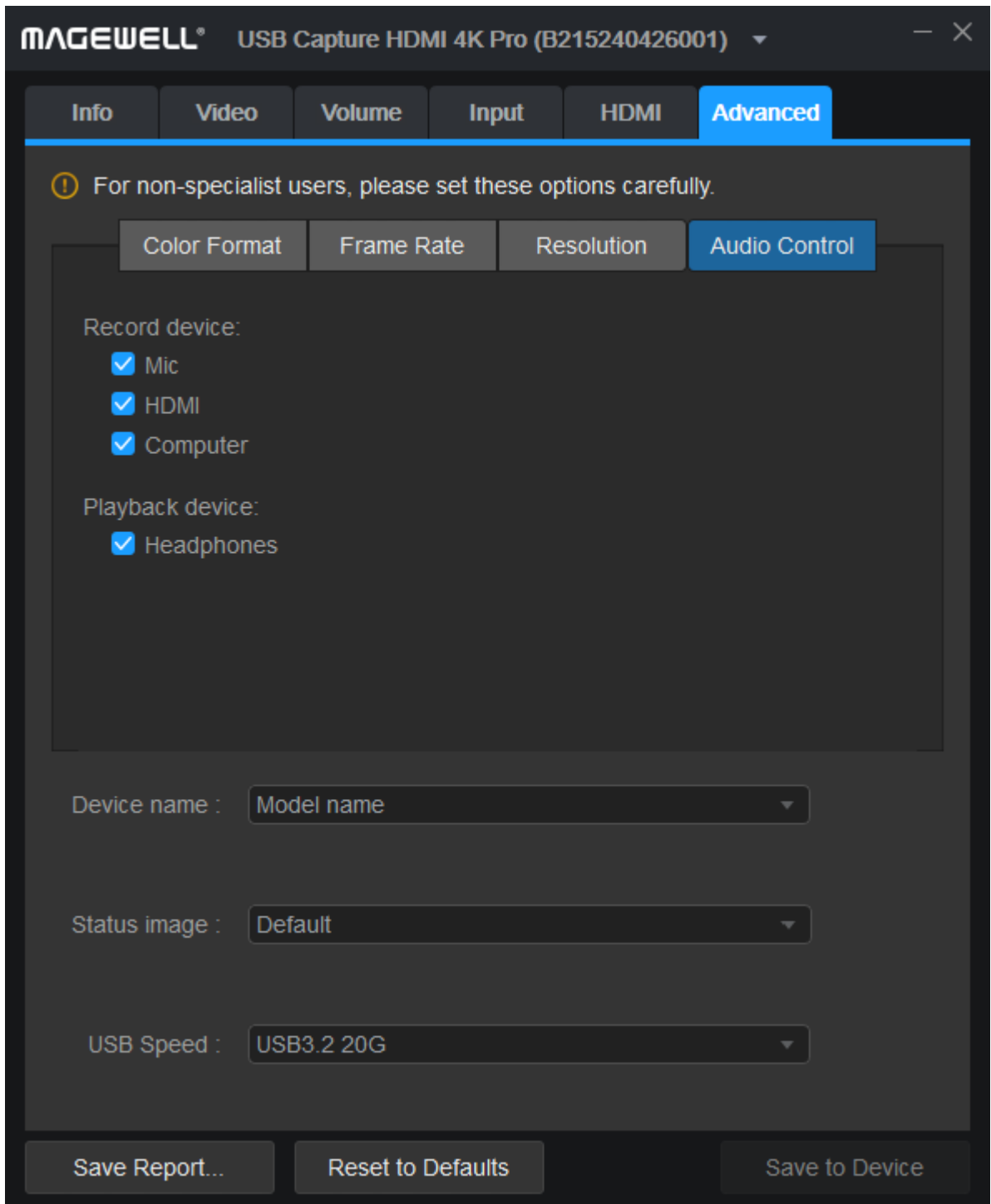
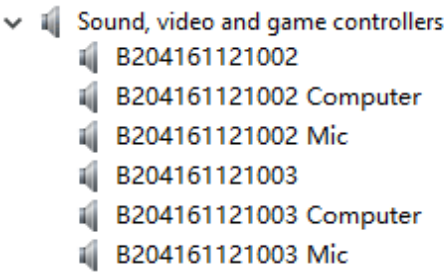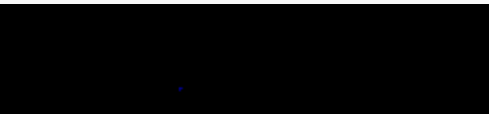| Interface	Description
	Audio Conrol • The list shows the record devices and playback devices currently provided by the device. All are selected by default, but you can customise the selection of recording and playback devices. On Windows devices, this change is synchronised to refresh the USB Capture counterpart display in the 'Device Manager > Audio inputs and outputs' section. • After modification, click "Save to Device" at the bottom right of the window, confirm the change in the pop-up window. And the modification will take effect after disconnecting and reconnecting the device.
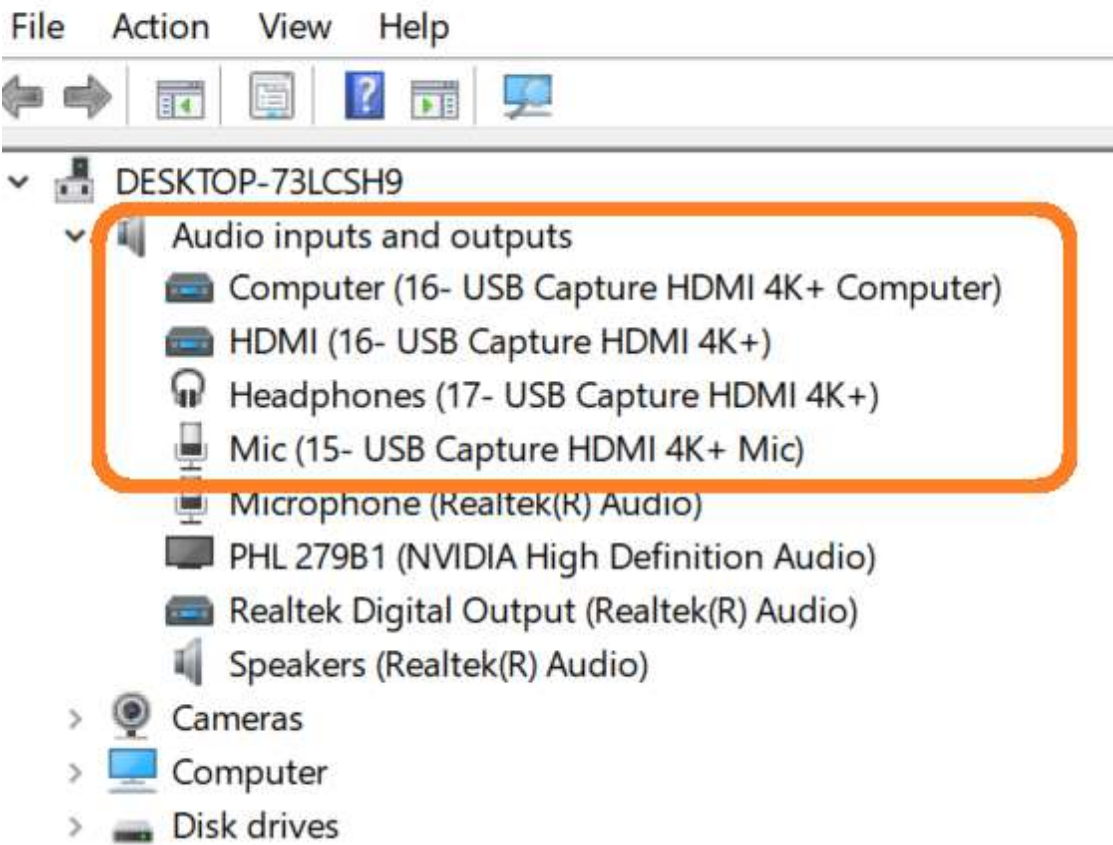
Modify the Device name and Status image
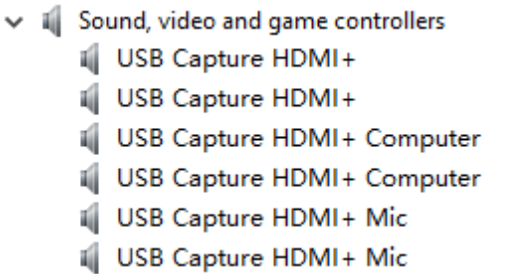
Windows Device Management shows product name

Windows Device Management shows serial number

Item	Description
Device name	Modifying the device names when there are multiple devices of the same model on one host at the same time. Range of values: • Model name • Serial number • Custom, containing 2 to 16 digits, letters, underlined and connecting lines. If users need to change the device name, they should click **Save to Device**, manually uninstall/remove the device in the Windows Device Manager, then unplug and reconnect the device again. However, in Linux OS and macOS, users only need to unplug and reconnect the device.
Status image	When there is no valid input signal, a choice of preview images can be shown. Changes will take effect after **Save to Device** is clicked, then unplug and reconnect the device. Type of values: • Default: color bars and **No signal** • Blue • Black • Custom Only supported by USB Capture Pro. Import a PNG or bmp image up to 720x576.
USB speed	Set the maximum bandwidth of the data collection stick. The default is USB3.2 20G, supporting USB3.2 20G, USB3.1 10G, USB3.0 5G. After setting, click **Save to Device**, and the device will automatically restart to make the changes effective. It is only supported by USB Capture HDMI 4K Pro.

Switch Devices

Save Report..., Reset to Defaults

Other Settings

Switch to another device

The drop-down menu on the title bar will show all the connected devices. Switching between devices is immediate if no changes have been made to the settings. If changes have been made and users try to switch the device, a message box will pop up to inform them to save the changes.

Save Report

Click the **Save Report...** button to save the current device information as an HTML (.htm) file in the subsequently selected location, obtaining detailed device status, input signal information and capture format of the device. The information is necessary for after-sale support.

Reset to Defaults

1. Click **Reset to Defaults** button in the button area.

2. Click **Yes** in the prompt window to restore the settings of the currently chosen device back to the default state.

    > ⚠ Please operate carefully. After restoring the default configuration, all of the original configuration is lost.

3. If users changed the device name before, users need to manually uninstall/remove the device in the Windows Device Manager, then unplug and reconnect the device; if other settings in the **Advanced** tab have been changed, users will need to unplug and reconnect the device.

Open main window

Boot to run

Accept prompt message

Check for updates...   ●

About

Exit
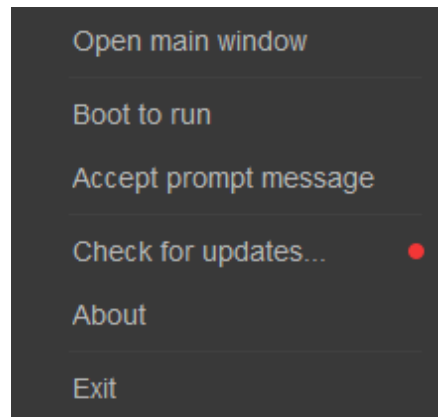
Settings in the taskbar

Settings in the Taskbar

In Windows and macOS, users can right-click on the USB Capture Utility icon in the notification bar to access the menu below:

▪ Open main window: Restore the main users interface window.

▪ Boot to run: Tick this option to automatically launch the application when the computer is booting up.

▪ Accept prompt message: When the application window is "closed", a message will appear for 10 seconds in the bottom right corner of the desktop. The Utility icon will be shown amongst the other application icons at the right hand end of the Windows taskbar. This function is only available on Windows.

▪ Check for updates: Click the option to check the information of the latest version.

  ▪ If there is a new version, a popup will display the information of currrent version and new version. Click Upgrade to update to the latest version.

  ▪ If there is no new version, the popup only displays the information of current version. Click OK to exit.

▪ About: Information about this software, such as software version, company name, website, copyright, and etc.

▪ Exit: If changes have been made and users try to exit the device, a message box will pop up to inform them to save the changes.

FAQ
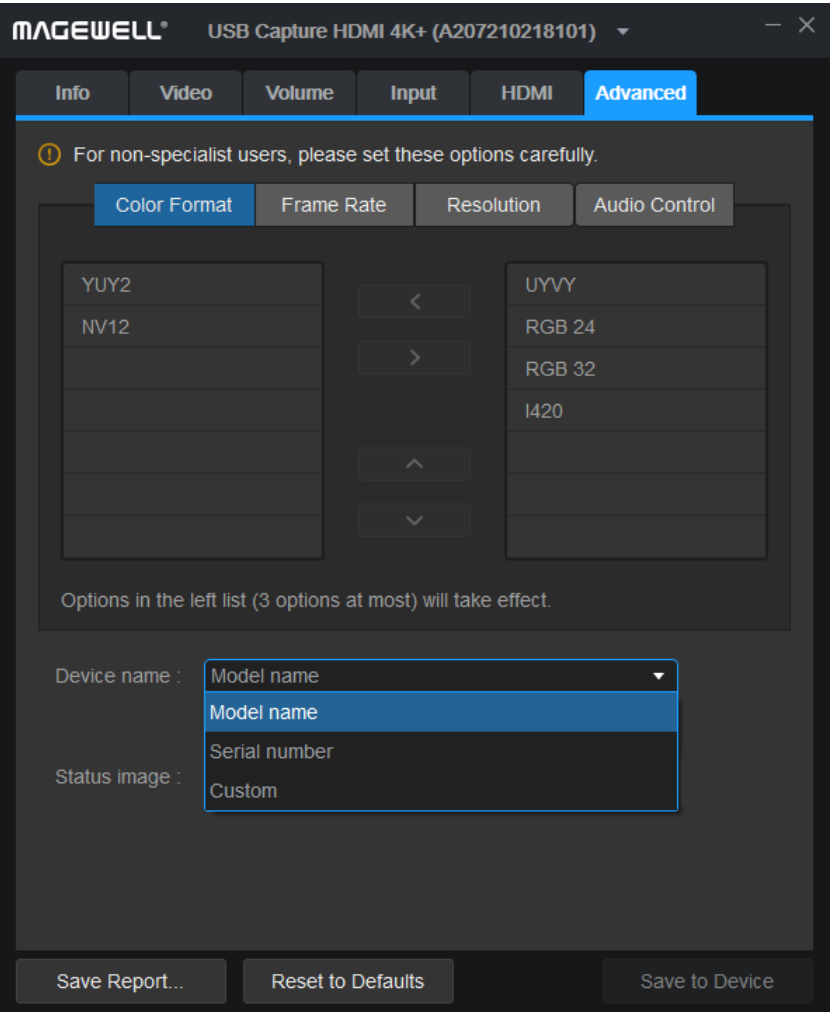
Modify device name

When there are multiple devices with the same model name on one host at the same time, how to distinguish them?
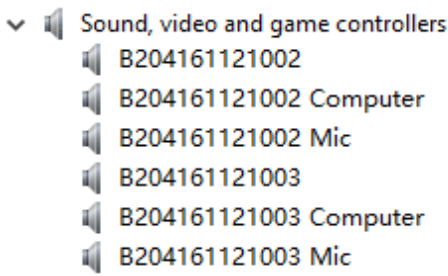
By default, the **Device name** is shown as **Model name**. When multiple devices of the same model are connected at the same time, you can differentiate the devices by modifying the "Device Name".

Procedures

Step 1.   Set the **Device name** to **Serial number** or **custom** in the **Advanced** tab.

Step 2.   Click **Save to Device**.

Step 3.   Click **OK** in the prompt box.

Step 4.   In Windows, users need to manually uninstall/remove the device in the Windows Device Manager, then unplug and reconnect the device again (or reboot the computer); on Linux and macOS, this setting will take effect after unplug and reconnect the device.
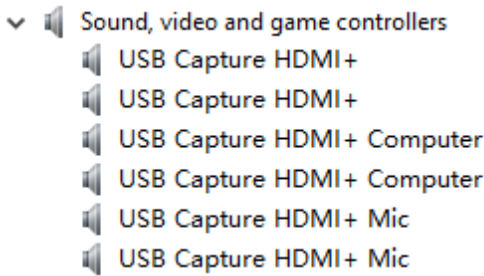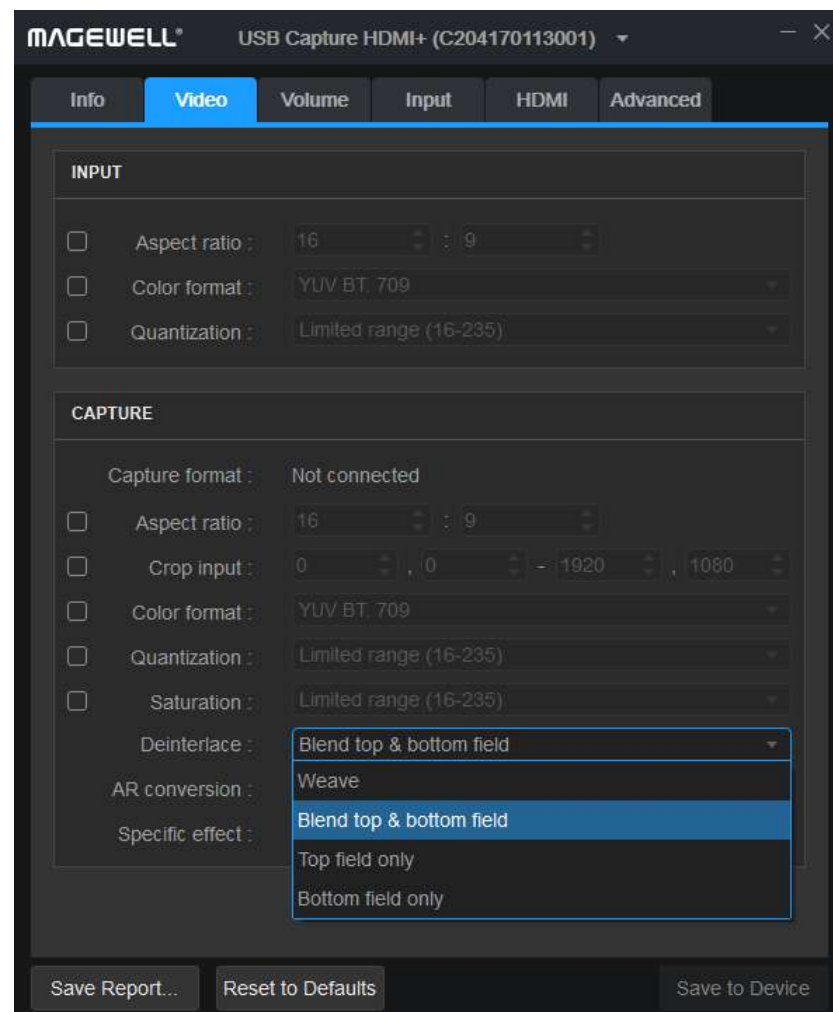

Model name displayed in Windows Device Manager   Serial number displayed in Windows Device Manager

Step 4.   Close and re-open the third-party application and then the devices will be shown as your settings.

Modify Deinterlace mode

How to modify the de-interlacing mode?

By default, the de-interlace mode is **Blend top & bottom field**, users can manually change it to other modes.

> ⚠ Deinterlacing is a process of converting interlaced video into a progressive form with the frame number reduced by half after processing. The process is done by FPGA, causing 0 CPU usage. For example, the input signal is a 60 field/s interlace signal, the device delivers a 30 frame/s progressive signal after processing.

Procedures

Step 1.   Choose a de-interlace mode from the drop-down menu in **CAPTURE > Deinterlace** in the **Video** tab.

- Weave: takes pairs of fields and puts them together (every other line) to one frame. The result is the same as no deinterlacing. This mode is used when users want to capture the original video.

- Blend top & bottom field: blends the top and bottom field together.

- Top field only

- Bottom field only

Step 2.   Click **Save to Device**.
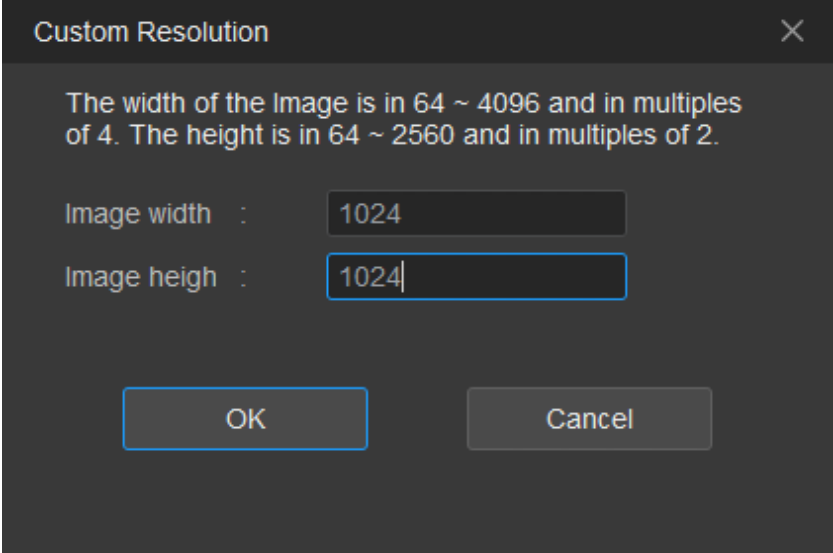
Customize resolution
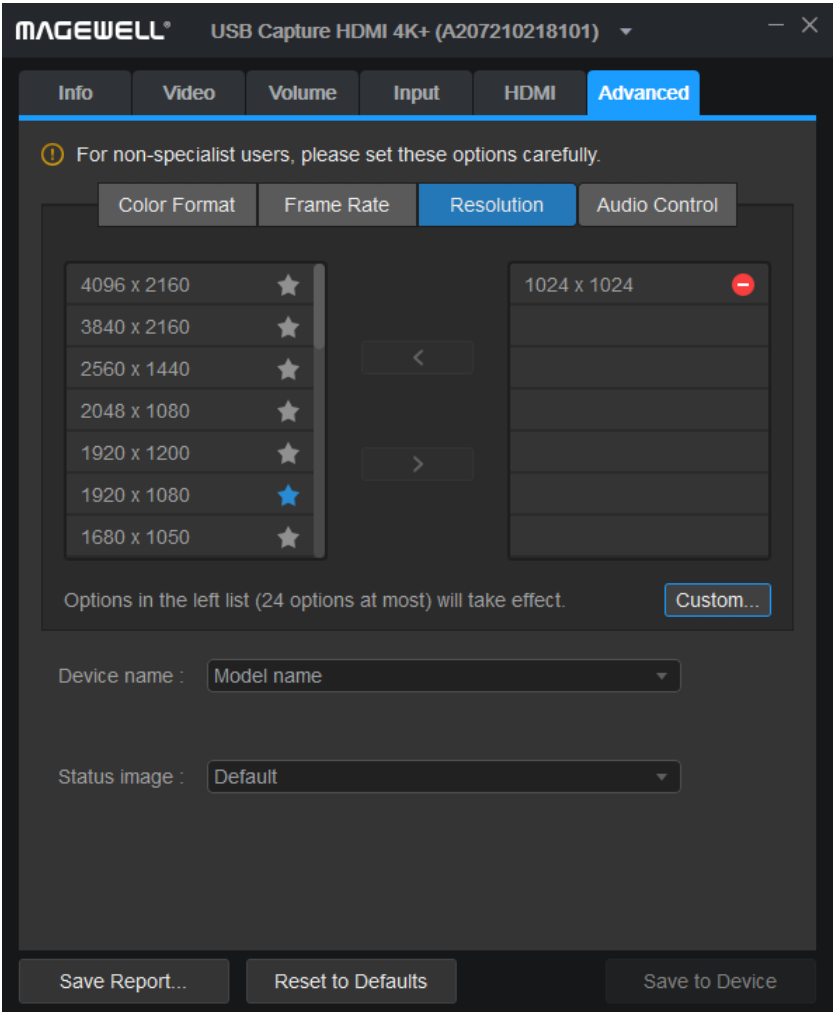
Added customize resolution

How to customize the capture resolution list in the third-party application?

Users can add or delete an item in the capture resolution list in the third-party application using the Utility. Take 1024x1024 as an example.

Procedures

Step 1.   Click **Advanced > Resolution > Custom....** Set both **Image width** and **Image height** as 1024 in the popup **Custom Resolution** window.

Step 2.   Click **OK** in the **Custom Resolution** window.

The existing resolution can not be added.

Step 3.   Choose the added data from the right column, click the left arrow to add it to the left column.

24 Options at most for resolutions in the left column. If it is full, remove the ones that are not frequently used.

Step 4.   Click to the star near the newly added resolution to set it as the default option shown in the third-party application.

Step 5.   Click **Save to Device**.

The system prompts to reconnect the device.

Step 6.   Unplug and reconnect the device.

Step 7.   Click **Advanced > Resolution** to confirm the new resolution has been added successfully.
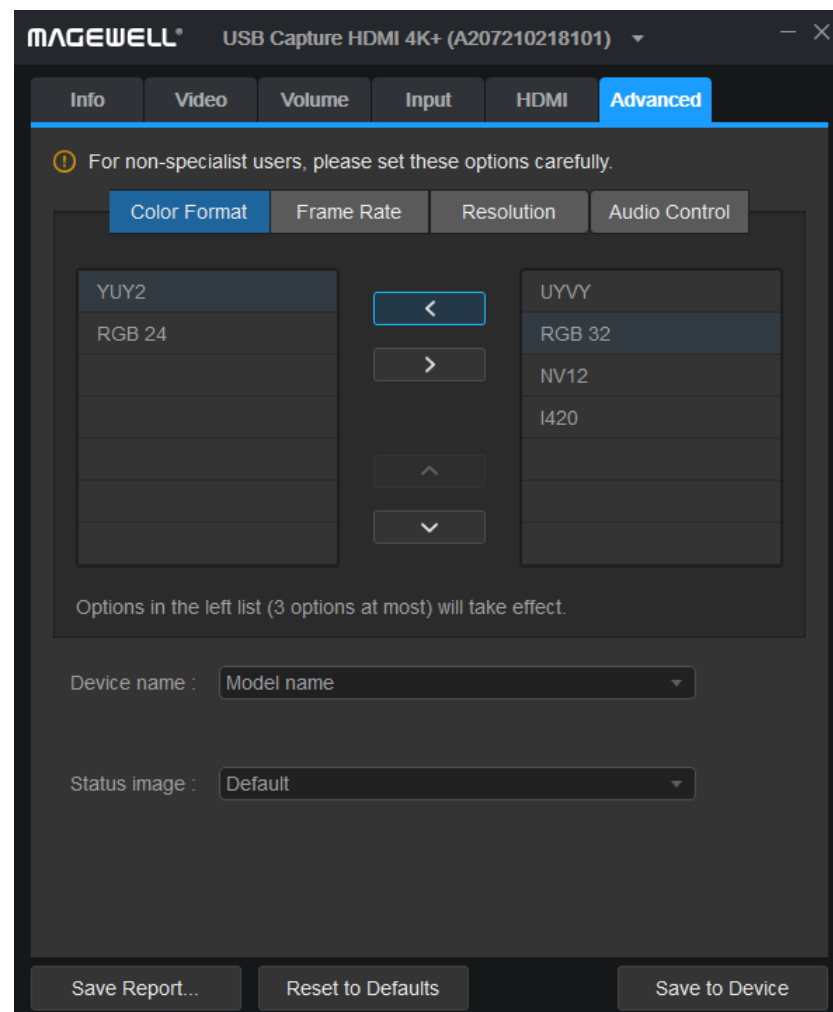
Add color space

How to customize the capture color space list in the third-party application?

Users can add or delete an item in the capture color space list in the third-party application using the Utility. Take RGB 24 as an example.

⚠ Because of the bandwidth limitation of USB 3.0, the color space of RGB 32 can only used to capture 35 ~ 40 FPS signals at 4k resolutions, but not 60 FPS signals. If users need to capture 60 FPS signals, set it to RGB 24.

The GEN 1 devices support YUY2 and RGB 24 by default. The GEN 2 devices support YUY2 by default, RGB 24, RGB 32 and UYVY can be added with tool. 4K devices support YUY2 and NV12 by default, RGB 24, RGB 32, UYVY, and I420 can be added with the tool.

Procedures

Step 1. Click **Advanced > Color Format**, select the RGB 24 in the right column, click the left arrow to add the data to the left column.
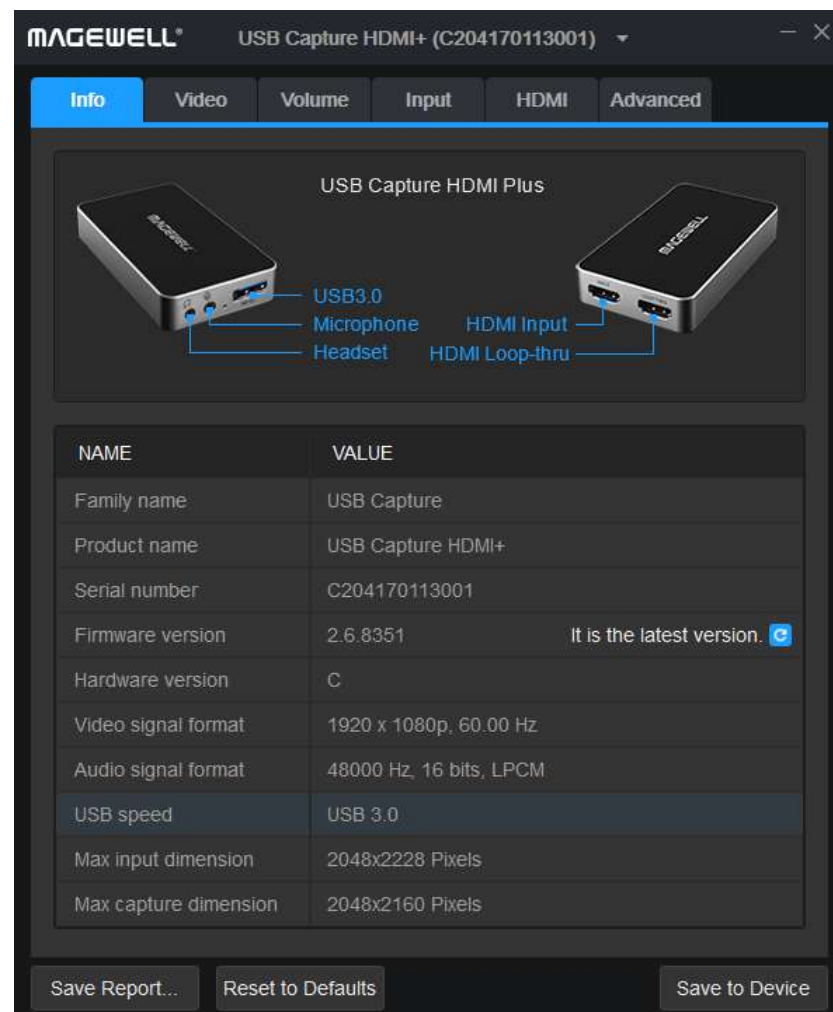
3 options at most in the left column. If it is full, remove the ones that are not frequently used.

Step 2. Click **Save to Device**.

The system prompts to reconnect the device.

Step 3. Unplug and reconnect the device.

Step 4. Click **Advanced > Color Format** to confirm the new color space has been added successfully.

Check for updates

How to update the firmware?

Procedures

Step 1.   Check **Firmware version** in the **Info** tab.

> All 4K Pro devices support firmware upgrades via USB Capture Utility. Other models require a firmware version of 2.6.6907 or higher.

Step 2.   Click the ↻ button to check for updates.

1. If there is a new version available, proceed to the next step.

2. If detection failed, please retry.

3. If it is the latest version, no action is needed.

In the following cases, the device will automatically detect for a new firmware version.

- Once an hour every 0:00 to 5:00.
- Each time the device is connected.
- Each time the device is switched to in Utility.

Step 3.   (Optional) Click the ℹ button to check **Release Notes**.

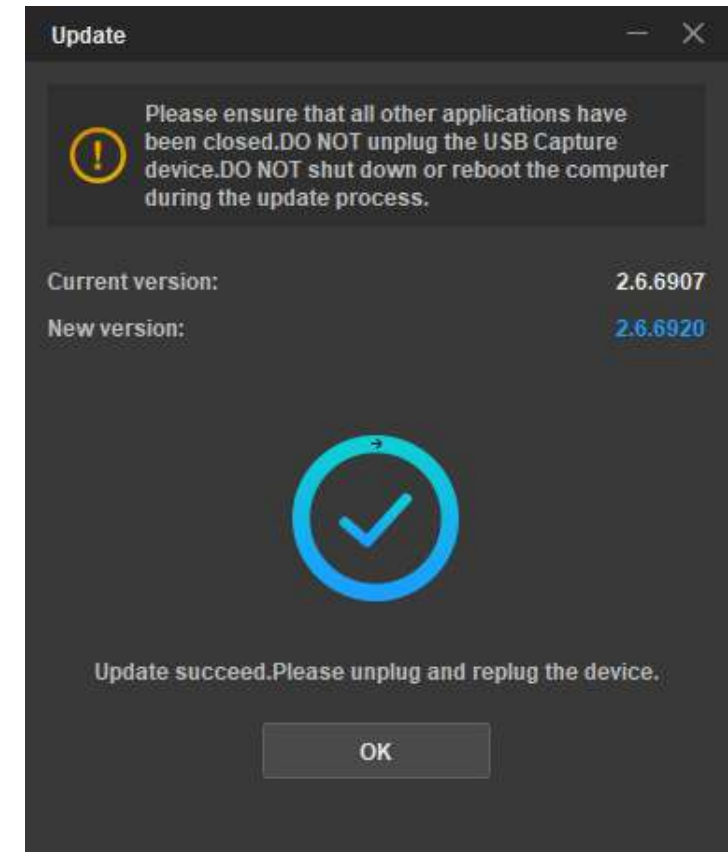**Step 4.**   Click the ⬇ button to download the update package.

1. If the download succeeds, proceed to the next step.

2. If the download fails, please retry.

Step 5.   Click the ⬆ button. Click **Update** in the prompted window.

1. If the update succeeds, proceed to the next step.

2. If the update fails, please retry or click **Help**.
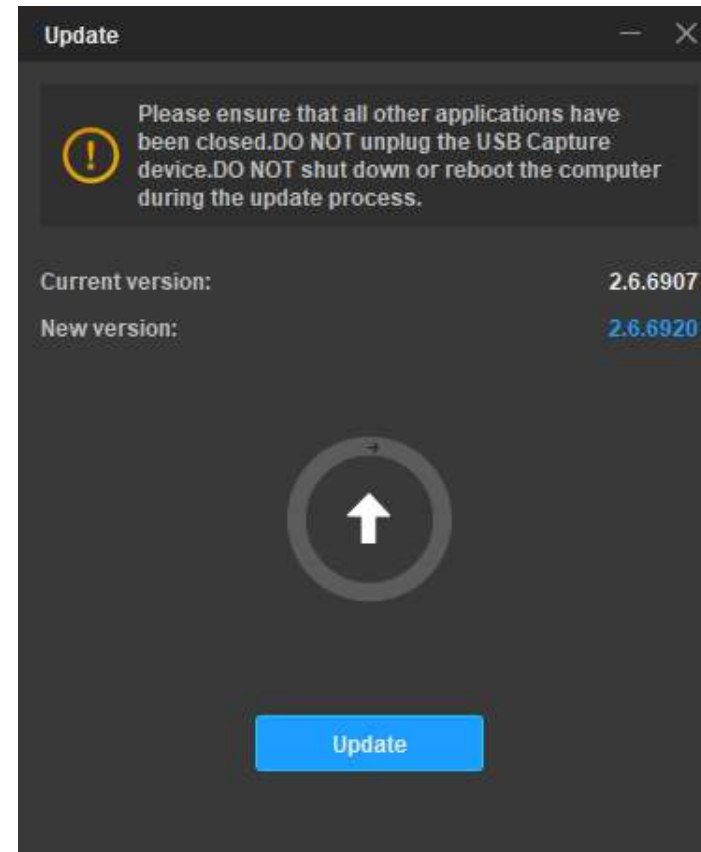
Update

Update succeed

Step 7. Click **OK** in the **Update** window.

Step 8. Unplug and reconnect the device.

Step 9. Check **Firmware version** in the **Info** tab to confirm the firmware version is the latest one.

Save report

How to collect and report needed information for technical support?

Step 1. Check **Video Signal Status** and **Audio Signal Status** in **Input** tab.

In normal situation, the parameters are the same as that of the input signal. If not, go to the next step.

Step 2. Click **Save Report...** in the button area, save the **.htm** file in the subsequently selected location.

The file contains the detailed information about input/capture/output signals.

Step 3. For more help, submit your questions in the online Ticket System: tickets.magewell.com, or contact the Magewell Technical Support Team at support@magewell.net.

Glossary and Abbreviations

4K

4K resolution, refers to the horizontal resolution of 4000 pixels level, and the vertical resolution of 2000 pixels level, the common resolutions are of 3840 × 2160 and 4096 × 2160.

AIO

All In One

CVBS

Composite Video Broadcast Signal/Composite Video Blanking and Sync

CVT

Coordinated Video Timings

DVI

Digital Visual Interface

EDID

Extended Display Identification Data

GTF

Generalized Timing Formula

HDCP

High-bandwidth Digital Content Protection

HDMI

High Definition Multimedia Interface

ITU

International Telecommunication Union

RGB

Red, Green, Blue

SDI

Serial Digital Interface

UHD

Ultra High Definition

VGA

Video Graphics Array

YUV

Y' stands for the luma component (the brightness) and U and V are the chrominance (color) components. Y'UV/YUV/YCbCr/YPbPr are mixed used usually. YUV and Y'UV are used in analog signal, while YCbCr and YPbPr are used in digital video.