U-TAP Series

USB Capture Device for 3G-SDI or HDMI

Installation and Operation Guide

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Contacting AJA Support

When calling for support, have all information at hand prior to calling. To contact AJA for sales or support, use any of the following methods:

Telephone	+1.530.271.3190
FAX	+1.530.271.3140
Web	https://www.aja.com
Support Email	support@aja.com
Sales Email	sales@aja.com

Contents

Chapter 1 – Introduction

Overview

AJA's U-TAP Video and Audio Capture Devices provide video users of all types with an inexpensive, extremely compact device that convert either an HDMI 1.4a or 3G-SDI video stream to USB. U-TAP accepts up to 1920x1080 HDMI or SDI inputs ranging from 23.98 fps up to 60 fps. The input signal is automatically scaled (if necessary) to the output size determined by the host application.

The U-TAP device interface is USB 3.0 (USB 3.2, Gen 1) "SuperSpeed USB 5Gbps" providing enough bandwidth for full broadcast-quality video and audio, available if the host environment can support that bandwidth. U-TAP is powered via the USB 3.0 connection with no need for an additional power supply, minimizing cabling and maximizing portability.

Two models of U-TAP are available, each with different input capabilities.

U-TAP Features

- One USB 3.0 (USB 3.2, Gen 1) port
- 8/10-bit video support
- 2-Channel embedded audio support
- Rugged compact size
- Power via USB
- Loss of Signal output selections; Black (default), Blue Matte, 100% Bars

U-TAP HDMI Models

- One HDMI v1.4a input

NOTE: U-TAP does not support HDCP.

U-TAP SDI Models

- One 3G-SDI BNC input
- One 3G-SDI BNC looping output
- PsF compatibility

NOTE: Beginning with v1.5.6 software, U-TAP SDI will be able to capture PsF signals (Progressive Segmented Frame) from some camera models by Canon, Panasonic, and Sony. These manufacturers may use different abbreviations (PsF, sF, SF) or names for this format, such as: Cinema mode (Canon), frame mode (Canon and Panasonic), Digital Cinema (Panasonic), Pro-Cinema (Panasonic), progressive recording (Sony), progressive scan mode (Sony), progressive shutter mode (Sony), and frame shutter mode (Sony).

Video Signal Formats

The Video Signal Formats supported by U-TAP are listed in *"Appendix A Specification" on page 27*.

U-TAP Firmware

The latest U-TAP HDMI and U-TAP SDI firmware is installed on the units before shipment. The firmware can be updated using a downloadable zip file for either PC or Mac that includes readme instructions and all the required files.

System Requirements

U-TAP is compatible with standard UVC video/UAC audio drivers, which means wide USB support by macOS, Windows and Linux operating systems, with no need to install special drivers, and can work directly with a broad range of video applications.

Host System*	Minimum	Recommended
OS	Windows 10; macOS 10.12 Sierra	Windows 10; Windows 11 macOS 11.1 Big Sur, 10.15.x Catalina, macOS Monterey 12.3
Processor	2.0 GHz dual core i7	2.5 GHz quad core i7
Memory	2GB DDR 3	8GB DDR 4
OS/Media	7200 RPM Hard Drive	Solid State Hard Drive
GPU	Onboard or embedded Intel/ Nvidia/AMD with 1-2GB Memory**	Dedicated Nvidia Card with 2GB+ Memory
Screen Resolution	1280x720	1920x1080 +

*Ubiquitous host systems from brands such as Apple, Dell, HP, Lenovo, SuperMicro are usually immediately compatible with U-TAP (plug and play). More customized systems may require upgrading drivers or adjustment of certain parameters, and in some rare cases may be incompatible.

**In some cases onboard/embedded graphics adapters may have difficulty supporting frame rates above 30p.

Simplified Block Diagrams
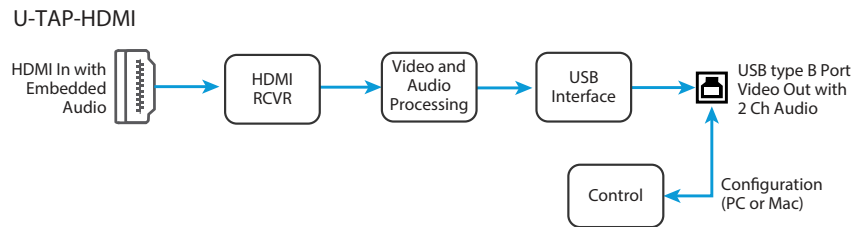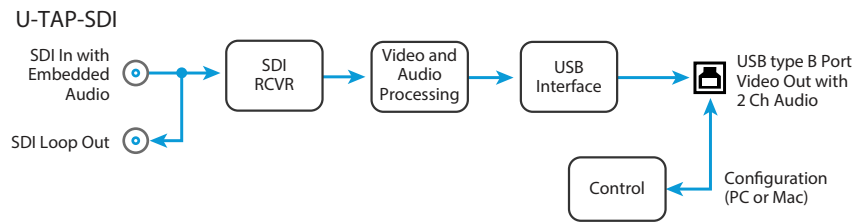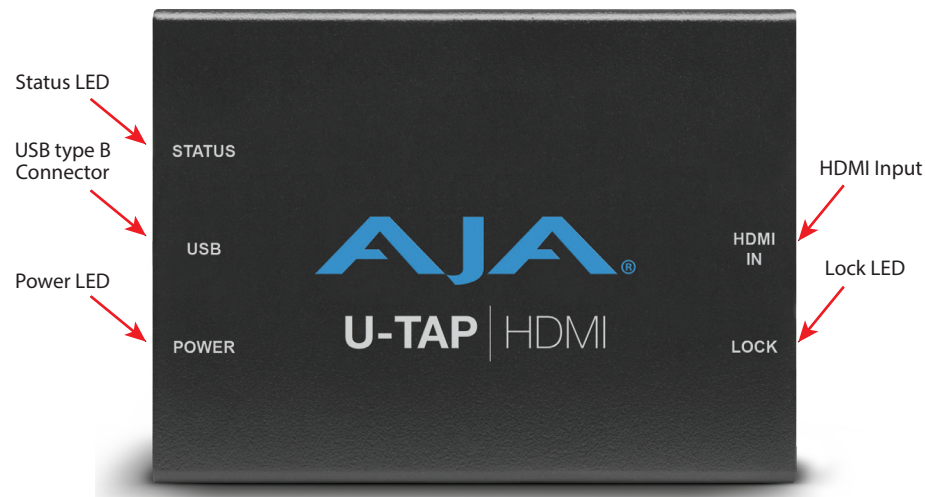
Figure 1. U-TAP HDMI Block Diagram

U-TAP-HDMI

Figure 2. U-TAP SDI Block Diagram

U-TAP-SDI

Cable Connections

U-TAP connections are made directly to the unit's connectors located on each side. LEDs also report various statuses by color.

Figure 3. U-TAP HDMI Connectors and LEDs

Status LED

- Off = not connected
- Red = USB connected to a USB 2.0 port
- Green = USB connected to a USB 3.0 port
- Blinking = U-TAP is streaming video, audio, or both

Power LED

- Off = no power
- Green = power present

LOCK LED

- Off = not locked to source video
- Green = locked to SD video source
- Red = locked to HD video source

Figure 4. U-TAP SDI Connectors and LEDs

Status LED

- Off = not connected
- Red = USB connected to a USB 2.0 port
- Green = USB connected to a USB 3.0 port
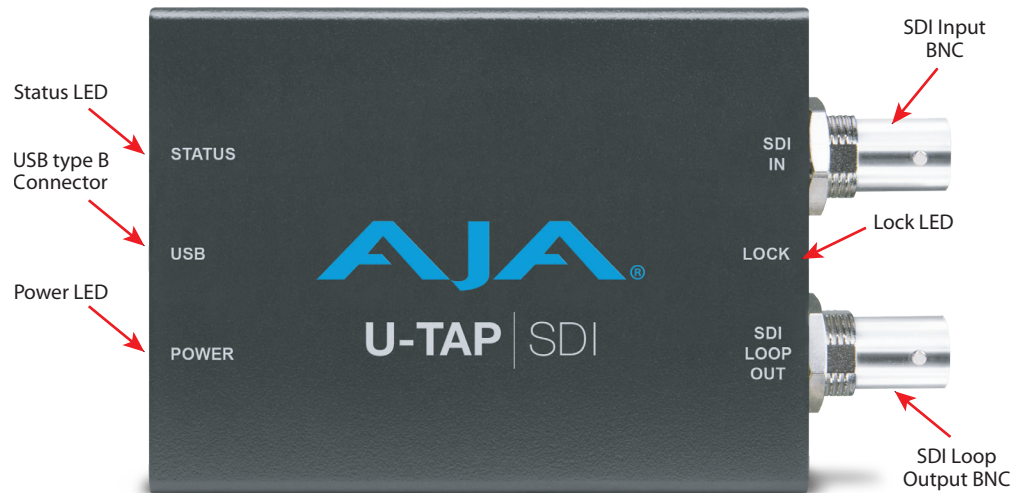- Blinking = U-TAP is streaming video, audio, or both

Power LED

- Off = no power
- Green = power present

LOCK LED

- Off = not locked to source video
- Green = locked to 270Mbps source
- Red = locked to 1.5Gbps video source
- Amber = locked to 3Gbps video source

Chapter 2 – Installation

Unpacking U-TAP

As you unpack U-TAP, carefully examine the unit to ensure that nothing was damaged during shipment. If you find any damage, immediately notify the shipping service and supply them with a complete description of the damage. AJA will repair or replace damaged units. If you find shipping damage, contact your AJA dealer or distributor for details on how to have your U-TAP repaired or replaced.

Save packing materials and the shipping box. If you ever require service or move your system—use the packaging materials and box for safe shipment.

After you unpack your U-TAP, go to the AJA website to download the latest software package and updated documentation. You will need a USB cable to connect to your computer.

Installation Overview

The installation and setup of U-TAP is very simple. The steps of installation and configuration are discussed here and summarized as follows:

1. Unpack the shipping box (see above).

2. Ensure that appropriate application software is installed on your USB equipped computer, as detailed in its user documentation.

3. Connect the U-TAP USB output port to your computer, using the provided cable. The U-TAP is powered through the USB 3.0 (USB 3.2, Gen 1) port, or better.

NOTE: *The first time U-TAP is connected to a computer, extra time may be required for the OS to access and configure the appropriate drivers. On Windows machines, it could take from 3 to 5 minutes. On Macs, this time should be much shorter. Each OS should report successful driver installation. Subsequent U-TAP USB connections should occur immediately.*

4. Connect the SDI or HDMI input to your source device.

5. U-TAP will now be operational, automatically detecting the input signal format and decoding the video (and two channels of embedded audio if present) to the USB output.

NOTE: *Connecting multiple U-TAPs could compromise power delivery, and excessive USB bus traffic (from another U-TAP or other devices sharing that USB bus) can reduce the computer's performance.*
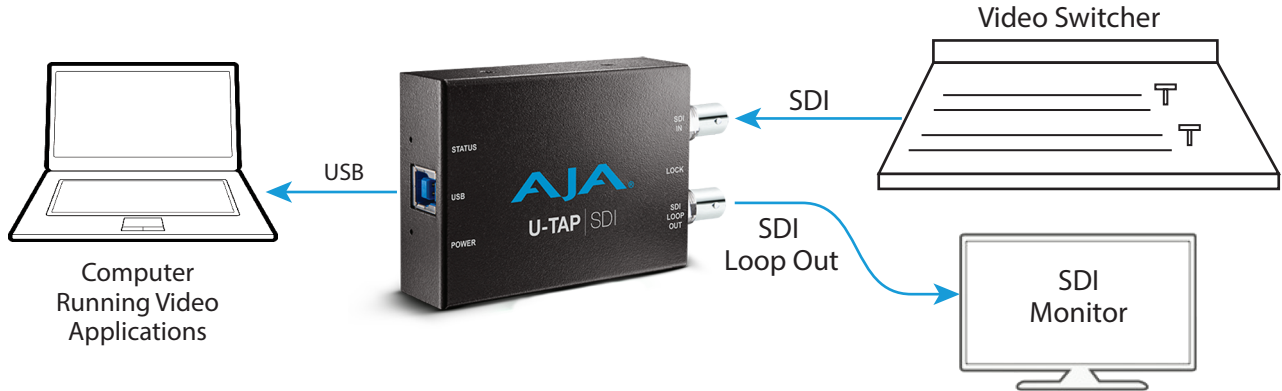
6. Launch your video application on the connected computer and use its UI controls to access the video and audio being converted by U-TAP.

For application examples, see *"Chapter 3 Operation" on page 14*.

Figure 5. Typical U-TAP HDMI Laptop System Connections

*Figure 6. Typical U-TAP SDI Laptop System Connections*

Firmware Update Procedure

U-TAP firmware and updater .msi or .dmg files are available for download from the AJA website:

1. Download from the AJA website the free AJA_U-TAP.zip package for your computer operating system.
   - AJA_U-TAP_Win.zip or
   - AJA_U-TAP_Mac.zip

2. Extract the .zip file on your computer.

3. Run the .dmg or .msi file and install the Updater application.

4. Launch the AJA U-TAP Updater application. The U-TAP Updater Application will display a "No Module Connected" message (*Figure 7 on page 10*).

*Figure 7. U-TAP Updater Not Connected Message*
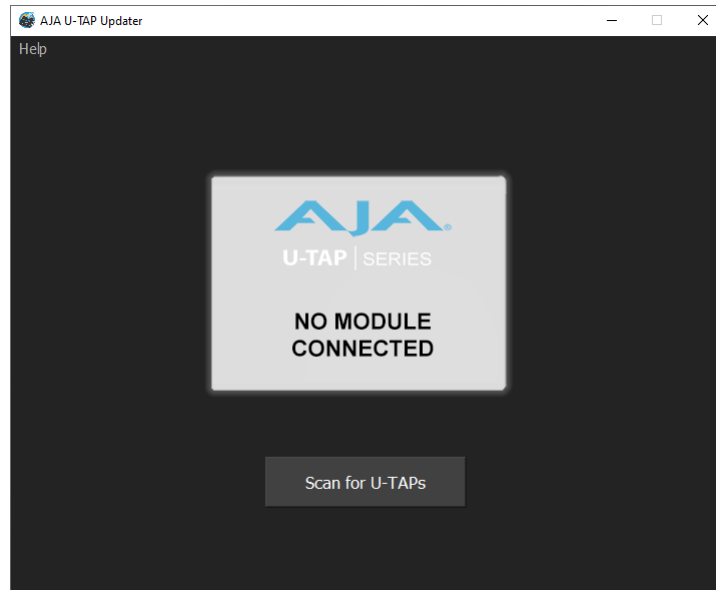
5. Connect the U-TAP capture device to your computer with the provided USB 3 cable.

NOTE: *Only one U-TAP should be connected to your computer when updating firmware.*

6. Click on the **Scan for U-TAPs** button to establish contact with the U-TAP you wish to update.

7. After the U-TAP is detected the Update screen appears.

Figure 8. U-TAP Updater Update Screen
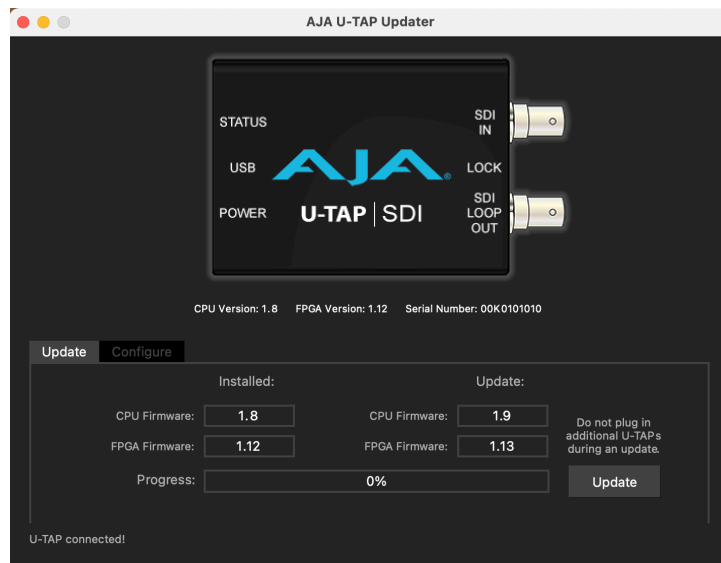
8. Click on the Update button to update the U-TAP firmware. A progress bar will report the progress of each firmware update.

NOTE: *Macs typically require 2 or 3 minutes to install the U-TAP firmware. Windows machines typically install the U-TAP firmware in about a minute.*

9. When complete, a message indicates the U-TAP must be rebooted.

10. Reboot the U-TAP by disconnecting and reconnecting the USB cable.

11. Your U-TAP will now be operational with the new firmware.

Loss of Signal Configuration

The U-TAP Updater Configure tab lets you determine U-TAP's behavior if its incoming signal is lost. If you are live streaming or capturing, then likely you'd want to show black until your signal returns. In projection use-cases, blue is usually the indicator. Alternatively, if you are in setup at an event or in a facility then you may need to see bars.

The default with U-TAP updater v1.5.4 onwards is Black on Loss of Input Signal. The U-TAP Updater Configure tab lets you determine U-TAP's behavior if its incoming signal is lost.

Figure 9. U-TAP Updater Configure Screen
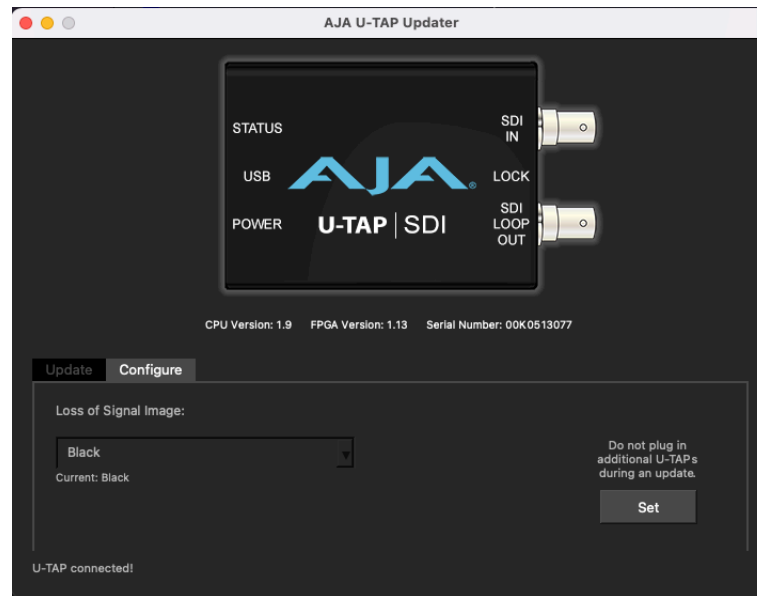
Loss of Signal Image

Controls which image U-TAP will display on loss of input signal. Select from:

- Black (default)
- Blue Matte
- 100% Color Bars

After making your choice, click on the **Set** button to enable the change.

AJA Device Name Change

With v1.5.6 software, U-TAPs will no longer be named "UT-VID 00K0xxxxxx" or "UT-AUD 00K0xxxxxx". Instead, U-TAPs will be named "AJA U-TAP Video xxxxxx" or "AJA U-Tap Audio xxxxxx" (with xxxxxx being the last six digits of the device's serial number). The first time a U-TAP with v1.5.6 software is connected to a host computer, the new naming convention will automatically be used.

If a U-TAP with an earlier version of software was previously connected to a computer, the following steps can be taken to clear the cache and update the U-TAP's name.

Changing U-TAP Device Name

> NOTE: Changing the U-TAP name is intended to help make the device easier to identify in your software application. U-TAP naming does not affect the device's actual operation.

Different procedures are required to change the U-TAP's name, depending on the type of host system.

Windows

If the U-TAP unit has been connected to a Windows host machine prior to this update, the older nomenclature will still be displayed to represent the device. To refresh the device to display the new names, follow these steps:

1.   Press the Windows key.

2.   Type Device Manager.

3.   Within Device Manager, Select "Cameras".

4.   Select "UT-VID 00K0xxxxxx"

5.   Right click the device.

6.   Select Uninstall Device.

7.   Click the Uninstall button.

8.   From the Device Manager window, select "Sound,video, and game controllers".

9.   Select UT-AUD 00K0xxxxxx.

10. Right click the device.

11. Select Uninstall Device.

12. Click the Uninstall button.

13. Unplug and Replug the USB cable from the U-TAP.

The new nomenclature should now be visible when selecting "Cameras" and "Sound,video, and game controllers" in the Device Manager as well as your software applications.

Mac

An Apple computer with the macOS Monterey version 12.2.1 or higher will automatically update the U-TAP device's name after installing the AJA v1.5.6 update.

If you are using an older version of macOS, the audio nomenclature will still fully update after restarting the computer, but the device will now be named "AJA U-TAP xxxxxx" when it shows up as a camera or video input in your application, and will not include "video" in the actual name. However, some software applications may still append the word "video" after the six digits of the device name.

Linux

If the U-TAP unit has been connected to a Linux host machine prior to this update, the older nomenclature will still be displayed to represent the device. To refresh the device to display the new names, follow these steps:

1.   Run: sudo sh -c '/bin/echo 3 > /proc/sys/vm/drop_caches' from the command line.

2. Unplug and replug the U-TAP. The appropriate device name should now be seen.

Chapter 3 – Operation

Introduction

Numerous popular applications can take advantage of U-TAP devices for video capture. For a listing of what applications are supported, please visit:

https://www.aja.com/compatibility/u-tap

Multiple U-TAP capture devices can be connected to your computer simultaneously. Each U-TAP unit is given a uniquely numbered name before shipment from the factory.

NOTE: *Successfully using multiple U-TAP devices on a single host system will be a function of the host system capabilities and the raster/frame rates chosen.*

Once connected, U-TAP configuration depends on the application being used. The configuration procedure is usually simple.

This chapter presents guides showing how to get up and running with a variety of applications:

U-TAP Application Guides

Zoom

The Zoom application offers multiple ways to select and configure a connected U-TAP. After starting or joining a meeting, simply click the up-arrow on the right side of the camera icon and then select your U-TAP as the preferred camera source (*Figure 10*).

Figure 10. Zoom Camera Icon Input Selection
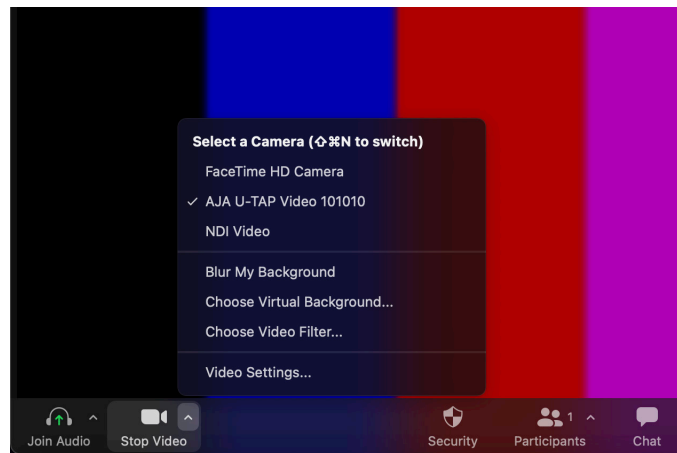
If you would like to use the audio source from the U-TAP as well, click the up-arrow on the right side of the microphone icon and select your U-TAP as the preferred audio source (*Figure 11*).

*Figure 11. Zoom Microphone Audio Input Selection*
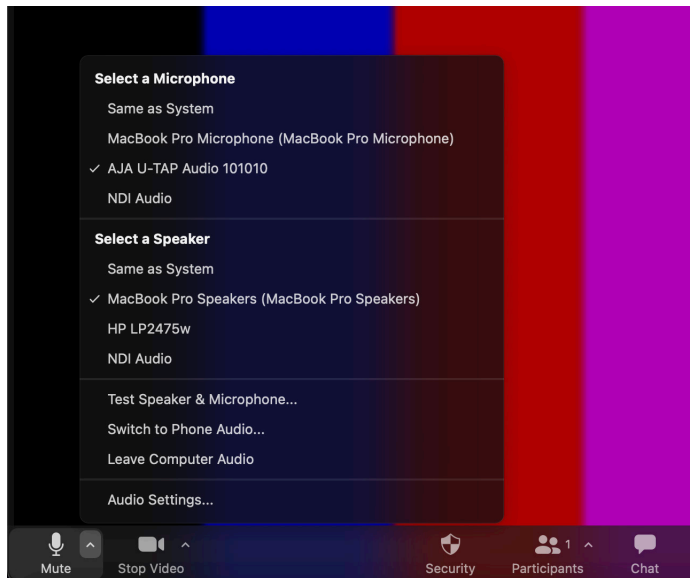
Clicking on either the Camera or Microphone icon presents an option to select the video or audio settings. This brings up another window that also gives you to the option to select your U-TAP as a source (*Figure 12*).

Figure 12. Zoom Video Settings
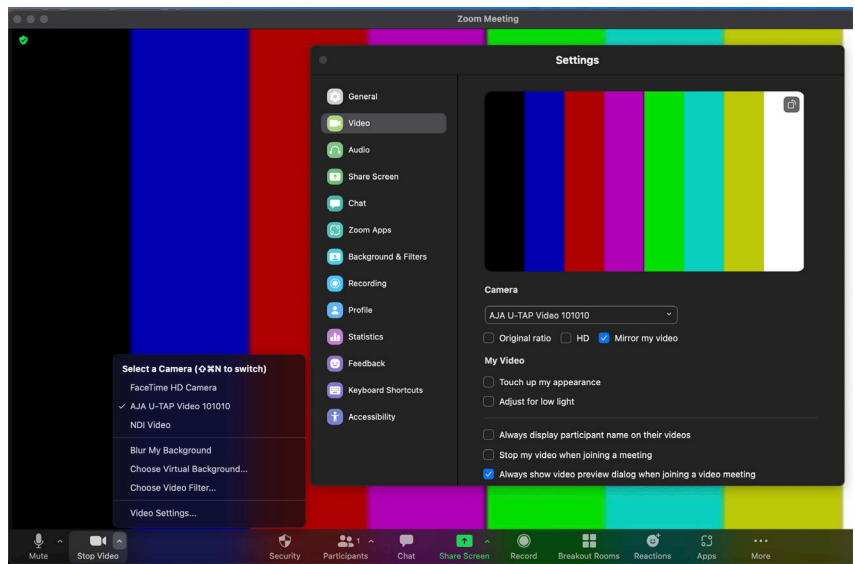
On macOS, these settings can also be accessed by clicking on **zoom.us** at the top of the screen and then selecting **Preferences** (*Figure 13*).
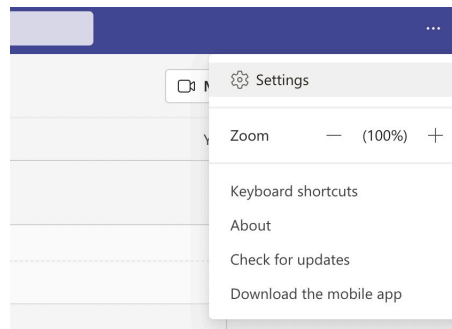
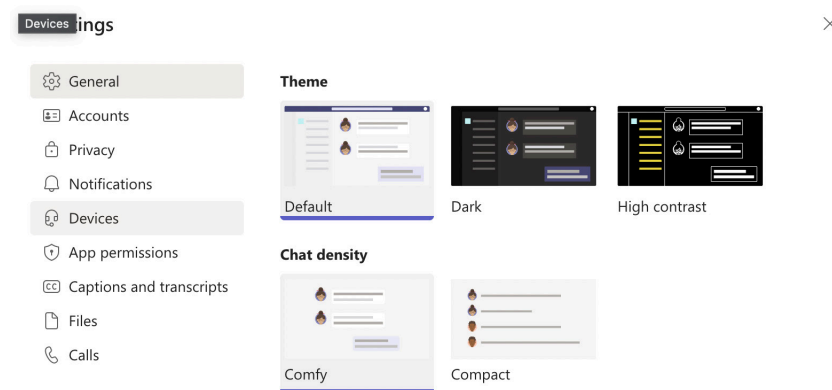*Figure 13. MacOS Zoom Preferences Settings*
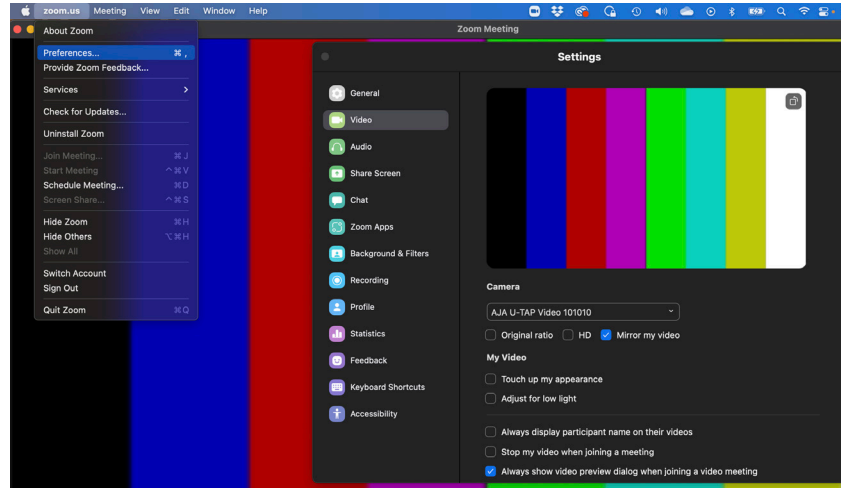
Microsoft Teams

To set up your U-TAP as your desired source before you participate in a call or meeting, you will need to select the three dots at the top right corner of the window and select Settings (*Figure 14*).
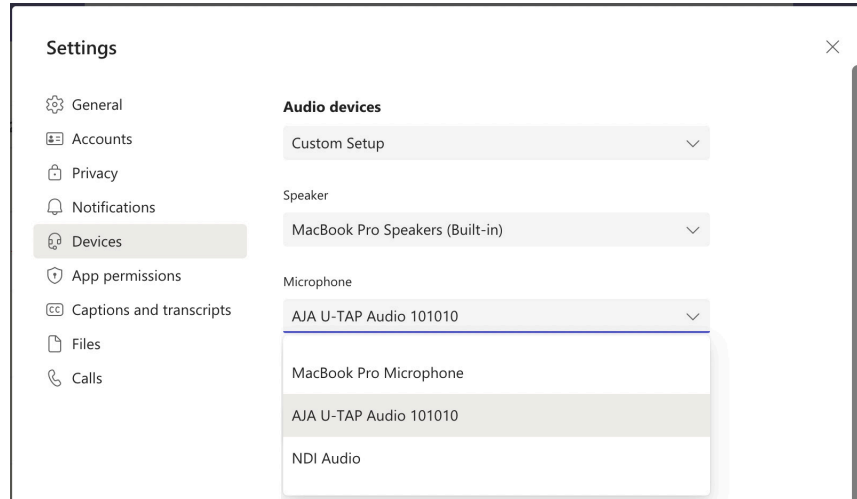
Figure 14. Microsoft Teams Calendar

Next, Select Devices (*Figure 15*).

*Figure 15. Microsoft Teams Settings*

From here you can select the "AJA U-TAP Audio xxxxxx" from the Microphone drop down selection if you desire (*Figure 16*).

Figure 16. Microsoft Teams Device Settings

Scroll down to next select the "AJA U-TAP Video xxxxxx" from the Camera drop down menu. You can test your signal using the Preview window (*Figure 17*).

*Figure 17. Microsoft Teams Options Access*
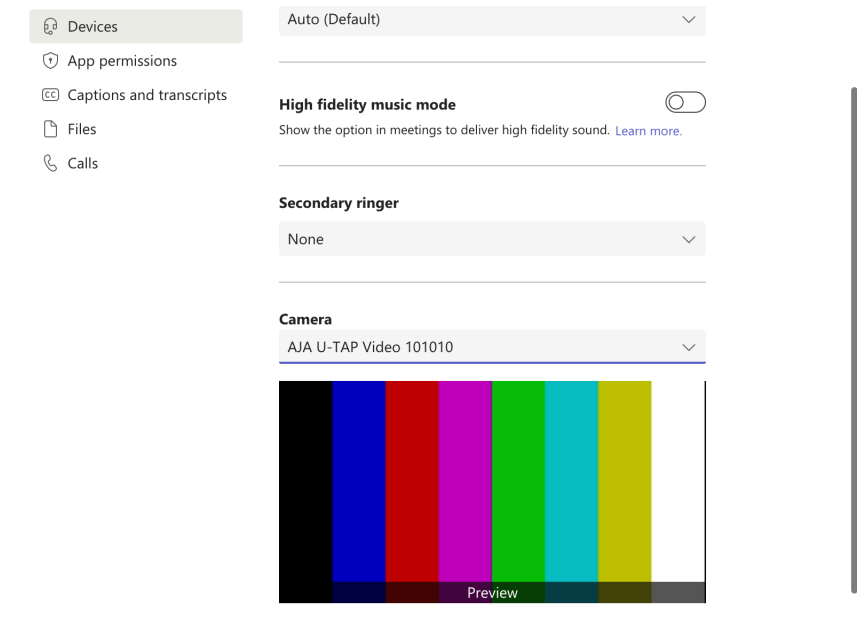
This will then open up the Device Settings panel, shown in *Figure 16*.

Renewed Vision ProPresenter

ProPresenter can use U-TAP to capture video into your presentation. Various procedures can be used to configurate ProPresenter to use U-TAP.

You can click on **ProPresenter** in the header and select **Preferences...** > **Inputs** (*Figure 18*).

Figure 18. ProPresenter Preferences
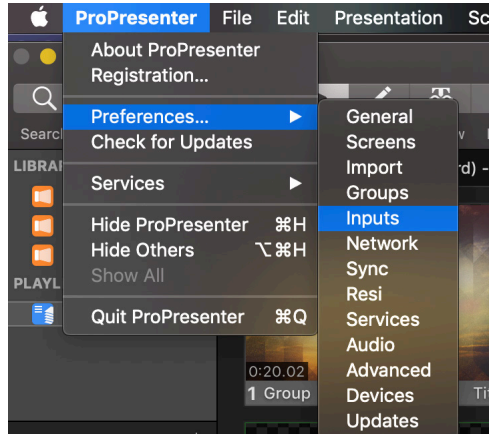
Alternatively you can right-click on **Video Input** in the Media Bin and then select **Video Input Configuration...** or you can click on **Video Input** and then right-click on the Video Input Thumbnail and then select **Video Input Setup** (*Figure 19*).

Figure 19. ProPresenter Video Input
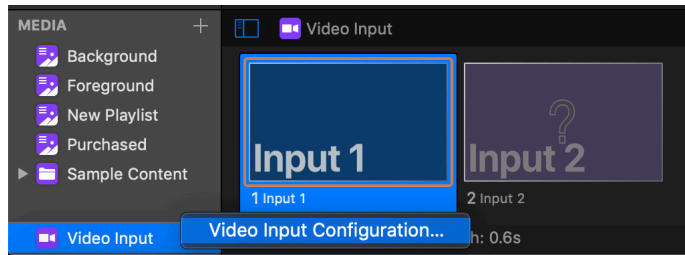
These methods will open the Input settings window. Here you can select VIDEO or Video can select either **Input 1** or I**nput 2**, and then under **Devices** you can select U-TAP as a Video source. You must also choose what available raster size and frame rate will be used to capture your video (*Figure 20*).

Figure 20. ProPresenter Input Settings
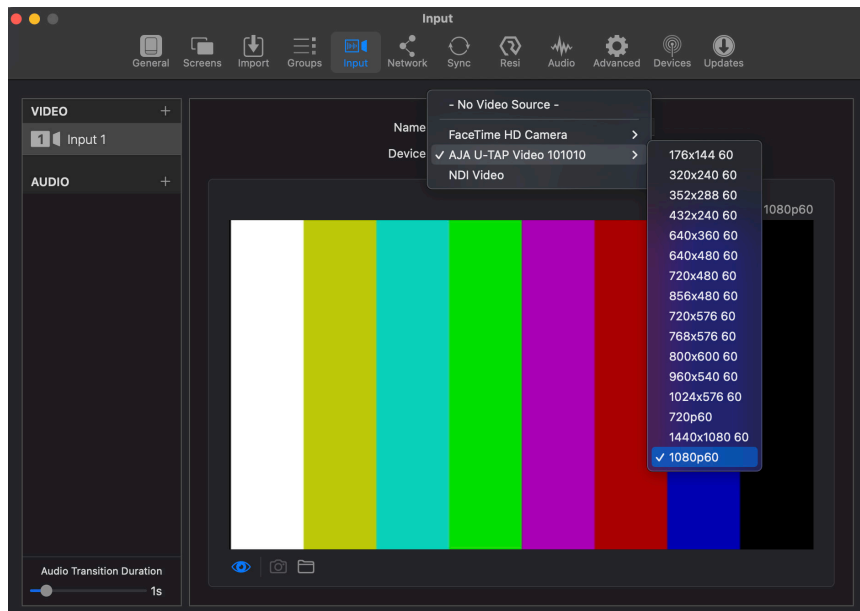
To add U-TAP audio, similarly click on the AUDIO + icon and then choose your U-TAP as your audio source.

To use a U-TAP with OBS, first click the + icon in the Sources Panel or right click inside the panel to add a Video Capture Device (*Figure 21*).

Figure 21. OBS Source Additions
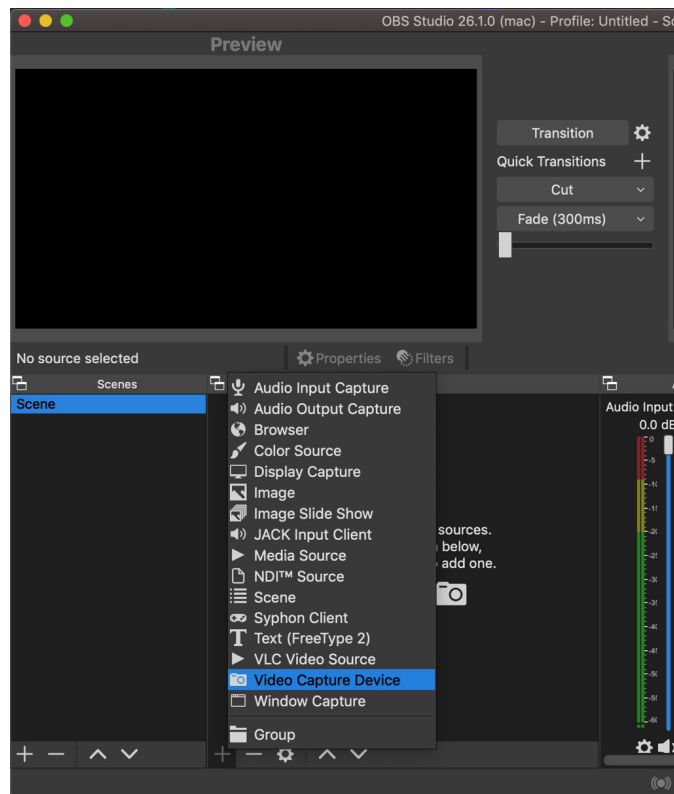
Next you will be able to create and name a new Device, or add an existing one, and then click **OK** (*Figure 22*).

Figure 22. OBS Create New or Add Existing Video Capture Device
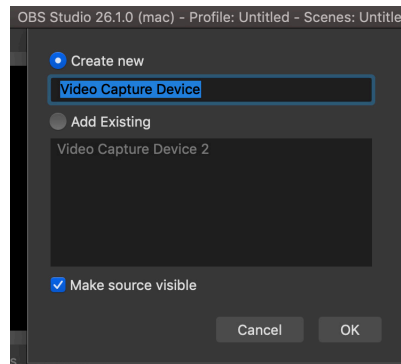
You will then be able to select the U-TAP as your preferred device (*Figure 23*).

Figure 23. OBS Video Capture Device Selection

To adjust and customize the video properties, uncheck the **Use Preset** box and the select your desired **Resolution** and **Frame rate** (*Figure 24*).

Figure 24. OBS Properties for Video Capture Device
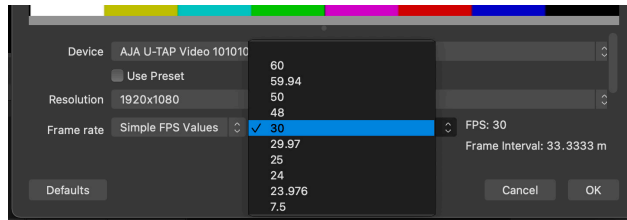
To add the U-TAP as an Audio Input Capture, click the + icon in the Sources Panel or right click inside the panel to add an Audio Capture Device (*Figure 25*).
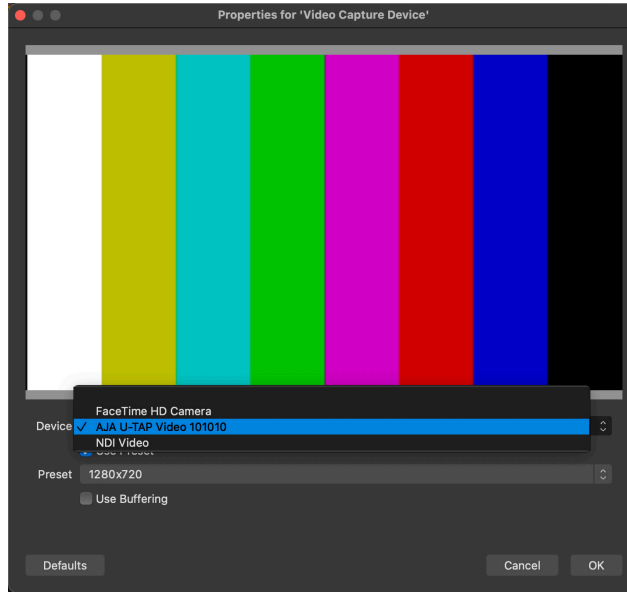
Figure 25. OBS Adding Audio Input Capture Device
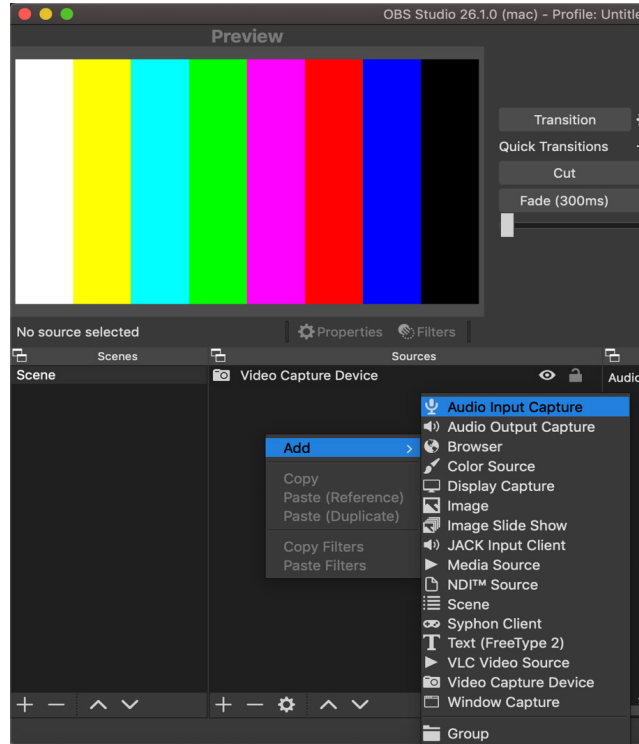
To be able to monitor the audio from the input, you will need to put OBS in **Studio Mode**. Next, select the newly added Audio Input Capture Device and then transition the selection from Preview to Program. In the Audio Mixer panel, either right click or select one of the gear icons to the left of the sound icons, and then choose **Advanced Audio Properties** (*Figure 26*).

Figure 26. OBS Audio Monitoring Selections
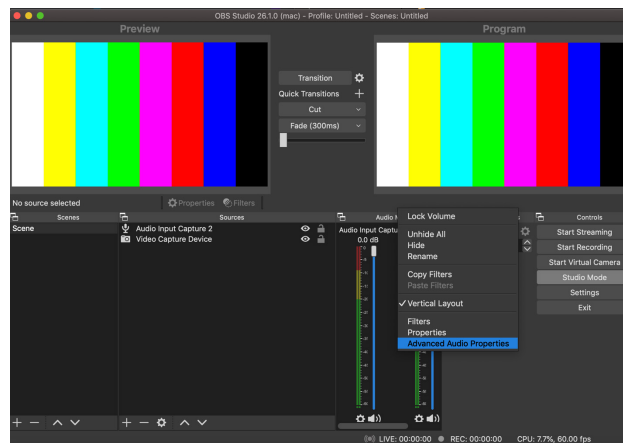
For the Audio Input Capture Device, under Audio Monitoring, change the setting to **Monitor and Output** and then **Close** the window (*Figure 27*).

Figure 27. OBS Advanced Audio Properties Panel
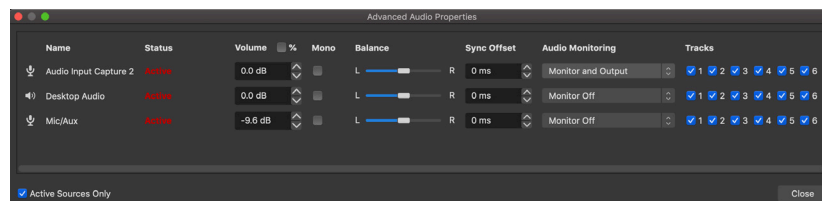
Wirecast

You can add the U-TAP as a Shot in Wirecast by clicking on the + icon in the Layers Bin and then selecting your U-TAP from the options available in the **Video Capture** tab (*Figure 28*).

Figure 28. Wirecast Add Shot Options – Video Capture
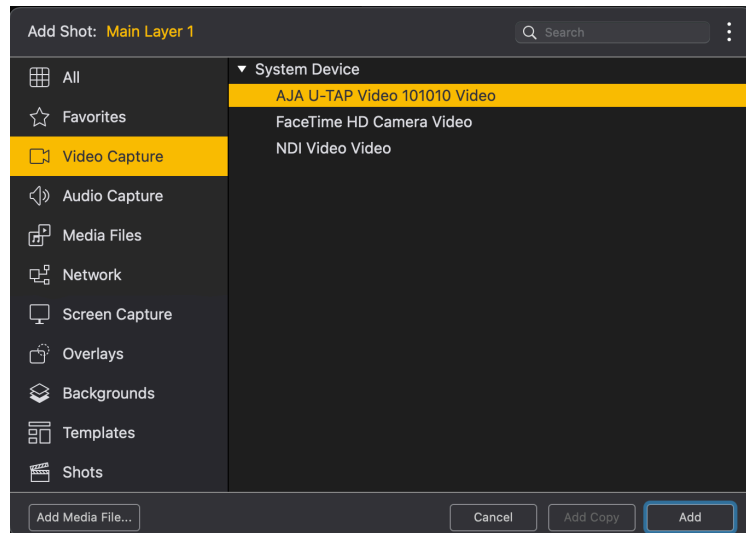
Raster size and Frames Per Second can then be customized by selecting the icon with the three dots while the U-Tap is highlighted in the Layer Bin (*Figure 29*).

Figure 29. Wirecast System Device Properties
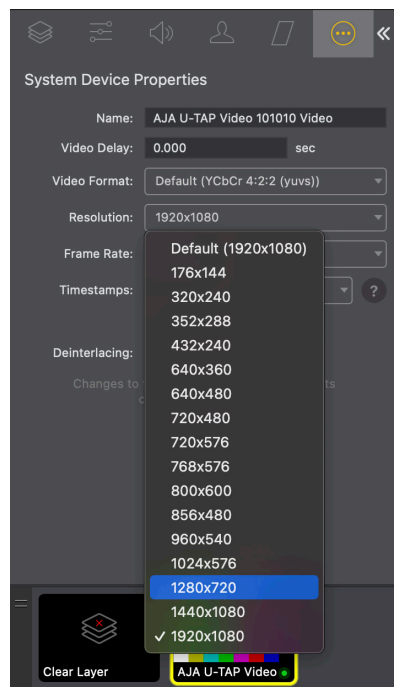
To add audio from the U-TAP to the video shot, right-click on the thumbnail of the video shot and select **Change Audio** and then select the U-TAP (*Figure 30*).

Figure 30. Wirecast Adding Audio to the Video Shot
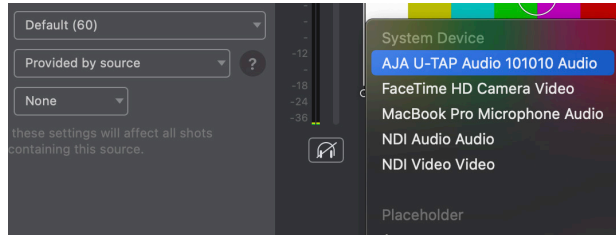
Audio from your U-TAP can be added separately from video as its own shot if desired by following the same steps, with the exception of selecting the device from the **Audio Capture** tab instead (*Figure 31*).

Figure 31. Wirecast Add Shot Options, Audio Capture
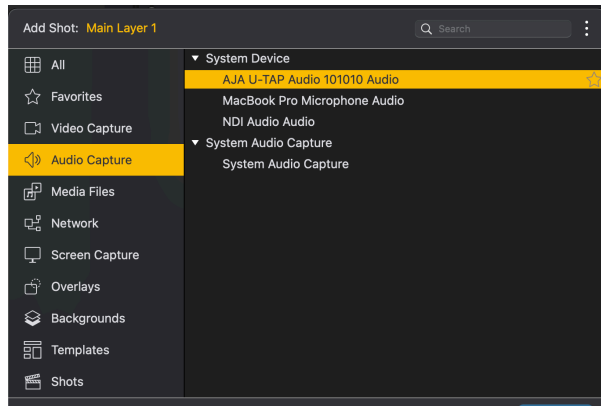
VLC

On Windows, click Media from the toolbar and then select "Open Capture Device…" or Ctrl+C (*Figure 32*).

Figure 32. VLC media player media drop-down menu
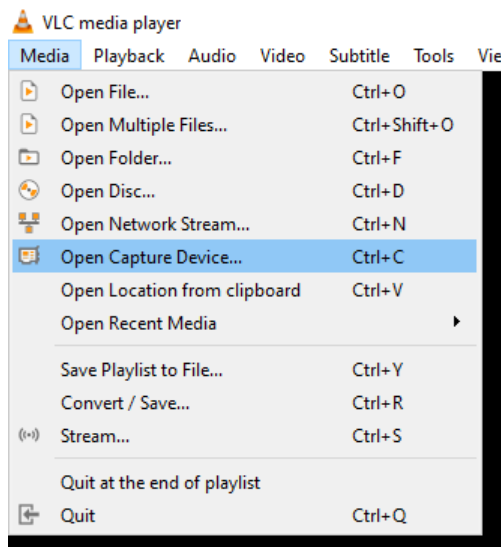
From the Open Media window, select Capture Device. Next, from the Video device name drop-down menu, select AJA U-TAP. Repeat this process from the Audio device name drop down menu as well (*Figure 33*).

Figure 33. VLC Open Media Window
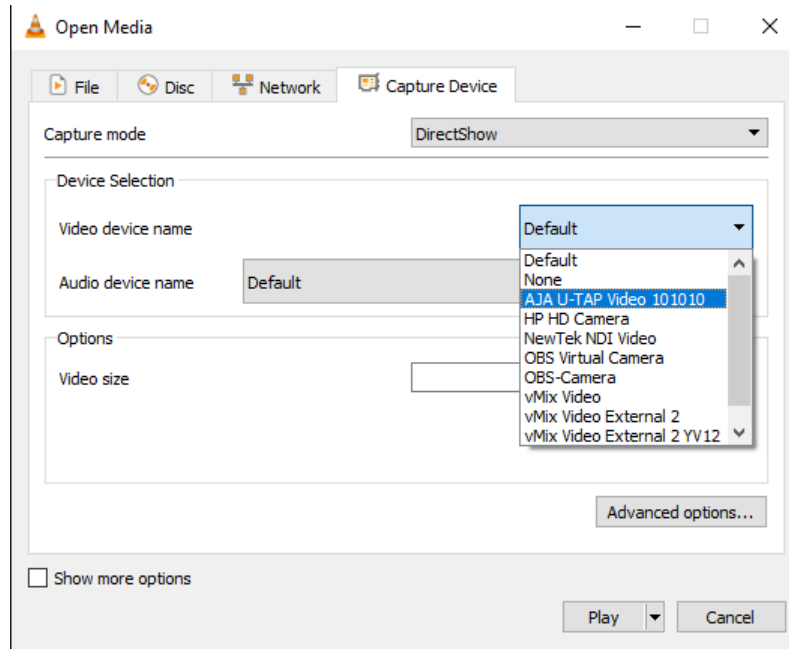
Click the "Advanced options…" button. From the Picture aspect-ratio window you can customize the aspect ratio. The default is set to 4:3, so you will need to manually change it to 16:9 to capture a 1920x1080 or 1280x720 raster size. It is also best to use the "Video input frame rate" to force the U-TAP to use a specific frame rate. Hit "OK" when finished and now your capture video will be visible in the VLC viewer window (*Figure 34*).

Figure 34. VLC Advanced Options Window
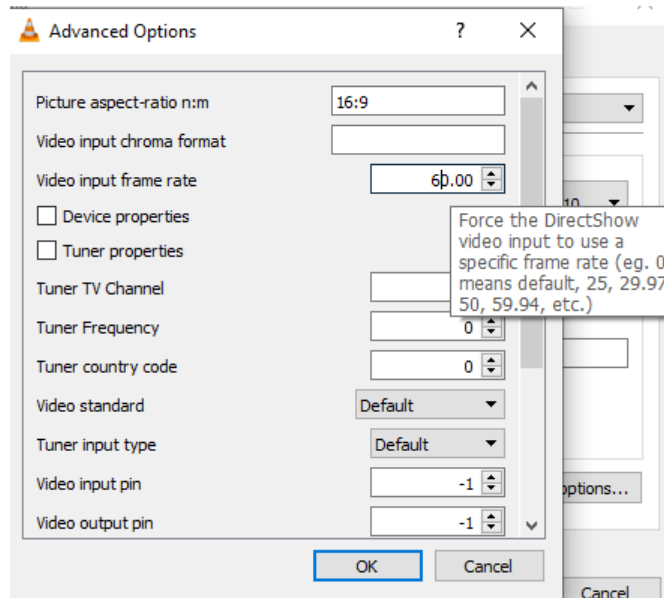
vMix

The U-TAP can be added as an Input in vMix by clicking **Add Input** located on the lower left-hand corner of the window (*Figure 35*).

Figure 35. vMix Add Input Select
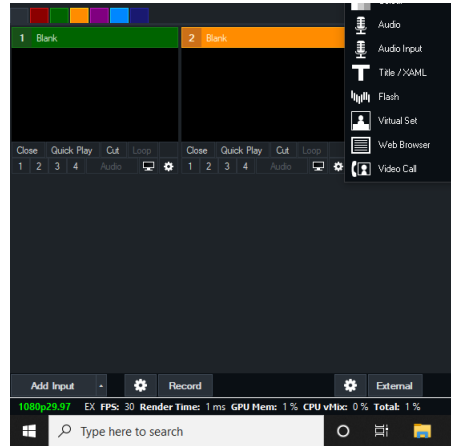
Under the **Camera** tab, select your U-TAP from the available devices (*Figure 36*).

Figure 36. vMix Camera Input Select
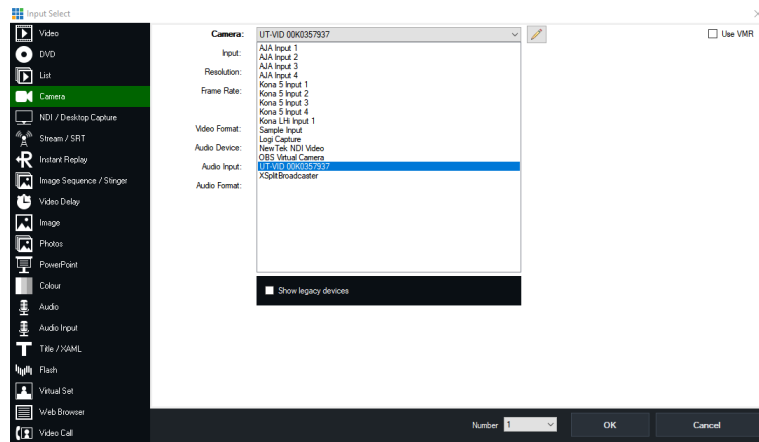
To add audio from your U-TAP to the U-TAP Camera input, select the U-TAP as the **Audio Device** from the available drop-down options (*Figure 37*).

Figure 37. vMix Audio Device Selection
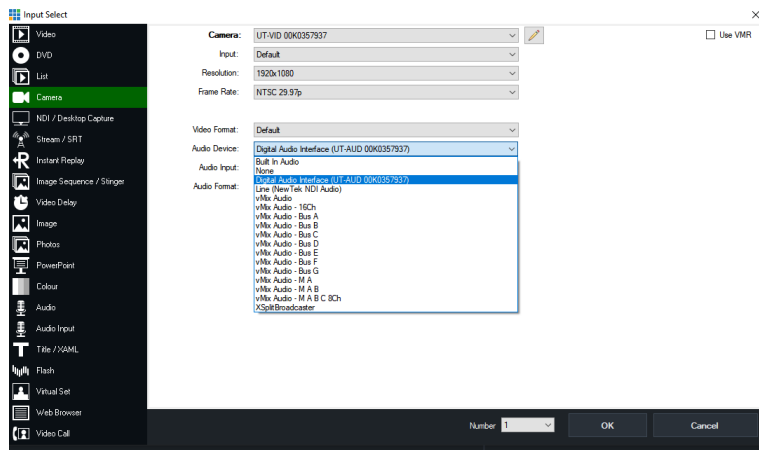
Audio from the U-TAP can be added separately from video as its own input if desired by following the same steps, with the exception of selecting the device from the **Audio Input** tab instead of the **Camera tab** (*Figure 38*).

Figure 38. vMix Audio Input Selection
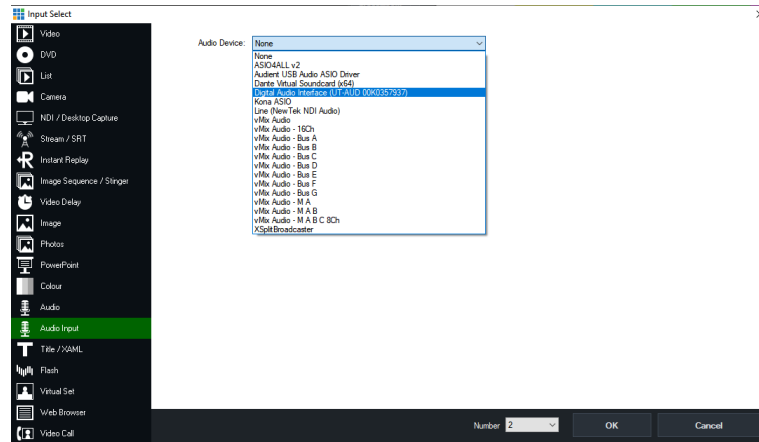
QuickTime

On macOS, to configure QuickTime for operation with U-TAP, simply launch QuickTime, click "File" and select "New Movie Recording" from the drop-down menu. Next, click on the down arrow menu button next to the right of the red record button, and then select U-TAP for your Camera and Microphone sources (*Figure 39*).

Figure 39. QuickTime U-TAP Configuration
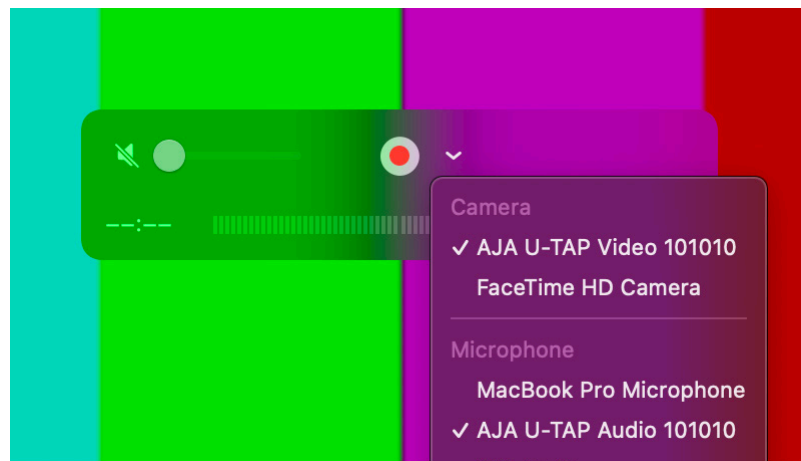
Appendix A – Specification

U-TAP HDMI Specifications

Video Formats

- Video (HDMI)
  - (HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
  - (HD) 1920 x 1080i 50, 59.94, 60
  - (HD) 1280 x 720p 50, 59.94, 60
  - (SD) 625p 25
  - (SD) 625i 50
  - (SD) 525p 29.97
  - (SD) 525i 59.94
  - YCbCr 4:2:2 10-bit*
  - YCbCr 4:4:4 8/10/12-bit*
  - RGB 4:4:4 8/10/12-bit*
- Computer (HDMI), up to 60 Hz max for all formats
  - 1920 x 1080p
  - 1680 x 1050p
  - 1600 x 1200p
  - 1600 x 1024p
  - 1280 x 1024p
  - 1280 x 960p
  - 1280 x 768p
  - 1024 x 768p
  - 800 x 600p
  - 640 x 480p
- Scaled (USB), Frame rates for all formats: 7.5, 15, 25, 29.97, 30, 50, 59.94, 60
  - 1920 x 1080p
  - 1440 x 1080p
  - 1280 x 720p
  - 1024 x 576p
  - 960 x 540p
  - 856 x 480p
  - 800 x 600p
  - 768 x 576p
  - 720 x 576p
  - 720 x 480p
  - 640 x 480p
  - 640 x 360p
  - 432 x 240p
  - 352 x 288p
  - 320 x 240p
  - 176 x 144p

*Raster and Frame rate dependent.

Notes: U-TAP HDMI devices do not support PsF formats. Host system specifications/performance will govern what video formats are possible.

Video Input Digital

- HDMI v1.4a, 24, 30 or 36-bits/pixel, RGB or YUV

Audio Input Digital

- 2-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate

Capture Video

- 16-bits/pixel, YUV (input video will be truncated as required)

Capture Audio

- 2-Channel, 16-bit, 48 kHz sample rate (input audio will be truncated as required)

U-TAP Device Interface

- USB 3.0 (USB 3.2, Gen 1) UVC/UAC compliant

Compatible Host Interfaces

- USB 3.0 (USB 3.2, Gen 1) "SuperSpeed USB 5Gbps"
- USB 3.1 (USB 3.2, Gen 2) "SuperSpeed USB 10Gbps"
- USB 3.2 (USB 3.2, Gen 2x2) "SuperSpeed USB 20Gbps"
- USB 2.0

Notes: For best performance USB 3.0 (USB 3.2, Gen 1) or better is required on the host computer. USB 2.0, and/or USB connections via Hubs may not always deliver sufficient power for U-TAP.

Size (w x d x h)

- 3.3" x 2.4" x 1.0" (83.82 x 60.96 x 25.4 mm)

Weight

- 0.3 lbs (0.2 kg)

Power

- 5V USB bus powered; 3.5W max

Environment

- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

U-TAP-SDI Tech Specs

Video Formats

- Video (SDI)
  - (HD) 1920x1080p 50, 59.94, 60 (Level A or B-DL)
  - (HD) 1920x1080p 23.98, 24, 25, 29.97, 30
  - (HD) 1920x1080PsF 23.98, 24, 25, 29.97, 30
  - (HD) 1920x1080i 50, 59.94, 60
  - (HD) 1280x720p 50, 59.94, 60
  - (SD) 625i 50
  - (SD) 525i 59.94
  - YCbCr, 4:2:2, 10-bit
- Scaled (USB), frame rates for all formats: 7.5, 15, 25, 29.97, 30, 50, 59.94, 60
  - 1920x1080p
  - 1440x1080p
  - 1280x720p
  - 1024x576p
  - 960x540p
  - 856x480p
  - 800x600p
  - 768x576p
  - 720x576p
  - 720x480p
  - 640x480p
  - 640x360p
  - 432x240p
  - 352x288p
  - 320x240p
  - 176x144p

Notes: Host system specifications/performance will govern what video formats are possible.

Video Input Digital

- 3G-SDI, SMPTE-259/292/424, YCbCr 4:2:2 10-bit (1x BNC)

Video Loop Output

- 1x 3G-SDI (1x BNC)

Audio Input Digital

- 2-channel, 24-bit SDI embedded audio, 48 kHz sample rate

Capture Video

- 16-bits/pixel, YUV (input video will be truncated as required)

Capture Audio

- 2-channel, 16-bit, 48 kHz sample rate (input audio will be truncated as required)

U-TAP Device Interface

- USB 3.0 (USB 3.2, Gen 1) UVC/UAC compliant

Compatible Host Interfaces

- USB 3.0 (USB 3.2, Gen 1) "SuperSpeed USB 5Gbps"
- USB 3.1 (USB 3.2, Gen 2) "SuperSpeed USB 10Gbps"
- USB 3.2 (USB 3.2, Gen 2x2) "SuperSpeed USB 20Gbps"
- USB 2.0

Notes: For best performance USB 3.0 (USB 3.2, Gen 1) or better is required on the host computer. USB 2.0, and/or USB connections via Hubs may not always deliver sufficient power for U-TAP.

Size (w x d x h)

- 4.1" x 2.4" x 1.0" (104.14 x 60.96 x 25.4 mm)

Weight

- 0.3 lbs (0.2 kg)

Power

- 5V USB bus powered; 4W max

Environment

- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

Appendix B – Safety and Compliance

Federal Communications Commission (FCC) Compliance Notices

Class A Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canadian ICES Statement

Canadian Department of Communications Radio Interference Regulations

This digital apparatus does not exceed the Class A limits for radio-noise emissions from a digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada. Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

European Union and European Free Trade Association (EFTA) Regulatory Compliance

This equipment may be operated in the countries that comprise the member countries of the European Union and the European Free Trade Association. These countries, listed in the following paragraph, are referred to as The European Community throughout this document:

AUSTRIA, BELGIUM, BULGARIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, IRELAND, ITALY, LATVIA, LITHUANIA, LUXEMBOURG, MALTA, NETHERLANDS, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, UNITED KINGDOM, ICELAND, LICHTENSTEIN, NORWAY, SWITZERLAND

Declaration of Conformity

Marking by this symbol indicates compliance with the Essential Requirements of the EMC Directive of the European Union 2014/30/EU.

CE This equipment meets the following conformance standards:

Safety

EN 60065: 2014 (T-Mark License),

IEC 60065: 2014 (CB Scheme Report/Certificate),

EN 62368-1: 2014 + A11 (T-Mark License),

IEC 62368-1: 2014 (CB Scheme Certificate)

Additional licenses issued for specific countries available on request.

Emissions

EN 55032: 2012 + AC: 2013, CISPR 32: 2015

Immunity

EN 55103-2: 2009

EN 55103-2: 2009, EN 61000-4-2:2009, EN 61000-4-3:2006 +A1:2008 +A2:2010,

EN 61000-4-4:2004 +A1:2010, EN 61000-4-6:2009

Environments: E2, E3 and E4

The product is also licensed for additional country specific standards as required for the International Marketplace

Warning! This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

Achtung! Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Attention! Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l?utilisateur de prendre les mesures spécifiques appropriées..

Recycling Notice

This symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority, or where you purchased your product.

Korea KCC Compliance Statement

사 용 자 안 내 문
이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정 용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다**.**

Taiwan Compliance Statement

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻
干擾，在這種情況下，使用者會被要求採取某些適當的對策。

This is a Class A product based on the standard of the Bureau of Standards,
Metrology and Inspection (BSMI) CNS 13438, Class A. In a domestic environment
this product may cause radio interference in which case the user may be required
to take adequate measures.

Japanese Compliance Statement

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用す
ると電波妨害を引き起こすことがあります。この場合には使用者が適切な
対策を講ずるよう要求されることがあります。　　　　　ＶＣＣＩ－Ａ

This is a Class A product based on the standard of the VCCI Council (VCCI 32: 2016).
If this equipment is used in a domestic environment, radio interference may
occur, in which case, the user may be required to take corrective actions.

Translated Warning and Caution Messages

The following caution statements, warning conventions, and warning messages
apply to this product and manual.

Warning Symbol　　　　Caution Symbol

Before Operation Please Read These Instructions

Warning! Read and follow all warning notices and instructions marked on the product or
included in the documentation.

Avertissement! Lisez et conformez-vous à tous les avis et instructions d'avertissement
indiqués sur le produit ou dans la documentation.

Warnung! Lesen und befolgen Sie die Warnhinweise und Anweisungen, die auf dem
Produkt angebracht oder in der Dokumentation enthalten sind.

¡Advertencia! Lea y siga todas las instrucciones y advertencias marcadas en el producto o
incluidas en la documentación.

Aviso! Leia e siga todos os avisos e instruções assinalados no produto ou incluídos na
documentação.

Avviso! Leggere e seguire tutti gli avvisi e le istruzioni presenti sul prodotto o inclusi nella
documentazione.

Warning! Do not use this device near water and clean only with a dry cloth.

Avertissement! N'utilisez pas cet appareil près de l'eau et nettoyez-le seulement avec un tissu sec.

Warnung! Das Gerät nicht in der Nähe von Wasser verwenden und nur mit einem trockenen Tuch säubern.

¡Advertencia! No utilice este dispositivo cerca del agua y límpielo solamente con un paño seco.

Aviso! Não utilize este dispositivo perto da água e limpe-o somente com um pano seco.

Avviso! Non utilizzare questo dispositivo vicino all'acqua e pulirlo soltanto con un panno asciutto.

Warning! Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Avertissement! Ne bloquez aucune ouverture de ventilation. Suivez les instructions du fabricant lors de l'installation.

Warnung! Die Lüftungsöffnungen dürfen nicht blockiert werden. Nur gemäß den Anweisungen des Herstellers installieren.

¡Advertencia! No bloquee ninguna de las aberturas de la ventilación. Instale de acuerdo con las instrucciones del fabricante.

Aviso! Não obstrua nenhuma das aberturas de ventilação. Instale de acordo com as instruções do fabricante.

Avviso! Non ostruire le aperture di ventilazione. Installare in conformità con le istruzioni del fornitore.

Warning! Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Avertissement! N'installez pas l'appareil près d'une source de chaleur telle que des radiateurs, des bouches d'air de chauffage, des fourneaux ou d'autres appareils (amplificateurs compris) qui produisent de la chaleur.

Warnung! Nicht in der Nähe von Wärmequellen wie Heizkörpern, Heizregistern, Öfen oder anderen Wärme erzeugenden Geräten (einschließlich Verstärkern) aufstellen.

¡Advertencia! No instale cerca de fuentes de calor tales como radiadores, registros de calor, estufas u otros aparatos (incluidos amplificadores) que generan calor.

Aviso! Não instale perto de nenhuma fonte de calor tal como radiadores, saídas de calor, fogões ou outros aparelhos (incluindo amplificadores) que produzam calor.

Avviso! Non installare vicino a fonti di calore come termosifoni, diffusori di aria calda, stufe o altri apparecchi (amplificatori compresi) che emettono calore

---

Warning! Unplug this device during lightning storms or when unused for long periods of time.

Avertissement! Débranchez cet appareil pendant les orages avec éclairsou s'il est inutilisé pendant de longues périodes.

Warnung! Das Gerät ist bei Gewitterstürmen oder wenn es über lange Zeiträume ungenutzt bleibt vom Netz zu trennen.

¡Advertencia! Desenchufe este dispositivo durante tormentas eléctricas o cuando no se lo utilice por largos periodos del tiempo.

Aviso! Desconecte este dispositivo da tomada durante trovoadas ou quando não é utilizado durante longos períodos de tempo.

Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore, quali il treppiedi e l'esoscheletro.

Warning! Do not open the chassis. There are no user-serviceable parts inside. Opening the chassis will void the warranty unless performed by an AJA service center or licensed facility.

Avertissement! Ne pas ouvrir le châssis. Aucun élément à l'intérieur du châssis ne peut être réparé par l'utilisateur. La garantie sera annulée si le châssis est ouvert par toute autre personne qu'un technicien d'un centre de service ou d'un établissement agréé AJA.

Warnung! Öffnen Sie das Gehäuse nicht. Keine der Geräteteile können vom Benutzer gewartet werden. Durch das Öffnen des Gehäuses wird die Garantie hinfällig, es sei denn, solche Wartungsarbeiten werden in einem AJA-Service-Center oder einem lizenzierten Betrieb vorgenommen.

¡Advertencia! No abra el chasis. El interior no contiene piezas reparables por el usuario. El abrir el chasis anulará la garantía a menos que se lo haga en un centro de servicio AJA o en un local autorizado.

Advertência! Não abra o chassi. Não há internamente nenhuma peça que permita manutenção pelo usuário. Abrir o chassi anula a garantia, a menos que a abertura seja realizada por uma central de serviços da AJA ou por um local autorizado.

Avvertenza! Non aprire lo chassis. All'interno non ci sono parti riparabili dall'utente. L'apertura dello chassis invaliderà la garanzia se non viene effettuata da un centro ufficiale o autorizzato AJA.

Warning! Only use attachments and accessories specified and/or sold by the manufacturer.

Avertissement! Utilisez seulement les attaches et accessoires spécifiés et/ou vendus par le fabricant.

Warnung! Verwenden Sie nur Zusatzgeräte und Zubehör angegeben und / oder verkauft wurde durch den Hersteller.

¡Advertencia! Utilice solamente los accesorios y conexiones especificados y/o vendidos por el fabricante.

Aviso! Utilize apenas equipamentos/acessórios especificados e/ou vendidos pelo fabricante.

Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore.

Warning! Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.

Avertissement! Référez-vous au personnel de service qualifié pour tout entretien. L'entretien est exigé quand l'appareil a été endommagé de quelque manière que ce soit, par exemple lorsque le cordon d'alimentation ou la prise sont endommagés, que du liquide a été versé ou des objets sont tombés dans l'appareil, que l'appareil a été exposé à la pluie ou à l'humidité, ne fonctionne pas normalement ou est tombé.

Warnung! Das Gerät sollte nur von qualifizierten Fachkräften gewartet werden. Eine Wartung ist fällig, wenn das Gerät in irgendeiner Weise beschädigt wurde, wie bei beschädigtem Netzkabel oder Netzstecker, falls Flüssigkeiten oder Objekte in das Gerät gelangen, das Gerät Regen oder Feuchtigkeit ausgesetzt wurde, nicht ordnungsgemäß funktioniert oder fallen gelassen wurde.

¡Advertencia! Consulte al personal calificado por cuestiones de reparación. El servicio de reparación se requiere cuando el dispositivo ha recibido cualquier tipo de daño, por ejemplo cable o espigas dañadas, se ha derramado líquido o se han caído objetos dentro del dispositivo, el dispositivo ha sido expuesto a la lluvia o humedad, o no funciona de modo normal, o se ha caído.

Aviso! Remeta todos os serviços de manutenção para o pessoal de assistência qualificado. A prestação de serviços de manutenção é exigida quando o dispositivo foi danificado mediante qualquer forma, como um cabo de alimentação ou ficha que se encontra danificado/a, quando foi derramado líquido ou caíram objectos sobre o dispositivo, quando o dispositivo foi exposto à chuva ou à humidade, quando não funciona normalmente ou quando foi deixado cair.

Avviso! Fare riferimento al personale qualificato per tutti gli interventi di assistenza. L'assistenza è necessaria quando il dispositivo è stato danneggiato in qualche modo, ad esempio se il cavo di alimentazione o la spina sono danneggiati, è stato rovesciato del liquido è stato rovesciato o qualche oggetto è caduto nel dispositivo, il dispositivo è stato esposto a pioggia o umidità, non funziona correttamente o è caduto

Warranty and Liability Information

Limited Warranty on Hardware

AJA Video Systems, Inc. (AJA Video) warrants that the hardware product, not including storage modules or software components, will be free from defects in materials and workmanship for a period of three years from the date of purchase. AJA Video warrants that the storage modules provided as part of the hardware product will be free from defects in materials and workmanship for a period of one year from the date of purchase. AJA Video provides a separate software warranty as part of the license agreement applicable to software components.

If the Customer brings a valid claim under this limited warranty for a hardware product or storage module (hereafter, a "product") during the applicable warranty period, AJA Video will, at its sole option and as the Customer's sole remedy for breach of the above warranty, provide one of the following remedies:

- Repair or facilitate the repair the product within a reasonable period of time, free of charge for parts and labor.
- Replace the product with a direct replacement or with a product that performs substantially the same function as the original product.
- Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

To obtain service under this warranty, the Customer must notify AJA Video of the defect before expiration of the warranty period and make suitable arrangements for the performance of service by contacting AJA Video support through the channels set forth on the support contacts web page at https://www.aja.com/support. Except as stated, the Customer shall bear all shipping, packing, insurance and other costs, excluding parts and labor, to effectuate repair. Customer shall pack and ship the defective product to a service center designated by AJA Video, with shipping charges prepaid. AJA Video shall pay to return the product to Customer, but only if to a location within the country in which the AJA Video service center is located. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR LIMITATIONS ON APPLICABLE STATUTORY RIGHTS OF A CONSUMER, SO SOME OR ALL OF THE TERMS OF THIS PARAGRAPH MAY NOT APPLY TO YOU.

Limitation of Liability

Under no circumstances shall AJA video BE LIABLE IN ANY WAY FOR ANY LOST, CORRUPTED OR DESTROYED DATA, FOOTAGE OR WORK, OR FOR ANY OTHER INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOST PROFITS, OR FOR ANY THIRD PARTY CLAIM, IN CONNECTION WITH THE PRODUCT, WHETHER RESULTING FROM DEFECTS IN THE PRODUCT, SOFTWARE OR HARDWARE FAILURE, OR ANY OTHER CAUSE WHATSOEVER, EVEN IF AJA VIDEO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. AJA VIDEO'S LIABILITY IN CONNECTION WITH THE PRODUCT SHALL UNDER NO CIRCUMSTANCES EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCT. The foregoing limitations apply even if any remedy set forth in this LIMITED WARRANTY fails of its essential purpose. SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OF LIABILITY FOR PERSONAL INJURY, OR OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO SOME OR ALL OF THE TERMS OF THIS PARAGRAPH MAY NOT APPLY TO YOU.

Governing Law and Language; Your Rights

This limited warranty is the only warranty provided by AJA Video on the hardware product. It supersedes all prior or contemporaneous understandings regarding such subject matter. No amendment to or modification of this warranty will be binding unless in writing and signed by AJA Video. The laws of the State of California, USA will govern this warranty and any dispute arising from it. Any translation of this Agreement is intended for convenience and to meet local requirements and in the event of a dispute between the English and any non-English versions, the English version of this warranty will govern. This limited warranty gives you specific legal rights and you may have other rights that vary from jurisdiction to jurisdiction, some of which are noted above.

Index