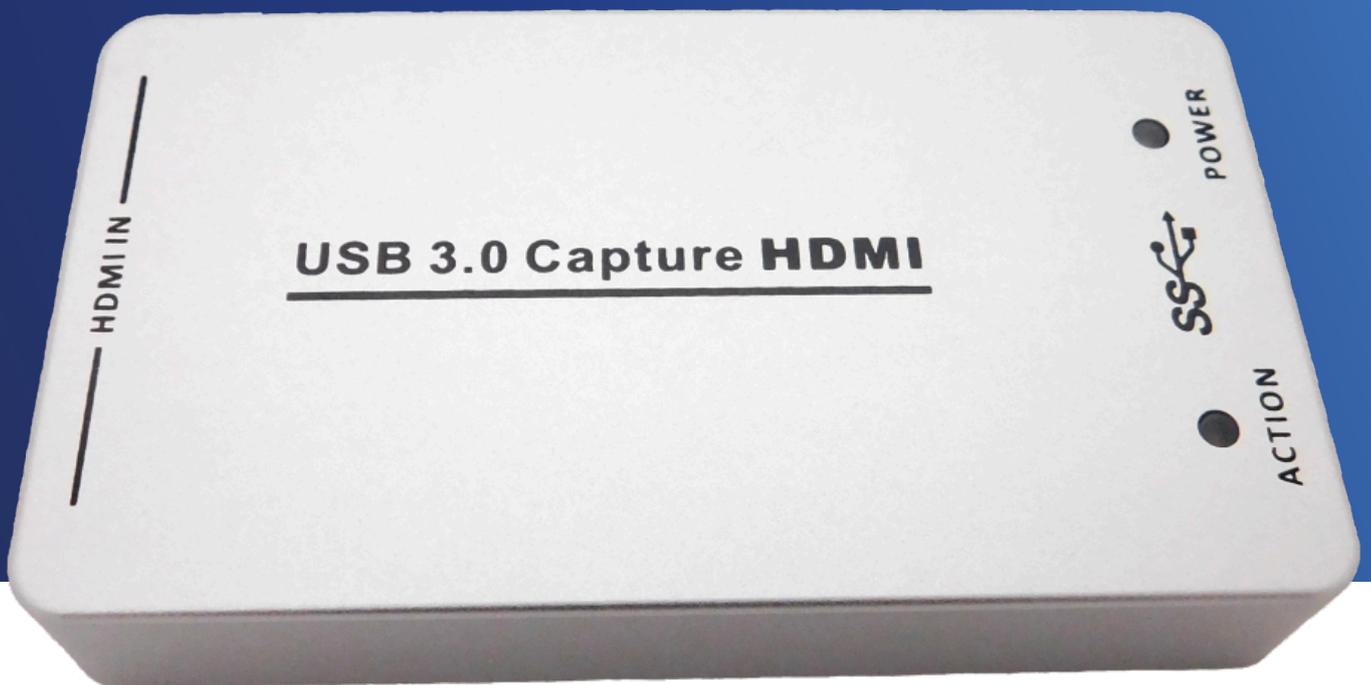


USER MANUAL



Avonic Capture Device HDMI to USB3.0 CAP100

DISCLAIMER, CONTACT AND MARKINGS

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Contact Info

For any questions or suggestions, contact your reseller or local distributor of Avonic.

Visit the Avonic website www.avonic.com to find your local Avonic distributor or to download the most recent version of the documentation.

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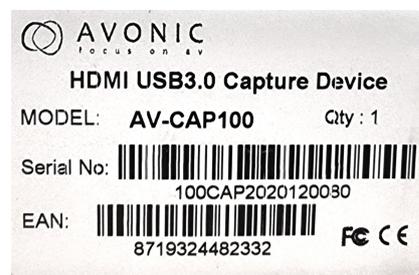
CE Marking

The Product has a Markings. The labels are placed at the bottom of the Product and on the packaging. See the respective figures below:

Figure 1: Markings (Product)



Figure 2: Markings (Packaging)



EC Declaration of Conformity

Table 1: EC Declaration of Conformity

	
EC DECLARATION OF CONFORMITY	
1. Models No:	AV-CAP100
2. Brand Name:	Avonic
3. Product Name:	Video Capture Device HDMI to USB3.0,
4. Manufacturer:	Avonic Exportweg 11a 2645ED Delfgauw The Netherlands
3. This declaration of conformity is issued under the sole responsibility of the manufacturer	
4. The object of the declaration described in point 1 is in conformity with the:	
- EC Council Directive 2014/30/EU Electromagnetic Compatibility	
- EC Council Directive 2011/65/EU of the EU Parliament and Commission Decision 2005/618/EC	
- FCC Rules and Regulations for Information Technology Equipment FCC Part 15 Subpart B Class B	
5. Standards	EN 55032: 2015 EN 61000-3-2: 2014 EN 61000-3-3: 2013 EN55024:2010+A1:2015
6. Signed for and on behalf of Avonic:	
Delfgauw, 29th of November, 2018	
	
Martijn van Bodegom, Product Manager	

IMPORTANT INFORMATION

Liability

Avonic will NOT be held responsible for any damage or injury caused by unqualified persons carrying out these tasks, or by not following the instructions in this Manual.

Intended Use and Non-Intended Use

Installation



The following applies to the **installation** of the CAP100:

- The installation activities described in this Manual should ONLY be executed by experienced technicians.
- The installation activities should NOT be executed by minors, mentally disabled persons or other persons not qualified to perform these tasks.

Operation



The following applies to the **operation** of the CAP100:

- The operational activities described in this Manual should ONLY be executed by people with enough technical knowledge to perform the activities in a safe manner.
- This Product is specifically developed for video conferencing / streaming via internet by companies, institutes and universities. It is NOT meant for private use in the residential area.
- This Product should ONLY be used indoors.
- This Product is NOT a medical device and should NOT be used as a substitute for professional medical judgment. It is NOT designed or intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of any condition or disease. Please consult your healthcare provider prior to making any decisions related to your health.

Important Precautions

	The Product is NOT intended for use where failure of the device could lead to death, personal injury, or severe environmental damage.
	Be sure that you have COMPLETELY READ and UNDERSTOOD ALL information in this Manual before unpacking, installing and using this Product. Keep the Manual in a safe place for future reference or download it from www.avonic.com .
	Failure to follow the SAFETY NOTES as described in this chapter could result in fire, electric shock, injury, or damage to the Product or other property.
	Power the Product ONLY with the included cable and power adapter. Other adapters may not meet applicable safety standards, and could pose a risk of death or injury when connected.

Symbols Used in This Manual

Symbol	Meaning	Description
	Danger	Not following the instructions associated with this symbol may lead to personal injury and / or serious damage to the Product.
	Electrical Shock	Not following the instructions associated with this symbol may lead to life-threatening situations and / or serious damage to the Product.
	Important	The information associated with this symbol requires special attention.

Symbol	Meaning	Description
	Information	The information associated with symbol refers to a general remark or a reference to other documentation.
	Instruction	This symbol refers to one or more user instructions.
	Recycling	Specific parts of the Product can be re-used.

Acronyms

The following acronyms are used in this Manual:

HDMI	High Definition Multimedia Interface
IP	Internet Protocol
OSD	On-Screen Display
PTZ	Pan / Tilt / Zoom
PSU	Power Supply
SKU	Stock Keeping Unit
USB	Universal Serial Bus
VISCA	Video System Control Architecture

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INTRODUCTION

Purpose of This Manual

The purpose of this manual is to provide safety instructions and guidelines for the proper unpacking, installation, operation, maintenance, and disposal of the Avonic CON100.



In this Manual, the Avonic CAP100 is referred to as the 'Product'.

Target Audience

This Manual is developed for installation technicians who install the Product at client sites, and for IT professionals who are responsible for operating the Product.

Document Structure

The Manual is subdivided into the following **Chapters**:

1. Introduction
2. Safety
3. Product Overview
4. Unpacking
5. Mounting and Installation
6. Operation
7. Maintenance
8. Transport and Storage
9. Disposal and Recycling
10. Troubleshooting
11. Appendix - Technical Data

SAFETY INSTRUCTIONS

This chapter contains important safety information regarding the unpacking, installation and use of the camera.

Important Precautions

	The Product is NOT intended for use where failure of the device could lead to death, personal injury, or severe environmental damage.
	Be sure that you have COMPLETELY READ and UNDERSTOOD ALL information in this Manual before unpacking, installing and using this Product. Keep the Manual in a safe place for future reference or download it from www.avonic.com .
	Failure to follow the SAFETY NOTES as described in this chapter could result in fire, electric shock, injury, or damage to the Product or other property.
	Power the Product ONLY with the included cable and power adapter. Other adapters may not meet applicable safety standards, and could pose a risk of death or injury when connected.

Intended Use



This Product is intended to capture video using HDMI and USB. See also section [Intended Use and Non-Intended Use](#) on page iv for details.

Handling



To prevent the risk of injury, take the following precautions when handling this Product:

- Handle the Product with care. It is made of metal and plastic and has sensitive electronic components inside.
- The Product can be damaged if dropped, burned, punctured or crushed, or if it comes into contact with liquid.
- If you suspect any damage to the Product, discontinue its use, as it may cause overheating or injury.

Installation



To prevent the Product from falling down which may cause injuries:

- Set up this Product on a hard, stable surface.
- Ensure the construction is capable of supporting four times the weight of the Product. (See 'General Specifications > Weight product' in the Product Datasheet for the exact weight.)
- Use a safety loop or drop protection that prevents the Product from falling if the construction fails.
- During installation, NEVER install a Product above a person.
- Check the installation at least once a year. An improper construction could cause the unit to fall off, resulting in personal injury.

Ventilation



To prevent the risk of life-threatening injury or damage to the Product or other property, caused by electric shock or fire hazard due to overheating:

- Maintain adequate ventilation by NOT installing or placing the Product unit in a bookcase, built-in cabinet or any other confined space.
- Ensure that curtains or any other material does NOT obstruct the ventilation.

Repair



Take the following precautions if the Product should be repaired:

- Don't open this Product and don't attempt to repair it yourself. Disassembling the Product may damage it or may cause injury to you.
- If this Product is damaged, malfunctioning, or if it comes into contact with liquid, contact Avonic or an Avonic Authorized Service Provider.
- Repairs by service providers other than Avonic or an Avonic Authorized Service Provider may not involve the use of Avonic genuine parts and may affect the safety and functionality of the device. You can find more information about repairs and service at www.avonic.com.

Power



To prevent the risk of life-threatening injury or damage to the Product or other property, caused by electric shock or fire hazard:

- Power this Product ONLY with the included USB cable. Other cables may not meet the applicable safety standards. They could pose a risk of death or injury when connected.
- Do NOT use damaged cables.
- Do NOT power the Product in a moist / wet environment.
- Before you power the Product, ensure the USB cable is fully inserted into the Product and computer.
- Do NOT use the USB cable at a moist / wet location.
- Do NOT connect or disconnect the USB cable with wet hands.
- Keep the Product and USB cable in a dry and well-ventilated area when in use.
- Stop using the USB cable and any cables if any of the following conditions exist:
 - The cable becomes frayed or otherwise damaged.
 - The (USB) cable is exposed to excessive moisture, or liquid is spilled into it.
 - The (USB) cable has been dropped, and its enclosure is damaged.

Atmospheric Conditions



To prevent the risk of injury or damage to the Product or other property caused by a potentially explosive atmosphere:

- Do NOT use this Product in an area with a potentially explosive atmosphere, such as areas where the air contains high levels of flammable chemicals, vapors, or particles (such as grain, dust, or metal powders), may be hazardous.
- Exposing this Product to environments having high concentrations of industrial chemicals, including near evaporating liquified gasses such as helium, may damage or impair this Product functionality.
- Obey all signs and instructions.

PRODUCT OVERVIEW

Avonic Capture Device HDMI to USB3.0

The Avonic CAP100 is a HDMI to USB 3.0 converter, capable of capturing an HDMI source in 1080p 60fps resolution. The CAP100 is a quick, high-quality solution that converts any HDMI signal to USB 3.0. The CAP100 is compatible with the UVC and UAC standards. It's recognized by the computer as a video input without the need for installing additional drivers. The CAP100 captures uncompressed video with audio from an HDMI stream, ideal for quickly setting up a high quality recording, stream or video conference. Compatible with Windows, macOS and Linux operating systems.



Features

The Avonic CAP100 has the following features:

- Truly PnP, no need for driver installation
- USB3.0, 300-350MB/s throughput
- Automatically detect the input video formats
- Input and output video signal up to 1080p60
- Compatible with UVC video capture and YUV 4:2:2 video output.
- Compatible with Windows, Linux, Mac OS X and with many different USB 3.0 chipsets.
- Works with all major video conferencing programs.
- Powered by USB

UNPACKING

This describes the contents of a complete Product package, and instructions for safe unpacking and (if necessary) Product return.

It is subdivided into the following sections:

1. Package Contents
2. Unpacking the Controller
3. Return Procedure

Package Contents

The following tables contains an overview of the package contents of the Product.

No.	Quantity	Description	Avonic SKU
1	1 pc	HDMI to USB3.0 Video Capture Dongle	AV-CAP100
2	1 pc	USB 3.0 cable (Type A to Type A)	AV-USB30-AA

Each item is visualized below and referenced by the associated number in the table above:

Figure 3: Package Contents



Unpacking the CAP100

 Execute the following steps to unpack the CAP100 and associated components:

1. Open the box.
2. Verify that the contents of the box exactly matches the items as described in [Package Contents](#) on page 12. If this is NOT the case, contact Avonic and stop here.

The CAP100 should be in its (protective) box as follows:



Figure 4: CAP100 in its box

3. Verify that the plastic bag is sealed. If this is NOT the case, contact Avonic and stop here.
4. Break the seal of the sealed bag.
5. Take the CAP100 out of the bag.
6. Install the CAP100 following the steps as described in the chapter [INSTALLATION](#) on page 14

Return Procedure

 If, for any reason, you have to return the camera to Avonic, Execute the following steps:

1. Place the CAP100 back in the box.
2. Place the CAP100 with **all** of its components in the box.
3. Verify that the contents of the box **exactly** matches the items as described in [Package Contents](#).
4. Contact [Avonic](#) for the Return Procedure.

INSTALLATION

This chapter describes the installation of the AV-CAP100.



Follow instructions below:

1. **HDMI Input:** Connect the HDMI source output like a camera, DVD, Set-top Box or Notebook.
2. **USB3.0 Capture out:** Connect the USB3.0 to the USB3.0 input of the computer or Notebook.
3. **Power indicator:** LED illuminates when the device is connected to computer USB port.
4. **Action indicator:** LED illuminates when the device is filming.



Connections

You can use a (third party) high quality HDMI cable to connect the dongle to the camera. The dongle is USB powered and can be connected with the included USB cable (see Packets Contents) to a PC or Notebook. See below:



OPERATION

The Avonic AV-CAP100 HDMI to USB3.0 Video Capture Dongle is based on UVC (USB video class) and UAC (USB audio class) standard. No additional drivers have to be installed. After installation in operating system (see [Installation](#)), the relevant video and audio devices will be added. In the Windows Device Manager, for example, will appear two new devices:

- Under Video Devices: USB3.0 Capture video
- Under Audio inputs and outputs: USB3.0 Capture audio



- Use a third party Video Media Player like PotPlayer, VLC Media Player, or the standard camera app from Windows to play and record the captured video content.
- You can also use Video Conferencing Applications like Google Meet, Microsoft Teams, Zoom and Webex.

How you can use the CAP100 with these applications, will be described in this chapter.

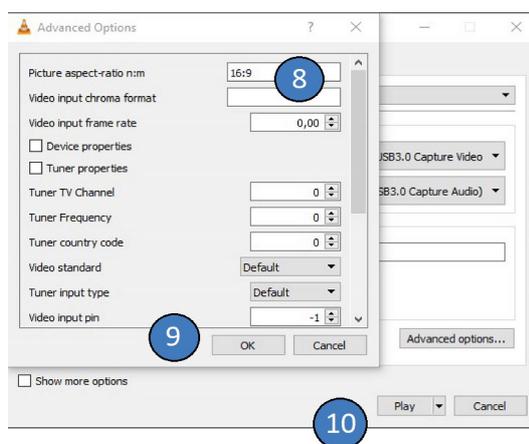
Video Players

VLC player



Make sure the camera is **ON** and connected to the CAP100 and your computer. Follow instructions below:

1. Open VLC Player
2. Click on **Media**
3. Open **Capture Device**
4. Select **USB 3.0 Capture Video**
5. Select **DIGITAL AUDIO INTERFACE (USB3.0 CAPTURE AUDIO)**
6. Fill in the desired Video size
7. Click on **Advanced options**
8. Fill in the Picture aspect ratio
9. Click on **OK**
10. Click on **Play**



Network settings



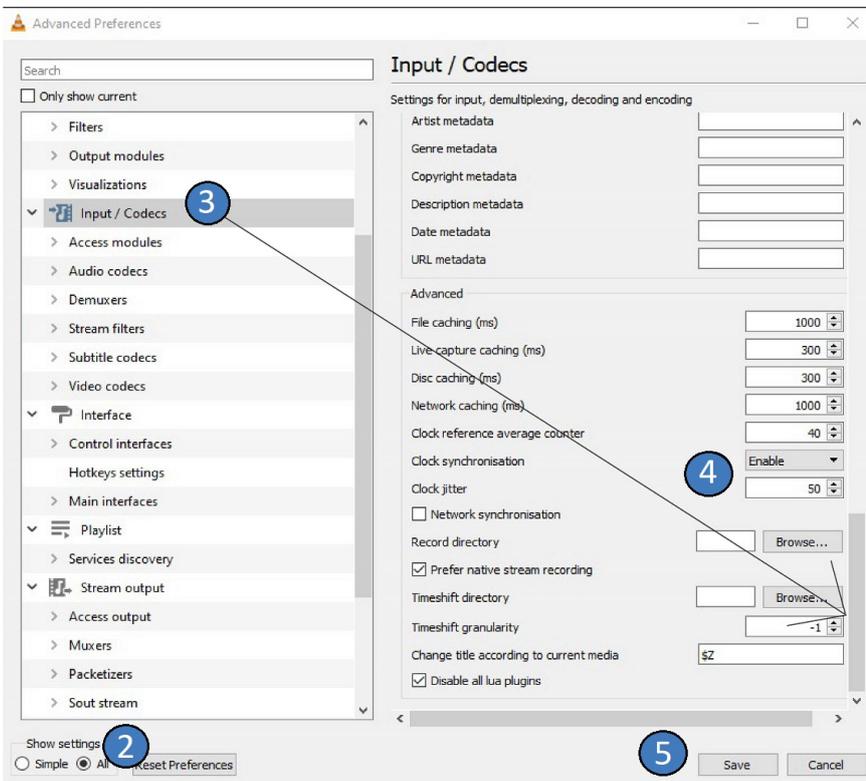
For streaming via your network:

1. Click on **Media** in the top bar
2. Click on **Open Network Stream**
3. Type the Network URL and click on **Play**



If you experience latency or delay issues when starting the VLC Media Player for the first time, you can follow instructions below to resolve the issue:

1. Click on **Tools** and select **Preferences**, or press CTRL+P
2. Select **ALL**
3. Select **Input/ Codecs**, scroll down
4. Select **Enable** and change **Clock Jitter** to 50
5. Click **Save**
6. Restart your Video (Pause and play again)

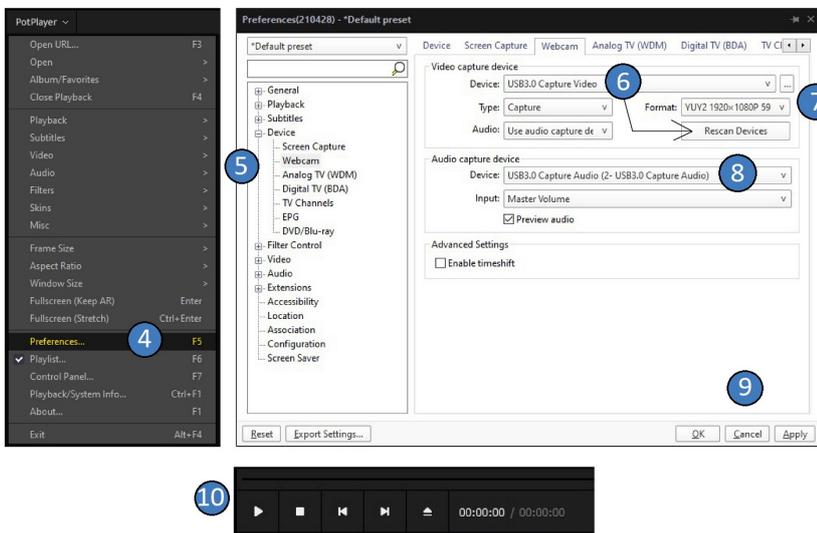


Potplayer



Turn on your camera and make sure that the CAP100 is connected to your computer. Follow instructions below:

1. Open PotPlayer
2. Enlarge your window
3. Select “PotPlayer”
4. Click **Preferences** or press F5
5. Click on **Device** and **Webcam**
6. Select **USB3.0 Capture Video** (Rescan Devices if you do not see it)
7. Select Format you want (preferred is 1920x1080)
8. Select **USB3.0 Capture Audio**
9. Click **Apply** and **OK**
10. Click on **Play** or press CTRL+J. The Video start automatically.

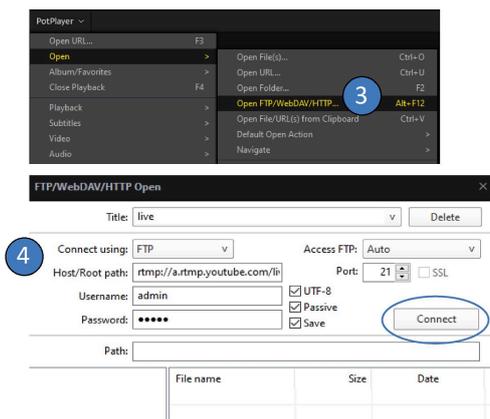


Network Settings



For connection with your network:

1. Click on **PotPlayer**
2. Select **Open**
3. Select **Open FTP/WebDAV/HTTP**
4. Fill in Title, Host/Root path and your Username and Password and click on **Connect**

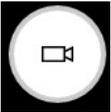


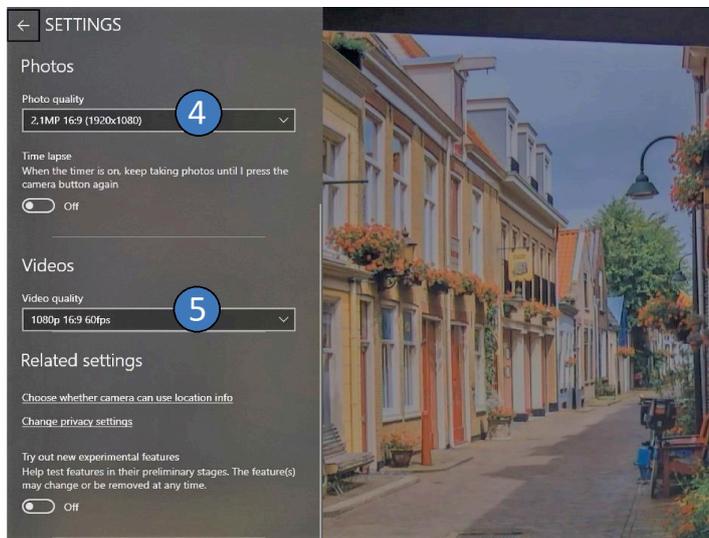
Camera application of Windows



Turn on your camera and make sure that the CAP100 is connected to your computer. Follow the instructions below:

1. Press **Windows** Button
2. Type "Camera" and select **Camera App**. You will see automatically the image from the CAP100. If not, click the "change camera" icon.
3. Select the **settings** button
4. Select **16:9 (1920x1080)**
5. Select **1080p 16:9 60fps**
6. To make a recording: click **Take Video** button.

Button	Description
	Settings button
	Change camera button
	Take Video button



Video Conferencing applications

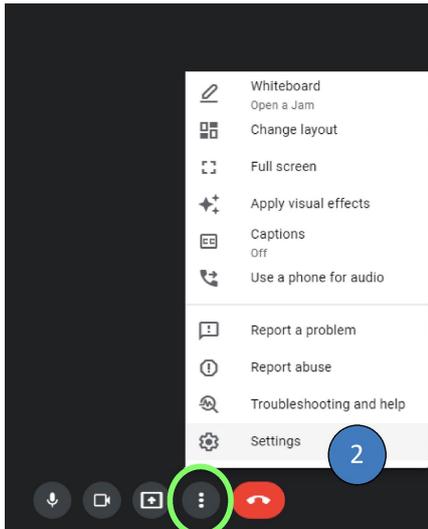
This chapter applies to video conferencing applications. Note that recording functionality will not be covered in this chapter as it may be limited or unavailable in these applications. If you wish to record your meeting, please refer to the instructions provided by the third-party application.

Google meet

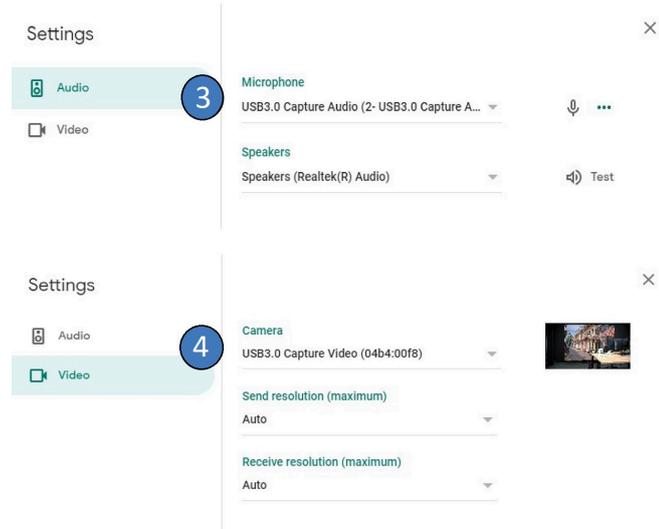


To view the image from the CAP100 join or start a (new) meeting. Before adding others to the meeting, follow instructions below:

1. Click on **More Options**
2. Click on **Settings**
3. Click on **Audio** and select **USB3.0 Capture Audio**
4. Select **Video** and select **USB3.0 Capture Video**
5. Leave the Settings screen. You will see the image from the CAP100.



More options

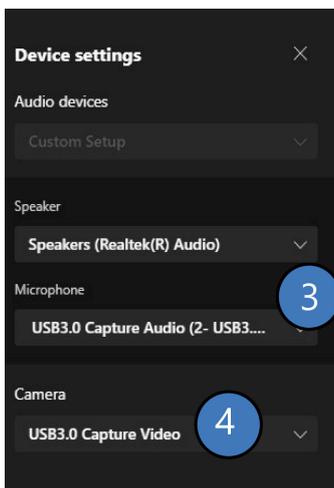


Microsoft Teams



To view the image from the CAP100 join or start a (new) meeting. Follow the instructions below:

1. Click on **Meetings / Meet now**
2. Click on **Open device settings**
3. Select **USB3.0 Capture Audio**
4. Select **USB3.0 Capture Video**
5. Leave the **Device settings** and move the slider to ON

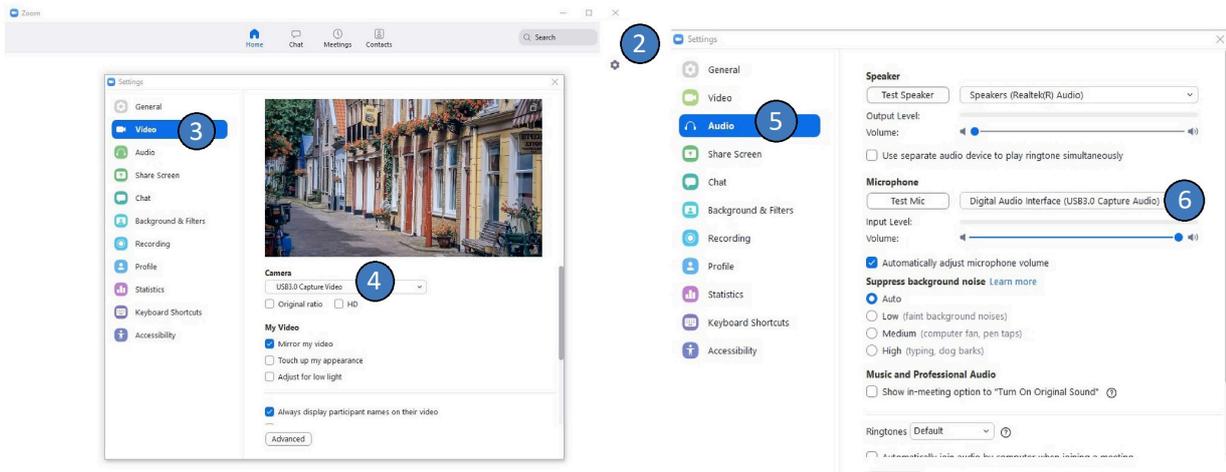


Zoom



To view the image from the CAP100 in Zoom, follow instructions:

1. Start Zoom and make sure you are on the Home page
2. Click on the **Settings** button
3. Click on **Video**
4. Select **USB3.0 Capture Video**
5. Select **Audio**
6. Select **Digital Audio Interface (USB3.0 Capture Audio)**
7. Leave the Settings page. When you join or start a meeting, you can use the CAP100.

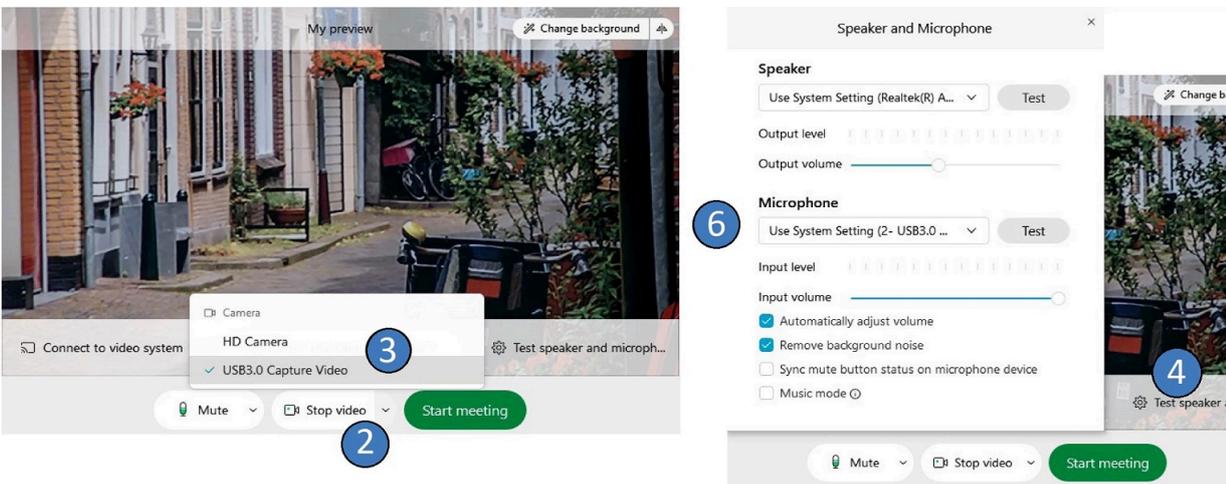


Webex



To view the image from the CAP100 in Webex, follow instructions:

1. Start Webex and open a new meeting or join one
2. Click on the arrow next to **Stop video**
3. Select **USB3.0 Capture Video**
4. Click on **Test Speaker and Microphone**
5. Select **USB3.0 Capture Audio**
6. You will see the picture from the CAP100

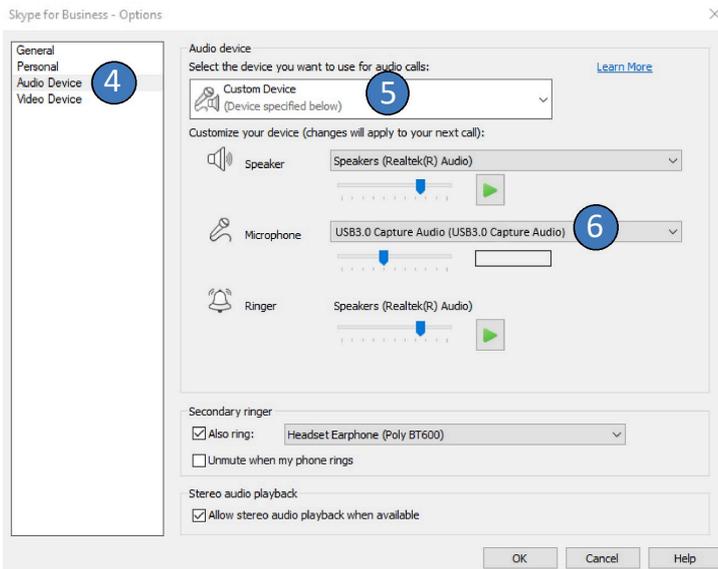
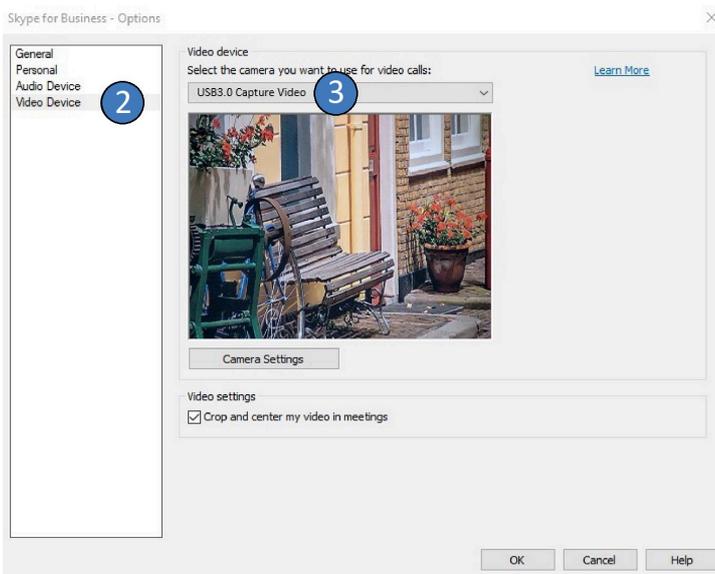


Skype for Business



Open Skype for business to view the image from the CAP100 and follow instructions below:

1. Go to Tools > Options
2. Click on **Video Device**
3. Select **USB3.0 Capture Video** in the dropdown menu.
4. Click on **Audio Device**
5. Select **Custom Device** in the dropdown menu.
6. Select **USB3.0 Capture Audio** in the dropdown list next to the microphone
7. You can now leave the options menu and start a new meeting.



MAINTENANCE

Maintenance



Take the following actions to maintain the CAP100:

- If you will not be using the CAP100 for a long time, disconnect the USB cable to the outlet.
- Use a soft cloth or tissue to clean the CAP100 cover.
- Please use the soft dry cloth to clean the CAP100. If the CAP100 is very dirty, clean it with diluted neutral detergent.



Do not use any type of solvents, which may damage the surface.

Usage Precautions



Take the following precautions:

- Do not operate close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

TRANSPORT AND STORAGE

Specific guidelines apply for transportation and storage of the CAP100. Follow the guidelines below:



Transport:

1. The CAP100 needs protection against vibration and shock. Ensure that the CAP100 cannot move inside its box and inside the transportation vehicle. Ensure also that the box is properly sealed.
2. Avonic's address and/or the address of the local distributor should be clearly visible on the package.
3. Keep the transportation vehicle dry and maintain the temperate and humidity when transporting the CAP100. See '**Operating humidity**' and '**Storage temperature**' in the provided **Datasheet** for the applicable values.



Storage:

1. Maintain adequate ventilation in your storage room and ensure that any (other) materials does not obstruct the ventilation.
2. Do NOT store the CAP100 in a storage room together with (highly) flammable materials or where the air contains such chemicals.
3. Ensure that the CAP100 has protection against vibration and shock inside the storage room and cannot move or fall of.
4. Keep the storage room dry and maintain the temperate and humidity when storing the CAP100. See '**Operating humidity**' and '**Storage temperature**' in the provided **Datasheet** for the applicable values.

DISPOSAL AND RECYCLING

In general, the term 'E-Waste' or 'Waste of Electrical and Electronic Equipment' applies to items of all types of electrical and electronic equipment and its parts that have been discarded by the owner as waste without the intention of re-use.



E-Waste, like the CAP100 and **ALL** of its accessories, needs to be disposed **separately** from normal waste! See the symbol below that can be found on the product and package label:



Send the CAP100 and all its accessories to [Avonic](#) or your **local distributor**. See [Package Contents](#) to see what you have to send back. Follow the instructions from the [Return Procedure](#).

Avonic outsources the disposal and recycling of its E-Waste equipment materials to **Stichting Open**.



See <https://stichting-open.org/> for more information about the disposal and recycling.

TROUBLESHOOTING

General



1. Turn the CAP100 off and on again (disable USB cable and connect it again) and check if the problem persists.
2. If it does, contact Avonic.

Power Issues



No connectivity to third party video software and no power LED:

1. Check the net power.
2. Check the power supply.

Third party software issues



No appearance of the CAP100 in third party software:

1. Check if the USB cable is attached to your computer.
2. Check if the HDMI cable is attached to your camera.



Abnormal Image:

1. Check third party software and camera settings. For a clear picture it is recommend to use the same video format and frame rate as in the camera settings.
2. Make sure that the USB cable is connected to an USB3.0 port of your computer.

APPENDIX - TECHNICAL DATA

Specifications

Product

Input	HDMI
HDMI Input Formats	480i,480p,576i,576p,720p50,720p80i50,1080i60,1080p24/25/30/50/60
Output	USB3.0, *300-350MB/s (USB2.0, *40MB/s for lower resolutions and frame rates)
Output Formats	640x480 / 720x480 / 720x576 / 768x576 / 800x600 / 1024x768 / 1280x720 / 1280x800 / 1280x960 / 1280x1024 / 1368x768 / 1440x900 / 1600x1200 / 1680x1050 / 1920x1080 / 1920x1200 / 640x360 / 856x480 / 960x540 / 1024x576
Frame Rate	25/29.97/30/50/59.94/60 fps
Audio and Video capture	standards of UVC and UAC
OS	Windows 7, Windows Server 2008 R2, Linux (Kernel version 2.6.38 and above), OS X (10.8 and above)
Software compatibility	Windows Media Encoder (Windows), Adobe Flash Media Live Encoder (Windows, OS X), Real Producer Plus (Windows), VLC Windows, OS X, Linux, QuickTime Broadcaster (OS X), QuickTime Player (OS X), Wirecast (Windows, S X) , Potplayer (Windows) and etc. Development interface compatibility, DirectShow (Windows), DirectSound (Windows), V4L2 (Linux), ALSA (Linux), OS X (QuickTime)

General Specifications

Input voltage	DC5V (USB)
Power consumption	<= 2.5W
Power supply	n/a
Power connector	USB3.0 type A
Operating temperature	0°C ~ 50°C
Storage temperature	-20°C ~ 70°C
Operating humidity	20% ~ 90%
Color	Silver
Dimensions product	9.8 x 5.6 x 1.6 cm
Weight product	0.110 kg
Dimensions box	15 x 10 x 5 cm
Weight box	0.230 kg
Included	USB 3.0 cable (Type A to Type B)



Avonic Capture Device HDMI to USB3.0
CAP100

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